

## Background

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### 1. Introduction

The purpose of this memo is to describe and present the West Susitna Access (WSA) Road Project (Project) background and history that supports the purpose and need, logical termini, and proposed action.

### 2. Who is proposing the Project?

The Alaska Department of Transportation and Public Facilities (DOT&PF) proposes to construct the Project as a new, rural public road to facilitate public access to State of Alaska and Matanuska Susitna Borough (MSB) lands in the Susitna basin. DOT&PF is advancing this Project consistent with state policy laid out in the constitution and statutes which encourages the development of public roads to assure greater utilization, development, and settlement of lands and improving the economic and general welfare of Alaskans.

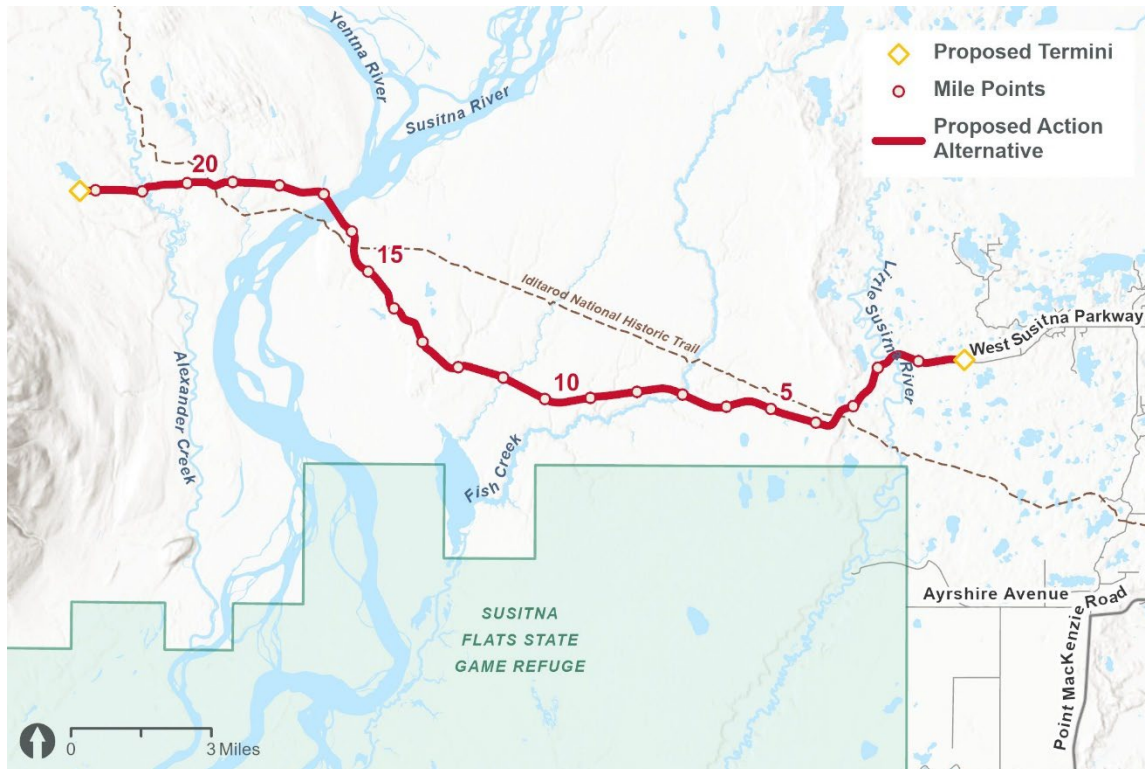
### 3. Where is the Project located?

The Project is in Southcentral Alaska, generally west of the Parks Highway, south of Denali National Park and Preserve, east of the Alaska Range, and north of Cook Inlet (including the Beluga/Tyonek area). Surface road access west of the Parks Highway to most of this area is minimal or non-existent, and most of the Study Area is not accessible from the existing road network. Currently, access within the Study Area

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occurs primarily via air, river, or by snowmachine or ice roads during the winter months. Other modes of travel include skiing, dogsled, and on foot.

