
Parks Highway Visioning Document

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**Alaska Department of Transportation
and Public Facilities**

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Parks Highway Visioning Document

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This plan outlines the vision for the Parks Highway Corridor, a 327 mile long corridor connecting Alaska's two major urban areas: the Fairbanks region with the Anchorage and Mat-Su region. The Parks Highway is of vital economic importance to the State of Alaska, connecting valuable natural resource development areas of the North Slope and the interior regions with supporting industries and markets. The Parks Highway Visioning Document (PHVD) details both the need for and design concepts for the evolution of the Parks Highway into a freeway-style controlled access facility. The design concepts shown herein are meant to be illustrative only, and are examples of the types of transportation improvements that would be necessary to achieve this vision. Some of the design issues included in this document are interim improvements since it is acknowledged that the ultimate vision for the Parks Highway as a fully access controlled freeway may be many decades away before the vision can be implemented along the entire length of the facility.

Additional planning and much detailed environmental and design work will be necessary to decide how best to achieve this vision. Significant support at the local municipal level in the form of additional planning and land use guidance will be needed to successfully implement this vision in the decades ahead. This document will provide guidance to communities, local governments, developers and project managers about the Department's long term management of the Parks Highway corridor.

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The Parks Highway Visioning Document (PHVD) becomes a component of Statewide Plan.

This PHVD draws its authority from Alaska Statute 44.42.050 and is a component of the Alaska Statewide Transportation Plan as defined in CFR 450-214. In accordance with 17 AAC 05.150, I am proud to hereby approve and adopt the Parks Highway Visioning Document as a component of the Alaska Statewide Transportation Plan.

Adopted:


Mike Barton, Commissioner

Date:

5/3/16

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Because of the size of the document, the appendixes are not included. They are available at the Alaska Department of Transportation and Public Facilities in Anchorage (see Dave Post) and Fairbanks (see Jerry Rafson). They are also available at CH2M HILL's office at 301 West Northern Lights Blvd., Suite 600, in Anchorage (see Linda Cyra-Korsgaard).

- A Interview Results
- B Regional Meetings
- C Written Comments
- D Parks Highway Nenana Canyon/Denali Access Safety Project
- E Denali Borough Nenana Canyon Safety Project, Ad Hoc Committee Final Report

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Acronyms

AADT average annual daily traffic

AASHTO American Association of State Highway and Transportation Officials

ACMP Alaska Coastal Management Program

ADEC Alaska Department of Environmental Conservation

ADFG Alaska Department of Fish and Game

ADOT&PF Alaska Department of Transportation and Public Facilities

ADT average daily traffic

AFB Air Force base

ANG Air National Guard

ANWR Alaska National Wildlife Refuge

ARRC Alaska Railroad Corporation

ATV all-terrain vehicle

BLM U.S. Bureau of Land Management

CAG Corridor Advisory Group

CE categorical exclusion

CIRI Cook Inlet Region Incorporated

COE U.S. Army Corps of Engineers

CZMA Coastal Zone Management Act

EA environmental assessment

EIS environmental impact statement

EPA U.S. Environmental Protection Agency

FHWA Federal Highway Administration

FONSI Finding of No Significant Impact

GIS geographic information system

ISR Institute of Social and Economic Research

LUSTs leaking underground storage tanks

MADT monthly average daily traffic

MP milepost

MPH miles per hour

NEPA National Environmental Policy Act

PTR permanent traffic recorder

ROD Record of Decision

RV recreational vehicle

SHPO state historic preservation office

STIP State Transportation Improvement Project

VPD vehicles per day

Executive Summary

Purpose of the Parks Highway Visioning Document

The Alaska Department of Transportation and Public Facilities (Department) is responsible for the planning, design, construction, operation, and maintenance of Alaska's primary highway systems. The Parks Highway is one of the most important primary highways on the Alaska road system. Rapid economic expansion and population growth within the Parks Highway corridor present challenges to the Department's ability to preserve the highway's primary function as an interstate-level arterial while still supporting the safe and efficient flow of localized traffic at key nodes. Community development and traffic growth has, at times, outpaced the department's ability to plan for and accommodate such growth and hindered the ability to better coordinate community development and transportation system expansions.

As an initial step toward meeting this challenge, the Department initiated the *Parks Highway Visioning Document* as a specific thrust of its ongoing highway planning activities. This document describes, in general terms, the Department's future vision of the highway and provides appropriate examples of that vision. This vision will provide guidance to the Department's decisions about forthcoming highway projects and is intended to serve as the conceptual basis for more detailed local and Department planning efforts in the future.

Vision

The Parks Highway is a vital transportation link connecting numerous communities from south central Alaska to the northern interior regions of the state. This link is important for community connection, commerce, recreation, and tourism. A high degree of mobility for through trips while accommodating local access and slower travelers should be provided in a manner that is highly compatible with the communities and the environment along the corridor. The highway should be free-flowing with enough capacity and appropriate design standards to safely support travel at highway speeds. The long-term vision is for the highway to be upgraded to include freeway-style design characteristics, such as controlled access and interchanges at major connections. Local travel, within communities along the corridor, will be improved by developing local access road systems.

Future Improvements

The focus of this section is to identify the needs based in part on 2030 traffic projections, safety and economic needs and to identify additional improvements necessary to achieve the ultimate vision of a multi-lane, controlled-access, freeway-style highway facility. The proposed traffic needs and projections and highway improvements represent some initial concepts to facilitate discussions about design alternatives.

In some instances the highway concepts proposed for 2030 do not achieve the full vision of a freeway style facility. These concepts are intended to provide good functionality for years to

come but not replace the eventual need for better upgrading to a freeway style consistent with the vision once warranted.

Glenn Highway–East Edge of Wasilla

Projects currently underway have or will provide four lanes with access limited to interchanges, should be adequate for 2030 traffic needs, and will have achieved the ultimate vision. These projects are designed to allow easy upgrading to six lanes when necessary.

Through Wasilla

Ideally, a limited access route around the city should be constructed in addition to an east-west local road corridor north of the Parks Highway, to accommodate the 2030 traffic needs and will achieve the ultimate vision for this segment of the highway.

West Edge of Wasilla–Big Lake Junction

A four-lane section is needed here with access restricted to interchanges to meet 2030 traffic needs. An interchange at Big Lake Road has been conceptualized. The high number of moose collisions in this region, which is a moose migration corridor, should be addressed.

Big Lake Junction–Through Willow

Projects recently constructed in this area added passing lanes and two-way left turn lanes in select locations. Traffic needs during summer 2030 indicate this section should be four lanes with access roads in selected locations. This 2030 design is consistent with the ultimate vision. These frontage/access roads may be connected to the highway via interchanges or at-grade unsignalized intersections in the interim.

Steep grades at Honolulu Hill and East Fork may also drive major operational improvement, such as realignment.

Good access management will be especially important in Houston and Willow, where abundant subdivided private land exists adjacent to the highway and development pressure has been increasing.

Willow–Through Trapper Creek

There is an existing need for passing lanes in this region. By 2030, a four-lane section may be desirable and would be consistent with the ultimate vision. The intersection with the Talkeetna Spur Road in the unincorporated community of Sunshine could be bypassed or accessed via an interchange. A short bypass or an interchange at the current Petersville Road intersection in Trapper Creek should be considered. Frontage roads or access roads will be needed at selected rural areas outside the communities of Sunshine and Trapper Creek.

Trapper Creek–Through Broad Pass

There is a need for passing lanes. It is likely that an upgraded, two-lane section outfitted with passing and climbing lanes with select, short, four-lane sections will be adequate to address 2030 traffic needs. An operational review of the section from the Chulitna River to Byers Creek should be done to determine if safety improvements are warranted. There is a significant conflict between slow-moving/turning traffic viewing Mount McKinley and the

faster-moving through traffic. Frontage roads may be required from the Chulitna River to Byers Creek. Steep grades at Honolulu Hill and East Fork may also drive major operational improvement, such as realignment.

Cantwell–Carlo Creek

There is a need for passing lanes and climbing lanes. It is possible that an upgraded, two-lane section outfitted with passing and climbing lanes with an interchange, a short four-lane section, and frontage roads in Cantwell may be adequate through 2030, although a short bypass of Cantwell should also be evaluated.

Carlo Creek–McKinley Village

There is a need for passing lanes and climbing lanes. Turning lanes also are needed to accommodate the numerous driveways in McKinley Village in the short term. To accomplish the ultimate vision, access could be provided via a continuous frontage road system extending the full length of this section of the highway. These frontage roads would be connected to the highway at several interchanges or unsignalized, at-grade intersections that may evolve to interchanges in the future.

The 2030 traffic projection is based on existing data that combined this section with the two long, adjacent sections to the south. This section may have higher volumes because of its proximity to Denali National Park. That should be investigated further to determine if an upgraded, two-lane section with the frontage road system would be adequate in 2030.

McKinley Village–Nenana Canyon

The heart of this section is Nenana Canyon, a 1-mile-long segment at the north end of this 8-mile section. An interim safety project was recently constructed. Additional effort will be required to identify the mid- to long-term solution. That solution could be one of several bypass options within the canyon, some type of cut-and-cover design in the canyon, or a bypass to the east around Sugar Loaf Mountain.

Outside of the Nenana Canyon area, this section is currently rural and has a current need for passing lanes. The entrance to Denali National Park needs turning lanes and other safety improvements. Based on currently available volume projections, an improved two-lane section may be adequate through 2030. More data is needed regarding the growth rate of Nenana Canyon and the national park, and possible transportation solutions for Nenana Canyon to determine how access in this rural segment south of Nenana Canyon will be managed. If the Sugar Loaf Mountain Bypass were to be built, this whole rural section would be bypassed and these improvements may not be needed.

Nenana Canyon–Through Healy

There is a need for passing lanes and climbing lanes. It is possible that an upgraded, two-lane section outfitted with passing and climbing lanes with a four-lane section and frontage road or access road system in Healy will be adequate for 2030. If the Sugar Loaf Mountain Bypass were to be built, the southerly 7 miles of this section would be bypassed.

Healy–South Edge of Nenana

There is an existing need for passing lanes and climbing lanes. It is probable that an upgraded two-lane section outfitted with passing and climbing lanes and an interchange at the road to Anderson will be adequate for the 2030.

Nenana

The study looked at two long-term solutions in Nenana; an interchange at 10th Street connected to a frontage road system and a controlled-access bypass around the city on the west side of the Nenana River.

North Edge of Nenana–Ester

There is a need for passing lanes and climbing lanes. It is possible that an upgraded, two-lane section outfitted with passing and climbing lanes will be adequate for 2030. Also there is a segment of alignment deficiencies from MP 318 to 325 that need to be addressed.

Ester–Geist Road west of Fairbanks

The mid- to long-term solution here is a four-lane section with access control. A frontage road system would extend through the Gold Hill business district. The frontage roads may be connected to the Parks Highway with interchanges or at-grade intersections. A diamond interchange was conceptualized at Sheep Creek Road.

Fairbanks

Interchanges should be constructed at the current at-grade intersections with University Avenue, Peger Road, and Lathrop Street to convert this expressway section to a full freeway design.

Capital Improvement Policies

Passing Lanes

For projects developed before construction of a four-lane roadway, alternating passing lanes should be constructed so that about a third of a highway segment includes northbound passing lanes and a third of a segment includes southbound passing lanes. This has proven a cost-effective way to provide significant improvements to the highway.

Bicycle and Pedestrian Enhancements

Paved highway shoulders should be constructed to be wide enough to accommodate bicycle travel. Separated bike paths should be constructed in all developed areas.

Several bridges do not have adequate width to accommodate bicycle or pedestrian travel. There are bridges along the Parks Highway that attract pedestrians where improvements are needed to accommodate pedestrians. These bridges should be widened or separate bike structures should be constructed.

Signalized Intersections

The natural evolution of intersections from unsignalized intersections, to signalized intersections, and then to interchanges, interrupts the flow of traffic on the mainline during the years in which the signalized intersections are in place. Wherever possible, intersections on the Parks Highway should bypass the signalized phase and develop from an unsignalized intersection to an interchange.

Right-of-Way Protection or Acquisition

Of particular concern to ADOT&PF is how to acquire or protect future needed right-of-way before development takes place on that property. The present lack of detailed long-range transportation planning, system planning, or corridor planning and the difficulty of early acquisition of right-of-way have resulted in development occurring in the path of highway projects. This has resulted in higher right-of-way acquisition costs and the resulting expenditure of funds that could be used for construction.

The current process for right-of-way acquisition normally follows the completion of a National Environmental Policy Act (NEPA) document such as an environmental impact statement (EIS) where a specific project alternative is selected. Because this process can evolve over a number of years, vacant land may become developed and become both financially and politically expensive to purchase.

Early property acquisition with federal funds preceding a formal environmental process is not possible. Most other states rely on non-federal funds and local regulations to acquire right-of-way without using federal funds. The fundamental intent of NEPA is to provide disclosure of alternative project impacts to the interested public so that they are aware of a project's real effects and to provide that public with opportunities to suggest revisions to the project that may benefit them and other segments of the public.

There are two exceptional situations, involving either hardships or protective buying, where federal funds may rarely be used to purchase right-of-way earlier than dictated by the normal project development process. Even these situations require that the environmental document has been completed and approved.

Providing an approved environmental document for a phased project allows the purchase of right-of-way for the later phases, maybe years ahead of the construction of these phases.

The possibility of providing a "tiered" environmental document was investigated and rejected for the most part because of the risks associated with this approach and the effort involved in conducting two tiers of study.

While not satisfying the environmental requirements, doing "NEPA-like" evaluation in the future could provide direction for local planning activities, provide guidance if a non-federal fund for acquisition were to be established in the future, and guide alternatives development for future formal environmental studies.

Providing a good access management strategy and identifying and protecting the access network during the platting process could prevent the need to acquire additional right-of-way for frontage roads after development has occurred.

Several different strategies have been used elsewhere in the country to preserve state options for future corridor development without actually purchasing land. Those strategies are discussed in much more detail in the technical memorandum for Task 2 of this study (Wasilla Highway and Rail Corridor Advance Right-of-Way Funding Acquisition and Financing Study). As private properties are developed, right-of-way for the Parks Highway and local access systems can be acquired if the ultimate need is known.

Some of the future right-of-way currently is held by other public agencies: Alaska Department of Natural Resources and local governments. After the future right-of-way needs are identified, ADOT&PF should partner with these agencies to retain that land in public ownership.

ADOT&PF and others might establish a non-federal account to be used to acquire property from willing sellers after the need is known. This can be done ahead of any environmental study if the property is for sale and it is not a condemnation situation. It is important to recognize the various risks associated with this strategy. Those risks have been detailed in the body of this report.

Access Management

Throughout this entire corridor, the management of access is key to protecting the long-term future transportation function of the highway. Management techniques include 1) developing interchanges and access roads in more densely developed areas, 2) limiting access by retaining adjacent properties in public ownership, 3) purchasing access rights in select locations where it is cost prohibitive to engineer appropriate access, and 4) providing adequately engineered access at suitable locations when appropriate. These techniques will be used in access management plans for all areas along the corridor. Future highway corridor planning efforts should evaluate, on a segment-by-segment basis, how to provide access to adjacent lands, and this should be the basis for an access management plan for the Parks Highway corridor.

Coordination

Effective access management and right-of-way protection/acquisition require close coordination among ADOT&PF, major landowners (state and federal agencies and native corporations), and local governments (boroughs and cities). Platting is a responsibility of the boroughs and issuing access permits is an ADOT&PF responsibility. Both local and state government support of a conceptual plan for future highway upgrades is essential to preserve anticipated right-of-way acquisitions from development or acquire right-of-way earlier than is possible following the routine federal process. Public agency landowners can support this management effort by retaining property in public ownership.

The protection of the environment along the corridor is rich in opportunity for coordination and cooperation between ADOT&PF and the resource agencies. An example is the Alaska Department of Fish and Game providing information about streams that can adequately accommodate more use and those that should not be provided with additional access.

There are also coordination opportunities for operational functions, such as the construction, maintenance, and operation of rest areas; the creation and protection of viewsheds; and roadway and winter maintenance.

Conclusions

A coordinated, multi-faceted approach to corridor management is necessary to efficiently manage the Parks Highway corridor for cost-effective expansions and improvements that will serve to fulfill its vision. The following tasks are recommended:

- **Continue planning efforts.** Proceed with the next stage of corridor planning in close cooperation with the affected local governments, other state and federal agencies, and the general public.
- **Maximize regulatory guidance.** Work cooperatively with local governments and other state agencies to review and guide public and private development activities within the corridor in a manner that best supports the long-term vision for and function of the corridor.
- **Control access.** Continue to actively manage and control ingress and egress along the corridor in a manner that minimizes the number of access points, promotes localized transportation networks, and best preserves the primary highway function and long-term vision.
- **Implement right-of-way acquisition program.** As planning and design efforts identify needs for additional highway right-of-way to accommodate future highway expansion and improvement projects, implement to the fullest extent possible an advanced right-of-way acquisition program consistent with federal guidelines that will help minimize acquisition-related costs through protective buying or hardship acquisitions.

SECTION 1

Introduction

Note: This document has been put together to communicate the Alaska Department of Transportation and Public Facilities' (ADOT&PF) vision of a future Parks Highway corridor and possible design concepts the ADOT&PF may use to implement this vision.

The Alaska Department of Transportation and Public Facilities (ADOT&PF) has identified the need to develop a long-range plan for the Parks Highway. –In addition to conveying the vision, the *Parks Highway Visioning Document* is intended to lead to more coordinated ongoing planning efforts between the ADOT&PF and local governments. Long range planning is one of the most successful means that ADOT&PF can utilize in balancing the need to protect and enhance the existing conditions along the transportation corridor for drivers, abutting landowners, and affected communities.

By identifying the vision and specific examples of concepts for highway improvement projects that are illustrative of this vision for projects that may be many years in the future, the ADOT&PF hopes to promote the preservation of right-of-way for the Parks Highway and to promote the development of adjoining land to proceed in a compatible manner.

- Future planning efforts should further this visioning effort by seeking to: Maintain and enhance the highway's function as part of the National Highway System
- Provide an overview for future development to the highway
- Coordinate private development with planned highway improvements
- Preserve the safety and efficiency of the primary roadway through use of frontage roads, connecting streets, carefully planned driveways, and pedestrian facilities
- Facilitate coordination with local governments and state and federal agencies
- Preserve or enhance the appearance of corridors or gateways
-
- Identify conceptual long term right-of-way needs

It should be emphasized that a major purpose of developing the *Parks Highway Visioning Document* was to gather and report input from a wide variety of people, as well as input from some of the project team's initial technical work. There are statements in this document that do not reflect ADOT&PF policy, position, or opinion, but are opinions offered by the public or agencies. Generally, it will be apparent to the reader that a certain statement was a comment offered and not necessarily a recommendation or accepted fact at this time. This document was provided to the public and corridor advisory group before it was revised based on issues raised during the public comment period.

1.1 Organization

The *Parks Highway Visioning Document* is organized into several sections. Section 2 discusses the context and character of the corridor and presents an overall future vision for the Parks Highway regarding community compatibility, environmental quality, and traffic flow that reflects both public and ADOT&PF input. Section 3 presents an overview of the corridor and planning efforts. Section 4 divides the corridor into 12 planning units and discusses unit character and needs as well as near- and long-term recommendations for each unit. Section 5 addresses capital improvement policies for the entire corridor. Section 6 discusses environmental constraints, sensitive areas, fish and wildlife factors, and National Environmental Policy Act (NEPA) protection in relationship to future corridor development and highway improvement projects. Section 7 addresses the problem of expensive right-of-way acquisition for present and future projects. It investigates and sets forth possible solutions and recommendations for early acquisition and protection of future right-of-way needs and existing right-of-way protection. Section 8 focuses on the challenge of managing highway access from driveways and multiple side roads. Section 9 takes into consideration the discussions and recommendations set forth in the preceding sections and/or the public scoping process. Identified ideas and opportunities for beneficial corridor-related coordination between government entities and between government and private landowners are outlined. Section 10 is a review of other corridor studies.

The *Parks Highway Visioning Document* concludes with an extensive bibliography, Section 11, and several appendixes. The bibliography is annotated and includes public input sources and documents that were considered and/or gathered during the first phase of this plan.

Overall Corridor Vision

2.1 Corridor Context

The Parks Highway is a vital transportation corridor from the Glenn Highway in the Matanuska Valley to Fairbanks in the interior of Alaska and is important for community connections and commerce on statewide and regional levels. The corridor also has world-class scenic values and recreational resources.

The right balance of traffic flow with community needs and recreational use must be achieved.

2.2 Community Compatibility and Environmental Quality

Communities along the corridor expect consistent growth during the study period through 2030. As traffic increases during the decades to come, corridor improvements must fit within these communities and provide for travel between communities. This vision effort will be developed in close coordination with these communities.

Corridor improvement strategies must protect and enhance a wide range of environmental issues, including scenic values, fish and wildlife resources, vegetation, and wetlands. A future National Scenic Byway designation is a possibility for at least the central portion of the corridor.

2.3 Provisions for Highway Traffic Flow

To accommodate the expected growth along the corridor, the Parks Highway needs to be relatively free flowing with enough capacity and appropriate design standards to safely support travel at highway speeds.

It is expected that as traffic volumes grow, grade-separated interchanges will be constructed to separate the higher speed through traffic from the lower speed local access road network. As much as possible, traffic signalization will be avoided to maintain the free-flowing nature of the corridor. Local travel within communities along the corridor will be improved by developing local access road systems.

The key to providing this degree of mobility cost-effectively is developing a long-range plan and the interim steps to achieving that plan. This strategy includes steps to protect existing rights-of-way, and protect and acquire future rights-of-way.

An access management protocol for developing and managing the local access network needs to be established in greater detail. This protocol should include all of the partners that have roles and will strike a balance among the transportation function, all users, and the need for local access.

Cooperation among a number of public and private entities will aid in the construction of highway improvements when they are warranted by the transportation demand. In some instances, the improvement concepts contained herein may not be warranted for 30 years or more.

Overview of Corridor and Planning Efforts

3.1 Corridor Boundaries and Geography

3.1.1 Planning Boundaries

The Parks Highway corridor extends along the Parks Highway from the Glenn Highway intersection (Milepost [MP] 35.2) to the Richardson Highway at Fairbanks (MP 362) as indicated in Figure 4-1. The *Parks Highway Visioning Document* boundaries include the Parks Highway, the existing right-of-way along the highway, additional right-of-way needs, adjacent developing lands, and viewsheds.

The plan boundaries can be described for the Parks Highway and the existing 200- to 300-foot-wide right-of-way that includes the highway. It is more difficult to physically define conceptual areas included in the plan outside the right-of-way, such as future right-of-way needs, adjacent or related developing lands, and viewsheds. These areas vary dramatically by location and interpretation. Future right-of-way needs can range from a few feet of additional land needed for a specific highway improvement to a separated right-of-way for a bypass. Similarly, adjacent or highway-affecting development areas can include a gas station next to the highway, a large planned subdivision or a development area some distance from the highway, or a borough-wide transportation connector plan. The size of viewsheds is subjective and difficult to define, even in a specific location. Consequently, the planning boundaries beyond the existing highway corridor right-of-way are not physically defined by a specified corridor width, but rather include land expected to be required for future right-of-way needs, existing and future development areas that will affect highway use, and highway-related viewshed areas.

3.1.2 Corridor Geography

The corridor varies significantly in terms of general characteristics, adjacent political entities and landowners, and use.

3.1.2.1 General Characteristics

The corridor stretches through 337 miles of varied terrain and outstanding scenery. It successively follows five major river valleys, and provides views of three mountain ranges and Mount McKinley. It travels through valleys, foothills, and the Alaska Range and crosses numerous creeks and rivers. The vegetation ranges from valley mixed-woodland forests to high mountain arctic tundra. It is bounded by developed, rural, and undeveloped wild lands.

3.1.2.2 Political Entities and Landowners

Most of the corridor lies within three boroughs: the Matanuska-Susitna Borough extending along the corridor from the Glenn Highway (MP 35.2) to Broad Pass (MP 202); the Denali Borough extending from Broad Pass (MP 202) to north of the Anderson turnoff (MP 288.3);

and the Fairbanks North Star Borough beginning southwest of Ester (MP 325.7) and including the highway's northern terminus in Fairbanks. A 37.4-mile stretch of the corridor, located between the Denali Borough and the Fairbanks North Star Borough, is part of the unorganized borough area.

Five incorporated cities and several unincorporated towns or settled areas are located along the corridor. In the Matanuska-Susitna Borough, Wasilla and Houston are incorporated, while Meadow Lakes, Big Lake, Willow, Sunshine (at the Talkeetna road Y), and Trapper Creek are settled development areas with community councils and/or chambers of commerce. In the Denali Borough, Cantwell, and Healy are unincorporated towns and Anderson, located 6 miles west of the Parks Highway near the Clear Air Force Base, is incorporated. Nenana is an incorporated city in the unorganized borough area. In the Fairbanks North Star Borough, Fairbanks is a major incorporated city, and Ester and Gold Hill are unincorporated community areas.

Four types of landowners own land along the corridor: government entities, public trust authorities, large private landowners, and private landowners. Government entities own most of the land near the corridor. They are the three boroughs within their respective boundaries; Alaska Department of Natural Resources (ADNR) with major land holdings, including Denali State Park and the Tanana Valley State Forest; ADOT&PF in the corridor and several material sites and maintenance stations; the U.S. Bureau of Land Management in the Cantwell area; and the National Park Service in Denali National Park. The University Land Trust and the Mental Health Land Trust are public trust authorities and have significant holdings in parcels along the length of the corridor, especially in the Sunshine, Trapper Creek, Healy, and Anderson areas. The large private landowners are four native corporations: Cook Inlet Region Incorporated (CIRI), which owns parcels between Kashwitna and Sunshine and near McKinley Village; AHTNA, which owns land in the Cantwell area; the Toghothele Corporation with land near and adjacent to the corridor near Nenana; and Doyon, which owns land around Fairbanks. Private landowners, referring to all other private landowners, have most of their holdings in the cities, towns, and development node areas. Private landowners own most of the land adjacent to the corridor in the southernmost portion of the corridor, including the communities of Wasilla, Meadow Lakes, Houston, Willow, Sunshine, and Trapper Creek.

3.1.2.3 Use of Corridor

The Parks Highway corridor is part of a larger north/south transportation system through central Alaska. It is paralleled by the Alaska Railroad, and serves as the main trunk for a system of connector roads, city streets, destination recreation areas, local traffic, commercial establishments, and through passenger and freight traffic. It is a critical link in Alaska's commercial trucking network. There is a large volume of daily truck movements between Anchorage and Fairbanks. Additionally, the Parks Highway is a direct route to the North Slope region of Alaska from Anchorage. The highway serves a wide variety of transportation purposes including: slower local traffic within and between the communities; the main street for most of the developed node areas; commuter traffic to Anchorage, Fairbanks, and other job locations; private and commercial through traffic to Fairbanks, Anchorage, and destinations in between or beyond; recreation traffic traveling to corridor recreation destinations such as key trailheads or fish streams; and summer tourism traffic including slow-moving recreational vehicles (RVs), pedestrians crossing the street, and fast-moving

tour buses. The corridor right-of-way adjacent to the highway also provides for many functions, including pullouts, rest areas, recreation access, pedestrian/bike trails, public and commercial establishment parking, switch-over stops for truckers, raft launches, trailheads, and camping.

3.2 Visioning Process

The Parks Highway Corridor Task 1 visioning process included a public input scoping effort, document review, and specified technical work to create the *Parks Highway Visioning Document*. The major emphasis was on the public input effort, which identified corridor issues and concerns, collected thoughts regarding a future corridor vision, gathered information about corridor-related growth and existing plans, noted possible future design options and policies, and identified coordination opportunities. A review of corridor-related planning and technical documents gathered additional information that was added to the results of the public input process. Technical work regarding traffic projections and future improvements for specific sections of the corridor was completed and included in the *Parks Highway Visioning Document*.

3.2.1 Public Input Effort

The public input effort included five steps: interviews with government and large landowner representatives; regional public meetings; a public comment period; Corridor Advisory Group (CAG) meetings; and a second round of CAG meetings and public comment. The public process built upon itself: input gained during each successive step was added to the information previously obtained and presented to the public for comment. The range of issues to be addressed and possible action areas identified during the interviews were organized into geographical and topical areas and presented at the regional public meetings for comment. The input from the regional public meetings and written comment period were merged with or added to the interview results and presented in the form of an issue paper to the CAG meetings. CAG meeting comments and modifications were added to the issue paper that was used along with other public input information as a basis for the *Parks Highway Visioning Document*. Project newsletters, meeting notices, question response sheets, presentations on input received, an issue paper, and a Web site were used to support the public input process. A second round of CAG meetings and public comment provided input on the *Parks Highway Visioning Document* and were taken into consideration as the document was finalized.

3.2.1.1 Interviews

Thirty interviews involving 53 representatives of government entities with management authority along the corridor and two large native corporation landowners were completed. Represented government entities included cities, boroughs, state government departments, the Alaska Railroad Corporation (ARRC), and National Park Service (see Appendix A for a complete list of interviewees). Each interview focused on a set of questions regarding current and future corridor needs, issues, and characteristics; transportation needs related to the representatives organization; non-transportation-related corridor concerns; and coordination opportunities. Interview summaries were written (see Appendix A) and the information was used as a starting point for the study.

3.2.1.2 Regional Public Meetings

Four regional public meetings were held in Wasilla, Sunshine, Healy, and Fairbanks between October 22, and October 25, 2001. The meetings were designed to provide information about the visioning document, provide a presentation about input received from the interviews, and solicit additional input for the plan. The public was encouraged to comment on questions similar to those presented during the interviews and the summary of interview results (see Section 3.2.1.1). Written comments were encouraged (see Appendix B).

3.2.1.3 Public Comment Period

A period for public comment opened at the first regional meeting on October 22, 2001, and continued until November 15, 2001. The public was encouraged to respond in writing to the question sheets provided at the regional meetings regarding the *Parks Highway Visioning Document* (see Appendix C).

3.2.1.4 CAG Meetings

CAG members represent a broad range of interests from local governments, other agencies with a management interest along the corridor, and large landowners to selected interest groups. The purpose of CAG is to provide advice about issues, policy recommendations, possible plan alternatives, and draft recommendations during the planning effort. The CAG also serves in a ground-truthing role regarding planning team perceptions and written documents. To accommodate its members, CAG was divided into a north group and a south group of 15 to 20 members each. This allowed separate meetings to occur in both Fairbanks (north) and Wasilla (south), locations closer to respective members' residences. Both the north and south CAG meetings covered the same agenda and had a neutral facilitator.

The first round of CAG meetings occurred on November 14, 2001, in Wasilla and November 15, 2001, in Fairbanks. The meetings focused on an issue paper, "Vision and Issues For Discussion," which set forth a possible vision for the Parks Highway corridor and addressed six key corridor issues (see Appendix D). The issue paper reflected the public input received before the CAG meetings. The CAG discussions provided clarifications, corrections, and additions to the issue summaries. This issue paper then was used as an important input to the *Parks Highway Visioning Document*.

3.2.1.5 Second Round of CAG Meetings, Public Meetings, and Public Comment

Using the public input received, information from planning and technical documents and certain technical work, the *Parks Highway Visioning Document* was completed and made available for public review in November 2002. A public comment period was initiated in conjunction with a second round of CAG meetings and regional public meetings to review and comment on the *Parks Highway Visioning Document*. CAG meetings were held in Fairbanks and Wasilla, and copies of the document were available before the meetings. A briefing on the document was presented at the CAG meeting with an emphasis on specific issues. CAG was directed to first discuss specific issues and then to provide general comment on the document. The public comment period extended 2 weeks beyond the CAG meetings so that CAG members and the public could submit written comments. CAG meeting results and public comments received were considered as the *Parks Highway Visioning Document* was finalized.

3.2.2 Review of Related Planning and Technical Documents

During the planning process, the project team gathered existing plans and technical documents relevant to the *Parks Highway Visioning Document*. These documents include land use plans completed by state agencies or local governments, platting and access control policies or regulations, a scenic corridor plan, proposed alternatives for bypasses, existing road improvement plans, recommendations for pullouts and facility sites, and wildlife use information. These documents were reviewed and the information related to the *Parks Highway Visioning Document* was summarized and appropriately included in document. The plans and documents considered are included in the annotated bibliography (see Section 11).

3.2.3 Technical Work

Technical work completed in support of the *Parks Highway Visioning Document* included developing traffic projections and future transportation improvement options for the corridor.

3.2.3.1 Traffic Projections

Traffic projections were developed for the corridor for 2010, 2020, and 2030. These projections were based on historic traffic growth, historic and projected population growth, and available data from regional traffic models. This work is reported in Section 3.4 and referenced in planning unit discussions (see Section 4).

3.2.3.2 Transportation Improvement Options

Preliminary transportation improvement options were conceptualized for mid-term and/or long-term improvements at selected major intersections and growth nodes along the corridor. The types of improvements included interchanges, frontage roads, bypasses, and additional through lanes. This information is integrated into the appropriate planning unit discussions.

3.3 Information Sources

Information used to prepare the *Parks Highway Visioning Document* was collected from various sources and from various interests along the Parks Highway. The type of information collected, along with its source, is described below.

3.3.1 General Corridor Information

3.3.1.1 Personal Interviews

The information gathering began by conducting personal interviews with representatives of the major landowners and governmental entities along the corridor route. The goal was to gather as much information from those varied interests along the entire corridor route to provide the project team with a complete picture of the many visions, ideas, and perceived highway needs used to prepare the *Parks Highway Visioning Document*.

3.3.1.2 Regional and CAG Meetings

Four regional meetings were held at strategic points along the corridor and the comments from those meetings were transcribed and filed. Two Corridor Advisory Group (CAG) meetings were held. Information gathered at the meetings was used to prepare the *Parks Highway Visioning Document* and is included in Appendix B.

3.3.2 Planning Data

Various documents were gathered from the many cities, boroughs, and communities along the 337-mile-long corridor; cataloged; and included in the project library. Additional information was collected via Internet research. These documents include local and national corridor plans, environmental assessments, existing land ownership, community-based comprehensive plans, ordinances, and community data on population, economy, and land use. These documents were reviewed to provide additional information relevant to the Parks Highway that may have been missed during the interview process. These documents are described in Section 11.

3.3.3 Highway Information

Highway data were collected from ADOT&PF maintenance, planning, traffic, and bridge design department staff and Web sites; Fairbanks North Star Borough; and Matanuska-Susitna Borough.

Information in the form of highway as-builts, location maps, bridge data, public facilities, geographic information system (GIS) data, and other electronic data also were collected to provide an overview of the physical characteristics, maintenance and material sources, traffic data, and accident data available for the corridor. Utility information, including general location and type, was collected and cataloged from utility providers along the corridor.

3.3.4 Railroad Data

ARRC provided railroad information about land reserves in Hurricane, Healy, and Clear, as well as information about planned facilities and feasibility and relocation studies.

3.3.5 Recreation/Tourism Facility Data

The *TRAAK Corridor Assessments* provided valuable information about needed and planned highway public facilities, such as waysides, rest areas, locations of existing and planned public accommodations, and trails.

Recreational maps, boundary maps, visitor information and personal letters from various sources are included as part of the information gathering and have been documented appropriately.

3.3.6 Natural Resource Development

Natural Resource development will continue to be a major growth factor for communities along the Parks Highway including those communities that will continue to be service hubs to natural resources located in distant bush communities.

Hard rock mining is seeing resurgence in bush Alaska and along the Parks Highway corridor. Additionally, the possible future development of the natural gas pipeline from the North Slope to southern markets and oil development within the Arctic National Wildlife Refuge and the National Petroleum Reserve-Alaska could rely on the Parks Highway and its communities for provision of goods and services.

Such projects would influence the economy and growth projections especially for some communities in the northern interior. The traffic growth projections, identified in Table 3.4, are based on historical growth levels and would need to be adjusted to take into consideration the economic impact of any major natural resource development.

Some parts of the Parks Highway may need to be upgraded to handle heavy loads and possible excessive wear due to major development served by the highway. Pavement strengthening is needed to sustain legal loads during winter break-up. Additional Weigh Stations, safety turn out areas for commercial vehicle inspection, and slow moving vehicle lanes will be needed along the corridor. The transportation needs of resource development opportunities must be monitored so that the Parks Highway is capable of providing the needed services as resource development progresses, and is properly repaired after the development is complete.

3.4 Traffic Projection

The Parks Highway was divided into nine distinct segments for purposes of forecasting traffic along the corridor (see Table 3-1). Analyzing historical traffic volumes, and combining areas along the corridor experiencing similar traffic levels defined the segments.

Table 3-1 Existing Traffic Volumes

Parks Highway Segments	Approximate Milepost	Average 2000 AADT
Glenn Highway and Palmer-Wasilla Highway	MP 35 to MP 41	18,000
Palmer-Wasilla Highway and Knik-Goose Bay Road	MP 41 to MP 42	32,400
Knik-Goose Bay Road and Big Lake Road	MP 42 to MP 52	15,100
Big Lake Road and Willow	MP 52 to MP 71	3,800
Willow and Trapper Creek	MP 71 to MP 115	2,200
Trapper Creek and Nenana Canyon	MP 115 to MP 237	1,400
Nenana Canyon and Ester	MP 237 to MP 351	2,000
Ester and Geist Road	MP 351 to MP 356	6,100
Geist Road and Richardson Highway	MP 356 to MP 361	12,600

AADT = average annual daily traffic.

The segment volumes represent an average annual daily traffic (AADT) from all of the recorded locations within a given segment. Therefore, a particular location may experience AADT above or below the average for the segment. Traffic volumes along the corridor

range from as low as 1,400 vehicles per day (vpd) in rural areas to 32,400 vpd through the urban section of Wasilla. In general, traffic volumes along the corridor decrease from the Wasilla area north to the entrance of Denali National Park, where volumes then begin to increase north to the Fairbanks area.

3.4.1 Seasonal Traffic Variations

The Parks Highway has high seasonal variations in traffic volumes in the rural and high recreational use areas along the corridor. Monthly average daily traffic (MADT) volumes are available for the various permanent traffic recorder (PTR) locations along the corridor including Nye Ford, Willow, Chulitna, East Fork, Nenana, Ester, Chena Bridge, and Lathrop Street. Table 3-2 presents the AADT, the highest MADT during the year, and percent difference for each of the PTR locations.

Table 3-2 Daily Traffic Volumes, Maximum Month Compared to Average Annual

PTR	Milepost	2000 MADT	2000 AADT	% Difference
Nye Ford	40	22,131	18,743	18
Willow	72	4,495	2,667	69
Chulitna	118	2,350	1,115	111
East Fork	185	2,136	1,007	112
Nenana	302	2,547	1,517	68
Ester	349	3,167	2,028	56
Chena Bridge	354	8,355	7,037	19
Lathrop Street	357	14,735	12,582	17

AADT = average annual daily traffic. MADT = monthly average daily traffic.
 PTR = permanent traffic recorder.

Seasonal traffic variations along the corridor range from 17 to 112 percent, with greater differences in the rural areas. Most of the corridor, from Willow to Nenana, experiences significantly higher traffic volumes during summer months, with two PTR locations indicating MADTs more than twice the reported AADT. The seasonal variations in traffic will be considered when planning for improvements.

3.4.2 Traffic Projection

Preliminary average daily traffic (ADT) projections for the corridor have been developed based on historical traffic trends, historical and projected population trends, past design designations, and regional travel models. Traffic projections are reported for 2010, 2020, and 2030.

Historic AADT data, dating back to 1995 from ADOT&PF’s Central and Northern Region Traffic Volume reports, were used. Trend lines were developed for the 6-year period, 1995 to 2000, and the latest 4-year period, 1997-2000, for each segment. Compound growth rates were then calculated based on the historical trend for each period.

Parks Highway traffic volumes have grown at different rates along the corridor, with generally higher rates of growth around the urban areas of Wasilla and Fairbanks and lower rates along the rural segments. The growth trends have ranged between 2.8 percent and

9.0 percent in the urban areas and between 0.1 percent and 3.8 percent in the more rural areas for the periods reported.

In the development of the projected growth rates for the corridor, the historical and projected population growths also were considered. The Institute of Social and Economic Research (ISER), University of Alaska, Alaska Department of Labor, reported population growth rate projections for the Matanuska-Susitna, Denali, and Fairbanks North Star Boroughs of 3.2 percent, 1.5 percent, and 0.8 percent, respectively. The population growth projections are generally consistent with historical traffic growth along the corridor.

The regional travel model for the Fairbanks metropolitan area was used for Parks Highway growth within Fairbanks. Traffic projections for the year 2020 were provided for the Parks Highway between Geist Road and the Richardson Highway. An average compound annual growth rate of 4.7 percent was calculated for the segment from the forecasted volumes. A compound annual growth rate of 2 percent was chosen for the Fairbanks segment through the year 2030.

Table 3-3 lists the growth trends and recommended growth rate for each segment along the corridor.

Table 3-3 Compound Annual Growth Rates

Parks Highway Segments	Compound Annual Growth Rate		
	Recommended	1995 to 2000	1997 to 2000
Glenn Highway and Palmer-Wasilla Highway	2.5%	2.8%	4.7%
Palmer-Wasilla Highway and Knik-Goose Bay Road	2.5%	5.6%	9.0%
Knik-Goose Bay Road and Big Lake Road	2.5%	1.6%	2.0%
Big Lake Road and Willow	2.5%	2.2%	3.8%
Willow and Trapper Creek	2.5%	2.9%	2.8%
Trapper Creek and Denali Park	1.0%	0.5%	0.9%
Denali Park and Ester	1.0%	0.1%	1.2%
Ester and Geist Road	2.0%	2.0%	4.0%
Geist Road and Richardson Highway	3.0%	5.7%	4.7%

Table 3-4 presents the traffic forecast based on the recommended growth rates for 2010, 2020, and 2030. The last column lists the highest MADT for the year 2030.

