



## Cantwell to Healy – Parks Highway Milepost 203-259 Planning & Environmental Linkages (PEL) Study



Project No. NFWY00492

### Draft PEL Study Report – *Public Review Draft*

**Prepared for:**

Federal Highway Administration Western Federal Lands Highway Division

*In partnership with:*

Alaska Department of Transportation and Public Facilities (DOT&PF) Northern Region  
National Park Service

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*Planning products produced during this PEL study may be adopted or incorporated by reference during a subsequent environmental review process.*

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## Acronyms and Abbreviations

<b>Acronym</b>	<b>Definition</b>
ACT	Alaska Community Transit
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AHRS	Alaska Heritage Resource Survey
ANILCA	Alaska National Interest Lands Conservation Act
AKEPIC	Alaska Exotic Plant Information Clearinghouse
ARRC	Alaska Railroad Corporation
BCA	Benefit-Cost Analysis
BCC	birds of conservation concern
CE	categorical exclusions
CMAQ	Congestion Mitigation and Air Quality
COA	classes of action
CRISI	Consolidated Rail Infrastructure and Safety Improvements
DNP	Denali National Park and Preserve
DNR	Department of Natural Resources
DOT&PF	Alaska Department of Transportation and Public Facilities
EA	environmental assessments
EDA	Economic Development Administration
EIS	environmental impact statements
FAST	Fixing America’s Surface Transportation
FHWA	Federal Highway Administration
FLAP	Federal Lands Access Program
FLTP	Federal Lands Transportation Program
FRA	Federal Railroad Administration
G.O.	general obligation
GIS	geographic information system
HSIP	Highway Safety Improvement Program
LWCA	Land and Water Conservation Act
LWCF	Land and Water Conservation Fund
M&O	maintenance and operations
MP	milepost
mph	miles per hour
NEPA	National Environmental Policy Act
NHPP	National Highway Performance Program
NHS	National Highway System

NPS	National Park Service
NSFLTP	Nationally Significant Federal Lands and Tribal Projects
NWI	National Wetland Inventory
NWP	nationwide permit
PAC	project advisory committee
PEL	Planning and Environmental Linkages
PM	Preventive Maintenance
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
ROW	right-of-way
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SDWIS	Safe Drinking Water Information System
SEO	Statewide Environmental Office
SOGR	State of Good Repair
STBG	Surface Transportation Block Grant
STIP	Statewide Transportation Improvement Program
STP	Surface Transportation Program
TA	transportation alternatives
TTP	Tribal Transportation Program
UAA	University of Alaska Anchorage
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
WFL	Western Federal Lands

## Executive Summary

This Planning and Environmental Linkages (PEL) study outlines a plan for implementing future transportation and access improvements along the Parks Highway corridor between mileposts (MP) 203 and 259 in Interior Alaska. The Federal Highway Administration Western Federal Lands (WFL) Highway Division, in partnership with the Alaska Department of Transportation and Public Facilities (DOT&PF) Northern Region and National Park Service (NPS), conducted this PEL study which was developed in coordination with regional stakeholders, agencies and the public. This PEL study is intended to help project sponsors implement proposed improvements in the future as funding becomes available.

The Parks Highway is one of the most important corridors in Alaska for commerce, recreation, tourism, and community connection, as it is one of only two highways that connects Southcentral Alaska to Interior Alaska. With its state and national scenic byway designation, the Parks Highway provides access to natural and recreational opportunities considered “world-class.” At MP 237, the Parks Highway provides access to the only road into nearby Denali National Park and Preserve (DNP), which is considered one of America’s Crown Jewels. Visitors and travelers associated with DNP heavily influence the corridor. An abundance of recreational opportunities increasingly draws visitors to the region. The highway corridor provides access to several small communities and includes the generally parallel-running Alaska Railroad mainline, which also brings freight and visitors to and through the corridor. The highway is a critical link in the roadway network as it provides the most direct freight connection between the state’s largest port in Southcentral and the North Slope oilfields.

The highway traverses along physical constraints such as mountainous terrain and many waterways such as the Nenana River. While the geologic terrain is diverse and remarkable, it also poses numerous natural hazards to the highway and causes maintenance issues such as thaw-unstable soils, erosion, landslides, rockfalls, inadequate drainage, inadequate shoulders, frost heaves, and sinking roadway conditions. In addition to the roadway, DOT&PF maintains 22 bridges and more than 200 culverts within the study corridor.

### PEL Study Process

A PEL study process is intended to be a flexible approach to better linking the planning and environmental review phases of delivering transportation projects. PEL studies are typically prepared early in the transportation decision-making process and provide an opportunity to consider environmental and community issues early before a formal environmental review process begins. The planning products, analysis and decisions made during this PEL study have been conducted to inform and streamline future National Environmental Policy Act (NEPA) environmental review processes and may be incorporated by reference in a future NEPA process.

The WFL, DOT&PF, and NPS placed a high priority on seeking input from stakeholders and the public during the entire PEL study process. (Refer to Section 3). This process occurred over a nearly two-year timeframe (2019 through 2021) and followed these three key phases:

- Assess the transportation and access needs and opportunities in the study corridor
- Develop and evaluate improvement options (i.e., solutions for the identified needs and opportunities)
- Provide a plan for implementing recommended solutions in the future by documenting the process and analysis

## Identified Needs and Opportunities

Based on a detailed data-driven analysis of existing and future corridor conditions, a review of prior plans in the corridor, field visits, and input from the public and stakeholders, the needs and opportunities were placed into the following broad categories: safety, roadway conditions/maintenance, mobility, access, recreation, and other topics such as stewardship, education, and economic development. (Refer to Section 1). The following represents the main themes of the identified needs and opportunities:

- Improve safety
- Address roadway conditions (caused by factors such as erosion, drainage, frost heaves, rockfall hazards, and slope instability)
- Reduce congestion
- Improve mobility for all transportation modes
- Balance the needs of all users (includes local residents, visitors/ tourists, through travelers, freight, non-motorized, and recreational uses)
- Separate motorized and non-motorized uses where reasonable
- Improve existing recreation access areas
- Accommodate increased recreation and tourism demands, in turn to support the economic vitality of the region
- Promote stewardship and knowledge of the intrinsic values of the area
- Leverage partnerships to benefit project development and implementation

## Identified Overall PEL Study Corridor Vision and Goals

Based on input from stakeholders and the public, the following overall corridor vision and goals were developed (refer to Section 2):

- Overall corridor vision: To improve mobility and safety for all Parks Highway users traveling in the corridor while enhancing economic opportunity, multi-modal access, and environmental integrity.
- Primary goals:
  - Safety goal: To improve the safety of the corridor
  - Mobility goal: To improve mobility for all modes of transportation
  - Access and Land Use goal: To improve access and support land uses in corridor
- Secondary goals:
  - Economic vitality goal: To promote economic vitality
  - Environmental stewardship goal: to minimize adverse environmental impacts and promote stewardship of the area
  - Funding goal: To facilitate transportation needs with fundable, implementable projects

## Recommended Solutions for Implementation

A broad range of potential solution options that would address transportation and access related needs and opportunities in the corridor were identified, developed, and screened to get a list of recommended solutions for future implementation (Refer to Sections 4 and 5). The screening process consisted of the following three levels:

- **Level 1** entailed three “yes or no” “fatal flaw” questions. This level screened out received comments, issues, and options that were not reasonable, not feasible, did not meet the study goals and objectives, or did not lead to a specific implementable solution.
- **Level 2** qualitatively assessed whether the idea or options would have the strong potential for a solution to achieve primary or secondary goals. Options largely meeting primary goals moved forward into Level 3 for additional analysis. Options largely meeting secondary goals were categorized as potential “enhancement opportunities,” which represent smaller-scale community-focused improvements that could be complementary to one of the larger-scale recommended solutions.
- **Level 3** consisted of a detailed comparative screening process that analyzed potential solutions using goals-related evaluation criteria to identify the best option to move forward as a recommended solution for future implementation. A broad assessment of potential environmental impacts occurred at this screening level.

Implementation of the recommended solutions depends on a number of factors, including the availability of funding, complexity of right-of-way (ROW) acquisition and environmental approvals, and other project delivery elements such as first identifying a project sponsor. This PEL study set out to provide a framework and collected much of this baseline information, such as identifying potential funding sources, potential sponsors and partnerships, potential enhancement opportunities, anticipated future regulatory environmental requirements, and planning-level cost estimates. (Refer to Section 5).

An important component of this PEL study was to prioritize the proposed recommendations. Prioritization informs decision-makers in evaluating when and how to implement these proposed improvements. In most instances, each recommended solution was assigned a low, medium, or high priority. For projects that have already been funded and programmed in the corridor, the study team identified those as high priority projects because they are already moving forward.

- Ten recommended solutions assigned high priority, of which half have already been funded and programmed beyond the scope of this PEL study
- Eight medium priority recommended solutions
- Five low priority recommended solutions

A proposed implementation timeline was assigned to each recommended solution, which represents when funding would be needed to start the project in the preconstruction phase. Identified timelines were assigned a short-, medium-, or long-term value which represents occurring within the next 5 years, between 5 and 10 years, and beyond 10 years, respectively.

Six recommended solutions – five separated pathways (“community connectors”) and the Transit/Active Transportation Initiative –were not assigned a priority rating or a suggested implementation timeline, based on a variety of factors and largely because a potential sponsor and funding for these types of solutions were unclear.

The recommended solutions, priority rating, suggested implementation timeline, and planning-level cost estimates are listed in Table ES-1 and shown on Figure ES-1 and Figure ES-2.

Depending upon the recommended solution, anticipated next steps may include the following:

- Identify a lead sponsor, if unknown or uncertain
- If DOT&PF is the lead sponsor, nominate the project to be included in the Statewide Transportation Improvement Program (STIP)
- Secure project funding

- Continue to involve and engage the public and stakeholders
- Complete the NEPA process and preliminary design
- Complete final design
- Acquire ROW
- Obtain all needed permits
- Construct or implement the project

**Table ES-1. PEL Study Recommended Solutions for Future Implementation**

Name (generally in order from south to north)	Priority	Timeline <sup>[1]</sup>	Total Cost Estimate
<i>Parks Highway MP 206 - 209 Reconstruction *</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$17,786,000</i>
<i>Parks Highway MP 231 Enhancements HSIP *</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$15,905,000</i>
<i>Parks Highway MP 231 McKinley Village Pedestrian Bridge *</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$4,640,0</i>
Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (alt 1)	High	Short-term	\$55,993,000
Parks Highway MP 238 - 239 Reconstruction (Stage 1)	High	Short-term	\$10,256,000
Parks Highway MP 239 - 240 Nenana Canyon Rockfall Mitigation (Stage 2)	High	Short-term	\$22,777,000
<i>Antler Ridge Trail *</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$505,000</i>
Parks Highway MP 247 - 250 Healy Reconstruction and Pedestrian Improvements	High	Short-term	\$10,167,000
<i>Healy Spur Road Rehabilitation *</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$1,595,000</i>
Parks Highway MP 250 - 260 Reconstruction	High	Medium-term	\$21,136,000
Parks Highway MP 209 - 212 Cantwell Reconstruction	Medium	Long-term	\$8,698,000
Parks Highway MP 212 - 214 Reconstruction	Medium	Long-term	\$6,371,000
Parks Highway MP 215 - 224 Reconstruction	Medium	Medium-term	\$58,388,000
Parks Highway MP 225 - 229 Resurfacing	Medium	Medium-term	\$5,255,000
Parks Highway MP 229 - 230 McKinley Village Reconstruction	Medium	Medium-term	\$9,163,000
Parks Highway MP 232 - 234 Resurfacing	Medium	Medium-term	\$4,680,000
Parks Highway MP 239 - 243 Nenana Canyon Reconstruction (Stage 3)	Medium	Medium-term	\$16,847,000
Parks Highway MP 243 - 247 Reconstruction	Medium	Medium-term	\$7,573,000
Parks Highway MP 202 - 206 Resurfacing	Low	Long-term	\$4,041,000
Parks Highway MP 214 - 215 Resurfacing	Low	Long-term	\$2,287,000
Parks Highway MP 224 - 225 Carlo Creek Reconstruction	Low	Long-term	\$5,604,000
Parks Highway MP 230 - 232 Crabbies Crossing Reconstruction	Low	Long-term	\$48,128,000
Parks Highway MP 238 - 239 Parking Areas (Stage 4)	Low	Long-term	\$4,557,000
Parks Highway Cantwell to Carlo Creek Separated Path	Not assigned	Not assigned	\$13,153,000
Parks Highway Carlo Creek to Crabbies Crossing Separated Path	Not assigned	Not assigned	\$3,711,000
Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path	Not assigned	Not assigned	\$3,036,000
Parks Highway Denali Park Entrance to Healy Separated Path	Not assigned	Not assigned	\$37,588,000
Parks Highway Healy to Stampede Road Separated Path	Not assigned	Not assigned	\$8,297,000
Transit/ Active Transportation Initiative (Phase 1)	Not assigned	Not assigned	\$110,000

[\*] Project has already been programmed and funded outside of this PEL study.

n/a = represents project implementation timeline has already been determined outside of this PEL study.

[1] Timeline represents when funding would be needed to start the project in the preconstruction phase.

Figure ES-1. Recommended Solutions in the Northern Corridor, Mileposts 231 to 259

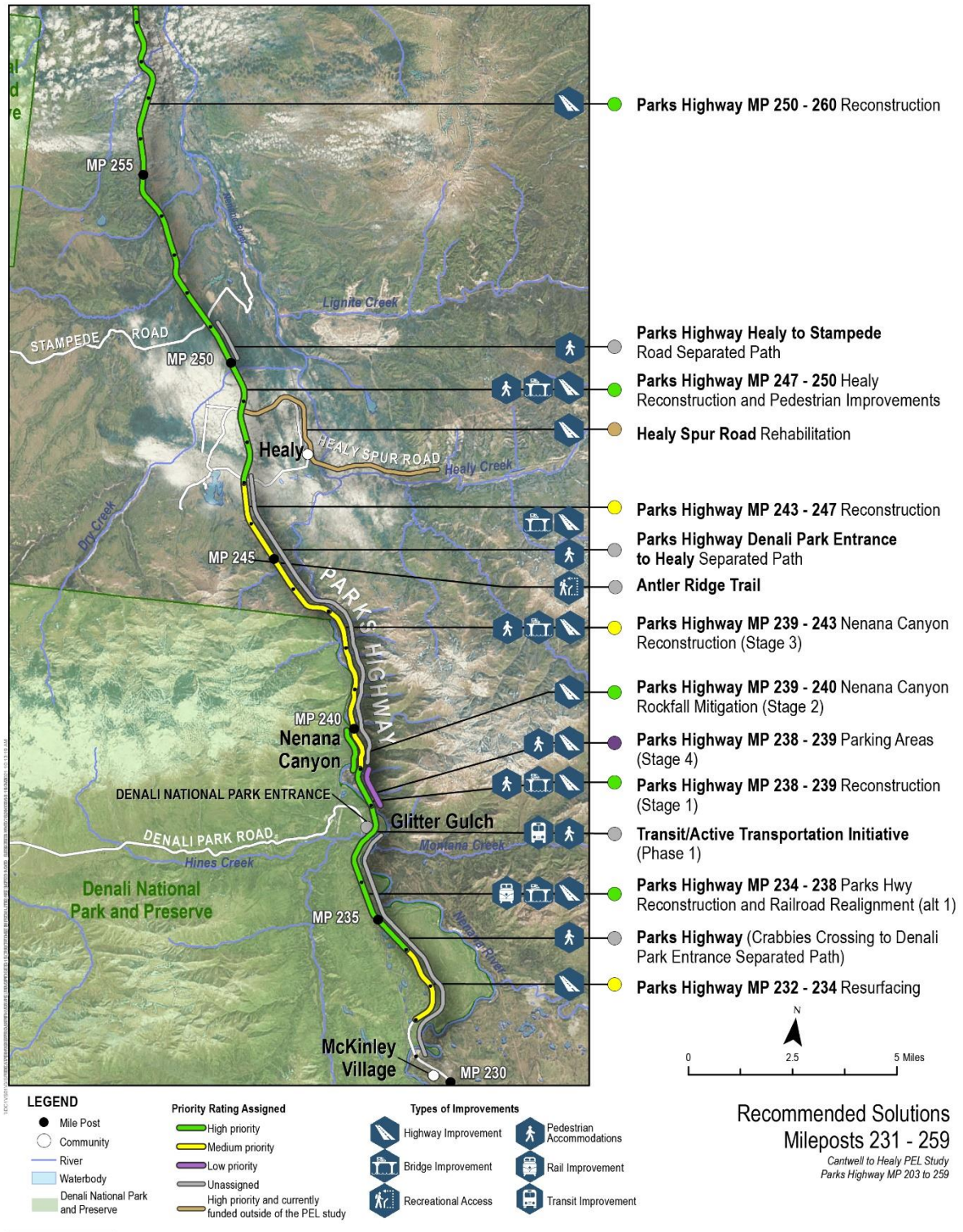
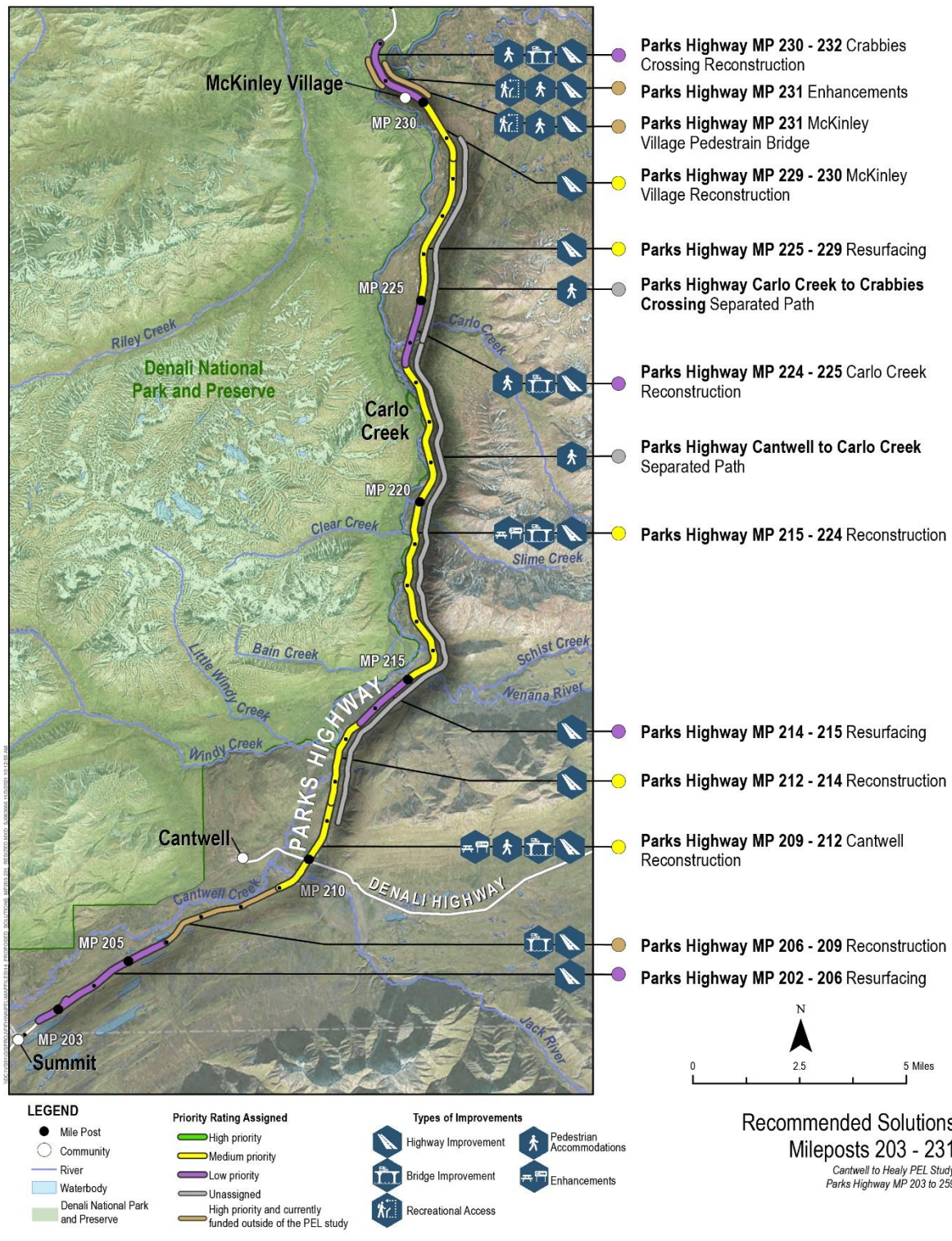


Figure ES-2. Recommended Solutions in the Southern Corridor, Mileposts 203 to 231



# 1. Introduction



This report documents the results of a Planning and Environmental Linkages<sup>[1]</sup> (PEL) study for the Parks Highway between Broad Pass at milepost (MP) 203 and the turnoff to Ferry at MP 259, in Interior Alaska. The purpose of this PEL study is to provide a framework for identifying and implementing future transportation and access improvement projects along the highway corridor.

A PEL study represents an integrated planning-level process that looks at transportation issues, recommends solutions, and considers environmental resources. PEL studies are conducted and intended to facilitate streamlining the project development process by helping to move projects forward from the planning phase into the environmental review process, thereby better “linking” planning and environmental phases of delivering transportation projects. The analysis and decisions made during this PEL study are intended to be used to inform and streamline future environmental review processes and may be incorporated by reference.

The following analysis and documentation completed during the PEL study process supports the results included in this PEL study report:

- **Section 1 (Introduction)** describes the purpose and goals of the PEL study, corridor setting, PEL study process, and identified needs and opportunities in the corridor.
- **Section 2 (Corridor Vision, Goals, and Objectives)** presents the corridor vision, goals, and objectives that were developed for the study corridor.
- **Section 3 (Public Involvement and Stakeholder Outreach)** presents a summary of the public involvement and stakeholder outreach process activities, including agency and tribal involvement.
- **Section 4 (Solutions Development and Evaluation)** describes the process of identifying, screening, and evaluating potential solutions and which improvement options have been recommended for future implementation.
- **Section 5 (Recommended Solutions)** provides an implementation plan for the recommended solutions including the prioritization of the solutions. This section includes one page summary sheets for each of the 29 recommended solutions.
- **Section 6 (Environmental Considerations)** provides an overview of the environmental setting and preliminary impact considerations for each of the recommended solutions.
- **Section 7 (Funding Strategies)** provides a summary of potential funding sources for each of the recommended solutions, as most of the recommended solutions do not have funding secured.
- **Section 8 (Next Steps)** briefly explains the general next steps for moving a recommended solution forward after the PEL study has been completed.
- **Appendix A** contains the Needs and Opportunities Assessment Report (October 2020), which includes these attachments that describe the existing and projected conditions of the corridor:
  - Review of Prior Plans for the Corridor and Region Memorandum
  - Traffic and Safety Memorandum
  - Maintenance and Operations Existing Concerns and Needs Report
  - Recreational Facilities Memorandum
  - Economic Impact Assessment Memorandums

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<sup>[1]</sup> The Federal Highway Administration (FHWA) defines PELs as “a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.” (FHWA 2021e).

- Baseline Area Drainage Analysis Memorandum
- Baseline Geological and Geotechnical Assessment Memorandum
- Environmental Conditions Memorandum
- **Appendix B** includes Project Data Sheets prepared for each recommended solution identified in this PEL study.
- **Appendix C** includes the public involvement and stakeholder outreach materials prepared during this PEL study: public involvement plan; public meetings #1 through #3; agency scoping; mailing list; and the project advisory committee (PAC) meetings #1 through #5.
- **Appendix D** contains the Level 1 and Level 2 screening results.
- **Appendix E** contains the complete Level 3 screening results.
- **Appendix F** contains additional analysis for the following recommended solution: Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1).
- **Appendix G** contains additional analysis for the following recommended solution: Transit/Active Transportation Initiative.
- **Appendix H** contains a Benefit-Cost Analysis (BCA) for the following recommended solution: Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1).
- **Appendix I** contains a BCA for the following recommended solution: Nenana River Trail (Crabbies Crossing to Park Entrance Separated Path).

## 1.1 Study Background

The Federal Highway Administration (FHWA) Western Federal Lands (WFL) Highway Division, Alaska Department of Transportation and Public Facilities (DOT&PF) Northern Region, and National Park Service (NPS) have come together as project partners to conduct a PEL study to identify and recommend potential future transportation and access improvements along this 56-mile corridor. Notably, this corridor draws visitors from around the world as the highway provides access from MP 237 to the sole road entrance into Denali National Park and Preserve (DNP), one of America’s “Crown Jewels” and a top attraction in Alaska. The natural and recreational opportunities along the entire corridor are considered “world-class” and greatly influence corridor visitation and characteristics.

The PEL study was initiated in 2019 with the intent to provide an opportunity to collaborate and engage local, regional, and community stakeholders in a transportation planning process to plan for future highway corridor and access improvements. The result of this planning process is documented in this report which includes a framework that is intended to guide future implementation of transportation projects and enhancements along the corridor.

To bring partnering agencies and the community together, the DOT&PF obtained Federal Lands Access Program (FLAP) funding from WFL in partnership with the NPS to conduct this corridor-level PEL study. Over the course of this PEL study process, these three partnering agencies along with a consultant team led by Jacobs Engineering Group (collectively called the study team herein) with input from the public, agencies, and stakeholders have developed a list of recommended highway corridor and access improvement projects for future implementation..

Prior to beginning the PEL study, the partnering agencies identified the following desired outcomes and goals for the study:

### **PEL Study Desired Outcomes:**

- A **clear and actionable** PEL study that **guides future transportation enhancements** and development on the Parks Highway corridor.

- A PEL process that **brings together** local, regional, and community stakeholders for a comprehensive multi-modal look at recent, active, and future improvements along this interstate highway corridor.

#### PEL Study Goals:

- **Collect, compile, and analyze information** about the conditions and concerns along the corridor to support the identification of individual transportation projects.
- Conduct field studies and compile already-collected data that will focus the areas of greatest attention and **anticipate future** needs to address. This includes archaeology, conditions reports, maintenance and public concerns, crash information, deficient curves, and bridge conditions.
- **Develop and evaluate possible solutions** to the concerns identified.
- **Identify projects**, cost estimates, and timelines of project implementation to effectively address concerns in a timely manner.

#### 1.1.1 Study Area

The Parks Highway is one of the most important corridors in Alaska for commerce, recreation, tourism, and community connection. The 323-mile-long interstate highway generally runs parallel and to the east of the north-south running Alaska Railroad mainline, both of which complement the economic development of the region and beyond.

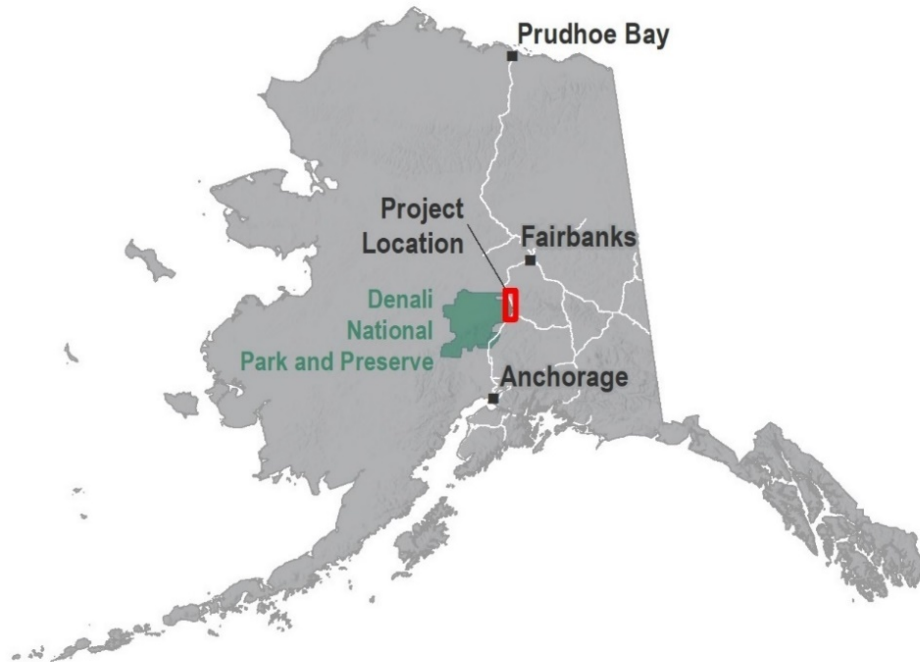
The Parks Highway serves as the primary<sup>[2]</sup> north-south roadway link, connecting the state's largest city and port in Southcentral Alaska to the northern interior of Alaska and beyond to the North Slope oil and gas fields in Prudhoe Bay (Figure 1-1). Also known as the George Parks Highway or Alaska Route 3, the Parks Highway begins 35 miles north of Anchorage and terminates in Fairbanks. The Parks Highway is functionally classified as a rural interstate highway and is part of both the National Highway System (NHS) and the Interstate Highway System.<sup>[3]</sup>

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<sup>[2]</sup> While an alternate highway route is available from Southcentral Alaska to Interior Alaska, it is longer and less direct: the Glenn Highway extends from Anchorage northeast to Glennallen, where the Richardson Highway is picked up and extends north to the Alaska Highway at Delta Junction which extends west to reach Fairbanks. This more circuitous route adds an additional 60 miles and traverses via an interstate, minor arterial, and interstate, respectively.

