
1.0 Introduction

1.1 Project Overview and Objectives

The Matanuska-Susitna Borough (MSB) and the Alaska Railroad Corporation (ARRC) jointly propose to connect Port MacKenzie to ARRC's rail system by constructing and operating a new rail line. The new rail line will be 30 to 45 miles long, depending on the route selected, extending from Port MacKenzie to the ARRC's existing main line between Willow and Wasilla.

Port MacKenzie is a deep-water port on the north side on Knik Arm. It lies about 30 miles southwest of Wasilla and 5 miles north of Anchorage across Knik Arm. Capable of serving large ships (such as Cape Class and Panamax vessels), the deep draft dock is enhanced by the port's 8,940 upland acres and 1,300 tideland acres. These resources make Port MacKenzie an excellent facility for bulk storage, transport and processing facilities.

Previous studies have noted that good surface transportation access is necessary for Port MacKenzie to continue to grow and develop as a strong economic driver in the Matanuska-Susitna Borough. Currently, the port is only connected to the transportation network via roadways. A rail transportation link would enable the port to provide more services to customers, and also support natural resource development in Interior Alaska.

Since the 1970s, a rail line serving Port MacKenzie has been considered. In 2003, the MSB completed a study of rail corridor alternatives that would connect Port MacKenzie to the Alaska Railroad. However, constructing 30 to 45 miles of new rail line has the potential to result in substantial impacts to the environment. These impacts will be evaluated as required to comply with the National Environmental Policy Act (NEPA).¹ The lead federal agency for the NEPA process will be the Surface Transportation Board (STB).

This *Alternatives Analysis Study* will:

- Update the findings of the previous 2003 rail corridor study;
- Provide the basis for the MSB and ARRC to submit an application to the STB for the rail line extension towards the end of 2007; and
- Support the required NEPA processes that STB will conduct subsequently. This work includes identifying and analyzing reasonable alignment alternatives, completing preliminary engineering design on alternatives selected for review in the EIS, and estimating anticipated construction costs.

It is anticipated that in 2009, the NEPA process will be completed, a decision whether to proceed with the project issued, and project design completed. Construction would extend from 2009 to 2011, and the rail extension would be operational in 2011 or 2012.

Purpose & Need

The purpose of the Port MacKenzie rail extension project is to establish a rail link between Port MacKenzie and the Alaska Railroad, providing Port MacKenzie customers and shippers efficient rail transportation between the Port and Interior Alaska. The rail line would travel north from the port facility and connect with the existing Alaska Railroad corridor between Wasilla and an area north of Willow.

¹ Because this project will likely be constructed with federal funds, it is assumed that NEPA will need to be followed.

The proposed rail link is consistent with ARRC's enabling statute, to foster and promote long-term economic growth and development of the state's land and natural resources. It draws upon over 30-years of planning documents and studies relating to port development and access. The project would expand and complement the regional transportation network, and represents a milestone in the development of the port.

Specifically, the project would:

- Support Port MacKenzie's development as a bulk material resources export and import facility, and as a multi-modal facility.
- Provide transportation via rail for the development of minerals and other natural resources.
- Provide an alternative for transporting materials and equipment for large construction projects.

The project size and significance to transportation in the area are expected to have additional positive effects both locally and regionally. Some of these secondary project benefits include:

- Positive impact on the economics associated with development of strategic mineral resources, leading to industrial expansion and diversification of the state's economy.
- Increase in employment and support for the tax base for communities benefiting from newly stimulated natural resource development and rail freight activity.
- An opportunity for future development of rail passenger service to the western Matanuska-Susitna Borough.

1.2 Project Description

To be prepared by TNH-Hanson

1.3 Project Setting

The setting wherein the MSB and ARRC propose to construct and operate approximately 30 to 45 miles of new rail line is within the Susitna River valley between the Susitna River, Cook Inlet, Knik Arm, and the existing Alaska Railroad main line (See Figure 1).

The dominant climate for all of Southcentral Alaska, including the project setting, is classified as "maritime." Summers and winters are milder than what is normally seen in continental climates of similar latitude, with average temperatures ranging from 64.8°F in July to 19.2°F in January. In addition to relatively mild temperatures, the maritime climate of Alaska is characterized by heightened precipitation and persistent winds.

The area is generally composed of upland boreal forest—characterized by mixed stands of paper birch and white spruce, with occasional balsam poplar, quaking aspen, willow, and alder—and numerous lakes, ponds, and wetlands associated with glacial tills and outwash deposits. The interior lowlands are mostly bog and fen wetlands, consisting of sedge and sphagnum mat with ericaceous shrubs and occasional stands of black spruce. The lowlands are fed by multiple drainages that originate in the surrounding mountains, several of which are large, glacially fed, braided rivers with heavy sediment loads that drain into the Susitna River and Knik Arm, which feed into Cook Inlet.

The majority of streams in the area are anadromous including the Little Susitna River, Cottonwood Creek, Fish Creek, Goose Creek, Wasilla Creek, and Willow Creek. There are about thirty streams and creeks that are designated as Essential Fish Habitat in the project setting.

Freshwater bird species, terrestrial bird species, and upland bird species inhabit the area. This area of the Mat-Su provides habitat for numerous mammal species, including large and small game, furbearers, and various nongame species. The main big game species found in the area include black bear, brown bear, and moose.

The Castle Mountain fault is one of several major east-northeast-striking faults in southern Alaska, and the Western Susitna lowlands portion of the Castle Mountain fault runs through the middle of the project area. It is an active fault that presents an earthquake hazard. Two earthquakes are known to have occurred along the fault in areas where there is no surface expression.