Table 3-4 Current and Projected Traffic Volumes

Parks Highway Segments	Recommended Growth Rate	2000 AADT	2010 AADT	2020 AADT	2030 AADT	2030 MADT
Glenn Highway and Palmer-Wasilla Highway	2.5%	18,000	23,000	29,500	37,700	37,700
Palmer-Wasilla Highway and Knik-Goose Bay Road	2.5%	32,400	41,500	53,200	68,000	68,000
Knik-Goose Bay Road and Big Lake Road	2.5%	15,100	19,400	24,800	31,700	31,700
Big Lake Road and Willow	2.5%	3,800	4,900	6,300	8,000	13,500
Willow and Trapper Creek (Petersville Road)	2.5%	2,200	2,800	3,600	4,700	9,900
Trapper Creek and Nenana Canyon	1.0%	1,400	1,500	1,700	1,900	4,000
Nenana Canyon and Ester	1.0%	2,000	2,200	2,500	2,700	4,500
Ester and Geist Road	2.0%	6,100	7,400	9,000	11,000	11,000
Geist Road and Richardson Highway	3.0%	12,600	16,900	22,800	30,600	30,600

AADT = average annual daily traffic.
MADT = monthly average daily traffic.

Planning Unit Characteristics, Needs, and Recommendations

4.1 Overview of All Planning Units

The Parks Highway corridor planning area has been divided into 12 geographical planning units beginning at MP 35.2 at the Glenn Highway intersection and stretching north to MP 362 in Fairbanks. Each planning unit is defined by mileage posts at its southern and northern boundaries along the Parks Highway. The planning unit boundaries reflect consideration of geography, highway-related community use areas, and similar highway use characteristics. As was indicated in Section 3.1, specific corridor widths for planning units are not defined because of the great fluctuation in corridor area associated with future transportation plans, development area impacts, and viewshed boundaries. The purpose of these planning units is to provide a logical geographic area for grouping and discussing corridor-related issues, concerns, and possible solutions.

It is important to understand that the highway improvements that are included in this report do not represent any final decision about the design of future improvements. These concepts are offered only as examples of how future transportation needs might be met, consistent with the overall vision for the Parks Highway. The actual decisions about future improvements like these will be made using formal environmental analysis, significant public involvement, and a structured decision-making process.

In some instances the highway concepts proposed for 2030 do not achieve the full vision of a freeway style facility. These concepts are intended to provide good functionality for years to come but not replace the eventual need for better upgrading to a freeway style facility consistent with the vision once warranted.

Figure 4-1 presents an overview of the planning unit locations. A description of each planning unit is provided in the following planning unit discussions; therefore, this overview will only make reference to the planning unit name and the Parks Highway MP-related boundaries. The 12 planning units are:

- Glenn Highway to Northwest of Big Lake Junction (MP 35.2 to MP 53.3)
- Northwest of Big Lake Junction Through Willow (MP 53.3 to MP 72)
- North of Willow Through Trapper Creek (MP 72 to MP 118)
- North of Trapper Creek Through Broad Pass (MP 118 to MP 204)
- Cantwell to Carlo Creek (MP 204 to MP 223)
- Carlo Creek to Nenana River (at McKinley Village) (MP 223 to MP 231)
- Denali National Park and Nenana Canyon (MP 231 to MP 239)
- North of Nenana Canyon Through Healy (MP 239 to MP 252)
- North of Healy to South City Limits of Nenana (MP 252 to MP 301)
- Nenana to Nenana Ridge (MP 301 to MP 340)
- Nenana Ridge to Geist Road West of Fairbanks (MP 340 to MP 357)
- Fairbanks (MP 357 to MP 362)

Figure 4-2 shows the general ownership patterns along the length of the corridor. There are three general types of ownership of the adjacent lands: Large tracts of land are held in public ownership by

several organizations and there will be many references to these lands in the *Parks Highway Visioning Document*: four native corporations own large tracts of land adjacent to the Parks Highway; and relatively small parcels are owned by individual owners, a pattern of ownership that is most prevalent in the southern third of the corridor.

Each planning unit discussion follows a similar organizational structure and refers to a planning unit map. The planning unit discussion includes a description of the unit and addresses unit-related current uses, programmed projects, potential future development, adjacent landowner and government considerations, interim needs or solutions, and long-term needs.

4.2 Glenn Highway to Big Lake Junction

4.2.1 Description of Unit

This planning unit extends 18 miles from the intersection with the Glenn Highway through a 7-mile-long unincorporated area east of Wasilla, through the center of Wasilla, and through the unincorporated community of Meadow Lakes to just northwest of the intersection of Big Lake Road (MP 53.3). Much of this section East of the City of Wasilla has recently been upgraded to a freeway style controlled access facility. The segment within the City of Wasilla includes busy intersections with stoplights, and is four lanes with turning lanes before eventually transitioning to a two lane facility west of Wasilla.

Extensive improvements to the highway have been constructed on the first (southeastern-most) segment of the Parks Highway. An interchange was completed at the junction of the Glenn and Parks Highways in 2004. In 2001 the segment including the Trunk Road Interchange was converted to a freeway style four lane facility with frontage roads.

In 2002, an interchange at Hyer Road/Fairview Loop Road was completed and the improved four lane freeway facility with frontage roads was extended to Seward Meridian Parkway. Currently ADOTPF is constructing an interchange at Seward Meridian Parkway. The segment currently being reconstructed between Seward Meridian Parkway and Crusey Street will include the transition from a freeway facility to an urban four lane segment with a fifth center turn lane.

All of the Parks Highway projects east of Seward Meridian Road are designed to be easily expanded to six lanes when traffic warrants.

A project that helps address Parks Highway capacity issues, the Palmer-Wasilla Highway Extension, was completed in the summer of 2002. This extension has lessened some of the Parks Highway congestion between the Palmer-Wasilla Highway and Knik-Goose Bay Road by creating a short bypass for destinations south of downtown Wasilla. This project was a step toward providing the future lane capacity that will be required in this area.

Manmade development is much of the view from the highway, but there are views of the Chugach and Talkeetna Mountains, as well as several lakes. Figure 4-3 shows this planning unit.

Much of this area has been strip developed, which has degraded the ability of the Parks Highway to provide good mobility for through traffic or efficient local access in the City of Wasilla and further to the west.

The segment from the Glenn Highway to Big Lake Junction is one of the areas where congestion is the impetus for this corridor study. High-value private land adjacent to the highway and insufficient right-of-way can create significant impediments to addressing the areas long-term highway needs. Acquiring right-of-way can be extremely costly. Recently, \$22 million were spent to acquire the right-

of-way for a 2-mile-long improvement east of Wasilla. Real estate in this region is anticipated to continue to appreciate and be developed.

Through much of this segment, the Alaska Railroad runs parallel to the highway on the south side, which has limited the development and access points. Areas of the highway not adjacent to the railroad have strip commercial development with numerous access points.

The Meadow Lake area between Wasilla and Houston has been the fastest-growing population of any census area in Alaska between 1990 and 2000. Commercial development along the Parks Highway in Meadow Lakes has not been as rapid as in Wasilla. This area can be expected to see increased commercial construction adjacent to the highway as the borough population moves west.

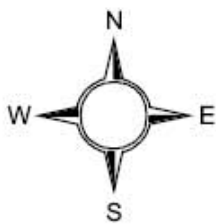
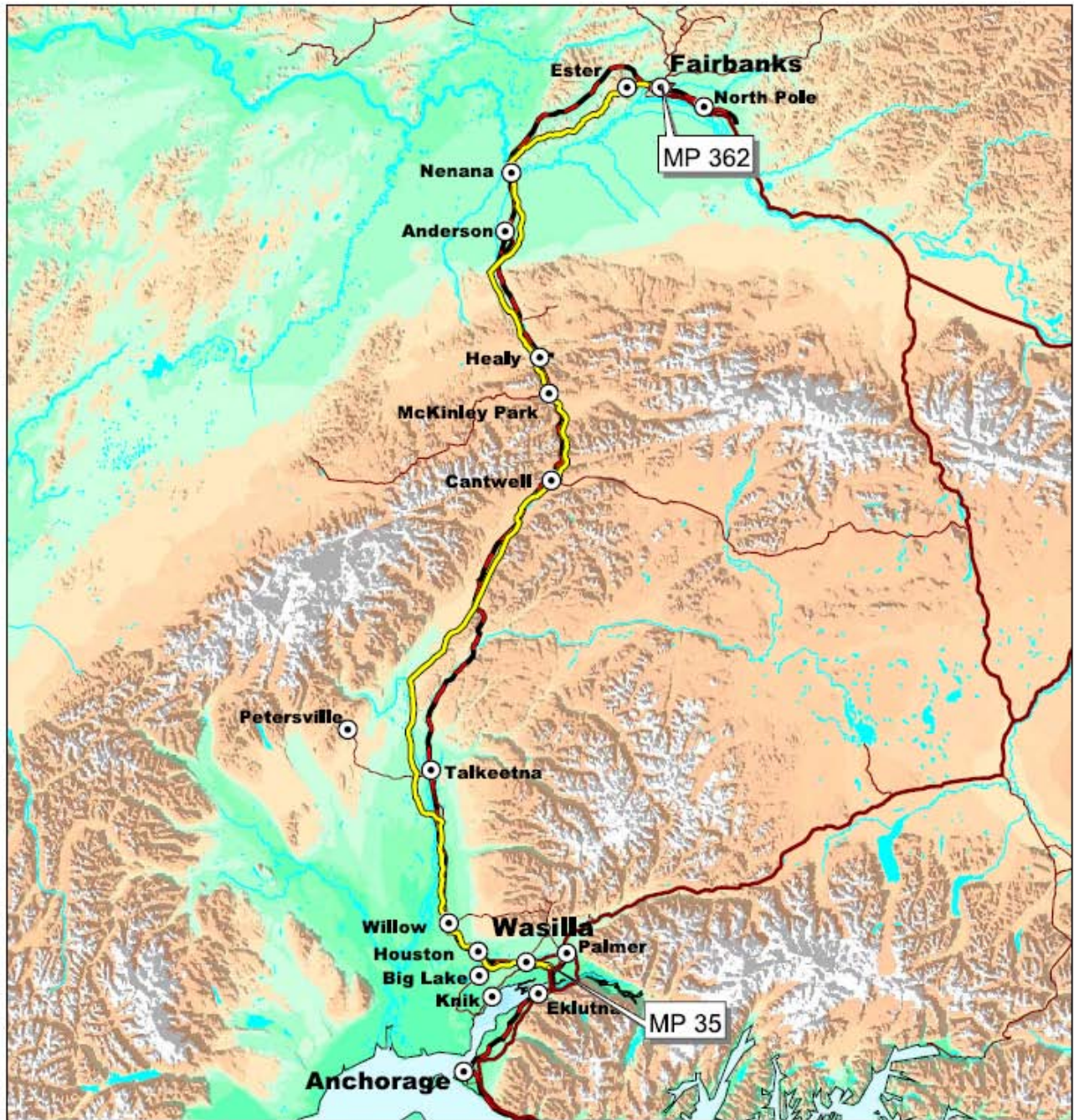
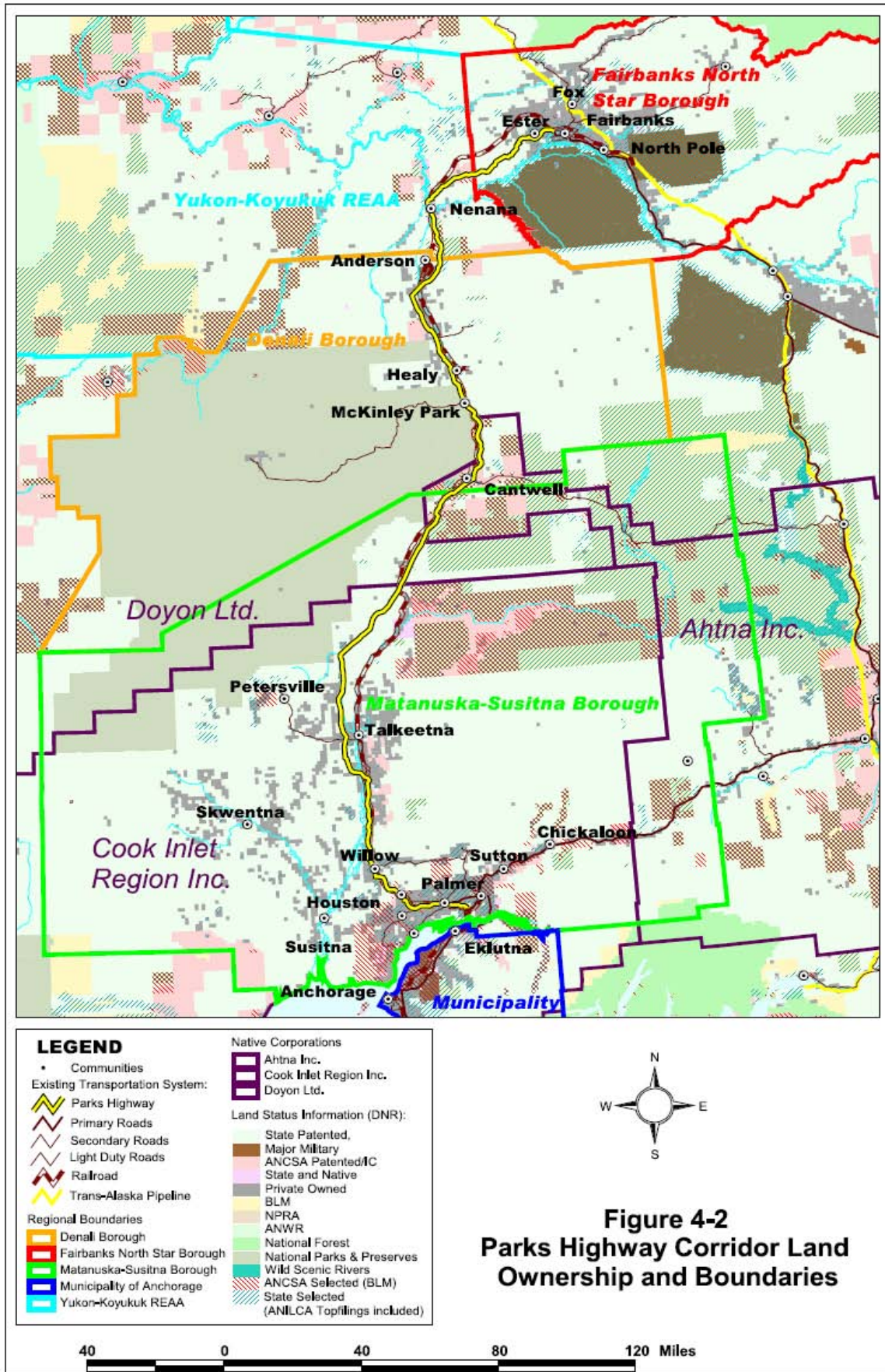


Figure 4-1
Parks Highway
Glenn Highway to Fairbanks
MP 35 to 362





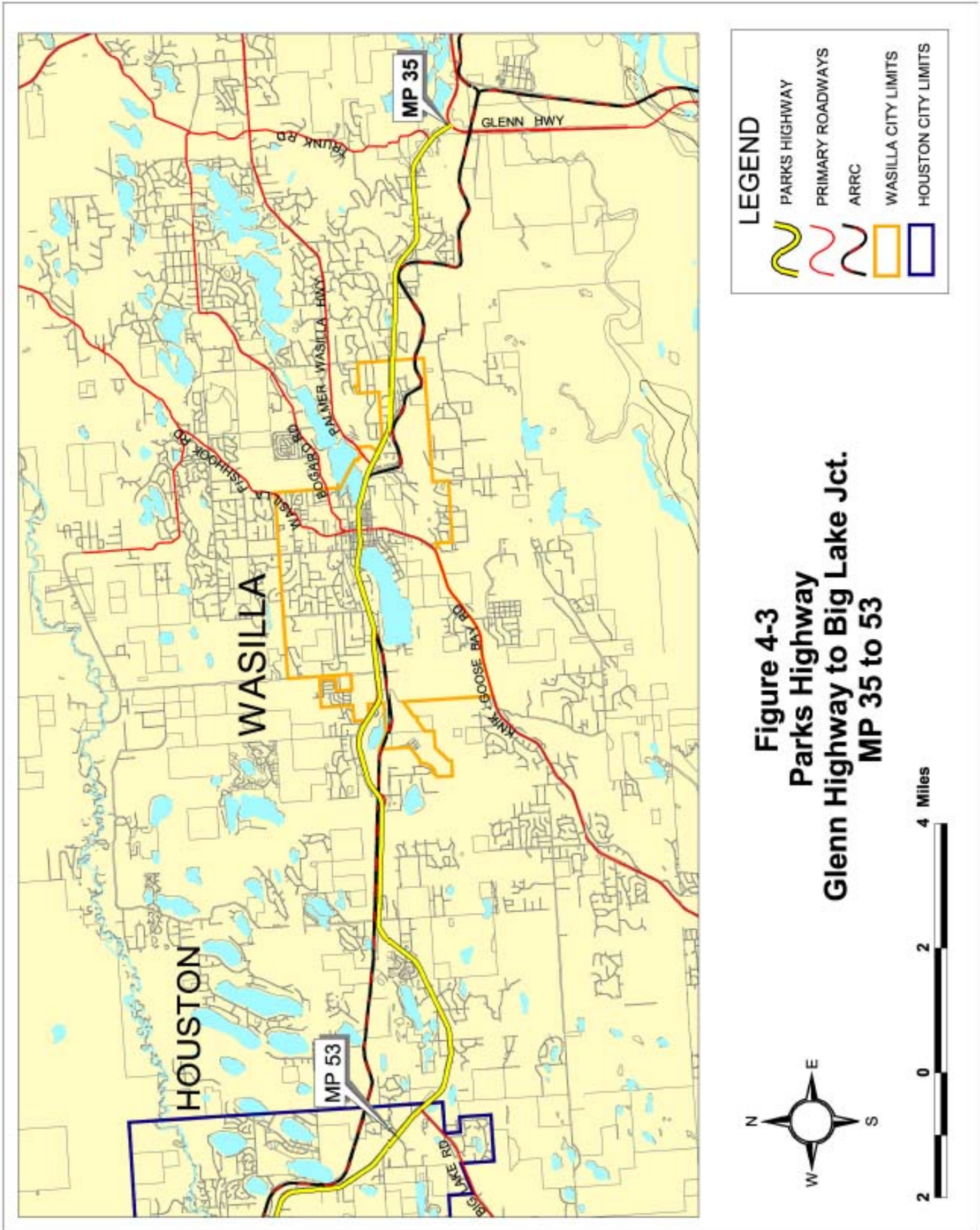


Figure 4-3
Parks Highway
Glenn Highway to Big Lake Jct.
MP 35 to 53

There is significant traffic congestion in Wasilla and it is somewhat more exaggerated during the summer recreation and tourism season. In the westbound direction, this causes backup at the Palmer-Wasilla Highway signal. Through the central segment of Wasilla, the traffic signals add to the congestion. Competing needs complicate this situation. Signals on the Parks Highway are needed to serve local access at the expense of through traffic flow on the Parks Highway. The City of Wasilla administration has expressed support for an alternate highway route around downtown that would serve through traffic and truck traffic.

The traffic volume east of the Palmer-Wasilla Highway is currently (year 2000 data) 16,000 to 20,000 vehicles per day and is expected to grow to 38,000 in 2030. In central downtown that volume is 32,000 and is expected to grow to 68,000 in 2030. The traffic volume between Main Street and Big Lake Junction varies from 10,000 to 18,000 vehicles per day. The Matanuska-Susitna Borough is updating its transportation model in coordination with its current effort to update their Long Range Transportation Plan. It will model traffic volumes with and without a bypass route to the south and a planned local east-west street to the north called Seldon Road. Traffic volumes for 1990 and 1999 showed drastic increases during the past decade.

Wasilla, which has a good tax base and developing infrastructure to support additional community growth, has evolved into an urban area. Other communities along the corridor are not easily able to finance any infrastructure growth.

4.2.2 Programmed Projects

In addition to the recent projects which consisted of constructing a freeway style facility from the Glenn Highway to Seward Meridian Parkway, an interchange is currently being constructed at Seward Meridian Parkway and the segment west of this interchange is being reconstructed to provide a transition from the freeway style facility to a four and five lane segment with at-grade intersections.

A rehabilitation of the existing five-lane section from Crusey Street to Lucas Road is planned for 2006.

The section from Lucas Street to Big Lake Road is scheduled to be expanded to at least four lanes with construction occurring approximately 2012 or possibly later.

The railroad crossing of Knik-Goose Bay Road interferes with the functional efficiency of the Parks Highway/Knik-Goose Bay Road intersection and the City, Alaska Railroad Corporation, and ADOTPF have been trying to identify the most appropriate means of addressing this issue. Recently the Alaska Railroad Corporation has proposed constructing a separated grade crossing that would elevate the railroad above Knik-Goose Bay Road. ADOT&PF's Wasilla Fishhook/Main Street project includes a traffic study, which will examine alternative solutions and should be completed in 2005.

Wasilla is a railroad passenger destination. A commuter railroad facility has been proposed for a variety of locations between the Glenn Highway and Pittman Road.

LCMF completed a Wasilla Airport multi-modal plan that includes rail and air travel interconnectivity, which will affect Church Road traffic to the Parks Highway.

4.2.3 Potential Future Development

The area immediately east of Wasilla toward Palmer may be annexed into Wasilla relatively soon. An area east of Trunk Road near the new interchange is the site of the new Valley Hospital and will likely be annexed by the City of Palmer in the near future. Near-term additional growth is expected to the east toward the Fairview Loop area. Recent commercial-type annexations to the east of downtown have been made.

The Big Lake and Meadow Lakes areas are growing rapidly – Meadow Lakes has 6,000 to 7,000 residents. The two community areas are beginning to cooperate on projects. A Matanuska-Susitna Borough representative reported that in the future there will be a fire training facility on Kenlar Road off Big Lake Junction.

The Matanuska-Susitna Borough is examining population density and the possibility of forming a Metropolitan Planning Organization. The borough is actively seeking economic development and projects that its population will double by 2020. According to ISER, the current population of 60,000 will increase to 104,000 by 2015. Approximately 600 new families move in per year. The growth rate of this planning unit is three times that of Anchorage. The undeveloped land supply is much more plentiful than in Anchorage or Eagle River.

4.2.4 Adjacent Landowner and Government Considerations

The Matanuska-Susitna Borough is updating its comprehensive plan. The borough has the *Core Area Comprehensive Plan*, *Knik-Fairview Comprehensive Plan*, and *Big Lake Comprehensive Plan*. The Meadow Lakes Community Council is currently preparing a comprehensive plan, which includes some analysis of alternate routes for the Parks Highway in the Meadow Lakes Area.

The Cities of Wasilla and Houston have zoning. Borough staff does the platting, and are open to controlling access onto the Parks Highway through the platting process. Improved coordination between ADOT&PF and the borough is needed to achieve additional success controlling access.

If a bridge crossing of the Knik Arm is constructed, connecting downtown Anchorage with Point Mackenzie, the growth and traffic patterns in the Wasilla to Willow area will change dramatically. Construction of this bridge may reduce the need for some improvements because of the provision of this alternate access route and may increase the traffic volumes in other sections of the highway. The effect of this change on traffic patterns is being evaluated as a part of a joint ADOT&PF/Matanuska-Susitna Borough traffic modeling project.

There has been some discussion about constructing an air cargo facility near the Port Mackenzie area if the Knik Arm bridge is built.

The railroad commuter study done by ARRC indicated initially that commuter rail service to the valley would solicit only a few hundred riders. The ARRC has several projects underway to straighten curves decreasing the amount of time required for a commuter train to travel to approximately one hour.

4.2.4.1 Scenic, Recreational, and Tourism Enhancements

This section of the highway is relatively urbanized and surrounded by private land. There is somewhat less opportunity for the recreational, scenic, or tourism enhancements that exist in all of the planning units to the north.

An undercrossing of the highway for a trail at Wasilla Lake is being constructed as part of the Parks Highway upgrades. A trailhead and rest area are scheduled to be constructed Wasilla's New Sports Complex on South Church Road off the Parks Highway.

The City of Wasilla wants to have multi-modal crossings to serve pedestrians and bikes at Crusey Street, Knik-Goose Bay Road, and Church Road.

4.2.5 Long-Term Needs

There is a common understanding that major improvements for capacity, safety, and access management are needed on the Parks Highway near Wasilla. The volume of through traffic mixed with the local traffic and access cause unacceptable congestion. Support has been building for a bypass of downtown Wasilla that will provide a long-term solution. Without a bypass, a better access management plan on the existing alignment is needed. Additional travel lanes will be needed on any section not bypassed.

4.2.5.1 Safety Improvements

Interviews indicated that the Church Road to Pittman Road section of the Parks Highway had a high crash rate. In 1998, there were 38 accidents in this section, and in 1999 there were 43 accidents. Informal studies by ADOT&PF indicate that those numbers of accidents are about average for that type of roadway. Several crashes in both years – 11 in 1998 and 9 in 1999 – resulted from collisions with moose. The section from Church Road (MP 44.4) to Nancy Lake access road in the next planning unit (MP 64.5) had 34 of the 63 moose collisions on the entire Parks Highway in 1998 and 26 of the total 66 moose collisions in 1999.

If this more populated and concentrated portion of the Parks Highway (between Church Road and Nancy Lake Parkway) corridor evolves to a restricted-access roadway, similar to the Glenn Highway at Eagle River, it would present the possibility of including lighting or fencing and undercrossings to control movement of moose. Fencing is not likely to be possible for the upcoming improvement projects because highway access probably will be too unrestricted. ADOT&PF is considering this section as a Potential Demonstration Site to employ animal-vehicle mitigation using advanced technologies.

4.2.5.2 Additional Through-Lanes

Four lanes through much of this planning unit are needed in the near term. Recent projects to build/add controlled access freeway lanes east of downtown Wasilla were much welcomed by the traveling public. West of Wasilla, there are design decisions yet to be made before the next highway upgrade. A four-lane cross-section will be needed, even if any part of this segment is bypassed for through traffic in the future. Several of the intersecting roads are sufficiently high in volume to merit consideration of interchanges in the near term or long term.

East of downtown Wasilla, four lanes is likely to be sufficient through 2030. This conclusion is based on a comparison of projected traffic volumes on that section to current volumes on the Glenn Highway near Anchorage, and assuming that the peak-hour directional split would be 60 percent in the predominant direction. The fact that this area will have full access control is critical in this calculation. It should be noted that the segment east of Seward Meridian Parkway was designed to be easily upgraded to six lanes when conditions warrant.

In downtown Wasilla (between Palmer-Wasilla Highway and Knik-Goose Bay Road), additional lanes and probably a second or even a third corridor will be necessary to address the traffic volume load in 2030. If there continues to be direct access along this segment and any proposed bypass of the Parks Highway, as many as 12 lanes total could be needed to carry the expected east-west traffic. Some of the additional traffic could be handled by parallel routes such as the recently constructed Palmer-Wasilla Highway extension and the planned Seldon Road connections. If the Parks Highway were to become fully access-controlled, the number of required lanes needed could decrease to as little as six. Here, it was assumed that the peak-hour directional split would be 50 percent. Fully access-controlled highways carry about two to three times the volume of a non-access-controlled highway. These calculations illustrate the benefit of restricting access on a new Parks Highway bypass.

The environmental process has been started to evaluate expanding the portion of the Parks Highway from Lucas Road to Big Lake Road. To meet capacity needs in 2030 this section will need to be at least 4 lanes if access controlled. If there is direct access, the lane requirement would be six to eight, depending on how the commute pattern develops by 2030. If the project now starting does retain at-grade intersections, these connections should be located to evolve into interchanges in the future. Purchasing access rights between these access points should be investigated. Right-of-way for this solution, including interchanges, should be acquired or protected as soon as possible. East of the railroad overpass, four lanes with well-managed driveways may be adequate if the bypass is to be built. All of these options will be investigated in detail in the future. How the long-range possibility of a new connection to Anchorage via the potential Knik Arm Crossing will affect all or parts of this planning unit still needs to be evaluated.

4.2.5.3 Bypasses

There is growing sentiment that Wasilla should have an alternate highway corridor around the City that would be controlled access. Several alternate freeway alignments, grouped into two primary corridors, have been identified for the Parks Highway. A location study was developed in 1982 for a highway bypass route south of downtown Wasilla. In 2001 a railroad bypass in this general area was conceptualized for ARRC for the City of Wasilla. Both studies considered a range of alternatives within a "northern corridor," which follows a generally undeveloped east-west track between Fairview Loop and the Old Matanuska-Willow Road, and a "southern corridor," which follows another undeveloped east-west track south of the eastern segment of Fairview Loop Road. Options considered to date have east end connections at the Glenn Highway, one half mile east of Hyer Road and near Herman Road. To the west, the two general corridors join south of Lucille Lake to form a common corridor running northwest to the existing ARRC and Parks Highway alignments. The westerly connections to the existing Parks Highway currently being examined include the region near Jacobsen Lake to Vine Road.

Many businesses have indicated support for locating a freeway around Wasilla during this planning effort. In the past, a significant number of business owners had opposed the bypass, but gradually the general attitude has turned to support because of evolving access and congestion problems. This support assumes the bypass will be a limited-access roadway so that new, competing businesses will not develop around the new alignment. Fuel stations

are the main holdouts against a relocation (note there are no gas stations on the south side of the Parks Highway through Wasilla). One version of a bypass generally opposed by business owners is a one-way couplet using the existing highway to handle westbound traffic and a new eastbound alignment.

The 1996 comprehensive plan for Wasilla states that Wasilla is not opposed to a relocated highway corridor. The comprehensive plan is being rewritten and will support the bypass.

Most people support the concept of a bypass. Businesses do not want to lose road frontage, but most realize that an improvement of this magnitude will have to happen. These business owners believe that a bypass would be much better than frontage roads. Some business owners fear that future highway upgrades may require developing additional frontage roads in downtown Wasilla and believe that a bypass would be a better option.

Figure 4-4 shows alternative Wasilla routes. Route E is considered by the City of Wasilla to be the best for the railroad relocation, but not necessarily best for the highway relocation.

New Parks Highway Location Study, 1982. The purpose of this study was to investigate alternative alignments for the Parks Highway through the Wasilla area to accommodate the projected traffic growth while the highway continues to function as an interstate highway.

The study examined three bypass alignments and an upgrade to the existing alignment. Alternative A follows the southern corridor, while Alternatives B and C generally follow the northern corridor. Alternative A was selected as the preferred alignment based on an evaluation of construction costs, right-of-way costs, and social and economic impacts. Figure 4-4 shows the general location of each alternative.

Alternative A is a two-lane, limited-access roadway with at-grade intersections. The alignment begins with a new interchange about 1 mile south of the existing Glenn Highway/Parks Highway intersection, and heads west on a new alignment across the tidal flats, continues northwest climbing from the tidal zone until it turns west before crossing Davis Road. The alignment continues west, crossing Fairview Loop before turning northwest and crossing Cottonwood Creek and Knik-Goose Bay Road north of Edlund Road. Continuing northwesterly across Lucille Creek, the alignment eventually turns west to tie into the existing Parks Highway tangent south of the railroad alignment near MP 47.

Alternative B is a two-lane, limited access roadway with at-grade intersections for the bypass, and a four-lane, controlled-access roadway along the existing section. It follows the existing alignment from the Glenn Highway intersection at MP 35, to MP 37 where it leaves the existing right-of-way. Continuing west, the alignment crosses ARRC tracks, Wasilla Creek, Fairview Loop Road, Cottonwood Creek, and Knik-Goose Bay Road and continues past Lucille Lake before turning northwest to cross Lucille Creek. The alignment continues northwest before turning west to join the alignment near MP 47.

Alternative C is a two-lane limited access with at-grade intersections for the bypass, and a four-lane controlled access facility along the existing section. It leaves the existing right-of-way west of Seward Meridian near MP 39 where it turns southwest to join the Alternative B alignment before crossing Cottonwood Creek and continues west along the Alternative B alignment. Similar to Alternative B, the alignment turns northwest before turning west to join the existing alignment near MP 47.

Alternative A likely will require major refinements to the beginning of the alignment for it to be a practical solution. Given the current plan for upgrading the existing Glenn Highway/Parks Highway intersection to a system interchange and the environmental challenges faced during the permitting process, it is impractical to consider a new location for the intersection of the two highways. Refinements to Alternative A likely will include options that tie into the existing alignment near MP 37, the end of the recently expanded four-lane, divided section.

All three alternatives cross through the Wasilla Airport before rejoining the existing alignment near MP 47. Options that avoid or minimize impacts to the Wasilla Airport, such as paralleling the ARRC tracks north of the airport or re-connecting to the Parks Highway at a different location, need to be investigated.

Wasilla Alaska Railroad Relocation Reconnaissance Study, 2001. The purpose of this study was to develop alternative routes and estimate costs for relocating the ARRC around the City of Wasilla to improve safety, improve rail operations, and provide options consistent with the city's planning objectives for the downtown area.

The study examined five alternative route alignments, four of which (Routes A, B, C, and E) are variations of a northern corridor, and the fifth (Route D), which follows the southern corridor. Route

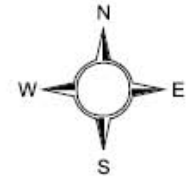
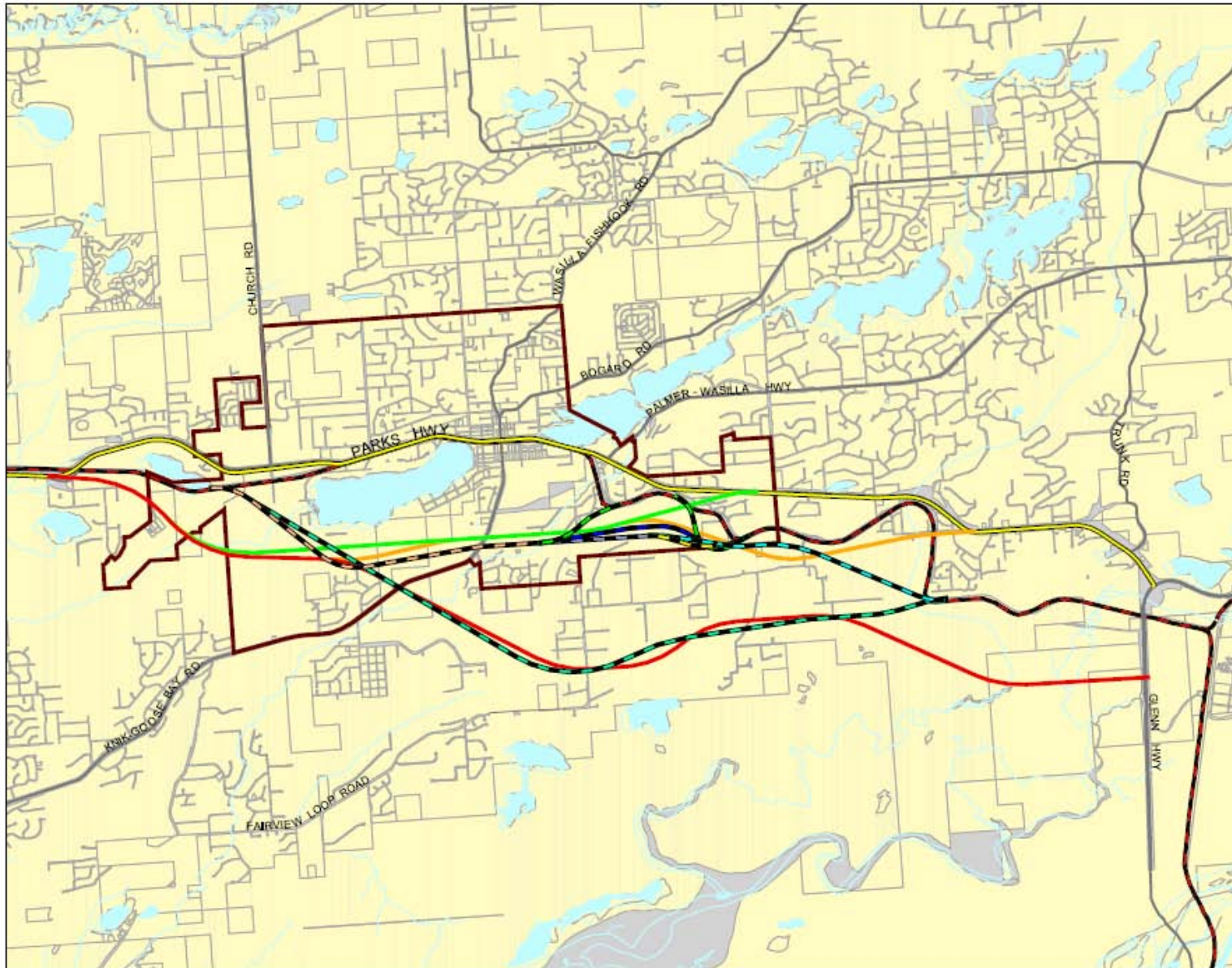
D was selected as the preferred alignment by ARRC. Figure 4-4 shows the general location of each alternative route.

Routes A, B, and C all essentially leave the existing ARRC corridor within a segment west of Seward Meridian and continue west with varying alignments until becoming coincident before crossing Cottonwood Creek. The alignments continue west through the northern corridor across Knik-Goose Bay Road before turning northwest around Lake Lucille, crossing Lucille Creek, and turning west around the Wasilla Airport before joining the existing alignment south of Jacobsen Lake.

Route D leaves the existing rail alignment east of Wasilla Creek and runs west through the southern corridor, crosses Fairview Loop, then turns northwest before crossing Cottonwood Creek, Knik-Goose Bay Road, and Lucille Creek. Continuing northwest and similar to Routes A, B, and C, Route D turns west around the Wasilla Airport before joining the existing alignment south of Jacobsen Lake.

Route E leaves the existing rail alignment at the same location as Route D, then turns northwest for about 2 miles before joining the northern corridor near the beginning of Route C. The route then follows the same alignment as Routes A, B, and C before rejoining the existing rail alignment.

Wasilla Area Intermodal Plan. The Matanuska-Susitna Borough, Alaska Railroad Corporation, and Alaska DOT&PF are currently involved in a separate planning effort that further evaluates the feasibility of a rail corridor along Route E described above. The results of that study are anticipated later this year, 2005. The Alaska DOT&PF is seeking funding from the legislature to study the option of coordinating with the Alaska Railroad Corporation to evaluate a multimodal corridor that would include both the railroad and a freeway south of Wasilla. Options to be considered could include alignments that would extend the bypass further west of Jacobsen Lake.



LEGEND

- Parks Highway
- Other Major Roadways
- Alaska Railroad
- Wasilla City Limits
- Water Bodies

Alternatives Considered in the New Parks Highway Location Study, 1982:

- HIGHWAY BYPASS A
- HIGHWAY BYPASS B
- HIGHWAY BYPASS C

Alternatives Considered in the Wasilla Railroad Relocation Reconnaissance Study, 2001:

- RAILROAD BYPASS A
- RAILROAD BYPASS B
- RAILROAD BYPASS C
- RAILROAD BYPASS D
- RAILROAD BYPASS E
- RAILROAD BYPASS C,E
- RAILROAD BYPASS A,B,C,E

Figure 4-4 Previously Studied Wasilla Bypass Alignments



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Figure 4-5
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Front

Figure 4-6
color
11 x 17
Front

Land Status. Figure 4-5 shows possible bypass alignments with general land ownership data from the Matanuska-Susitna Borough. The northern and southern corridors can be seen as generally private tracks of land between mostly residential development. Figure 4-6 is essentially the same as Figure 4-5, with the addition of shaded subdivided lands. Figure 4-6 highlights the areas where the bypass alignments border or affect developed residential areas. Although currently much of the land is undeveloped, the relatively fast rate of the development and subdivision activity occurring within the borough may preclude these options from being viable within a fairly short period of time.

Figures 4-5 and 4-6 show the conflict between the highway bypass alignments and the Wasilla Airport, which is highlighted partially with subdivided land shading and forms the western boundary of the City of Wasilla.

Identified Environmental Issues/Challenges

- **Stream Crossings.** All of the highway bypass alternatives cross Wasilla Creek, Cottonwood Creek, and Lucille Creek. Alternative A also crosses Spring Creek. All of these streams contain anadromous and other sportfish. The railroad bypass routes also require crossings the streams.
- **Wetlands.** Generally, the alternatives avoid major wetlands, however, about 3 of the first 4 miles of highway bypass Alternative A pass through the tidal flats of the Knik River and other sensitive wetlands.

The rail study researched wetland maps and identified two main wetland areas. The first is the gully bottom traversed near the beginning of Routes B and C. The second is east of the Wasilla Airport and is crossed by all five routes before rejoining the existing rail alignment north of the airport.

4.2.5.4 Interchanges

As part of this visioning process the intersection with Big Lake Road was investigated conceptually for conversion to an interchange. More recently, the interchange project has been considered for inclusion in the Statewide Transportation Improvement Program. This intersection provides a connection between the Parks Highway and Big Lake Road to the southwest, near MP 52.4. Big Lake Road intersects the Parks Highway at a 90 degree angle. Two interchange options were investigated at this location.

It is important to understand that the highway improvements that are included in this report do not represent any final decision about the design of future improvements. These concepts are offered only as examples of how future transportation needs might be met, consistent with the overall vision for the Parks Highway. The actual decisions about future improvements like these will be made using formal environmental analysis, significant public involvement, and a structured decision-making process.

Option A (Figure 4-7) would place the interchange at the existing intersection and add frontage roads in each quadrant of the interchange. The minor road would cross over the Parks Highway. The frontage roads for this option would extend from MP 51.0 to MP 53.3.

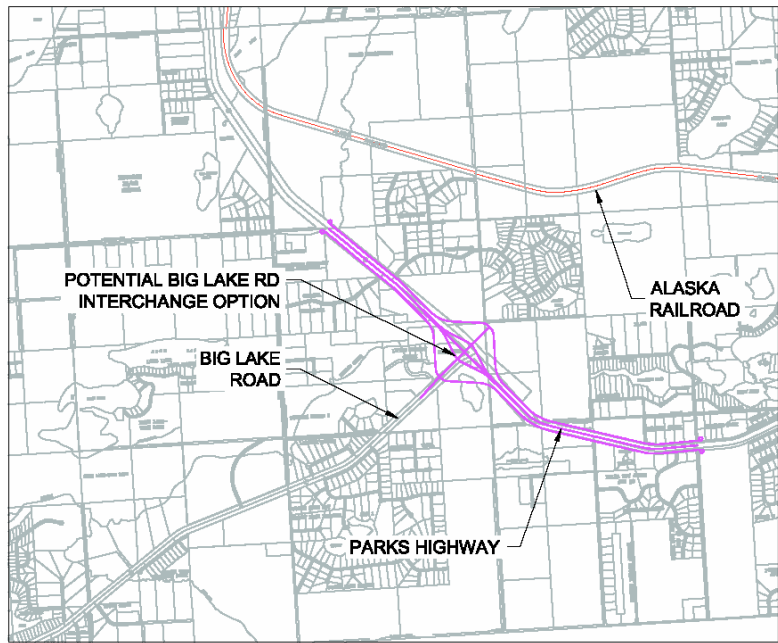


Figure 4-7. Big Lake Junction Interchange, Option A

This option would affect three businesses located in the northeast and southeast quadrants, a church in the southwest quadrant, and a lumberyard and strip mall in the northwest quadrant. The estimated cost of this project is \$24.4 million in 2001 dollars.