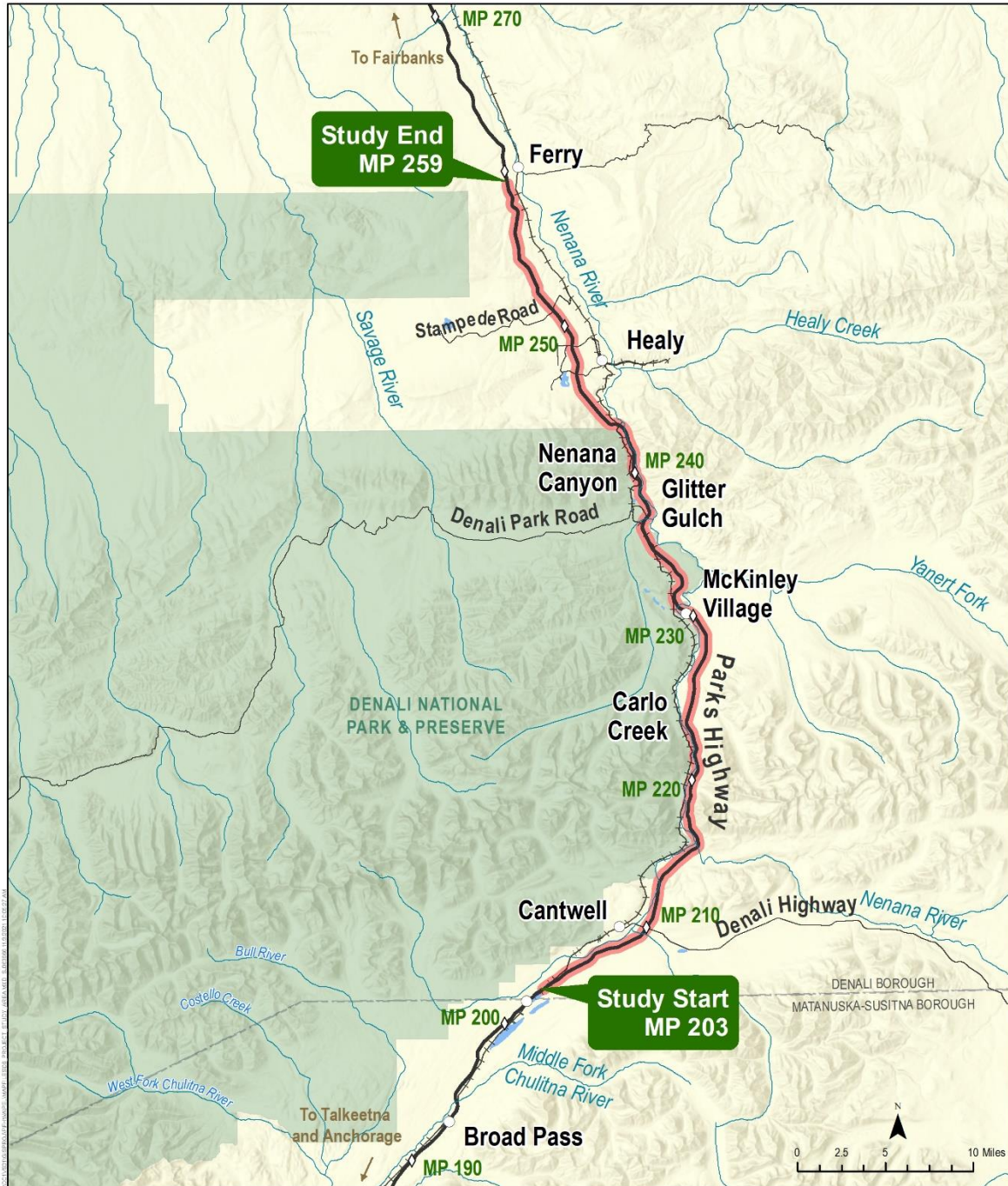
<sup>[3]</sup> An interstate highway is the highest classification of roadways in the United States. Interstate highways are intended to provide the highest level of mobility and the highest speeds over the longest uninterrupted distance.

**Figure 1-1. Study Area in State Context**



This PEL study focuses on a 56-mile segment of the Parks Highway, beginning in Broad Pass at the Denali Borough boundary (MP 203) and extending north to the turnoff for Ferry (MP 259) (Figure 1-2). The corridor passes through the Alaska Range, which separates Southcentral Alaska from Interior Alaska.

Figure 1-2. PEL Study Area



LEGEND

- ◇ Mile Post
- Community
- Roads
- Stream
- +++ Alaska Railroad
- Project Extent
- Denali National Park & Preserve
- Borough

**Study Area**  
 Cantwell to Healy PEL Study  
 Parks Highway MP 203 to 259

## 1.1.2 Corridor Setting and Context

### Corridor Highway Users

Primary users of the Parks Highway corridor in the study area include local residents, travelers, freight, people accessing adjacent lands and waterways for recreation and other uses like subsistence or wildlife viewing, and tourists visiting DNP and other related attractions. Commercial trucks use this highway route year-round to deliver supplies and freight from Anchorage to Fairbanks and other surrounding communities. There is also a notable amount of cargo transported for the Trans-Alaska Pipeline and other North Slope/Prudhoe Bay development along this route. Truck traffic comprises nearly 20 percent of traffic along the study corridor.

The Parks Highway along with the Alaska Railroad provide intermodal access to and through the corridor, which includes several year-round communities and other pockets of small development spread along the corridor. This infrastructure, along with a handful of private and public use airports located along the corridor, collectively cater to the seasonal tourism and visitor industry, as well as providing access to other recreational lands and activities, local game units, private lands, native allotments, and subsistence resources.

### DNP Visitation and Influence in the Corridor

DNP draws the highest concentration of recreation visitors along the Parks Highway and provides access to world-class scenery and recreational resources. In 2019, more than 600,000 recreation visitors came to DNP (NPS 2020). While nearly 75 percent of the study corridor runs adjacent to the eastern boundary of DNP, there is only one roadway into DNP—the Denali Park Road—which connects to the Parks Highway at MP 237. This sole hard surface gateway into DNP has resulted in a substantial amount of seasonal tourism development and infrastructure built up along the highway corridor to the south and north of MP 237. The approximate 2-mile stretch extending north from MP 237 through Nenana Canyon is often (and some would state reluctantly) referred to as “Glitter Gulch.”

During the summer, traffic along the study corridor increases substantially, nearly doubling, because of DNP-associated tourism. This increase in traffic and visitors results in safety, mobility, and congestion issues, but also fuels the region’s economy. In recent years, the study corridor has seen an increase in winter and shoulder season recreation and tourism. The NPS released an environmental assessment in 2020 regarding visitor services to accommodate for these types of increased shoulder season activities and visitation at DNP. The NPS has trails and recreation access improvements in the DNP entrance area, referred to as the “Frontcountry.”

Originally constructed between the late 1960s and early 1970s, the Parks Highway was officially completed in 1971. It was initially called the Anchorage-Fairbanks Highway. Before 1971, the Alaska Railroad served as the primary access point to DNP from the early 1900s. Today, visitors to DNP arrive largely by the Parks Highway or the Alaska Railroad. The opening of the Parks Highway resulted in a tremendous increase in travelers to DNP and the corridor (refer to DNP visitation numbers in Section 2.4.1.2 of the *Economic Technical Memo #2* in Appendix G of the Needs and Opportunities Report [Appendix A]).

DNP is a key economic driver in the borough. Tourism in the borough is centered around exploring DNP and surrounding scenic and recreational areas. The economic effects of travel and visitation



*Vehicular traffic nearly doubles on the Parks Highway during summer (MP 231)*

to DNP on the corridor and region (and state) is evidenced by DNP visitors spending more than \$600 million in 2019.

### **Other Corridor Features and Access Points**

The Parks Highway provides access to the year-round communities of Cantwell (MP 210), McKinley Village (MP 231), Healy (MP 248), and Ferry (MP 259). The Carlo Creek area (MP 224) sees substantial seasonal visitors and tourist congestion in the summer months. These communities and pockets of development along the corridor have resulted in numerous driveways directly accessing the highway.

Glitter Gulch (MP 238-239) is a major services hub for DNP tourism, as there are limited services within the park itself. Over the years, tourist support services have spread farther south and north along the Parks Highway creating pockets of higher density development: south to Carlo Creek (MP 224) and McKinley Village (MP 231) and north toward Healy (MP 248). Identified issues in these pocket areas include seasonal congestion, lack of turning lanes, and numerous driveways/ direct highway access points. Seasonal employees are increasingly housed in these further locations, which necessitates regular travel to/from the DNP entrance and these locations. Glitter Gulch becomes congested between May and September, with most facilities shuttering for the winter. Lack of adequate parking causes vehicles to encroach into the highway right-of-way (ROW). This area is also constrained by the Nenana River and Canyon, further limiting the ability to accommodate new development and pushing it elsewhere along the corridor.

Other notable roadways connecting to the Parks Highway include the Denali Highway in the southern end of the study corridor in Cantwell near MP 210 and Healy Spur Road (MP 248) and Stampede Road/ Lignite Road (MP 251) in the northern end of the study corridor. The highway corridor traverses lands owned by the State of Alaska, NPS, Ahtna, Inc., and private property.

The corridor provides access to an abundance of recreational activities and use of recreational sites within the corridor has grown steadily over the past several decades. A growing tourism industry presence and an increasing popularity among recreationists has resulted in an increased demand for recreational access.

In the study corridor, there are 30 paved or gravel vehicle access points (e.g., pull-outs and parking areas) for recreational opportunities or rest for motorists. There are more than a dozen campgrounds and recreational vehicle parks, numerous maintained and informal hiking trails, and several private and public boat launch points and put-ins (both developed and undeveloped). Other corridor features include the Nenana River, which also generally parallels the highway for most of the study corridor. River rafting on the Nenana River is one of many recreational activities drawing visitors to the area.



*Parking for recreational access at Bison Gulch (MP 243.8)*

### **Scenic Byway Designation**

The entire 56 miles of the study corridor is designated as an Alaska State Scenic Byway, portions of which were designated in 1998 (MP 203-248) and others in 2008 (MP 248-259). The corridor was designated a National Scenic Byway in 2009. The six intrinsic values related to scenic byways – archaeological, natural, cultural, recreational, historic, and scenic – are found in the corridor, with the natural and recreational opportunities considered as “world-class.”

## Roadway Characteristics and Traffic

The existing highway alignment generally consists of a two-lane paved highway with additional lanes periodically to accommodate passing, climbing, and turning. The highway traverses along physical constraints such as the Nenana River and mountainous terrain, which results in numerous horizontal and vertical roadway curves and reduced posted speeds in those locations.



*The highway is constrained by areas of slope instability and erosion by the river in the Nenana Canyon (MP 239-241)*

The highway travels over discontinuous and continuous permafrost soils, across and adjacent to rivers and drainages, over rolling hills, and through steep mountainous terrain. This diverse geologic terrain poses numerous hazards to the highway including thaw-unstable soils, erosion, landslides, rockslides, and rockfalls. Roadway damage related to frost heaves can be found throughout the study corridor as well as drainage issues. There are many stretches where a clear zone<sup>[4]</sup> is not available along the highway because of rock cut slopes and guardrail protecting vehicles from the river.

Two DOT&PF maintenance and operations (M&O) stations serve the corridor. Consistent M&O-related issues affecting the roadway include erosion, permafrost, bedrock constraints, rockfall hazards, inadequate drainage, sinking of the roadway, parking issues, inadequate roadway shoulders, and frost heaves. DOT&PF maintains 22 bridges and more than 200 culverts in the study corridor. The at-grade railroad crossing at MP 235 also requires continual of attention by M&O crews, as it causes damage to snow removal equipment, in addition to issues associated with pavement and roadway integrity.

The study corridor annual average daily traffic (AADT) is between approximately 1,100 and 2,000 vehicles, and nearly doubles during the summer to between 2,200 to 4,300 vehicles. Traffic is expected to increase between 1 to 2 percent annually. There are seasonal reduced speed limits in congested locations and two seasonal traffic lights in Glitter Gulch. September and January have the highest vehicle crash rates. Between 2013 and 2017, one-third of vehicle crashes involved wildlife. Other safety concerns include the need to eliminate two highway/rail crossings.

## Already Funded and Programmed Improvement Projects

There are several already-funded transportation and access improvement projects within the study corridor that are moving forward, outside of this PEL study. These include:

- **Parks Highway MP 206 - 209 Rehabilitation:** This is a DOT&PF-sponsored reconstruction project that is already listed in the DOT&PF Statewide Transportation Improvement Program (STIP) as need ID 30995. Proposed improvements include highway reconstruction and replacing Pass Creek Bridge.
- **Parks Highway MP 231 Enhancements HSIP:** This is a DOT&PF-sponsored project funded through Highway Safety Improvement Program (HSIP) funds that will include pedestrian-related improvements and improvements increasing safety for turning vehicles. This project is identified in the STIP as need ID 26157.
- **Parks Highway MP 231 McKinley Village Pedestrian Bridge:** The DOT&PF and NPS were selected in 2021 to receive FLAP funding to move this project forward into design. Proposed improvements include constructing a pedestrian bridge across the Nenana River at McKinley

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<sup>[4]</sup> According to FHWA, a Clear Zone is an unobstructed, traversable roadside area that allows a driver to stop safely or regain control of a vehicle that has left the roadway.

Village. Connector trails from the pedestrian bridge will be constructed to tie into the trail system and parking area, just north of the pedestrian bridge.

- **Antler Ridge Trail:** This is a project sponsored by DOT&PF in cooperation with WFL, the Denali Borough, and the NPS that will make recreation access facility improvements near MP 244. Construction began in 2021.
- **Healy Spur Road Rehabilitation:** This is a DOT&PF-sponsored project that will rehabilitate the Healy Spur Road. The project is identified in the STIP as need ID 32519.

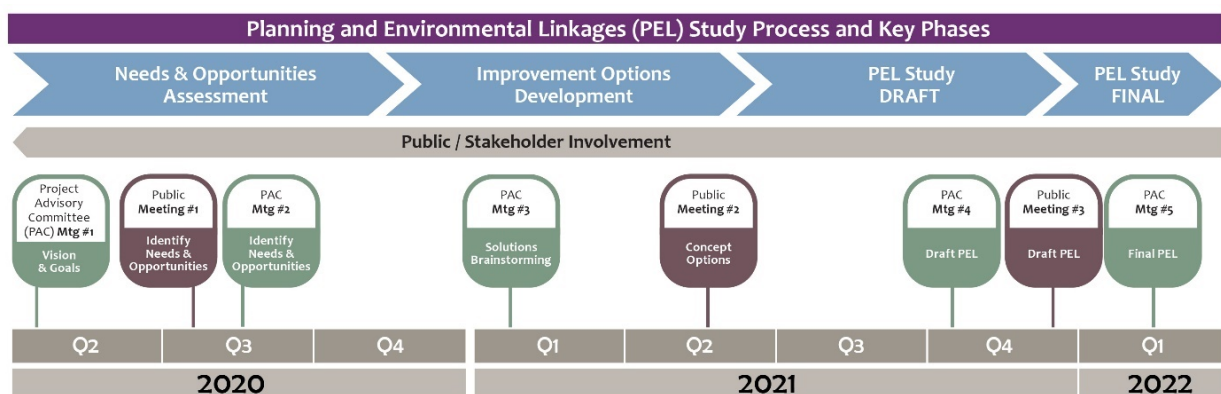
## 1.2 Study Process

Figure 1-3 depicts the PEL study process, which followed three key phases over a nearly 2-year timeframe:

- Assess needs and opportunities
- Develop and evaluate improvement options (i.e., solutions)
- Prepare a draft and final PEL study

The study team placed a high priority on seeking input from stakeholders and the public throughout the duration of the PEL study, as reflected in the graphic.

**Figure 1-3. PEL Study Process and Key Outreach Phases**



Early in the PEL study process, with input from the stakeholder advisory committee (PAC) formed for this study (refer to Section 3.2), the study team prepared the following vision statement for the PEL study:

*To develop a stakeholder-supported comprehensive plan for the Parks Highway corridor that addresses and supports multi-modal safety, mobility, access, and economic development*

### 1.2.1 Phase 1: Assess Needs and Opportunities

The first phase of the PEL study was to identify the existing and projected corridor conditions, needs, and opportunities<sup>[5]</sup> of the Parks Highway as it relates to corridor users and communities. The study team conducted the following activities between March and September 2020 to identify corridor needs and opportunities, the results of which are summarized in the Needs and Opportunities Assessment Report (Appendix A).

<sup>[5]</sup> Whereas planning processes oftentimes focus on the transportation needs (problems) that are trying to be resolved, the PEL study team also investigated and sought input on transportation- and access-related opportunities, in particular due to the recreation and economic opportunities the corridor presents.

- Obtained input from the public, agencies, PAC, and other stakeholders
- Conducted field visits
- Reviewed prior plans for the corridor and region
- Collected data and analyzed existing and future conditions

Based on these activities, the study team compiled a comprehensive list of identified needs and opportunities in the study corridor (refer to Appendix A of the Needs and Opportunities Assessment Report).

This phase also included identifying a corridor vision, and goals and objectives on how to achieve that vision. This was drafted by the study team and based on stakeholder and public input.

Key data used to inform the development of goals and objectives is included in the Needs and Opportunities Assessment Report. Representative data includes the following: existing and forecasted traffic volumes; crash data; field observations; DNP visitor numbers; analysis of prior plans and studies; maintenance, operations, and construction costs; and numerous geographic information system (GIS) data sets related to environmental resources, transportation infrastructure, and recreation access points and features.

### **1.2.2 Phase 2: Develop and Evaluate Potential Solutions**

The information gathered during Phase 1 informed the next step of the PEL study process which entailed developing and evaluating potential solutions<sup>[6]</sup> that could address the identified needs and opportunities. The study team considered the needs and opportunities as initial inputs and then developed a list of potential solutions.

The identified goals and objectives guided the development and evaluation of solutions and served as the foundation for screening criteria. Potential solutions were evaluated based on their ability to achieve the goals and objectives. The study team used a screening evaluation process consisting of three screening levels. The purpose of screening is to evaluate whether a potential solution should be moved forward for recommendation in the PEL study for future implementation. Potential solutions and initial recommendations, if identified at the time, were presented to stakeholders and public for input in early 2021.

### **1.2.3 Phase 3: Prepare a Draft and Final PEL Study that Recommends Future Corridor Improvements**

The PEL study report documents the PEL study process and results and includes a framework for implementing future transportation and access improvements along the corridor. The PEL study presents the recommended solutions. **The draft and final study *will be/was* presented to stakeholders and the public for input, and then finalized.**

### **1.2.4 Integration of Planning and Environmental Review**

Pursuant to 23 U.S. Code 168(c)(1), 23 Code of Federal Regulations (CFR) 450.212 and 450.318 and other applicable<sup>[7]</sup> statutes and regulations, representative planning products, analyses, and decisions from this PEL study may be used and incorporated by reference during subsequent environmental review processes (e.g., National Environmental Policy Act [NEPA] processes). These may include but are not limited to:

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<sup>[6]</sup> The PEL study team elected to use the terminology “solutions,” rather than what is often referred to as “alternatives” in the NEPA phase.

<sup>[7]</sup> DOT&PF 2021 (*Section 1.2 and Section 2.4, summarizes relevant major provisions in statutes and regulations*).

- General travel corridor and/or modal choice, including recommendations to advance different modal solutions as separate projects with independent utility;
- Purpose and need (or goals and objectives) statements;
- Preliminary screening of alternatives (i.e., solutions) and elimination of unreasonable alternatives;
- Basic description of the environmental setting;
- Decision with respect to methodologies for analysis; and/or
- Preliminary identification of environmental impact and environmental mitigation.

NEPA established a mandate for federal agencies to consider the potential environmental consequences of their proposed action, documenting analysis of impacts, and making that information available to the public for comment prior to implementation. In addition to the previous bulleted list, other NEPA principles followed for this PEL study included coordinating with regulatory agencies and involving the public.

PELs are intended to be flexible tools that provide a basic framework for linking the transportation planning and NEPA phases. The study team has opted to use the following terminology in this corridor-level PEL study: “goals and objectives” for the corridor; a draft future “purpose and need” for each recommended solution; and “solutions” rather than “alternatives.”

### 1.2.5 DOT&PF Statewide Environmental Office (SEO) Engagement

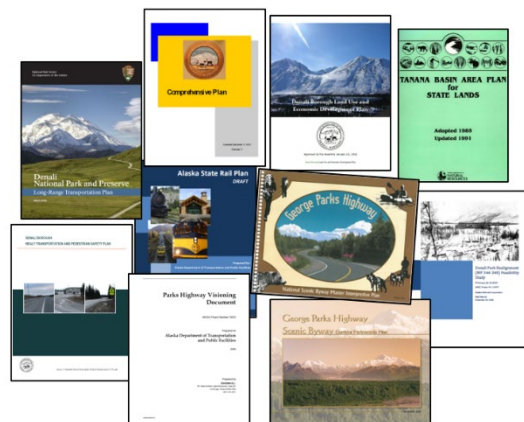
Under the NEPA Assignment Program (23 U.S. Code 327), the DOT&PF has assumed FHWA responsibilities for complying with NEPA when developing federally funded highway projects in Alaska that DOT&PF designs and constructs. The DOT&PF Statewide Environmental Office (SEO) administers the NEPA Assignment Program and was involved in this PEL process since the SEO may adopt components of this PEL into a future NEPA process. ***[Insert description of SEO coordination, feedback, and engagement]***

## 1.3 Relevant Prior Plans and Studies for the Corridor and Region

Previously prepared plans and studies provided context for understanding the corridor conditions and provided insight on stakeholders’ organizational values and previously identified visions, goals, needs, opportunities, and proposed projects. The study team recognizes the importance of collaborating with these stakeholders, as reflected by PAC membership, and the need to build upon and incorporate work that has been done previously to the extent possible. Considering prior planning efforts, the project partners decided to come together to conduct this PEL study with the intent to leverage partnerships to help move projects forward more effectively.

The study team reviewed the following studies and plans. A memo attached to the Needs and Opportunities Assessment Report (Appendix A) includes a detailed summary of these.

- Denali Park Realignment (MP 344-348) Feasibility Study (Alaska Railroad Corporation [ARRC] 2018)
- Denali National Park Long Range Transportation Plan (NPS 2018)
- Denali Borough Land Use and Economic Development Plan (Denali Borough 2018)
- State Rail Plan (DOT&PF 2016)



- Denali Borough Healy Transportation and Pedestrian Safety Plan (Denali Borough 2016)
- Denali Borough Comprehensive Plan (Denali Borough 2015)
- Parks Highway National Scenic Byway Master Interpretative Plan (Department of Natural Resources [DNR] 2012)
- George Parks Highway Scenic Byway Corridor Partnership Plan (DNR 2008)
- Parks Highway Visioning Document (DOT&PF 2006)
- Tanana Basin Area Plan for State Lands (DNR 1991)

Common themes in these plans and studies include the following:

- Establish and leverage partnerships
- Improve existing and create new recreation access areas
- Improve roadway safety, including adding turning lanes
- Add pathways, particularly along the highway for mobility, connectivity, access, safety, and/or recreation
- Promote a culture of safety and mutual respect among user groups, including motorized and non-motorized
- Importance of tourism and outdoor recreation that drives communities and borough economy
- Support and expand tourism industry

## 1.4 Identified Needs and Opportunities

Based on the information collected during the first phase of the study, which included a detailed data-driven analysis of the existing and future corridor conditions, a review of prior plans, field visits, and input from the public and stakeholders, the study team categorized the identified issues, needs, and opportunities into the following broad categories: safety, roadway conditions/maintenance, mobility, access, recreation, and other topics such as stewardship, education, and economic development. The following represents an overview of the main themes of the identified needs and opportunities; for greater detail refer to the Needs and Opportunities Assessment Report (Appendix A).

- Improve safety
- Address roadway conditions (caused by factors such as erosion, drainage, frost heaves, rockfall hazards, and slope instability)
- Reduce congestion
- Improve mobility for all transportation modes
- Balance the needs of all users (includes local residents, visitors/ tourists, through travelers, freight, non-motorized, and recreational uses)
- Separate motorized and non-motorized uses where reasonable
- Improve existing recreation access areas
- Accommodate increased recreation and tourism demands, in turn to support the economic vitality of the region
- Promote stewardship and knowledge of the intrinsic values of the area
- Leverage partnerships to benefit project development and implementation

Based on input received from stakeholders and the public, the study team developed a figure that graphically portrays the frequency with which these types of identified needs and opportunities were reported. The word clouds in Figure 1-4 illustrate this frequency based on the theme of the comment, with the larger font size reflecting greater frequency. The graphic depicts safety, access, roadway condition, and recreation as the most common themes of identified needs and opportunities.



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## 2. Corridor Vision, Goals, and Objectives

### 2.1 Corridor Vision Statement



Early in the PEL study process, with input from the PAC and public during the needs and opportunities assessment phase, the study team prepared the following corridor vision statement:

*To improve mobility and safety for all Parks Highway users traveling in the corridor while enhancing economic opportunity, multi-modal access, and environmental integrity.*

This vision statement reflects input received on primary transportation needs related to mobility and safety, while including other important identified needs, opportunities and input received. The first two PAC meetings held on April 15, 2020 and July 21, 2020 included interactive exercises related to understanding PAC organizations' shared values and respective PAC organizational vision statements and brainstorming of potential goal statements. Prior to PAC Meeting #2, PAC members completed a questionnaire ranking goal-related statements that were generated based on PAC Meeting #1 discussion as well as a potential study vision statement. Public Meeting #1 sought public input on a corridor vision.

**Project Partner Mission Statements.** The corridor vision statement also reflects the three project partners' mission statements, which include the following:







- **DOT&PF's mission** is to "keep Alaska Moving through service and infrastructure."
- **WFL's mission** is to "improve transportation to and within Federal and Tribal Lands by providing technical services to the highway/transportation community, as well as building accessible and scenic roads that ensure the many national treasures within our Federal Lands can be enjoyed by all."
- **NPS' mission:** "The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world."

The NPS brings a unique perspective to this transportation corridor planning process because in addition to focusing on improving transportation infrastructure, the NPS closely looks at the "visitor experience" and how improvements might promote, preserve, or enhance the visitor experience while minimizing impacts to the natural world.

### 2.2 Goals and Objectives

Table 2-1 lists the goals and objectives identified during the PEL study, which were based on stakeholder and public feedback and the detailed data-driven analysis of the existing and future conditions included in the Needs and Opportunities Assessment Report (Appendix A). Goals and objectives guide the development of solution options to address the identified needs and opportunities. These goals highlight the need for transportation and access improvements. These goals and objectives can be used to develop future purpose and need statements for improvements moving forward. A future draft purpose and need statement for nearly all the proposed solutions has been prepared and is included in the project data sheets in Appendix B.

**Table 2-1. Goals and Objectives**

	<b>Goals</b>	<b>Objectives</b>
	<p><b>Safety:</b>                      To improve the safety of the corridor</p>	<ul style="list-style-type: none"> <li>• Reduce conflicts between user groups and travel modes</li> <li>• Reduce severity and frequency of crashes</li> <li>• Identify and address crash trends</li> <li>• Identify and address roadway elements that do not meet current design standards</li> </ul>
	<p><b>Mobility:</b>                      To improve mobility for all modes of transportation</p>	<ul style="list-style-type: none"> <li>• Improve traffic flow for all corridor users</li> <li>• Facilitate multi-modal options within the corridor</li> <li>• Accommodate the forecast for increased demands within the corridor</li> <li>• Reduce congestion in identified locations</li> <li>• Maintain or improve transportation system reliability</li> </ul>
	<p><b>Access and Land Use:</b>                      To improve access and support land uses in corridor</p>	<ul style="list-style-type: none"> <li>• Improve access to destinations within corridor (e.g. recreation, businesses, community access points)</li> <li>• Maximize consistency with adopted land use and economic development plans</li> </ul>
	<p><b>Economic Vitality:</b>                      To promote economic vitality</p>	<ul style="list-style-type: none"> <li>• Support the demands of increased recreation, tourism, and commerce of the region</li> <li>• Maintain or improve the movement of interstate freight and commerce</li> <li>• Support diversification of recreational opportunities of the region</li> </ul>
	<p><b>Environmental Stewardship:</b>                      To minimize adverse environmental impacts and promote stewardship of the area</p>	<ul style="list-style-type: none"> <li>• Minimize impacts or enhance the natural, cultural, and built environment</li> <li>• Promote stewardship and knowledge of the intrinsic values of the area</li> </ul>
	<p><b>Funding Goal:</b>                      To facilitate transportation needs with fundable, implementable projects</p>	<ul style="list-style-type: none"> <li>• Minimize life cycle costs and maximize benefits</li> <li>• Support utilization of a variety of funding and partnering opportunities</li> </ul>

### 3. Public Involvement and Stakeholder Outreach



The Parks Highway serves a variety of highway users and stakeholder needs and interests. One of the key desired outcomes of the PEL study was to conduct a collaborative process that brings together these various community and local stakeholders to identify and seek input on future transportation-related improvements in the study corridor. Input was sought to identify needs and opportunities and appropriate solutions that balance resource and user impacts with needed improvements.

This section summarizes the public and stakeholder outreach activities and tools used in the PEL study process. Appendix C contains supporting public involvement and stakeholder outreach materials that are described in this section.

#### 3.1 Public Involvement Process and Outreach Tools

A *Public Involvement Plan* was prepared in December 2019 to identify potentially affected interests and document the process for engaging the public, stakeholders, and other interested parties in the study (Appendix C). The study team’s approach to outreach was to conduct a proactive, collaborative process that provided and ensured opportunities for affected interests to be involved in key phases throughout the PEL study process.

Public and agency involvement followed relevant planning regulations requirements,<sup>[8]</sup> such as:

- Early and continuous public involvement opportunities occurred throughout the process, particularly at key phases
- Provided the opportunity for public review and comment at key phases (i.e., key decision points) and made public information available in electronically accessible formats and means
- Held online public meetings over month-long durations to allow for reasonable access to information
- Provided timely public notices
- Considered and responded to input received
- Periodically reviewed the effectiveness of procedures and strategies to ensure a full and open participation process
- Considered the opinions, actions, and relevant information from other parties
- Cooperated with and involved parties to work together to achieve a common goal

The COVID-19 pandemic outbreak that began in early 2020 shifted most of the public involvement and outreach methods to virtual formats and technologies such as online meetings, visualization story maps, video, and interactive polling. Traditional techniques like newsletters, postcards and posters were still used.

Key outreach tools consisted of the following:

- **Project Advisory Committee (PAC):** A PAC was created and met five key times throughout the study, as described in Section 3.2. The COVID-19 pandemic outbreak that began in early 2020 shifted the planned in-person meetings to a virtual format.
- **Public Meetings:** The study team hosted three public meetings at key phases, as described in Section 3.3. Because of the pandemic, month-long online open houses were held in lieu of three

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<sup>[8]</sup> 23 CFR 450.210 and 450.316; DOT&PF 2021 (*Section 3.3 Public and Agency Involvement Requirements*).

sets of in-person meetings that had initially been planned for Cantwell, Healy, and Denali National Park. The public was invited via postcards, emails, and social media. Posters advertising the meetings were displayed in community locations such as a grocery store in Healy and the post office in Cantwell.