Figure 1. West Susitna Project Area



## 4. Where did this Project come from?

Improving road access to this Study Area has been an idea studied for decades. In the last 10 years, the idea has advanced with engineering and environmental analysis moving the Project forward. In 2014, DOT&PF conducted the West Susitna Surface Access Reconnaissance Study (WSA Recon Study (DOT&PF 2014))<sup>1</sup>. The purpose of the WSA Recon Study was to evaluate and consider the need for surface access to recreation and resource development opportunities west of the Susitna River. To achieve that study's purpose, DOT&PF laid out the following objectives in the WSA Recon Study:

- Identify resource development opportunities west of the Susitna River
- Identify one or more potential crossings of the Susitna River
- Identify one or more potential transportation corridors to access identified resources

<sup>1</sup> The 2014 West Susitna Surface Access Reconnaissance Study is available here: [West Susitna Access Reconnaissance Study, Transportation Analysis Report with Appendix \(alaska.gov\)](http://alaska.gov)

The WSA Recon Study combined literature reviews and interviews from land managers and resource developers on natural resource opportunities, infrastructure needs, and historical access routes to the West Susitna drainage. The first part of the study consisted of inventorying natural resources and existing infrastructure in the area. Based on these factors, resource opportunities, environmental constraints, feasible Susitna River crossing locations, and potential road corridors were identified (DOT&PF 2014; HDR 2023).

## 5. Why is DOT&PF Proposing to Improve Access to this Study Area?

This section provides a brief overview of the types of resources on State lands that would benefit from improved road access provided by this Project.

### *Mineral Resources*

The Project Study Area and surrounding lands are known to contain mineral resources that have been explored to varying degrees for extensive time periods. There are active mining claims near the Project Study Area and placer gold was found in the Susitna basin in the early 1900s. Other commodities in the area include copper, silver, molybdenum, iron, platinum group elements (PGE), coal, and possibly diamonds. According to the Alaska Department of Natural Resources (DNR) Susitna Matanuska Area Plan (2011) (SMAP), the entire Mount Susitna region is open to coal exploration and development. The SMAP states:

Large areas of the region have low to moderate coal potential but only minimal locatable or leasable mineral potential. The entire area is open to coal exploration and development, under coal leasing standards, and to mineral leasing under mineral leasing standards.

### *Oil and Gas Resources*

Active oil and gas exploration continues to occur in northern Cook Inlet. According to DNR, recent drilling has proven new reserves in existing fields. Cook Inlet oil production peaked at 230,000 barrels-per-day (bpd) in 1970, dropping to about 10,800 bpd in fiscal year (FY) 2012. According to the SMAP, “there is potential for oil and gas development in the Mount Susitna region with most of the area being available for oil and gas leasing and all areas are available for oil and gas leasing, although certain stipulations are placed on such development within the state recreation river.” DNR’s Division of Geological & Geophysical Surveys (DGGS) has identified the Susitna basin as having the potential for significant gas reserves (DNR-DGGS 2024).

In the vicinity of the project area, multiple alternative energy resource projects have been studied. The proposed Little Mount Susitna Wind Project by Alaska Renewables (2024) is the most proximal alternative energy project to the subject project, located approximately 10 miles southwest of the western terminus of the road. The Little Mount Susitna Wind Project is not related to the subject Project; the proposed wind project plans indicate that 33–35 miles of new access roads would connect to existing industrial gas field roads to the south of the wind project location only. In addition, woody biomass on the Susitna River Corridor has also been identified as a potential alternative energy source (DOT&PF 2014).