Option B (Figure 4-8) would realign the Parks Highway slightly to the east, place the interchange at MP 52.0, approximately 0.4 mile southeast of the existing intersection, and add frontage roads in each quadrant of the intersection. The minor road would cross over the Parks Highway and the frontage roads for this option would extend from MP 51.0 to MP 53.3. This option would affect three businesses located in the northeast and southeast

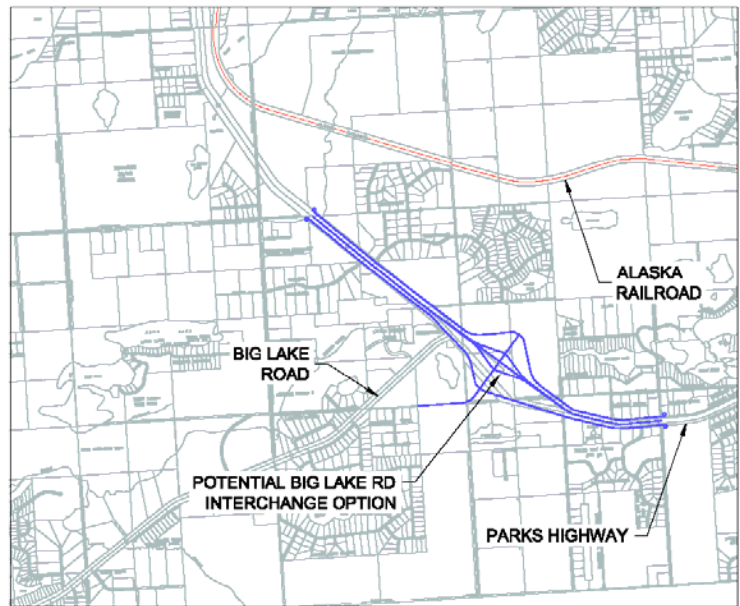


Figure 4-8. Big Lake Interchange, Option B

quadrants as well as other private parcels in all four quadrants. The estimated cost of this project is also \$24.4 million in 2001 dollars.

4.2.5.5 Future Right-of-Way Needs

Any of the bypass options and both of the interchange options with the associated frontage roads would all require new rights-of-way. Because this area is developing quickly, it is imperative that future right-of-way needs be identified and protected as soon as possible.

4.2.5.6 General Access Management Strategy

City administration officials in Wasilla have expressed support for construction of an alternate controlled access freeway south of downtown. Many owners of existing businesses, City Administration, and some affected neighborhoods have stated that the alternate highway should be access controlled to avoid sprawling commercial strip development that would compete with existing business and reduce the economic vitality of Downtown Wasilla. The cost of constructing a controlled access freeway would be more than a new highway alignment with at-grade intersections, but the benefit of a freeway would be significantly more in terms of travel time, safety, and capacity. If an alternate highway to the Parks Highway were to be constructed a freeway facility would be most consistent with the "vision" for the Parks Highway.

An alternate option that was previously supported by the City of Wasilla is to relocate the railroad and improve the Parks Highway in its current location. The railroad has limited the access to and growth of the lands south of the Parks Highway in the Wasilla area. The city has developed a landscape architectural rendering of an improved Parks Highway. It has landscaped medians with left turns restricted to only public right-of-way. The city has done the preliminary study to move the railroad out of downtown. The city supports the railroad relocation independent with or without the highway relocation. ARRC supports the rail relocation, and is seeking to partner with ADOT&PF to evaluate a combined rail and highway corridor south of downtown Wasilla.

While DOT&PF supports the vision of developing a controlled access freeway facility around Wasilla, there is also benefit to promoting access management along the existing alignment through Wasilla whether the existing alignment is bypassed or not. Until now, the railroad has prohibited access points along the south side of the Parks Highway. If the railroad were relocated, a carefully managed access plan should be developed before the south side of the Parks Highway is developed commercially.

Eventually future right-of-way of the existing alignment in this entire planning unit may need to be wide enough to accommodate a six-lane, divided highway unless adequate alternate routes or a bypass are developed. The abundance of private land and dramatic population growth in this planning unit have created increased demand for access to the highway from adjacent developing lands.

Frontage roads or access roads would be needed to serve local access. Business owners in Wasilla have expressed concern about the design of frontage roads, but these roads need to be included in future in-depth investigations done for this area. West of the potential bypass area, frontage roads need to be among the options investigated. Divided highways, which include frontage roads that serve adjacent lands, are right-of-way intensive and in some locations will exceed the width of the existing right-of-way. Where possible, these roads should be provided outside of Parks Highway right-of-way in coordination with development overseen by the Matanuska-Susitna Borough.

4.2.5.7 System Improvements

“System improvements” are improvements that are needed on parts of the overall transportation system outside of the Parks Highway.

A new road (Seldon Extension) combined with an existing road (Bogard Road), north of the Parks Highway, from Palmer on the Glenn Highway to the Parks Highway at King Arthur Road is supported in the Matanuska-Susitna Borough Long Range Transportation Plan. It would be a secondary paved road and an alternative parallel route for east-west traffic to relieve pressure on the Parks Highway. The City of Houston, working with borough planners, has the right-of-way for portions of this route. This right-of-way for most of the segment to the west is wide enough to encompass a four-lane facility.

Additional north-south routes connecting to the Parks Highway and Seldon Road are needed to relieve congestion. Wasilla needs these routes so that Seldon Road will not send more traffic into downtown from the north. These north-south routes are Trunk, Lucas, Church, Lucille, Crusey, Seward-Meridian Parkway and Palmer-Wasilla Highway. Only Palmer-Wasilla Highway and Knik-Goose Bay Road/Wasilla Fishhook Road cross the Parks Highway. Connecting north-south routes across the existing Parks Highway is a major problem.

Capacity improvements are needed on the Palmer-Wasilla Highway. Turning lanes have recently been added at intersections, but more lane capacity is needed because exiting driveways is difficult. Constructing additional lanes would remove some traffic from the Parks Highway. The Palmer-Wasilla Highway extension makes a big difference in traffic volumes in central Wasilla, removing about a third of the traffic along the Parks Highway between Palmer-Wasilla Highway and Knik-Goose Bay Road. Projects to construct these improvements are in the State Transportation Improvement Program (STIP), but have continued to slip further into the future.

The following suggested system improvements also were received during initial interviews with local government officials:

- Bogard Street needs a southbound connection east of the downtown core.
- The Palmer-Wasilla Extension should be considered for extension beyond Knik-Goose Bay Road to Hollywood Road.

4.3 Northwest of Big Lake Junction Through Willow

4.3.1 Description of Unit

This planning unit extends for 19 miles from northwest of the intersection of the Big Lake Road intersection (MP 53) through the Susitna Valley to Houston and then to Willow (MP 72). A significant portion of this segment is rural, primarily birch forest, with roadside commercial development located in several clusters. Figure 4-9 shows this planning unit.

The commercial core of Houston is at Big Lake Road. This local area is destined to grow along with the Big Lake area. Adjacent to the highway, the rest of Houston and the community of Willow are lightly developed.

There are two railroad crossings in this section, but both have been grade-separated by recent construction projects.

North of the Big Lake Road intersection, traffic volumes are much lower than south of the intersection. The 2000 volume was 3,800 vehicles per day. This AADT volume is expected to grow

to 8,000 by 2030. This region is subject to significant seasonal variation, and the peak monthly ADT is estimated to be as high as 13,500 vehicles in 2030.

Willow has 2,000 residents and most commute to the south. It is among the fastest growing areas in the borough. The area's demographics are changing as new residents are building homes in clusters. There are many platted lots near Willow that are ready for growth. Some interviewees stated that Willow is the third area along the corridor with existing congestion.

Traffic problems in this unit are mostly associated with heavy, slow-moving summer traffic. As development density increases in the future, congestion associated with an increasing number of access points will occur unless it is mitigated.

Currently, all but the southerly 4 miles and the most northerly 5 miles of this unit were recently reconstructed. The projects added passing lanes and included a paved pathway on the west side of the highway and a pathway on the east side as well in the area between downtown Houston and Hawk Lane.

4.3.2 Programmed Projects

The Segment of the highway from Willow to Kashwitna is currently in design. Construction of this project is anticipated near the end of this decade.

4.3.3 Potential Future Development

Job growth in the Palmer/Wasilla area has spurred population growth and development in Houston and Willow. Many of these new Matanuska-Susitna Borough residents use the Parks Highway for commuting to work in Anchorage. These commuters represent about 30 percent of the borough workforce. The highway improvements currently under design or construction in the greater Wasilla area will alleviate the existing bottleneck in that area and shorten travel times between Anchorage and Houston to near 1 hour. This, and any further reductions in travel time, will increase the appeal of the Houston/Willow area to Anchorage workers. At the same time, local residents are concerned about new signals in Wasilla that may off-set these delay reductions.

Eagle River and Anchorage are facing land constraints, which are driving up the cost of housing. Wasilla, Houston, and Willow still have plentiful, inexpensive, developable private land.

Much of the recent growth in Houston and Willow is a result of the desirability of lakefront property, which is abundant in this region. The area near Big Lake on the south end of this unit likely will develop first. Bigger homes are being built there now. The design life of the recent construction project in this region will depend on whether the Wasilla bypass is built. Local leaders believe that if the bypass is not built, four lanes would not be needed in this section for quite some time, but if the bypass is built, four lanes would be needed here sooner. It should be noted that the existing two-lane bottleneck in Wasilla and to the east will be eliminated by projects currently in design or construction.

A new middle school is being built near Houston High School to handle the additional student population.

Paving the road over Hatcher Pass will provide an improved connection between the Parks and Glenn Highways and may have a slight effect on the traffic volume south of Willow.

The Matanuska-Susitna Borough is developing Port Mackenzie. Manufacturing firms are interested in locating at Port Mackenzie, which is on the Knik Arm Crossing route. This development will happen with or without the Knik Arm Crossing. In the meantime, a ferry across the Knik Arm is

proposed by the Matanuska-Susitna Borough. Construction of the ferry is due to be completed by 2006. Ultimately, a new connection to the Parks Highway from the Knik Arm Crossing may be constructed. The Matanuska-Susitna Borough recently held hearings to adopt an ordinance amending borough code to include a major corridor study for this project. Adoption of the ordinance will include what is known as highway corridor number 7 which follows the existing road alignment from the Parks Highway through Big Lake Road, South Big Lake Road, down Burma Road and Ayrshire and Point McKenzie Roads to the Port. The Cities of Wasilla and Houston have zoning. Estimates about the timeframe for this connection range from 10 to 30 years. Most of the land for this route is still in public ownership. The road could intersect the Parks Highway near Millers Reach Road in Houston. This was the most cost effective of the routes studied in 1992. ARRC also may use this corridor. If this route becomes a reality, it could make a bypass at Houston a necessity, put Willow at an easy commuting distance of Anchorage, and increase the number of visitors to the south side of Denali National Park and other tourist and recreational attractions in the Susitna Valley.

4.3.4 Adjacent Landowner and Government Considerations

The Matanuska-Susitna Borough does platting and the City of Houston holds hearings to gather input for the borough's process. Houston has zoning regulations and is currently more restrictive than most of the borough. The borough assembly generally follows city council-recommended action on plats.

If a bridge crossing of the Knik Arm were constructed to connect downtown Anchorage with Point Mackenzie and that roadway extends north to the Parks Highway, the growth and traffic patterns within this unit would change dramatically. Construction of this crossing may reduce the need for some improvements because of the provision of this alternate access route and may increase the traffic volumes in other sections of the highway. The effect of this change on traffic patterns is being evaluated as a part of a joint ADOT&PF/Matanuska-Susitna Borough traffic modeling project. The results of this model were made available in 2002 and will be considered in future planning efforts.

Impacts from the operation of the Willow Airport, adjacent to the Parks Highway near Willow-Fishhook Road, need to be considered in any future evaluation of this unit.

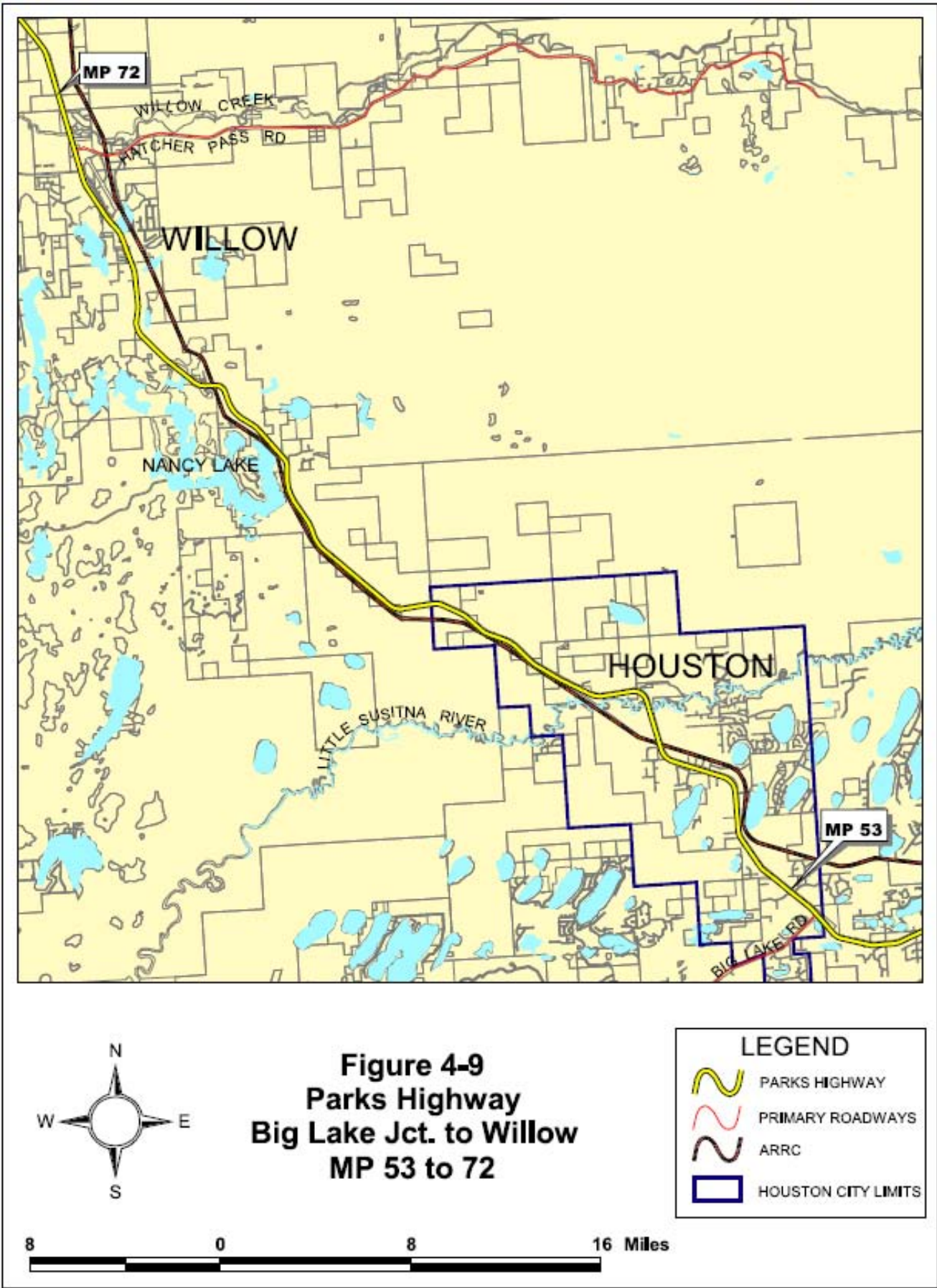
4.3.5 Long-Term Needs

4.3.5.1 Additional Through-Lanes

Public opinion on this unit ranges from "it needs four lanes today" to "it needs four lanes in 20 years." The traffic projection stated previously says that on an average annual traffic basis, this section will not need four lanes even in 2030. The seasonal peaks need to be investigated more thoroughly in the future. Preliminary information is that summer traffic volumes in 2030 in this section will be 13,500 vehicles per day. This is in the range where ADOT&PF probably will plan for a four-lane section. There is enough roadside development in this planning unit to warrant frontage roads, at least in some sections. Average annual traffic volumes in the developed areas of Houston and Willow most likely will warrant four lanes within this study period. As stated earlier, the construction of the Knik Arm Crossing could significantly alter these projections.

4.3.5.2 Bypasses

Development density in this planning unit is not currently dense enough to make bypasses necessary. It is expected that the full range of highway functions can be adequately provided by climbing lanes; passing lanes; widening to four lanes, at least in Houston and Willow; and a



good access management plan, which could include frontage roads and interchanges in selected locations.

If the Knik Arm Crossing with a connection to the Parks Highway becomes a reality in the future, it would provide an alternate route, at least in Houston, depending on the alignment chosen.

4.3.5.3 Interchanges

At this time, no new interchange locations have been identified in this planning unit. When the access management plan is developed in more detail, it may indicate the need for one or more interchanges.

4.3.5.4 General Access Management Strategy

The abundance of private land and population growth in this southern portion creates demand for access to the highway. Frontage roads or access roads may be needed to serve local access. It may be preferable to connect these access roads and other system roads to the Parks Highway via interchanges. There is resistance in Willow to the use of frontage roads, but they are one of the tools that will be investigated when the access management plan is developed in more detail.

All agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access via public streets that may evolve from stop-sign-controlled intersections to interchanges. Purchasing access rights may be one of the tools used to manage this section.

4.3.5.5 Future Right-of-Way Needs

The adequacy of the right-of-way in these areas needs to be investigated. Some of the rural section may have sufficient right-of-way for four lanes if frontage roads within the existing right-of-way are not required. Divided four-lane highways, which include frontage roads that serve adjacent lands, are right-of-way intensive and if this cross-section is needed in some locations, it may exceed the width of the existing right of way. Access roads should be provided outside of the Parks Highway right-of-way, where possible, otherwise, controlling access within existing rights-of-way may not be possible.

4.4 North of Willow—Through Trapper Creek

4.4.1 Description of Unit

This unit extends from MP 72 just north of Willow to MP 118 just north of Trapper Creek, following the Susitna Valley. Birch and white spruce forests, black spruce bogs, cottonwood, and willow border the corridor. Views of the Talkeetna Mountains and brief glimpses of Mount McKinley can be seen from the highway. The corridor crosses numerous valleys defined by small hills and ridges with creeks and rivers that feed into the Susitna River. These creeks and rivers are noted for outstanding fishing and include Willow Creek, Little Willow Creek, Kashwitna River, Caswell Creek, Sheep Creek, Montana Creek, and the Susitna River. This area has a rural character with development clustered around small community nodes or stream and river crossing fishing access points. An important intersection is located at Sunshine (MP 98.7) where the 14-mile-long spur road to Talkeetna begins. Sunshine, also known as the Talkeetna Y because of the turnoff to Talkeetna Spur Road, is not heavily developed, but commercial development and public services are increasing. The east end of the Big Susitna bridge has few businesses catering to the public. The 10-mile-long section from Sunshine to Trapper Creek is rural. Currently, the main impact of roadside

development from the Trapper Creek community is at the Petersville Road intersection. There are two to three businesses clustered around that intersection. Figure 4-10 shows this planning unit.

In the community of Trapper Creek, the ambulance shed currently fronts on the highway but the community intends to relocate the shed.

The Parks Highway must serve local traffic and through traffic. It is a vital transportation route to residents north of Willow in the Matanuska-Susitna Borough. For the most part, there are no parallel routes and few perpendicular access routes. The Parks Highway serves through traffic between the coastal area of Alaska and the interior parts of Alaska located far to the north. It serves the everyday mobility needs of people who live in the communities located along the length of the highway, and serves the scenic and recreational demands of local citizens and tourists.

In this planning unit, the 2000 traffic volume was 2,200 vehicles per day. This average annual daily traffic volume is expected to grow to 4,700 by 2030. The seasonal variation needs to be examined more closely. Summer volume may be twice the annual average, although residents stated that there is more residential traffic than tourism through traffic.

There was congestion reported during interviews at Su Valley High School, the Upper Susitna senior citizens complex, and the fire station. Growth has occurred rapidly in this area. Any new projects must consider growth and population factors and access to subdivisions and facilities.

Talkeetna is a major railroad passenger destination.

4.4.2 Programmed Projects

Section 4.3.2 describes a project that provided an upgraded two-lane section through Willow in 2002. This same concept will be extended to the Kashwitna River, MP 83, in the future. Some development funds are programmed in the current STIP, but the bulk of the construction funds will be programmed beyond 2006, the period of the current STIP.

The same schedule for a two-lane highway upgrade exists for the section from the Kashwitna River northerly to the Talkeetna Spur Road, MP 98.5. This project would include grade-separating the Sheep Creek railroad crossing at MP 91.

The same schedule for a two-lane highway upgrade exists for the section from the Talkeetna Spur Road northerly to Petersville Road, MP 115. This project would include grade-separating the Sunshine railroad crossing at MP 100.7.

4.4.3 Potential Future Development

The Sunshine and Talkeetna area is growing rapidly based on a recent percentage growth in population and jobs. However, the existing population in this area is still very small – approximately 2,000 people. Growth in Talkeetna could create considerable traffic congestion at the intersection of the Parks Highway and the Talkeetna Spur Road. Some people believe growth will continue and others believe it may be 20 years before significant growth occurs.

A large multi-owner building to serve as a regional center for state troopers, Alaska Department of Fish and Game (ADFG), U.S. Fish and Wildlife Service (USFWS), Borough Safety, the State Division of Forestry, and others will be built in Sunshine to serve as a regional headquarters for 40 to 50 years. A larger senior center is being built, and Susitna High School is planning to add a swimming pool and a world-class cross-country skiing trail system. There will be a business center across from the high school. A vocational training institute is being planned. A new medical clinic, to serve residents north of Willow, is almost completed at MP 4.5 of the Talkeetna spur road.

Tourism appears to be starting to boom in this area. Travel-related services and government services in the greater Talkeetna-Sunshine area are on a steep growth curve. With this expansion, Sunshine will see increasing numbers of these facilities along with residential subdivisions. CIRI's Talkeetna Lodge expanded to 300 rooms in 2002, with year-round operation. There is a need to project regional increases in tourism in Susitna Valley. There are signs that the growth here could be aggressive, similar to growth in the Nenana Canyon area.

The planning stages of opening access to the south side of Denali National Park have begun. Petersville Road could be used initially and it would need to be upgraded and paved. The South Denali Plan covers Petersville Road and improvements on it could be fairly near term. If a south entrance to Denali National Park became a reality in the future, it could encourage development along the Parks Highway in the community of Trapper Creek, not just along Petersville Road. A visitors center about 20 miles from the Parks Highway on state land has been proposed and planned. Residents want a new visitors center either in the Petersville Road area or farther north adjacent to the Parks Highway. These developments may mean that Trapper Creek could experience significant growth during the next 20 years. The National Park Service has given Talkeetna \$100,000 to plan for impacts from the national park and is working with Sunshine to address national park issues.

There are numerous lots accessed via Petersville Road. There are also many lots east of the Parks Highway in this area.

In the winter, the Petersville Road area is becoming a heavy snow machine use destination because of abundant suitable public terrain and abundant snow. The traffic volume on Petersville Road is now higher in the winter than in the summer.

There are hundreds of platted lots in the Sheep Creek/Caswell Lakes area that should be considered. It appears that power may be extended to these lots, which will dramatically increase their potential for development.

4.4.4 Adjacent Landowner and Government Considerations

The South Denali Plan is a regional plan involving state agencies, two boroughs, two landowners, and the national park. The potential for coordination among these agencies and landowners is good, but not much action has occurred recently to implement the South Denali Plan.

The community of Talkeetna wants to remain at the end of the Spur Road.

One member of the public observed that there is a tendency in the suggested solutions to put the highway and railroad together. That was one of the long-range options suggested at the regional meeting in Sunshine. The creation of railroad grade crossings could create conflicts if not handled properly. Grade crossings should be at least 2 miles apart.

4.4.5 Long-Term Needs

There were requests for a separated bike path north from Wasilla all the way to Trapper Creek and, in the future, up to the Chulitna River at the south boundary of Denali State Park. This plan recommends that as the Sunshine and Trapper Creek communities grow, separated paths should be constructed there as part of the future improvement projects, similar to what has occurred in other developed areas. Outside of these areas, bikes should be accommodated on paved shoulders until the ultimate controlled-access facility is built. A separate bike path should be provided whenever and wherever the controlled-access sections are constructed. This includes several bridges where adequate width for bikes is not provided now.

Natural resource development on the North Slope and elsewhere in Alaska could involve increased heavy truck hauling along the Parks Highway. A weigh station is needed somewhere north of mile 72 to capture all truck traffic utilizing the highway corridor.

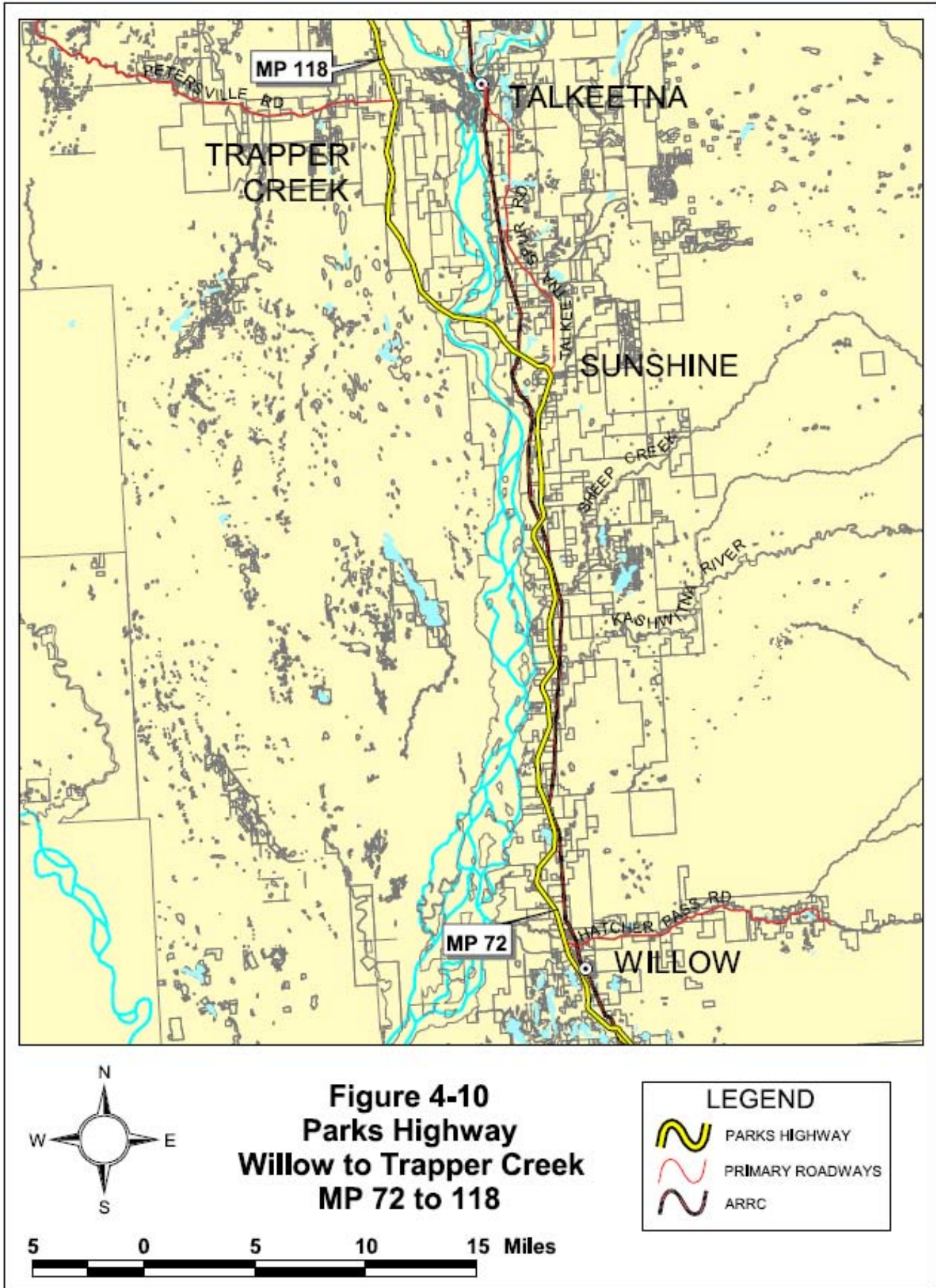
4.4.5.1 Additional Through-Lanes

General public opinion is that this unit will need four lanes within 20 years, at least to the communities of Sunshine or Trapper Creek. The traffic projection of 4,700 vehicles per day in 2030 indicates that, on an average annual traffic basis, this section will not need four lanes, even in 2030. Also as stated previously, the seasonal peaks need to be investigated more thoroughly, and the traffic projection for 2030 could increase to 9,900 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic numbers. Issues regarding how long an upgraded, two-lane section, outfitted with passing and climbing lanes, is adequate and under what conditions will an ultimate four-lane, divided highway be warranted for overall operation and safety purposes still need to be resolved.

4.4.5.2 Bypasses

In Sunshine, the current and short-term planned development is relatively dense compared to the other future growth areas. A bypass may be a more viable solution than major improvements along the existing alignment. This area is at risk of being unable to have the roadway expanded as a result of the development that is likely to occur adjacent to the roadway prior to an improvement project being constructed. Two bypass options were studied conceptually during this first phase of this study.

A route was suggested at the local public workshop that would be adjacent to the west side of the railroad line from MP 91 to MP 101. This bypass option has a potentially fatal flaw in that the railroad is close to the Susitna River for part of this segment and a significant railroad relocation would be necessary to provide space for the highway. In addition to the cost, there are likely environmental issues that would be difficult. This option has the further disadvantage of requiring several miles of nearly parallel roadway to the existing alignment. Further, northbound traffic going to Talkeetna would have to exit the Parks Highway approximately 20 miles south of Talkeetna. This would be somewhat contrary to driver expectation. It is recommended that this route not be studied further.



Sunshine Bypass. One potential Sunshine bypass would be approximately 4 miles (Figure 4-11). This option would realign the Parks Highway to the west beginning near MP 96.3, almost 2 miles south of the existing Talkeetna Spur Road intersection. The Parks Highway then would travel in a northwest direction until it intersects the existing Parks Highway alignment near MP 100.4, about 2 miles west of the existing intersection. This bypass option would include two diamond intersections. The southerly interchange is located along the east-west section line between Sections 32 and 5. The minor road overcrossing of the Parks Highway would be constructed along this section line and intersect with the existing Parks Highway at MP 97.4 to provide local access from the south. The northern interchange is located immediately southeasterly of the ARRC crossing. A grade-separated railroad crossing would be added with the Parks Highway crossing over the railroad. The minor road undercrossing of the new Parks Highway alignment would connect with the existing Parks Highway at MP 99.9 to provide local access from the north. The existing Parks Highway would be used as a local access frontage road from MP 96.8 to MP 100.1.

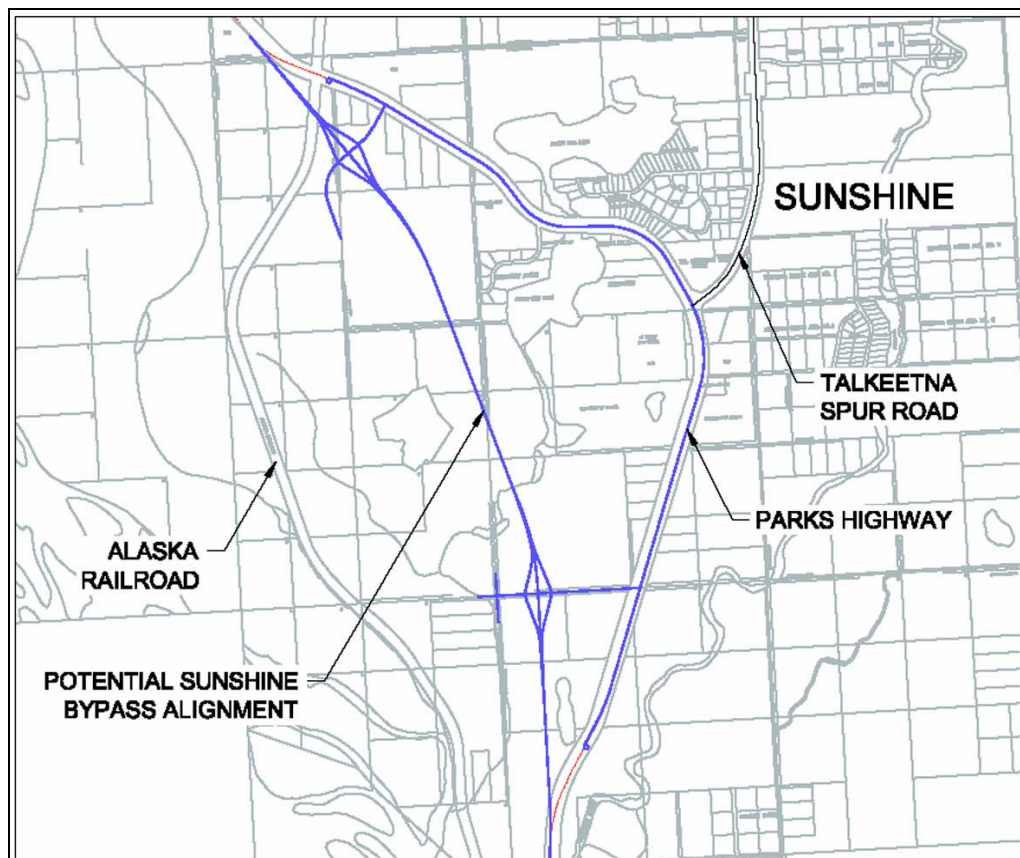


Figure 4-11. Sunshine Bypass

It should be noted that the bypasses and interchanges discussed in this report are to address the business and community development that is anticipated during the next 30 years and beyond. Businesses lining the highway may make it difficult or expensive to improve the highway along the existing alignment. The benefit of most of these bypasses is that after the bypass is built, the old alignment can be managed as a business arterial.

This bypass option would not require any additional frontage roads. The new alignment would affect numerous privately held parcels, but no structures. The estimated cost of this project is \$43.2 million in 2001 dollars.

Trapper Creek Bypass. A bypass also was conceptualized for Trapper Creek (Figure 4-12). The bypass would realign the Parks Highway to the west beginning at MP 113.5, about 1 mile south of the existing intersection. The Parks Highway then would run due north-south until it intersects with the existing alignment at MP 115.4, about 0.5 mile north of the existing intersection. With this alignment, a diamond interchange could be placed at the intersection of the Parks Highway and Petersville Road just far enough west to miss the existing commercial development. The existing Parks Highway then could be turned into a local access road from MP 113.9 to MP 115.2. This bypass option would not require any additional frontage roads, but would affect several private parcels and possibly one structure. If this option is planned now, a longer bypass would not be needed because there is little existing development that needs to be bypassed and future development could be planned to be served by the local access system. The estimated cost of this project is \$17.3 million in 2001 dollars.

4.4.5.3 Interchanges

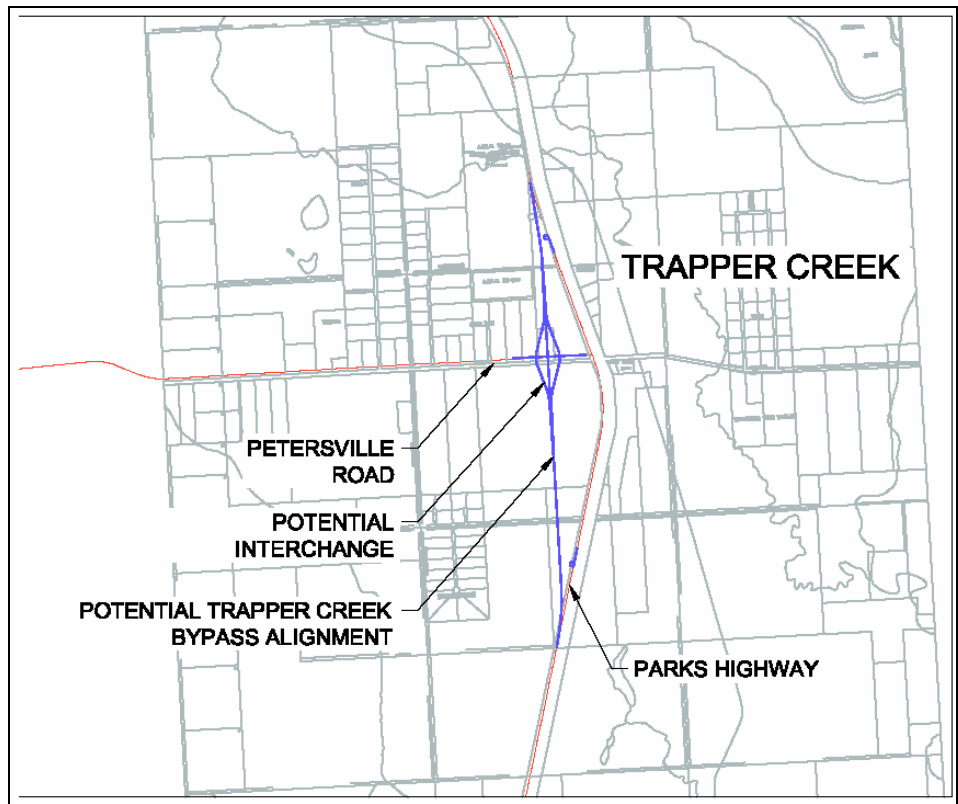


Figure 4-12. Trapper Creek Bypass

The bypasses outlined in Section 4.4.5.3 include interchanges as described. Additionally, as an alternative, two other interchanges on the current alignment were investigated, which would be required if the bypasses were not pursued. The first of these was at the Talkeetna Spur Road intersection in Sunshine (Figure 4-13). The other was at the Petersville Road intersection in the community of Trapper Creek. It was assumed that each of the interchanges would be a diamond

configuration. Land ownership and development were researched at each location to help determine the interchange location as well as the need for possible frontage road systems.

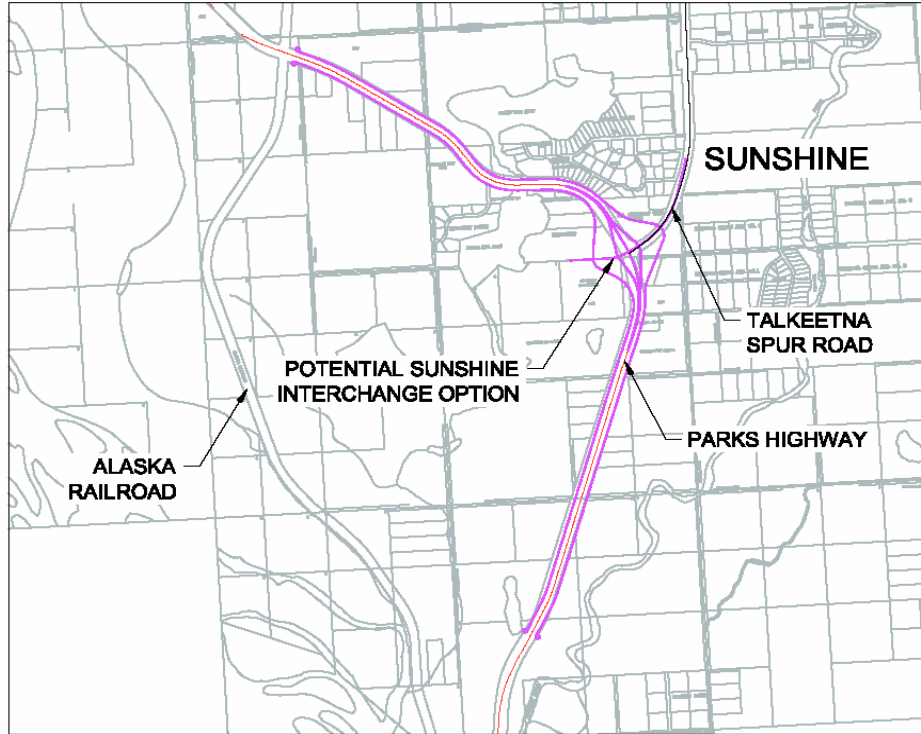


Figure 4-13. Sunshine Interchange

In Sunshine, the interchange is at the existing intersection location and adds frontage roads in each quadrant of the interchange. The minor road would cross over the Parks Highway. The frontage roads for this option would extend from MP 96.8 to MP 100.1. This option would affect a business in the northeast quadrant of the interchange as well as the school in the southwest quadrant of the interchange. The other two quadrants of the interchange would affect private parcels, but no known major structures. The estimated cost of this project is \$18.9 million in 2001 dollars.

In the community of Trapper Creek the interchange is at the Petersville Road intersection (MP 114.7) (Figure 4-14), which is skewed 18 degrees to the left. This intersection provides a connection between the Parks Highway, Petersville Road to the west, and Susitna River Road to the east. In addition to the interchange, there would be frontage roads in each quadrant of the interchange. The frontage roads for this option would extend from MP 114.0 to MP 115.2. This option would necessitate the relocation of a business located in the southeast quadrant of the intersection. The other three quadrants of the interchange would affect private parcels, but no known structures. The estimated cost of this project is \$19.7 million in 2001 dollars.