Land use in the area is a mix of public recreation uses and wildlife habitat on State lands, residential uses, industrial uses, commercial enterprises, aviation uses, forestry, agriculture, and mineral resource development. In general, the amount of public land greatly exceeds the amount of privately owned land. Land is owned by private interests, MSB, City of Houston, City of Palmer, City of Wasilla, State of Alaska, Native Corporations, Public University, and the Trust (formerly known as the Alaska Mental Health Land Trust). Residential, urban, and commercial areas are concentrated near the Parks Highway and along the ARRC Main Line in the northern portion of the project area. Currently, the Department of Corrections (DOC) owns and operates a rehabilitation facility in the area—the Pt. MacKenzie Correctional Farm. DOC and MSB also have plans to construct and operate a large \$300 million medium-security prison at a site north of the Port MacKenzie District. This prison project is planned to be operational by 2010.

The Point MacKenzie agricultural development is also located in the area. This is a group of privately-owned agricultural lands that were sold with agricultural covenants. Owners are required to submit conservation plans for each parcel to the Department of Agriculture to ensure that the agricultural resources in the area are preserved.

Recreation is one of the area's major land uses. The project area includes state parks and refuges, such as the Nancy Lake State Recreation Area, Susitna Flats State Game Refuge, Willow Creek State Recreation Area, Little Susitna State Recreation Area, and Goose Bay State Game Refuge. Also, the Iditarod National Historic Trail runs through the project area, managed by the Bureau of Land Management. Many dog mushing trails occur throughout the project area, used by recreational and professional mushers. These include trail systems operated by the Aurora Dog Mushers Club and Montana Creek Dog Mushers Club.

Land in the area is also commonly used for sport hunting and fishing and traditional hunting, fishing, and gathering. Wildlife habitat and water features are extensive in the Mat-Su region, and this area is the focus of high recreational use for Mat-Su and Anchorage residents and tourists. Privately-owned recreational cabins and properties are located along many of the lakes that are scattered throughout the entire project area including Big Lake, Red Shirt Lake, Delyndia Lake, Flat Horn Lake, Cow Lake, Horseshoe Lake, Pappoose Twins Lakes, and Beaver Lakes.

1.4 Background Information

To be prepared by TNH-Hanson

1.5 Report Objectives and Contents

According to NEPA, the STB must examine the environmental impacts of any action subject to their jurisdiction. 49 CFR 1105.7 *Environmental Reports* requires that an applicant to the STB for an action must submit an Environmental Report on the proposed action prior to or concurrent with their application. The Environmental Report must contain the following:

- (1) **Proposed action and alternatives.** Describe the proposed action and any reasonable alternatives to the proposed action. Include a readable detailed map and drawings clearly delineating the project.
- (2) **Transportation system.** Describe the effects of the proposed action on regional or local transportation systems and patterns. Estimate the amount of traffic that will be diverted.
- (3) **Land use.** Describe the proposed action's consistency or inconsistency with local and regional plans including agricultural land and coastal zones.
- (4) **Energy.** Describe the effect of the proposed action on energy resources. Consider recyclable commodities, overall energy efficiencies, and change in energy consumption.
- (5) **Air.** Determine if the proposed action will result in an increase in rail traffic, rail yard activity, or truck traffic, and quantify the anticipated effect on air emissions, and whether these increases are within the parameters of the State Implementation Plan. Describe any ozone depleting materials that may be transported, safety practices, the applicant's safety record, and contingency plans.
- (6) **Noise.** If any thresholds for air quality are surpassed, state whether the proposed action will cause an increase in noise levels. If the increase is beyond noise thresholds, identify noise receptors in the project area and quantify their noise increases.
- (7) **Safety.** Describe effects on public health and safety. If hazardous material may be transported, identify them, safety practices, the applicant's safety record, and contingency plans. Identify the location of any known hazardous waste sites or spill sites and their contents.
- (8) **Biological Resources.** State effects of the proposed action on endangered and threatened species or critical habitat. List any effects on wildlife sanctuaries and refuges, National or State parks and forests.
- (9) **Water.** Determine whether action is consistent with Federal, State, and local water quality standards, whether section 402 or 404 Clean Water Act permits are required, and whether action will affect any designated wetlands or 100-year flood plains.
- (10) **Proposed Mitigation:** Describe actions that are proposed to mitigate adverse environmental impacts.
- (11) **Additional required information specific to rail constructions includes:**
 - a. Describe proposed routes in plan view by State, country, and subdivision, showing relationship to existing transportation network.

- b. Describe alternative routes considered and why they were not selected.
- c. Describe construction plans and their effect on the human environment, labor force requirements, location of borrow pits, and earthwork estimates.
- d. Describe the rail operations to be conducted on the line including freight estimates, daily number of train movements, number of cars per train, types of cars, motive power requirements, proposed speeds, labor force, and proposed maintenance-of-way.
- e. If energy, noise, or air impact thresholds are met, describe the effects of new and diverted traffic.
- f. Describe effects of essential public services, public roads, and adjoining properties. Discuss societal impacts including employment changes during and after construction.
- g. Additional information specifically requested by the STB.

This *Alternatives Analysis Study* is structured to cover these required topics as follows. Section 1.0 of this report provides project background and overview. Section 2.0 explains how the study area was identified. Section 3.0 details the engineering and environmental constraints and methodology that were used to analyze alternatives. Section 4.0 analyzes corridors according to engineering constraints. Section 5.0 analyzes corridors according to environmental constraints. Section 6.0 identifies the reasonable alternatives and explains why alternatives were eliminated or accepted as reasonable. Section 7.0 presents and describes MSB and ARRC's proposed alternative.