- **Project Website:** The DOT&PF hosted a project website throughout the duration of the PEL study (<https://dot.alaska.gov/nreg/parkshealype/>). Website content included background information, study purpose and goals, study schedule and status, links to project information and documents such as the public meeting summaries and key work products such as the Needs and Opportunities Report, links to the online public open houses when they were held, contact information, and notice that PEL study materials may be adopted or incorporated by reference into a future environmental review process. Public comments were solicited specifically during the public meetings but could be submitted through the project website at any time.
- **Agency and Tribal Outreach:** The DOT&PF solicited input from agencies and the native tribe at key phases, as described in Section 3.4.
- **Public Notices, News Releases and Social Media:** State of Alaska Online Public Notices were published at key phases that coincided with the public meetings and key work products. The DOT&PF published online State of Alaska public notices on June 24, 2020, April 9, 2021, and **[INSERT DATE WHEN AVAIL RELATED TO PUBLIC MTG 3]**. These notices invited the public to the open houses, solicited comments, and informed the public about the information being collected that will inform the development of future projects. News releases informed focused media efforts to promote public meetings and provide public notice; these included postings in the DOT&PF Daily News Coverage emails, the non-profit What's Up weekly e-mail Listserve, and DOT&PF social media posts.
- **Contact/Mailing List and Project Emails:** The study team compiled a contact/ mailing list of adjacent property owners, stakeholders, and interested parties which was continually updated as contact information was received. The mailing list was used to provide public notification of meetings. The study team sent e-mail updates at key phases, including follow-up e-mail responses to those who submitted public comments.
- **Project Newsletters:** The study team distributed three project newsletters at key phases that coincided with the public meetings.
  - The first newsletter was distributed to nearly 1,700 addresses, which included almost 1,500 U.S. Postal Service every door direct mail numbers for relevant corridor study zip codes (99729, 99743, 99760, and 99755) and another approximate 230 for standard delivery.
  - The second newsletter was distributed to about 250 project contacts, which represented those on the project mailing list and people who had affirmatively responded to wanting to be included in project mailings.
  - The third newsletter was distributed **[To be inserted – forthcoming late 2021]**.

Figure 3-1. Snapshots of Public Involvement and Stakeholder Outreach Materials



Note: These snapshots represent some of the outreach materials used during the PEL study, which includes social media posts, online open houses, project website, and interactive screening polls such as the screening criteria ranking poll.

### 3.2 Project Advisory Committee

At the onset of the outreach process for this PEL study, a PAC was formed to guide project development and build consensus on corridor needs and opportunities, appropriate solutions, and final project recommendations. The PAC included representatives from the following stakeholder organizations:

- Ahtna Corporation
- Alaska Railroad
- Alaska Travel Industry Association
- Denali Borough
- Denali Chamber of Commerce
- Denali Citizen’s Council
- DOT&PF Maintenance and Operations

- DOT&PF Traffic and Safety
- NPS/DNP – *NPS representatives on the PAC are also study team members*
- Trucking industry representative

The study team **will host/hosted five** PAC meetings during the PEL study process. Appendix C contains summaries and materials provided during these meetings.

### **3.2.1 PAC Meeting #1 (April 15, 2020) – Orientation, Vision and Goals**

The first PAC meeting was held April 15, 2020, and included exercises related to understanding PAC organizations' shared values and respective PAC organizational vision statements. The PAC members participated in brainstorming a potential corridor vision and generated draft goal statements for the PEL study. The study team provided an overview of the PEL study process and schedule, presented desired outcomes and goals, and walked through a charter for the PAC. PAC Meeting #1 notes and presentation are provided in Appendix C as well as a charter document adopted by the PAC members.

### **3.2.2 PAC Meeting #2 (July 21, 2020) – Identify Needs and Opportunities**

The second PAC meeting was held July 21, 2020. Prior to the meeting, PAC members completed a questionnaire ranking goal-related statements generated from the previous meeting as well as a potential PEL study vision statement. During the meeting, each PAC member described what they thought were the top three needs and opportunities in the corridor. These were largely related to access, safety, mobility, economic activity generation, and improving recreation opportunities. The goals and objectives identified in Section 2.2 reflect input provided by the PAC. PAC Meeting #2 notes and presentation are provided in Appendix C.

### **3.2.3 PAC Meeting #3 (January 27, 2021) – Identify and Evaluate Solutions**

The third PAC meeting was held January 27, 2021. The meeting included a brief recap of the results of the Needs and Opportunities Assessment Report; presentation of the proposed three-level screening process; an interactive live poll regarding the proposed screening criteria; presentation on a transit/active transportation improvement option; presentation of the identified issues and proposed solutions in the following key focus areas: Glitter Gulch, Nenana Canyon, non-motorized accommodations, the railroad-highway rail crossings at MP 235 and 236; and a guided tour of the ESRI ArcGIS Experience platform that is being used to present the proposed solutions to the public for comment during Public Meeting #2. PAC members were encouraged to share this information with their constituents. Feedback from the PAC helped to inform the solutions evaluation process. PAC Meeting #3 notes and presentation are provided in Appendix C. A separate meeting was held with ARRC because they were unable to attend the third PAC meeting.

### **3.2.4 PAC Meeting #4 ([DATE TBD]) – Draft PEL Study Recommendations**

[To be inserted – forthcoming in late Fall 2021]

### **3.2.5 PAC Meeting #5 ([DATE TBD]) – Final PEL Study Recommendations**

[To be inserted – forthcoming in early 2022]

## **3.3 Public Meetings**

Three public meetings occurred during the PEL study process. Refer to Appendix C for additional meeting information including summaries, public notifications, and public comments submitted.

### 3.3.1 Public Meeting #1 (June 25-July 25, 2020) – Identify Needs and Opportunities

The first public meeting was held as a virtual online open house between June 25 and July 25, 2020 using ESRI Story Map software. This ArcGIS platform weaved the project narrative with multimedia content including maps, photos, and comment fields. The purpose of the meeting was to inform the public about the scope and purpose of the PEL study and to seek input on existing corridor conditions, needs, opportunities, vision, and goals. The online open house contained a mapping tool feature that allowed people to identify specific locations of needs or opportunities that may be relevant to the planning effort and could be addressed by future projects.

There were 355 visitors to the open house website. Fifty people submitted responses via the website's online comment form producing 106 unique comments during the advertised month-long window. Respondents self-categorized their comments under the themes of safety, road condition, recreation, and access, or 'other.' When recoded for accuracy, comment themes emerged as follows:

- more than half of the comments were safety related;
- one-quarter are recreation related, although the majority of these are about bike paths which is also a frequent topic under safety; and
- the remaining one-quarter are related to roadway condition, stewardship/ scenic quality and economic development.

### 3.3.2 Public Meeting #2 (April 12-May 12, 2021) – Identify and Evaluate Solutions

The second public meeting was held as a virtual online open house between April 12 and May 12, 2021 using ESRI ArcGIS Experience software. This ArcGIS platform provided a more immersive experience pairing street-level images with aerial maps and other multimedia content such as polls. The purpose of the meeting was to inform the public of the availability of the results of the needs and opportunities assessment and to seek input on the identified potential solutions and the screening process that will be used to evaluate the potential solutions, which will result in a list of recommended projects to move forward in the PEL study.

The online open house contained a brief introductory welcome video; a synopsis of potential solutions including identifying the likely recommended solution if known at that time; four polls providing the opportunity for visitors to rank options based on survey questions posed; a video depicting the modeled solutions in Nenana Canyon and Glitter Gulch; a screening process memo; and space to provide feedback. The website also included an interactive mapper that visitors could zoom in to see the location of the potential solutions.

There were approximately 300 visitors to the open house website during the month-long window.<sup>[9]</sup> Forty-six people submitted comments via the website online comment form, open-ended comment fields, and direct emails to DOT&PF, which produced 80 unique comments. Public comments fell into six main categories: pedestrian/bicycle safety, turning lane suggestions, frontage road comments, access and amenities opportunities, general safety ideas, and general views about limiting growth and impacts within the corridors.

### 3.3.3 Public Meeting #3 ([DATE TBD]) – Draft PEL Study Recommendations

[To be inserted – Forthcoming in late 2021/ early 2022. Insert meeting details, purpose, results.]

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<sup>[9]</sup> The first day, April 12, was missed in the Google metrics so the total visitors are approximated.

### 3.4 Agency and Tribal Involvement

The DOT&PF sent a letter to local, state and federal resource agencies, Tribes and Native Corporations on June 8, 2020, soliciting input and informing them of the PEL study. Several agencies expressed their interest to stay involved in the study process and offered data regarding baseline conditions in the study area including contaminated sites and bald eagle nest locations.

Cantwell Native Village declined to participate as a member in the PAC, but one PAC member is a Tribal member and offered to keep their tribe updated as the planning process progressed.

[Placeholder for additional outreach and agency comments in fall 2021]

## 4. Solutions Development and Evaluation

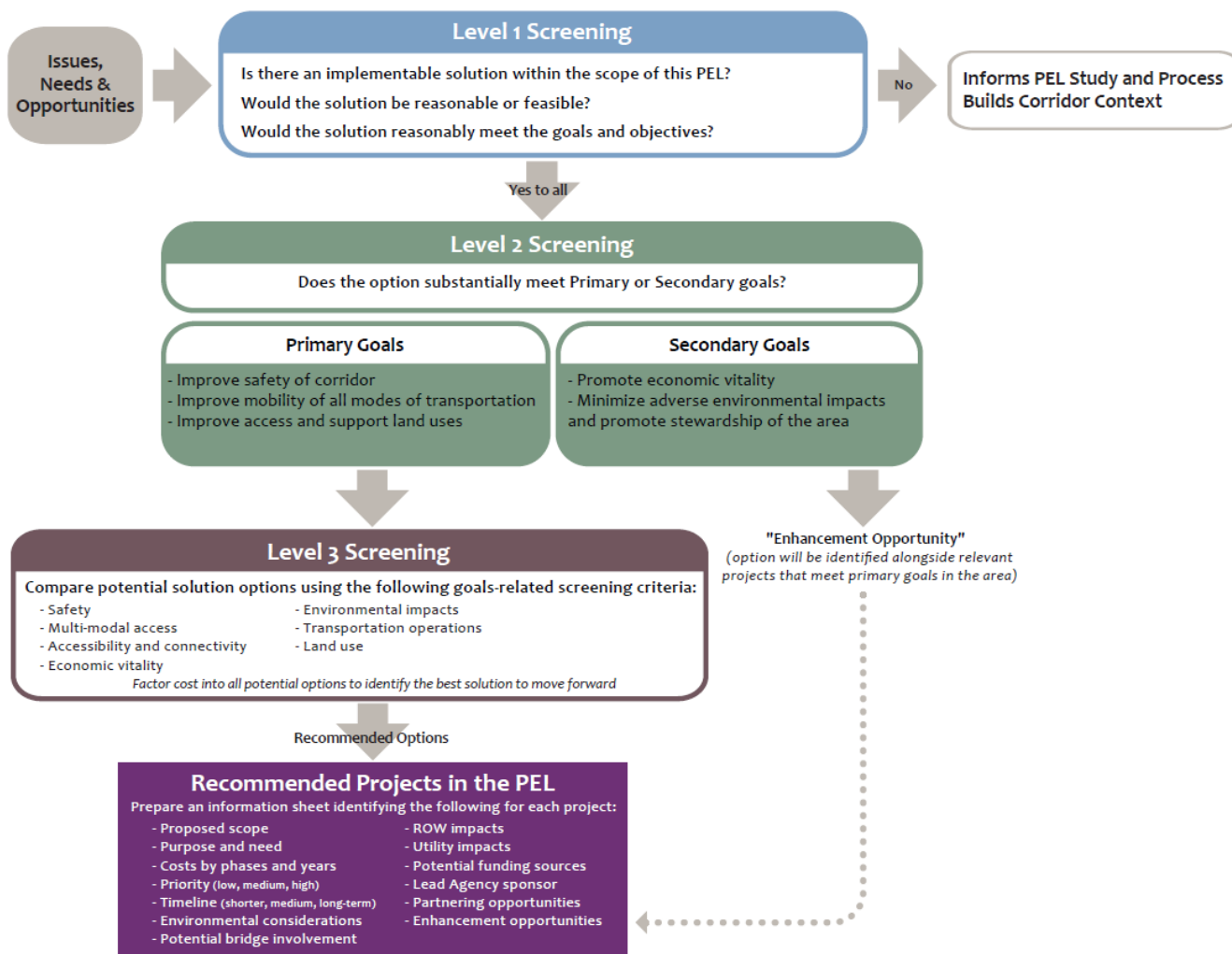
### 4.1 Screening Process



The information collected during the needs and opportunities assessment phase of the PEL study helped to shape the identification of potential solution options and the development of the screening process. The purpose of screening is to evaluate whether a potential solution option should be moved forward as a recommended project in the PEL study for implementation, pending future funding.

The study team developed a three-level screening process as shown in Figure 4-1 and described in this section. This process began with the baseline understanding of existing conditions, issues, needs and opportunities, and input from the public, stakeholders, and agencies, as represented as the initial input in the gray box in the following flow chart.

**Figure 4-1. Screening Process Flowchart**



A broad overview of the three screening levels is described as follows.

- **Level 1 Screening**
  - Entailed three “yes or no” “fatal flaw” questions.
  - Screened out received comments, issues, and options that were not reasonable, not feasible, did not meet the study goals and objectives, or did not lead to a specific implementable solution.
  - A “yes” to all three questions moved an idea or solution option forward to Level 2 screening for additional consideration and development.
- **Level 2 Screening**
  - A qualitative assessment of whether the idea or options would have the strong potential for a solution to achieve the primary or secondary PEL study goals.
  - Options largely meeting primary goals moved forward into Level 3 for additional analysis.
  - Options largely meeting secondary goals were categorized as potential “enhancement opportunities.” “Enhancement opportunities” represent recommendations that could be complementary to a larger-scale construction project, but they don’t fully address key goals related to safety, mobility, and access.
  - In select instances, a potential solution option at this screening level bypassed the comparative screening in Level 3 and moved straight into a recommended solution to be included in the PEL study. Specifically, this is related to several proposed community connector pathway improvement options and a transit solution option.
- **Level 3 Screening**
  - A detailed comparative screening process that analyzed potential solutions using goals-related evaluation criteria to identify the best option to move forward as a recommended solution for future implementation.

## 4.2 Screening Criteria

The corridor vision statement and goals and objectives shaped the screening criteria by which potential solutions were compared, particularly in the Level 3 screening. The screening criteria is as follows and is shown in Table 4-1 as they relate to applicable PEL study goals:

- Safety
- Multi-modal access
- Transportation operations
- Accessibility and connectivity
- Land use
- Economic
- Environmental
- Life cycle cost

The following table also includes a description of each screening criteria.

**Table 4-1. Screening Criteria and Related Goals**

Screening Criteria	Safety 	Mobility 	Access and Land Use 	Economic Vitality 	Environmental Stewardship 	Funding 
<b>Safety:</b> Considers the degree to which existing safety issues (based on historical crash data) are addressed and potential safety concerns are minimized	✓	✓	✓			
<b>Multi-modal Access:</b> Considers the degree to which the proposed option enhances non-motorized travel modes	✓	✓	✓	✓	✓	
<b>Transportation Operations:</b> Considers how the proposed option enhances or impacts mobility (e.g., traffic flow) through the corridor	✓	✓	✓			
<b>Accessibility and connectivity:</b> Considers the degree to which the proposed option improves access to destinations within the corridor and enhances connections among destinations	✓	✓	✓	✓	✓	
<b>Land Use:</b> Considers how the proposed option impacts ROW, utilities, and native allotments. Considers also how the proposed option integrates with existing land uses and is consistent with adopted land use and economic plans			✓	✓		
<b>Economic:</b> Considers the degree to which the proposed option supports economic vitality, both within the corridor and for through travel (e.g., freight) for both current and future conditions		✓	✓	✓		
<b>Environmental:</b> Considers how the proposed option would impact the natural, built, and cultural environment			✓		✓	
<b>Life Cycle Cost:</b> Life Cycle Cost (Scale 1-10, 10=high cost); Final score from all other criteria (Weighted Subtotal / Life Cycle Cost)						✓

Related goals (refer to Section 2.2): **Safety goal:** to improve the safety of the corridor; **Mobility goal:** to improve mobility for all modes of transportation; **Access and Land Use goal:** to improve mobility for all modes of transportation; **Economic Vitality goal:** to promote economic vitality; **Environmental Stewardship goal:** to minimize adverse environmental impacts and promote stewardship of the area; **Funding goal:** to facilitate transportation needs with fundable, implementable projects.

These screening criteria were used to screen and evaluate solution options during Level 3 screening to identify the best solution to recommend. As part of the outreach conducted during PAC Meeting #3 and Public Meeting #2, the PAC and public had the opportunity to provide input on the screening criteria and rank them in order of perceived importance. Based on this input and the study team’s assessment of the screening criteria’s ability to achieve the identified goals and objectives, screening criteria were weighted as follows. A higher weight score represents a higher ranking of importance for the criteria:

- Safety: weight score 5
- Accessibility and connectivity: weight score 4
- Transportation operations: weight score 4
- Multi-modal access: weight score 3
- Environmental: weight score 3
- Economic: weight score 3
- Land use: weight score 2

Table 4-2 shows the rankings for each screening criteria. All groups identified safety as the most important criteria for which to compare potential solutions. The study team ranked accessibility/connectivity and transportation operations higher, which is indicative of those project partners’ missions of moving people and providing access. The PAC and public highly ranked the accessibility/connectivity and multi-modal access criteria, which is reflected in the numerous comments submitted about providing pedestrian pathways and non-motorized accommodations.

**Table 4-2. Screening Criteria Rankings Based on Public, PAC and Study Team Input**

Screening Criteria	Public Ranking	PAC Ranking	Study Team Ranking
Safety	1	1	1
Accessibility and Connectivity	2	3	2*
Multi-modal Access	3	2	6
Transportation Operations	4	4	2*
Land Use	5	7	7
Environmental	6	6	4*
Economic	7	5	4*

\* = represents criterion receiving the same ranking as another criterion.

## 4.3 Solutions Identification, Screening and Evaluation

### 4.3.1 Development of Potential Solutions

The study team identified and developed a broad range of potential solution options for consideration. These were largely based on identifying and developing solutions to align with the issues, needs and opportunities identified early in the PEL study process. Data and prior plans for the corridor as well as public and PAC input influenced the development of potential solutions.

The initial full range of potential solutions were the key focus of PAC Meeting #3 and Public Meeting #2 in early 2021. **Detailed information about recommended solutions *will be/were* presented at PAC Meeting #4 and Public Meeting #3 in late 2021.**

Representative potential solution options considered include:

- Highway improvements such as reconstruction, rehabilitation, or realignment, or adding passing lanes
- Bridge improvements such as replacement (referred to sometimes as reconstruction) or rehabilitation
- Improvements related to mitigating natural risks such as rockfall hazards, drainage, and erosion
- Multi-modal improvements such as pedestrian pathways and consideration of transit
- Operational and/or safety-focused improvements such as resolving congested parking issues and a seasonal pedestrian signal
- “Enhancement opportunity” community-focused improvements that are not centered specifically around transportation infrastructure, such as installing informative kiosks or improving rest area facilities as part of improving “visitor experience” in the corridor
- Implementing no new improvements in certain corridor segments

Level 3 screening is where the bulk of the solutions development and evaluation occurred; see Section 4.3.4 for more details on how potential solutions were compared and analyzed.

**Corridor segments and proposed solutions.** Due to the length of the corridor, potential solutions were identified within smaller geographic segments within the corridor. Potential solutions were largely grouped into the following geographic focus areas:

- Cantwell (approximate MPs 209 to 211)
- Carlo Creek (approximate MPs 223 to 225)
- McKinley Village/ Crabbies Crossing (approximate MPs 228 to 230)
- Glitter Gulch/ Nenana Canyon (approximate MPs 238 to 243)
- Healy (approximate MPs 247 to 250)
- Remaining areas through the corridor (oftentimes areas between communities)

**Proposed separated pathway accommodation and transit solutions.** In addition to the geographic corridor segments, the study team closely assessed stand-alone separated pathway options located between communities (“community connectors”) and a transit solution connecting the DNP entrance area to surrounding areas along the highway corridor. These solutions were evaluated somewhat differently in part because potential sponsors and funding for these types of solutions are not as clear. The construction of separated pathways in the study corridor, including within communities and between communities, was a commonly identified need and opportunity early on in the PEL study. Pathway connections within community corridor segments have been included in the community corridor segment geographic focus areas. Separated pathway connections between communities and the transit initiative option are being recommended as stand-alone solutions within this PEL study, though they are not being given an assigned priority or timeline at this time.

**Sets of solution options within corridor segments and project bundling.** In some instances, there are more than one set type of solution options within a corridor segment. Depending upon the identified needs or opportunities in the corridor segment, there may be one set of solution improvements under consideration (e.g., corridor segment only needs improvements to the highway) or multiple sets of solution improvements under consideration (e.g., corridor segment may have proposed highway, bridge, and pedestrian improvement needs). In some instances, proposed solutions that are similar and have close proximity may be more efficient to implement in combination with each other as a group or a “project bundle.” Project bundling helps to gain economies of scale through project development and is best done strategically and early in the transportation planning process, such as this PEL study phase.

### 4.3.2 Level 1 Screening

More than 300 distinct comments were included in the comprehensive list of issues, needs and opportunities identified during phase 1 of the PEL study (refer to the Needs and Opportunities Assessment Report in Appendix A). Each item was vetted through this screening phase by the following three questions; a “yes” to all three questions meant the item was moved forward to the next level of screening for consideration to develop a potential solution to align with the identified specific need or opportunity.

- Is there an implementable solution within the scope of this PEL?
- Would the solution be reasonable or feasible?
- Would the solution reasonably meet the goals and objectives?

Many of the 300+ comments did not lend themselves to identifying and evaluating specific solution options. Instead, those comments helped to build an understanding of the corridor or helped to inform the development of the PEL study and process. The Level 1 and 2 Screening Results memo in Appendix D lists those comments and rationale for not being advanced beyond Level 1. A sampling of those is provided in the following table.

**Table 4-3. Level 1 Screening Sampling of Comments and Responses**

Comment	Response
Update NPS’ 1997 Denali Frontcountry Plan.	While this PEL is considering multi-modal connections in the corridor, which includes improving the Denali area Frontcountry experiences, updating the NPS’ specific plan (or preparing any other specifically identified plan like a Denali region recreation study extending south to Talkeetna) is determined to be outside of the scope of this PEL.
Consider a highway bypass of Cantwell.	A previous planning study identified this concept. Constructing a bypass (or an interchange at the Denali Highway intersection) is considered not reasonable or feasible at this time. Other solutions are being considered that will address issues identified along the Parks Highway through Cantwell. Comment informs PEL study and builds corridor context.
Construct a separated multi-use pathway for the full corridor (from Broad Pass to Ferry).	Constructing a separated multi-use pathway along the full corridor is not reasonable or feasible to implement as one project. Several bridges have narrow shoulders that act as pinch points for non-motorized users. The study is looking at individual communities and community connections for implementable solutions to accommodate non-motorized users. Comment informs PEL study and builds corridor context.
State has limited funding.	Comment does not lead to a specific implementable solution to evaluate in the PEL. However, project life cycle cost is a screening criterion. The study team has placed an emphasis on identifying implementable solutions, meaning solutions that would likely be fundable in the future.

Comment	Response
Development affects residents.	Comments regarding development included not wanting more of it, increased trash concerns, and encouraging development to promote regional economic growth and to keep schools open. Proposed solutions are being vetted through the public and includes seeking input from residents. Proposed solutions considered impacts to the natural and human environment. Promoting economic vitality is one of the identified PEL goals. Comment does not lead to an implementable solution to evaluate in the PEL; however, it builds corridor context and helps to inform the PEL study.
Comments regarding safety and speed: requests for more speed limit signage, painted speed limits in the 45 mph zones (Cantwell, Healy), using a consistent 55 mph limit from Cantwell to Stampede Road, and seasonal speed limits through Carlo Creek and McKinley Village/Crabbies Crossing.	The study team addressed speed limits and strategies to improve safety in the PEL study’s Traffic & Safety Memo (refer to Appendix A). DOT&PF has previously conducted speed studies and analyzed speed data along the corridor. As projects are moved forward, speed limits are reviewed. No additional speed limit changes are planned at this time.

Note: see Appendix D for complete Level 1 screening results.

### 4.3.3 Level 2 Screening

For items passing Level 1 screening that warrant having potential solutions developed, the following qualitative screening questions were asked during Level 2 screening.

#### Primary Goals

- Does the option improve the safety of the corridor?
- To what degree does the option improve mobility for all modes of transportation?
- Does the option improve access and support land uses?

#### Secondary Goals

- Does the option promote economic vitality?
- Does the option minimize adverse environmental impacts?
- Does the option promote stewardship of the area?

For screening, the goals were broken down into primary and secondary goals; this reflects that PELs are intended to primarily assess transportation needs and priorities. Solution options largely addressing **primary goals** related to safety, mobility and access moved forward into Level 3 for additional development and analysis. In most instances, these types of solutions are generally considered traditional transportation-type construction projects.

Solutions largely meeting **secondary goals** were categorized as potential “**enhancement opportunities.**” Enhancement opportunities represent additional improvements that do not fully meet the identified primary goals but enhance the corridor and could be included alongside other recommended solutions like larger typical DOT&PF-led construction projects or as stand-alone projects. Enhancement opportunities were largely assessed in Level 2 screening.

Examples of such projects might be to install an informational kiosk or add a picnic table to an existing rest area. The study team considered these types of projects as community enhancements rather than stand-alone transportation infrastructure projects. These are projects that generally do not fall under

DOT&PF’s purview as typical construction projects. In many instances, a potential sponsor of these enhancements would still need to be identified. These ideas represent potential community enhancement projects that could be implemented if other funding or partnership opportunities were identified.

A specific example of an identified potential enhancement opportunity was improving Nenana River access for recreational and commercial activities by creating a formal boat launch with facilities (e.g., rest area, restroom). While not identified for any specific location in the corridor, another potential enhancement opportunity could be to install interpretive kiosks and panels along the corridor where appropriate to enhance visitor experience. Per public input, interpretive panel topic ideas could include the following:

- Geographic features and history of the area
- History of Ahtna people, placing it into context with geographic, historical, and cultural context
- Have a cohesive theme in all the panels within the corridor
- Highlight scenic quality of the highway
- Discuss Denali region not just DNP

Enhancement opportunities the study team screened out are further detailed in a Level 1 and 2 Screening Results memo in Appendix D. An example of an enhancement opportunity that was not carried forward was the concept of creating a wildlife viewing pull-out near a bridge in Nenana Canyon; poor sight distance at this location would have made the pull-out unsafe.

#### 4.3.4 Level 3 Screening

Level 3 screening involved a comparative analysis of potential solutions using goals-related evaluation criteria to identify the best option within that set of solutions to move forward for recommendation in the PEL study. Not implementing a solution within a segment (“no project”) was also considered; this is sometimes referred to as a “no build” or “no action” alternative in the NEPA phase. A “no project” option was considered because it represents a benchmark against which the impacts of the other potential solutions could be compared. A “no project” option does assume routine maintenance and operations would still occur. Solutions passing through Level 3 screening became the PEL study’s proposed recommended solutions for future implementation. This section presents a summary of the Level 3 screening analysis. Refer to Appendix E for the full Level 3 screening analysis, which represents a snapshot in time and the initial screening results conducted early in the screening process.

The study corridor was segmented based on logical breakpoints and analyzed as follows:

- Parks Highway MP 202.5 to 206 corridor
- Parks Highway MP 209 to 211.5 Cantwell
- Parks Highway MP 211.5 to 213.5 corridor
- Parks Highway MP 213.5 to 215 corridor
- Parks Highway MP 215 to 223.5 corridor
- Parks Highway MP 223.5 to 225 Carlo Creek
- Parks Highway MP 225 to 228.5 corridor
- Parks Highway MP 228.5 to 230 McKinley Village
- Parks Highway MP 230 to 232 Crabbies Crossing
- Parks Highway MP 232 to 234 corridor
- Parks Highway MP 234 to 238 corridor
- Parks Highway MP 238 to 239 Glitter Gulch
- Parks Highway MP 239 to 243 Nenana Canyon

- Parks Highway MP 243 to 247 corridor
- Parks Highway MP 247 to 250 Healy
- Parks Highway MP 250 to 259.5 corridor
- Separated pathways between communities:
  - Cantwell to Carlo Creek (MP 211 to 224)
  - Carlo Creek to Crabbies Crossing (MP 224 to 229)
  - Nenana River Trail (Crabbies Crossing to Park entrance, MP 231 to 238)
  - Park entrance to Healy (MP 239 to 247)
  - Healy to Stampede (MP 248.5 to 251)
- Transit option in the corridor, centered on the DNP entrance area

### MP 202.5 to 206 Corridor

The proposed improvement option considered in this corridor segment included roadway resurfacing. A potential enhancement opportunity could be to construct a vehicle pull-off.

**Table 4-4. Level 3 Screening Results for MP 202.5 to 206 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Recommended for future implementation
No project	Not recommended

### MP 206 to 209 Corridor

Outside of this PEL study, improvements are already planned and programmed in this corridor segment. The project is in the DOT&PF STIP as ID 30995 and titled Parks Highway Mile Post 206-209 Reconstruction (DOT&PF 2021a). Proposed improvements include highway reconstruction and a replacement of the Pass Creek Bridge No. 293).

### MP 209 to 211.5 Cantwell

Types of improvement options considered in this corridor segment included highway reconstruction or resurfacing, turn pocket lanes, pedestrian accommodations, and bridge work. The study team identified the opportunity to project bundle some recommended solutions in this segment.

An identified potential enhancement opportunity could be installing improved signage for where emergency vehicles fill for water.

**Table 4-5. Level 3 Screening Results for MP 209 to 211.5 Cantwell**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway with turn lanes	Recommended for future implementation
No project	Not recommended
Construct turn lanes at Denali Highway	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation
No project	Not recommended
Replace bridge	Not recommended

Potential Solutions under Consideration	Screening Results
Rehabilitate bridge (Jack River Bridge)	Recommended for future implementation
No project	Not recommended

### MP 211.5 to 213.5 Corridor

Types of improvement options considered in this corridor segment include highway reconstruction or resurfacing, pedestrian accommodations, and realigning or maintaining the existing alignment. The study team identified the opportunity to project bundle some recommended solutions in this segment.

**Table 4-6. Level 3 Screening Results for MP 211.5 to 213.5 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway with realignment	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Not recommended at this time <sup>[1]</sup>
No project	Recommended

<sup>[1]</sup> See Cantwell to Carlo Creek separated pathway “Community Connectors” discussion (Section 4.3.5). A Cantwell to Carlo Creek separated pathway is recommended if included alongside another construction project in the area, though not as a stand-alone project due to cost.

### MP 213.5 to 215 Corridor

Types of improvement options considered in this corridor segment include highway resurfacing and pedestrian accommodations. The study team identified the opportunity to project bundle the resurfacing project with other recommended solutions to the north or south of this corridor to best optimize future construction funds.

**Table 4-7. Level 3 Screening Results for MP 213.5 to 215 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Not recommended at this time <sup>[1]</sup>
No project	Recommended

<sup>[1]</sup> See Cantwell to Carlo Creek separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 215 to 223.5 Corridor

Types of improvement options considered in this corridor segment include highway reconstruction or resurfacing, pedestrian accommodations, and bridge work. The study team identified the opportunity to project bundle some recommended solutions in this segment.

Identified potential enhancement opportunities could be to construct a new boat launch facility near approximate MP 220 and/or improved rest area facilities. Rest area facilities could include constructing a new one or improving existing areas to include picnic tables, restrooms, and informative kiosks.