4.4.5.4 General Access Management Strategy

It remains to be determined if bypasses in the communities of Sunshine and Trapper Creek will be the ultimate solution or whether the Parks Highway will remain on the existing alignment with interchanges at Talkeetna Spur Road and Petersville Road or some other appropriate alternative. If the ultimate solution is interchanges on the existing alignment, a series of frontage roads and the local street system will connect the interchanges to local commercial and residential areas. Individual access points should be constructed to connect to this system, rather than directly to the Parks Highway. Every opportunity should be made to reduce the number of existing driveways

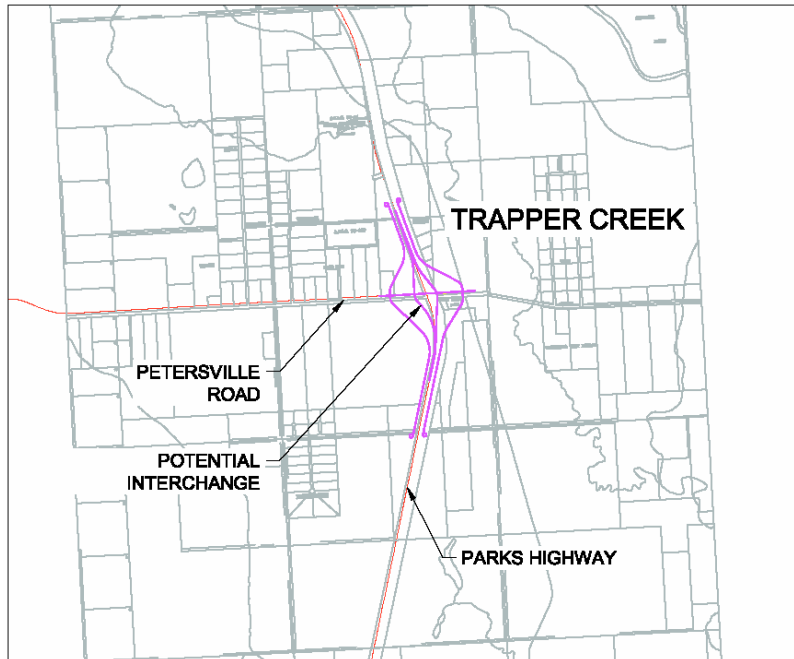


Figure 4-14. Trapper Creek Interchange

connecting to the highway. In some cases, the frontage roads may be constructed in the near future while the intersections are still controlled by a stop signs.

If the interchange on the existing alignment is the preferred option for Sunshine and if the area grows beyond what can be served by one interchange, another location will have to be found that meets spacing criteria. If the bypass option is selected for Sunshine, it is doubtful that the area would grow beyond those limits within the study period. If Trapper Creek grows beyond what one interchange on the existing alignment or the short bypass can service, another location will have to be found that meets spacing criteria.

If the ultimate solutions in these two communities are bypasses, then the stringent access management plans described above may not be necessary on the existing alignments.

Outside of these two communities, the abundance of private land and population growth in this southern portion of the corridor creates demand for access to the highway. Frontage roads or access roads may be needed to serve local access in some of these rural areas. Rural access management strategies need to be determined.

After strategies are established, all agencies must coordinate through the platting, comprehensive planning, and access permit granting processes. Purchasing access rights may be one of the tools used to manage this section.

4.4.5.5 Future Right-of-Way Needs

All of these options in Sunshine and Trapper Creek would require new rights-of-way. Before actions can be taken to acquire or protect rights-of-way, it must be determined if the ultimate solution is the construction of bypasses or using the existing alignment with interchanges at the major intersections.

The bypasses would be on mostly undeveloped land if the rights-of-way are pursued soon.

The two interchanges on the current alignments would require additional rights-of-way in locations that are partially developed. The strategy for these locations should be to acquire rights-of-way in any interchange quadrants that are currently undeveloped and watch for opportunities to acquire rights-of-way in the other quadrants in the future as opportunities occur.

In some of the rural areas, there may be sufficient rights-of-way for four lanes if frontage roads are not needed. Divided four-lane highways, which include frontage roads that serve adjacent land, are right-of-way intensive and if this cross-section is needed in some locations, it may exceed the width of the existing right-of-way. Access roads should be provided outside of the Parks Highway right-of-way, where possible. An access management plan must be developed before additional right-of-way needs can be identified.

4.5 North of Trapper Creek—Through Broad Pass

4.5.1 Description of Unit

This planning unit may be the most scenic of the entire corridor, with views of Mount McKinley and the Alaska Range. It extends from just north of Trapper Creek (MP 118) north through the Chulitna River Valley to Broad Pass (MP 204) in the Alaska Range. The highway gradually rises as it enters the foothills of the range and travels over some dramatic elevation changes as it crosses steep hills and deep valleys near Broad Pass, which is a fairly level plateau in a broad valley providing a pass through a portion of the Alaska Range. The area between Trapper Creek and the Chulitna River Bridge (MP 133) has a rural character with little visible development. However, significant off-road development is present including a large number of recreational cabins, residences, and a Princess Lodge. The vegetation ranges from large, thick birch forests north of Talkeetna to arctic tundra in Broad Pass. The length of the highway from MP 132 to MP 169 is in Denali State Park and has been mentioned for possible nomination into the National Scenic Byway Program. Recreation and tourism are extremely important in this unit. The segment of the Parks Highway from the Denali State Park boundary at the Chulitna River Bridge north to Healy (north of this planning unit) is designated a State Scenic Highway because of the incredible vistas of the Alaska Range and the rugged wildlands. Figure 4-15 shows this planning unit.

There are no communities in this unit that have been identified as future growth nodes. However, in the Petersville Road-Chulitna River section, there are pullouts and trailheads that access remote private land where residents park and walk, drive snow machines, or ski to their cabins. There are numerous stream crossings in this planning unit, but only one major waterway, the Chulitna River near MP 132. There are three railroad at-grade crossings in this unit and all are programmed for future grade separations.

There are public rest rooms at the Chulitna State River rest area (MP 121.6), Denali View Wayside (MP 135.2), Lower Troublesome Creek (MP 137.2), Byers Creek Campground (MP 147.0), Alaska Veterans Memorial (MP 147.1), Denali View Wayside North (MP 162.4), and Little Coal Creek (MP 163.9).

Large numbers of caribou spend the winter and spring in the Broad Pass area.

The East Fork maintenance station near MP 185 is closed because the buildings are not structurally sound. Broad Pass is a bad snowdrift area and maintaining this section from Cantwell is a concern for some of the local residents. The maintenance station maintains two steep hills (one north of Chulitna Bridge and the Honolulu Creek Hill). The next station is 90 miles south of Cantwell. ADOT&PF is trying to secure funds to rebuild the East Fork station.

Most of the problems in this area are related to summer traffic flow and the mix of traffic. Some travelers are there to enjoy the scenery and others are using the corridor to get from one location to another. There are grades and alignments that have been the subject of concern for winter driving conditions. The most severe winter problems are on the hills of Honolulu Creek and East Fork.

The 2000 traffic volume in this planning unit was 1,400 vehicles per day. The average annual traffic volume is forecast to grow to 1,900 by 2030. Seasonal variations need to be examined more closely. Summer volume may be twice the average annual volume.

4.5.2 Programmed Projects

There are four projects currently in the STIP for design work in this planning unit, but the construction will be programmed sometime after the period of the current STIP. These projects are:

- Petersville Road (MP 115) to the Chulitna River (MP 133)
- Chulitna River (MP 133) to Byers Lake (MP 147)
- Byers Lake (MP 147) to Little Coal Creek (MP 163)

These projects are primarily rehabilitation projects, but may be re-scoped to include turning and passing lanes. The last project would include a grade separation at the Hurricane railroad crossing at MP 169. The Broad Pass (MP 194) railroad crossing is scheduled to be eliminated by grade separating. The Broad Pass project may involve some realignment to reduce approach curves.

4.5.3 Potential Future Development

MP 133 to MP 151 is sparsely settled, but an area experiencing growth with 1,100 landowners and numerous remote recreational cabins located off the road system. The private subdivision next to the Princess Lodge is filling up with residential homes. The Boy Scouts have a 2,200-acre area, which is used year-around.

Talkeetna and the region to the north have experienced a major increase in tourists who arrive from Anchorage on the train. Some stay in Talkeetna and others transfer to buses to continue the trip north.

The TRAAK Board representative suggested that building a visitors center in Denali State Park should be considered in the future to compliment the existing tourist and recreational facilities in the central part of this planning unit.

There is a node of activity near the railroad crossing at Hurricane Bridge (MP 168). The state has had land sales in the area off the road system at Gold Creek, where 12 year-round families live. There is considerable traffic on the east side of the crossing.

The Parks Highway goes through ARRC land reserves at Hurricane. These may be developed at some point or held for railroad use.

Recreation use and bed and breakfast businesses have expanded along the highway from Denali State Park to Cantwell (MP 169 to MP 210). There is a significant amount of undeveloped private land in this part of this planning unit.

4.5.4 Adjacent Landowner and Government Considerations

Thirty seven miles of this planning unit are in Denali State Park. Public ownership provides protection measures useful for managing access and preserving the outstanding scenic qualities. As shown in the GIS information in Figure 4-15, there are a few private parcels in this planning unit. These appear to be mostly along the railroad rather than the highway. Platting records need to be researched to determine how access to any of these parcels will be provided.

4.5.5 Long-Term Needs

The areas at and near the entrance intersection for the Mount McKinley Princess Hotel (MP 133) and at the store at Byers Creek (MP 144) are in need of operational reviews to determine if safety improvements are warranted. Access and other operational issues at these two locations and numerous locations between them may drive the need for a controlled-access facility earlier than other locations in this general part of the corridor. Steep grades at Honolulu Hill and East Fork may also drive major operational improvement, such as realignment.

4.5.5.1 Additional Through-Lanes

The current traffic projection of 1,900 vehicles per day in 2030 indicates, on an average annual traffic basis, this section will not need four lanes, even in 2030. The seasonal peaks need to be investigated more thoroughly; traffic volume could increase to 4,000 vehicles per day during the summer. This 30-year peak does not warrant an overall four-lane section based solely on the traffic numbers. Issues relating to how long an upgraded, two-lane section, outfitted with passing and climbing lanes, is adequate and under what conditions will an ultimate four-lane, divided highway be warranted for overall operation and safety purposes still need to be resolved.

4.5.5.2 Bypasses

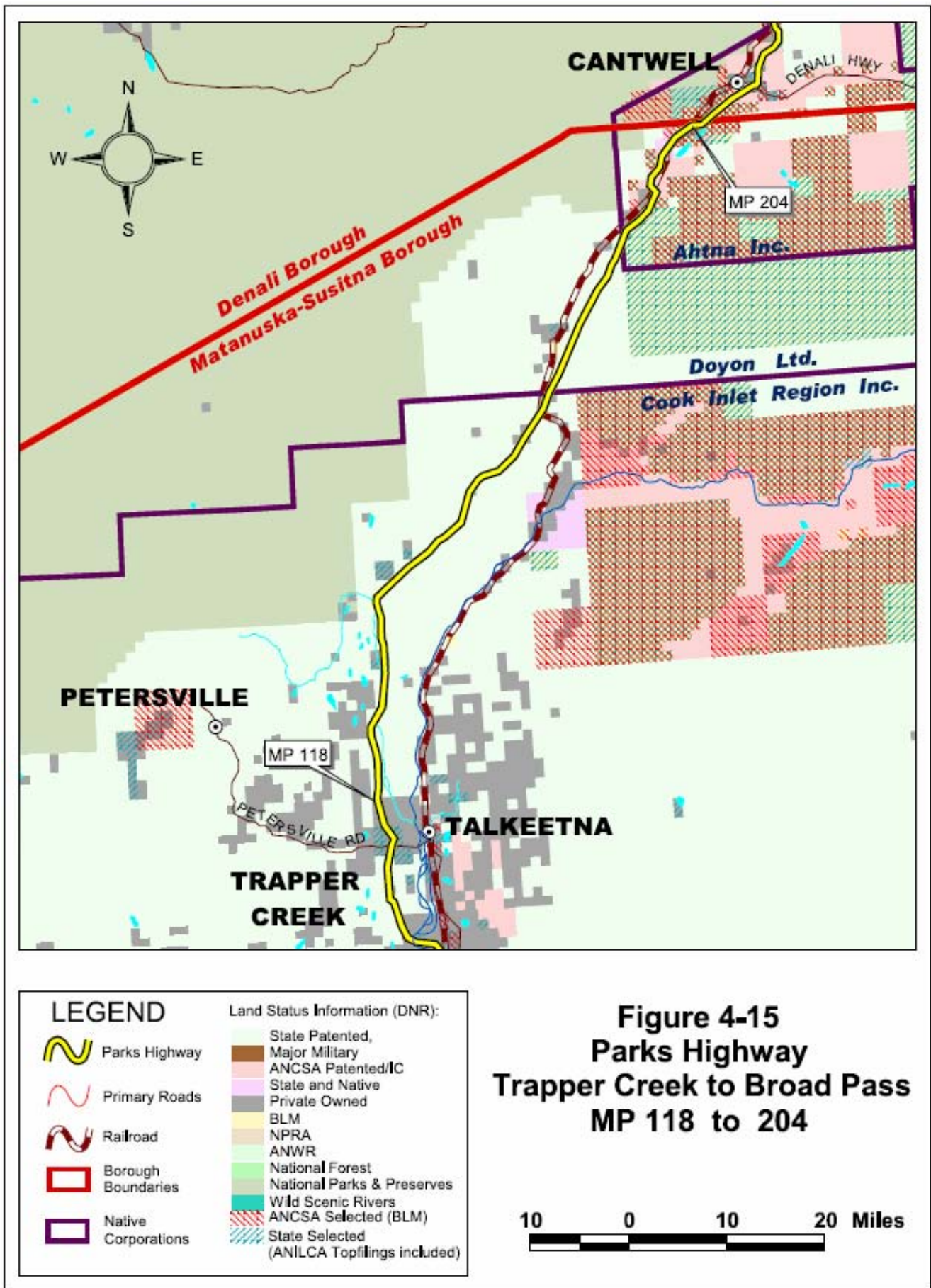
No bypasses were identified in this planning unit by the stakeholders, but it may be beneficial to consider bypassing the Chulitna River/Princess Lodge area.

4.5.5.3 Interchanges

A seasonal traffic analysis may reveal one to two locations (e.g., the area near Chulitna River Bridge) where a future interchange may be needed.

4.5.5.4 General Access Management Strategy

Outside of the Chulitna River-Byers Lake section, the access points in this unit are relatively sparse. They may be best handled by direct connections in the near term. Frontage roads or access roads may be needed in the Chulitna River-Byers Lake section. Much of the land in this unit is in public ownership, so cooperation among the public agencies can provide an efficient way to limit access.



LEGEND

- Parks Highway
- Primary Roads
- Railroad
- Borough Boundaries
- Native Corporations

Land Status Information (DNR):

- State Patented, Major Military
- ANCSA Patented/IC
- State and Native
- Private Owned
- BLM
- NPRA
- ANWR
- National Forest
- National Parks & Preserves
- Wild Scenic Rivers
- ANCSA Selected (BLM)
- State Selected (ANILCA Topfilings included)

**Figure 4-15
Parks Highway
Trapper Creek to Broad Pass
MP 118 to 204**

10 0 10 20 Miles

4.5.5.5 Future Right-of-Way Needs

The possible realignment discussed in Section 4.5.5.2 would require additional rights-of-way. If any interchanges, bypasses, or frontage roads in the Chulitna River-Byers Lake section are identified, those likely would require additional rights-of-way.

Additional rights-of-way in this planning unit may not be needed before 2030. If four lanes are built, it is likely that few frontage roads would be needed that would create the need for large amounts of additional right-of-way. Most of this planning unit is undulating, so cuts and fills may require additional rights-of-way for four lanes, even if frontage roads are not required. More design work would be needed to address that issue.

4.6 Cantwell—Carlo Creek

4.6.1 Description of Unit

This planning unit extends from MP 204, along the Nenana River Valley, through the community of Cantwell and north to Carlo Creek (MP 224), as shown in Figure 4-16. Except for Cantwell, the unit is rural.

Most of Cantwell is away from the highway to the west; however, most commercial development is along the Parks Highway in the vicinity of the Denali Highway intersection. There is relatively little development along the Parks Highway frontage. Cantwell is becoming a year-round destination. With the popularity of winter sports in the area, the facilities are full earlier each year and do not close for part of the year. Doyon and AHTNA are major landowners.

All of this segment is part of the State Scenic Highway because of the incredible vistas of the Alaska Range and rugged wildlands. Recreation and tourism are extremely important in this corridor.

There are no railroad crossings in this unit.

The first of several crossings of the Nenana River occurs at Windy Bridge, MP 216. There are several other stream crossings, including Pass Creek and Jack River south of Cantwell, and Slime Creek south of Carlo Creek.

The problems in this unit are spot-oriented safety issues and the general summer traffic flow.

In this planning unit the 2000 traffic volume was 1,400 vehicles per day. This average annual traffic volume is forecast to grow to 1,900 by 2030. The seasonal variation needs to be examined more closely. Summer volume may be twice the average annual.

4.6.2 Programmed Projects

The Summit (MP 204) railroad crossing is scheduled to be replaced by a separated grade railroad crossing.

4.6.3 Potential Future Development

Cantwell, located at the intersection of the Parks and Denali Highways in a popular recreation area, is positioned for growth because of tourism. Cantwell may be considered the south gateway to Denali National Park and a gateway to public land along the Denali Highway. The Cantwell Region may also supply large quantities of rock and gravel if it is proven economical to utilize this harder aggregate for paving many high traffic routes in Alaska.

AHTNA owns much of the land adjacent to the Denali Highway. Growth in the area, in large part, will be determined by how AHNTA decides to manage its land and how other limited private land with highway frontage is managed. Holland-America bought land at Slime Creek, near MP 220, and there is potential for development there. Development of public land also may contribute to growth.

4.6.4 Adjacent Landowner and Government Considerations

Except for decisions about paving Denali Highway and the landowner discussions in Section 4.6.3, there are no other major considerations.

4.6.5 Long-Term Needs

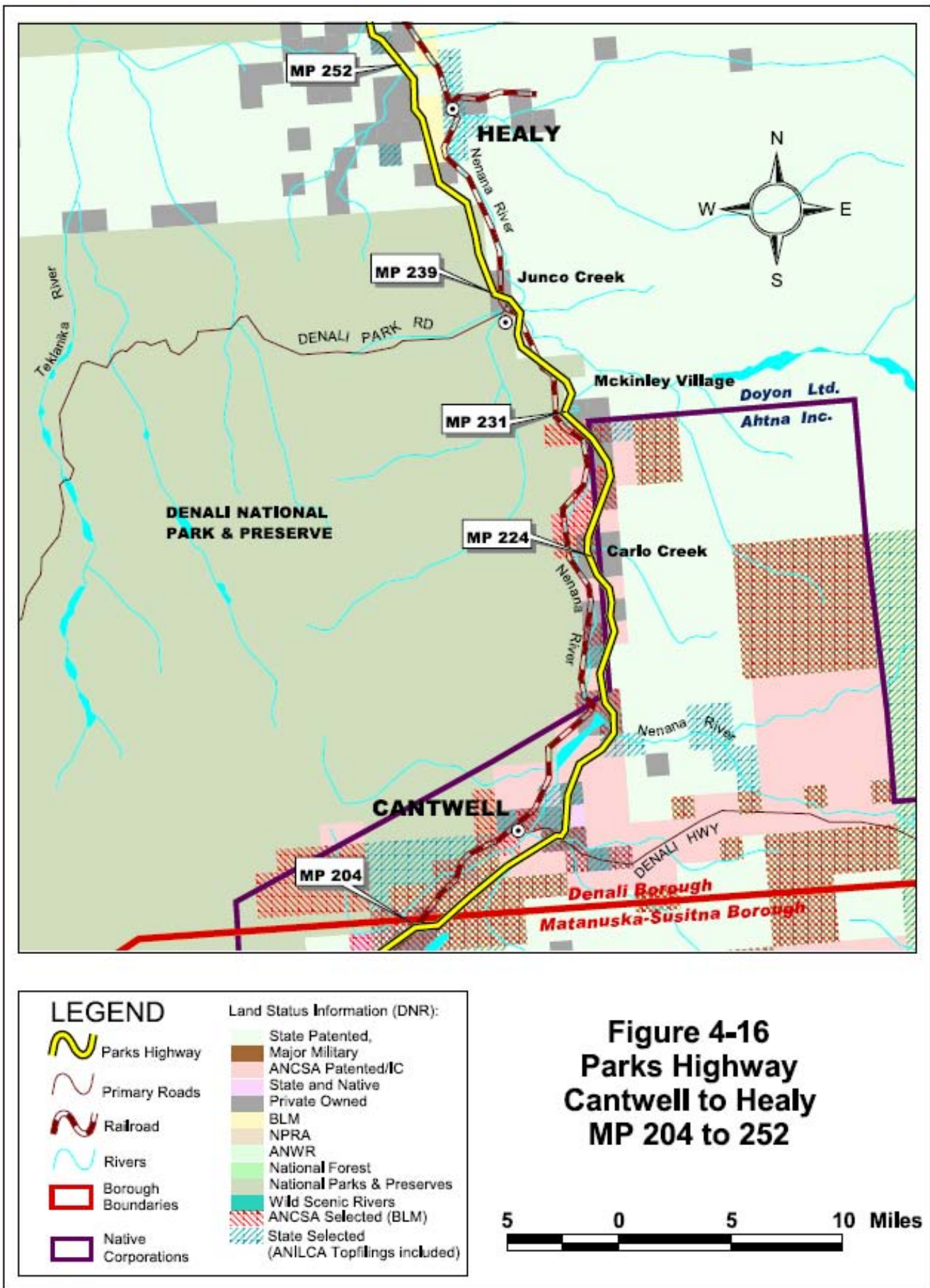
There have been requests for a separate bike path from Cantwell to Carlo Creek. This plan recommends that as Cantwell grows, a separate path should be considered as part of the future improvement project. Outside of this area, bikes should be accommodated on paved shoulders until the ultimate controlled-access facility is built. A separate bike path should be provided whenever and wherever the controlled-access sections are constructed.

4.6.5.1 Additional Through-Lanes

The current traffic projection is 1,900 vehicles per day in 2030. Seasonal peaks could increase to 4,000 vehicles per day during the summer. This 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic volume. The conditions under which a four-lane, divided highway is warranted for overall operation and safety purposes still need to be determined. Turn lanes in this segment have been discussed should be constructed where warranted.

4.6.5.2 Bypasses

No bypasses have been conceptualized for this planning unit. Section 4.6.5.3 discusses an interchange option on the existing alignment at the Denali Highway intersection to provide access to Cantwell. That is only one option, and that interchange could be built either just west of or just east of the existing alignment on a short bypass. Either of these bypasses would be similar to the one that was described at Trapper Creek (Section 4.4.5.2). This discussion involves land use factors that need to include the Cantwell community. The interchange likely would not be built for many years. If it is preferable for the interchange to be on the existing alignment, that footprint needs to be identified so that new development does not encroach on it. It is likely that the currently developed properties would be redeveloped before the interchange was built and, likewise, this redevelopment should be done outside of this footprint. In the future, discussions should be held with the local residents in an attempt to narrow the number of alignment options.



4.6.5.3 Interchanges

One conceptual interchange was developed for this planning unit, at the existing Parks Highway-Denali Highway intersection in Cantwell. An interchange built on a short bypass could have this same general configuration. Land ownership and development at each location were researched to help determine the interchange location as well as the need for possible frontage road systems.

This interchange provides a connection between the Parks Highway, the Denali Highway from the east, and the Cantwell road (Figure 4-17). The existing north-south and east-west intersection, located at MP 209.8, is skewed approximately 14 degrees to the right for conceptual purposes. The interchange is placed at the existing intersection to match the horizontal alignments of the existing roads and extends from MP 209.3 to 210.6. Eight driveways or access points intersect both sides of the Parks Highway between MP 209.5 (about 0.5 mile south of the intersection) and MP 210.6 (about 1 mile north of the intersection). Frontage roads in all four quadrants of the interchange would provide access to these driveways and access points. Specific information on land ownership and current development was not included in the GIS information supplied to the project team. Therefore, the extent of the impacts to businesses and residences is unknown at this time. Platting records need to be researched to determine the impacts of this improvement. The estimated cost of this project is \$15.9 million in 2001 dollars.

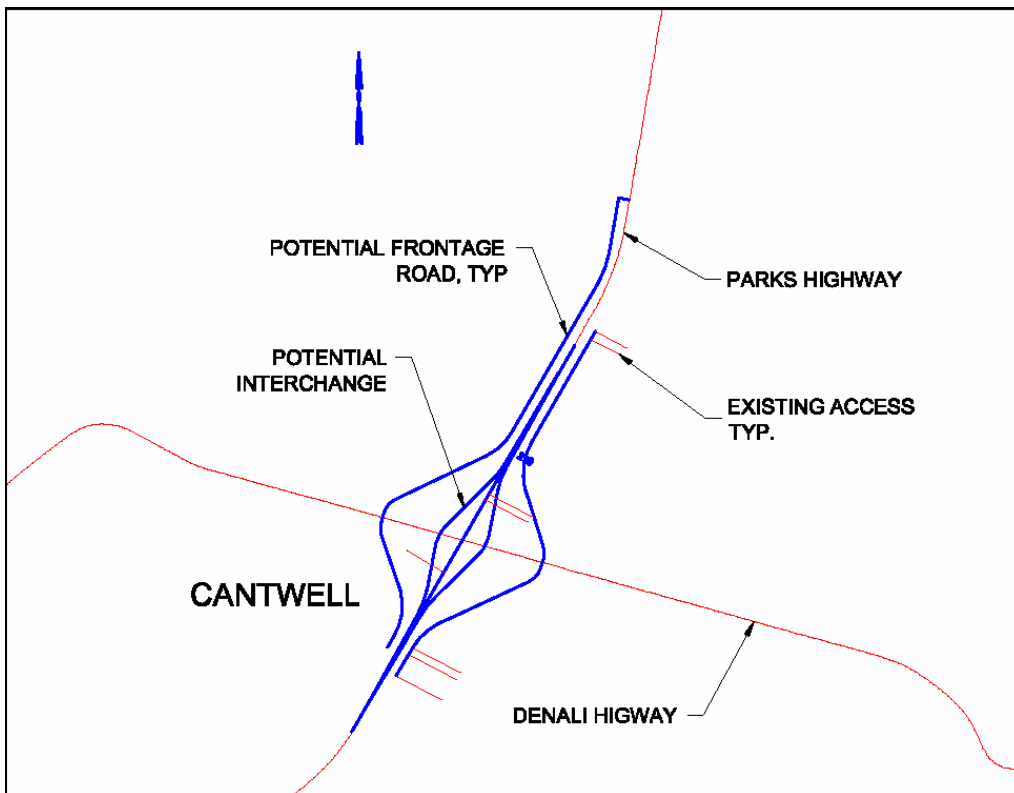


Figure 4-17. Cantwell Interchange

4.6.5.4 General Access Management Strategy

The frontage road strategy described in Section 4.6.5.3 should be put in place relatively soon after the alignment decision is made, before further development occurs. Planning in this area should be completed as soon as possible so that future development can be implemented with the ultimate road configuration in mind, even if it is not built until a later time.

Outside of the Cantwell area, the access points in this unit are currently fairly sparse. They can be handled by direct connections for the near term. There may not be enough development pressure on private parcels to consider purchasing access rights from those landowners at this time. The potential development near Slime Creek (near MP 220) could be an exception to this and an access management plan for that area should be developed along with the overall property development plans if the development occurs.

4.6.5.5 Future Right-of-Way Needs

Additional right-of-way would be needed to construct the Cantwell interchange and, possibly, the associated frontage roads. Property ownership issues in Cantwell need to be fully researched to determine if the access roads can be constructed on private property, perhaps one lot removed from the Parks Highway. This could be done as part of the development of these private parcels.

If four lanes are built, it is likely that few, if any, frontage roads would be needed, so that would not create the need for large amounts of additional right-of-way. Parts of this planning unit are undulating, so cuts and fills may require additional right-of-way for four lanes, even if frontage roads are not required. More design work would be needed to fully address that issue.

4.7 Carlo Creek—Nenana River (at McKinley Village)

4.7.1 Description of Unit

This short planning unit extends from Carlo Creek (MP 224) north through McKinley Village to the Nenana River (MP 231), as shown in Figure 4-16. This unit may be described as poised to grow with additional tourism facilities as the Nenana Canyon area reaches saturation.

Doyon and CIRI own land near McKinley Village.

Recreation and tourism are extremely important in this corridor. All of this planning unit is part of the segment that is designated a State Scenic Highway because of the exceptional vistas of the Alaska Range and rugged wildlands.

In this planning unit the 2000 traffic volume was 1,400 vehicles per day. This average annual traffic volume is expected to grow to 1,900 by 2030. The seasonal variation needs to be examined more closely. Summer volume may be twice the average annual. Additionally, the data available group the entire length from Trapper Creek to Nenana Canyon into one traffic volume figure. The traffic volume in this planning unit may be higher because it is close to the Denali National Park.

4.7.2 Programmed Projects

No projects are currently scheduled for this planning unit.

4.7.3 Potential Future Development

Denali National Park visitor volumes are increasing. The lack of visitor capacity in the surrounding area is causing people to be turned away. There is a demand for additional businesses to provide tourism services, but future growth in Nenana Canyon will be restricted by topography. As Denali National Park continues to generate increasing demand for these tourist services, the Carlo Creek and McKinley Village areas will grow with that kind of development. The adjacent land is a mix of park land and private land. This land ownership situation needs to be researched to determine development scenarios.

The planned closure of the hotel in the park will cause some changes in the transportation patterns. The railroad station is in the park and all hotels will be outside of the Park. All tours in the park are by bus, departing from the park's visitors center. Three travel patterns to reach these buses are:

- Individual visitors arrive via personal transportation
- Visitors arrive via hotel shuttle
- The park buses pick up some visitors at outside hotels

Somewhat separate from the national park issue is the potential for development of private property at Carlo Creek, where there is a growing number of businesses.

4.7.4 Adjacent Landowner and Government Considerations

These considerations have been discussed. They are the operations of the national park and the presence of national park land adjacent to this planning unit.

4.7.5 Long-Term Needs

There have been requests for a separate bike path through this planning unit. This plan recommends that a separated path be considered as part of the future frontage road construction in this unit.

In McKinley Village, there are numerous driveways. Turning lanes, perhaps a continuous one, should be considered in the short term before the ultimate project is built in this area. Of particular concern is the main access to McKinley Village located at the bottom of a hill and adjacent to the Nenana River bridge. An operational review will be needed here to solve this complex issue.

4.7.5.1 Additional Through-Lanes

The traffic projection of 1,900 vehicles per day in 2030 indicates that, on an average annual traffic basis, this section will not need four lanes, even in 2030. Seasonal peaks need to be investigated more thoroughly, and the traffic volume could increase to 4,000 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic numbers. It remains to be determined how long an upgraded, two-lane section outfitted with passing and climbing lanes is adequate and under what conditions an ultimate four-lane, divided highway with frontage roads will be warranted for overall operation and safety purposes.

The supplied traffic counts lumped this planning unit along with the highway all the way south to Trapper Creek. A key for future investigation will be to determine the growth rate for this short section near Denali National Park. If it grows as discussed in Section 4.7.3, future traffic volumes will be much higher. There is a possibility that four lanes would be warranted for this entire planning unit. If growth is slower, then a thorough application of climbing lane and passing lane policies to the two-lane section may be sufficient through 2030.

4.7.5.2 Bypasses

It is not expected that a bypass will be one of the tools selected to address the future of this section. If the Sugar Loaf Mountain Bypass were selected as the ultimate solution for the Nenana Canyon planning unit (the next planning unit to the north), that bypass would eliminate the last mile of this planning unit (MP 230 to MP 231) from the Parks Highway. This is not reflected in any of the other discussion of this planning unit because the possibility affects only 1 mile.

4.7.5.3 Interchanges

Until a more in-depth analysis of the traffic projections for this unit is done, no interchanges have been identified for this unit.

If the Sugar Loaf Mountain Bypass were built, the southerly connection, which may use an interchange, may be in this unit.

4.7.5.4 General Access Management Strategy

The strategy here consists of three at-grade intersections combined with a frontage road system from Carlo Creek (MP 224) to the Nenana River at McKinley Village (MP 231.1). There are not obvious existing roads to connect these frontage roads to the Parks Highway, but they should be spaced at even intervals of less than 2 miles along the 7.4-mile frontage road system. Further detailed analysis will be needed to find these locations. All other local access roads and driveways within this length will connect to the frontage road system.

The at-grade intersections could be replaced with interchanges in the future, if necessary.

4.7.5.5 Future Right-of-Way Needs

Construction of a frontage road probably would require additional rights-of-way unless local access roads outside of the Parks Highway right-of-way can be developed. This issue still needs to be examined.

If interchanges become part of the ultimate solution, additional rights-of-way would be needed.

4.8 Denali National Park and Nenana Canyon

4.8.1 Description of Unit

This planning unit extends from the Nenana River bridge at McKinley Village (MP 231) through Denali National Park, across the Nenana River another time and through Nenana Canyon to Junco Creek (MP 239) (see Figure 4-16). It is a State Scenic Highway.

The area between the two Nenana River bridges is undeveloped national park land. The entrance road to Denali National Park is at MP 237.3. About 0.5 mile south of the park entrance, the highway passes under the Alaska Railroad.

A critical part of this planning unit is the Nenana Canyon commercial area. This portion of the planning unit is only 1 mile long, but the intense concentration of tourism facilities there has been the subject of recent studies. This development consists of numerous large hotels, restaurants, and gift shops, as well as rafting and kayaking on the river. An estimated 3,000 to 10,000 people use the tourist lodge and related facilities daily during much of the summer.

Development caused restrictions for through traffic and made local access and pedestrian movements difficult. The area is congested with buses and shuttles bringing tourists to the area and

shuttling them into the national park and back. Parks Highway through traffic and tourism-related pedestrian movements add to this congestion.

This area is the premier tourist attraction along the Parks Highway. Everyone interviewed wants the traffic problems here fixed, but there are mixed opinions about the solutions.

Recreation and tourism are vital to the area, which becomes a ghost town in the off season. Land adjacent to the right-of-way is heavily developed. There may not be sufficient right-of-way to address long-term highway needs. However, Nenana Canyon is one of the more prevalent locations in the entire corridor for business use of the right-of-way.

AADT for this area is 2,300 vehicles per day. The peak traffic volume is about 4,700 vehicles per day. The projected AADT for 2030 is 4,800 vehicles per day with a maximum monthly rate of 9,900 vehicles per day. In July 2001, there were an estimated 1,500 pedestrian crossings of the highway. Pedestrian crossings were considered in the Nenana Canyon Safety Project Study.

Truckers and others want free-flowing traffic through this area, but options are costly.

4.8.2 Programmed Projects

Construction of a bike path from the entrance to Denali National Park across the Nenana River is now nearing completion. The pedestrian safety issues typically mentioned for all of the Nenana River bridges will be addressed by this project for this crossing.

The Nenana Canyon Safety Project Study is constructing improvements in Nenana Canyon that will construct two traffic signals, make improvements to the vertical alignment, and improve pedestrian movements. This project is also nearing completion.

A wayside/rafting pullout at King Fisher Creek is being developed as part of the Nenana Canyon interim project.

The Denali National Park Entrance Area and Road Corridor Development Area Concept Plan outlines significant facility improvements inside the park. These facilities will be built soon and will have at least indirect impacts to the Parks Highway. They are:

- New camper convenience center
- Riley Creek Campground expansion
- Trail development
- Visitors access center improvements
- New visitors information center

4.8.3 Potential Future Development

Denali National Park visitor volumes are increasing. In the future, there will be limitations on how many visitors will be allowed to tour deep into the park's backcountry via shuttle buses. Activities in other areas of the park and nearby activities outside of the park need to be developed to address higher numbers of visitors. There also will be a demand for additional businesses to provide tourism services, but future growth in Nenana Canyon is restricted by topography.

The planned closure of the hotel in the park will cause some changes in the transportation patterns. The railroad station is in the park and all hotels will be outside of the park. All tours in the park are by bus, departing from the visitors center. Three travel patterns to reach these buses are:

- Individual visitors arrive via personal transportation
- Visitors arrive via hotel shuttle

- The park buses pick up some visitors at outside hotels

Most visitors use tour packages.

The Denali Borough owns 5,000 acres east of Nenana Canyon that may be developed. Access to that property needs to be considered when the ultimate solution for Nenana Canyon is being developed.

4.8.4 Adjacent Landowner and Government Considerations

The issues associated with the national park operation, private business enterprises, and undeveloped Denali Borough land have been discussed. No further discussion is needed here.

4.8.5 Long-Term Needs

4.8.5.1 Expand the Previous Nenana Canyon Safety Project Study

The Nenana Canyon Safety Project Study identified an interim project, but the ultimate solution is yet to be identified. The determination of that solution will address the need for additional through lanes, bypasses, interchanges, access management, and additional right-of-way needs.

Alternatives that have been considered include:

- Move the highway back along the bluff
- Put the highway partially underground
- Elevate the highway
- Use frontage roads to provide grade separations for pedestrians and/or vehicles
- Relocate the highway on the other side of the river
- Relocate the highway east of Sugar Loaf Mountain

Issues that need to be addressed are:

- Control of land use along any new major relocation so that the same situation is not repeated
- Control of the rockslide at the north end of Nenana Canyon if the road is not relocated
- Provide access to borough land east of the currently developed area
- Alternate transportation modes to access Denali National Park from Nenana Canyon

Two planning studies, the *Parks Highway Nenana Canyon/Denali Access Safety Project* and the *Denali Borough Nenana Canyon Safety Project Ad Hoc Committee Final Report* are included as Appendix F and Appendix G, respectively. Ultimate solutions for this portion of the planning unit need to be further evaluated.

The rest of the discussion about this planning unit applies to the undeveloped area between the Nenana River bridges.

4.8.5.2 Safety Improvements

Turning movements into the Denali National Park need to be accommodated with a turning lane. The design of this lane is complicated by the Riley Creek bridge located just south of the access point. This bridge would have to be widened to accommodate a turning lane.

When separated bike paths are in place in the sections immediately north and south of this short rural section, the gap in this section should be addressed with a separated path.

4.8.5.3 Additional Through-Lanes

The current traffic forecasts of 1,900 vehicles per day in 2030 indicate this section will not need four lanes, even in 2030. Seasonal peaks need to be investigated more thoroughly, and the traffic forecast could increase to 4,000 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic volume.

The supplied traffic counts lumped this planning unit along with the highway all the way south to Trapper Creek. A key for future investigation will be to determine the growth rate for this short section near the national park. If it grows according to the scenario discussed in Section 4.8.3, future traffic volumes will be much higher. There is a possibility that four lanes will be warranted for this portion of this planning unit by 2030.

If the Sugar Loaf Mountain Bypass were the selected alternative, it is possible that this section would not need more than two lanes.

4.8.5.4 Bypasses

If the bypass around Sugar Loaf Mountain is the recommended solution for the Nenana Canyon area, that bypass also would bypass the section between the two Nenana River bridges.

4.8.5.5 Interchanges

There are two possibilities for interchanges in the rural portion of this planning unit. One would be at the Sugar Loaf Mountain Bypass, if it were built and if it connected in this planning unit. The other possible interchange location is the entrance to Denali National Park, if the Parks Highway remains on its current alignment. Because the adjacent land in this rural section is part of the national park, there would be no other interchanges needed.

4.8.5.6 General Access Management Strategy

Except for very short areas near the two Nenana River bridges, all of the land in this rural section is in public ownership, either owned by the State of Alaska or in Denali National Park. Therefore, there will not be a significant need to provide access to this portion of the highway. If there are development plans in the future for the nodes of private land, those will be dealt with on a case by case basis. Near the southerly Nenana Bridge, perhaps this access could be part of the access to McKinley Village. Likewise, any access requirement near the northern Nenana Bridge may be combined with the entrance to Denali National Park.

4.8.5.7 Future Right-of-Way Needs

Future right-of-way needs in this section are dependent on the results of the access management strategies described in Section 4.8.5.5. Right-of-way needs remain to be examined.

4.9 North of Nenana Canyon—Through Healy

4.9.1 Description of Unit

This planning unit extends from the north edge of Nenana Canyon (MP 240) through the community of Healy, population 900 (MP 252) (see Figure 4-16). This unit is rural, except for Healy.

The economy of Healy is dependent on tourism, the Usibelli Coal mine, and the Golden Valley Power Plant. It is the seat of the Denali Borough and serves as a bedroom community for many National Park Service employees.

This planning unit is at the north end of the segment of the Parks Highway from the Chulitna River to Healy that is designated a State Scenic Highway.

Construction of a new north access into Denali National Park is being considered, with Healy as a potential starting point for the project.

This section of the Parks Highway runs fairly parallel to the Nenana River, crossing it at Moody (MP 243). The road also crosses the Alaska Railroad at Moody, at a grade-separated crossing.

There are no public rest areas in this planning unit.

The 2000 traffic volume in this planning unit was 2,000 vehicles per day. This average annual traffic volume is expected to grow to 2,700 by 2030. The seasonal variation needs to be examined more closely. The traffic volume counts that were available include the Healy section with the entire length from Nenana Canyon to Ester. It is expected that traffic volumes in Healy are influenced by local traffic and the close proximity to Denali National Park, so specific counts for Healy should be obtained. South of Denali National Park, the summer traffic volumes may be twice the annual average, but here, north of the park, the summer volumes historically probably have been about 50 percent higher than the annual average.

4.9.2 Programmed Projects

Surface Rehabilitation of the highway between MP 240 and 262 is currently in the design stage.

4.9.3 Potential Future Development

Continued demand for more tourist facilities near the national park likely will result in growth in Healy. Additionally, if a north access to the national park is established in this area, Healy will become a north gateway to the park.

A feasibility study to look at options for providing a new northern access into the national park is currently underway. Eventually, the new northern access could extend to Lake Minchumina and McGrath.

Options for the new northern access include both highway and rail modes. The railroad option may include a new station and hotel facilities on Lignite Road.

Outside of this north access issue, only gradual growth – residential and small business – is expected in the Stampede Road area.

There has been recent active interest in natural gas exploration and development in this region, which if successful, will spur economic growth as well as inducing other forms of growth reducing the cost of heating.

The Parks Highway goes through ARRC reserves at Healy. These may be developed at some point or held for railroad use.

4.9.4 Adjacent Landowner and Government Considerations

A new north access into the national park is the major consideration relating to governmental or landowner actions.

Usibelli Coal reclamation and development will increase the access needs. This may affect the Sugar Loaf Mountain Bypass.

4.9.5 Long-Term Needs

There have been requests for a separate bike path from Nenana Canyon through Healy. This plan recommends that as Healy grows, a separated path should be considered as part of the future improvement project. Outside of Healy, bikes should be accommodated on paved shoulders until the ultimate controlled-access facility is built. A separate bike path should be provided whenever and wherever the controlled-access sections are constructed.