### *Recreation Resources*

Recreation is a popular use of State lands in Alaska. Much of the land within proximity to the Project Study Area is State land, and much of that is managed for recreation. Large acreages of undeveloped lands contribute to vast recreational opportunities. The area is well endowed with recreational resources opportunities, from its low-lying areas consisting of fish-filled lakes and rivers to the foothills and mountains of the Alaska Mountain Range. The area is bounded by federally managed recreational lands to the north and southwest: Denali National Park and Preserve and Lake Clark National Park and Preserve, respectively.

A sampling of recreational resource opportunities and experiences in the area includes:

- Remote, backcountry recreation
- State-designated recreational areas and rivers
- Private lands and remote cabins
- Consumptive uses, such as sportfishing, hunting, and firewood harvesting
- Wildlife viewing
- Winter recreation
- Tourism, such as lodges and sportfishing

The SMAP identifies areas (Unit M-12) that encompass Mount Susitna, Little Mount Susitna, and Beluga Mountain that are managed for recreation purposes near the western terminus of the Project. The SMAP explains that there is comparatively little use of this region by the public, again reflecting its remoteness and difficulty of access. Recreational/seasonal settlement has taken place around several of the lakes and streams as a result of past state land disposals. The closest boundary of Unit M-12 is Mount Susitna which is approximately 3 miles to the southwest. The Matanuska Susitna Borough (MSB) 2001 Parks, Recreation & Open Space Plan identifies the Susitna River Recreational Corridor and the Lower Susitna – Yenta public use area as key recreational corridors and open spaces in the MSB (MSB 2001).

The State of Alaska owns nearly 2 million acres of identified timberlands in the Matanuska-Susitna valley, some of which are located within proximity of the Project Study Area. The SMAP which covers a portion of the Project Study Area, addresses forest resources in the Susitna Matanuska area in the Mount Susitna region as follows:

Extensive forestry resources occur throughout the region (approximately 219,000 acres). Generally, these areas occur in the central lowlands and are characterized by deciduous forest, evergreen forest, or mixed forest, depending on soils and hydrology. These lands are primarily situated west of Alexander Creek and south of the Skwentna River in areas of better drained soils in the central lowlands. Although these resources are not expected to be harvested for large scale commercial purposes during the planning period owing to the lack of road/bridge access, some limited areas may be harvested using winter roads. The extent and distribution of this resource is such that it warrants designation as Forestry and, possibly, protection and management through the creation of a state forest.

The SMAP identifies units M-07 and U-24 as managed for forestry; both of these units are approximately 13 miles north of the proposed Project road's western terminus. Along the Project's route east of the Susitna River, the SMAP identifies several management units which include forestry as either a primary or secondary management designation. Also, the DNR's 2008 Southeast Susitna Area Plan (SSAP) identifies unit S-03 as primarily managed for forestry, which occurs along the road alignment.

The SSAP indicates that moderate agriculture resources exist within the region but that development is likely to be limited during the planning period owing to the relatively scattered distribution of the tracts, their remote location, and the lack of road accessibility.

## 6. What alternatives have been studied and how was the proposed action identified?

To identify the proposed action, DOT&PF employed a two-step alternative identification and screening process; first evaluating broad corridors in the Sustina region in the 2014 WSA Recon Study to identify a preferred corridor, and second, refining and evaluating different alternatives for routing at the project's east end to connect to that corridor.