**Table 4-8. Level 3 Screening Results for MP 215 to 223.5 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface existing highway	Recommended for future implementation
Reconstruct highway (may include some realignment)	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended
Replace/reconstruct bridge	Not recommended
Rehabilitate bridge (Nenana River bridge at Windy)	Recommended for future implementation
No project	Not recommended

<sup>[1]</sup> During screening, constructing the separated pathway scored higher than the “no project” option; see Cantwell to Carlo Creek separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 223.5 to 225 Carlo Creek

Types of improvement options considered in this corridor segment include highway resurfacing, a frontage road, and pedestrian accommodations. The study team identified the opportunity to project bundle recommended solutions in this segment, and with the new project features such as frontage roads and pedestrian facilities, the recommended solution of resurfacing the highway would be considered a reconstruction project.

**Table 4-9. Level 3 Screening Results for MP 223.5 to 225 Carlo Creek**

Potential Solutions under Consideration	Screening Results
Resurface highway	Recommended for future implementation
No project	Not recommended
Construct Frontage road	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation
Construct pedestrian bridge	Recommended for future implementation
No project	Not recommended

### MP 225 to 228.5 Corridor

Types of improvement options considered in this corridor segment include highway resurfacing and pedestrian accommodations. The study team identified the potential opportunity to project bundle the resurfacing project with another similar resurfacing recommended solution to the south of this corridor through Carlo Creek. The study team recommends including the pathway project with another project in the area to be cost-effective.

**Table 4-10. Level 3 Screening Results for MP 225 to 228.5 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended

<sup>[1]</sup> See Carlo Creek to Crabbies Crossing separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 228.5 to 230 McKinley Village

Types of improvement options considered in this corridor segment include highway reconstruction and resurfacing with a frontage road, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

**Table 4-11. Level 3 Screening Results for MP 228.5 to 230 McKinley Village**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway with frontage roads	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation
No project	Not recommended

### MP 230 to 232 Crabbies Crossing

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, bridge work, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

Outside of this PEL study, there are already two improvement projects in this corridor segment moving forward; these are the Parks Highway MP 231 Enhancements project and Denali Park Pedestrian Bridge and Trail Connector project.

**Table 4-12. Level 3 Screening Results for MP 230 to 232 Crabbies Crossing**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway with bridge replacement (Nenana River bridge)	Recommended for future implementation
Rehabilitate bridge	Not recommended
No project	Not recommended
Construct separated pathway	Recommended for future implementation
Construct pedestrian bridge	Recommended for future implementation
No project	Not recommended

### MP 232 to 238 Corridor

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, resolving issues with the two highway-railroad crossings including realigning the railroad away from the highway, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

**Table 4-13. Level 3 Screening Results for MP 232 to 238 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Recommended for future implementation
Reconstruct highway	Not recommended
No project	Not recommended
Grade-separate railroad crossing	Not recommended
Update at-grade railroad crossing	Not recommended
Realign railroad	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended

<sup>[1]</sup> See Crabbies Crossing to Denali Park Entrance separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 238 to 239 Glitter Gulch

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, one-way frontage roads, an additional parking lot in Nenana Canyon, improved signage along roadway shoulders, and roadway shoulder improvements. The study team identified the opportunity to project bundle some recommended solutions in this segment. The study team recommends making some of the improvements in this corridor segment and the next northern segment through Nenana Canyon in a staged approach, based on certain improvements needing to be constructed prior to other improvements (i.e., the parking lot in Nenana Canyon should not be constructed until there are adequate pedestrian accommodations such as rockfall mitigation measures installed) to safely travel between Nenana Canyon and Glitter Gulch.

**Table 4-14. Level 3 Screening Results for MP 238 to 239 Glitter Gulch**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway	Recommended for future implementation
No project	Not recommended
Construct one-way flow frontage roads	Recommended for future implementation
No project	Not recommended
Construct parking lot to north in Nenana Canyon (near MP 240)	Recommended for future implementation
No project	Not recommended
Construct shoulder improvements	Recommended for future implementation

Potential Solutions under Consideration	Screening Results
Improve signage	Recommended for future implementation
No project	Not recommended

Note: Some proposed solutions in this corridor segment are recommended as part of a staged approach (four stages) for improvements that occur in both the Glitter Gulch and Nenana Canyon corridor segments. See recommended solutions for more detail.

### MP 239 to 243 Nenana Canyon

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, a tunnel, land bridge, rockfall mitigation measures, bridge work, and pedestrian accommodations. The study team identified the opportunity to project bundle recommended solutions in this segment. Similar to and in conjunction with the MP 238 to 239 corridor segment through Glitter Gulch immediately to the south, the study team recommends making some of the improvements in this corridor segment in a staged approach.

**Table 4-15. Level 3 Screening Results for MP 239 to 243 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway	Recommended for future implementation
Construct tunnel	Not recommended
Construct land bridge	Not recommended
No project	Not recommended
Rehabilitate bridges (Iceworm bridge, Hornet Creek bridge, Fox Creek bridge, Dragonfly Creek bridge, Moody Bridge at Nenana River)	Recommended for future implementation
No project	Not recommended
Install rockfall mitigation	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation
Construct pedestrian bridge at Moody crossing	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended

<sup>[1]</sup> See Denali Park Entrance to Healy separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 243 to 247 Corridor

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, bridge work, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

Outside of this PEL study, improvements are already planned and programmed in this corridor segment. The DOT&PF, in cooperation with WFL, Denali Borough, and the NPS, are proposing recreation access improvements associated with the Antler Ridge trail and trailhead facilities.

**Table 4-16. Level 3 Screening Results for MP 243 to 247 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface highway	Not recommended
Reconstruct highway	Recommended for future implementation
No project	
Construct separated pathway	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended
Reconstruct bridge	Not recommended
Rehabilitate bridge (Antler Creek bridge, Bison Creek bridge)	Recommended for future implementation
No project	Not recommended

<sup>[1]</sup> See Denali Park Entrance to Healy separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 247 to 250 Healy

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, bridge work, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

Outside of this PEL study, improvements are already planned and programmed in this corridor segment. The DOT&PF is planning to rehabilitate the Healy Spur Road in Healy.

**Table 4-17. Level 3 Screening Results for MP 247 to 250 Healy**

Potential Solutions under Consideration	Screening Results
Resurface existing highway	Not recommended
Reconstruct highway with two-way left-turn lanes	Recommended for future implementation
No project	Not recommended
Reconstruct bridge	Not recommended
Rehabilitate bridge (Dry Creek Overflow bridge and Dry Creek bridge)	Recommended for future implementation
No project	Not recommended
Construct seasonal pedestrian signal (at Healy Spur Road and Parks Highway intersection)	Recommended for future implementation
No project	Not recommended
Construct separated pathway	Recommended for future implementation <sup>[1]</sup>
No project	Not recommended

<sup>[1]</sup> See Healy to Stampede separated pathway “Community Connectors” discussion (Section 4.3.5).

### MP 250 to 259 Corridor

Types of improvement options considered in this corridor segment include highway resurfacing and reconstruction, turning lanes or pockets, bridge work, and pedestrian accommodations. The study team identified the opportunity to project bundle some recommended solutions in this segment.

**Table 4-18. Level 3 Screening Results for MP 250 to 259 Corridor**

Potential Solutions under Consideration	Screening Results
Resurface existing highway	Not recommended
Reconstruct highway	Recommended for future implementation
No project	Not recommended
Construct turning lanes at Stampede Road	Recommended for future implementation
Construct turning pockets	Not recommended
No project	Not recommended
Reconstruct bridge (Panguingue Creek bridge)	Recommended for future implementation
Rehabilitate bridge	Not recommended
No project	Not recommended
Construct separated pathway	Recommended for future implementation
No project	Not recommended

#### 4.3.5 Separated Pathways Between Communities (“Community Connectors”)

The study team chose to recommend constructing five stand-alone separated pathways between the corridor communities (“community connectors”). A qualitative assessment showed separated pathways would help to achieve many of the PEL goals identified for the corridor. Given the input received during the PEL process outreach, the study team opted to recommend these for future implementation.

A timeline for implementing these pathway projects would need to be determined. The study team did not assign a priority ranking to these either, due to complexities of implementing some of these pathways such as the need for costly bridge replacements to resolve pinch points. The uncertainty about funding availability for these pathways greatly influenced the decision to not assign a priority or timeline. Project sponsors need to be determined and logistics like who would maintain the pathways are also unknowns.

Analysis of these potential pathway options is provided in the following sections, in order from south to north. The alternative to constructing a pathway would be no pathway project.

##### **Parks Highway Cantwell to Carlo Creek Separated Path (MP 211 to 224)**

This option would construct an approximate 13-mile-long separated path along the Parks Highway connecting the communities of Cantwell and Carlo Creek. Work would include constructing a pedestrian bridge at the Nenana River crossing near Windy bridge.

This section of pedestrian pathway would be relatively difficult compared to other community connections. This is due to the length of the project, topographic and Nenana River constraints, and the crossing of Nenana River at Windy (MP 215). Specific constraint pinch points that may require the separated pathway becoming close to the highway occur in at least three spots: MP 212 to 212.5, MP 218 to 219, and MP 221.5 to 223. Right-of-Way acquisition would be required for the pathway if constructed prior to a proposed highway improvement in the vicinity that also requires additional ROW.

### **Parks Highway Carlo Creek to Crabbies Crossing Separated Path (MP 224 to 229)**

This option would construct an approximate 5-mile separated path along the east side of the Parks Highway from Carlo Creek to McKinley Village. This option does not include the pedestrian accommodations within the communities of Carlo Creek and McKinley Village, as those are covered under the other recommended solutions within the community corridor segments. The potential to project bundle the pathway with other highway construction projects may prove more economical in construction, though funding for the pathway may be difficult to secure. Additional ROW acquisition is not anticipated.

### **Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path (MP 231 to 238)**

This option would construct an approximate 7-mile separated path along the Parks Highway from Crabbies Crossing to the DNP entrance. The study team recommends this pathway as one of the first amongst the five community connection pathways to construct. This pathway would connect significant pedestrian attractors and generators, such as the DNP entrance to other trailheads and commercial businesses in the area. In order to reduce repeating work, this pathway should be considered at the same time as the proposed highway improvement solution between MP 234 and 238, or after highway improvements have been constructed. There should be adequate space to locate the path within the current ROW, or future ROW should the proposed railroad realignment occur with the proposed highway improvements between MP 234 and MP 238. As the proposed railroad realignment moves forward, there should be additional consideration in the future of converting the abandoned alignment from “rails to trails.” This pathway aligns with the NPS’ recreation and trails planning efforts in the DNP Frontcountry region.

### **Parks Highway Denali Park Entrance to Healy Separated Path (MP 239 to 247)**

This option would construct an approximate 8-mile separated path on the west side of the Parks Highway from Hornet Creek (in Nenana Canyon, north of the DNP entrance area and Glitter Gulch) to Healy. Work would include adding pedestrian bridges over several rivers, including Antler Creek, Bison Gulch, and the Nenana River near Moody Bridge. This pedestrian pathway would be beneficial to construct as there are many people who work in the DNP entrance/Glitter Gulch business area and live in Healy and do not have personal vehicles; this is particularly relevant for seasonal employees who support services catering to DNP visitors.

This pathway would also be one of the most difficult of the community connector pathways to fund and construct. There are a total of seven bridge crossings between Glitter Gulch and Healy. There are several existing bridges in the corridor that have substandard shoulders for pedestrians and act as pinch points, necessitating the need to construct pedestrian bridges. To properly connect a separated pathway along this entire segment, the following pedestrian bridges would need to be constructed:

- An approximate 368-foot-long bridge over Antler Creek
- An approximate 368-foot-long bridge over Bison Gulch
- An approximate 900-foot-long bridge over Nenana River at Moody

The four other bridges in this segment have shoulders greater than 8-feet and therefore could accommodate pedestrians so separate pedestrian bridges would not be needed. These include bridges over Iceworm Gulch, Hornet Creek, Fox Creek, and Dragonfly Creek.

### **Healy to Stampede Separated Path (MP 248.5 to MP 251)**

This option would construct an approximate 2-mile-long separated path along the west side of the Parks Highway from the turnoffs for Healy Spur Road and Stampede Road. Work would include constructing

pedestrian bridges at Dry Creek and Dry Creek Overflow. To properly connect a separated pathway along this entire segment, the following pedestrian bridges would need to be constructed due to inadequate shoulder widths on the existing highway bridges over these creeks:

- An approximate 481-foot-long bridge over Dry Creek
- An approximate 481-foot-long bridge over Dry Creek Overflow

This section of pedestrian pathway would be beneficial to construct as there are many people who live or are visiting in the vicinity of the Stampede Road.

#### 4.3.6 Transit/ Active Transportation Initiative

Similar to the proposed separated pathway options, the study team conducted a qualitative assessment and chose to recommend implementing a transit/ active transportation initiative. This initiative aims to consider implementing transit service from the DNP entrance area to key points along the highway corridor in conjunction with improving active transportation options in the Frontcountry region of the DNP entrance area and along the highway corridor.

This initiative option is comprised of the following three components:

- 1) **Convene a Denali Transportation Coalition (Phase 1)**
  - a. To evaluate the potential for a transit shuttle pilot project (if applicable)
  - b. To determine governance and funding requirements and needs for long-range transit service delivery
- 2) **Implement a Pilot Frontcountry Shuttle Service (Phase 2)**
- 3) **Design and implement active transportation improvements (Phase 3)**
  - a. to support safe and accessible transportation options in the Frontcountry

The **Denali Transportation Coalition** would consist of convening and facilitating a group of local stakeholders and champion(s) to identify potential shuttle management and funding. The **Pilot Frontcountry Shuttle Service** would consist of implementing a two-year proof of concept pilot shuttle service; operations and capital costs are presumed to come from grant funding. The **Active Transportation Strategy** would consist of implementing and designing for near-term mobility improvements related to active transportation. The study team identified the opportunity and strategy to look at transit and active transportation measures jointly. Refer to Appendix G for additional information about all three phases of this initiative.

A quantitative screening analysis did not occur for this potential option. A qualitative assessment showed this initiative option would help to achieve many of the PEL goals identified for the corridor. Given the input received during the PEL process outreach and previous planning efforts that identified the need to consider transit options, the study team opted to recommend this initiative for future implementation. The alternative to implementing this transit/ active transportation initiative would be not to consider implementing transit in the corridor.

## 5. Recommended Solutions

### 5.1 Overview



Recommended solutions were identified to address needs and opportunities related to transportation and access in the corridor. The recommended solutions are intended to help achieve the corridor goals and objectives identified in Section 2.2. Recommended solutions reflect input from the public, stakeholders, as well as an evaluation and understanding of the existing and projected conditions for the study corridor.

This section, in particular Section 5.4, presents an overview of the recommended solutions and summarizes the following project details for each recommended solution:

- Project name
- Priority (and rationale)
- Timeline (and rationale)
- Scope
- Description
- Potential funding sources
- Anticipated environmental document and potential permit requirements
- Potential enhancement opportunities
- Potential enhancement funding sources
- Planning-level cost estimate

Appendix B contains additional detailed project data sheets for each recommended solution. For the most part, the following additional data was prepared:

- Potential lead agency sponsor(s)
- Potential project partner(s)
- Potential funding matches
- Other environmental considerations, assumptions, unknowns and other environmental impacts, including potential Section 4(f) involvement and a potential future draft purpose and need statement
- Additional notes and assumptions related to ROW, utilities, design, potential bridge work, and maintenance

In addition to the project data sheets, additional analysis was conducted for two of the recommended solutions based on their uniqueness and complexity: the highway reconstruction/ railroad realignment option between MP 234 to 238 and the transit/ active transportation initiative; refer to Appendix F and Appendix G respectively for additional information on these recommended solutions.

### 5.2 Project Implementation

Implementation of the recommended improvements depends on a number of factors, including the availability of funding, complexity of ROW acquisition and environmental approvals, and other project delivery elements such as first identifying a project sponsor. This PEL study set out to provide a framework and collected much of this baseline information, identifying potential funding sources, potential sponsors and partnerships, potential enhancement opportunities, and anticipated future regulatory environmental requirements.

**Proposed Priorities.** An important component of this PEL study was to prioritize the proposed recommendations. Prioritization informs decision-makers in evaluating when and how to implement these proposed improvements. In most instances, each recommended solution was assigned a low, medium, or high priority. For projects that are already funded and programmed in the corridor, the study team identified those as high priority projects because they are already moving forward.

The separated pathways between communities and the transit/ active transportation initiative (Phase 1) were not assigned a priority. Timeline of implementing these “community connector” separated pathway projects would need to be determined. The study team did not assign a priority ranking to these either, due to complexities of implementing some of these pathways such as the need for costly bridge replacements to resolve pinch points. The uncertainty about funding availability for these pathways greatly influenced the decision to not assign a priority or timeline. The transit initiative also did not receive a priority ranking largely because a lead sponsor has not been determined.

**Proposed Timeline.** A proposed implementation timeline was assigned to each recommended solution, which represents when funding would be needed to start the project in the preconstruction phase. The proposed timelines are defined as follows:

- **Short-term:** Implementation is recommended within the next five years
- **Medium-term:** Implementation is recommended between five and ten years
- **Long-term:** Implementation is recommended beyond ten years

Those projects that have already been programmed outside of this PEL study process were assigned no implementation timeline since they are already moving forward.

**Project Implementation Phasing/ Distinct Logical Termini and Independent Utility.** Logical termini represent rational starting and stopping points for evaluating transportation improvements. Independent utility focuses on whether a particular solution can be implemented as “stand alone,” which means that assuming no other projects are implemented, the project serves a distinct purpose or function.

Logical termini will be confirmed as recommended solutions are funded and advanced. For this PEL, the study team determined nearly all proposed recommended solutions appear to have independent utility, except for a staged set of improvements proposed for Glitter Gulch and Nenana Canyon where certain improvements would need to be constructed before other proposed improvements are constructed. Figure 5-1 reflects this staged approach through Nenana Canyon. In this case, rockfall mitigation needs to be installed before constructing a pathway.

**Figure 5-1. Nenana Canyon Improvements: Four Stage Approach to Implementation**

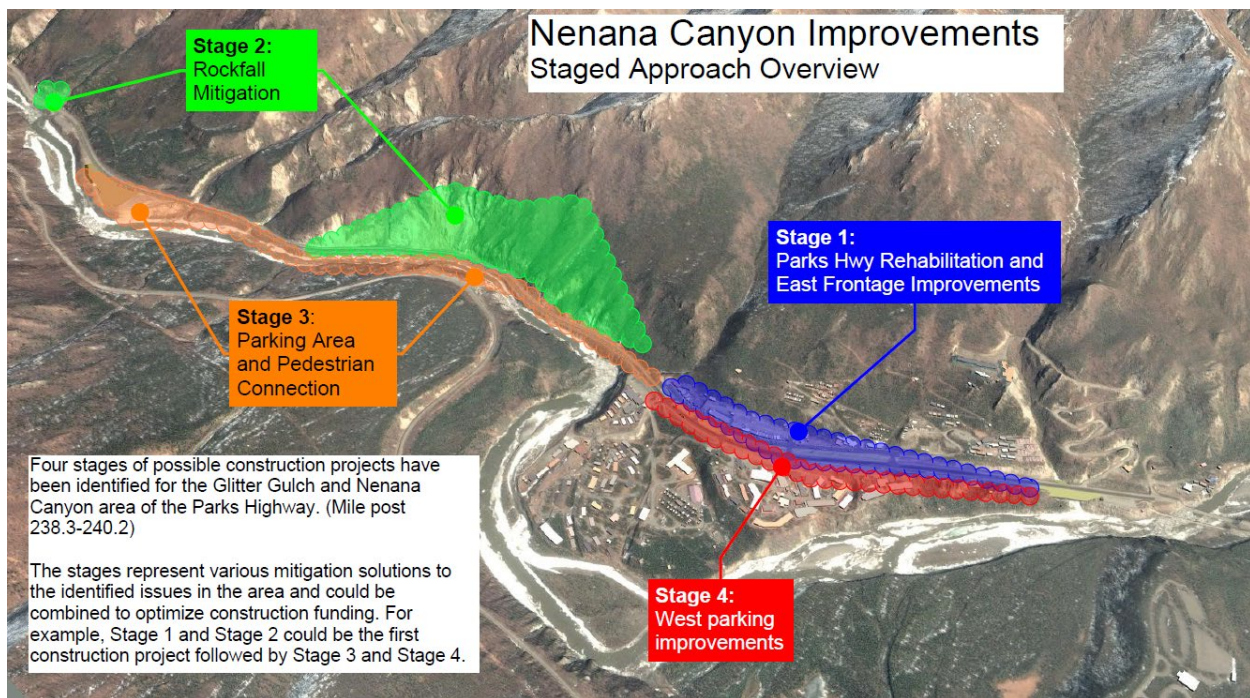


Image by DOT&PF.

Similarly, the transit/ active transportation initiative is recommended for implementation in stages. This initiative aims to consider implementing transit service from the DNP entrance area to key points along the highway corridor in conjunction with improving active transportation options in the Frontcountry region of the DNP entrance area and along the highway corridor. This initiative option is comprised of the following three components . Convening a group of stakeholders to assess implementing a transit shuttle pilot system (phase 1) would need to occur prior to implementing a transit shuttle pilot service (phase 2).

- 1) **Convene a Denali Transportation Coalition (Phase 1)**
  - a. To evaluate the potential for a transit shuttle pilot
  - b. To determine governance and funding requirements and needs for long-range transit service delivery
- 2) **Implement a Pilot Frontcountry Shuttle Service (Phase 2)**
- 3) **Design and Implement Active Transportation Improvements (Phase 3)**
  - a. to support safe and accessible transportation options in the Frontcountry

The Denali Transportation Coalition would consist of convening and facilitating a group of local stakeholders and champion(s) to identify potential shuttle management and funding. The Pilot Frontcountry Shuttle Service would consist of implementing a two-year proof of concept pilot shuttle service; operations and capital costs are presumed to come from grant funding. The Active Transportation Strategy would consist of implementing and designing for near-term mobility improvements related to active transportation; the study team identified the opportunity and strategy to look at transit and active transportation measures jointly.

### 5.3 Recommended Solutions List

Table 5-1 lists the recommended solutions, generally from south to north, and includes the proposed priority and timing of implementation. This list also includes already funded and programmed projects, shown in italics. Figure 5-2 and Figure 5-3 show the recommended solutions spatially.

**Table 5-1. List of Recommended Solutions**

Name	Priority	Timeline <sup>[1]</sup>
Parks Highway MP 202 - 206 Resurfacing	Low	Long-term
<i>Parks Highway MP 206 - 209 Reconstruction *</i>	<i>High (funded)</i>	<i>n/a <sup>[1]</sup></i>
Parks Highway MP 209 - 212 Cantwell Reconstruction	Medium	Long-term
Parks Highway MP 212 - 214 Reconstruction	Medium	Long-term
Parks Highway MP 214 - 215 Resurfacing	Low	Long-term
Parks Highway MP 215 - 224 Reconstruction	Medium	Medium-term
Parks Highway MP 224 - 225 Carlo Creek Reconstruction	Low	Long-term
Parks Highway MP 225 - 229 Resurfacing	Medium	Medium-term
Parks Highway MP 229 - 230 McKinley Village Reconstruction	Medium	Medium-term
<i>Parks Highway MP 231 Enhancements HSIP *</i>	<i>High (funded)</i>	<i>n/a <sup>[1]</sup></i>
Parks Highway MP 230 - 232 Crabbies Crossing Reconstruction	Low	Long-term
<i>Parks Highway MP 231 McKinley Village Pedestrian Bridge *</i>	<i>High (funded)</i>	<i>n/a <sup>[1]</sup></i>
Parks Highway MP 232 - 234 Resurfacing	Medium	Medium-term
Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1)	High	Short-term
Parks Highway MP 238 - 239 Reconstruction (Stage 1)	High	Short-term
Parks Highway MP 238 - 239 Parking Areas (Stage 4)	Low	Long-term
Parks Highway MP 239 - 240 Nenana Canyon Rockfall Mitigation (Stage 2)	High	Short-term
Parks Highway MP 239 - 243 Nenana Canyon Reconstruction (Stage 3)	Medium	Medium-term
<i>Antler Ridge Trail *</i>	<i>High (funded)</i>	<i>n/a <sup>[1]</sup></i>
Parks Highway MP 243 - 247 Reconstruction	Medium	Medium-term
Parks Highway MP 247 - 250 Healy Reconstruction and Pedestrian Improvements	High	Short-term
<i>Healy Spur Road Rehabilitation *</i>	<i>High (funded)</i>	<i>n/a <sup>[1]</sup></i>
Parks Highway MP 250 - 260 Reconstruction	High	Medium-term
Parks Highway Cantwell to Carlo Creek Separated Path	Not assigned	Not assigned
Parks Highway Carlo Creek to Crabbies Crossing Separated Path	Not assigned	Not assigned
Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path	Not assigned	Not assigned
Parks Highway Denali Park Entrance to Healy Separated Path	Not assigned	Not assigned
Parks Highway Healy to Stampede Road Separated Path	Not assigned	Not assigned
Transit/ Active Transportation Initiative (Phase 1)	Not assigned	Not assigned

\* Project has already been programmed and funded outside of this PEL study. n/a = represents project implementation timeline has already been determined outside of this PEL study.

<sup>[1]</sup> Timeline represents when funding would be needed to start the project in the preconstruction phase.

Figure 5-2. Recommended Solutions in the Northern Corridor, Mileposts 231 to 259

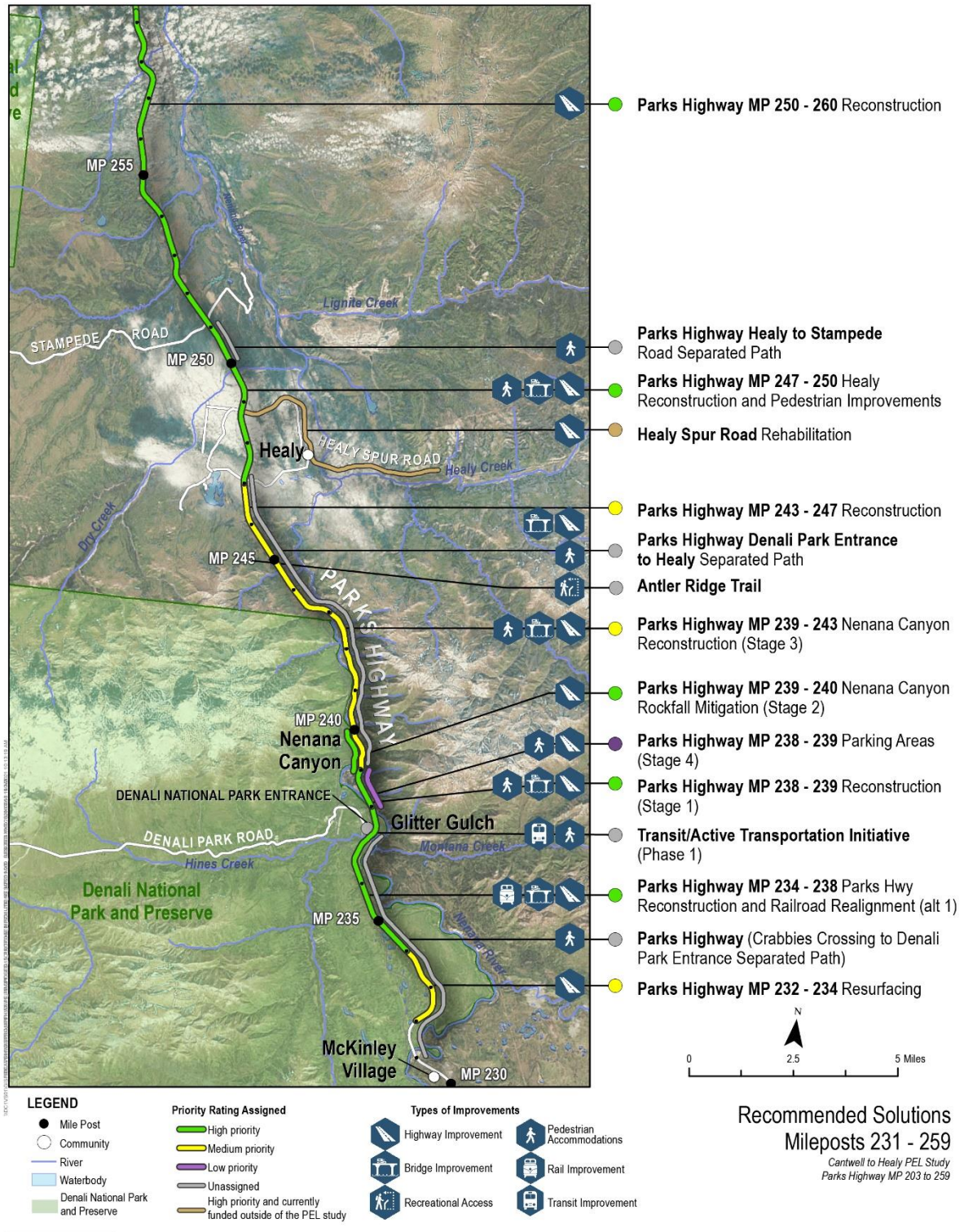
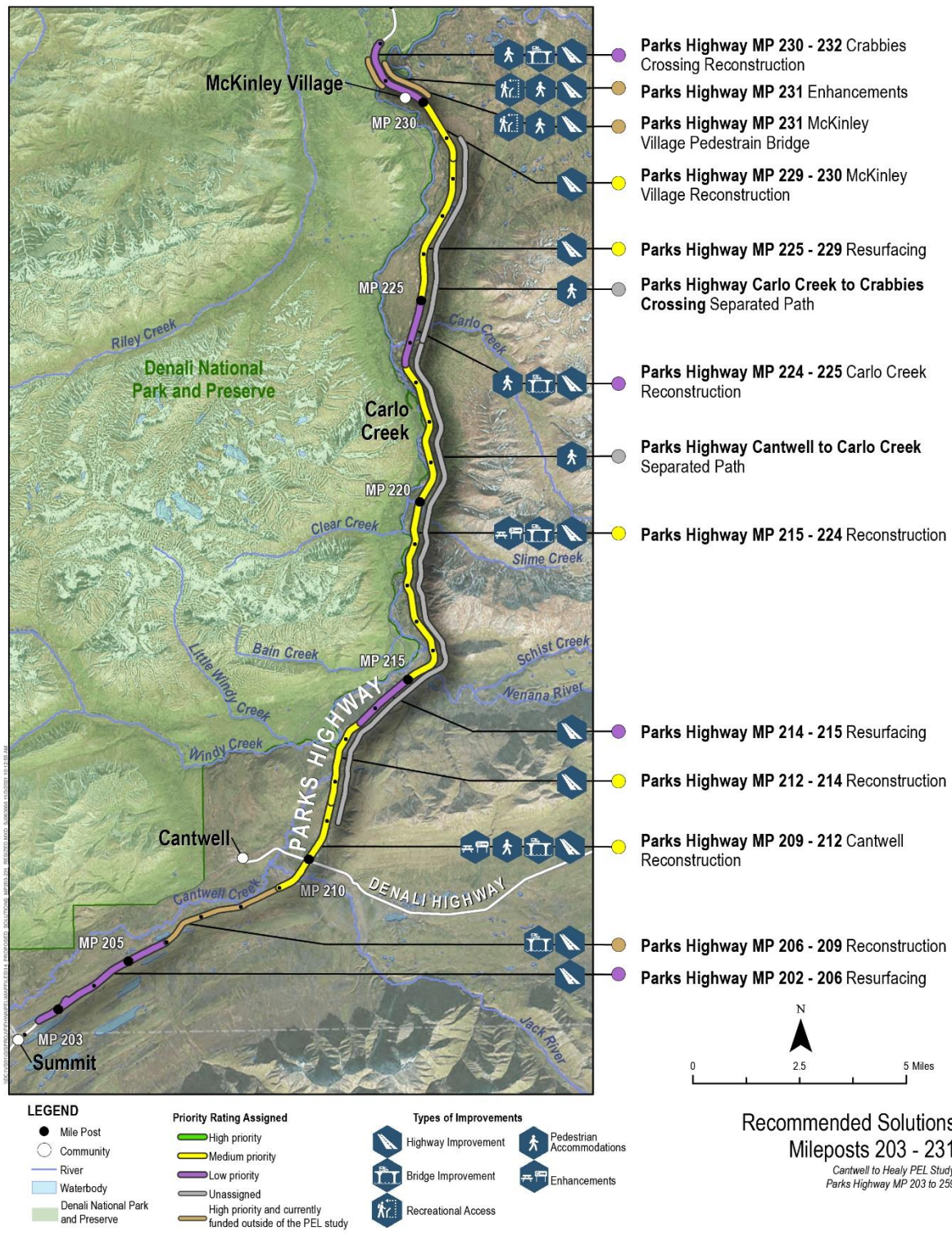


Figure 5-3. Recommended Solutions in the Southern Corridor, Mileposts 203 - 231



### 5.3.1 High Priority Recommended Solutions

Table 5-2 represents recommended solutions identified as high priority and the approximate cost estimate to implement. Projects shown in italics are already funded and programmed outside of this PEL study and are advancing forward.