4.9.5.1 Additional Through-Lanes

The traffic projection of 2,700 vehicles per day in 2030 indicates that, on an average annual traffic basis, this section will not need four lanes, even in 2030. Seasonal peaks need to be investigated more thoroughly. Seasonal traffic could increase to 4,500 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic numbers. If four lanes are not needed throughout this planning unit, there still may be short segments, such as through Healy, where four lanes would be warranted. The conditions under which an ultimate four-lane, divided highway is warranted for overall operation and safety purposes remain to be determined.

4.9.5.2 Bypasses

No bypasses were identified to address the issues in this planning unit. However, the Sugar Loaf Mountain Bypass alternative to be studied for the Nenana Canyon unit extends 7 miles into this unit from the south. The bypass concept would connect to the Parks Highway about 4 miles north of Moody Bridge at MP 247.

4.9.5.3 Interchanges

An interchange was considered at Healy Spur Road in Healy, but it would not be warranted by the projected volumes, and the visual disruption and added barrier in the community would dictate not constructing an interchange.

If the north Denali access were built in the future, the growth rate of Healy may create a situation where an interchange is needed. Also, if the Sugar Loaf Mountain Bypass were built, an interchange may be needed at the connection with the existing alignment of the Parks Highway (MP 247).

4.9.5.4 General Access Management Strategy

The concept developed for Healy consists of a single at-grade intersection at Healy Spur Road/Hilltop Road (MP 248.4) combined with a frontage road system from MP 247.8 to 249.8. The south end of this frontage road could be connected to Otto Lake Road and in turn to the Parks Highway until traffic volumes indicate the need to sever this connection. All other local access roads and driveways in this segment will connect to the frontage road system. The at-grade intersection could be replaced with an interchange in the future if necessary. The existing parallel street (Coal Street), one block east in Healy, possibly could be used as one of these local service streets. The estimated cost of this project is \$1.3 million in 2001 dollars.

Right-of-way for a four-lane highway should be laid out through Healy. This area is still undeveloped enough to make a significant right-of-way reservation a possibility now. This needs to be researched further in the future.

Outside of Healy, the access points are usually sparse. They can be handled by grade intersections in the near term. Major public roads and connections to major developments should be planned for ultimate interchanges. Where development exists or may exist in the future, all agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access via public streets that will evolve from stop-sign-controlled intersections to interchanges. This would be in lieu of numerous individual driveways. Purchasing access rights in the near term would allow ADOT&PF to limit the number and location of future access points.

4.9.5.5 Future Right-of-Way Needs

Additional rights-of-way would be needed to construct the frontage road system in Healy if that system cannot be provided by other local streets. This issue remains to be researched.

Additional rights-of-way in the rural portions of this planning unit may not be needed, especially if four lanes are not constructed. If four lanes are built, it is likely that few, if any, frontage roads would be needed, so that would not create the need for large amounts of additional right-of-way. This planning unit is undulating, so cuts and fills may require additional right-of-way for four lanes, even if frontage roads are not required. More design would be needed to fully address that issue.

4.10 North of Healy—South City Limits of Nenana

4.10.1 Description of Unit

This planning unit extends from MP 252, just north of Healy (about 1 mile north of Stampede Road), to the south city limits of Nenana (MP 301). This unit is entirely rural, but it passes near development in Ferry, Rex, Clear Air Force Base (AFB), and Anderson. All of these developments are individually served by one access road from the Parks Highway. Anderson and Clear AFB share a connector at MP 283.5. Figure 4-18 shows this planning unit.

The southern half of this section generally runs parallel to the Nenana River until it crosses the river at Rex (MP 276).

There is a grade crossing of the Alaska Railroad at Rex.

The Toghhotthele Corporation has land along the highway south of Nenana that is low-lying and wet. The area includes university land sales and state subdivisions.

There is one rest area in this planning unit at June Creek (MP 269).

The 2000 traffic volume was 2,000 vehicles per day. This annual average traffic volume is expected to grow to 2,700 by 2030. The seasonal variation needs to be examined more closely. South of Denali National Park, the summer volumes may be twice the annual average, but here, north of the park, the summer volumes historically have been about 50 percent higher than the annual average.

4.10.2 Programmed Projects

The railroad crossing at Rex (MP 276) is scheduled for grade separation.

4.10.3 Potential Future Development

Ferry is an active area with university and railroad land, and future access may be needed.

Clear AFB is poised for growth. The Air National Guard (ANG) will be taking over the base from the Air Force. The ANG will bring 180 staff and their families to the area.

The Parks Highway goes through ARRC reserves at Clear. These may be developed or held for railroad use.

The state is holding land disposals adjacent to the Parks Highway right-of-way from Healy to Rex Bridge and from 3 miles south of Nenana to 10 miles north of Nenana. The sales in the Healy-Rex Bridge segment include subdivisions at June Creek, Healy Homestead, Rock Creek, and Slate Creek.

There has been recent active interest in natural gas exploration and development in this region, which if successful, will spur economic growth as well as inducing other forms of growth reducing the cost of heating.

4.10.4 Adjacent Landowner and Government Considerations

Other than the issues discussed in Section 4.10.3, there are no further considerations in this planning unit.

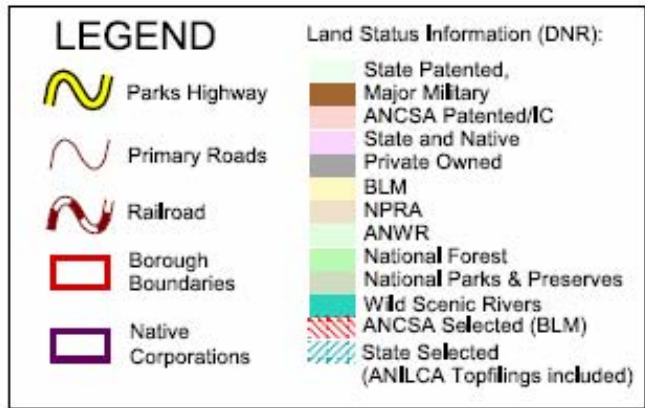
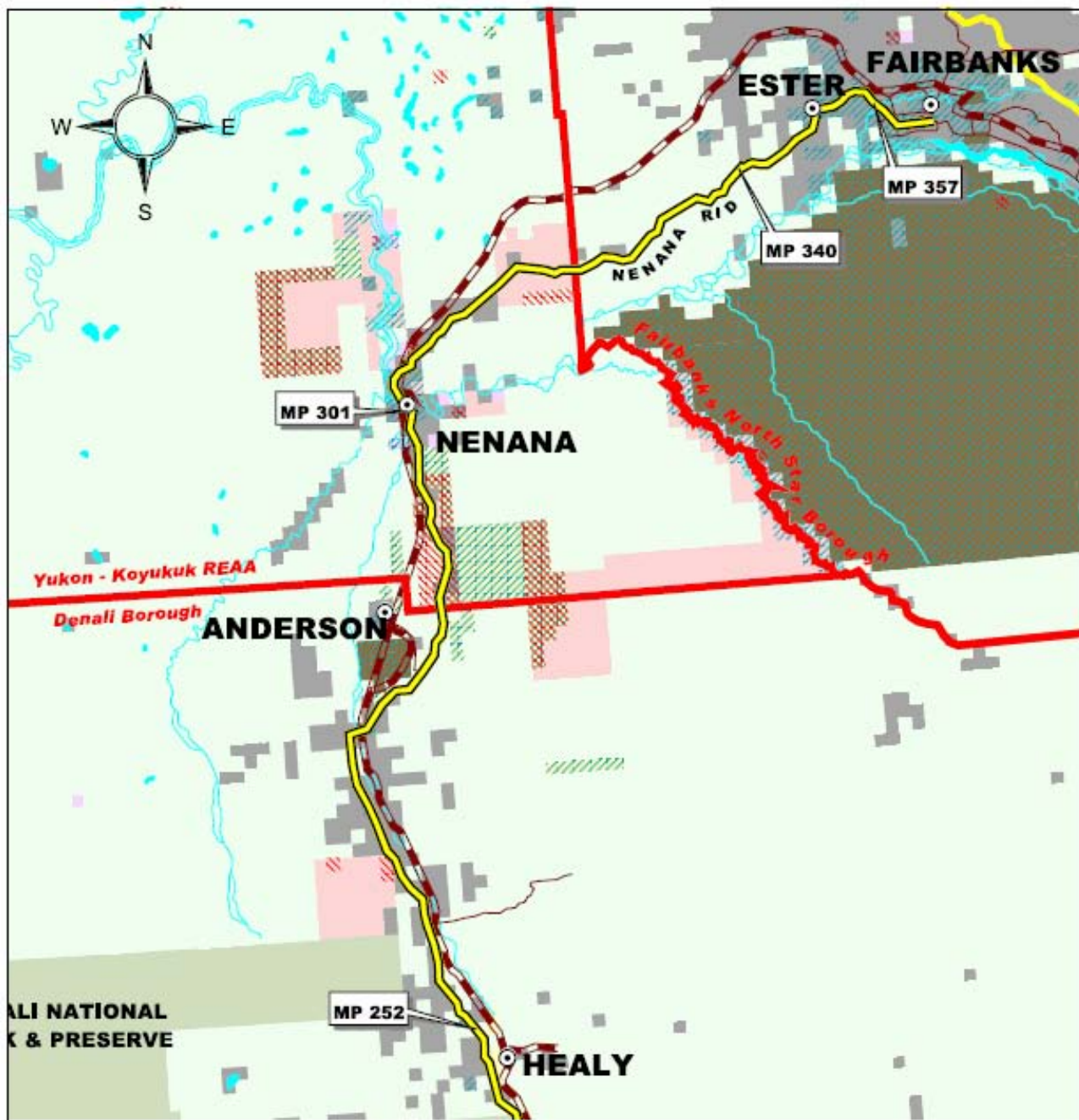
4.10.5 Long-Term Needs

4.10.5.1 Additional Through-Lanes

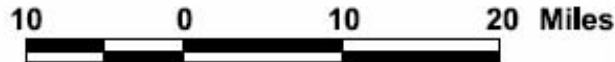
The traffic projection of 2,700 vehicles per day in 2030 indicates that, on an annual average traffic basis, this section will not need four lanes, even in 2030. Seasonal peaks need to be investigated more thoroughly, and traffic volume could increase to 4,500 vehicles per day during the summer. This 30-year summertime peak would not warrant an overall four-lane section based solely on traffic. The conditions under which an ultimate four-lane, divided highway is warranted for overall operation and safety purposes remains to be determined.

4.10.5.2 Bypasses

No bypasses have been identified in this planning unit.



**Figure 4-18
Parks Highway
Healy to Geist Road
MP 252 to 357**



4.10.5.3 Interchanges

Even though traffic volumes are not expected to be extremely high in this planning unit, an interchange at the Clear/Anderson Road has been examined conceptually. At the road to Anderson, the existing intersection, located near MP 283.1, is skewed approximately 19 degrees to the east (Figure 4-19). The interchange is placed at the existing intersection to match the horizontal alignments of the existing roads and extends from MP 282.7 to MP 283.6. One access road is located

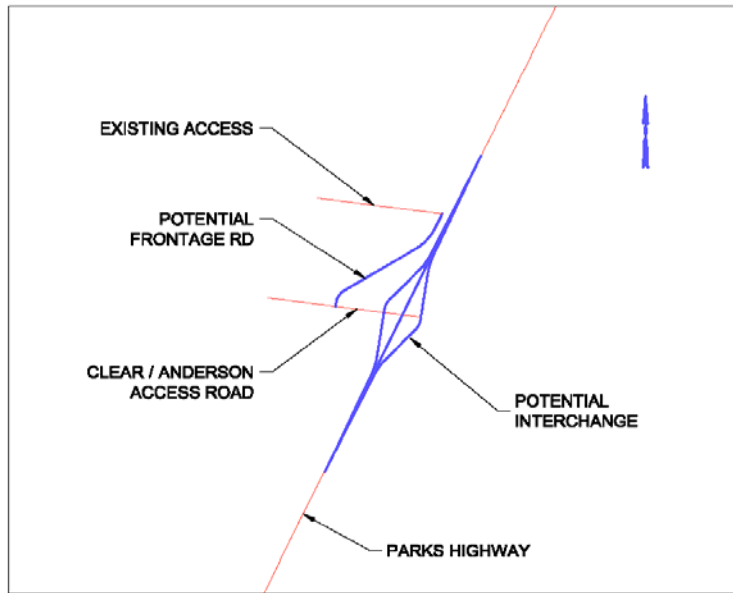


Figure 4-19. Clear/Anderson Interchange

at MP 283.4, about 0.3 mile north of the existing intersection on the west side of the Parks Highway. A frontage road in the northwest quadrant of the interchange would provide access to this road. Specific information about land ownership and current development was not included in the GIS information supplied to the project team. Therefore, the extent of the impacts to businesses and residences is unknown at this time. Platting records need to be researched to determine the impacts of this improvement. The estimated cost of this project is \$14.3 million in 2001 dollars.

4.10.5.4 General Access Management Strategy

Access points in this planning unit are usually sparse. They can be handled by grade intersections for the short term. Major public roads and connections to major developments should be planned for ultimate interchanges. All agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access via public streets that may evolve from stop-sign-controlled intersections to interchanges in lieu of numerous driveways. Purchasing access rights in the near term would allow ADOT&PF to limit the number and location of future access points.

4.10.5.5 Future Right-of-Way Needs

The interchange and frontage road at Clear/Anderson Road would require additional right-of-way. This right-of-way need remains to be defined.

Access rights along the Parks Highway at this location near Anderson should be acquired before any future development is contemplated. Likewise, access rights should be purchased near Ferry and Rex, where future development could happen.

It is likely that few, if any, frontage roads would be needed for the ultimate four-lane section, so large amounts of additional right-of-way may not be needed. There are short sections of this planning unit that are undulating, so cuts and fills may require additional right-of-way for four lanes, even if frontage roads are not required. More design would be needed to address that issue more fully.

There is a significant lack of rest areas and facilities north of Denali State Park to Fairbanks. It remains to be determined if an additional rest area is needed in this planning unit. MP 285 is a possible location.

4.11 Nenana—Nenana Ridge

4.11.1 Description of Unit

This planning unit extends from the south city limits of Nenana (MP 301) through Nenana and northeast across the Nenana Ridge to MP 340 (see Figure 4-18). Outside of the City of Nenana, this planning unit is rural. Even though this segment goes through Nenana, the development immediately adjacent to the highway is fairly limited. Most of the development in the City of Nenana is mostly on the local city street system.

Most of the access for the City of Nenana is provided at the intersection with 10th Street. For northbound traffic, the highway curves to the left and the local street proceeds straight ahead. This situation has caused driver confusion in the past.

The City of Nenana operates a port on the Tanana River. Depending on the freight volume of any given year, it ranks as the number 5 to number 8 port in Alaska. The port is served by a truck route, extending west from the 10th Street intersection, then paralleling the highway before passing under the Nenana River bridge. The current turning movement onto the truck route at 10th Street is a challenge for trucks.

The Nenana Airport is located adjacent to the Parks Highway in the southern portion of the city.

The highway crosses the Tanana River at the north edge of Nenana.

The bridge over the Tanana River also passes over the Alaska Railroad and the port access road. There is a railroad crossing at Monderosa (MP 309) that was grade separated in 2003.

Near Little Gold Stream (MP 315), there is agricultural land adjacent to the Parks Highway.

The location of the highway at Nenana Ridge is a great visual asset.

The only public rest rooms in the planning unit are at the Nenana Visitors Center.

In this planning unit the 2000 traffic volume was 2,000 vehicles per day. It is expected that traffic volumes are higher in the developed area of Nenana. This annual average traffic volume is expected to grow to 2,700 by 2030. The seasonal variation needs to be examined more closely.

4.11.2 Programmed Projects

The section from MP 325 to MP 351 (beyond the north end of this planning unit) is scheduled to be resurfaced to repair freeze/thaw damage.

There are plans to eliminate the railroad loop in Nenana to provide a more direct route and eliminate much of the rail traffic through town. This includes a grade separated crossing of the Parks Highway.

ADOT&PF is improving the truck route that serves the port area. The Toghhotthele Corporation has secured \$1.5 million to extend the truck route around the east side of Nenana.

4.11.3 Potential Future Development

Numerous business expansion activities and governmental activities underway and planned will fuel growth in Nenana. There were 24 new jobs in Nenana in 2001. There is a new student living center with 50 students and some associated families. The Vista Youth Corps has added students. An Indian Community College is planned and construction is expected in a few years. The city is planning to initiate sternwheeler cruises on the river.

There are 125,000 acres of good agricultural land west of Nenana, and the city hopes to construct a bridge over the Nenana River to access this land. This area could be developed for home sites and is a possible access route to western Alaska.

Toghhotthele Corporation hopes to find gas or oil in the area and either produce power or market it to area residents. Doyon also is interested in gas and oil exploration in this area.

Toghhotthele Corporation envisions a restaurant and convention center on the hill across the Tanana River from Nenana, and plans to harvest timber along the Nenana Ridge and produce pressure-treated wood products.

All of these projects will increase traffic on the highway in the Nenana area and from Fairbanks.

4.11.4 Adjacent Landowner and Government Considerations

The Tanana Valley State Forest Management Plan covers the 1.8-million-acre state forest that is adjacent to the Parks Highway. This plan includes transportation and scenic elements, such as buffer zones and gravel pit operation.

At the south edge of Nenana, a railroad grade separation is planned as part of the planned railroad relocation. The railroad probably would go over the highway; however, this is the area of the airport approach and this type of relocation may be a problem.

4.11.5 Long-Term Needs

As with other development nodes, a separated bike path should be considered through Nenana when the future major improvement is built.

4.11.5.1 Safety Improvement

There are a series of alignment deficiencies in the vicinity of MP 318 to 325. This is a high accident location. Drivers often have difficulty reducing speed for these curves due to the hilly terrain and frequent icy conditions. These curves require constant sanding by maintenance. Realignment in this area should be considered.

4.11.5.2 Additional Through-Lanes

The traffic projection of 2,700 vehicles per day in 2030 indicates that, based on an annual average traffic, this section will not need four lanes. Seasonal peaks need to be investigated more thoroughly, and that traffic volume could increase to 4,500 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on

the traffic numbers. The conditions under which an ultimate four-lane, divided highway is warranted for overall operation and safety purposes need to be determined.

There may be short segments, such as through Nenana, where four lanes would be warranted.

4.11.5.3 Interchanges

An interchange at 10th Street has been conceptualized (see Figure 4-20). It was assumed that the interchange would be a diamond configuration. Land ownership and development were researched to help determine the interchange location as well as the need for possible frontage road systems.

This interchange provides a connection between the Parks Highway and 10th Street, which intersects the Parks Highway at MP 304.2 with a severe skew angle of 70 degrees on the east. The interchange is at the existing intersection and adds frontage roads in each quadrant of the interchange. The frontage roads for this option would extend from MP 303.4 (about 1 mile south of the intersection) to MP 304.5 (about 0.5 mile north of the intersection). The frontage road in the northeast quadrant will provide the connection to Nenana. This interchange would connect to the existing truck route on the west side of the highway and would connect to the proposed truck route on the east side. This option will necessitate the relocation of a several structures currently in all four quadrants of the intersection. The estimated cost of this project is \$22.7 million in 2001 dollars.

The design of this interchange would need to consider the proposed railroad crossing just north of the airport. It appears that the railroad would not interfere with the interchange ramps. The vertical alignment of the highway would need to provide a grade separation of the railroad.

If a future second interchange is needed, it would be south of the airport, clear of the airport glide path.

There were also two interchanges developed in association with the bypass that will be discussed below.

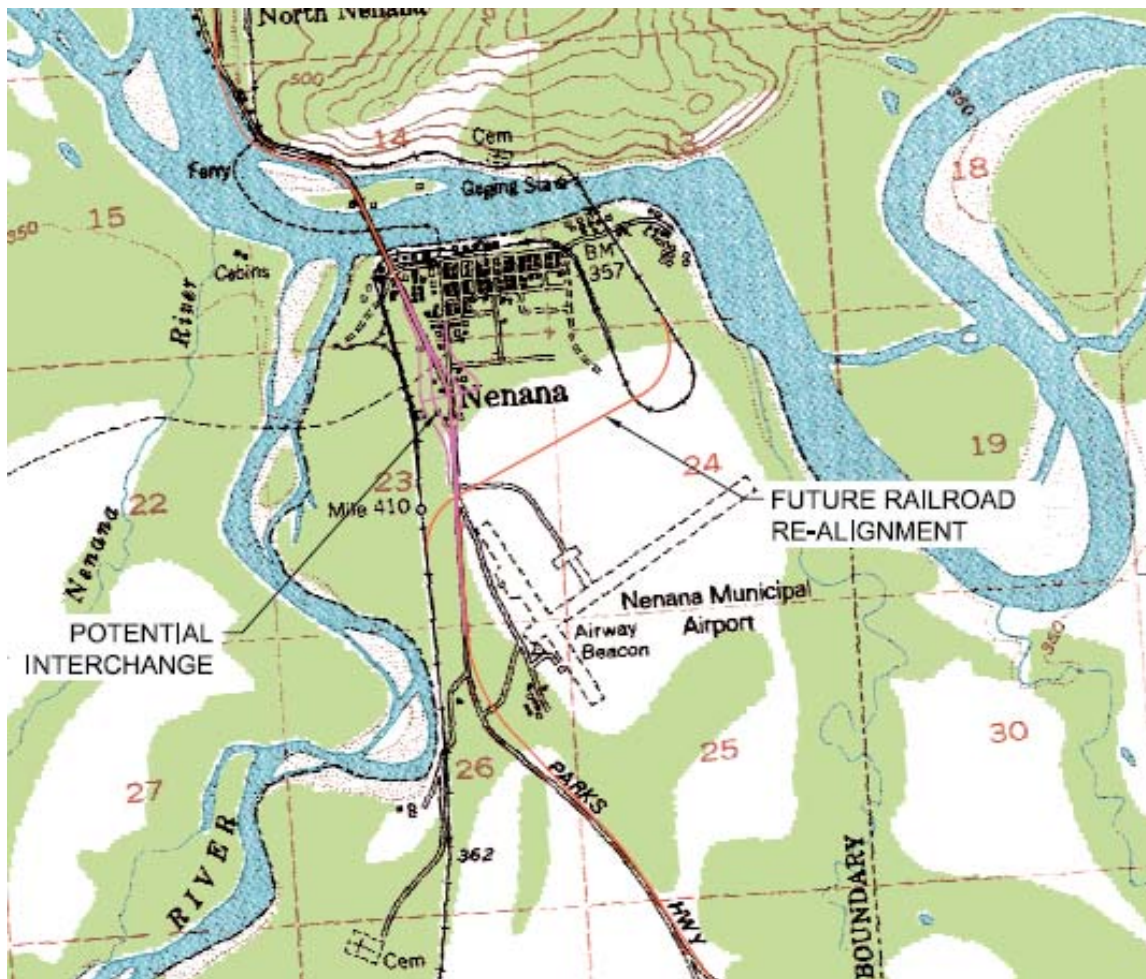


Figure 4-20 Nenana Interchange

4.11.5.4 Bypasses

A bypass to the west of the existing Parks Highway was conceptually developed beginning near MP 302.8, about 1.5 miles south of the existing intersection (Figure 4-21). The Parks Highway would travel northwest for 1.5 miles, crossing the Nenana River. On the west side of the river, it would turn almost due north for about 1.5 miles, crossing the Tanana River. It would cross the existing Parks Highway alignment at MP 306.8, continuing north just east of the existing Parks Highway until the realignment ends near MP 307.3. The existing Parks Highway then would be used as a local access road between MP 303.2 and MP 307.2.

This option would include two diamond interchanges. The first interchange, at the southern realignment location near MP 302.7, would include frontage roads in all but the northwest quadrant of the interchange. The frontage roads extending from MP 302.0 to MP 303.2 on the east side of the highway would provide access to Nenana and facilities north and east of the new Parks Highway alignment. The frontage roads extending from MP 302.0 to MP 302.7 on the west side of the Parks Highway would provide access to facilities west of the new Parks Highway alignment.

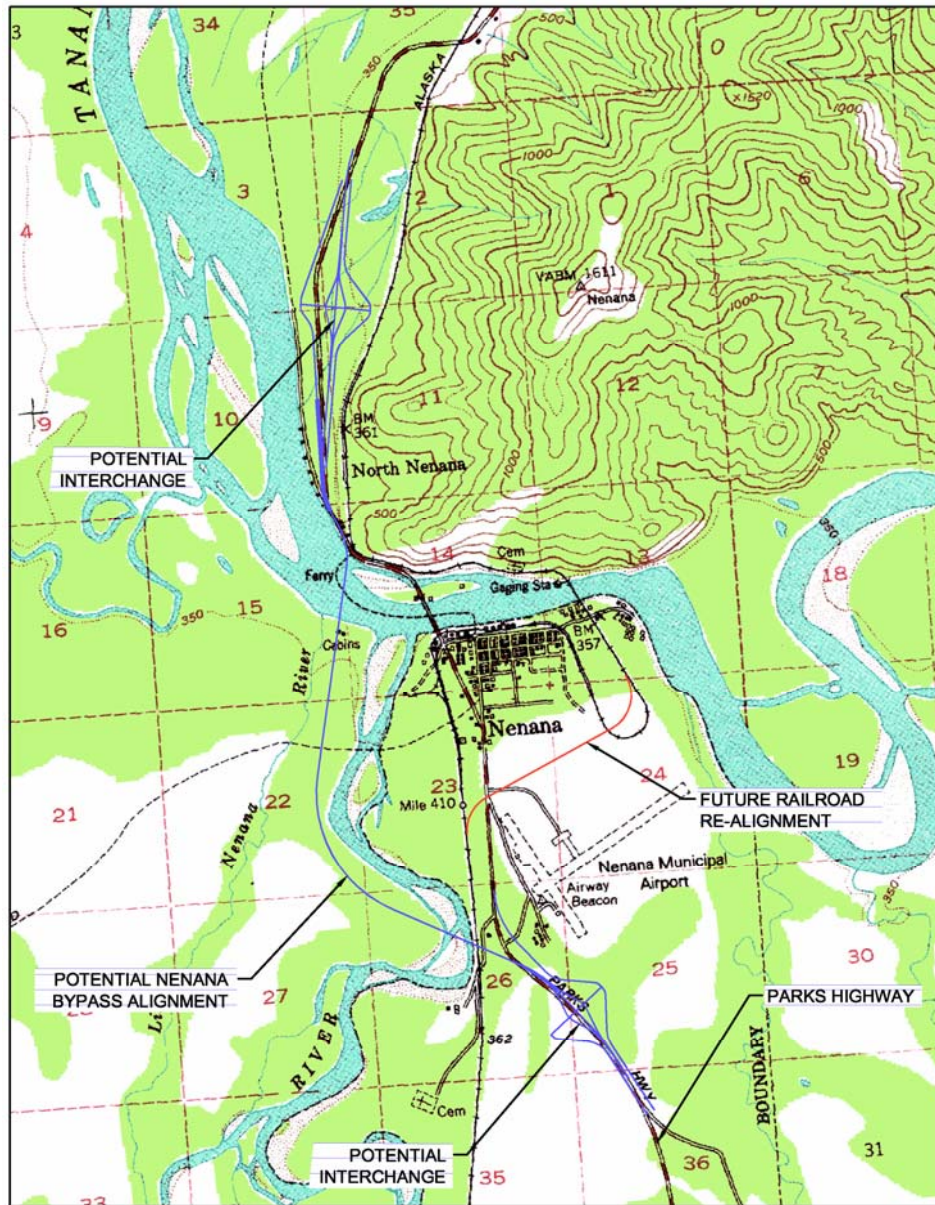


Figure 4-21 Nenana Bypass

The second interchange would be located near MP 306.6, about 2 miles north of Nenana. This interchange would be placed this far north of Nenana because of the narrow corridor available between the Tanana River to the west and the ARRC track and the hills to the east, immediately north of Nenana. The interchange would be located east of the existing Parks

Highway allowing the existing Parks Highway from MP 306.0 to MP 307.2 to be used as a frontage road on the west side of the interchange. No roads would be placed on the east side of the interchange. The estimated cost of this project is \$71.3 million in 2001 dollars.

This concept was developed without an interchange on the west side of the Nenana River. During further development, it should be determined whether this area will be served directly from the relocated Parks Highway, necessitating another interchange, or served from downtown Nenana via a local street over a new Nenana River bridge and a grade-separated crossing of the bypass.

4.11.5.5 General Access Management Strategy

It remains to be determined if the future alignment will be the westerly bypass or the existing alignment with an interchange, maybe at 10th Street. The bypass would have no access, with the possible exception of one interchange as discussed in Section 4.11.5.3.

If the existing alignment is selected, a series of frontage roads and local street system will connect the interchange to local commercial and residential areas. The possibility of constructing the frontage roads in the near future while the intersection is still controlled by a stop sign should be investigated. At the least, the strategy should be solidified so that future development will be planned around the eventual frontage road system. It is important that this planning be done before additional development occurs. If Nenana grows beyond what one interchange can service, the second interchange probably would be south of the airport.

Outside of Nenana, access points in this planning unit are fairly sparse. They can be handled by grade intersections for the near term. Major public roads and connections to major developments should be planned for interchanges. In small nodes where development exists or may exist in the future, all agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access via public streets that may evolve from stop-sign-controlled intersections to interchanges. This would be in lieu of numerous driveways. Purchasing access rights in the near term would allow ADOT&PF to limit the number and location of future access points in these selected areas.

4.11.5.6 Future Right-of-Way Needs

Significant new right-of-way would be needed for either the interchange on the existing alignment or the bypass with its two interchanges. If it is possible to use the local street system to connect the interchange on the existing alignment to the land uses, significantly less new right-of-way would be needed for that option. These concepts need to be developed further and the right-of-way will be more closely defined.

It is important to identify the right-of-way needs for these ultimate solutions so property development in the area can take this into account. Additionally, there is much undeveloped land and it is important to understand future right-of-way needs to take advantage of acquiring it before future development occurs.

Additional right-of-way in the rural portions of this planning unit may not be needed, until the ultimate four lanes are required. When four lanes are built, it is likely that few, if any, frontage roads would be needed, so that would not create the need for large amounts of additional right-of-way. There are areas along Nenana Ridge where cuts and fills may require additional right-of-way for four lanes, even if frontage roads are not required. More design work would be needed to address that issue.

4.11.5.7 System Improvements

The truck route extension discussed in Section 4.11.2 will improve the traffic circulation through the port and improve the access connection to the Parks Highway. The Totechaket access would extend 6th Street west across the Parks Highway, then across a new bridge over the Nenana River. This route would access the large parcel of agricultural land (see Section 4.11.3) west of the Nenana River. It also may be part of a route to the west to Nome and other points.

4.12 Nenana Ridge—Geist Road West of Fairbanks

4.12.1 Description of Unit

This planning unit extends from the north end of Nenana Ridge (MP 340), past the access point to Ester, through the Gold Hill area to Geist Road just west of Fairbanks (MP 357). The first 10 miles of this section are rural residential and the last 7 miles are a developing business area. The current development in this business area is well back from the roadway. Much of the area south of the highway in this business area is covered with gold mine tailings. Figure 4-18 is a map of this planning unit.

There are no river crossings or railroad crossings in this section.

There are no rest areas with rest rooms in this planning unit. At MP 344.2, there is a turnout and viewpoint with a monument honoring George Parks, governor of Alaska from 1925 to 1933, for whom the Parks Highway is named.

In the rural portion of this planning unit the 2000 traffic volume was 2,000 vehicles per day. This volume is expected to grow to 2,700 by 2030. In the business section near Fairbanks, the 2000 volume was 6,100 vehicles per day. This volume is expected to grow to 11,000 by 2030. These volumes are annual averages, and the seasonal variation needs to be examined more closely. Because the volume in the business area is driven by the large population base, it likely will not have a huge seasonal spike.

4.12.2 Programmed Projects

The rural portion of this planning unit is scheduled to be resurfaced.

A scheduled reconstruction from Ester to Geist Road (MP 351-356) includes a bike path and turn pockets.

4.12.3 Potential Future Development

Ester is a growing residential community. University Trust Fund land is available for development in the area. Growth in this area is tied to the Fairbanks economy.

Gold Hill is a business development node. The Alaska National Wildlife Refuge (ANWR), Fort Knox mine, POGO mine, a gas pipeline, and a missile defense installation represent growth opportunities for the Fairbanks area.

4.12.4 Adjacent Landowner and Government Considerations

The Fairbanks North Star Borough has the platting authority for this area. The borough is revamping its comprehensive plan, which will address utility growth in the western and southern parts of the borough, an issue that needs to be coordinated with other agencies.

4.12.5 Long-Term Needs

4.12.5.1 Additional Through-Lanes

The traffic projection of 2,700 vehicles per day in 2030 in the rural portion of this planning unit indicates that, on an annual average traffic basis, this section will not need four lanes, even in 2030. Also as stated previously, the seasonal peaks need to be investigated more thoroughly, and that traffic volume could increase to 4,500 vehicles per day during the summer. Even this 30-year summertime peak would not warrant an overall four-lane section based solely on the traffic

numbers. The conditions under which an ultimate four-lane, divided highway is warranted for overall operation and safety purposes needs to be determined.

In the Gold Hill business area, a four-lane section with frontage roads on the existing alignment should be planned and the right-of-way requirement should be identified and protected.

4.12.5.2 Bypasses

There were no bypasses indicated for this planning unit.

4.12.5.3 Interchanges

An interchange was conceptualized near the existing intersection with Sheep Creek Road (see Figure 4-22). This interchange, situated a few miles west of Fairbanks, connects the Parks Highway at MP 352.7 with Sheep Creek Road from the north. The interchange begins at MP 352.1 with a new Parks Highway alignment to the south of the existing alignment. This alignment eliminates the reverse curve near the existing at-grade intersection. The new interchange is located about 150 meters south of the existing at-grade intersection. The new alignment ties back into the Parks Highway with an 800-meter radius right hand curve ending near MP 353.3. The existing Parks Highway alignment then would be converted to a frontage road system providing access to local properties north of the new interchange. No frontage road system would be installed south of the interchange. The estimated cost of this project is \$14.7 million in 2001 dollars.

Land ownership and development consist of a mix of residential housing and undeveloped properties. The interchange footprint affects approximately 40 acres. The interchange does not affect any residential developments.

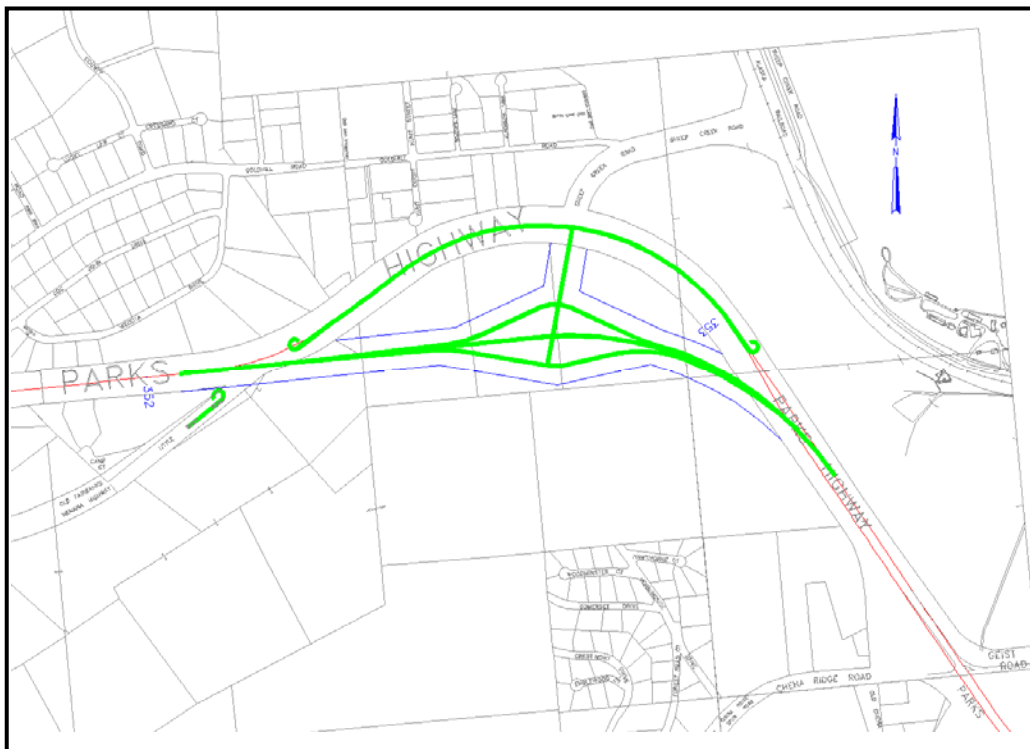


Figure 4-22 Sheep Creek Road Interchange

More detailed investigation needs to be done to determine if additional interchanges are needed to serve the Gold Hill Frontage Road system.

4.12.5.4 General Access Management Strategy

Outside of the Gold Hill business area, access points in this planning unit are fairly sparse. They can be handled by grade intersections for the short term. Major public roads and connections to major developments should be planned for ultimate interchanges. In small nodes where development exists or may exist in the future, all agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access via public streets that may evolve from stop-sign-controlled intersections to interchanges. This would be in lieu of numerous driveways. Purchasing access rights in the near term would allow ADOT&PF to limit the number and location of future access points in these selected areas.

In the near term, the Gold Hill area could be served by three at-grade intersection connections combined with a frontage road system from MP 348.3 to MP 351.2 (Figure 4-23). The first intersection would connect the Parks Highway to the Old Nenana Highway from the west at MP 348.7. The second intersection would connect the Parks Highway to Gold Hill Road from the

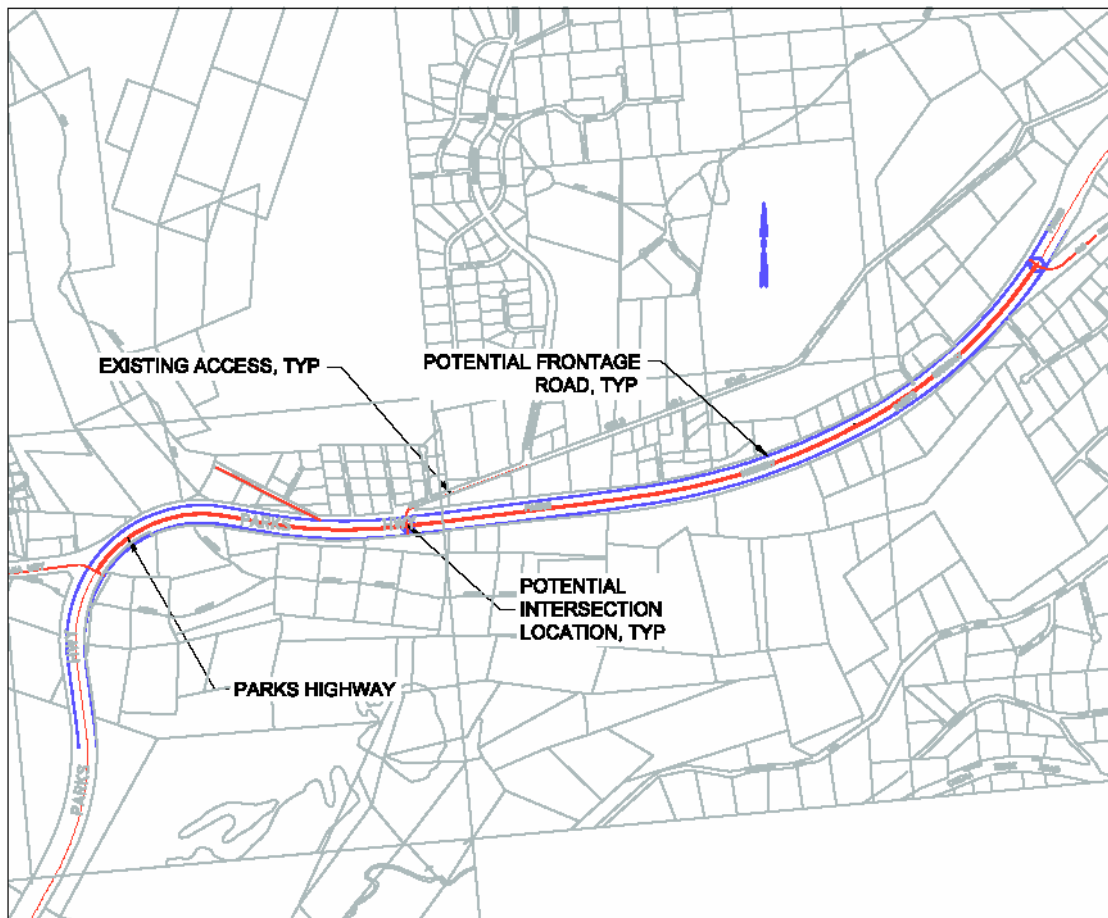


Figure 4-23. Gold Hill Frontage Road System

north at MP 349.5. The third intersection would connect the Parks Highway to the Old Fairbanks-Nenana Highway at MP 351.1. All other local access roads and driveways in this segment would connect to the frontage road system. As with the other at-grade options, the intersections could be replaced with interchanges in the future if necessary. The estimated cost of this project is \$2.6 million in 2001 dollars.

4.12.5.5 Future Right-of-Way Needs

Additional right-of-way in the rural portions of this planning unit may not be needed when four lanes are needed. It is likely that few, if any, frontage roads would be required, so that would not create the need for large amounts of additional right of way. There are areas along the northeastern slope of Nenana Ridge where cuts and fills may require additional right-of-way for four lanes, even if frontage roads are not required. More design work would be needed to address that issue.

The Gold Hill frontage road strategy may require additional right-of-way. That right-of-way footprint remains to be defined.

It remains to be determined if the proximity to Fairbanks will dictate that the intersections described in the frontage road strategy should be interchanges.

4.13 Fairbanks

4.13.1 Description of Unit

The final planning unit of the Parks Highway is in Fairbanks and is the Mitchell Expressway, which is basically a bypass. This planning unit extends from Geist Road (MP 357) to the end of the Parks Highway at the Richardson Highway (MP 362), as shown in Figure 4-24.

Significant planning and construction on the Parks Highway in Fairbanks have resulted in a facility that should handle the expected growth in the planning period with the addition of interchanges at three intersections. There is no access except for interchanges at Geist Road, Airport Way, Cushman Street, and the Richardson Highway and at-grade, signal-controlled intersections at University Avenue, Peger Road and Lathrop Street.