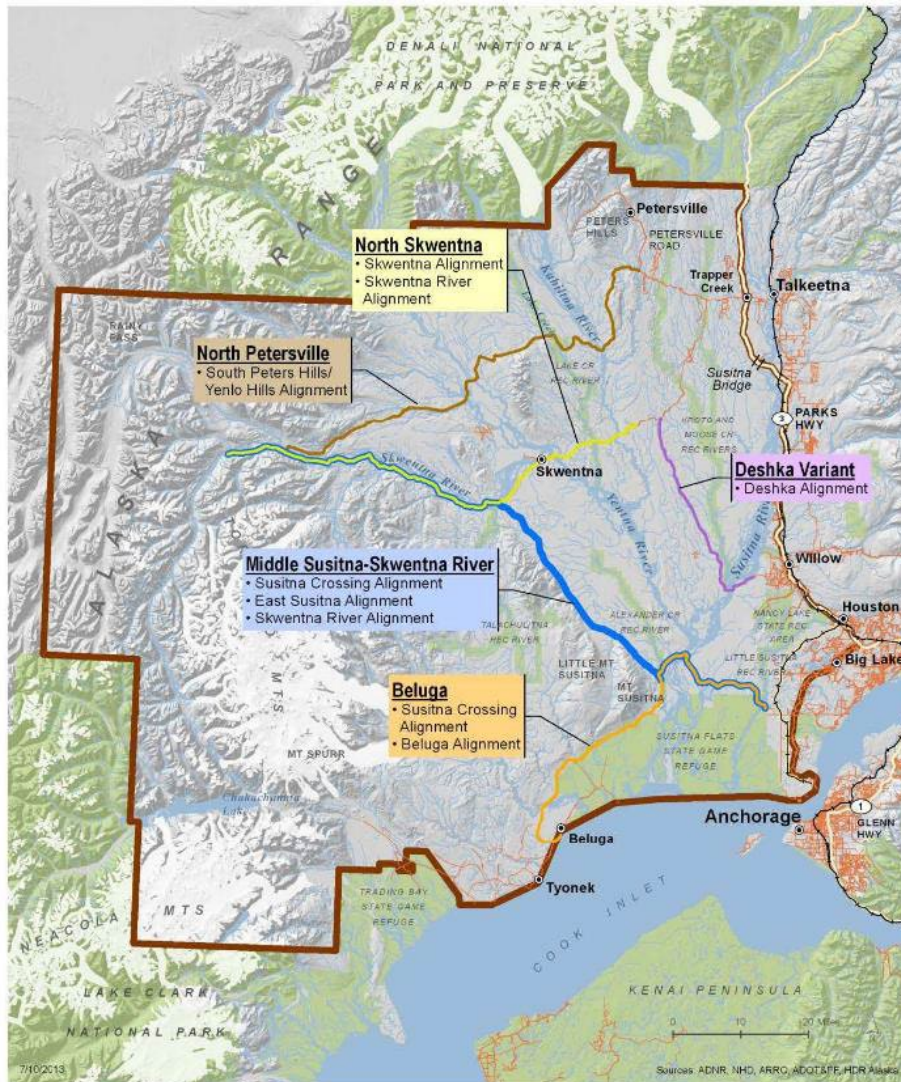
**2014 Corridor Analysis.** The corridor for the current project was determined based on DOT&PF's 2014 WSA Recon Study. In the 2014 work, DOT&PF identified

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environmental opportunities and constraints for the location of potential access roads in a broad area of the Susitna Basin. The constraints identification helped to determine where placement of a road should be avoided from an engineering or permitting perspective. Constraints included factors such as topography, rivers, wetlands, and other features such as non-state lands (e.g., private lands). Broad corridors were identified based on the location of natural resources, constraints, and opportunities. The WSA Recon Study evaluated the following corridor alternatives. See Figure 2 for the location of the evaluated corridors and the 2014 study for details.

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Figure 2. DOT&PF 2014 Evaluated Corridors



**Proposed Access Routes**

*West Susitna Access to Resource Development*



Table 1, is repeated from the original 2014 analysis and summarizes the finding for the original screening.