**Table 5-2. High Priority Recommended Solutions**

Name (generally in order from south to north)	Priority	Timeline <sup>[1]</sup>	Total Cost Estimate
<i>Parks Highway MP 206 - 209 Reconstruction</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$17,786,000</i>
<i>Parks Highway MP 231 Enhancements HSIP</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$15,905,000</i>
<i>Parks Highway MP 231 McKinley Village Pedestrian Bridge</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$4,640,000</i>
Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (alt 1)	High	Short-term	\$55,993,000
Parks Highway MP 238 - 239 Reconstruction (Stage 1)	High	Short-term	\$10,256,000
Parks Highway MP 239 - 240 Nenana Canyon Rockfall Mitigation (Stage 2)	High	Short-term	\$22,777,000
<i>Antler Ridge Trail</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$505,000</i>
Parks Highway MP 247 - 250 Healy Reconstruction and Pedestrian Improvements	High	Short-term	\$10,167,000
<i>Healy Spur Road Rehabilitation</i>	<i>High (funded)</i>	<i>n/a</i>	<i>\$1,595,000</i>
Parks Highway MP 250 - 260 Reconstruction	High	Medium-term	\$21,136,000

n/a = represents project implementation timeline has already been determined outside of this PEL study.

<sup>[1]</sup> Timeline represents when funding would be needed to start the project in the preconstruction phase.

### 5.3.2 Medium Priority Recommended Solutions

Table 5-3 represents recommended solutions identified as medium priority and the approximate cost estimate to implement.

**Table 5-3. Medium Priority Recommended Solutions**

Name (generally in order from south to north)	Priority	Timeline <sup>[1]</sup>	Total Cost Estimate
Parks Highway MP 209 - 212 Cantwell Reconstruction	Medium	Long-term	\$8,698,000
Parks Highway MP 212 - 214 Reconstruction	Medium	Long-term	\$6,371,000
Parks Highway MP 215 - 224 Reconstruction	Medium	Medium-term	\$58,388,000
Parks Highway MP 225 - 229 Resurfacing	Medium	Medium-term	\$5,255,000
Parks Highway MP 229 - 230 McKinley Village Reconstruction	Medium	Medium-term	\$9,163,000
Parks Highway MP 232 - 234 Resurfacing	Medium	Medium-term	\$4,680,000
Parks Highway MP 239 - 243 Nenana Canyon Reconstruction (Stage 3)	Medium	Medium-term	\$16,847,000
Parks Highway MP 243 - 247 Reconstruction	Medium	Medium-term	\$7,573,000

<sup>[1]</sup> Timeline represents when funding would be needed to start the project in the preconstruction phase.

### 5.3.3 Low Priority Recommended Solutions

Table 5-4 represents recommended solutions identified as low priority and the approximate cost estimate to implement.

**Table 5-4. Low Priority Recommended Solutions**

Name (generally in order from south to north)	Priority	Timeline <sup>[1]</sup>	Total Cost Estimate
Parks Highway MP 202 - 206 Resurfacing	Low	Long-term	\$4,041,000
Parks Highway MP 214 - 215 Resurfacing	Low	Long-term	\$2,287,000
Parks Highway MP 224 - 225 Carlo Creek Reconstruction	Low	Long-term	\$5,604,000
Parks Highway MP 230 - 232 Crabbies Crossing Reconstruction	Low	Long-term	\$48,128,000
Parks Highway MP 238 - 239 Parking Areas (Stage 4)	Low	Long-term	\$4,557,000

<sup>[1]</sup> Timeline represents when funding would be needed to start the project in the preconstruction phase.

### 5.3.4 Other Recommended Solutions

Table 5-5 represents the separated pathway “community connectors” and the first phase of the three phased transit/ active transportation initiative; refer to Section 4.3.5 and Section 4.3.6 for additional description on these recommended solutions. While the separated pathways weren’t assigned a priority rating, there are varying factors that would enable some pathways to be constructed before others. As such, the study team has ranked the pathways as follows based on the likelihood of implementation, need, and interest.

- 1) Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path –There is considerable pedestrian activity in this area. Among these community connector segments this pathway is the NPS’ highest priority. The NPS was selected in 2021 to receive FLAP funding for a pedestrian bridge that would connect to the pathway.
- 2) Parks Highway Denali Park Entrance to Healy Separated Path – This pathway is a high priority but there are a number of complicating factors, such as the number of bridges that would need to be constructed due to the current narrow bridges acting as pinch points. This is the costliest of these separated pathways.
- 3) Parks Highway Healy to Stampede Road Separated Path – This pathway would be relatively easy to implement compared with the other pathways that have challenges.
- 4) Parks Highway Carlo Creek to Crabbies Crossing Separated Path – This pathway is farther away from the DNP entrance, though Carlo Creek is a seasonal area catering to DNP area visitors.
- 5) Parks Highway Cantwell to Carlo Creek Separated Path – This pathway is the lowest priority compared with the other separated pathways. It is the longest pathway and has constraints such as the mountainous terrain and parallel Nenana River. Other community connectors would be more realistic to build.

**Table 5-5. Other Recommended Solutions**

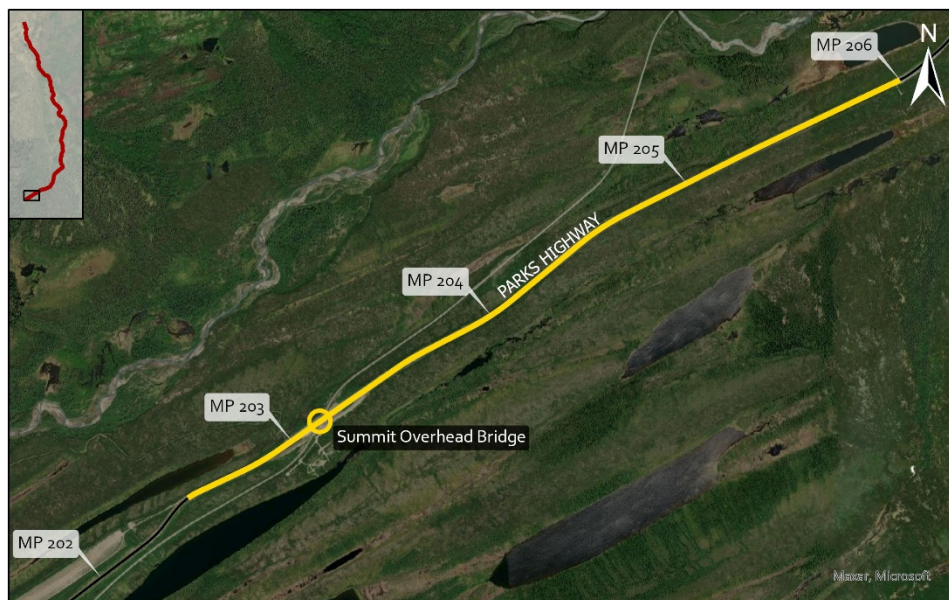
Name (generally in order from south to north)	Priority	Timeline	Total Cost Estimate
Parks Highway Cantwell to Carlo Creek Separated Path	Not assigned	Not assigned	\$13,153,000
Parks Highway Carlo Creek to Crabbies Crossing Separated Path	Not assigned	Not assigned	\$3,711,000
Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path	Not assigned	Not assigned	\$3,036,000
Parks Highway Denali Park Entrance to Healy Separated Path	Not assigned	Not assigned	\$37,588,000
Parks Highway Healy to Stampede Road Separated Path	Not assigned	Not assigned	\$8,297,000
Transit/ Active Transportation Initiative (Phase 1)	Not assigned	Not assigned	\$110,000

## 5.4 Recommended Solutions Summary Sheets

The remaining pages in this section contain one-page summaries for each recommended solution. The use of “n/a” represents not applicable or not available. Refer to Appendix B for more detailed project data sheets for each recommended solution.

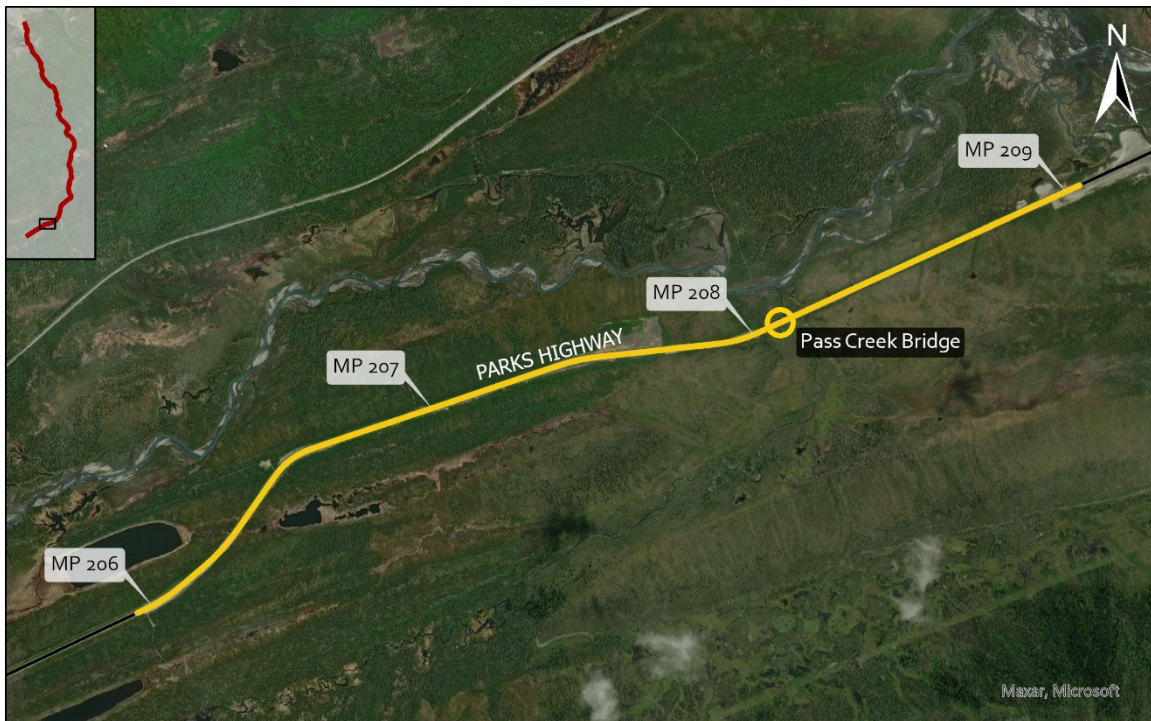
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Project Feature	Description
Name	Parks Highway MP 202 - 206 Resurfacing
Scope	Resurface the Parks Highway between MP 202 - 206. Project will include drainage improvements and roadside hardware.
Description	See Scope
Priority	Low
Priority Rationale	The existing pavement conditions are fair and good. There are no identified major issues. This project would not significantly impact multimodal access, accessibility and connectivity, or land use. This project will improve safety, transportation operations, and economics (once the pavement fails).
Timeline	Long (10+ years)
Timeline Rationale	The road will need to be resurfaced when the pavement has passed its design life and cannot be economically maintained by M&O.
Estimated Total Cost	\$4,041,000
Potential Funding Sources	Preventive Maintenance (PM) Program or National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	None
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated Required permits?	Potentially USACE permit (small piece of NWI-mapped riverine in ROW)
Potential Enhancement Option	Rest Area
Potential Enhancement Description	Add or improve rest area to include picnic tables, restrooms, and informative kiosks
Potential Enhancement Cost	between \$500,000 and \$1,000,000
Potential Enhancement Funding Sources	Federal Lands Access Program (FLAP), Transportation Alternatives Set-Aside Program (TA) or Pittman-Robertson, Land and Water Conservation Fund (LWCF), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act



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Project Feature	Description
Name	Parks Highway MP 206 - 209 Reconstruction
Scope	Reconstruct the Parks Highway from MP 206-209, including replacement of Pass Creek Bridge No. 293. Project will include drainage improvements and utilities.
Description	Reconstruct the Parks Highway to address substandard geometry with crash history. Work includes replacement of Pass Creek Bridge No. 293 to raise grade of alignment.
Priority	High & Funded
Priority Rationale	This project is a current project in the DOT&PF STIP, Need ID 30995.
Timeline	n/a
Timeline Rationale	This project is scheduled for construction in 2024.
Estimated Total Cost	\$17,786,000
Potential Funding Sources	n/a
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



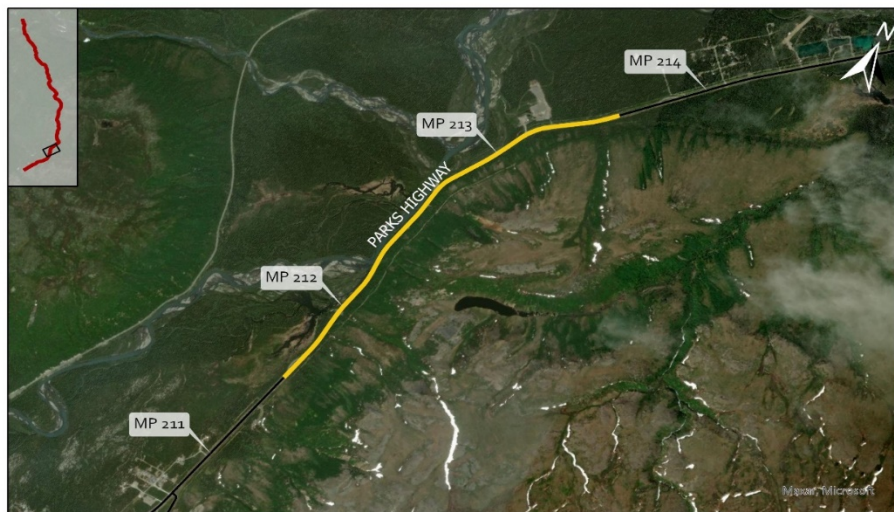
Cantwell to Healy – Parks Highway MP 203-259 PEL Study  
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Project Feature	Description
Name	Parks Highway MP 209 - 212 Cantwell Reconstruction
Scope	Reconstruct Parks Highway MP 209 to 212 including rehabilitating the Jack River Bridge No. 0302 and constructing turning lanes and a separated path. Project will include drainage improvements and roadside hardware.
Description	Reconstruction instead of PM (Preventive Maintenance) is recommended in order to make additional improvements to the roadway not allowed with PM funding. This project includes bridge rehabilitation of the Jack River Bridge No. 0302, turning lanes at the Denali Highway intersection, a separated path from the north of the Jack River Bridge to MP 211, and a pathway along the Denali Highway from Old Highway to east of bridge no. 0281. Culverts would be replaced and upsized as required and signage would be replaced as needed. The project would address signage indicating not to block area where emergency vehicles fill water as coordinated with those stakeholders. There is potential for additional signage or striping to indicate the speed limits in the area. This project is recommended as one complete project ("project bundle"), instead of breaking out parts of it, in order to benefit from the time and economic advantages of designing and constructing as one project. A maintenance agreement to maintain the separated path will need to be established as DOT&PF does not have the ability to maintain the path.
Priority	Medium
Priority Rationale	The existing pavement conditions are fair and good. There are no identified major issues to the current facilities. This project will improve safety, multimodal access, transportation operations, accessibility and connectivity, and economics. This project would not significantly impact land use. There were many comments on this project from the public.
Timeline	Long (10+ years)
Timeline Rationale	This is recommended to be constructed when the current highway has passed its design life.
Estimated Total Cost	\$8,698,000
Potential Funding Sources	National Highway Performance Program (NHPP), Transportation Alternatives Set-Aside Program (TA), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act, Congestion Mitigation and Air Quality Program (CMAQ), Tribal Transportation Program (TTP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Native Village of Cantwell, Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP)
Potential Enhancement Option	Install signage where access is sometimes blocked where emergency vehicles fill for water
Potential Enhancement Description	n/a



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Project Feature	Description
Name	Parks Highway MP 212 - 214 Reconstruction
Scope	Reconstruct the Parks Highway between MP 212 and 214. Project will include drainage improvements, rockfall mitigation, and roadside hardware improvements.
Description	For this section, we would recommend a reconstruction project with roadway realignment. There are issues with the existing roadway conditions, including concerns with rockfall, roadway geometry, drainage issues, and possible river training. There will be some environmental impacts as a result of the realignment, and we would have to mitigate any potential impacts to native allotments.
Priority	Medium
Priority Rationale	This project would improve safety, transportation operations, connectivity, land use, and economics. There would be environmental impacts due to realignment with this project. The pavement condition varies between good and poor.
Timeline	Long (10+ years)
Timeline Rationale	This is recommended to be constructed when the current highway has passed its design life.
Estimated Total Cost	\$6,371,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	None
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



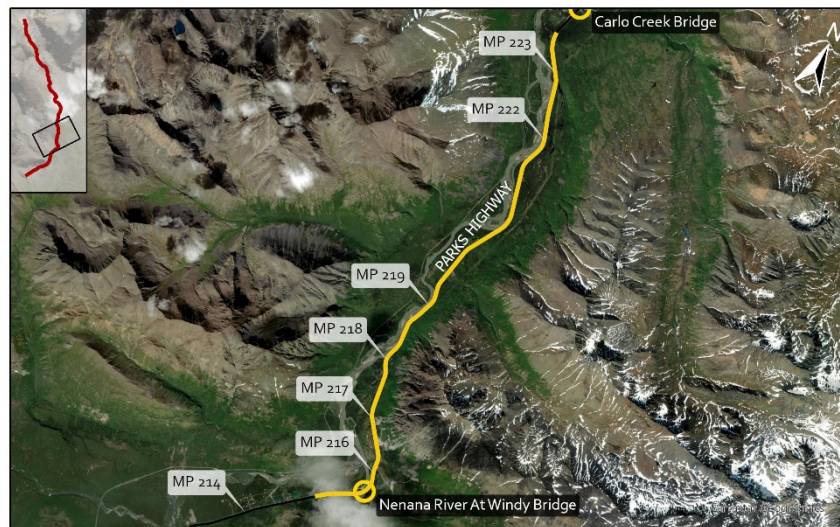
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Project Feature	Description
Name	Parks Highway MP 214 - 215 Resurfacing
Scope	Resurface the Parks Highway between MP 214 and MP 215. Project will include drainage improvements and roadside hardware.
Description	This project could be constructed on its own or easily combined ("project bundled") with the proposed highway reconstruction project to the south in order to address north of Cantwell to the Nenana River bridge all in one project to optimize construction funds.
Priority	Low
Priority Rationale	The existing pavement conditions are fair and good. There are no identified major issues. This project would not significantly impact multimodal access, accessibility and connectivity, or land use. This project will improve safety, transportation operations, and economics (once the pavement fails).
Timeline	Long (10+ years)
Timeline Rationale	The road will need to be resurfaced when the pavement has passed its design life and cannot be economically maintained by M&O.
Estimated Total Cost	\$2,287,000
Potential Funding Sources	National Highway Performance Program (NHPP) or Preventive Maintenance (PM) program
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 215 - 224 Reconstruction
Scope	Reconstruct Parks Highway MP 215 to 224 including rehabilitation of the Nenana Bridge at Windy No. 1243. The project will improve drainage and roadside hardware.
Description	The reconstruction has a higher cost, but a road reconstruction instead of resurfacing would allow the project to fix major issues identified in the corridor such as deficient geometry, erosion issues and slope stability. The current conditions are relatively stable, but are deficient and need to be resolved eventually. This project would rehabilitate the Windy bridge, but not replace it. There are two enhancement opportunities in the area: one to construct a boat launch at MP 220 for the Nenana River and one to add restroom facilities.
Priority	Medium
Priority Rationale	This project would improve safety, multimodal access, transportation operations, accessibility & connectivity, and economics. There would be potential land use and environmental impacts. Existing pavement conditions are mostly in fair condition.
Timeline	Medium (5+ years)
Timeline Rationale	We recommend this project begin in 5 to 10 years because current conditions are stable but will need to be eventually mitigated which will be costly.
Estimated Total Cost	\$58,388,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	(1) MP 220.5 Boat launch. (2) Rest Area.
Potential Enhancement Description	(1) Construct a 120-foot by 300-foot parking pad with 100-foot by 40-foot boat launch. (2) Add or improve rest area to include picnic tables, restrooms, and informative kiosks.
Potential Enhancement Cost	between \$1,000,000 and \$5,000,000
Potential Enhancement Funding Sources	(1) Dingell-Johnson, Pittman-Robertson, Transportation Alternatives Set-Aside Program (TA), Land and Water Conservation Fund (LWCF), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act. (2) Pittman-Robertson, LWCF, Federal Lands Access Program (FLAP), EDA



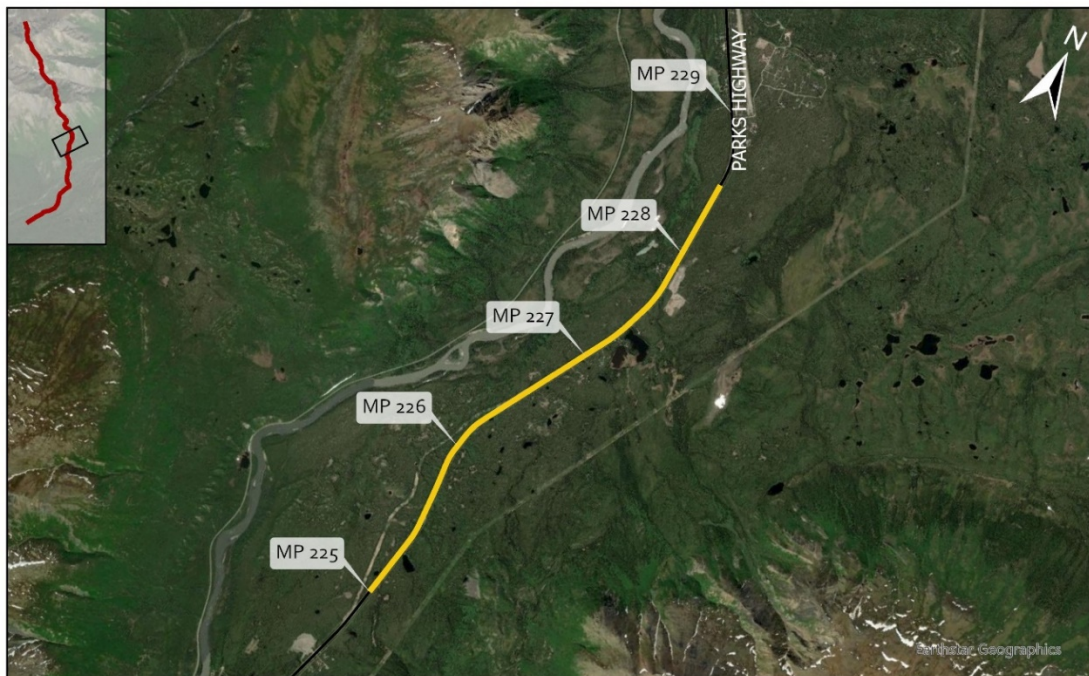
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Project Feature	Description
Name	Parks Highway MP 224 - 225 Carlo Creek Reconstruction
Scope	Reconstruct the Parks Highway between MP 224 and 225, including bridge repair at Carlo Creek Bridge No. 0693 and new pedestrian bridge. Project will include roadside hardware, drainage improvements, and pedestrian improvements.
Description	This project will include a frontage road on the east side of the Parks Highway. This would reduce the number of access points and reduce the speed differential of the local traffic from the through traffic. Turning lanes would be considered to also reduce conflicts and included if warranted. Although the current bridge has large shoulders to accommodate pedestrians currently, this project would allow pedestrians to make a north-south connection without accessing the Parks Highway, or only accessing one time to cross the highway and not travel along the highway.
Priority	Low
Priority Rationale	The project would improve safety, traffic operations, accessibility & connectivity, land use, economics. There would be environmental impacts. The existing pavement conditions are fair and good. Any user conflicts are seasonal and the current bridge has adequate shoulders to continue to provide pedestrian accommodations.
Timeline	Long (10+ years)
Timeline Rationale	This is recommended to be constructed when the current highway has passed its design life.
Estimated Total Cost	\$5,604,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



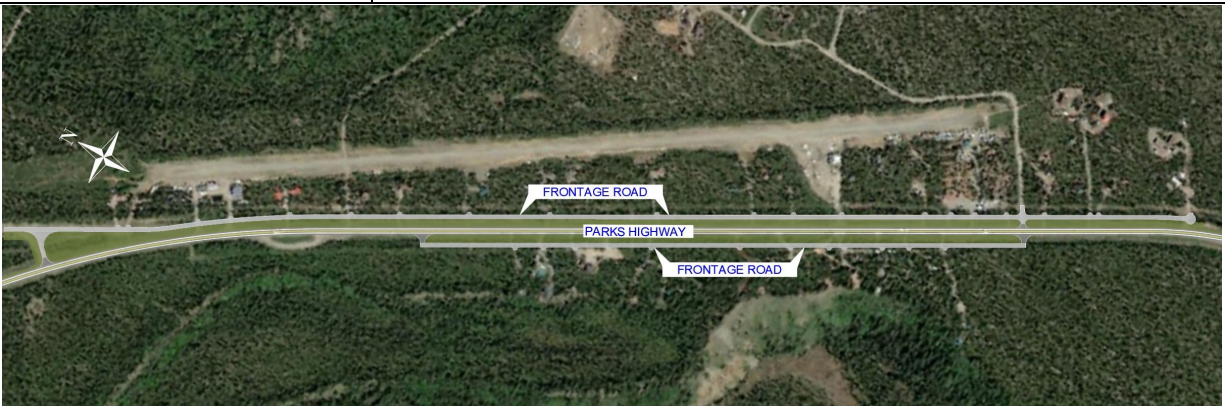
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Project Feature	Description
Name	Parks Highway MP 225 - 229 Resurfacing
Scope	Resurface the Parks Highway between MP 225 and 229. Project will include drainage work and roadside hardware.
Description	The project will address the area of annual settlement near MP 225.8 with this project. This project could potentially be combined ("project bundled") with the Carlo Creek project by extending the project limits through MP 226.
Priority	Medium
Priority Rationale	This project would improve safety and transportation operations. Existing roadway conditions are fair, although there are sections with annual roadway settlement and drainage issues.
Timeline	Medium (5+ years)
Timeline Rationale	We recommend this as a medium timeline project because the pavement and roadway condition is generally good and fair, but there is one area that requires annual maintenance that would be resolved with the project.
Estimated Total Cost	\$5,255,000
Potential Funding Sources	Preventive Maintenance (PM) Program or National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 229 - 230 McKinley Village Reconstruction
Scope	Reconstruct the Parks Highway between MP 229 and 230. Project will include safety improvements, drainage improvements, and roadside hardware.
Description	This project would resurface the Parks Highway. It would add gravel surface frontage roads in order to provide more access control to improve safety, similar to frontage roads near MP 290. Access control will reduce driveway density and speed differential in the area and would improve traffic flow and mitigate potential safety issues. This would also improve connectivity to destinations north of the area. The frontage road would be the southern end of a pedestrian connection between this location and the MP 231 area.
Priority	Medium
Priority Rationale	This project would improve safety, multimodal access, transportation operations, accessibility & connectivity, and economics. Existing pavement conditions are fair. There would be impacts to land use and environmental resources. This area experiences a conflict between through and local traffic.
Timeline	Medium (5+ years)
Timeline Rationale	This timeline would allow for the preconstruction activities on the project to begin after other nearby destinations are increasing in popularity and being constructed (such as the Nenana River Pedestrian Crossing at MP 231) and would provide connections to those areas. The current roadway conditions are stable.
Estimated Total Cost	\$9,163,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 230 - 232 Crabbies Crossing Reconstruction
Scope	Reconstruct the Parks Highway between MP 230 and 232 including replacement of Nenana River Park Boundary Bridge No. 0694. Project will include roadside hardware, pedestrian improvements, and drainage improvements.
Description	There is a current project (Parks Highway MP 231 Enhancements) that is fixing many of the issues identified in the area. The scope of this project includes remaining issues, mainly bringing road geometry to current standards which would require a new bridge.
Priority	Low
Priority Rationale	This would improve safety, multimodal access, transportation operations, accessibility & connectivity, and economics. There would be impacts to environmental resources and land use. This is a low priority because the existing project in the area is to be constructed in 2022 and will address many of the issues identified.
Timeline	Long (10+ years)
Timeline Rationale	This is a long term project and is recommended when the bridge has passed its design life and it is more costly to repair the bridge rather than replace the bridge.
Estimated Total Cost	\$48,128,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish habitat, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 231 Enhancements HSIP
Scope	Construct dedicated pedestrian facilities at MP 231 of the Parks Highway. Project will include drainage improvements, intersection improvements, ADA improvements, utilities, and roadside hardware.
Description	The improvements will be the Denali wayside by ox bow and the triple lakes trails, acceleration lanes by McKinley Village heading south towards Anchorage, pedestrian tunnel underneath the Parks Highway, and passive detection of the pedestrians on the bridge for the approaching vehicles.
Priority	High & Funded
Priority Rationale	This project is already in design and is scheduled to be constructed in 2022.
Timeline	n/a
Timeline Rationale	This project is already in design and is scheduled to be constructed in 2022.
Estimated Total Cost	\$15,905,000
Potential Funding Sources	n/a - Funding already secured
Potential Lead Agency Sponsor	n/a - Funding already secured
Potential Project Partners	n/a - Funding already secured
Anticipated Environmental Document	n/a
Anticipated required permits?	n/a - Environmental Document completed
Potential Enhancement Option	n/a