This planning unit crosses the Chena River at the west edge of Fairbanks.

This section of the planning unit is closed to bicycle traffic. Local streets and bike paths are available for this use.

There are no railroad crossings in this segment, however, ARRC may relocate its rail line into the highway median in part of this segment.

In this planning unit the 2000 traffic volume was 12,600 vehicles per day. This annual average traffic volume is expected to grow to 30,600 by 2030. The seasonal variation needs to be examined more closely. Because this planning unit has a large population base, the volume likely will not have a huge seasonal spike.

4.13.2 Programmed Projects

There are no planned projects for this planning unit.

4.13.3 Potential Future Development

A major railroad realignment is planned in Fairbanks. The City of Fairbanks endorses this project. A section of this relocation would be into the median of the Parks Highway. It would open up new industrial area for development and would eliminate numerous grade crossings in residential areas. The borough does not have a position on this project at this time.

4.13.4 Adjacent Landowner and Government Considerations

This study should coordinate with Fairbanks Metropolitan Area Transportation Study (FMATS), a metropolitan planning organization consisting of the borough, ADOT&PF, City of Fairbanks, and City of North Pole.

Potential railroad relocation is one of the issues that will affect the Parks Highway.

4.13.5 Long-Term Needs

4.13.5.1 Additional Through-Lanes

It is assumed that no additional lanes would be needed in Fairbanks. After verifying the 2030 projected volume, that assumption will be retested.

4.13.5.2 Bypasses

There are no additional bypasses needed in this planning unit.

4.13.5.3 Interchanges

Interchanges will be needed at the three current at-grade intersections: University Avenue, Peger Road, and Lathrop Street.

4.13.5.4 General Access Management Strategy

Access in this planning unit already is limited to the interchanges and at-grade intersections. No further action is required.

4.13.5.5 Future Right-of-Way Needs

Future improvements in Fairbanks will consist of interchanges at the existing signalized intersections. Those interchanges will be developed to sufficient detail to determine additional right-of-way needs.

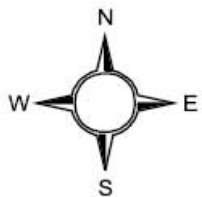
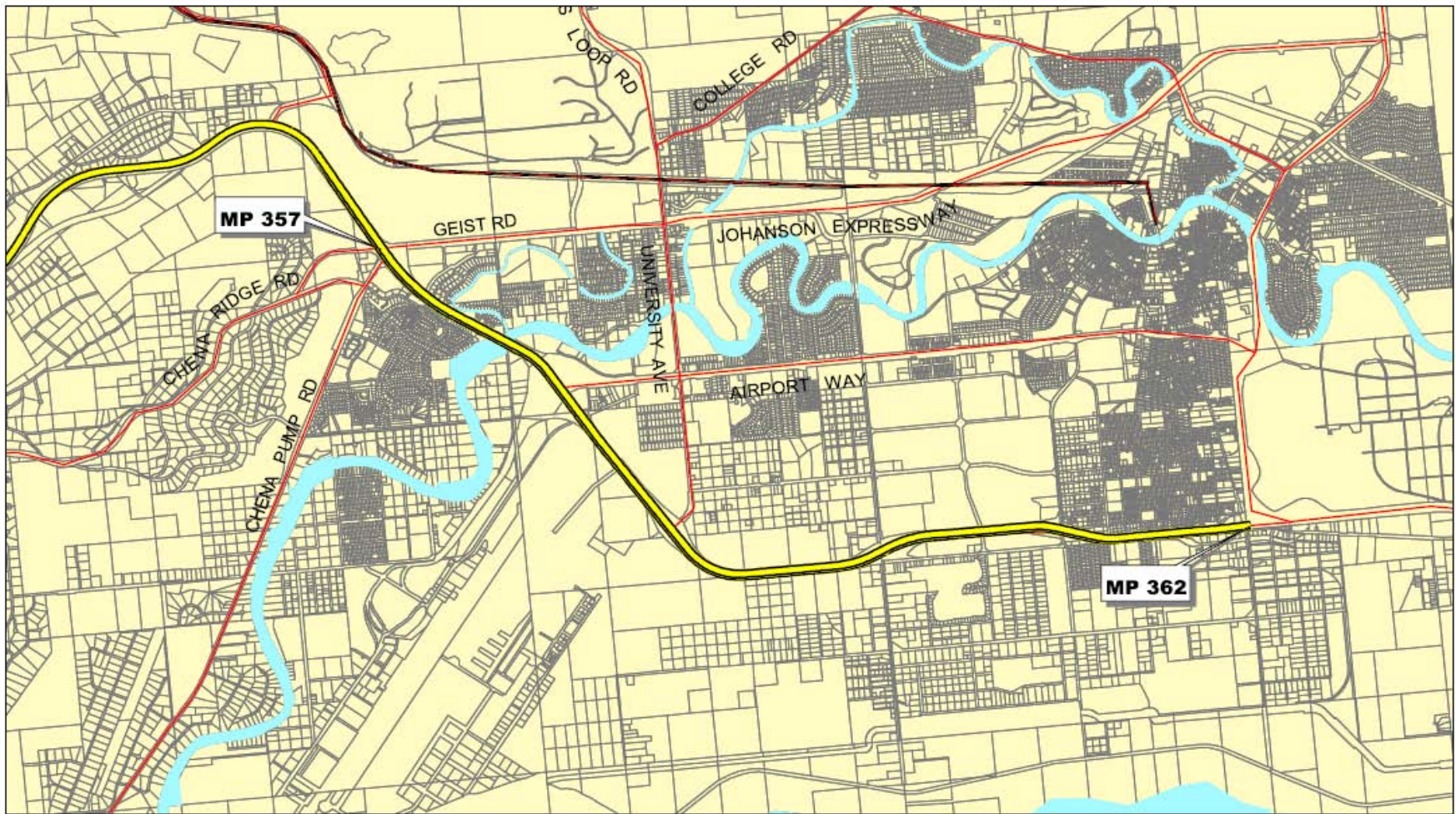


Figure 4-24
Parks Highway
Fairbanks - MP 357 to 362



SECTION 5

Capital Improvement Policies

Section 4 discussed the planning units and what will be needed for each of them in the future. This section discusses overall capital improvement policies that will guide the investment in improvements all along the corridor. This discussion is divided into two parts: policies that provide guidance for safety and capacity improvements (the transportation function) and policies that provide guidance for enhancements along the highway that supplement the transportation function and add to the quality of the trip.

5.1 Safety and Capacity Improvement Policies

Safety improvements will be triggered by policy or accident records. Capacity improvements will be triggered by traffic volumes.

5.1.1 Climbing Lanes

There are relatively few climbing lanes in the rural areas. Summer traffic with a high percentage of trucks and RVs causes backups on numerous hills where safe passes cannot be made.

5.1.1.1 Existing Policy or Practices

ADOT&PF uses American Association of Highway and Transportation Officials (AASHTO) warrants for climbing lanes and the Low Volume Road Report for passing lanes.

5.1.1.2 Recommended Policy or Alternatives

ADOT&PF should continue to implement the AASHTO standards practice referenced above for all improvement projects scheduled for the Parks Highway. It may be preferable to develop a separate project to construct these climbing lanes where they are most needed to speed installation.

5.1.1.3 Recommended Follow-up Action

It needs to be determined where climbing lanes are warranted (using the AASHTO standards).

5.1.2 Passing Lanes

There are relatively few passing lanes in the rural areas. Summer traffic, which has a high percentage of trucks and RVs, causes significant frustrations and unsafe maneuvers for other drivers who cannot pass safely. Additionally, this highway has a mix of use, including many travelers who want to travel slower to enjoy the outstanding scenery, and other travelers who are through traffic and want to travel at higher speeds. Adequate passing lanes would help accommodate these mixed uses.

5.1.2.1 Existing Policy or Practices

As the first step, ADOT&PF uses the Low Level Volume Road Report warrants for passing lanes. ADOT&PF's recent practice on the Seward Highway is for a third of the length of any segment to have a passing lane in one direction. The minimum length for a passing lane is 1 mile and the desirable length is 2 miles or more. So the desired scenario would be to have a 2-mile-long northbound passing lane and a 2-mile-long southbound passing lane in each 6-mile-long segment. The third 2-mile segment within the 6 miles would have no passing lane. This practice adds about 15 percent in construction cost over having no passing lanes, where as constructing four lanes in a two-lane section would double the construction cost.

5.1.2.2 Recommended Policy or Alternatives

ADOT&PF should consider the practice described in Section 5.1.2.1 for all improvement projects scheduled for the Parks Highway. It may be preferable to develop a separate project specifically to construct passing lanes where they are most needed to speed installation.

5.1.2.3 Recommended Follow-up Action

A standard of practice will be developed for Parks Highway segment. Using this standard of practice, locations where passing lanes are warranted need to be identified. This will include taking several factors into account, including topography, distance from other multi-lane sections, and distance from developed areas. Care will be taken to not install passing lanes where they would interfere with existing or expected access points or other turning movements.

5.1.3 Turn Lanes

Some or all of this corridor may be converted to a roadway that has no direct access, except at interchanges, in the future. If that were to happen, turn lanes would not be an issue in those areas. However, there must be safe operation during an interim period until the project is completed. These types of facilities, constructed to serve the interim period, will have fulfilled their design lives by the time the section is constructed.

5.1.3.1 Existing Policy or Practices

ADOT&PF uses AASHTO warrants for turning lanes. Experience has shown that the construction of left turn lanes is desirable on Alaska highways at locations that do not meet the AASHTO volume warrants. A "regional standard of practice" was developed as a second evaluation methodology when AASHTO standards are not met. This evaluation method takes into account volumes, crash experience, the adjacent destination, speeds, sight distance, shoulder width, percentage of large vehicles, and roadway grade to determine where turn lanes should be constructed.

5.1.3.2 Recommended Policy or Alternatives

ADOT&PF should implement the practices described in Section 5.1.3.1 for all improvement projects scheduled for the Parks Highway. It may be preferable to develop a separate project specifically to construct turn lanes where they are most needed to speed installation.

5.1.3.3 Recommended Follow-up Action

Using this standard of practice, locations where turn lanes are warranted need to be identified.

5.1.4 Minor Realignment

There are horizontal curves that may not be consistent with the design speed and high speed vision of this corridor. There are other areas where short realignments may be needed to move away from a slide or to improve the grade on a hill.

5.1.4.1 Existing Policy or Practices

ADOT&PF uses the Highway Safety Improvement Program (HSIP) accident rate analysis tool to identify high accident locations. These locations are investigated to determine the solution for improving the high accident rate. In some cases, the cause may be related to the alignment of the highway. These locations are added to the HSIP list for programming a new project or the solution is combined with a scheduled upgrade project.

5.1.4.2 Recommended Policy or Alternatives

The HSIP evaluation process should be continued.

Where practical, all horizontal alignment should be consistent with a 65-mph design speed. Where that is not cost-effective, adequate signing and other traffic mitigation measures should be in place.

In some areas, the highway may need to be realigned away from landslides.

Vertical grades should be consistent with interstate design standards. The solution at some locations may be to make the existing alignment into the downhill direction and construct a new, flatter uphill grade on a separate alignment.

5.1.4.3 Recommended Follow-up Action

Using this evaluation methodology, locations where minor realignments are needed should be identified.

5.1.5 Shoulder Improvements

Adequate paved shoulders are critical on this highway. The mix of high-speed traffic and relatively slow-speed traffic compounded by the high number of trucks and RVs increases the likelihood of having to make evasive maneuvers. The high incidences of wildlife on the highway make the likelihood of these maneuvers even greater. Paved shoulders may make the difference between retaining or losing control of a vehicle in that situation.

Bike travel is also an important use of the corridor. Separated paths should be provided in developed areas, but bikes should travel on the paved shoulders in all rural areas until the ultimate controlled-access facility is built. At that time, bike travel should be on a separate path.

Several bridges in the corridor do not have adequate shoulders outside of the travel lanes. Additional detail about those need to be developed.

Two sections (MP 133 to 164 and MP 243 to 262), totaling 50 miles, have excessively wide rumble strips in the paved shoulders that interfere with bike traffic.

Other sections in the corridor have paved shoulders, but they are not consistent with the width standard. Several climbing lanes between Nenana and Fairbanks have only 3-foot shoulders, which are substandard.

5.1.5.1 Existing Policy or Practices

National Highway System roadways are required to have a minimum 36-foot top width. This results in 6-foot-wide shoulders. The minimum width for a bike path is 4 feet. A 6-foot-wide shoulder with a 16-inch-wide rumble strip and 2-inch offset from the shoulder stripe leaves 4.5 feet for the bicycles. ADOT&PF adopted a policy in 2001 that provides this and additional guidance for the installation of rumble strips where there is bicycle traffic.

Shoulder widths are not decreased on passing or climbing lanes because they must accommodate bicyclists.

Full 10-foot-wide inside and outside shoulders are constructed where the ultimate typical section would require this shoulder width. An example of this is the four-lane section divided highway from the Glenn Highway to Wasilla where the highway ultimately will be six lanes wide.

ADOT&PF uses a full width structural pavement and base section for all interstate pavements, including the shoulders.

5.1.5.2 Recommended Policy or Alternatives

ADOT&PF should implement the practice described in Section 5.1.5.1 for all improvement projects scheduled for the Parks Highway.

5.1.5.3 Recommended Follow-up Action

The *TRAAK Corridor Assessments* outlines where shoulder improvements are needed. Constructing these improvements needs to be considered in the future overall improvement projects that are planned.

5.1.6 Bikes

Accommodations for bikes are needed for the full length of the corridor. In most of the corridor, the shoulders are adequate, but sweeping and other maintenance of the shoulders is a problem.

Some, long-distance bike riders prefer to use the shoulders, not a separate bike path. Separated bike paths may address concerns for children riding in the developed areas and their safety.

When separated bike paths are built, they may displace existing unimproved trails that have been used by snow machines or ATVs. Displacement of existing uses should be considered.

5.1.6.1 Existing Policy or Practices

ADOT&PF has been constructing separated bike paths in developed areas as part of improvement projects. Projects currently underway will extend the path from Trunk Road to Willow Creek and a path through the Nenana Canyon commercial area was recently completed.

5.1.6.2 Recommended Policy or Alternatives

Provide separated bike paths in developed areas.

Accommodate bicycles on paved shoulders in all rural areas.

Provide adequate shoulders on all bridges or provide an alternate stream crossing.

The 2001 ADOT&PF policy states that the shoulder width outside of the rumble strips should be at least 4 feet wide to accommodate bicycles.

5.1.6.3 Recommended Follow-up Action

There is no follow-up action.

5.1.7 Bridges

Some of the existing bridges are not wide enough to accommodate the over-width loads that are operated on this highway under permit without encroaching on the opposite direction of travel.

Many bridges do not have wide enough shoulders to adequately accommodate bicycles or pedestrians.

5.1.7.1 Existing Policy or Practices

Before the Parks Highway Visioning Scoping Document was finalized, all bridges on the Parks Highway were logged from existing ADOT&PF data bases to document weight limit, width, and height deficiencies.

5.1.7.2 Recommended Policy or Alternatives

Providing additional capacity in the corridor will require wider bridges or companion bridges for the two directions of traffic. New bridges will be built to acceptable widths. If an existing bridge is retained for one direction of traffic, it would be able to accommodate wide loads by using both lanes for a short distance for the occasional wide load. If an existing bridge is to be retained and it is not wide enough for bicycles and pedestrians, extra width should be provided by widening the bridge, cantilevering a bike/pedestrian structure on the outside of the main structure, or building a separate bike/pedestrian bridge, as was done in Nenana Canyon. Proper height clearances should be provided and the bridges should not be subject to load weight restrictions.

Aesthetic qualities should play a part in the design of any new bridges and other structures.

5.1.7.3 Recommended Follow-up Action

There is no follow-up action.

5.1.8 Railroad Crossings

Two significant issues are evident concerning the railroad/highway interface. First, all of the at-grade crossings should be eliminated with grade separations. Second, establishing trailheads near the railroad causes safety concerns for the railroad.

5.1.8.1 Existing Policy or Practices

All of the existing railroad at-grade crossings are in ADOT&PF's STIP for construction of grade separations. ARRC generally would prefer that the highway go over the railroad.

When developing frontage roads and secondary access road systems, it should be noted that ARRC does not want crossings on minor roadways to be closer than 4 miles apart.

ARRC must retain enough right-of-way to accommodate future double tracking and utility corridors.

Railroad rights-of-ways may be limited to railroad use if the Interim Conveyance document limits the land use for railroad operation and thus may not be available for highway use.

5.1.8.2 Recommended Policy or Alternatives

Grade crossing separation projects should remain high priority for ADOT&PF to ensure that they are constructed as soon as possible. Adequate height clearances for these structures will be important.

ARRC should be consulted whenever improvements to trailheads or trails are contemplated near the railroad.

5.1.8.3 Recommended Follow-up Action

There is no follow-up action.

5.1.9 Rest Areas

The Parks Highway has long stretches of rural roadway with no rest areas with rest rooms. People are inappropriately using turnouts for this purpose. Most people want additional facilities, but in Nenana and Houston there is also some sentiment that travelers should come into the towns to use commercial establishments. Public facilities, fully accessible according to the Americans with Disabilities Act (ADA), need to be provided.

Dump stations, possibly in rest areas, also are badly needed. There are no dump stations between Talkeetna and Cantwell. This leads to unsanitary, illegal dumping. The Division of Parks and Outdoor Recreation is putting in a dump station at Byers Lake.

A high percentage of run-off-road accidents is from drivers falling asleep. More rest areas could help alleviate this problem.

Some people believe there is a conflict at pullouts between truck drivers who sleep in areas and other uses.

Roadside camping is a problem for commercial camping providers. Otherwise, ADOT&PF would not have a problem with this camping if the activity is well away from the highway.

The demand for recreational pullouts with facilities is greater than the private sector is providing.

5.1.9.1 Existing Policy or Practices

ADOT&PF follows the *TRAAK Corridor Assessments* recommendations, which call for rest areas spaced 1 hour driving time apart (see Appendix E).

The Division of Parks and Outdoor Recreation and ADOT&PF have informal coordination agreements for maintaining rest areas. This cooperation should be expanded. More emphasis on funding rest areas and pullout maintenance is needed.

5.1.9.2 Recommended Policy or Alternatives

ADOT&PF should continue to follow the *TRAAK Corridor Assessments* (see Appendix E) suggestion that rest areas with rest rooms be spaced 1 hour of driving time apart.

Adequate maintenance budgets ideally should be established before the facilities are constructed.

ADOT&PF should work with nearby communities to determine local residents' opinions about the siting of new rest areas.

Not all turnouts need to be accessible year round.

5.1.9.3 Recommended Follow-up Action

No follow-up on this issue will be done by this study. The *TRAAK Corridor Assessments* (Appendix E) provide several statements of policy. ADOT&PF will determine how these guidelines will be implemented state-wide. This will guide the future management of rest areas on the Parks Highway.

5.1.10 Wildlife Collisions

Collisions with wildlife are prevalent. The accident record showed that in 1998-99, there were 75 moose collisions south of Sunshine and 54 collisions north of Sunshine.

Large numbers of caribou are in the Broad Pass area, where they winter over. In the springtime, it is not unusual to see large numbers of caribou.

Moose are consistent about their migration routes. In some other areas, these migration patterns have been addressed. Box culverts for moose migration have been used successfully in other locations to provide passage underneath the highway. There are no underpasses along the Parks Highway that wildlife can pass through.

More access for people means more impacts to wildlife. Maintenance of the wildlife population also is an issue when considering human access to many of the natural areas.

5.1.10.1 Existing Policy or Practices

ADOT&PF clears the vegetation in the wide right-of-way to allow drivers to see wildlife before the animals reach the roadway.

Warning signs are maintained in the most concentrated moose areas.

5.1.10.2 Recommended Policy or Alternatives

New projects should consider including wildlife passage accommodations. The section from Church Road (MP 44) in Wasilla to the Nancy Lake Resort (MP 64) entrance was mentioned as a good candidate for this treatment when the highway evolves to a full access-control section.

Emphasis should remain on clearing the right-of-way to minimize the chance of animals moving into the traffic stream with little notice.

Current maintenance practice has created ruts that interfere with roadside drainage and that, in turn, can deteriorate the pavement structure. Steps should be taken to avoid this problem.

5.1.10.3 Recommended Follow-up Action

There is no follow-up action.

5.1.11 Winter Conditions

Snow, ice, and darkness are driving issues in this corridor because winter conditions may exist for 5 to 6 months per year.

5.1.11.1 Existing Policy or Practices

Specific issues are handled on a case-by-case basis. *Design Guideline for the Control of Blowing and Drifting Snow*, SHRP-H-381, provides guidelines.

Plowing is done whenever there are 2 inches or more of snow. Sanding is done on an as-needed basis. ADOT&PF relies on comments from the public, state troopers, and its crews to determine when sanding is needed. Experts from severe winter weather locations around the country are brought to Alaska for consultations when major problems are encountered.

5.1.11.2 Recommended Policy or Alternatives

Designs of new projects need to consider winter conditions, such as drifting snow, steep grades and snow storage areas, and winter maintenance. Turnouts should be designed for ease of plowing.

Consider new intelligent transportation systems and new technologies for pavement surfaces for winter conditions.

5.1.11.3 Recommended Follow-up Action

There is no follow-up action.

5.1.12 Nighttime Conditions

5.1.12.1 Existing Policy or Practices

ADOT&PF employs good signage, uses the best available striping materials, uses rumble strips, and follows the AASHTO guide for illumination.

5.1.12.2 Recommended Policy or Alternatives

Well-lit, excellent signage should be on the Parks Highway, where it is feasible from an energy-availability perspective.

When warranted, there should be consistent illumination for pedestrians and vehicles, where it is feasible from an energy-availability perspective.

Taking plowing into consideration, more reflective delineation for winter visibility should be used.

5.1.12.3 Recommended Follow-up Action

There is no follow-up action.

5.1.13 Truck Parking

The turnouts at Broad Pass are used to break down truck and trailer units so that individual drivers can pull a trailer half the length of the corridor, leave it there, and return home with another trailer in the same day. There are requests for more areas like this and for areas where truckers can stop and sleep.

5.1.13.1 Existing Policy or Practices

This type of temporary truck parking historically has been allowed where it can be done safely. There are no policy statements to support this practice.

5.1.13.2 Recommended Policy or Alternatives

At Broad Pass, the truck turnouts should be separated from the recreational uses.

Trucks should be accommodated in rest areas.

ADOT&PF should establish a policy to govern this temporary, sometimes overnight, parking of trucks. A central question is whether this is a public responsibility or a service that should be provided privately.

5.1.13.3 Recommended Follow-up Action

A recommended policy needs to be developed. Research for that effort will include determining what is routinely done in other states.

5.2 Enhancements Policies

5.2.1 Scenic Viewpoints and Lineal Views

Recreation and tourism are extremely important in this corridor and the world-class scenic value is a valuable asset. In many areas the viewsheds have deteriorated over the years as trees have grown up and there are relatively few places where drivers can pull off the road to safely enjoy the view. At many of the existing viewpoints, there are few amenities.

The segment of the highway from the Chulitna River to Healy is designated a State Scenic Highway because of the incredible vistas of the Alaska Range and the rugged wildlands.

All along the corridor, the many river crossings are scenic resources.

Several previous studies have addressed scenic qualities of the Parks Highway. Scenic buffers are identified in the *Susitna Area Plan* for state and borough land. ADNR's *Scenic Parks Highway Corridor Plan* addressed this need. Enhancement locations are identified in the Tanana Land Management Plan. The management of viewsheds is among the new focal points for the Division of Parks and Outdoor Recreation.

Having enough money to maintain turnouts for recreational, scenic, or rest area use is a real concern for all involved agencies. Some roadside facilities have been built and then closed because of a lack of maintenance support.

Viewsheds need land use planning and inter-governmental coordination to provide protection.

Divided highways with trees separating the roadways make an aesthetically pleasing design. The second phase of this study should recommend locations where divided cross-sections may be appropriate. It is difficult to justify right-of-way purchases on a project basis, but having a plan in place would provide the guidance on what is reasonable so that when opportunities present themselves, ADOT&PF would be ready to make a decision and act.

The National Parks Service is concerned about impacts of development on scenic vistas around Denali National Park. This is primarily development that is out of sync with its contextual surroundings, such as the new hotels in Nenana Canyon or possible strip development along the highway in the Trapper Creek area ancillary to potential future development discussed in the *Denali National Park and Preserve: South Side Development Concept Plan* (see Section 11).

5.2.1.1 Recommended Policy or Alternatives

The corridor should remain a beautiful drive. Design criteria need to consider scenic value.

ADOT&PF should support land management policies that protect scenic values.

Turnouts at high value scenic locations should be provided. These turnouts should be designed with safe access and good signing. Amenities should be provided if project budget is available and if there is an adequate maintenance budget. If turnouts are not affordable, steps should be taken to keep these areas in public ownership or otherwise protect the future of the viewshed. A program should be established to systematically remove trees to open views along the highway.

ADOT&PF should develop partnerships with other agencies, especially the Division of Parks and Outdoor Recreation, to best manage the scenic resources of this corridor. Using concessionaires to help with trash and facilities expenses is another way to increase the funding for these turnouts.

Retaining any public land for its scenic value is an important consideration whenever public land sale is being contemplated anywhere in the corridor.

Zoning should be considered as a tool to regulate viewshed protection.

5.2.1.2 Recommended Follow-up Action

ADOT&PF should determine whether to apply for National Scenic Byway designation for all or part of this corridor.

5.2.2 Hiking, Snow Machines, and ATVs

Hiking, snow machines, and all-terrain vehicles (ATVs) are major uses of the corridor. The highway interface with these recreational activities involves turnouts for staging areas for trails along with snow machine and ATV operation along the right-of-way.

Turnouts have been constructed in certain locations where the topography has easily accommodated the construction. These turnouts are open for general use, which has resulted in conflicting uses in some cases. For example, there have been conflicts between snow machine operators and private cabin owners who use the same turnouts.

More turnouts are needed and some existing turnouts need to be expanded. It is important that the uses are well off the highway. Some of the turnouts are not well located for good access to trails and are considered places for drivers to rest, rather than trail access.

ADOT&PF partners with ADNR Parks and Recreation on many of these turnouts. ADOT&PF provides the funding. ADNR does the design, construction, and maintenance. The Division of Parks and Outdoor Recreation is not a land manager outside of state parks now, but could manage key recreational access nodes or pullouts in the future. Areas such as those identified by the *TRAAK Corridor Assessments* would be for public use. Location of rest rooms could be co-located with recreational facilities and co-managed by ADOT&PF and the Division of Parks and Outdoor Recreation.

Snow machines and ATVs historically have used the unimproved portion of the right-of-way because motorized vehicles are not permitted on bike paths and must travel in the same direction as the vehicular traffic on the roadway. By law, snow machine associations cannot maintain the crossings of the highway. The Matanuska-Susitna Borough wrote an ordinance to cover maintenance.

5.2.2.1 Recommended Policy or Alternatives

A turnout policy should be developed to provide for:

- Turnouts at trails designated by the TRAAK Board, compatible with the regional trail system and not in conflict with local residents or ARRC
- Coordination with recreational backcountry access
- Trailheads separated from the road
- Year-around access to trails
- Pullouts that are easy to plow and snowplowing that is coordinated to provide access to public areas
- Turnouts that may be on other public lands outside of the Parks Highway right of way

A regional plan that includes trails, snow machines, ATVs, and parking is needed. ADOT&PF needs to work with the local communities to address the snow machine issue as partners. More north-south snow machine corridors are needed. Recommendations for the Park Highway corridor in the ADNR/Matanuska-Susitna Borough area plan represent the TRAAK Board view and should be considered.

Designers should eliminate roadside hazards to snow machine use, such as abruptly raised driveways.

Consider a permit process that would provide maintenance money and structure for the use of these trails and turnouts. Incentives are needed for snow machine users to use designated areas.

5.2.2.2 Recommended Follow-up Action

The recommended policies provide clear guidance on this issue and further follow-up is not needed.

5.2.3 Fishing

As described in the planning unit discussions (Section 4), the Parks Highway crosses many waterways, which range from small streams to large, scenic rivers. Fishing is one of the outstanding attractions of the state.

ADOT&PF has constructed enhancements at several streams, such as Montana Creek (MP 96). These packages of enhancements may include underpasses under the highway, pedestrian bridges over the stream, and protection of the riparian areas, such as boardwalks. Members of the public commended ADOT&PF for constructing these projects and requested that they continue providing and expanding such recreational facilities.

5.2.3.1 Existing Policy or Practices

Public access needs are being provided as budgets will allow.

5.2.3.2 Recommended Policy or Alternatives

Turnouts should be considered at popular fish streams. These should include improvements such as those recently constructed at Montana Creek (MP 96) and other locations.

Access to all fish streams is not good, and this should be coordinated with ADFG. The impact of bringing large numbers of people to these waterways should be known before projects are developed.

Boat access is needed at many of the stream crossings and the impact of this access needs to be considered in highway development.

Wherever pedestrian bridges are built across streams, they should be constructed at the right-of-way line to accommodate potential widening of the highway bridge. Such facilities could be improved aesthetically by involving a landscape architect with a focus on the pedestrian user.

5.2.3.3 Recommended Follow-up Action

ADOT&PF has initiated a program to provide these enhancements at several stream crossings. The rest of the needed turnout improvement locations need to be identified and reconnaissance-level information about these turnouts developed.

5.2.4 Rafting

In the central part of the corridor launching or retrieving rafts from rivers and streams is done from the right-of-way. This is not controlled in a consistent manner and the operations are not always safe.

5.2.4.1 Recommended Policy or Alternatives

ADOT&PF should establish a policy that would consistently direct the management of rafters using the right-of-way along the length of the corridor.

Rafting facilities need to be considered where put-in/pull-outs exist.

5.2.4.2 Recommended Follow-up Action

The policy discussed in Section 5.2.4.1 needs to be developed.

5.2.5 Interpretive Signing

5.2.5.1 Recommended Policy or Alternatives

There is a need for interpretive exhibits in waysides and turnouts. At a minimum, these would address wildlife, geography, geological features, native culture, environmental qualities, and history.

5.2.5.2 Recommended Follow-up Action

There is no follow-up action.

Environmental

6.1 NEPA Protection

The National Environmental Policy Act (NEPA) is the procedural framework for documenting and reviewing the environmental impacts of all projects involving federal agencies. NEPA is triggered if federal monies are used or dedicated, a federal permit is required on a construction project, or whenever there is a federal action.

The NEPA document generated for each project in the corridor will balance all factors surrounding this action. Items such as highway capacity, wetlands impacts, safety, access, right-of-way takes, habitat, noise, and many other factors will be examined during the process. These factors will be analyzed against the purpose, need, and vision of this document to determine specific features on each project developed.

While there are many factors involved in a NEPA analysis, the intent is to identify impacts to people, places, and things during the process so that an informed decision can be made.

The *Parks Highway Visioning Document* is a planning study. NEPA is not triggered by the study itself, however, when projects are realized out of this study, then it would need to be determined if the NEPA process will be required. It is anticipated that each improvement project resulting from this study would be federally funded and, therefore, will follow the NEPA process. This planning document and its public information process will become the baseline from which to start the NEPA process for each project resulting from this study.

After a project is defined early in the design study phase, a determination is made, based on the likelihood of encountering significant impacts, as to whether the NEPA document will be a categorical exclusion (CE), environmental assessment (EA), or an environmental impact statement (EIS).

NEPA requirements need to be taken into account when considering early right-of-way acquisition. There is no method to use federal funds to acquire right-of-way on anything but an extremely limited parcel-to-parcel basis before completing the NEPA process for a highway project.

NEPA requires that all environmental impacts be documented before any federal action (such as funding or permitting the construction of a highway). Acquisition of a corridor or right-of-way along an existing alignment is considered an action that would require documentation of the environmental impacts (including impacts on society and landowners) before federal involvement in the form of funding.

Additionally, any acquisition of right-of-way (using non-federal funds) in advance of a completed NEPA environmental review may not bias the outcome of the proposed alternative design or alternative route.

6.2 Environmental Constraints and Sensitive Areas

In 1972 Congress passed the Coastal Zone Management Act (CZMA) to promote the orderly development and protection of the nation's coastal resources. This law established a voluntary partnership among the federal government, coastal states, and local governments to develop individual state programs for managing coastal resources.

The Alaska Coastal Management Program (ACMP) implements legislation passed by the State of Alaska in 1977, the Alaska Coastal Management Act. The networking provided by the ACMP helps to ensure that all aspects of a project are considered by the state agencies and public during a single review and approval process, called a consistency review. This integrated approach promotes both economic and environmental productivity of Alaska's rich and diverse coastal resources. Portions of the Parks Highway corridor pass through a coastal zone and, therefore, may require a consistency review for development projects.

In addition to the ACMP, the State of Alaska has three agencies primarily responsible for managing its natural resources and the uses of those resources. These resource agencies have permitting authorities for specific activities. If a project requires a permit from only one state resource agency, that agency coordinates the consistency review process. A project likely will require one or more permits from at least one resource agency. These state resource agencies are:

- The Alaska Department of Natural Resources (ADNR), which manages state-owned land and natural resources, including sales and leases.
- The Alaska Department of Fish and Game (ADFG), which manages the state's fish and wildlife resources and their habitats.
- The Alaska Department of Environmental Conservation (ADEC), which serves to safeguard the public health and environment from human uses.

The drainage areas within the Matanuska-Susitna Borough are covered under the ACMP. Areas within the Fairbanks Northstar Borough and Denali Borough are not covered under the ACMP consistency review, but would require similar permits.

The State Historical Protection Officer (SHPO) will be consulted to locate any known cultural, historical, or archaeological sites in a project area, and for consultation required by Section 106a of the National Historic Preservation Act.

An ADFG preliminary review of the "Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes" revealed that nearly every creek and stream that the Parks Highway crosses contains anadromous and/or resident fish populations. There are more than 27 stream crossings along the corridor. ADFG Title 16 Fish Habitat Permits would be required for projects involving work below ordinary high water in these streams. In addition, a Culvert/Bridge Installation Application would be required. The ADFG GIS database will be added to the Parks Highway project database in a future phase of this plan to locate the known anadromous fish streams and query the type of fish populations occurring along the corridor.

The ADFG indicated that all existing and proposed culverts and bridges need to provide fish passage per Title 16. ADFG prefers bridges over culverts and does not want road fills right up to the edge of riparian areas. ADFG would like stream crossings where the banks and channels are stable, and wants all stormwater treated prior to discharge into streams. Stream crossings may create pedestrian accesses that damage riparian areas, therefore, solutions, such as boardwalks, need to be considered during design of these crossings.

Fragmentation of habitat caused by roadway alignments off the existing highway is a major concern of ADFG. Fish streams need to be identified before any of these roads are planned. The promotion of development in clusters served by one access road is desired over having numerous feeder roads to address this critical wildlife management concern. New projects should avoid animal migration routes. Animal crossings should be included in future improvements, especially moose passage facilities. New projects should avoid wildlife refuges.

An ADEC preliminary search was performed to identify leaking underground storage tanks (LUSTs). This search revealed 26 sites in the Matanuska-Susitna Borough, 2 sites in the Denali Borough, and 3 sites in the Fairbanks North Star Borough, along the Parks Highway. Clearing areas greater than 5 acres will require an EPA NPDES stormwater permit.

Federal agency interest in improvement projects along the Parks Highway includes navigability, flood plain management, and wetlands. Some wetlands and riparian areas are bisected by the existing Parks Highway and will need to be avoided to the extent practicable or permitted through the U.S. Army Corps of Engineers (COE). The U.S. Environmental Protection Agency (EPA) also will have jurisdiction over cleared areas in excess of 5 acres, requiring work to be in compliance with the NPDES Stormwater General Permit.

National Marine Fisheries Service and USFWS Web sites indicate there are 25 threatened and endangered species in the Alaska region. Particular species that may be affected by Parks Highway improvements have not been determined at this time, but are likely to be present. NMFS also has jurisdiction over essential fish habitat per the Magnuson-Stevens Act that will have to be dealt with.

6.3 Fish and Wildlife Factors

Public and agency comments were collected during regional meetings held along the Parks Highway corridor, through personal interviews with representatives of major landowners and governmental entities, and by questionnaires received during a comment mail-in period. The following summarizes comments relating to environmental concerns.

- Avoid wetlands and protect riparian areas, while enhancing and protecting fish passages and spawning grounds. Avoid moose migration routes and wintering grounds or provide passages for these routes, and avoid fragmenting natural areas with feeder routes. The highway crosses numerous fish streams. Public access to all of them is widely desired.
- New projects should include wildlife passage accommodations where practical. Emphasis was placed on clearing areas along the highway to enhance scenic views, and to minimize the chance of animals moving into the traffic stream with little notice. This

would provide for the human safety issue as well as the wildlife issue. Maintenance of wildlife populations is considered important, as more access for people means more impact to wildlife.

- Human issues, such as safety concerns along the highway, are an important aspect for this plan. Some of the human issue comments include maintaining wide buffer strips between the highway and development to eliminate visual impact of the highway. Maintaining the scenic value of this corridor has been emphasized repeatedly, as well as the recognition that this corridor is a valuable tourism asset that is worth preservation.

6.4 Park Land Impacts

23 *Code of Federal Regulations* (CFR), Section 4(f) is a national policy that requires special consideration and scrutiny be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The FHWA will not approve transportation projects that require the use of these lands unless:

1. There is no feasible and prudent alternative to the use, and
2. All possible planning to minimize harm resulting from such use is included.

If avoidance is not feasible and prudent for the project, then an examination of the net effect of each impact is warranted while using all possible planning to minimize harm, including all practicable mitigation measures.

The Parks Highway crosses through Denali National Park and Denali State Park lands. Some involvement with 4(f) is anticipated for highway development or improvement projects through or adjacent to these lands.

FHWA decides whether Section 4(f) applies to a resource, reviews assessments of each alternative's impacts to 4(f) properties, and determines whether the law allows the selection of a particular alternative after consulting with the U.S. Department of the Interior.

The following legislation, regulations, and instructional guidances are available for preparing 4(f) documentation:

- Legislation: 23 U.S.C. Section 138 – Preservation of Parklands
- Regulation: 23 CFR 771.135 “Section 4(f)”
- 4(f) Policy Paper
- FHWA Technical Advisory T6640.8A
- Programmatic Section 4(f) Evaluations for: Independent Walkway and Bikeways Construction Projects; Historic Bridges; Minor Involvements with Historic Sites; and Minor Involvements with Parks, Recreation Areas and Waterfowl and Wildlife Refuges.

Right-of-Way Acquisition

7.1 Background

A number of federal, state and local processes, policies and mechanisms come into play in this discussion of right-of-way acquisition. The National Environmental Policy Act (NEPA) has overarching implications from both a policy standpoint and as a practical means of making sound decisions in purchase of right-of-way and in gaining public acceptance for project goals and objectives. The Federal Highway Administration's (FHWA) existing processes for the purchase of right-of-way are similarly overarching in this discussion of processes that may be used in the early acquisition of right-of-way. Many of FHWA's requirements are in place to protect the rights of property owners. Finally, an understanding of state and local regulations is important to the discussion of early acquisition.

7.1.1 Problem Statement

Generally, the existing right-of-way of the Parks Highway is 200 to 300 feet wide.

Of particular concern to ADOT&PF is how to acquire or protect future needed right-of-way before development takes place on that property. The present lack of detailed long-range transportation planning, system planning, or corridor planning and the difficulty of early acquisition of right-of-way have resulted in development occurring in the path of highway projects. This has resulted in higher right-of-way acquisition costs and the resulting expenditure of funds that could be used for construction.

Additional right-of-way may be required in the future to accommodate improvements in Wasilla and Nenana Canyon, which may include interchanges, frontage roads, or bypasses. These same improvements will be needed in numerous other growth nodes and selected rural segments. Additionally, there are other areas where the existing width is not sufficient to accommodate the needed number of travel lanes. The need for additional travel lanes often is driven by population growth, which, when accompanied by roadside development, dramatically increases right-of-way costs. More detailed discussion about these specific locations is found in Section 4.

The current process for right-of-way acquisition normally follows the completion of a NEPA document such as an environmental impact statement (EIS) where a specific project alternative is selected. Subsequent to completion of the EIS, the final design for the project is undertaken. The final design provides specific information upon which to base right-of-way purchase. Because this process can evolve over a number of years, vacant land may become developed and become both financially and politically expensive to purchase. This makes the early acquisition of right-of-way a desirable option.

It is also important to note that the NEPA process must be based on a defined project that follows the steps outlined in Section 7.2.1, beginning with the STIP. In addition, 5 years after the completion of the Record of Decision (ROD) or Finding of No Significant Impact

(FONSI) the agency must determine the continuing validity of the impacts by re-evaluating the NEPA document. If conditions have changed significantly, then a supplemental document may need to be prepared.

However, as a first option, planners should make the best use of the wide right-of-way that was established in the 1950s to avoid costly future right-of-way.

7.2 Right-of-Way Acquisition or Protection Using Federal Funds

There are significant differences between right-of-way acquisition using federal funds and right-of-way acquisition using non-federal funds. Section 7.3 discusses right-of-way acquisition with the use of non-federal funds.

All of the subsections of Section 7.2, except for the last, apply to acquisition along existing or new alignments using federal funds. There are a few special cases where there are differences with new alignment. The final subsection of Section 7.2 addresses those exceptions.

Early property acquisition with federal funds preceding a completion of the formal environmental process is limited. Most other states rely on non-federal funds and local regulations to acquire right-of-way without using federal funds. The rest of this subsection explains:

- The current, federally approved, typical process
- How far in advance of construction right-of-way may be acquired following typical processes
- Why the use of federal funds without going through an environmental process is generally not possible
- The two rare, exceptional situations that might be used to acquire right-of-way with federal funds before the normal timeline of project development
- An exploration of processes other than the typical process to determine if they could be used to fulfill the environmental requirements for acquisition of right-of-way with federal funds
- How new alignments should be treated differently than existing alignments

7.2.1 Typical Process of Right-of-Way Acquisition

FHWA regulations state that federal funding is available for right-of-way acquisition only after it approves an environmental decision document such as a ROD, FONSI, or a categorical exclusion. Categorical exclusions are actions that do not individually or cumulatively have a significant environmental effect. The ROD and FONSI are decision documents where FHWA formally selects a specific alternative for construction. Generally, at this point, options or alternatives to the basic project alignment are closed, leading the way to purchase of right-of-way for the selected alternative. FHWA contacts indicated that

they were unaware of any exception to this rule except the hardship acquisition or protective buying, which is used infrequently. Almost all ADOT&PF highway projects are funded with FHWA funds and must follow the NEPA process.