*Table 1. Corridor Routes Summary*

	North Petersville Road	North Skwentna	Middle Susitna-Skwentna River	Beluga	Deshka Variant
General origin	Petersville Rd	Oil Well Rd	Little Su River Rd	Little Su River Rd	Willow area
General destination	Upper Skwentna mineralized area	Upper Skwentna mineralized area	Upper Skwentna mineralized area	Beluga/ Tyonek	Oil Well Rd
Amount of resources accessed					
Hardrock minerals	Medium	High	Highest	Lowest	Low
Placer gold mining	Medium	High	Highest	Lowest	Lowest
Coal	Medium	Medium	High	Highest	Lowest
Oil and gas	Lowest	Medium	Medium	High	Highest
Forestry/timber	Low	High	Highest	Low	Medium
Agriculture	Lowest	Lowest	Medium	Lowest	Highest
Recreation	Low	Lowest	Medium	Highest	Low
Length (miles)	78.8	71.6	107.9	63.8	33.5
New Bridges (#)					
Conventional <sup>1</sup>	9	12	20	11	1
Long Span <sup>2</sup>	4	6	4	2	2
Total	13	18	24	13	3
New bridge crossings greater than 1,000 feet	1,150 (Yentna)	1,200 (Yentna) 1,200 (Hayes)	1,200 (Hayes) 1,640 (Susitna)	1,640 (Susitna)	1,200 (Susitna)
New Culverts (#)					
Large <sup>3</sup>	12	12	14	6	2
Small <sup>4</sup>	37	26	40	12	11
Minor Drainage <sup>5</sup>	316	292	440	260	136
Cost Estimate (millions)					
Subtotal <sup>6</sup>	\$147.6	\$188.3	\$187.4	\$106.9	\$72.2
Total <sup>7</sup>	\$376.4	\$504.3	\$453.2	\$257.8	\$216.9
Total per mile <sup>8</sup>	\$4.6	\$6.3	\$4.2	\$4.0	\$5.2

<sup>1</sup> A *Goeller scorecard* is a commonly used method of comparatively displaying pros and cons. The Goeller scorecard was used in this reconnaissance study to display the impacts of the reconnaissance-level proposed access routes. This method displays the impacts of each option, which is expressed in its 'natural' units. In this study, examples of natural units are feet, miles, number of creek crossings, acreages, and monetary value. In the tables, each row represents one impact and each column represents an access route option. Colored shading is used to comparatively indicate the more or less favorable metrics. The color shading was intended to make it easier for a decision-maker or reader to identify patterns or to come to conclusions. In some cases, values were relatively similar so there may be more than one option shaded the same color within the same row. No behind-the-scenes normalization or ranking was applied.

Green = Proposed access route(s) with the fewest number of roadway miles, bridges, culverts, and/or costs. Also, indicates highest amount of resources made accessible.



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Red = Proposed access route(s) with the greatest number of roadway miles, bridges, culverts, and/or costs. Also, indicates least amount of resources made accessible.

Assumptions:

<sup>1</sup> Conventional bridges are considered less than 300 feet in length.

<sup>2</sup> Long span bridges are 300 feet or longer.

<sup>3</sup> A culvert approximately 96 feet or longer.

<sup>4</sup> Small culverts and minor drainage culverts have an assumed length of approximately 50 feet.

<sup>5</sup> An additional four culverts per mile to accommodate minor drainage patterns.

<sup>6</sup> Subtotal cost estimate for new proposed access roadways includes clearing, earthwork, structures, stream and river crossings (including culverts), guardrail and retaining walls, and miscellaneous items such as topsoil, seeding, geotextile and signing.

<sup>7</sup> Total cost estimate includes drainage measures, erosion and pollution, surveying, environmental studies and permits, existing road upgrades, construction, mobilization, right-of-way (ROW) acquisition, contingency, design, and utilities.

<sup>8</sup> Total per mile includes only the proposed access routes and does not include existing roadways or cost to upgrade them.