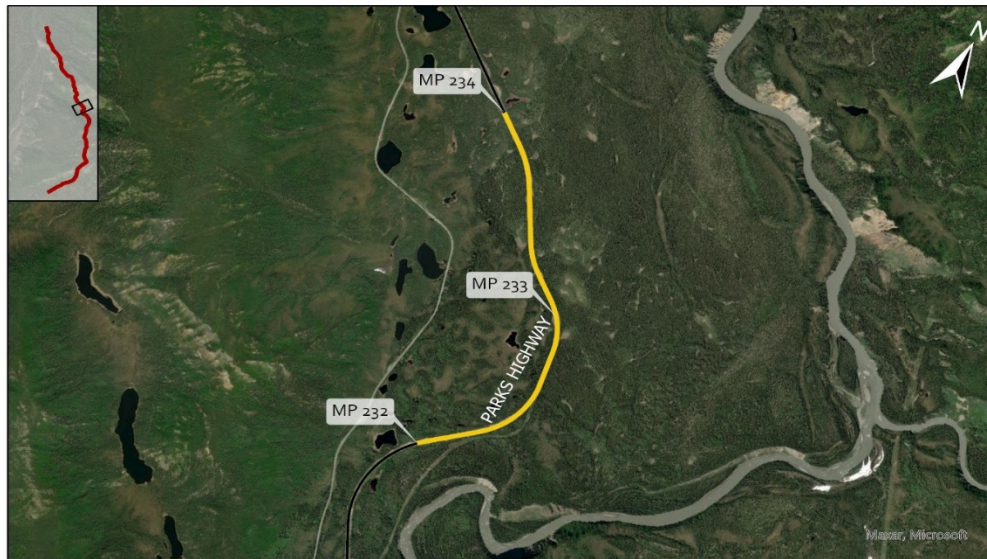
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Project Feature	Description
Name	Parks Highway MP 231 McKinley Village Pedestrian Bridge
Scope	Construct a separated pedestrian path from MP 230 along the old Parks Highway alignment and a pedestrian bridge across the Nenana River. Project will construct a pedestrian bridge, a separated path, and resurface the existing roadway.
Description	The Denali Park Pedestrian Bridge project is designed to improve vehicle and pedestrian safety in the vicinity of MP 231 (McKinley Village) area through the construction of dedicated pedestrian facilities. The project need is to provide pedestrian facilities in this high use recreation area. This area experiences a high volume of commercial traffic, as well as increased pedestrian and vehicle traffic during tourist season (May - September). Presently, pedestrians must cross the Nenana River Bridge via 5-foot shoulders to access DNP trails located immediately north of the Nenana River. The highway bridge is currently in good condition and not due for a replacement for approximately 30 more years, limiting the timeframe to accommodate pedestrians on it via a new facility. This project will enhance safety and accommodations of motorized and non-motorized traffic near Parks Highway MP 231, the southern boundary of the DNP. Once complete, this project will serve local residents, highway users, tourists, hikers, bikers, and area businesses, by providing much needed pedestrian access to Park facilities through a dedicated pedestrian facility. Benefits include enhanced tourist accommodations, reduced impact to through commerce, and reduced replacement cost of the Nenana River Bridge. Separating vehicle traffic and pedestrian traffic will enhance safety and reduce modal conflicts. The National Park Service will benefit by having a safe trail/pedestrian connection between the housing areas and businesses, on the south, to the trails on the north side of Nenana River.
Priority	High & Funded
Priority Rationale	Project was selected in 2021 to receive Federal Lands Access Program (FLAP) funding.
Timeline	n/a
Timeline Rationale	Project is moving forward already.
Estimated Total Cost	\$4,640,000
Potential Funding Sources	FLAP, Transportation Alternatives Set-Aside Program (TA), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act or Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant Program
Potential Lead Agency Sponsor	NPS, DOT&PF
Potential Project Partners	NPS, DOT&PF, Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



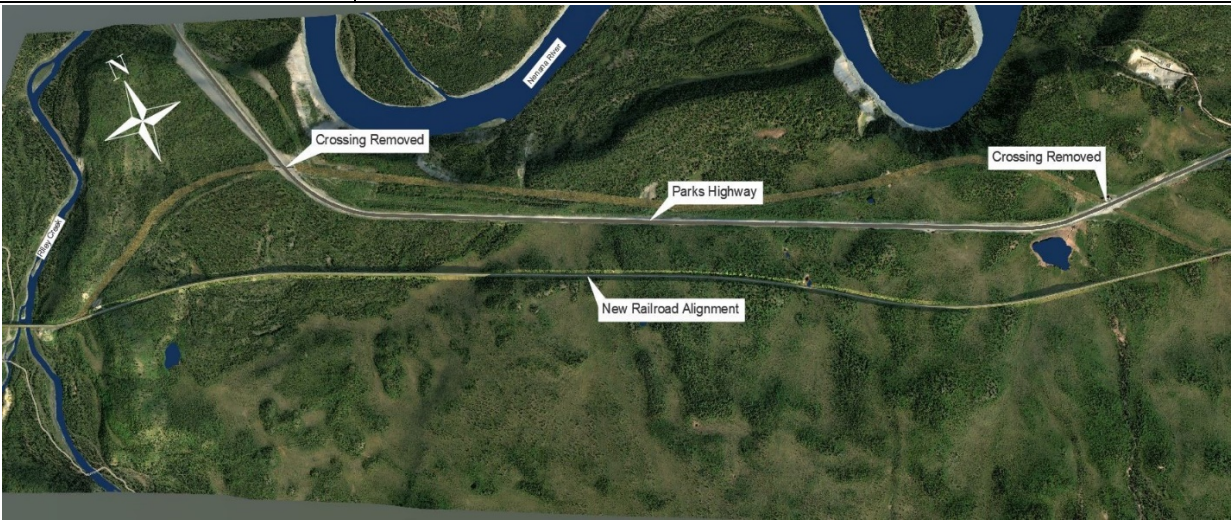
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Project Feature	Description
Name	Parks Highway MP 232 - 234 Resurfacing
Scope	Resurface Parks Highway MP 232 to 234. Project will include drainage improvements and roadside hardware.
Description	A resurfacing in this area would address many of the issues identified. Work will include a 20 percent rehabilitation section to address spot locations of poor soils. There is a potential that this could be combined ("project bundled") with the Railroad crossing project to the north (MP 234 to 238) in construction (but is much less complicated and not beneficial to combine in design).
Priority	Medium
Priority Rationale	This would improve safety, transportation operations, accessibility & connectivity and economics. There would be environmental impacts. Most of the road is in good condition; there is one area with drainage and slope stability issues. This is medium priority to be included with the MP 234 to 238 section.
Timeline	Medium (5+ years)
Timeline Rationale	Recommending as a medium timeline to line up with the MP 234 to 238 project timeline for construction (which will take longer to accomplish).
Estimated Total Cost	\$4,680,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



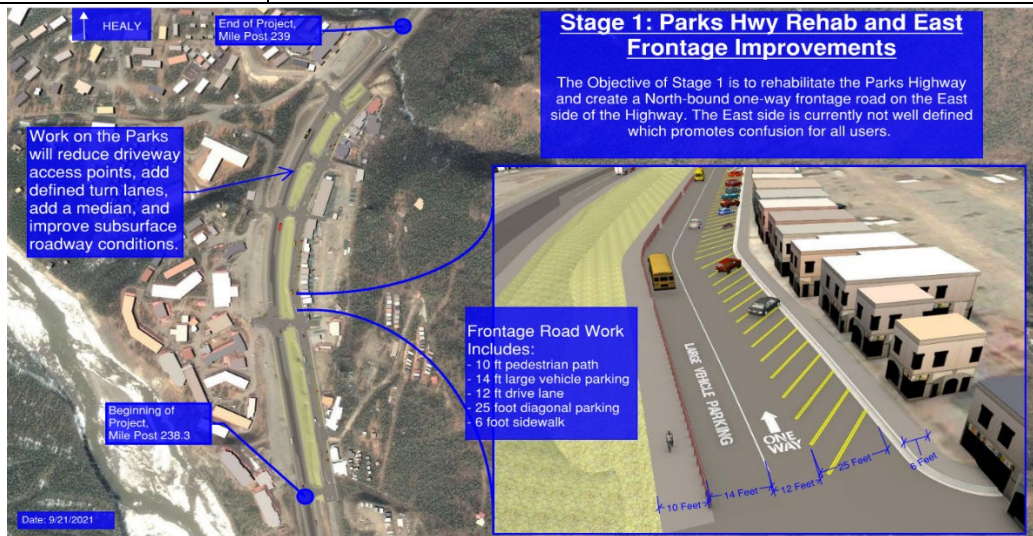
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Project Feature	Description
Name	Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (alt 1)
Scope	Realign the Alaska Railroad tracks to the west of the Parks Highway. Reconstruct the Parks Highway from MP 234 to MP 238. Project will include bridge removal, drainage improvements, intersection improvements, and roadside hardware.
Description	Realigning the Alaska Railroad tracks to the west of the Parks Highway. This will remove the at-grade crossing at MP 235, and the grade separated (railroad bridge over Parks Highway) crossing at MP236.5. Reconstruct the Parks Highway from MP 234 to MP 238, including drainage improvements, and roadside hardware. Refer to the Railroad Realignment Report Appendix for detailed information on this alternative.
Priority	High
Priority Rationale	This project would improve all PEL study screening criteria categories, though there will be environmental and land use impacts. This was the number one identified issue from the PAC.
Timeline	Short (less than five years)
Timeline Rationale	This project needs to be started soon in order to capitalize on partnering in order to resolve land use and NEPA clearances.
Estimated Total Cost	\$55,993,000
Potential Funding Sources	National Highway Performance Program (NHPP), Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant Program
Potential Lead Agency Sponsor	NPS, DOT&PF, ARRC
Potential Project Partners	NPS, DOT&PF, Denali Borough, ARRC
Anticipated Environmental Document	Refer to PEL Study appendix for additional information
Anticipated required permits?	Refer to PEL Study appendix for additional information
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 238 - 239 Reconstruction (Stage 1)
Scope	Reconstruct the Parks Highway between MP 238 and 239 including frontage roads. Project will include pedestrian improvements, intersection improvements, drainage improvements, roadside hardware, and repairs to the Kingfisher Creek Bridge No. 0697.
Description	This project will reconstruct the mainline of the highway, fixing structural issues and installing access control such as medians to control turn movements. The frontage roads would be paved and striped for one way driving, parking on both sides (diagonal and parallel), sidewalks on both sides, and retaining walls to support the project. This would help separate vehicular and pedestrian traffic and define traffic flow for easier use. There is a current project to improve the signals in the area; this project would not re-do any of that work.
Priority	High
Priority Rationale	This would improve safety, transportation operations, multimodal access, accessibility & connectivity, and economics. This issues in the area were identified as high concern to PAC and public and would be resolved with this project. The current conditions have gone past their useful life.
Timeline	Short (less than five years)
Timeline Rationale	This is a short timeline because these improvements are needed now based on existing conditions.
Estimated Total Cost	\$10,256,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough, NPS
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 238 - 239 Parking Areas (Stage 4)
Scope	Construct parking on the west side of the Parks Highway between MP 238 and 239. Project will include intersection improvements, pedestrian improvements, drainage improvements, and roadside hardware.
Description	This project will construct parking areas on the west side of the Parks Highway. The project would determine, based on future demand, the size and locations of parking areas. Potential locations are unused areas on the west side or areas that are currently under permitted use from private companies.
Priority	Low
Priority Rationale	If the parking areas in stage 1 begin to be over capacity in the future, this additional parking area will enhance safety, multimodal, transportations operations, accessibility and connectivity, land use, and economics. There will be environmental impacts.
Timeline	Long (10+ years)
Timeline Rationale	This is a long-term project because these improvements are not recommended to be constructed until additional parking, beyond the parking from Stage 1 and Stage 3, is needed.
Estimated Total Cost	\$4,557,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough, NPS
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



Project Feature	Description
Name	Parks Highway MP 239 - 240 Nenana Canyon Rockfall Mitigation (Stage 2)
Scope	Install rockfall mitigation along the Parks Highway from MP 239 to 240. Project will include drainage improvements, rockfall mitigation, and roadside hardware.
Description	There is active areas of rockfall and this project will mitigate those areas using five main mitigation techniques including scaling, netting, rock anchors, and rock blockers and barriers. The project would improve the drainage behind the barriers and leave enough room for M&O to continue to clear debris if needed.
Priority	High
Priority Rationale	This project will improve safety, multimodal access, transportation operations, accessibility & connectivity, and economics. There would be environmental impacts. The rock slopes are actively losing material into the ditch and roadway.
Timeline	Short (less than five years)
Timeline Rationale	This is a short timeline because these improvements are needed now based on existing conditions. This was one of the top priorities identified by the PAC.
Estimated Total Cost	\$22,777,000
Potential Funding Sources	Highway Safety Improvement Program (HSIP) or National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



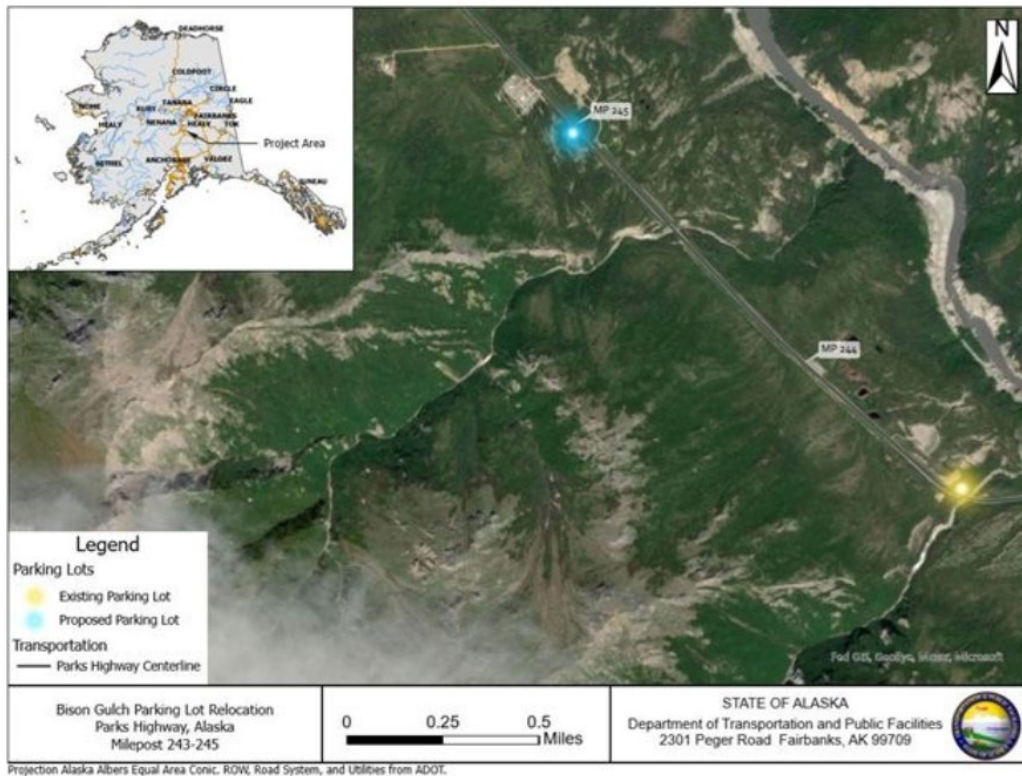
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Project Feature	Description
Name	Parks Highway MP 239 - 243 Nenana Canyon Reconstruction (Stage 3)
Scope	Reconstruct the Parks Highway from MP 239 to 243 and rehabilitate Iceworm Bridge No. 1146, Hornet Creek Bridge No. 1145, Fox Creek Bridge No. 1144, Dragonfly Creek Bridge No. 1075, and Moody Bridge at Nenana River No. 1143. Project will include pedestrian improvements, drainage improvements, and roadside hardware.
Description	The project will reconstruct the Parks Highway from Glitter Gulch to Moody Bridge. It will construct a parking area near Hornet Creek and connect the parking area to Glitter Gulch with a protected pedestrian path. This is only recommended to happen after Stage 2 (rockfall mitigation). There is one area of settlement at MP 242 that needs to be fixed with improved embankment and drainage.
Priority	Medium
Priority Rationale	This will improve safety, multimodal, transportation operations, accessibility & connectivity, land use, and economics. There will be environmental impacts. The road is in fair condition with a few areas of settlement.
Timeline	Medium (5+ years)
Timeline Rationale	This is a medium timeline because Stage 1 will provide additional parking already. This project has potential to lower congestion in the area.
Estimated Total Cost	\$16,847,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough, DOT&PF, NPS
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Antler Ridge Trail
Scope	Construct 4.5 miles of new trail from the Parks Highway along Antler Creek and Ridgeline, as well as construct trailhead and restroom at the already planned and funded parking lot at the Parks Highway.
Description	The project will include 4.5 miles of new trail construction from the Parks Highway along Antler Creek and Ridgeline, as well as construction of a trailhead and restroom at the already planned and funded parking lot at the Parks Highway. Though a small section in trail-miles, these trails and day-use facilities will create a necessary and safe access point north of DNP.
Priority	High & Funded
Priority Rationale	Project was selected in 2021 to receive Federal Lands Access Program (FLAP) funding.
Timeline	n/a
Timeline Rationale	Project is moving forward already.
Estimated Total Cost	\$505,000
Potential Funding Sources	FLAP
Potential Lead Agency Sponsor	DOT&PF, NPS, WFL
Potential Project Partners	DOT&PF, NPS, WFL
Anticipated Environmental Document	n/a
Anticipated required permits?	n/a
Potential Enhancement Option	n/a



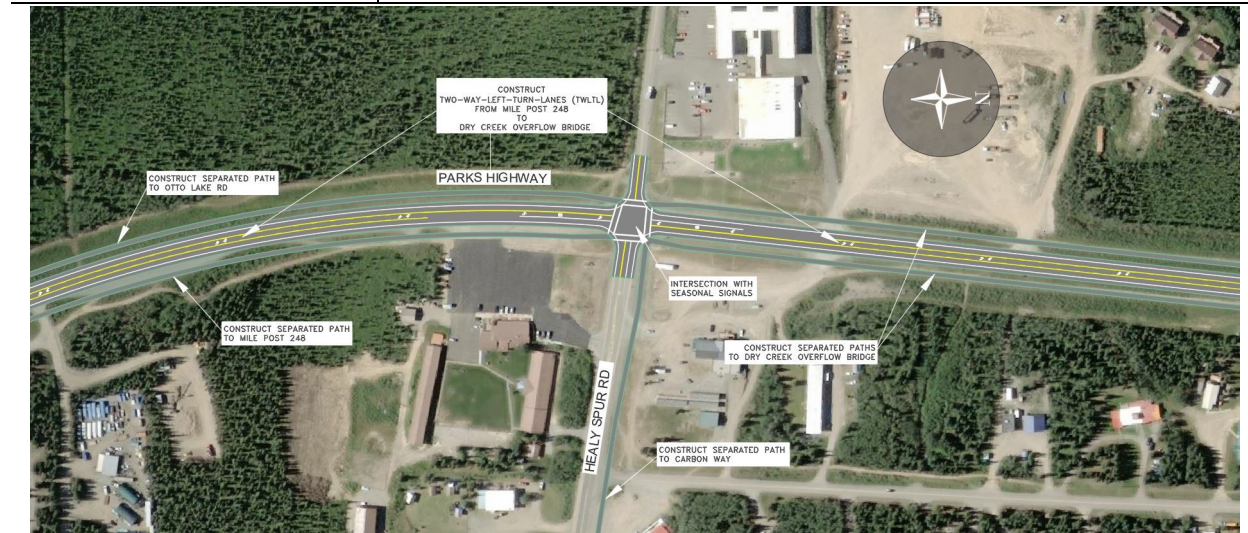
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Project Feature	Description
Name	Parks Highway MP 243 - 247 Reconstruction
Scope	Reconstruct the Parks Highway between MP 243 and 247 and rehabilitate Antler Creek Bridge No. 1141 and Bison Creek Bridge No. 1142. Project will include drainage improvements and roadside hardware.
Description	This project would address subsurface issues, bring the highway alignment into current design standards where feasible, and resurface the roadway. Known drainage issues would be addressed to improve some subsurface issues.
Priority	Medium
Priority Rationale	This project would improve safety, transportation operations, accessibility & connectivity, and economics. Existing roadway conditions are mostly in good condition, although there are sections with annual roadway settlement and drainage issues. There would be land use and environmental impacts.
Timeline	Medium (5+ years)
Timeline Rationale	We recommend this as a medium timeline project because the pavement and roadway condition is generally good and fair, but there are some areas that requires annual maintenance that would be resolved with the project.
Estimated Total Cost	\$7,573,000
Potential Funding Sources	Highway Safety Improvement Program (HSIP) or National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



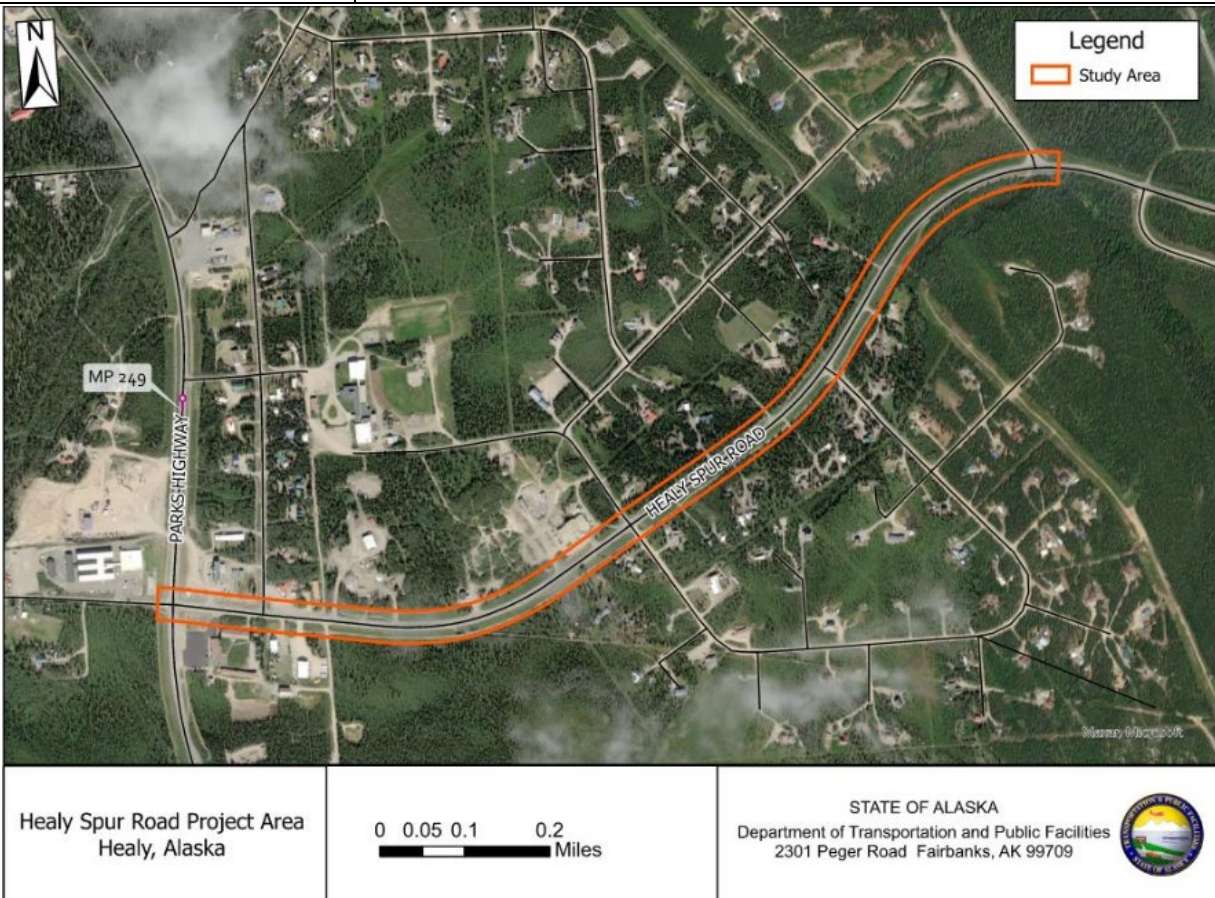
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Project Feature	Description
Name	Parks Highway MP 247 - 250 Healy Reconstruction and Pedestrian Improvements
Scope	Reconstruct the Parks Highway between MP 247 and 250 including rehabilitating Dry Creek Overflow Bridge No. 0852 and Dry Creek Bridge No. 0851. Project will include adding a two-way left turn lane (TWLTL) through the community of Healy, drainage improvements, intersection improvements, pedestrian improvements, and roadside hardware.
Description	This project would add a separated path through the community of Healy on the Parks between Dry Creek overflow bridge and Otto Lake Road (with a path on both sides through the main Healy area and only one path from MP 248-251), as well as along Healy Spur Road from Parks Highway to Carbon Way. This project would add a seasonal signal at Healy Spur Road and Parks Highway to help pedestrians cross the Parks Highway. This crossing is between where many seasonal employees live and local amenities causing increased pedestrian crossing numbers. The project would add a TWLTL between approximately MP 248 to Dry Creek Overflow bridge, the main commercial area of Healy and where there is the biggest number of access points and turning traffic.
Priority	High
Priority Rationale	This project will improve safety, multimodal access, transportation operations accessibility & connectivity, economics, and land use. There will be environmental impacts. This was one of the highest priority projects heard from the PAC and public.
Timeline	Short (up to five years)
Timeline Rationale	This project would address many issues the area is currently experiencing as the community continues to grow. It would resolve both seasonal and year-round issues for all users.
Estimated Total Cost	\$10,167,000
Potential Funding Sources	Surface Transportation Block Grant Program (STBG), Transportation Alternatives Set-Aside Program (TA), Federal Lands Access Program (FLAP), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



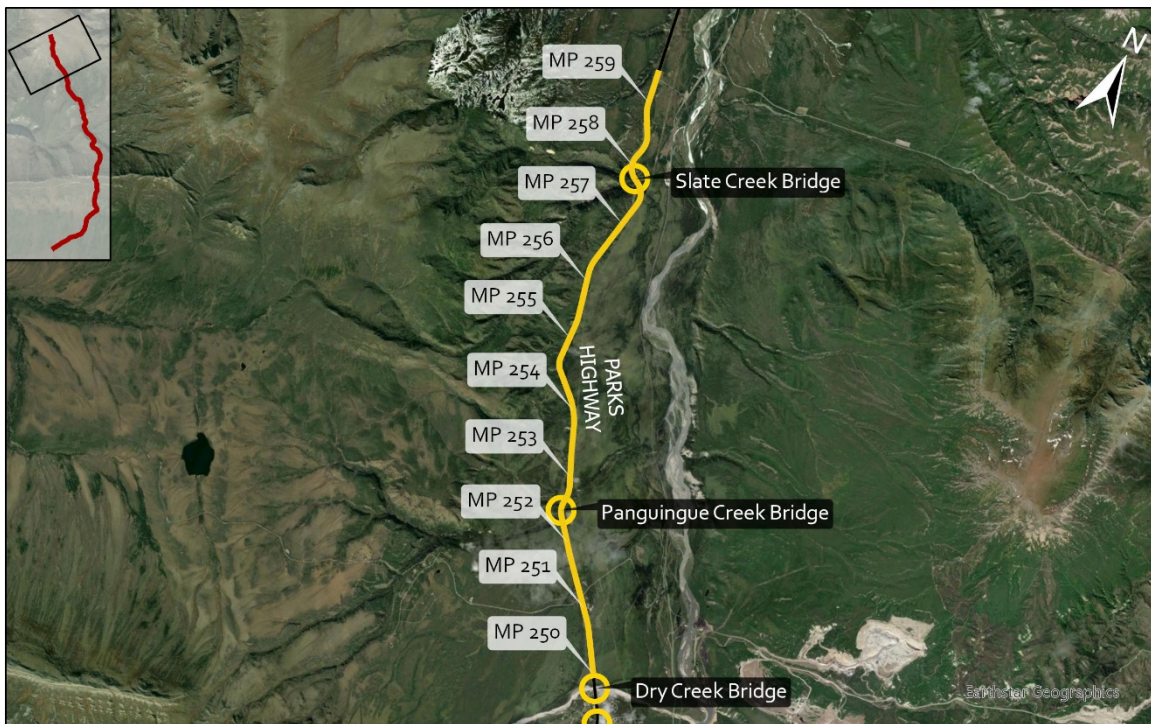
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Project Feature	Description
Name	Healy Spur Road Rehabilitation
Scope	Rehabilitate the Healy Spur Road in Healy. Project will include widening shoulders and drainage improvements.
Description	See Scope
Priority	High & Funded
Priority Rationale	This project is a current project in the DOT&PF STIP, Need ID 32519.
Timeline	n/a
Timeline Rationale	This project is scheduled for construction in 2023.
Estimated Total Cost	\$1,595,000
Potential Funding Sources	Surface Transportation Block Grant Program (STBG)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Programmatic Categorical Exclusion (PCE)
Anticipated required permits?	n/a
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway MP 250 - 260 Reconstruction
Scope	Reconstruct the Parks Highway between MP 250 and 260. Project will include intersection improvement, drainage improvements, and roadside hardware.
Description	The roadway needs to be realigned in several sections to meet current geometric standards when feasible. Turn lanes will be added at Stampede Road. Drainage issues will be mitigated, including at Slate Creek Culvert No. 7113.
Priority	High
Priority Rationale	This project would improve safety, transportation operations, accessibility & connectivity, and economics. There would be land use and environmental impacts. The pavement condition varies from poor to good but there is settlement, drainage, and geometric issues that need to be addressed.
Timeline	Medium (5+ years)
Timeline Rationale	We recommend this project begin in 5 to 10 years. The current conditions require annual maintenance that need to be eventually mitigated which will be costly. There are also ROW acquisitions that will have to be made.
Estimated Total Cost	\$21,136,000
Potential Funding Sources	National Highway Performance Program (NHPP)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	n/a
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