FHWA may only allow purchase of right-of-way that is necessary for a project. However, under certain circumstances when projects are developed in stages, the right-of-way necessary for the ultimate design may be acquired years before the ultimate design is constructed. An example of this is Trunk Road in the Matanuska Valley, where ADOT&PF has completed the environmental analysis to acquire right-of-way and eventually construct a four-lane divided roadway. Even though the right-of-way acquired will be sufficient for a four-lane road, the project initially will construct only two lanes until the four-lane facility is needed in an estimated 15 to 20 years.

Early property acquisition requires documentation to demonstrate that the purchase will not limit the evaluation of alternatives. As such, early acquisition of right-of-way may risk federal funding not only for the property, but for the whole project. A determination that the purchase limited what are referred to as “reasonable” alternatives may result in no federal participation in the project.

Thus, unless the limited advanced acquisition examples discussed earlier are pursued, certainty of federal reimbursement for right-of-way purchase requires FHWA’s approval on the relevant environmental documentation.

Either a ROD or a FONSI requires an environmental analysis. An EIS is needed to support a ROD or an environmental assessment (EA) is needed to support a FONSI. For an EIS, and typically for an EA on a larger project, there is normally an analysis of more than one project alternative and a coordinated public involvement process, which includes the participation of all project stakeholders. Project stakeholders typically include the general public; affected businesses and residents; and federal, state and local agencies.

The environmental decision document (the ROD or FONSI) follows an extensive, prescribed process that involves a number of distinct steps. The following are the major steps and general time frames that encompass the process and result in the ROD or FONSI and the ability for the agency to purchase right-of-way:

1. STIP: This is the process by which projects are initiated and adopted for development and construction by ADOT&PF. The plan is a 6-year program that is updated through public input every 2 years.
2. NEPA process: After projects are adopted in the STIP and development is begun, projects with the potential for significant impacts will go through a process of public involvement, preliminary design, and the preparation of an EIS or an EA. An EA is prepared when the agency is uncertain whether a project will have significant environmental impacts. This process may be concluded in a period of 2 years, although 4 to 6 years is more typical of a large project.
3. After the ROD or FONSI is signed, concluding the NEPA process, the selected alternative will enter the final design phase where detailed project plans are prepared. For a large project, this process may be concluded in 6 months or it might take more than 1 year.

4. Upon substantial completion of a project design, ADOT&PF requests authority to proceed with appraisal and acquisition of right-of-way. The length of time required to complete purchase will depend on the number of individual properties required, as well as any circumstances surrounding individual properties that would require additional time. The time for right-of-way purchase on a large project is highly variable, but 6 months to 2 years is a reasonable estimate.
5. After right-of-way purchase is completed, the project goes to construction after a competitive bid process. Construction time is highly variable, but on a large project typically will take two seasons.

7.2.2 Protection Provided by the Environmental Process

The process serves several important purposes that ultimately provide benefit to an early acquisition process.

The fundamental intent of NEPA is to provide disclosure of alternative project impacts to the interested public so that they are aware of a project's real effects and to provide that public with opportunities to suggest revisions to the project that may benefit them and other segments of the public. For FHWA, the fundamental purpose of NEPA is having the full data and analysis of project alternatives available for federal evaluation during the process of selecting a project alternative. FHWA may be challenged subsequent to selection of a project alternative if it can be shown that it did not consider and evaluate one or more criteria germane to the selection of a project alternative.

As part of the NEPA process, FHWA requires that the EIS or EA provide a Purpose and Need Statement that demonstrates that there is a recognized transportation need for the project and that the proposed solution is clearly tied to that need. The transportation need is to be expressed with respect to safety, roadway geometry, traffic congestion, consistency with plans and the like. It is important to note, however, that the Purpose and Need Statement may justify the project based on its purpose in serving needed economic development. It is also noteworthy that engaging stakeholders in developing the Purpose and Need Statement may be important in generating public support for a project.

A sound Purpose and Need Statement is critical to the acceptance of any major project by stakeholders, be they public or private, but the Purpose and Need Statement becomes even more critical in processes involving early acquisition. This is because the need for informed consent is politically even greater when the specifics of a project are not yet defined. Skepticism is greater, and, therefore, the need for general agreement on the purpose the project is serving becomes even more important.

FHWA outlines nine specific items that may be used to support a Purpose and Need Statement. In the case of the Parks Corridor, it is important to note that social demands or economic development is one of the items listed. Specific elements of social demand or economic development identified in FHWA's guidance include new employment, schools, land use plans, and recreation, as well as the projected economic development/land use changes that indicate the need to improve the facility. This is important, because capacity alone may not justify the preferred solution along all portions of the corridor. It is important to have FHWA acceptance of this particular set of reasons where capacity or safety is not a driving issue. It is also important that stakeholders in portions of the corridor where this

reasoning is applied participate in crafting the Purpose and Need Statement and endorse the statement as it is applied in the NEPA document. In some cases, it also may be important for other agencies to be a part of the development and endorsement of the Purpose and Need Statement.

A second major intent of NEPA is to provide a comprehensive and informed analysis of project alternatives such that there is a full weighing of their effects in relation to each other, providing the opportunity for a measure of objectivity in the selection of one alternative over another.

Finally, by engaging the larger public in the process of selecting and weighing alternatives as well as allowing public feedback for inclusion in further project development, there is a greater likelihood of informed consent for the project. The NEPA process also provides a measure of protection to property owners rights by virtue of requiring an open and objective project development process.

While this process takes time, it has tangible benefits to early right-of-way acquisition. The analysis of impacts and the weighing of alternatives provides the sponsoring agency a measure of real certainty that the right-of-way it purchases is the right land for the project. It also reduces the perception on the part of affected landowners that they are being surprised by the project or that they have not had an opportunity to participate in the project development process. It also helps to gain a measure of their acceptance in selling their land to the agency when they have a full understanding of the selected project alternative, the factors that were weighed in its selection, and the parties that were involved in developing the project as ultimately conceived.

7.2.3 Hardship and Protective Buying

The two categories of hardship and protective buying are exceptions to the rule of right-of-way purchase before signing the ROD or FONSI. These are the exceptional situations where federal funds may rarely be used to purchase right-of-way earlier than dictated by the normal project development process.

Hardship buying is a purchase made to alleviate hardship to a property owner or owners on the preferred location. Hardship acquisition has been used when a property owner needs to sell a parcel of land and is unable to do so at anything approaching market value because of a known, future project. Examples of potential hardship situations could include advancing age, illness, injury, disability, or financial (such as loss or transfer of job, probate, or pending foreclosure).

Protective buying is a purchase made to prevent imminent development and increased costs on the preferred location. In such instances, the state must clearly demonstrate that development of the property is imminent and such development would limit future transportation choices. This is a tool that is not used often and these purchases cannot be made solely for the purpose of reducing the project cost.

Federal funds may be requested for hardship or protective purchases before obtaining final environmental approval if the project is in the agency's STIP and the public involvement requirements have been met (see 23 CFR 710.503).

There are specific criteria that must be met within 23 CFR 710.503 for hardship or protective buying to occur. They include the following:

- The project is included in the currently approved STIP
- The state transportation department (STD) has complied with applicable public involvement requirements in 23 CFR parts 450 and 771
- A determination has been completed for any property subject to the provisions of 23 U.S.C 138
- Procedures of the Advisory Council on Historic Preservation are completed for properties subject to 15 U.S.C 470(f) (historic properties)

For protective buying, the STD must clearly demonstrate that development of the property is imminent and such development would limit future transportation choices.

For hardship acquisitions, the STD must accept and concur in a request for a hardship acquisition based on a property owner's written submission that:

- Supports the hardship acquisition by providing justification on the basis of health, safety or financial reasons, that remaining in the property poses an undue hardship compared to others
- Documents an inability to sell the property because of the impending project, at fair market value, within a time period that is typical for properties not impacted by the impending project

Finally, acquisition of the property under this section shall not influence the environmental assessment of a project, including the decision relative to the need to construct the project, or the selection of a specific location.

While these conditions are limiting, there are circumstances within these limits where application for hardship or protective purchases can be made before the final environmental document is published and approved and before final design is performed. The approvals for these acquisitions must be through the local FHWA division office.

If real property purchased under hardship or protective buying is included in a federal aid project, the acquisition requires that property be lawfully obtained, does not include parklands or historic structures (4(f)), complies with the uniform act (for right-of-way purchases), complies with Title VI of the Civil Rights Act of 1964, and that it did not influence the EA of the project or selection of a specific location.

7.2.4 Exploration of Other Processes for Providing Environmental Documentation

The existing laws, policies, and processes described in the preceding text explain the "typical" process and provide the context for the discussion that follows. In this subsection, other strategies to further the process of early acquisition with federal funds within the existing framework are explored.

7.2.4.1 Design EIS

The traditional design-level EIS for one or more project alternatives does not lend itself to strategies for early acquisition of right-of-way for a new alignment or even in most cases for an existing alignment.

There is one case where a traditional design EIS might be used as a strategic tool for purchasing right-of-way well in advance of project construction. This does not mean early acquisition, because the purchase would follow the signing of the ROD. The example illustrates where right-of-way may be purchased years before actual construction for a project on an existing alignment. Some large modernization¹ projects analyzed in an EIS may have construction phased over long periods of time because funds would not be available in one lump sum to construct the entire project. The EIS for the Glenn Highway is a good example of such a project. This project covers three construction phases in one EIS that was approved in 1989. Phase 1 included widening the highway from two to four lanes; it was begun in 1991 and completed in 1994. Phase 2 had four separate elements that included interchange construction; it began in 1999 and will be completed in 2004. Phase 3, widening the highway from four to six lanes may not even begin for 10 to 15 years from the present.

However, upon approval of the EIS, ADOT&PF began purchase of the right-of-way for the entire project after approval of the ROD, and completed purchase for the entire project in 1996. Thus the right-of-way for the third phase has been purchased 16 to 20 years in advance of actual construction.

Although this is not early acquisition in the sense of process, it is as a practical matter. There may be portions of the Parks Highway that lend themselves to this approach.

7.2.4.2 Tiered EIS

Tiering is a procedure for completing the NEPA process in two separate stages known as tiers. Tier 1 involves the preparation of an EIS that examines a large land area or broad set of issues, or along a corridor such as the Parks Highway. Tier 2 involves the preparation of EISs or EAs for independent projects located within the Tier 1 study area. FHWA regulations state that the Tier 1 EIS would focus on broad issues, such as general location, mode choice, and area-wide implications of major alternatives. Further FHWA guidance states that Tier 1 documents must explain the nature of tiered decisionmaking to interested parties and that an EA may be prepared for Tier 2 actions where significant impacts are in question.

This process clearly results in a signed NEPA document in advance of specific project design within a corridor. While FHWA's view in 1988 suggested that tiering would allow early acquisition of right-of-way, and a recent paper on the subject states a similar conclusion, FHWA recently stated that while Tier 1 allows elimination of some corridors, the Tier 1 EIS typically would not provide enough detailed analysis to select an alignment within the corridor and allow right-of-way acquisition to proceed with federal funds. The additional time required to prepare tiered EISs may outweigh any advantages of early acquisition and additionally, any legal challenges could delay right-of-way acquisition well

¹ A project where the roadway is upgraded to current design standards and will have a larger footprint than the existing facility.

beyond any anticipated time savings. All of these factors lead to a conclusion that does not support the effective use of a tiered approach as a basis for early right-of-way acquisition.

7.2.4.3 Parks Highway Visioning Document

When designing highway expansion or improvement projects, it is essential to purchase enough right-of-way to construct improvements meeting safe design criteria. Right-of-way necessary to expand capacity and increase safety of the highway must be acquired and protected as early as possible to be most cost effective. A major purpose of this visioning effort is to establish access patterns and identify future right-of-way needs now before additional development occurs so that future development patterns will be more compatible with the transportation function of the highway. Regional planning of all kinds is important so that impacts beyond specific projects can be considered. Integrated transportation planning that addresses long range transportation, community, land use, and environmental and economic needs is critical.

The results of this visioning effort cannot be used to satisfy the environmental requirements needed to allow early acquisition of right-of-way with federal funds. The document is not anticipated to satisfy the scope of the environmental analysis and formal decisionmaking process. Further, many of the recommendations of this visioning effort are very long range and it would not be advantageous to undertake this more stringent process and make formal decisions when the projects will not be constructed for many years.

However, the visioning effort can establish the future blueprint for the corridor and it can document the more general environmental impacts. This would set the stage for other techniques beneficial to right-of-way acquisition. This information may provide direction and support for local planning processes that will be discussed later. It also may provide guidance for any non-federal acquisition fund, if it were established in the future. Finally, this information could guide alternative development for environmental documents in the future.

In the future, "NEPA-like" analyses should be done for suggested improvements in certain segments of this corridor. Those segments should be locations where major improvements will be warranted within a known time period. Examples of those areas are where multiple lanes will be warranted in the southern portion of the corridor and in growth nodes such as Cantwell, Healy, and Nenana where interchanges, bypasses, restricted access sections and/or frontage roads will be needed in the foreseeable future. The ultimate vision for this whole corridor is for a multi-lane, divided highway, but for much of the highway, it cannot be predicted when conditions will warrant a facility of this type. Those sections would not be the subject of this level of analysis in this visioning effort.

While this level of analysis does not allow early right-of-way acquisition with federal funds, it does provide for more informed decisions earlier in the process, including possible guidance for a non-federal acquisition fund and for alternatives development for a later environmental document.

7.2.5 Issues Relating to New Alignments

The evaluation of alternatives, as required by NEPA, usually creates greater variability when anticipating the right-of-way needs and impacts of a new alignment, than a project that follows an existing alignment.

Moving traffic from an existing highway to a new alignment may have greater social and economic impacts to residences and businesses located along an existing alignment. In some cases impacts to existing businesses may be substantial, but non-compensable. Even if economic impacts are minimal to individual businesses, they may be perceived as being substantial to the owners of individual businesses. In cases where reasonable access by federal definition is maintained on an existing alignment for existing homes and businesses, it may be perceived as more than an inconvenience by homeowners and a major contributor to loss of income by businesses.

A proposed new highway alignment is a different issue than improving a highway along its existing alignment. Foremost, issues related to placing a roadway through an area that has remained in its undeveloped and natural state, has been used for agriculture, or has developed as a residential or commercial area must be addressed. A new alignment often inherently results in the need for acquisition of more right-of-way than widening an existing alignment, either in cost or in the number of parcels or both. These factors all point to a more complex set of decisions to be made.

There are effective counter-arguments that may be applied that would favor a new alignment over an existing alignment. A new alignment may result in managing the existing alignment for better business access, because through traffic would now use the new roadway. With through traffic removed, the existing highway may be less of a divider of the community. Both of these changes could have the added benefit of providing more of a community feel. It could also mean less business acquisition than widening an existing roadway. In an extreme situation, widening along an existing alignment could effectively relocate a small downtown. Providing a new alignment would allow the existing downtown to remain intact. Finally, a new alignment may result in smaller right-of-way costs because it does not force the acquisition of costly businesses.

These issues and others mean that engagement of stakeholders in an open and organized public process is even more critical to informed consent and successful early right-of-way acquisition when a new alignment is proposed as an alternative to widening the existing alignment. The disclosure of impacts and a comprehensive objective analysis of alternatives become even more crucial in cases where a new alignment is under consideration.

7.2.5.1 Design EIS

As discussed earlier in this section, the design EIS is not suitable as a tool for early acquisition. The only exception to this statement would be if a new alignment could be considered as one phase of a multi-phased project. There may be some cases where this may be appropriate for short bypasses, but it not expected that this will be the general situation.

7.2.5.2 Tiered EIS

In theory, the tiered EIS would seem the optimal means of providing a solid foundation from which to pursue early acquisition of right-of-way. While a Tier 1 document typically

would not identify exact right-of-way requirements, the maximum footprint of a new corridor could be reasonably outlined. The signed NEPA document would allow local planners and jurisdictions the opportunity to identify the corridor in its comprehensive plans and apply tools available at the local level to protect the corridor. In addition, the signed ROD selects the location of the future facility. This implies that right-of-way may be purchased with federal funds in advance of a design project and its accompanying design-level EIS, which would follow the Tier 1 EIS.

However, as described in the previous section, this approach carries many risks. While a Tier 1 document would provide supporting information for several other beneficial activities related to right-of-way, those risks (at least those associated with current interpretation) probably eliminate this approach as a method for acquiring right-of-way with federal funds.

7.3 Right-of-Way Acquisition or Protection Using Non-Federal Funds or Processes

Research has shown that other states have relied on non-federal funds and local development regulations to acquire or protect right-of-way before the formal environmental process.

Similar mechanisms have, to some degree, been applied in Alaska. However, escalating right-of-way costs in rapidly developing areas have become a major obstacle to cost-effective project development. There may have been a few isolated cases where this future right-of-way need may have been protected, but for the most part, these activities have been mostly focused on the narrower issue of access management. ADOT&PF has been left with the traditional method of assessing the property value at the time of need, which is often after properties have been developed, and negotiating a price based on that value and impacts to the remaining parcel.

In Alaska, in addition to the federal government (for funding), the acquisition and protection of future right-of-way needs involves:

- Boroughs and cities at the platting and planning levels
- ADOT&PF as the provider and designer of the future transportation function
- Numerous private and public adjacent landowners

7.3.1 Acquisition or Protection Using Local Processes

Platting can be used as an access management tool. Neither platting nor access management constitute early acquisition of right-of-way. However, each may contribute to facilitating purchase of right-of-way through protection of properties that are identified as needed for highway improvements.

Providing a good access management strategy and identifying and protecting the access network during the platting process could prevent the need to acquire additional right-of-way for frontage roads after development has occurred. In other words, frontage roads may be laid out as part of the platting process. This subdivision process may produce an access network that does not require Parks Highway right-of-way. This is a traditional and proven

approach that has been applied already to varying degrees of success by ADOT&PF in cooperation with local governments.

The Alaska Department of Natural Resources (ADNR) oversees the platting process in the area between the Denali Borough and Fairbanks North Star Borough, which is not included in any of the boroughs. The Denali, Fairbanks North Star, and Matanuska-Susitna Boroughs all have planning and land use powers and are the regulating authority over platting and subdivisions activities within the borough boundaries.

Even though it is important to provide access networks that do not require Parks Highway right-of-way, there is resistance among private landowners to using their land for frontage roads, so a well thought out and supported strategy, consistently applied, is needed to reduce the need for future highway right-of-way. Local government plat approvals should follow this strategy and ADOT&PF should develop access management guidelines to support this approach. Part of this strategy should be to encourage cluster communities, which can be served from local access networks, eliminating the need for right-of-way for frontage roads.

As private properties are developed, right-of-way for the Parks Highway and local access systems can be required if the ultimate need is known. ADOT&PF needs to partner with these landowners and local governments to develop flexible long-term access patterns. Part of this strategy may be to reserve the ultimate right-of-way and access pattern, but allow a direct connection to the highway until future highway upgrading is required. This allows the private development to be planned with this future revision in mind. ADOT&PF must be careful to not ask individual owners for more than their fair share of right-of-way donation.

These methods provide ways to meet future right-of-way needs that do not initially involve federal dollars. These methods will be carefully planned and implemented in a manner that will not make the future project ineligible for federal funding.

7.3.2 Publicly Held Lands

Some of the future right-of-way currently is held by other public agencies: ADNR and local governments. After the future right-of-way needs are identified, ADOT&PF should partner with these agencies to retain that land in public ownership. All of these agencies should be made aware of future right-of-way needs as early as possible. Each has indicated a willingness to hold and protect these lands or perhaps transfer them to ADOT&PF. Material and maintenance sites should be included in these land needs. It is important to note that the reservation of public parklands is not included in this discussion.

ADNR's *Tanana Basin Area Plan for State Lands* (see Section 11), adopted in 1985 and updated in 1991, provides guidance for how ADNR lands in the northern segment of the corridor will be managed. Similarly, the *Susitna Area Plan* (see Section 11) provides guidance on how state and borough lands will be managed in the Matanuska-Susitna Borough in the southern region.

Much of the adjacent land north of Talkeetna falls into this public ownership. ADNR currently holds land disposals adjacent to the Parks Highway right-of-way from Healy

north to Nenana and findings of this document should be used to preliminarily determine if any of these lands are needed for right-of-way.

There needs to be a requirement that ADOT&PF evaluates each potential property disposal that is adjacent to the Parks Highway to determine if it is needed for future right-of-way. ADNR has indicated it would give ADOT&PF land management authority for state land outside of the right-of-way for specific purposes, such as material sources and maintenance stations.

In addition to the state agencies, the three boroughs also own property adjacent to the corridor. The same arrangement described for state agencies should be implemented for these borough lands. ADOT&PF needs to partner with the boroughs during the comprehensive planning process and consider the big picture outside of the existing right-of-way. ADOT&PF should coordinate with the boroughs to revise the *Official Streets and Highways Guide* to establish local access networks that would reduce the need for Parks Highway future right-of-way.

Real property owned by local governments and incorporated within a federally funded project can be used as a credit toward the state's matching share at fair market value. The credit cannot exceed the state's matching share required by the project agreement. To be eligible for matching funds, the agency must be able to prove that the acquisition of the property did not prejudice later decisions after the alternatives are evaluated in the NEPA document and that the purchase meets other applicable regulations for acquisition of property.

7.3.3 Acquisition with Non-Federal Funds

ADOT&PF and others might establish a non-federal account to be used to acquire property from willing sellers after the need is known. This can be done ahead of any environmental study if the property is for sale and it is not a condemnation situation. As other projects are planned and constructed, the ultimate right-of-way need should be kept in mind and action might be taken to acquire the ultimate right-of-way if the opportunity presents itself.

It is important to recognize the various risks associated with this strategy that have been recognized in other sections of this document and are summarized here.

- FHWA will want to know how the agency was able to buy lands in advance of the NEPA process without contaminating that process.
- A determination that the purchase limited what are referred to as "reasonable" alternatives may result in no federal participation in the project.
- Right-of-way purchased before the selection of a preferred alternative through the NEPA process cannot be used as a criterion in the selection of a preferred alternative. The decision to purchase right-of-way before selection of a preferred alternative cannot bias the outcome of the decision in selecting a preferred alternative.
- There is the risk of acquiring unnecessary land if the NEPA document does not support the design requiring the right-of-way.

- Legal challenges from stakeholders who feel the federal processes have been short-circuited may delay additional project development or right-of-way acquisition well beyond ordinary processes.

This strategy should be employed only with a full understanding and acceptance of risks, including development of the strategies used to minimize these risks.

Such strategies would include “NEPA-like” processes with local support. Completion of this visioning effort, including public involvement and environmental documentation in accordance with federal regulations, will provide support in minimizing the risks described above.

7.3.4 New Alignments

Some of the discussion outlined above bears highlighting when discussing new alignments.

There may be cases when other agencies retain land in public ownership along locations where a new alignment is under consideration. The partnering process suggested in the previous subsection becomes even more significant in cases where new alignment is under consideration and early acquisition is desired. This is because new alignments will almost always imply a greater disruption of the public resource owned by other agencies than would expansion of an existing alignment. Acceptance and willingness to retain lands otherwise being sold, or more importantly, lands that the agency would like to retain as a resource becomes even more significant.

In the previous subsection, it was suggested that ADNR give ADOT&PF land management authority for state lands outside of the right-of-way for specific purposes. This also seems particularly important where new alignment is proposed.

ADOT&PF partnering during the boroughs’ comprehensive planning process is outlined above and bears repeating especially in the case of new alignment, which can be much more difficult to protect than areas adjacent to existing alignment.

Finally, the concept of cluster communities bears repeating as an alternative to either frontage roads or new alignments.

7.4 Conclusions

A visioning document may support later NEPA decisions by providing an early decision as to whether an existing corridor or a new corridor is the preferable major decision point. This in turn helps to support the local comprehensive planning process by allowing local jurisdictions to apply the tools at their disposal to protect lands within the corridor from future development. It may resolve big picture issues early in the process, such as general location and mode choice, allowing subsequent studies to focus solely on project-specific impacts and issues. It also may allow specific projects to be analyzed closer in time to the actual construction phase, improving the usefulness of studies and reducing the chance that supplementary studies will be necessary.

The resolution of larger issues, the support to the local comprehensive planning process, and the greater utility of project-specific studies in turn help to support locally funded early

acquisition tools and procedures where they are available. These tools include utilizing the local platting process to require dedication of rights-of-way from developers to provide for access through land in the form of frontage roads or other access related improvements.

Even as corridor plans and tiered Environmental Impact Statements may help to support early acquisition, it is also important to draw attention to the risks that may be associated with a process of early acquisition. These risks may include legal challenges and purchase of right-of-way that is unnecessary or wrong in size or location.

A design EIS for a large modernization project with construction phased over several years may allow purchase of all project right-of-way years before construction of later phases. Although this is technically not early acquisition, it is early purchase of right-of-way and serves to protect needed land before development occurs.

Finally, the federal processes place constraints on the use of federal funds in early right-of-way acquisition, and most other states that have attempted advance acquisition of right-of-way have relied on non-federal funds and/or local regulations to do so.

Access Management

8.1 Need for Access Management

Access management is balancing access to developed land while ensuring movement of traffic in a safe and efficient manner. To achieve effective transportation it is necessary to have a blend and balance of road facilities. Each performs its unique function because no single class of highway can provide both high levels of movement and high levels of access to property. The spectrum ranges from freeways that provide for ease of movement through higher speeds, higher capacity, and freedom from interruption to local residential streets that serve a diverse group of users from pedestrians to local service providers by providing ease of access through slow speeds and numerous driveways. Along much of the Parks Highway corridor, the highway is expected to provide this full range of service. If the highway is going to perform well for the through traffic function, there must be a system of other roadways and treatments constructed around it to provide the access function.

The techniques used to manage the issue of access are aimed to meet four functional objectives:

- Limit the number of conflict points
- Separate basic conflict areas
- Reduce maximum deceleration requirements
- Remove turning vehicles or queues for certain portions of the through lanes

As population grows, there will be increasing pressure to allow businesses and individuals extensive access to the highway. Access can be managed in a number of ways, including interchange placement, driveway and road spacing and design, traffic signal location, median design and spacing of openings, and use of turn lanes. The challenge is to determine how best to apply these management techniques to safely protect the highway efficiency, contribute to the local and statewide economy, and maintain livable communities.

The amount of access and how it is allowed to enter a state highway is a critical factor in determining how long that facility can remain functional and it is the largest contributor to safety. An uncontrolled number of driveways to the Parks Highway can cause it to be unsafe and cause it to fail in its function to carry people, freight, and goods throughout the state.

It is well documented that as traffic volumes increase, the presence of driveways will cause more of a safety problem with vehicles entering and exiting the highway. Further, to the degree that the number and density of driveways increase, the number of crashes will increase. The implementation of a good access management plan should reduce the number of crashes 25 to 50 percent compared to a section where proactive actions are not taken.

Access management should be implemented as the following occur:

- Conflicts and/or accidents increase
- Traffic volumes increase
- Land use patterns change
- Roadways are reconstructed

A major purpose of this visioning effort is to establish access patterns and identify future right-of-way needs now so that future access will be more compatible with the transportation function of the highway and so that future right-of-way needs can be acquired or protected in a wide variety of ways. Access controls need to be put in place well before development happens.

8.2 Current Situation

The management of access in the corridor is not well coordinated among the involved entities. The boroughs do the platting, but do not have access management guidelines to help them. ADOT&PF reviews proposed plats, but is hampered by the need to look at each one on a case-by-case basis without overall guidance. In the absence of specific access guidelines, ADOT&PF's driveway permitting regulations sometimes are applied to plat reviews, but are ill suited to address the overall impacts of subdivision actions. Landowners' decisions are made more difficult because they also need this overall planning direction. Many of these landowners understand the need for access planning and highway improvements and are willing to cooperate if the plans are flexible.

All three boroughs have platting authority and have comprehensive plans.

The Matanuska-Susitna Borough is updating its comprehensive plan. It has a *Core Area Comprehensive Plan* and the *Big Lake Comprehensive Plan*. It has several community plans and does community planning by request. Platting and permitting is done throughout the borough, including within the city limits of Wasilla, Houston, and Palmer. The City of Wasilla has input into platting done by the borough. Wasilla does not have development authority and the borough is realizing that it needs a policy for guidance on access and driveway permits. The Cities of Wasilla and Houston have zoning and the Palmer-Wasilla area may get zoning in the near future. Beyond that, the remainder of the borough may not get zoning for many years.

The Fairbanks North Star Borough does all of the platting in the borough. The borough road plan and statutes govern platting. The borough currently is revamping its comprehensive plan.

ADNR does no platting in the central region, but does provide platting in the 20 miles north and south of Nenana that is not included in any of the three boroughs.

The platting process along this corridor is not guided by a defined corridor-wide access management policy as that policy does not exist.

Driveway and street permits for connections to the Parks Highway are written by the Right-of-way Section of ADOT&PF and guided by recently adopted driveway regulations.

The cost of developing a secondary road system discourages the development of such a system, regardless of whether it is to be funded by the public or a private owner. Within the Matanuska-Susitna Borough there is no regulation clearly requiring plat dedication of right-of-way for a secondary access road. The borough wants to promote better access management and it has the authority, while generally ADOT&PF can only comment on platting actions.

8.3 Access Management Tools

The need for access management was documented early in Section 8.1. There are numerous tools available to accomplish this. As discussed earlier, no one roadway can provide all of the functions that are required when the transportation function interfaces with the developed area. In many cases along the Parks Highway this one roadway has been used to provide all of these functions. As development continues to occur and traffic volumes increase, it will be critical that these conflicting uses be separated. That will be a major issue to be addressed as access management tools are selected for application on the Parks Highway.

Several general points need to be understood when discussing access management tools:

- Access management attempts to balance safety, access, and through traffic
- Placement of medians requires balance and compromise
- Drivers adapt to changes
- Access control needs vary with the function of the road, from residential street to freeway
- Access control provides opportunities for aesthetic enhancement of the roadway

A good access management plan is required to preserve the transportation function of the roadway and protect the long-term value of adjacent properties.

The control of access is generally categorized as three descending levels:

- Full control of access
- Partial control of access
- Access management

In the near term, the agencies discussed in Section 7.3.1 should be working toward **partial control of access** in the developing nodes along the corridor. This means that preference is given to through traffic. Access can be provided through direct connections of selected public roads and there may be some direct connections of private driveways. These direct private driveways connections should be as limited as feasible. Providing frontage roads or purchasing access are tools that can be used to accomplish partial access control. Many of the developing nodes are still undeveloped enough to make this approach practical.

Access management is providing access to land development while simultaneously preserving the flow of traffic on the surrounding road system in terms of safety, capacity, and speed.

In the near term, most of the corridor can be operated with **access management** (control of driveways and roadside development). The highway can function efficiently if access points are properly spaced, driveways are properly designed, and entering and exiting volumes are light.

The ultimate vision for the highway, which is many decades away from reality, is for most of the highway to have **full control of access**. This means that connections to the highway would be through interchanges. There would be no direct connections of streets or driveways for most of the highway. As much as possible, the local street system would be used to connect these interchanges to the developed areas. There may be cases where frontages roads may be needed to supplement the local street system. This degree of management will be needed because of the high volume of highway traffic, the density of the expected development and the high traffic volumes on the local streets at their connection with the highway. Full control of access is the most important single safety factor that may be designed into new highways.

For the 2030 plan, this same level of **full control of access** should be implemented for all of the identified growth nodes from Houston to Fairbanks. Some of these areas are relatively short and undeveloped, which facilitates this long-range planning. For the purpose of access planning, the nodes of Houston and Willow should be considered as one, meaning that full control of access would be used all the way through Willow from the south.

For the rural areas between the north edge of Willow and the south edge of Trapper Creek, the 2030 plan should call for **partial control of access**. As described in Section 4, it will not be known until the completion of this plan when these rural sections will be planned for an ultimate four-lane section. Even with a four-lane section, some direct connections, properly planned, would be acceptable.

In all of the rural areas between the north edge of Trapper Creek and the west edge of Fairbanks, **access management** generally will be sufficient to provide the balance between through traffic and local access in the 2030 scenario. This is because the highway volumes will be relatively low through this planning period, the connections will be sparse and the volumes on these connections will be low. There may be some exceptions in these rural areas, such as from the Chulitna River to Byers Lake, where special operational reviews were called for in Section 4 and these reviews could find that more stringent actions are required to properly accommodate access.

The following subsections describe several techniques to accomplish the various levels of accommodating access.

8.3.1 Driveways

A policy for managing driveways should include a phasing strategy that may allow direct access in the near term, but would require a different solution when warranted in the future. For this policy, right-of-way for alternate access needs to exist or be dedicated or acquired.

ADOT&PF recently adopted more stringent driveway permitting standards. Driveways must be constructed to accepted standards to control movements. Drivers need to know how to use driveways based on a standards similar to the standards they expect for highways, streets, turn lanes, parking lots – literally anywhere they operate their vehicle.

These driveways must be constructed to facilitate the smooth transition of vehicles exiting or entering the highway traffic stream.

Sight distance is an important consideration in locating driveways.

Driveways must be properly spaced to reduce conflicts as much as possible. Driveways too closely spaced create conflicts in addition to the inherent conflicts with highway traffic. If the driveways are too closely spaced, exiting traffic to one driveway can conflict with entering traffic and drivers cannot properly focus on potential conflicts.

There are techniques to increase this spacing. Shared driveways are a commonly used tool, especially in urban areas. Limiting the number of driveways for a given parcel is used to increase spacing. Where possible driveways should be to an adjacent side road, thereby eliminating one access point and reducing the conflicts with highway traffic.

Driveways should be a minimum distance away from side street intersections, bridges, and any other operational feature that could interfere with safe movements. Driveways should not be located in passing lanes or climbing lane sections. They can be located in continuous four-lane sections because driver attention is not so much focused on making passing maneuvers as it is in passing and climbing lanes sections.

If the future highway is divided, most driveways would be converted to right in and right out, if they are retained. There would need to be design protection against wrong way entering movements and for providing U-turns at appropriate locations. Even for two-way roadways, right in/right out driveways is a tool to be considered. About 70 percent of all accidents at driveways involve a left turn maneuver.

8.3.2 Access Roads and Frontage Roads

Adjacent properties must be provided reasonable access, but not necessarily direct access.

Frontage roads or access roads are one of the most effective ways of accommodating access. All locations should be identified where secondary access roads can serve adjacent lands, rather than planning expensive frontage roads along much of the corridor. Using these local streets may mean that the access is provided on the side of the property away from the highway.

The clustering of communities around these access roads should be encouraged, so that individual driveways can be limited.

Where local access roads are not available or feasible, frontage roads provide more favorable access for commercial and residential development than driveways. There is resistance among landowners to donate land for frontage roads, so agencies need to do a good job educating them about the benefits of this strategy. Making sure that the local street network is used is another way of addressing this resistance. A policy to exact right-of-way necessary to construct frontage roads may be necessary. Working with the boroughs to develop detailed official streets and highway plan maps is one type of tool to document this planning.

At times it may be desirable to establish an access road one parcel away from the right-of-way rather than alongside or within the Parks Highway right-of-way. This would mean the

front face of the development would be toward the roadway where drivers can access the property, rather than the highway side of the property where drivers cannot directly access that property. This strategy may be phased so that the access is provided from the far property line at some later date, with access provided directly from the highway in the short term.

Any of these roads should connect to the Parks Highway in a manner that would allow the future conversion from a stop-sign-controlled intersection to an interchange.

Locations where it is appropriate to purchase access rights during upcoming road construction projects should be identified. Because properties cannot be landlocked, the use of local access roads or frontage roads may be needed to accomplish this purchase. These areas need to be identified.

The Fairbanks North Star Borough does not allow direct access unless there is no other option. This policy should be considered by others. It can be incorporated into the policy development in the future.

8.3.3 Main Roadway Treatments

Three techniques used on the main roadway are turn lanes, medians, and divided highways.

Left turn lanes for isolated connections are warranted when the through traffic volumes or the connection volumes are high or where some physical limitation, such as sight distance restriction, is present. Continuous left turn lanes are used where there are numerous connections at relatively close spacing. Right turn lanes allow the exiting vehicle to move out of the main traffic lane. This is especially desirable where the main lanes carry high-speed traffic.

Medians are used where positive prohibition of turning movements is needed. Openings are provided at selected access roads or, in some cases, high-volume individual access points. Medians normally are used in conjunction with right in/right out driveways between the openings and U-turn accommodations at the appropriate locations.

Divided highways provide the highest level of control over access points and turning movements. The highway may be designed as a freeway with no direct access at all except access provided via interchanges. The highway may be designated as an expressway type facility with public at-grade intersections. These express-way type facilities would have no private direct access points or there may be a few, carefully designed, direct driveways that would be designated right in/right out. Considering the added expense of building the divided highway, the direct connections would be used only if no other solution were feasible.

8.3.4 Interchanges

Interchanges provide the access connections of the highest order. They are expensive to construct and maintain, so their use should be considered carefully. The spacing, geometric design, and operation must be in conformance with AASHTO and FHWA standards. The minor roadway can go over or under the main roadway. Several accepted design options are available to fit the local traffic pattern, street system, and terrain. Interchanges allow

vehicles to exit and enter the highway with minimal disruption to the main roadway traffic. Depending on the nature of the side road, the interchange can be constructed so that the side road traffic literally has no interruption.

It is recommended that intersections along the corridor be controlled by stop signs until traffic signal warrants are met. When traffic signal warrants are met, grade-separated interchanges would be constructed. This policy would be consistent with the vision that the Parks Highway be a free-flow facility.

8.3.5 Freeways

Freeways are the highest functional design for a highway. The two directions of travel are separated with either a physical barrier or separated roadways. There are no direct connections and all access to a freeway is via interchanges. Freeways have high design speeds and high performance standards regarding lane and shoulder widths, horizontal curvature, and vertical grades. Because through traffic is free-flowing, the traffic capacity per lane is higher than any other functional classification of roadway.

8.3.6 Policy

ADOT&PF should establish a clear access management policy and accompanying guidelines policy in cooperation with local governments and land management agencies. A protocol for managing access among all of the partners should be established as part of that overall policy. That protocol should include all applicable guidelines and require the commitment of all partners to execute all elements of access management to the best of their ability. The establishment of this policy, guidelines, and protocol is a future activity.

It is critical that a cooperative partnership be formed among all of the players to manage the local access along this corridor. Forging those partnerships may be part of future plan development. Without these strong partnerships, there is a concern that some of the major improvements being recommended for the high growth areas could quickly deteriorate to a "Nenana Canyon-style" development.

This commitment to adhere to this policy would ease the difficulty of working with any individual situation and would provide the best chance of protecting the transportation function of the corridor into the future. This policy also would give guidance to private property owners when they initiate their own planning phases. This policy must be consistent with legal code and institutional practice or those codes and practices may need to be changed.

Major landowners have expressed a willingness to look at flexible, long-range plans that would result in good access management. That willingness assumes that their property will have acceptable access. Often, future uses of land are not known, so agreeing to specific access points is difficult. Access plans need to be flexible to accommodate future uses so that land can become more valuable, not restricted to eliminate all practical economic benefits.

Much of the adjacent property along this corridor is in public ownership. State subdivisions have been platted for concentrated access points to the Parks Highway. Agreements need to be forged that would limit the access from these lands without ADOT&PF having to purchase the access rights. These agreements can be pursued in the future.

Emphasis needs to be placed on using subdivision processes to provide for limited access to the Parks Highway.

The policy regarding the purchase of access rights from properties is authorized by state legislation and statute, rather than the environmental documentation and decisionmaking that is necessary to purchase property. So, the purchase of access rights is controlled by safety, capacity, and legal issues. In most states, the Department of Transportation has been authorized to purchase access rights to protect the function of certain levels of roadways. If access rights are to be purchased, it is recommended that all rights for a given parcel be acquired. It has been the experience of others that reservations for future access within these limited-access sections can cause serious operation problems or expensive liabilities at future dates. These reservations do not guarantee the owners that they will be able to construct an access connection at this location, but only that they have the right to apply for an access permit at that location. The courts have directed some states to pay significant damages to the property owner if it is ever determined that an access cannot be allowed at one of these reservation locations. This has been the case when reasonable access could be provided with some other roadway configuration.

Many of these techniques could have a short-term negative economic impact on businesses as the public adjusts to new traffic patterns. That should be part of the consideration when these techniques are being applied. There should be good business signing to help mitigate this impact. As discussed in this section, a good access management plan has long-term positive economic impacts to adjacent properties.

The ADOT&PF right-of-way staff needs the ability to comment on all new road and driveway connections. The access permitting process should be streamlined as much as possible. The well-coordinated partnerships discussed earlier would make this possible.

SECTION 9

Coordination

The need for improved coordination for Parks Highway corridor-related transportation projects was emphasized numerous times during the first phase planning process. Widespread interest focused on the need for more coordination regarding right-of-way acquisition and protection, access management, transportation planning, environmental protection, facilities placement, construction and maintenance, and project development. Representatives of various government entities and landowners recognized that several key issues could be addressed only through a coordinated approach and that coordination would significantly improve other situations. Most participants expressed strong willingness to participate in such coordination efforts.

This section addresses coordination opportunities related to all of those issues.

9.1 Right-of-Way and Transportation-Related Land Acquisition and Protection

9.1.1 Right-of-Way Acquisition

A major purpose of this study is to identify future right-of-way needs now so that specified land areas can be acquired and/or protected.

Because much of the land along the Parks Highway corridor is in public ownership, a significant opportunity exists to designate or set aside land now for future right-of-way purposes without having to acquire them through purchase from private owners. Such public land could be set aside through land classifications, designations, transfers, inter-agency agreements, land swaps, and other means. These techniques would require close early coordination between ADOT&PF and appropriate public landowners.

After future needs are identified, ADOT&PF should coordinate with the appropriate public landowner to retain the land in public ownership and set it aside for the transportation-related purpose. In the case of the Parks Highway corridor, public landowners include the ADNR, the three boroughs, various cities located along the corridor, the Division of Parks and Outdoor Recreation, Denali National Park, the Mental Health Land Trust, and the University Land Trust. In the case of ADNR, boroughs, cities, and perhaps state and federal parks, the land could be officially set aside to meet access needs and public purposes. In the case of the land trusts, some form of compensation would be required, but it could be in creative forms (land swaps or valuable access provisions), or agreements could be made to at least reserve the land for transportation purposes for future purchase. In addition, ultimate right-of-way needs could be considered and accommodated ahead of time as part of the public agencies' plans for adjacent lands.