Based on the analysis from the WSA Recon Study, the Middle Susitna-Skwentna River Corridor provided the greatest opportunities with the lowest technical constraints, summarized as follows:

- Highest for access to hardrock minerals
- Highest for access to placer gold mining
- High access to coal
- Highest access to forestry/timber resources
- Highest opportunity for access to State lands with low impact to private lands
- Good geological conditions
- Technically feasible
- Among the lowest costs per mile

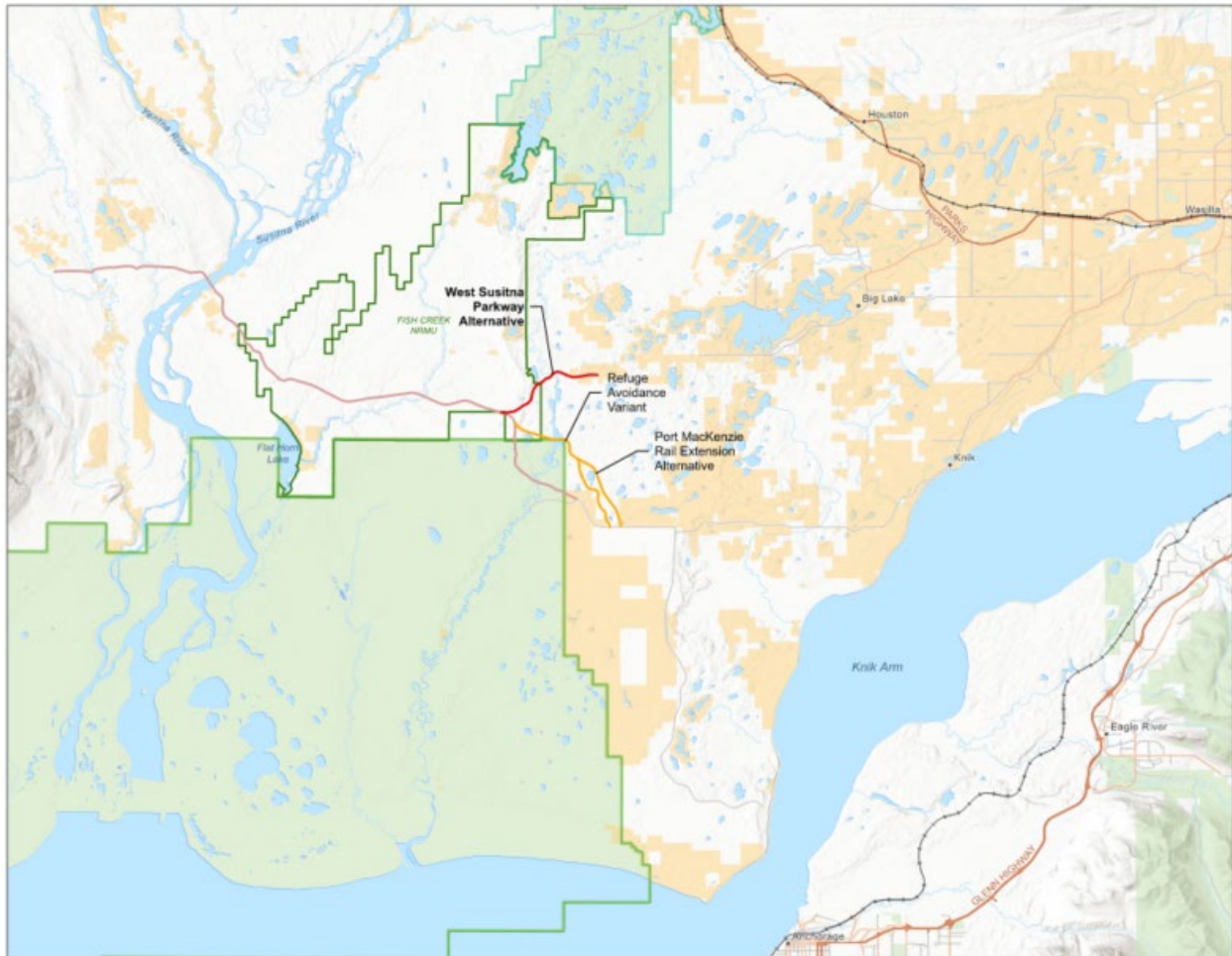
One critical route determining factor was the technical feasibility of crossing the Susitna River. There are very few locations where the Susitna River can be reasonably crossed, based on a number of factors including river stability, required crossing length, and approach topography. Importantly, this route utilizes the only technically feasible crossing area of the Susitna River. The recommended crossing location is in the vicinity of Susitna Landing, which is located on a straight reach of river with one of the few bedrock controls on the entire lower river; the riverbanks are stable; and the water velocity is low due to the low gradient of the river.