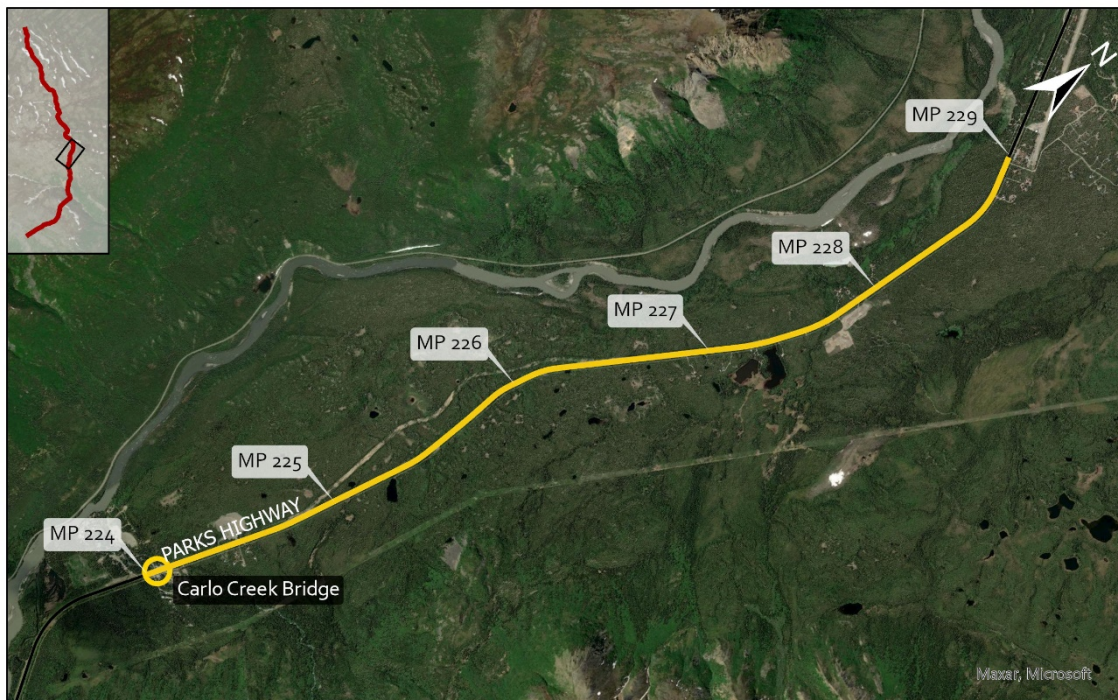
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Project Feature	Description
Name	Parks Highway Cantwell to Carlo Creek Separated Path
Scope	Construct a separated path along the Parks Highway connecting the communities of Cantwell and Carlo Creek. Project will include constructing a pedestrian bridge at the Nenana River crossing at Windy Bridge.
Description	Proposed pathway would be approximately 13 miles long (from approximate MP 211 to 224). This section of pedestrian path would be relatively difficult compared to other community connections. This is due to the length of project, topographic constraints between mountainous/hills on the east of the ROW combined with Nenana River to the west of the ROW (pinch points occur at MP 212 to 212.5, MP 218 to 219, and MP 221.5 to 223), and the Nenana River crossing at Windy (MP 215). There will also be utility impacts and ROW acquisitions that may be required (though if the highway project occurs first the ROW acquisition will be covered there in that project).
Priority	Not Assigned
Priority Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Timeline	n/a
Timeline Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Estimated Total Cost	\$13,153,000
Potential Funding Sources	Transportation Alternatives Set-Aside Program (TA), National Highway Performance Program (NHPP), Tribal Transportation Program (TTP), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act, Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program grant
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway Carlo Creek to Crabbies Crossing Separated Path
Scope	Construct a separated path along the Parks Highway from Carlo Creek to McKinley Village.
Description	Proposed pathway would be approximately 5 miles long (from approximate MP 224 to 229). This project does not include pedestrian accommodations in the communities of Carlo Creek and McKinley Village, as those are covered under other recommended solutions (i.e., highway reconstruction projects). There will be utility impacts, but no ROW acquisitions required. Combining with other highway construction projects may prove more economical in construction, though funding may be difficult to secure.
Priority	Not Assigned
Priority Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Timeline	n/a
Timeline Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Estimated Total Cost	\$3,711,000
Potential Funding Sources	Transportation Alternatives Set-Aside Program (TA), National Highway Performance Program (NHPP), Congestion Mitigation and Air Quality Program (CMAQ), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act, Tribal Transportation Program (TTP), Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program grant
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path
Scope	Construct a separated path along the Parks Highway from Crabbies Crossing to Denali Park Entrance Road.
Description	Proposed pathway would be approximately 7 miles long (from approximate MP 231 to 238). This section of pedestrian path would be beneficial to construct as one of the first out of the five community connections presented in this PEL. This project would connect significant pedestrian attractors and generators, such as the DNP Entrance to other trailheads and commercial businesses in the area. In order to reduce repeating work, this should be considered at the same time as the MP 234 to 238 highway project (as a "project bundle"), or after that has been completed. There should be adequate room within the current ROW, or future ROW (if ARRC realignment occurs), for the path. There will be utility impacts with the path if it is constructed in the current ROW.
Priority	Not Assigned
Priority Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Timeline	n/a
Timeline Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Estimated Total Cost	\$3,036,000
Potential Funding Sources	National Highway Performance Program (NHPP), Transportation Alternatives Set-Aside Program (TA), Congestion Mitigation and Air Quality Program (CMAQ), Federal Lands Transportation Program (FLTP), Federal Lands Access Program (FLAP), U.S. Economic Development Administration EDA grants from the American Rescue Plan Act
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough, NPS
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Parks Highway Denali Park Entrance to Healy Separated Path
Scope	Construct a separated path along the Parks Highway from Hornet Creek to the community of Healy. Project will include constructing pedestrian bridges at Antler Creek, Bison Gulch, and the Nenana River at Moody Bridge.
Description	Proposed pathway would be approximately 8 miles long (from approximate MP 239 to 247). This section of pedestrian path would be beneficial to construct as there are many people who work in the Nenana Business area live in Healy and do not have personal vehicles. However, this would be one of the most difficult pathway sections to fund and construct as there are several bridges in the corridor with substandard shoulders for pedestrians.
Priority	Not Assigned
Priority Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Timeline	n/a
Timeline Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Estimated Total Cost	\$37,588,000
Potential Funding Sources	National Highway Performance Program (NHPP), Transportation Alternatives Set-Aside Program (TA), Congestion Mitigation and Air Quality Program (CMAQ), Federal Lands Transportation Program (FLTP), Federal Lands Access Program (FLAP), U.S. Economic Development Administration (EDA) grants from the American Rescue Plan Act
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough, NPS
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	ADF&G Fish Habitat Permit, USACE Nationwide Permit (NWP), USCG Bridge Permit
Potential Enhancement Option	n/a



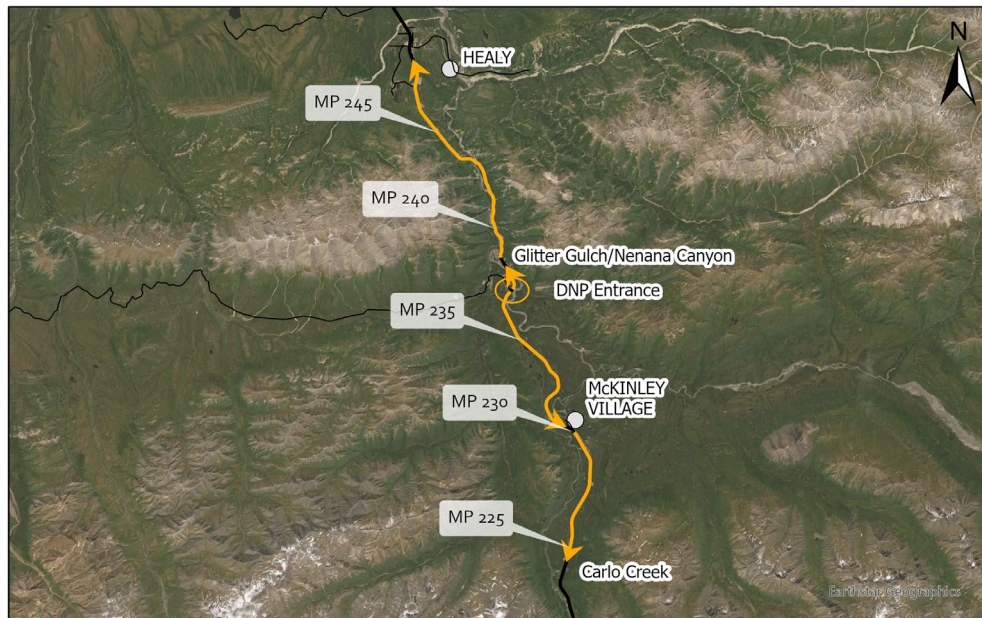
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Project Feature	Description
Name	Parks Highway Healy to Stampede Road Separated Path
Scope	Construct a separated path along the Parks Highway from the community of Healy to Stampede Road. Project will include constructing pedestrian bridges at Dry Creek and Dry Creek Overflow Bridge.
Description	Proposed pathway would be approximately 2 miles long (from approximate MP 248.5 to 251). This section of pedestrian path would be beneficial to construct as there are many people who live or are visiting in lodging off of Stampede Road.
Priority	Not Assigned
Priority Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Timeline	n/a
Timeline Rationale	n/a - discussed in PEL Study Section 4.3.5 Separated Pathways Between Communities and Section 5.3.4 Other Recommended Solutions
Estimated Total Cost	\$8,297,000
Potential Funding Sources	Transportation Alternatives Set-Aside Program (TA), National Highway Performance Program (NHPP), Congestion Mitigation and Air Quality Program (CMAQ)
Potential Lead Agency Sponsor	DOT&PF
Potential Project Partners	Denali Borough
Anticipated Environmental Document	Categorical Exclusion (CE)
Anticipated required permits?	USACE Nationwide Permit (NWP)
Potential Enhancement Option	n/a



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Project Feature	Description
Name	Transit/Active Transportation Initiative (Phase 1)
Scope	Conduct a three-phased initiative to consider implementing transit service from the DNP entrance to key points along the corridor, tying into active transportation improvements
Description	This initiative aims to consider implementing transit service from the DNP entrance area to key points along the highway corridor in conjunction with improving active transportation options in the Frontcountry region of the DNP entrance area and along the highway corridor. This initiative is comprised of three components: (Phase 1) Convene a Denali Transportation Coalition to evaluate the potential for a transit shuttle pilot and to determine governance and funding requirements and needs for long-range transit service delivery; (Phase 2) Implement a Frontcountry Shuttle Pilot Service; and (Phase 3) Design and implement active transportation improvements to support safe and accessible transportation options in the DNP Frontcountry.
Priority	Not Assigned
Priority Rationale	n/a - refer to PEL Study Appendix for additional information
Timeline	n/a
Timeline Rationale	n/a
Estimated Total Cost	\$111,000
Potential Funding Sources	Alaska Community Transit (ACT) grant program, Federal Lands Access Program (FLAP)
Potential Lead Agency Sponsor	NPS, DOT&PF, private entities
Potential Project Partners	Denali Borough
Anticipated Environmental Document	n/a
Anticipated required permits?	n/a
Potential Enhancement Option	n/a



## 6. Environmental Considerations

### 6.1 Overview



This section summarizes environmental resources in the study area and a preliminary evaluation of environmental impacts associated with recommended solutions.

Environmental resources were examined as part of this PEL study to establish a baseline understanding of the existing conditions in the study corridor. The environmental baseline conditions were also used during the screening process to broadly assess the potential environmental impacts associated with the proposed solutions. Impacts disclosed in this PEL study are based on a conceptual-level design. A future NEPA process

for any recommended solution would need to have additional design advanced and project development at that time.

### 6.2 Environmental Resources Considered

Environmental resources considered are documented in the *Environmental Conditions Memo* located in Appendix J of the Needs and Opportunities Assessment Report (in Appendix A). The study team used a 500-foot buffer on either side of the Parks Highway centerline, expanded to encompass areas with higher density near communities, to identify environmental resources and assess impacts. This study area was developed based on consideration of potential direct and indirect effects and to ensure an adequately broad area to assess effects was analyzed. Environmental resources considered included:

- Land ownership
- Cultural resources
- Wetlands and waterbodies
- Fish and wildlife resources
- Land use and transportation plans
- Water quality
- Contaminated sites
- Environmental Justice
- Air quality
- Noise
- Section 4(f)/6(f)
- Invasive species

Each resource is briefly summarized in the following sections. Certain environmental resources were not considered in this PEL study because they were not present, impacts were not anticipated, and/ or they were not anticipated to be critical factors in evaluating the solutions under consideration.

The highway reconstruction/ railroad realignment option between MP 234 and 238 would require additional consideration of other environmental resource categories that are not a factor for any of the other recommended solutions since this would locate infrastructure where none currently exists. This includes consideration of potential impacts to designated wilderness within DNP and visual impacts. Refer to Appendix F for more details.

**Land Ownership.** Much of the land in the study area is owned by the state and federal government; however, the corridor intersects 37 Native Allotments. Ahtna Corporation, a regional native corporation, is a major landowner in the corridor. The Alaska Railroad is also a major landowner in the Healy vicinity. Most recommended solutions would occur within the existing rights-of-way, though some proposed

solutions fall outside of the ROW, particularly the highway reconstruction/ railroad realignment option between MP 234 and 238. The highway reconstruction/ railroad realignment option will need to consider requirements of the Alaska National Interest Lands Conservation Act (ANILCA); Title XI of ANILCA governs procedures for permitting a transportation system in and across federal conservation system units, such as DNP. Refer to Appendix F for additional details about the additional reviews and approvals for the highway reconstruction/ railroad realignment option.

**Cultural/ Historic Resources.** Section 106 of the National Historic Preservation Act as amended, and its implementing regulations in 36 CFR 800 requires federal agencies to consider the effects of their undertakings on historic properties. According to the Alaska Office of History and Archaeology and its Alaska Heritage Resource Survey (AHRs) mapper, there are 65 AHRs sites in the identified buffered boundary; none of these AHRs sites were listed on the National Historic Landmarks or in the National Register of Historic Places. Many of these are concentrated between MP 235 and 240. In addition, the highway reconstruction/ railroad realignment option would go through an area with previously identified cultural resources in its vicinity as well as areas where cultural resource surveys have not occurred; additional research and site investigation will be needed. Some but not all proposed improvements will require additional Section 106 coordination and consultation.

**Wetlands and Waterbodies.** National Wetland Inventory (NWI) mapping indicates the presence of freshwater emergent wetlands, freshwater forested/shrub wetlands, freshwater ponds, lakes and riverine areas in the corridor. The ARRC had previously conducted an office-based wetlands mapping effort for their proposed railroad realignment between MP 234 and 238. Some improvements will impact wetlands and require a Section 404 permit from the U.S. Army Corps of Engineers (USACE), either a nationwide permit (NWP) or an individual permit. Avoidance, minimization, and mitigation measures should occur. When wetland impacts are anticipated, adequate time should be built into the project schedule to allow for wetlands to be delineated, mitigation to be identified where needed, and permits to be obtained. There are a number of waterbodies in the corridor and Nenana River is recognized as a navigable waterway by the U.S. Coast Guard (USCG) and USACE. Some improvements will require a USCG bridge permit. Federal Emergency Management Agency data indicates there are no mapped 100-year floodplains or regulatory floodways within the study area.

**Fish and Wildlife Resources.** The corridor contains no federally listed threatened or endangered species according to U.S. Fish and Wildlife Service (USFWS) data. The USFWS identifies several bird species of concern with ranges that include the study area; this includes birds of conservation concern (BCC). The Alaska Department of Fish and Game (ADF&G) identifies a number of anadromous streams in the area. Some improvements will impact anadromous streams or streams with resident fish, which would require coordination with ADF&G and a fish habitat permit.

**Water Quality.** The Alaska Department of Environmental Conservation (ADEC) identifies no impaired waterbodies within the study corridor. The ADEC Safe Drinking Water Information System (SDWIS) database indicates SDWIS drinking water sources exist in the study corridor. The ADEC identifies drinking water protection areas around the community water systems, non-transient non-community water systems, and on-community water systems located within the study corridor.

**Contaminated Sites.** The ADEC identifies 35 contaminated sites in the study corridor, with statuses ranging from cleanup complete to being open.

**Environmental Justice.** Executive Order 12898 requires the consideration for how a federal action impacts minority and low-income populations. According to the EPA's EJSscreen database, the study

corridor has a lower percentage of minority populations compared to the state and a higher percentage of low-income populations compared with the state.

**Air Quality.** The study corridor is not located within an air quality maintenance or non-attainment area for Carbon Monoxide (CO), particulate matter sizes less than 2.5 microns (PM<sub>2.5</sub>) or less than 10 microns (PM<sub>10</sub>).

**Noise.** Noise-sensitive land uses exist in the study corridor, such as residential, recreation areas, and other land uses. Depending upon the type of proposed project and land use, a traffic noise analysis may need to be done during NEPA to determine noise impacts.

**Section 4(f)/6(f) Resources.** Section 4(f) is a federal environmental protection statute specific to U.S. DOT projects. This statute prohibits using land identified as Section 4(f) property unless specific criteria are satisfied. Section 4(f) properties include publicly owned parks, recreation areas, wildlife, or waterfowl refuges, and any publicly or privately owned historic sites listed or eligible for listing on the National Register of Historic Places.

Identified Section 4(f) properties within the study area included DNP, Tri-Valley School, Otto Lake Park, Bison Gulch Trailhead, Antler Ridge Trailhead, Horseshoe Lake Trail, Rock Creek Trail, Mount Healy Overlook Trail, Riley Creek Campground, Triple Lakes Trailhead, and Cantwell School.

Section 6(f) of the Land and Water Conservation Act (LWCA) requires that the conversion of lands or facilities acquired with LWCA funds under the state assistance program be coordinated with the NPS. When outdoor recreation land is proposed for conversion, the law and regulations set out a process between individual states and the federal government, and formal communication occurs between these two entities. The DNR Division of Parks and Outdoor Recreation represents the state; DNR confirmed there are no Land and Water Conservation Fund (LWCF) grants used within the study corridor and therefore are no Section 6(f) properties in the study corridor.

If Section 4(f) or 6(f) properties are impacted, adequate time should be built into the project schedule to allow for evaluation and coordination.

**Invasive Species.** The University of Alaska Anchorage (UAA) Alaska Exotic Plant Information Clearinghouse (AKEPIC) mapper identified many invasive plant species within the study corridor. Mitigation and minimization measures should be taken to prevent further spread of invasive species during future construction projects.

**Cumulative Impacts Considerations.** The nature of the planning process is to look broadly at past and future actions such as land use development and other growth factors such as increases (or decreases) in population or tourism visitors. Cumulative impacts analysis considers past, present and reasonably foreseeable actions. A cumulative impacts analysis was not completed in this PEL study, though it should be considered during a future NEPA process. Some initial considerations have been included here as part of this PEL study to inform a future cumulative impacts analysis.

Corridor traffic is influenced by statewide, national, and global economic trends that influence freight, or social changes like the COVID pandemic that influence tourism and recreation visitors. The Parks Highway corridor experiences a fair amount of freight traffic (from Anchorage to Fairbanks and beyond), in support of ongoing and exploratory resource development activities such as North Slope oil and gas-field related activities or exploratory projects such as the Ambler mining access road. The State of Alaska is assessing the need to construct an 800-mile-long natural gas pipeline that would traverse along the Parks Highway corridor. While the Denali Borough is not experiencing substantial changes in population, the corridor has seen steadily increasing numbers of recreation and tourism visitors. Visitors to DNP and

the region are expected to continue to increase; this includes increases in independent travelers and winter visitors. Services supporting DNP visitors have continued to spread along the highway corridor to the north and south of the DNP entrance. Examples of future plans include a large Alaska-based tour company's intent to construct new accommodations in Healy and Ahtna, a major landowner in the corridor, having intent to develop its lands in the southern end of the study corridor. While likely not reasonably foreseeable, the need to accommodate increased DNP visitors is evidenced with past plans that considered constructing a southern DNP visitor complex either in the Broad Pass/ Cantwell area or further south beyond the extent of the study corridor. The state's opening of additional facilities in Denali State Park (e.g., K'esugi Ken Campground) in 2017, located more than 60 miles south of the study corridor, likely absorbs a small amount of recreation visitors that may have gone to DNP.

There is desire to support regional year-round economic development opportunities in the Denali Borough. The concept of "one more day" represents the idea of providing more DNP Frontcountry opportunities, such as promoting recreation access to trailheads and pathways that are located along the highway corridor to the north and south of the DNP entrance. The concept is that increased recreation opportunities may encourage visitors to stay one more day in the region, which means increased spending and more ways to support the local economy and residents.

Additional Frontcountry opportunities may be also be important in instances when visitors are not able to travel on the Denali Park Road and into the DNP backcountry. At the end of the summer 2021 season, the NPS announced the Denali Park Road will be closed in 2022 near its midway point due to an active landslide that continues to threaten the road. The NPS cites climate change as a contributing factor. Increased recreation opportunities in the Frontcountry and along the highway corridor will help ease visitor congestion, support the economy, and provide additional recreation opportunities for visitors and locals.

Transportation agencies' ability to effectively manage, operate, and maintain a safe, reliable transportation system is being threatened by a changing climate, as evidenced with the Pretty Rocks landslide near mile 45 of the Denali Park Road (NPS 2021). The Parks Highway in the study corridor traverses through a variety of terrain that have relevant natural risks that may be exacerbated by climate change. Relevant natural risks include seismic events, thawing permafrost, landslides, rockfall, flooding, and erosion. Improving the resiliency and reliability of the transportation system needs to be factored into the planning process. As projects move forward, particularly enhancement opportunities, it has been suggested to have a cohesive interpretive visitor theme along the corridor, with particular emphasis on the scenic and recreational values of the corridor.

### **6.3 Environmental Resources Preliminary Impacts Evaluation**

Table 6-1 includes an overview of the anticipated type of NEPA documentation, anticipated preparation time to complete the environmental document based on anticipated impacts and potential permits that may need to be acquired, if a Section 4(f) resource might be impacted, anticipated environmental permits, and a preliminary analysis of environmental impacts. In the table, italics represent the proposed improvements that are already programmed and funded, some of which have already undergone environmental reviews and some are scheduled for construction; the use of "n/a" represents not applicable or not available.

Refer to Section 1.1.2 for a description of already funded and programmed improvement projects. Appendix E contains the broad assessment of potential environmental impacts that occurred in the Level 3 screening analysis for each of the proposed solutions, as summarized in this section. Appendix F

contains additional details about regulatory approvals related to the highway reconstruction/ railroad realignment option.

**Anticipated Future Environmental Documentation.** For a project using federal funding or requiring federal permit approval, an environmental document will need to be completed. An environmental document involves analyzing the affected environment (existing conditions), anticipated environmental impacts, and environmental mitigation commitments. The type of environmental document required depends on the project context, complexity, potential impacts, and which federal agency (or SEO on behalf of FHWA) is the lead agency moving the project forward. NEPA regulations identify three types of environmental classes of action (COA): categorical exclusions (CE), environmental assessments (EA), and environmental impact statements (EIS).

- **CEs** are for actions that do not individually or cumulatively have a significant environmental effect and may be excluded from the requirement to prepare an EA or EIS. For certain actions that qualify, the DOT&PF may prepare a programmatic CE (**PCE**) which generally takes less time to complete than a CE.
- An **EA** is prepared for actions in which the significance of the environmental impact is not clearly established.
- An **EIS** is prepared for types of actions that significantly affect the environment.

This PEL study is intended to help jump start the analysis for future NEPA requirements. Most of the proposed improvements in this PEL study would fall within a CE classification; this COA is based on the standpoint as SEO as the lead agency. Should another agency such as the NPS lead a project, the COA may be different.

A future draft purpose and need statement for nearly all the proposed solutions has been prepared and is included in the project data sheets in Appendix B.

**Table 6-1. Recommended Solutions and Preliminary Environmental Impacts and Considerations**

Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 202 - 206 Resurfacing	CE	18 months	No	Potentially UCASE permit (small piece of NWI-mapped riverine in ROW)	The draft Purpose and Need is written assuming the pavement has failed. Project includes one bridge over the railroad (bridge no. 2084). Work is probably within the existing ROW, with the exception of possibly the rest area addition (enhancement opportunity). AKEPIC invasive species include: <i>Matricaria discoidea</i> (pineappleweek). Migratory birds BCC Rangewide include: Lesser Yellowlegs ( <i>Tringa flavipes</i> ).
Parks Highway MP 206 - 209 Reconstruction	CE	12 months	No	USACE NWP	n/a
Parks Highway MP 209 - 211.5 Cantwell Reconstruction	CE	18 months	No	ADF&G Fish Habitat, USACE NWP	Potential SDWIS drinking water sources are in the area. One AHRS site within the project area will require extra Section 106 coordination. Three ADEC contaminated sites nearby will require coordination with ADEC. Impacts to wetlands in the area should fall under a NWP. Unmapped floodplain will require coordination with DOT&PF hydrology section for Location Hydraulics Study.
Parks Highway MP 212 - 214 Reconstruction	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP	No anadromous fish streams in the area, but ADF&G coordination will still be required in case of resident fish species. Impacts to wetlands in the area should fall under a NWP. Unmapped floodplain will require coordination with DOT&PF hydrology section for Location Hydraulics Study.
Parks Highway MP 214 - 215 Resurfacing	CE	12 months	No	USACE NWP	Wetlands in the NWI mapper include Riverine and Freshwater Forested/Shrub wetland. Unmapped floodplain will require consultation with hydrologist for Location Hydraulic Study. Migratory birds of conservation concern in the area include Non-BCC but vulnerable species (Bald Eagle [ <i>Haliaeetus leucocephalus</i> ]) and BCC Rangewide (Rusty Blackbird [ <i>Euphagus carolinus</i> ]).

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 215 - 224 Reconstruction	CE	18 to 24 months	No	ADF&G Fish Habitat Permit, USACE NWP, USCG Bridge Permit	Nenana River is a USCG Navigable waterway; project would require a USCG Bridge permit. Four AHRS sites in the area will require extra Section 106 coordination. AKEPIC invasive species include: Smooth Brome (bromus inermis Leyss). Wetlands NWI mapper includes riverine, freshwater forested/shrub wetland, and freshwater emergent wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulics Study. For the enhancement opportunity, potential Section 4(f) involvement (Nenana River boat launch, Nenana River access).
Parks Highway MP 224 - 225 Carlo Creek Reconstruction	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP	Five nearby SDWIS drinking water sources will require consideration and ADEC coordination. One AHRS site in the area will require extra Section 106 coordination. No anadromous fish streams are in the area, but potential for resident fish species will require coordination with ADF&G. AKEPIC invasive species nearby include Foxtail Barley ( <i>Hordeum jubatum</i> ) and bird vetch ( <i>Vicia cracca</i> ). NWI wetlands include riverine, freshwater forested/shrub wetland, and freshwater emergent wetland. Unmapped Floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds include BCC Rangewide: Rusty Blackbird ( <i>Euphagus carolinus</i> ).
Parks Highway MP 225 - 229 Resurfacing	CE	18 Months	No	USACE NWP	One AHRS site in the area will require extra Section 106 coordination. AKEPIC Invasive species include four instances of white sweet clover ( <i>Melilotus albus</i> ). NWI wetlands include freshwater emergent wetlands and freshwater pond. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds of conservation concern include Non-BCC Vulnerable (Bald Eagle [ <i>Haliaeetus leucocephalus</i> ]) and BCC Rangewide (Rusty Blackbird [ <i>Euphagus carolinus</i> ] and Olive-Sided Flycatcher [ <i>Contopus cooperi</i> ]).

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 229 - 230 McKinley Village Reconstruction	CE	18 Months	No	ADF&G Fish Habitat	Two nearby SDWIS drinking water sources will require consideration and extra ADEC coordination. No anadromous fish streams in the area, but potential for resident fish in streams will require coordination with ADF&G. AKEPIC invasive species nearby include six instances of White Sweet clover ( <i>Melilotus albus</i> ) and two instances of Narrowleaf hawksbeard ( <i>Crepis tectorum</i> ). No NWI wetlands are in the existing ROW. Unmapped floodplain may require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds of conservation concern include BCC Rangewide: Rusty Blackbird ( <i>Euphagus carolinus</i> ).
Parks Highway MP 230 - 232 Crabbies Crossing Reconstruction	CE	24 Months	Yes. Triple Lakes Trailhead (potentially Section 6[f])	ADF&G Fish Habitat, USACE NWP, USCG Bridge Permit	Two nearby SDWIS drinking water sources will require consideration and extra ADEC coordination. One Section 4(f) property is in the area and will require consideration: the Triple Lakes Trailhead. One AHRS site in the area will require additional Section 106 coordination. No anadromous fish streams, but potential for resident fish species in streams will require ADF&G coordination. AKEPIC invasive species nearby include 45 instances of white sweet clover ( <i>Melilotus albus</i> ), two instances of foxtail barley ( <i>Hordeum jubatum</i> ), 11 instances narrowleaf hawksbeard ( <i>Crepis tectorum</i> ), two instances of Siberian peashrub ( <i>Caragana arborescens</i> ), and seven instances of bird vetch ( <i>Vicia cracca</i> ). NWI wetlands in the area include riverine, freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds of conservation concern include BCC Rangewide: Rusty Blackbird ( <i>Euphagus carolinus</i> ). The Nenana River is a USCG Navigable River and will require USCG coordination for work on the bridge.
Parks Highway MP 231 Enhancements HSIP	n/a	n/a	n/a	n/a - Environmental Document completed	n/a - Environmental Document completed

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 231 McKinley Village Pedestrian Bridge	CE	24 months	Yes.	ADF&G Fish Habitat, USACE NWP, USCG Bridge Permit	Two nearby SDWIS drinking water sources will require consideration and extra ADEC coordination. One Section 4(f) property is in the area and will require consideration: the Triple Lakes Trailhead. Additional Section 4(f) coordination may be required depending on the pedestrian bridge location and property ownership. One AHRs site in the area will require additional Section 106 coordination. No anadromous fish streams, but potential for resident fish species in streams will require ADF&G coordination. AKEPIC invasive species nearby include 45 instances of white sweet clover ( <i>Melilotus albus</i> ), two instances of foxtail barley ( <i>Hordeum jubatum</i> ), eleven instances of narrowleaf hawksbeard ( <i>Crepis tectorum</i> ), two instances of Siberian peashrub ( <i>Caragana arborescens</i> ), and seven instances of Bird Vetch ( <i>Vicia cracca</i> ). NWI wetlands in the area include riverine, freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds of conservation concern include BCC Rangewide: Rusty Blackbird ( <i>Euphagus carolinus</i> ). The Nenana River is a USCG Navigable River and will require USCG coordination for work on the bridge.
Parks Highway MP 232 - 234 Resurfacing	CE	12 months	No	USACE NWP	AKEPIC database showed many invasive species at many locations in the area. NWI wetland types include freshwater emergent wetland, and freshwater forested/shrub wetland. There is no floodplain in the project area. No threatened or endangered species are in the area. Migratory birds of conservation concern include: Non-BCC Vulnerable Bald Eagle ( <i>Haliaeetus leucocephalus</i> ), Golden Eagle ( <i>Aquila chrysaetos</i> ) and BCC Rangewide Rusty Blackbird ( <i>Euphagus carolinus</i> ), Olive-Sided Flycatcher ( <i>Contopus cooperi</i> ), Lesser Yellowlegs ( <i>Tringa flavipes</i> ), American Golden-plover ( <i>Pluvialis dominica</i> ), and Whimbrel ( <i>Numenius phaeopus</i> ).
Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (alt 1)	Refer to Appendix F for additional information	Refer to Appendix F for additional information	Refer to Appendix F for additional information	Refer to Appendix F for additional information	Refer to Appendix F for additional information

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 238 - 239 Reconstruction (Stage 1)	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP	One SDWIS drinking water source will require coordination with the owner and ADEC. The Nenana River is a USCG Navigable waterway, but it does not appear the activities included in this project will affect that. AKEPIC listed many invasive species, which may require extra coordination; refer to the database for areas of each species. One ADEC contaminated site in the area with cleanup complete will require ADEC coordination. NWI wetland types include riverine and freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) and Golden Eagle ( <i>Aquila chrysaetos</i> ); BCC Rangewide includes Rusty Blackbird ( <i>Euphagus carolinus</i> ), Olive-Sided Flycatcher ( <i>Contopus cooperi</i> ), Lesser Yellowlegs ( <i>Tringa flavipes</i> ), American Golden-plover ( <i>Pluvialis dominica</i> ), and Whimbrel ( <i>Numenius phaeopus</i> ).
Parks Highway MP 238 - 239 Parking Areas (Stage 4)	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP	One SDWIS drinking water source will require coordination with the owner and ADEC. The Nenana River is a USCG Navigable waterway, but it does not appear the activities included in this project will affect that. AKEPIC listed many invasive species, which may require extra coordination; refer to the database for areas of each species. One ADEC contaminated site in the area with cleanup complete will require ADEC coordination. NWI wetland types include riverine and freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) and Golden Eagle ( <i>Aquila chrysaetos</i> ); BCC Rangewide includes Rusty Blackbird ( <i>Euphagus carolinus</i> ), Olive-Sided Flycatcher ( <i>Contopus cooperi</i> ), Lesser Yellowlegs ( <i>Tringa flavipes</i> ), American Golden-plover ( <i>Pluvialis dominica</i> ), and Whimbrel ( <i>Numenius phaeopus</i> ).

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 239 - 240 Nenana Canyon Rockfall Mitigation (Stage 2)	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP, USCG Bridge Permit	Nenana River is a USCG Navigable waterway; any work to the bridge near MP 243 will require USCG coordination. Five AHRS sites in the area will require extra Section 106 coordination. No anadromous fish streams, but potential for resident fish species will require coordination with ADF&G. AKEPIC listed too many invasive species to count and will require extra coordination and protection; refer to the database for areas of each species. NWI wetland types include riverine and freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) and Golden Eagle ( <i>Aquila chrysaetos</i> ).
Parks Highway MP 239 - 243 Nenana Canyon Reconstruction (Stage 3)	CE	18 Months	No	ADF&G Fish Habitat, USACE NWP	Nenana River is a USCG Navigable waterway; if this project proposes bridge work, this will need to be addressed with a USCG bridge permit. There are none of the following in this corridor segment: SDWIS drinking water sources, Section 4(f) resources, anadromous fish streams, threatened or endangered species, and contaminated sites. There are five AHRS sites that will require extra Section 106 coordination. AKEPIC invasive species are too many to count; refer to the database. NWI wetland types include riverine and freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds that are Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) and Golden Eagle ( <i>Aquila chrysaetos</i> ).
Antler Ridge Trail	n/a	n/a	n/a	n/a	n/a
Parks Highway MP 243 - 247 Reconstruction	CE	18 months	Yes. Section 4(f) involvement is potentially required (Bison Gulch and Antler Creek trails)	ADF&G Fish Habitat Permit, USACE NWP	Two SDWIS drinking water sources are nearby. Potential 4(f) involvement includes Bison Gulch and Antler Creek trails. Five AHRS sites in the area may require extra Section 106 coordination. NWI wetland types include freshwater forested/shrub wetland, and freshwater Pond. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds that are Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ) and Golden Eagle ( <i>Aquila chrysaetos</i> ).

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway MP 247 - 250 Healy Reconstruction and Pedestrian Improvements	CE	18 months	No	ADF&G Fish Habitat Permit, USACE NWP	Six SDWIS drinking water sources are in or nearby the ROW. One AHRS site may require extra Section 106 coordination. There are three contaminated sites in the ROW or nearby. NWI wetland types include riverine, and freshwater forested/shrub wetland. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds that are Non-BCC Vulnerable include the Bald Eagle ( <i>Haliaeetus leucocephalus</i> ).
Healy Spur Road Rehabilitation	PCE	6 months	no	n/a	n/a
Parks Highway MP 250 - 260 Reconstruction	CE	18 months	No	ADF&G Fish Habitat Permit, USACE NWP	There is one SDWIS drinking water source. Four AHRS sites may require extra Section 106 coordination. Panguingue Creek is an anadromous stream, which may require ADF&G coordination. There are no AKEPIC-identified invasive weeds in the ROW, though there are some nearby. NWI wetland types include freshwater forested/shrub wetland, riverine, and freshwater emergent wetlands. Unmapped floodplain will require consultation with DOT&PF hydrology section for Location Hydraulic Study. Migratory birds that are Non-BCC Vulnerable include Bald Eagle ( <i>Haliaeetus leucocephalus</i> ), and Golden Eagle ( <i>Aquila chrysaetos</i> ); migratory birds that are BCC Rangewide include: Rusty Blackbird ( <i>Euphagus carolinus</i> ), Olive-Sided Flycatcher ( <i>Contopus cooperi</i> ), Lesser Yellowlegs ( <i>Tringa flavipes</i> ), and Whimbrel ( <i>Numenius phaeopus</i> ).

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway Cantwell to Carlo Creek Separated Path	CE	24 months	Yes. Nenana River Boat Launch, Nenana River Access	ADF&G Fish Habitat Permit, USACE NWP, USCG Bridge Permit	Wetland impacts include freshwater emergent wetland, freshwater forested/shrub wetland, and riverine wetlands in this section and will require a NWP or General Permit depending on final path location. A USCG Bridge permit will be required for bridge work across Nenana River near MP 215.5. Nenana River Access and Nenana River Boat Launch will require Section 4(f) consideration. Depending on location of paths, SDWIS drinking water sources could be impacted near MP 224. There are no anadromous streams in this area, though an ADF&G fish habitat permit will still be required for resident fish species present. There are many AKEPIC identified invasive species in the project area; refer to the AKEPIC database for more information. Depending on the path location there may be no ADEC contaminated site impacts, but this will need to be evaluated when a path location is selected. There are AHRS sites in the area, but which are affected and to what extent will depend on final path location. Unmapped floodplains in the area will require consultation with DOT&PF hydrology section for a Location Hydraulics Study.
Parks Highway Carlo Creek to Crabbies Crossing Separated Path	CE	24 months	no	ADF&G Fish Habitat Permit, USACE NWP	Wetland impacts include freshwater emergent wetland, freshwater forested/shrub wetland, and riverine wetlands in this section and will require a NWP or General Permit depending on final path location. Depending on location of paths, SDWIS drinking water sources could be impacted near MP 224 and 229. There are no anadromous streams in this area, though an ADF&G fish habitat permit will still be required for resident fish species present. There are many AKEPIC identified invasive species in the project area, refer to the database for more information. Depending on the path location there may be no ADEC contaminated site impacts, but this will need to be evaluated when a path location is selected. There are AHRS sites in the area, impacts can be determined when a final path location is chosen. Unmapped floodplains in the area will require consultation with DOT&PF hydrology section for a Location Hydraulic Study.

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path	CE	24 months	Yes. Trails and Trailheads, DNP, Nenana River Wayside, Public Boat Launch	ADF&G Fish Habitat Permit, USACE NWP, USCG Bridge Permit	Wetland impacts include freshwater emergent wetland, freshwater forested/shrub wetland, and riverine wetlands in this section and will require a NWP or General Permit depending on final path location. A USCG Bridge permit will be required for bridge work across Nenana River near MP 231 and 238. Trails and trailheads, DNP, Nenana River wayside, and public boat launch will require Section 4(f) consideration. Depending on location of paths, SDWIS drinking water sources could be impacted near MP 231 and 238. There are no anadromous streams in this area, though an ADF&G fish habitat permit will still be required for resident fish species present. There are many AKEPIC identified invasive species in the project area; refer to the database for more information. Depending on the path location there may be no ADEC contaminated site impacts, but this will need to be evaluated when a path location is selected. There are AHRS sites in the area, but which are affected and to what extent will depend on final path location. Unmapped floodplains in the area will require consultation with DOT&PF hydrology section for a Location Hydraulics Study.
Parks Highway Denali Park Entrance to Healy Separated Path	CE	24 months	Yes. Trails and trailheads, Denali National Park, Nenana River wayside, Public boat launch, Bison Gulch, Antler Creek trails	ADF&G Fish Habitat Permit, USACE NWP, USCG Bridge Permit	Wetland impacts include freshwater emergent wetland, freshwater forested/shrub wetland, and riverine wetlands in this section and will require a NWP or General Permit depending on final path location. A USCG Bridge permit will be required for bridge work across Nenana River near MP 242.9. Trails and trailheads, DNP, Nenana River wayside, public boat launch, Bison Gulch, and Antler Creek trails will require Section 4(f) consideration. Depending on location of paths, SDWIS drinking water sources could be impacted near MP 239 and 245. There are no anadromous streams in this area, though an ADF&G fish habitat permit will still be required for resident fish species present. There are many AKEPIC identified invasive species in the project area; refer to the database for more information. Depending on the path location there may be no ADEC contaminated site impacts, but this will need to be evaluated when a path location is selected. There are AHRS sites in the area, but which are affected and to what extent will depend on final path location. Unmapped floodplains in the area will require consultation with DOT&PF hydrology section for a Location Hydraulics Study.

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Name	Anticipated Environmental Document	Environmental Document Prep Time	Section 4(F) Involvement	Anticipated Permits Required?	Preliminary Assumptions, Unknowns, and Other Environmental Impacts
Parks Highway Healy to Stampede Road Separated Path	CE	24 months	No	USACE NWP	The following resources have not been identified within this corridor segment: SDWIS drinking water sources, Section 4f properties, AHRS sites, anadromous streams (and likely no resident fish streams either), AKEPIC invasive species, and contaminated sites. NWI wetland types include freshwater emergent wetland and freshwater forested/shrub wetland and will likely require a NWP permit. It is unlikely that a Location Hydraulic Study will be necessary due to the lack of streams through this area.
Transit/ Active Transportation Initiative (Phase 1)	n/a	n/a	n/a	n/a	n/a

Note: Italicized projects represent those improvement projects that are already programmed and funded outside of this PEL study and have moved forward in project delivery in varying degrees.

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## 7. Funding Strategies



Future implementation of recommended solutions is based on securing funding. Besides those projects noted as already programmed and funded, no funding has been obtained for the recommended solutions in this PEL study. This section briefly describes potential sources that may be used to fund these recommended improvements. Refer also to Section 5.4 where the potential funding source(s) was identified for each recommended solution.

**Potential sponsors.** For each recommended solution identified in this PEL study, a potential lead sponsor(s) was identified. The identified potential sponsor for many of the recommended projects would likely be the DOT&PF. Other potential project sponsoring agencies to lead or partner alongside a lead sponsor could include the NPS, ARRC, DNR State Parks, Denali Borough, and the Native Village of Cantwell. For some of the proposed enhancement opportunities, a non-profit organization or community group could possibly sponsor a project.

**Potential funding sources.** Many of the identified potential funding sources are those the DOT&PF often uses to implement and administer its existing improvement program and projects since the DOT&PF would likely lead many of this PEL study's recommended projects. For DOT&PF to obtain certain federal funds, the project would need to be included in the DOT&PF's STIP. Common, relevant funding sources for the DOT&PF include the following:

- **NHPP:** National Highway Performance Program
- **STBG:** Surface Transportation Block Grant Program
- **HSIP:** Highway Safety Improvement Program
- **CMAQ:** Congestion Mitigation and Air Quality Program

The Fixing America's Surface Transportation (FAST) Act of 2015 authorized several hundreds of billions of dollars over a five-year period for surface transportation programs across the country. As of this writing, Congress has reauthorized a one-year extension to the FAST Act and is currently working to pass a new surface transportation bill or another extension. New potential funding opportunities might arise between the draft and final PEL study and will be updated in this section as appropriate. As of August 2021, the U.S. Senate passed the Infrastructure Investment and Jobs Act; notable provisions<sup>[10]</sup> for Alaska include the following:

- Authorizes approximately \$3.5 billion in highway funding for Alaska over five years to construct, rebuild, and maintain its roads and highways.
- Provides approximately \$225 million to address more than 140 bridges considered to be 'structurally deficient.'
- Allocates approximately \$362 million over five years for a mix of transit formula grants for Federal Transit Administration.
- Creates a new set-aside within the STBG for transportation projects in rural areas.

Other potential funding sources reflect programs focused on transportation (including rail projects) as well as facilitating access as it relates to recreation and conservation. These include:

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<sup>[10]</sup>United States Senator Lisa Murkowski. August 10, 21. Alaska to Receive Big Benefits from Infrastructure Package press release. <https://www.murkowski.senate.gov/press/release/alaska-to-receive-big-benefits-from-infrastructure-package>

- **ACT:** Alaska Community Transit grant program
- **Dingell-Johnson Sport Fish Restoration Act** (recreation and access grant program)
- **EDA:** U.S. Economic Development Administration grants from the American Rescue Plan Act
- **FLAP:** Federal Lands Access Program
- **FLTP:** Federal Lands Transportation Program
- **LWCF:** Land and Water Conservation Fund Act (grant program)
- **NSFLTP:** Nationally Significant Federal Lands and Tribal Projects Program
- **Pittman-Robertson Wildlife Restoration Act** (recreation and access grant program)
- **PM:** Preventive Maintenance Program
- **RAISE:** Rebuilding American Infrastructure with Sustainability and Equity Transportation Discretionary Grant Program
- **TA:** Transportation Alternatives Set-Aside Program
- **TTP:** Tribal Transportation Program
- **CRISI:** Consolidated Rail Infrastructure and Safety Improvements Program
- **SOGR:** Federal-State Partnership for State of Good Repair Grant Program
- **Other:** Congressional Earmarks and State General Obligation Bonds

A state or local match to the federal funding is often a requirement for many of these programs.

Competitive grant programs typically have a call for projects window that is open every couple of years for applicants to submit a grant application. Potential applicants should plan ahead and know the applicable call for projects grant application window and requirements.

To aid in future potential grant funding applications, the study team prepared a benefit-cost analysis (BCA) for the following two recommended solutions: Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1) and Parks Highway Crabbies Crossing to Denali Park Entrance Separated Path; see Appendix H and Appendix I, respectively.

## 7.1 National Highway Performance Program (NHPP)

The NHPP provides funding for routes on the NHS, which includes the Parks Highway. These routes are primarily state-owned and projects are selected for NHPP funding that place an emphasis on safety, pavement condition, bridge condition, traffic, and other unique benefits. Approximately half of the federal funding for the projects identified in DOT&PF's current STIP come from the NHPP.

The NHPP provides support for the condition and performance of the NHS, for the construction of new facilities on the NHS, and to ensure that investments of federal aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS (FHWA 2016a). The purpose of the NHS is to provide an interconnected system of principal arterial routes, which will serve major population centers, international border crossings, intermodal transportation facilities, and other major travel destinations; meet national defense requirements; and serve interstate and interregional travel.

## 7.2 Surface Transportation Block Grant (STBG) Program

The FAST Act converted the long-standing Surface Transportation Program (STP) into the STBG program. The STBG program promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs. While this funding source is flexible and may be used for a wide variety of transportation projects and activities, the funds are low

(DOT&PF 2021c). STBG funds can be used to preserve and improve the conditions and performance on any federal aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects (FHWA 2021f).

### **7.3 Highway Safety Improvement Program (HSIP)**

The HSIP aims to significantly reduce traffic fatalities and serious injuries on all public roads (FHWA 2017). HSIP funds must be used for safety projects that are consistent with the Alaska Strategic Highway Safety Plan. The HSIP consists of three main components: the strategic highway safety plan, the program of highway safety improvement projects, and the Railway-Highway Crossing program.

### **7.4 Congestion Mitigation and Air Quality (CMAQ) Program**

The CMAQ program provides a flexible funding source to help state and local governments meet Clean Air Act requirements (FHWA 2016b). CMAQ funds can be used for a variety of projects and programs that help improve air quality and reduce traffic congestion.

### **7.5 Alaska Community Transit (ACT) Grant Program**

The DOT&PF administers the Alaska Community Transit grant program and distributes funds annually from the Federal Transit Authority. Application information should include: purpose and need, community interest (e.g., support by businesses, community, senior center, etc.), area of coverage, potential operation time, and if low-income areas would be covered. The transit system should be focused on serving the community and residents' transit needs. The following DOT&PF ACT grant webpage provides details for potential applicants; <https://dot.alaska.gov/stwdplng/transit/index.shtml>.

### **7.6 Dingell-Johnson Sport Fish Restoration Act (recreation and access grant program)**

The Federal Aid in Sport Fish Restoration Act, commonly called the Dingell-Johnson Act (1950), created the Sport Fish Restoration and Boating Trust Fund which provides funding to state fish and wildlife agencies to support recreational fishing. Numerous amendments to this act have been passed, including the Wallop-Breaux amendment (1984) that funds projects to improve recreational power boating and sport fishing access.

The ADF&G Division of Sport Fish staff work with relevant stakeholders to provide grants for two types of projects: recreational boating and recreational angler access (non-boating) projects (ADF&G 2021). Recreational access needs are assessed by the local ADF&G staff, who submits a list of project ideas annually for consideration. Projects are ranked and then prioritized based on project validity, need, and funding availability.

The following ADF&G boating and angler access grant program webpage provides details for potential applicants: <https://www.adfg.alaska.gov/index.cfm?adfg=fishingSportBoatingAnglerAccess.main>.

### **7.7 U.S. Economic Development Administration (EDA) grants**

Through the American Rescue Plan Act (2021), the U.S. EDA, which is a bureau within the U.S. Department of Commerce, began allocating federal funds in 2021 to assist communities in their efforts to “build back better” by accelerating the economic recovery from the COVID-19 pandemic. There are a number of funding opportunities within the EDA’s “Investing in America’s Communities” programs. One of the programs is the Travel, Tourism & Outdoor Recreation program, which allocates funds to accelerate the recovery of communities that rely on the travel, tourism and outdoor recreation sectors.

Some but not all programs have grant funding application deadlines. The following EDA webpage provides details for potential applicants: <https://eda.gov/funding-opportunities/>.

## **7.8 Federal Lands Access Program (FLAP)**

The FLAP is administered by WFL Highway Division of the FHWA and provides funds to states and local sponsors for projects that provide access to, are adjacent to, or are located within federal lands. The access program supplements state and local resources for public roads, transit system, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators (FHWA 2021c).

A call for projects occurs every couple of years, with the most recent one occurring in early 2021. Two projects in the PEL study corridor were selected to receive FLAP funds through the 2021 call for projects application window; these include the Antler Ridge Trail project and the Denali Park Pedestrian Bridge and Trail Connector project.

A committee comprised of several representatives from FHWA and Alaska score and select the projects who will receive the FLAP grants. The Alaska FLAP webpage provides more details for potential applicants: <https://highways.dot.gov/federal-lands/programs-access/ak>.

## **7.9 Federal Lands Transportation Program (FLTP)**

The FLTP provides federal funding for transportation facilities owned and managed by federal land management agencies and independent federal agencies with land and natural resource management responsibilities. FLTP funding has specific eligibility requirements and can be used for a variety of transportation projects such as roadway, pedestrian and bicycle provisions, transit, and vehicular parking areas for adjacent federal lands. An application should address the following: system definition, state of good repair, bridge deficiency reduction, safety improvement, and resource and asset management goals (FHWA 2021d). The following FHWA webpage provides additional details: <https://highways.dot.gov/federal-lands/programs/transportation>.

## **7.10 Land and Water Conservation Fund (LWCF) Act grant program**

The LWCF Act (1965) is a federal grant program provides federal funds to assist states in developing outdoor recreation sites. The LWCF Act was made permanent by the John D. Dingell Jr. Conservation, Management and Recreation Act (2019) and was fully funded by the Great American Outdoors Act in 2020. LWCF investments are intended to secure public access, improve recreational opportunities, and preserve ecosystem benefits for local communities. The LWCF program aims to increase the net quantity of public, outdoor recreational space. Funding priorities include trail and facility upgrades or improvements (includes support facilities, restrooms, and campsites), improved access to recreation areas (parking, boat launches, trailheads, signage), and those that meet Americans with Disability Act accessibility standards.

The DNR Division of Parks and Outdoor Recreation administers the LWCF grant program at the state level and has a call for projects window bi-annually, depending on funding availability. As a requirement of the LWCF program, the DNR prepared a Statewide Comprehensive Outdoor Recreation Plan (SCORP), of which the most recent is for 2016-2021; chapter 6 of the SCORP identifies the project selection and application process for LWCF grant funding (DNR 2021). The following DNR LWCF grant program webpage provides details for potential applicants: <http://dnr.alaska.gov/parks/grants/lwcf.htm>.

### **7.11 Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program**

The NSFLTP program was established in the FAST Act and provides funding for the construction, reconstruction, and rehabilitation of nationally significant projects within, adjacent to, or accessing federal and tribal lands. This program provides an opportunity to address significant challenges across the nation for transportation facilities that serve federal and tribal lands (FHWA 2021a).

Program funds may only be used for construction, reconstruction, and rehabilitation and not for project design. This program has a call for projects window. The following FHWA NSFLTP webpage provides details for potential applicants: <https://highways.dot.gov/federal-lands/programs/significant>.

### **7.12 Pittman-Robertson Wildlife Restoration Act (recreation and access grant program)**

The Federal Aid in Wildlife Restoration Act, commonly called the Pittman-Robertson Act (1937), provides funds to state fish and federal agencies to restore, conserve, and enhance wildlife populations and their habitats. Funded projects are diverse and include providing public use and access to wildlife resources. Other projects may include building, improving, and repairing public use trails, roads, parking lots, campgrounds, boat launches, and bridges.

The ADF&G Division of Wildlife Conservation staff work with relevant stakeholders to identify access improvements. The ADF&G has an annual call for projects based on funding availability. The following ADF&G hunter access grant program webpage provides details for potential applicants: <https://www.adfg.alaska.gov/index.cfm?adfg=hunteraccess.main>.

### **7.13 Preventive Maintenance (PM) Program**

The PM Program is intended to preserve or extend the service life of an existing highway facility, that does not otherwise significantly alter the appearance, capacity, or function of the facility. Unlike the majority of DOT&PF's construction program, which is accomplished with federal aid funding, PM activities are performed directly by DOT&PF staff and is limited to ongoing maintenance and operations, and minor preventive maintenance activities. In order to receive federal aid funding for Alaska's construction program, the State of Alaska is required to have resources in place to maintain the investments throughout their design life. Additionally, the federal aid construction program is required to have processes and procedures in place to administer the program in accordance with applicable federal, state, and local laws and regulations, and to assure the materials and construction meet predetermined performance, quality, safety, and environmental standards.

### **7.14 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant Program**

The RAISE Transportation Discretionary Grant program provides grant funding for surface transportation infrastructure. The RAISE program is the latest program name, which replaced the programs formerly known as BUILD (Better Utilizing Investments to Leverage Development) and TIGER (Transportation Investment Generating Economic Recovery [TIGER]). These programs originated from the 2009 Recovery Act.

Eligible projects for RAISE grant funds include but are not limited to: highway, bridge or other road projects; public transportation projects; passenger and freight rail projects; port infrastructure investments; intermodal projects; transportation facilities on tribal land; and planning and

preconstruction activities for any of these aforementioned project types. This program has an annual application window. Applicants can submit applications for either planning or capital projects, but a benefit-cost analysis must be included if it is for a capital project. The following U.S. DOT webpage provides details for potential applicants: <https://www.transportation.gov/RAISEgrants>. This link provides steps on how to compete for the Fiscal Year 2021 program, though the application window is closed: [https://www.transportation.gov/sites/dot.gov/files/2021-04/How%2BTo%2BCompete%2Bfor%2BRAISE%2B2021\\_final%2B4.28.2021.pdf](https://www.transportation.gov/sites/dot.gov/files/2021-04/How%2BTo%2BCompete%2Bfor%2BRAISE%2B2021_final%2B4.28.2021.pdf).

### **7.15 Transportation Alternatives (TA) Set-Aside Program**

The TA Set-Aside program (formerly known as Transportation Alternatives Program [TAP]) provides federal funding for projects and activities defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to stormwater and habitat connectivity.

The DOT&PF issues a call for projects and applications are reviewed and scored with the final projects being selected by the DOT&PF statewide project evaluation board. The following DOT&PF Alaska Transportation Alternatives Program webpage provides details for potential applicants: <https://dot.alaska.gov/stwdplng/atap/index.shtml/>.

### **7.16 Tribal Transportation Program (TTP)**

The TTP, formerly known as the Indian Reservation Roads program, was established to provide safe and adequate transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities (FHWA 2021b). A prime objective of the TTP is to contribute to the economic development, self-determination, and employment of Indians and Native Americans. The TTP addresses transportation needs of federally recognized Tribes by providing funding for planning, design, construction, and maintenance activities. The TTP is jointly administered by the Bureau of Indian Affairs and the FHWA. TTP funds provided to Tribes can only be spent on eligible projects and activities identified in an FHWA-approved transportation improvement program.

### **7.17 Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program**

The Federal Railroad Administration (FRA), an administration within the U.S. DOT, administers the CRISI program, which may be a potential funding source for the recommended solution that includes realigning the ARRC tracks between MP 234 and 238. The CRISI program provides funding for projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail. The construction of the rail realignment project could be submitted as a grant application under CRISI once NEPA is completed for the overall recommended solution. The competitiveness of this approach would depend on the benefits that accrue solely to the rail movements. The CRISI program contains a rural set-aside which may increase the competitiveness of a grant application for this recommended solution. The percent non-Federal match (e.g., state, local, and/or private sector funding) for FRA-funded projects may be higher than the non-Federal match required for FHWA-funded projects. The following FRA CRISI program webpage provides details for potential applicants for this competitive discretionary grant program: <https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/consolidated-rail-infrastructure-and-safety-2>.

## **7.18 Federal-State Partnership for State of Good Repair (SOGR) Grant Program**

The FRA administers the Federal-State Partnership for SOGR grant program which provides funding for eligible capital projects to repair, replace or rehabilitate railroad assets. If the existing grade-separated (rail over highway) bridge near MP 236.7 is replaced in kind with improved clearances, the capital costs of its replacement could qualify as an individual project under the SOGR program; however, this is currently not a recommended solution included in the PEL. The following FRA SOGR program webpage provides details for potential applicants for this competitive discretionary grant program:

<https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/federal-state-partnership-state-good-repair-1#:~:text=Enhancement%20Grant%20Program-.Federal%2DState%20Partnership%20for%20State%20of%20Good%20Repair%20Grant%20Program,improve%20intercity%20passenger%20rail%20performance.>

## **7.19 Other: Congressional Earmarks and State General Obligation Bonds**

The State of Alaska has received Congressional earmarks historically for infrastructure projects. While members of the U.S. Congress have largely abandoned earmarking portions of the federal budget for specific projects, earmarks may be one tool that members of Congress could begin funding projects again.

The State of Alaska has the option to issue general obligation (G.O.) bonds for the purpose of paying the cost of state infrastructure. A G.O. bond would be subject to voter approval. In early 2021, a proposal to include \$13.2 million in the State budget for the Alaska Long Trail, which would be located between Seward and Fairbanks, went forward. That trail was first included in the Governor's proposed G.O. bond and then subsequently as a line item in the capital budget, before it was vetoed in July 2021 (State of Alaska 2021; Alaska Trails 2021).

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## 8. Next Steps



This PEL process and PEL study report provides a framework for the near-term and long-term implementation of improvements along this 56-mile section of the Parks Highway corridor. This PEL study does not provide the detailed analysis required to obtain approvals to begin design and construction of a recommended solution; several steps must be accomplished before any of the recommended solutions identified can be implemented. As these recommended solutions move forward in the project development process, and are programmed and funding is secured, NEPA and preliminary design activities can be initiated.

Depending upon the recommended solution, anticipated next steps for a recommended solution may include the following:

- Identify a lead sponsor, if unknown or uncertain
- If DOT&PF is the lead sponsor, nominate the project to be included in the STIP
- Secure project funding
- Continue to involve and engage the public and stakeholders
- Complete the NEPA process and preliminary design
- Complete final design
- Acquire ROW
- Obtain all needed permits
- Construct or implement the project

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## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix A Needs and Opportunities Assessment Report (October 2020)**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix B**

### **Project Data Sheets for Recommended Solutions**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials A: Public Involvement Plan (December 2019)**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **B: Public Meeting #1**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **C: Public Meeting #2**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **D: Agency Scoping Materials**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials E: Study Mailing List**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **F: PAC Meeting #1**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **G: PAC Meeting #2**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix C**

### **Public Involvement and Stakeholder Outreach Materials**

### **H: PAC Meeting #3**



## Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study

### Appendix D

### Level 1 and 2 Screening Results



## Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study

### Appendix E Level 3 Screening Results



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix F**

**Additional analysis for the following recommended solution: Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1)**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix G**

**Additional analysis for the following recommended solution: Transit/ Active Transportation Initiative**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix H**

## **Benefit Cost Analysis for: Parks Highway MP 234 - 238 Parks Hwy Reconstruction and Railroad Realignment (Alt 1)**



## **Cantwell to Healy – Parks Highway MP 203 - 259 PEL Study**

### **Appendix I**

### **Benefit Cost Analysis for: Crabbies Crossing to Park Entrance Separated Path**