DOT&PF's proposed action would build approximately 23 miles of road, generally following the corridor Middle Susitna-Skwentna River recommended in the 2014 WSA Recon Study.

**East End Connection Alternatives.** To identify the proposed action, the Project team collected and reviewed previous work completed by DOT&PF and other agencies to evaluate connections at the east end of the corridor. The Project team evaluated the previous work, provided a description of each previously studied alignment along with

the pros and cons of those alignments (See Table 2). Figure 3 depicts the range of east end connection alternatives studied.

*Figure 3. East End Connection Alternatives*



The matrix below summarizes the screening criteria used to assess the least environmentally damaging practicable alternative (LEDPA) and therefore the proposed action. Practicability of alternatives considers schedule as a critical factor, hence including references to private property, etc.

Table 2. East End Connection Alternatives Screening Matrix

	<b>Point MacKenzie Route</b>	<b>Point MacKenzie Rail Alternative</b>	<b>Refuge Avoidance Alternative</b>	<b>West Susitna Parkway Alternative</b>
<b>Section 4(f)</b>	Crosses northeast corner of Susitna Flats State Game Refuge	Avoids Susitna Flats State Game Refuge	Avoids Susitna Flats State Game Refuge	Avoids Susitna Flats State Game Refuge
<b>Private Property</b>	Crosses Private Property	Crosses Private Property	Crosses Private Property	Avoids Private Property
<b>Route Length</b>	22.7 miles	24.4 miles	24.4 miles	22.4 miles
<b>Technical Feasibility of Bridge Crossings</b>	Utilizes best crossing area of Susitna River	Utilizes best crossing area of Susitna River	Utilizes best crossing area of Susitna River	Utilizes best crossing area of Susitna River
<b>Minimizes River &amp; Creek Crossings</b>	4 bridges (estimated)	4 bridges (estimated)	4 bridges (estimated)	4 bridges (estimated)
<b>Accesses 6 million acres of state lands</b>	Yes	Yes	Yes	Yes
<b>Access to Population Centers</b>	Yes, under 25 miles	Yes, under 25 miles	Yes, under 25 miles	Yes, under 25 miles
<b>Federal repayment Issues</b>	No	Using the rail embankment likely requires repayment of federal funds and/or a functional replacement, as it would preclude future rail use.	No	No
<b>Leverage Existing Right-of-Way</b>	Yes (for majority)	Not on eastern end	Not on eastern end	Yes (on east end)

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The West Susitna Parkway Alternative would avoid both the Susitna Flats State Game Refuge and privately owned property. Because it is the shortest alternative, its costs are anticipated to be lower. The banks of the Little Susitna River at the proposed crossing location were specifically chosen as they provide an appropriate location for a bridge crossing.

The proposed action provides unique recreational opportunities as it would grant new access to the region. As the West Susitna Parkway Alternative is north of the other DOT&PF alternatives, it provides a more upstream entry point to Little Susitna River. This allows recreational users who float the Little Susitna River access to state-owned public facilities within the Little Susitna River Management Unit that otherwise may be difficult to access. This will also allow for easier access to fishing opportunities along the Little Susitna River. On the east side, the proposed action will cross two surface easements (ADL 57588 and 222930), one RS2477 Trail (RST 118 Knik Susitna Trail) both intended to serialize the same route as the Iditarod National Historic Trail, and will have one crossing over it, for a total of three.

## 7. References

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