Coordination with private landowners also could lead to good results. This is especially true for large landowners, such as the four native corporations along the corridor or large

developers. By working with such entities, it is possible to coordinate transportation plans with their development plans so that appropriate land is set aside for transportation purposes and future purchase or acquisition through land swaps involving other public lands. Coordination with smaller private landowners could be advantageous if private land is set aside for future purchase or ADOT&PF is able to purchase such land early by using money from adjacent transportation projects.

9.1.2 Other Transportation-Related Land Acquisition

Similarly, early landowner coordination could aid acquisition of land for transportation-related needs that fall outside the right-of-way. These needs may include pullouts, materials sites, maintenance stations, recreation use sites, and scenic viewsheds. For example, the ADNR has indicated a willingness to give ADOT&PF management authority for state lands outside the right-of-way for specific purposes and, in other cases, to protect lands beneficial to the future of the corridor. However, agency comments indicated the need to work with the ADOT&PF ahead of time so that the land is not already committed for another use and can be made available in a timely manner. On a specific-project basis, ADNR suggested early coordination so that public notice for actions involving ADNR land could be run simultaneously with ADOT&PF notices rather than ADNR being brought in after construction contracts are let.

The comments regarding coordination with public and private landowners in Section 9.1.1 also apply to other transportation-related land acquisitions.

9.1.3 Protection of Existing Right-of-Way

Various areas of the Parks Highway corridor right-of-way likely will be needed for future transportation improvements. Accordingly, identification of right-of-way needs and protection of the needed existing right-of-way from unnecessary encroachments are ADOT&PF priorities.

9.2 Access Management and Platting

A main purpose of the visioning effort is to establish access patterns so the future access will be more compatible with the transportation function of the highway. Improved coordination is the key to accomplish this purpose. Currently, the management of corridor access is not coordinated as well as it could be among the involved entities. The boroughs do the platting, but do not have access management guidelines to help them. ADOT&PF reviews proposed plats, but is hampered by the need to look at each one on a case-by-case basis without overall guidance or a long-range plan. Landowner decisions also are difficult because they need overall access planning direction.

9.2.1 Access Management Tools (Platting, Permitting, and Zoning)

9.2.1.1 Platting

The three boroughs and ADNR provide platting along the corridor.

The Matanuska-Susitna Borough handles platting throughout the entire borough. Coordination is needed between ADOT&PF and the borough to investigate possibilities,

such as using platting to control access on selected corridors, using the same access control guidelines, and assuring ADOT&PF support of borough directions to developers regarding use of frontage roads instead of numerous driveways.

The Denali Borough is working on platting policies and wants to investigate platting for access control.

The borough road plan and statutes govern the Fairbanks North Star Borough platting efforts and are used to address access issues. The borough is revising its comprehensive plan and needs to coordinate with other agencies as it addresses utility growth in the western and southern parts of the borough.

ADNR completes some platting for the non-borough area north of the Denali Borough and plats state subdivisions with concentrated access points to the Parks Highway.

Improved coordination between ADOT&PF and all of these platting entities is needed to develop uniform access guidelines.

9.2.1.2 Permitting

The primary access-related permitting tool is a driveway permit issued by ADOT&PF. Many comments were received regarding the lack of guidelines for driveway access, inconsistent ADOT&PF policy on allowing driveway permits and permit decisions undercutting borough efforts to control access. All agencies (including ADOT&PF, ADNR, Division of Parks and Outdoor Recreation, ADFG), ARRC, and boroughs need to operate under the same access policy and a coordinated effort to develop such a policy. In addition, using such information, access control authorities need to support each other as access management decisions are made. The ADOT&PF right-of-way staff, as part of the ADOT&PF process, needs to comment on all new road and driveway connections.

9.2.1.3 Zoning

Houston and Wasilla have zoning and the Palmer-Wasilla area may decide to use zoning. It is not expected that any other governmental entities in the Matanuska-Susitna Borough or in the Denali Borough will use zoning anytime in the foreseeable future. As a consequence, zoning is not expected to be an available access control tool for the corridor.

9.2.2 Additional Access Management Coordination Recommendations

Several access management actions are needed that require close interagency coordination. Interagency agreements are probably necessary to secure commitment to such coordinated actions. These management actions are listed below.

ADOT&PF should establish a clear access management policy and accompanying guidelines in coordination with local governments and land management agencies.

All agencies must coordinate closely through the platting, comprehensive planning, and access permit granting processes to provide local access in accordance with this policy and guideline.

A protocol for managing access among all of the partners should be established. The protocol should include the guidelines mentioned above and require the commitment of all partners to follow the guidelines as they take access management actions.

Much of the adjacent property along this corridor is in public ownership. Agreements need to be forged that would limit the access from these lands without ADOT&PF having to purchase access rights.

9.3 Planning Coordination

Public input emphasized the need for improved transportation planning coordination. It was noted that the lack of detailed long-range transportation corridor planning has contributed to development in the path of highway projects leading to expensive and difficult acquisition actions. In addition, a lack of coordination with other public land planning and management efforts has resulted in missed opportunities and created difficulties for ADOT&PF and other agencies. During initial scoping interviews, ADOT&PF was requested to pay more attention to community ideas and have more flexibility while considering community needs related to highway projects. Although it has improved recently, ADOT&PF needs to focus on the big picture as well as specific projects. There is not enough awareness and consideration of other public agency planning efforts or enough communication with such efforts to ensure that state and local plans recognize ADOT&PF-related transportation needs.

9.3.1 ADOT&PF Planning Efforts

ADOT&PF needs to improve coordination with other government entities and interest groups to ensure that transportation plans consider their concerns, related land plans and transportation needs identified in such plans. For example, ADFG needs to be consulted early so that highway improvements do not unnecessarily encroach on key wildlife areas, such as moose wintering grounds, migration corridors, or sensitive fish streams. Coordination during the planning process also will facilitate the permitting process. Similarly, federal, state, and local government plans (i.e., borough comprehensive plans and ADNR land plans) for areas along the corridor need to be assessed at the beginning of the process to identify transportation needs and to assure that transportation projects complement the planned development patterns in the vicinity of the corridor. Furthermore, transportation plans should reflect consideration of specialized planning for features, such as trailheads or pullouts, completed by entities, such as the TRAAK Board or local regional trail groups.

It should be noted that the *Parks Highway Visioning Document* has attempted to incorporate these process suggestions into the initial phase, but additional coordination and partnering efforts are needed to integrate adjacent land planning efforts.

9.3.2 Coordination with and Participation in Non-Transportation Planning Efforts

It has been suggested that ADOT&PF should participate in corridor-related non-transportation planning efforts. By participating in such efforts, ADOT&PF not only gains a perspective on developments affecting transportation, but also lets other agency planners

know ADOT&PF plans and land needs. This results in a type of institutionalized coordination. This visioning effort considers three key ADNR plans (*Tanana Basin Area Plan for State Lands*, the *Nenana River Corridor Recreation Study*, and the *Susitna Area Plan*; see Section 11) and borough comprehensive plans. A new coordination opportunity exists because the Matanuska-Susitna Borough is revising its comprehensive plan.

It could be mutually beneficial for the ADOT&PF to support borough planning efforts with funding and expertise, and to cooperatively work with boroughs to develop or update official streets and highway plan maps.

9.3.3 Cooperative Planning Efforts

Cooperative planning efforts that involve federal state, borough and other local entities, have been noted as effective coordination tools. The *Denali National Park and Preserve: South Side Development Concept Plan* (see Section 11) is a good example of this type of coordination. Several transportation situations along the Parks Highway corridor have been suggested for cooperative planning. These include: a transportation/development plan for the lands along the corridor in the vicinity of Denali National Park entrance (involving national park-related traffic circulation, corridor facilities, and adjacent development), a coordinated approach to the Wasilla Bypass and connector system, transportation needs and bypass possibilities around the Sunshine Y and Trapper Creek, and a possible Nenana Bypass.

9.4 Environmental Protection

The importance of protecting the environment in the vicinity of the Parks Highway corridor was noted several times during interviews, regional meetings, and CAG meetings. It was suggested that ADOT&PF could coordinate with agencies, such as ADFG, to gather information about sensitive environmental considerations early in planning efforts before projects are located. ADFG, for example, has offered to provide information about the location of wildlife migration paths and key habitats along the corridor as well as which streams should have improved access. By providing this information early, it is hoped that sensitive areas can be avoided or mitigation impacts planned as part of the project. Such actions not only provide environmental protection, but expedite permit processing. ADFG has suggested partnering with ADOT&PF to facilitate this type of information exchange and consideration. Coordination follow-up is needed to investigate the partnering idea, to assure receipt of the offered information and to identify other entities that should provide early environmental information.

NEPA requirements also need to be considered. This is especially relevant for early right-of-way acquisition. Before a property can be condemned for a project, it must be shown that the project is in the public good and because of environmental and engineering constraints, the alternative requiring the property is the preferred alternative. This issue is being investigated to determine under what conditions, if any, federal funds can be used to acquire right-of-way before the completion of a NEPA document. That investigation also will determine how to complete an early acquisition by any means (such as willing seller purchase) without making a project ineligible for later federal funding for design, other right-of-way purchases, and construction.

9.5 Railroad Interface

The ARRC corridor parallels, crosses, and in some places overlaps the Parks Highway corridor. Coordination between ARRC and ADOT&PF, as well as other public agencies, should be improved to more completely address planning, safety, and right-of-way considerations.

9.5.1 Planning

Usually, ARRC has to respond to ADOT&PF planning efforts as a member of the public after projects are fairly well planned. ARRC needs to be brought into the planning process early as a partner so that ADOT&PF and railroad plans are coordinated and, to the extent possible, complimentary. Such coordinated planning should adopt a regional perspective that looks beyond a particular highway project, considers the project's relationship to the regional transportation system and existing development, and includes other appropriate agencies and local governments.

This is a good time to establish a partnership relationship because ARRC is considering possible major route relocations in Wasilla, Nenana, and Fairbanks where coordinated planning is needed. The Wasilla relocation involves the possibility that a highway bypass route eventually may share a planned railroad bypass route. In Fairbanks, the relocation project may include placing the tracks in the median of the Parks Highway.

9.5.2 Safety Considerations

Safety is a top priority for ARRC. Some relevant railroad safety concerns include major rail crossings, secondary road rail crossings, and the placement of trailheads. ADOT&PF has been addressing the major rail crossings and has either provided for or, through the STIP, planned for grade separation of the highway and railroad at all Parks Highway crossings. ARRC would prefer that the highway go over the railroad at these crossings. ARRC also is concerned about secondary road crossings, especially if they are less than 4 miles apart. Coordinated planning with ADOT&PF and local governments could address placement of such secondary road crossings and possibly integrate grade-separated crossings into the projects. The placement of trailheads near railroad tracks and crossings is a major safety issue because it facilitates snow machine, all-terrain vehicle (ATV), and pedestrian use of the tracks as a trail. ARRC wants to work with ADOT&PF, local governments, and other public agencies to design safer, better-located trails and parking areas away from the railroad.

9.5.3 Right-of-Way Concerns

As ADOT&PF considers future right-of-way needs, it may consider possible use of railroad land in view of the proximity of the rail corridor and the location of ARRC reserves in the Hurricane, Healy, and Clear areas. Coordination between ADOT&PF and ARRC is required to determine which land may be available as opposed to land needed by the railroad. The railroad must maintain sufficient right-of-way to accommodate future double tracking and utility corridors. In some areas, land already may be committed to other uses (i.e., railroad land in Healy is used for the townsite). In other cases, the right-of-way may be limited to railroad use by the Interim Conveyance document.

9.6 Services and Maintenance Coordination

Opportunities exist for coordinating services and maintenance activities along the corridor because of the distance between facilities and the remoteness of parts of the highway. Such coordination provides for more efficient use of resources and results in the provision of more facilities and services. Some coordination already is taking place. The Matanuska-Susitna Borough trades road maintenance with ADOT&PF and could further improve the maintenance situation with additional coordination. The borough would like to contract with ADOT&PF for turnout maintenance. ADOT&PF does striping in Denali National Park in exchange for the National Park Service maintaining a section of state road 130 miles into the park.

The Division of Parks and Outdoor Recreation and ADOT&PF have informal coordination agreements to maintain rest areas and snow plowing is coordinated to provide access to such areas. It has been suggested that this cooperation be expanded by emphasizing ADOT&PF funding of rest area and pullout maintenance because the Division of Parks and Outdoor Recreation does not have the ability to maintain rest areas without additional funding. The Division of Parks and Outdoor Recreation also could manage key public use recreational access nodes and pullouts outside the state parks, such as those identified by the *TRAAK Corridor Assessments*. Rest rooms could be co-located with recreational facilities and co-managed by ADOT&PF and the Division of Parks and Outdoor Recreation.

Brush maintenance to enhance scenic viewsheds is another coordination opportunity. Along the corridor in Denali State Park, brush and trees along the highway block views of Mount McKinley. Brush maintenance may be needed on both state park and ADOT&PF right-of-way land. With proper coordination, ADOT&PF's seasonal brush clearing for highway safety visibility could be expanded to open up some views from the highway. The Division of Parks and Outdoor Recreation has provided exact locations for such viewshed brush cutting.

Coordination efforts could lead to more appropriate placement of facilities and turnouts. ADOT&PF needs to coordinate with the Division of Parks and Outdoor Recreation, local municipalities, and local trail organizations to place pullouts at designated public trail heads that interface with the regional trail system, rather than placing them at less appropriate locations because of lack of information. In some places (i.e., north of Trapper Creek), local resident groups may need to be included in turnout planning. Placement of rest rooms, rest areas, and dump stations along the corridor also need to be coordinated among the various state and local entities.

9.7 Project Management and Construction

Project management concerns and priorities between projects could be improved through coordination between local governments and ADOT&PF. For example, the City of Wasilla has concerns about its role in obtaining buy-in for the concepts on the next major improvement project in the city on the Parks Highway. The City of Wasilla has concerns about other projects, such as Port Mackenzie taking priority away from the Parks Highway and the bypass. These examples illustrate a need for coordination beyond the Parks

Highway corridor to prioritize competing projects in the Anchorage, Matanuska Valley, and Susitna Valley areas.

SECTION 10

Review of Other Corridor Studies

Phase 1 of this corridor study included a small task to research lessons learned from similar efforts in other parts of the country. The study team reviewed several documents that provided little direction to the *Parks Highway Visioning Document*.

The most insightful reference is the Transportation Research Board Report 435, *Guidebook for Transportation Corridor Studies: A Process for Effective Decision-Making*. This report was written by Steven Smith, TransCore, San Bernardino, California. It documents the results of research into the design and management of corridor and sub-area transportation planning studies. It brings together lessons learned from different regions of the country on these studies with different scopes and levels of complexity. It represents input from:

- 21 metropolitan planning organizations
- 32 states
- 8 transit agencies
- 5 FHWA regional offices
- 4 Federal Transit Administration regional offices
- 4 other stakeholder/advocacy groups

This report lists six reasons why a corridor study may be conducted:

- To determine the strategy that should be put in place to address a current or future transportation problem
- To define improvements in a corridor to be placed in the financially constrained transportation plan
- To determine funding needs to support improvements in a corridor
- To provide a better context for other planning to be conducted in the corridor
- To set the stage for advance corridor right-of-way preservation
- To determine how improvements in a corridor will fit into a larger system plan

All of these reasons apply to the *Parks Highway Visioning Document*. The rest of this section outlines the lessons learned for the following subject areas:

- The transportation planning process and corridor decisionmaking
- Identifying the problem and the corridor study strategy
- Study organization and initiation
- Community involvement and outreach
- Confirming the problem and developing evaluation criteria

- Developing and evaluating alternatives
- Financial analysis and selection of the preferred investment strategy
- Corridor study documentation
- Actions agencies can take to facilitate the conduct of corridor planning studies

10.1 Lessons Learned—Transportation Planning Process and Corridor Decision-making

There is no one-size-fits-all in the design and conduct of a corridor study. The same is true of how agencies may choose to use (or not use) corridor studies in making corridor-level planning decisions. There are alternative approaches to making corridor-level transportation decisions, depending on the type of decision to be made, the timing of that decision and other factors.

Corridor decision-making is a technical process and political process. Transportation professionals should have the objective of developing factual information and community input that better informs the decision-making process, which is ultimately political in nature.

Clearly understanding why a corridor study should be initiated will help agencies to understand when it should be initiated.

Making early planning decisions in a corridor may be important for a variety of reasons, not just for the purpose of reflecting the decisions in the transportation plan.

Several problems can threaten the ability to make decisions long-lived. The application of good planning principles not only results in better decisions, but also usually will improve the likelihood that those decisions will stand the test of time.

“NEPA’s purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action” (Council on Environmental Quality). The same is true of corridor planning studies. Corridor studies should have as their main goal the assembly of relevant, accurate information to promote decisions that are in the overall best interest of the community.

Planning and project development should be thought of as a seamless process. Addressing a transportation problem involves not just a single decision, but also a series of decisions that ultimately lead to implementation of a transportation strategy. This underscores the importance of interdivisional communication within transportation agencies, as well as communication among agencies.

There is interaction between transportation decisions made at the regional level and those made at the corridor level. Corridor studies need to consider regional decisions and input; regional transportation planning needs to consider information and decisions made at the corridor level.

10.2 Lessons Learned—Identifying the Problem and the Corridor Study Strategy

Problem identification is the foundation to conducting meaningful corridor studies. The problems to be addressed should be clearly stated, agreed to by as many study participants as possible, and, especially for controversial studies, approved by the policy committee. They should be documented in a format that will be consistent with the intent of NEPA.

The focus of corridor planning studies and the NEPA process is to make good decisions, not just to produce good documentation.

To properly scale the level of detail in this visioning effort, efforts have been focused on those issues that are key to making a decision. Issues key to the decision usually will receive more detailed analysis than others.

Numerous factors could affect an agency's strategy for coordinating corridor-planning studies with the NEPA process. Major factors include the possible timing of projects that may emerge from the corridor study, the geographic scope of the study, and the individual philosophy of agencies involved.

There is no reason to believe that alternatives eliminated in a pre-NEPA corridor study will need to be re-studied in the NEPA documentation process if the following occur:

- The corridor study has taken impacts into account to a level satisfactory under NEPA.
- There has been full public disclosure and input on those impacts, particularly from agencies that will be involved later in the NEPA process.
- The information is confirmed as part of the NEPA record. There is no reason to believe that decisions made within a pre-NEPA corridor study will not be valid in subsequent NEPA documentation if the study is conducted using good planning principles and all reasonable alternatives are analyzed per NEPA requirements.

Inclusion of resource agency input is important even in a pre-NEPA corridor study in cases where a decision could hinge on its perspectives. A proactive effort can elicit this input even before the formal NEPA process is initiated.

A corridor study can play a role in setting the stage for corridor preservation. Good intergovernmental coordination is essential to an effective corridor preservation program.

10.3 Lessons Learned—Study Organization and Initiation

Study initiation meetings, with broad representation of stakeholders, are critical to the identification of issues that need to be addressed in a corridor study. A proactive effort should be undertaken to ensure good representation.

The size of the study area will be dependent on the nature of problems, the issues being evaluated, and the nature of the possible alternatives. The study areas may change as the study proceeds, depending on the alternatives being analyzed. Some environmental issues

and impacts may be limited to relatively narrow corridors, whereas transportation and air quality impacts normally tend to encompass a much larger area.

A good work plan is critical to the effective undertaking of a corridor study. The work plan should explain the methods and approaches as clearly as possible, but also must have the flexibility to change course in response to circumstances that arise during the study.

Good study management procedures for information flow, meeting documentation, and filing are critical to the durability of decisions, particularly for controversial studies.

10.4 Lessons Learned—Community Involvement and Outreach

Community involvement for a corridor study includes outreach to at least four elements of the broader community: the public, elected officials, media, and resource agencies.

How the involvement techniques are implemented is often more important than what specific techniques are used.

Helping the public, elected officials, and media to understand the process of decision-making and means of influencing those decisions is critical, but its importance often is overlooked.

Disseminating study information requires an array of approaches, not just a single approach. The public involvement plan must be flexible and adaptable to issues that arise.

Elected officials need information that takes only a short time to absorb and is simple to understand. Voluminous information is counter-productive.

The media often are viewed as foes, but they can be strong allies and vehicles for conveying information. The media simplifies information for their audiences, which will increase the chances that the study team's message will be communicated effectively.

There are ways to obtain resource agency input even at the planning stage, but it usually requires a proactive, targeted effort by the study team. The study team must understand which issues are important for obtaining resource agency input and when that input is appropriate.

Both resource agencies and transportation project proponents have said that more programmatic mitigation, as opposed to project-by-project mitigation, is essential to a more effective transportation improvement process. Programmatic approaches assist in planning-level decisions, not just project development decisions.

Credibility of the process largely rests on agencies being perceived as honest with and responsive to the public. Trust among agencies and the public takes time to gain and can be lost easily.

Involving the public does not mean that difficult decisions will be avoided, but a collaborative problem-solving effort with the public may make the decisions less difficult and more in the overall interest of the community.

10.5 Lessons Learned—Confirming the Problem and Developing Evaluation Criteria

Confirming and reconfirming the problems to be addressed should be initiated throughout the corridor study. This confirmation will allow smooth transition into developing evaluation criteria.

Study participants should think through how the criteria are to be used, not just which criteria are to be used. That is the purpose of an evaluation framework.

Evaluation criteria should be clearly tied to the problems that the alternative is being designed to address.

Numerous sources can provide evaluation criteria, including regional goals, objectives and policies, project selection and prioritization criteria, potential impacts of alternative, and state or national funding eligibility criteria.

Evaluation criteria are among the most direct determinants of the level of detail to be undertaken in the corridor study analysis; therefore, care must be exercised to choose the criteria to balance the expected cost against the information needs.

Criteria weighting and numerical ranking systems are used only occasionally, but if used, they should be one consideration in the decision, not the determining factor in the decision.

One of the main objectives of a corridor study is to provide meaningful information to decision makers. Practitioners should be careful not to present so much information to decision makers and the public that the essential messages are lost.

Decision makers will be able to make better sense of the results of a corridor study in regional decision-making if there is regional consistency in how evaluation is to take place. A structured regional evaluation framework can help create this consistency without hampering the flexibility needed within each individual corridor study.

Multi-modal performance measures and evaluation criteria continue to be an area where agencies have questions. Agencies should recognize that there is no single evaluation criterion that will tell the whole story of how multi-modal alternatives compare with one another. Multiple criteria are needed to provide an adequate picture.

The assessment of environmental impacts is equally applicable across all modes. Alternatives that are less capital-intensive usually tend to have fewer impacts, which can weigh in favor of those alternatives. Many of these alternatives, however, do not go far enough in addressing the defined problems.

10.6 Lessons Learned—Developing and Evaluating Alternatives

Alternatives should directly address the identified problems. The exact number and nature of alternatives will depend on the problems and circumstances being addressed.

The result of a corridor study could be a single preferred alternative or investment strategy or could be a set of reasonable alternatives that are analyzed later in the NEPA process. The development of the corridor study strategy indicates some of the possible options.

Three basic approaches to identifying and analyzing alternatives include a traditional screening/detailed analysis approach, an incremental learn-as-you-go approach and analysis of individual components, followed by assembly of those components into alternatives for further analysis. Studies may consist of a combination of these approaches.

The financially constrained transportation plan (minus any corridor transportation improvements that are included in a study alternative) will be the preferred choice for the base condition in most cases. However, there are exceptions, depending on whether the plan is viewed to realistically reflect improvements that could influence travel in the corridor being analyzed.

One of the most important principles in dealing with uncertainties in assumptions is that the potential implications be discussed in an open environment so that there are no surprises. Analysis methodologies should be reviewed with the technical committee or subcommittee before application.

There are two primary occasions when land use should be considered for specific inclusion as a study issue: (1) when one or more new, major facilities may be considered as alternatives and have the possibility of influencing land use or (2) when the study has as an explicit goal the rethinking of land use policies and strategies, tied to the transportation strategy.

The study team must have qualified individuals involved in each of the subject areas important to the analysis. The methods employed need to be designed by the stakeholders to address the objectives of each particular study.

10.7 Lessons Learned—Financial Analysis and Selection of the Preferred Investment Strategy

Before the selection of the preferred alternative, the focus of the financial analysis is on the implications of funding availability for the selection of the alternative. For example, a certain highway-oriented alternative may appear to be most cost-effective, but a similar alternative that is toll-based may provide a higher likelihood of implementation. Following the selection of the preferred alternative, the emphasis is on developing the specific funding strategy that will allow the project or transportation service to be implemented in the appropriate time frame.

The type and scale of financial analysis is dependent on the nature of the decisions to be made. Decisions that have short-term implications require more detailed financial analysis, including examination of specific funding sources. Decisions that focus on long-term implementation will focus financial analysis on incorporation into the transportation plan.

A corridor study strategy could be developed as a type of financially unconstrained “vision plan” or, alternatively, a plan with tight financial constraint. Part of this decision depends on whether the study is expected to develop and select transportation improvements for

near-term or long-term implementation. The closer potential projects are to implementation, the more seriously agencies should think about financially constraining the alternatives. Corridor budgets can be established as targets, if desired.

In developing the preferred investment strategy, it is imperative that all parties, including the public, have opportunities for input at points where they can influence the outcome.

An action plan is a way of answering the question “where do we go from here?” It is a way of describing the next steps after a decision has been made. The type of follow-up actions also will depend on the type of decision being made and the time frame for implementation.

10.8 Lessons Learned—Corridor Study Documentation

Corridor study documentation does not include only preparing the study report. Presentations, meeting minutes, and agency/public correspondence also are important, often more important than the report.

Documentation at all levels should be designed to support the decision-making process.

Voluminous documentation can be counter-productive and should be avoided. Backup material can be provided in appendices or maintained in agency files.

Documents should be organized so that the relationship between the written documentation and the decision-making process is readily understood.

Ideally, every comment – those received during the meetings and public outreach as well as those received in response to a draft report or other reports – should have a response. This is particularly important if comments from the public and agencies have been specifically solicited as part of the public involvement program.

Circulation and commenting for a pre-NEPA corridor planning study will depend on a wide range of conditions pertaining to the scale of the study, level of controversy, and overall public involvement approach.

Photographic rendering and visual simulation should be employed selectively, when these techniques will help to distinguish among alternatives and help decision makers to better understand the impacts.

It is important to remember that decisions are made by elected officials and agency administrators, most of whom have relatively little time, many other issues on the table and, in most cases, a surface understanding of technical issues. There are exceptions, of course, but it is critical to remember that the decisions these officials make can be no better than the amount of information they are able to absorb.

The inclusion of corridor study documentation with subsequent NEPA documentation should be anticipated as the corridor study documentation is prepared.

10.9 Lessons Learned—Actions Agencies Can Take to Facilitate the Conduct of Corridor Planning Studies

Corridor studies can be made easier if agencies set the stage through their regular, ongoing planning activities. The development of some of these capabilities takes time and the agency cannot expect those capabilities to be available unless it plans ahead and invests for the long term.

Travel demand models are one of the key analytical tools for corridor studies and need to undergo upgrades periodically to better support studies of land use and transportation.

The agency staff can provide considerable support to corridor studies in the areas of travel demand modeling, public and agency involvement, GIS, and selected environmental areas. Additional training for staff in these areas is often useful.

Providing GIS coverage of environmental features at a regional level not only helps to make corridor studies more efficient, but also allows for environmental impacts to be taken into account in regional planning. Such coverage can be a worthwhile investment, but needs to be maintained to be useful on a continuing basis.

Programmatic mitigation at a regional scale can help to simplify dealing with environmental issues on a corridor-by-corridor basis and needs to be a part of an ongoing process.

Intra-agency and interagency communication linkages need to be built to support constructive analysis and decision-making in corridors. Effective communication between planning and project development staff is paramount and should be an ongoing effort, not just a sporadic effort within each study. Coordination meetings with staff of the resource agencies can help build bridges of understanding and expectations that will pay dividends when individual corridor studies are conducted.

Ongoing work to build relationships with the public also pays dividends when individual corridor studies are required. A reputation of trust and reliability may not make tough corridor decisions easy, but should make the process easier than if the agency were viewed as an adversary.

SECTION 11

Annotated Bibliography (includes relevant text on specific Parks Highway proposed or planned improvements)

NOTE: The form of citation used here is from the Harvard Law Review Bluebook: A Uniform System of Citation, 16th Ed. (1996).

Big Lake Citizen's Planning Advisory Committee Et Al., Matanuska-Susitna Borough, *Big Lake Comprehensive Plan (1996).*

The *Big Lake Comprehensive Plan* consists of three elements: land use, public facilities, and transportation. The goals and recommendations of the plan reflect decisions made by the Big Lake Comprehensive Plan Citizen's Advisory Committee and serve as a guide to the future growth and development of the Big Lake area.

Bomhoff & Associates, Alaska Department of Transportation & Public Facilities, *Location Study: New Parks Highway (1982).*

This document consists of a location study for the construction and upgrading of the Parks Highway from the Alaska Railroad/Parks Highway crossing, 4.5 miles west of Wasilla to the Glenn Highway on the east. It includes an evaluation of the necessity for a limited access primary highway either along the existing highway or another route to be selected.

City of Wasilla, *Wasilla Comprehensive Plan, Ch. 7 (1996) (Transportation Plan).*

This document discusses Wasilla's transportation plan, provides a street classification map, streets and highways transportation plan, and trails and parks plan.

Dalton Highway Advisory and Planning Board Et Al., *Dalton Highway Master Plan (1998).*

The Dalton Highway Advisory and Planning Board was created by Governor Tony Knowles on June 5, 1995, to create a master plan for sound economic development, public safety and prudent natural resource management along the Dalton Highway. The plan addresses the impact of additional public use of the road and the best way of managing and providing this use.

Denali Borough, *Comprehensive Land Use Plan (1997).*

The Denali Borough *Comprehensive Land Use Plan* provides a vision for future growth, discusses issues and actions, and includes the land use plan, transportation plan, and public facilities and services plan.

**Denali Borough, Procedures for Subdividing and Platting (Undated).
Department of Community Planning, Fairbanks North Star Borough,
*Comprehensive Plan (1999).***

This document provides the framework for citizens and officials to make decisions related to the use of land, and to form the basis for other land use ordinances and programs to guide land development, preservation and use. It includes goals, policies, objectives, and maps.

Transportation policies related to the Parks Highway include identifying problem highway access points and intersections, encouraging intersection improvements, and rerouting or new corridors that make travel safer as well as provide efficient and feasible access to developable property.

**Department of Community Planning, Fairbanks North Star Borough,
*Comprehensive Road Plan: Official Maps and Policies (1991).***

The *Comprehensive Road Plan* is a guideline to development. Roads are intended to be established incrementally as growth occurs. This plan is intended as a decision-making guide for the Fairbanks North Star Borough, planning commission, and assembly. It also provides information for developers and the general public on future road network recommendations and requirements.

Policies in this plan apply to the entire borough. It covers a portion of Chatanika River to the north and as far south as Tanana River and North Pole. To the west it covers portions of Murphy Dome Road and the Parks Highway, and to the east Fort Wainwright and part of the little Chena River and Hot Springs Road.

**Division of Land And Water Management, Alaska Department of
Natural Resources, *Tanana Basin Area Plan for State Lands (1985).***

The plan includes a brief description of the planning area, overview of goals and management guidelines, detailed descriptions of the land use designations by subregion, and specific actions necessary to implement the plan.

The plan as it relates to the Parks Highway:

The Parks Highway passes through subregions 1, 2 and 4. Subregion 1 states that ADOT&PF is examining possible improvements to the Parks Highway; Management Unit 1A states a 300-foot-wide buffer from the center-line on each side of the Parks Highway should be managed to maintain or enhance scenic views along the highway.

Subregion 4 states the ADOT&PF is examining possible improvements to the Parks Highway including additional lanes, climbing lanes, and shoulder widening. Management Unit 4F states the Parks Highway corridor is important-rated habitat for most fish and wildlife species and prime-rated habitat for moose, black bear, and furbearers. The Nenana River is prime-rated raptor habitat in the foothills and critical-rated salmon spawning habitat where springs feed smaller creeks or enter the Nenana River.

Commercial developments on state land near the highway between MP 243 and MP 255 should be confined to areas recommended for development in the study “Scenic Resources along the Parks Highway” (ADNR, 1980 – Unit 20). A 300-foot-wide buffer from the centerline on each side of the roadway should be managed to maintain or enhance scenic views along the highway. Development activities, such as timber harvesting and land-use authorizations, may be allowed within this buffer if the activity is designed to maintain or enhance the scenic values of the highway corridor, and to provide opportunities for viewing background scenery.

Gravel pits visible from the road should be reclaimed. South of Ferry, MP 255 to MP 262, developments should be confined to the west side of the highway because good views are mainly to the east. Limited development is recommended in areas where the view might be obstructed.

Division of Transportation Planning, Idaho Transportation Department, *Corridor Planning Guidebook* (1998).

This guidebook is designed to assist in the development of plans for transportation corridors. It examines the corridor planning process and provides information on integrating transportation planning with land use planning, and coordinating with local and state transportation planning efforts. Generating, identifying, and analyzing feasible alternatives also are included.

Department of Transportation & Public Facilities, State of Alaska, 2001-2003 Statewide Transportation Improvement Program (2001).

In response to the requirements of ISTEA and TEA-21, the State of Alaska developed a statewide transportation improvement program (STIP) to allocate federal transportation funds. Major projects contained in the STIP related to the Parks Highway include:

- Alternative Parks Highway Corridor Project – to provide an alternative Parks Highway route for through traffic (potential GARVEE project)
- Parks Highway and Glenn Highway Interchange – includes a grade separation with the railroad and appropriate frontage road connections
- Parks Highway MP 37 to MP 44 (Church Road to Seward Meridian Road Rehabilitation) – upgrade to four lanes with frontage roads and separated pathways
- Parks Highway MP 39 to MP 42.1 Rehabilitation (Seward Meridian Road to Crusey Street) – upgrade to a multi-lane facility. Pedestrian facilities and landscaping will be included.
- Parks Highway MP 39: Seward Meridian Interchange
- Parks Highway MP 42.1 to MP 44 Reconstruction (Crusey Street to Lucas Road) – includes elimination of Snyder RR crossing, driveway consolidation, drainage system, landscaping, and pedestrian facilities. May include a grade separation of the Alaska Railroad and the Parks Highway.

- Parks Highway MP 44 to MP 52.3 Reconstruction (Lucas Road to Big Lake Cutoff) – widen Parks Highway to four lanes with attendant traffic and safety improvements.
- Parks Highway MP 57 to MP 67 Reconstruction (White’s Crossing to Willow) – rehabilitate from North of White’s Crossing (MP 68) to just north of the Willow Creek Bridge (MP 72). Widen the highway, resurface, minor safety and geometric improvements, and separated trail. Rehab or replace Willow Creek Bridge. Includes bike/pedestrian underpass at (MP 72). Underpass connects to community-oriented trails at each end of the underpass.
- Parks Highway MP 72 to MP 83 Reconstruction (Willow Creek to Kashwitna River) – rehabilitate pavement, widen roadway and construct safety improvements as needed.
- Parks Highway MP 83 to MP 98.5 Reconstruction (Kashwitna River to Talkeetna Spur Road) – rehabilitate pavement, widen roadway and construction safety improvements as needed. Eliminate at-grade Sheep Creek RR crossing at MP 91.9. Improve or replace bridges at Sheep Creek and Montana Creek.
- Parks Highway MP 98.5 to MP 115 Rehabilitation (Talkeetna Spur Road to Petersville Road) – rehabilitate pavement and construct safety improvements as needed. Eliminate Sunshine at-grade railroad crossing at MP 100.7.
- Parks Highway MP 115 to MP 133 Rehabilitation (Petersville Road to Chulitna River Bridge) – rehabilitate pavement and construct safety improvements as needed.
- Parks Highway MP 133 to MP 147 Rehabilitation (Chulitna River Bridge to Byers Lake) – rehabilitate pavement and construct safety improvements as needed.
- Parks Highway MP 147 to MP 163 Rehabilitation (Byers Lake to Little Coal Creek) – rehabilitate pavement and construct safety improvements as needed.
- Parks Highway MP 163 to MP 185 Rehabilitation: Regional Boundary to East Fork Chulitna River and MP 169 (Hurricane Area railroad overcrossing) – rehabilitate pavement and construct safety improvements as needed. Replace at-grade crossing with a grade-separated crossing at MP 169.
- Parks Highway MP 194 (Broad Pass railroad overcrossing) – replace at-grade crossing with a highway overpass.
- Parks Highway MP 204 (Summit railroad overcrossing) – replace at-grade crossing with a highway overpass.
- Parks Highway MP 206 to MP 210 Rehabilitation (Summit to Cantwell and Jack River Bridge Channel Control) – relevel and resurface from Summit to Cantwell. Clear river channel, reconstruct control dikes, and install culverts.
- Parks Highway MP 225 to MP 240 Rehabilitation (Carlo to Iceworm Creek and Denali Park RR Overcrossing at MP 235) – relevel and resurface.
- Nenana Canyon Safety/ Access Improvements, Phase 2 – improvements between MP 237 and MP 238 at entrance to Denali National Park. Includes bicycle and pedestrian facilities, Nenana River access at Kingfisher Creek, and additional traffic control.

- Nenana Canyon Safety/ Access Improvements, Phase I—improvements between MP 238 and MP 240 near entrance to Denali National Park. Includes consolidating vehicle and pedestrian access, bicycle and pedestrian facilities, and additional traffic control.
- Parks Highway MP 240 to MP 262 Rehabilitation (Nenana Canyon to Bear Creek)—relevel and resurface.
- Parks Highway MP 262 to MP 287 Rehabilitation—relevel and resurface.
- Parks Highway MP 276 (Rex railroad overcrossing)—construct a grade separated railroad crossing.
- Parks Highway MP 287 to MP 303 Rehabilitation—rehabilitate and resurface.
- Parks Highway MP 303 to MP 314 Rehabilitation—leveling and resurfacing.
- Parks Highway MP 309 (Monderosa railroad overcrossing)—construct a grade-separated railroad crossing.
- Parks Highway MP 314 to MP 325 Rehabilitation—relevel and resurface.
- Parks Highway MP 325 to MP 351 Rehabilitation—repair to freeze/thaw damage to the roadway that appeared in 1999.
- Parks Highway MP 351 to MP 356 Rehabilitation—resurface, rehabilitate, and restore. Project includes a bike trail from Ester to Fairbanks. Repair mining damage to road at MP 351.

**Department of Transportation & Public Facilities, State of Alaska,
*Revised Environmental Assessment: Parks Highway MP 37-44 (1996).***

The purpose of this study is to examine alternatives that will provide improvements that reduce congestion and improve safety.

Four alternatives were examined. The No-Action Alternative and the Four-Lane Highway Alternative are carried through the document for evaluation. An option within the Four-Lane Highway Alternative for a five-lane segment from Crusey Street to east of Hermon Road is presented. Two alternatives were eliminated from consideration because of their inability to address the purpose and need.

This document includes a Finding of No Significant Impact from the FHWA for the build alternative, Four-Lane Highway with the Five-Lane Segment Option.

**Department of Transportation & Public Facilities, State of Alaska,
*Appendices B-G of Environmental Assessment: Parks Highway MP 37-44 (1996).***

This document provides the appendices for the *Parks Highway MP 37-44 Environmental Assessment*. Included in the appendices are conceptual stage relocation reports, evaluation of need for section 4(f) documentation, hazardous waste initial site assessment, noise impact analysis, wetlands functional assessment, and capacity analysis.

Fairbanks North Star Borough, Comprehensive Recreational Trail Plan (2000).

This plan is intended to be a tool to assist the borough and other public agencies in identifying and preserving important recreational trail corridors through public dedication.

Fairbanks North Star Borough, Alaska, Title 17 Subdivision Ordinance 97-042 (1998).

The purpose of this title is to promote and provide for adequate and efficient street and road systems; prevent congestion on streets and promote traffic safety; provide for adequate utilities and public improvements; ensure the accurate survey and proper preparation of plats to facilitate the documentation of land ownership; and protect and improve the health, safety, and general welfare of the people of the borough.

This title applies to any land within the borough and is intended to implement the borough's authority to regulate land subdivision to the full territorial extent authorized by state law.

HDR Engineering, Inc. Et Al., Matanuska-Susitna Borough, Core Area Comprehensive Plan (1997).

Matanuska-Susitna Borough Resolution 86-7 established policy guidelines for development of comprehensive plans to be conducted on a community-by-community basis. The "core area" was established to cover the area between the communities of Palmer and Wasilla to facilitate the development of a community-based plan for this area, which has no official name and is not a city. The comprehensive plan describes the land use issues, goals, areas of future probable growth, and recommendations for implementation of goals. These goals are complimentary to the Palmer and Wasilla plans.

Key transportation network improvements identified in this plan that are related to the Parks Highway:

- Hyer Road should be upgraded to collector standards between the Parks Highway to the Palmer-Wasilla Highway.

Recommended projects related to the Parks Highway:

- Hyer Road: Realign, widen to current two-lane collector standards and pave between the Parks Highway and the Palmer-Wasilla Highway.
- Lucille Street: Widen to four lanes from the Parks Highway to Spruce Street.
- Palmer-Wasilla Highway: Widen to four to five lanes from the Parks Highway to the Glenn Highway.
- Seward Meridian Parkway: Widen to four to five lanes from Parks Highway to Bogard Road (and possibly to the new Bogard Extension, depending on timing and the number of lanes constructed initially).
- Trunk Road: Realign, widen to current two-lane standards. During the second decade of this planning period additional lanes may be required between Parks Highway and the Palmer-Wasilla Highway.

Intersection improvement projects related to the Parks Highway:

- Parks Highway and Hyer Road: possible signal initially, followed by frontage access or interchange as Parks Highway is made limited-access in this area.
- Parks Highway and Palmer-Wasilla Highway: interchange as Parks Highway is made limited-access in this area.
- Parks Highway and Trunk Road: initially signal installation followed by interchange as Parks Highway is made limited-access in this area.

Other Roadway Issues – Safety. An accident location review revealed 13 locations with at least 9 accidents during 1989-1991. Following are those locations relevant to the Parks Highway:

- Parks Highway at Palmer-Wasilla Highway. This site had the highest number of accidents during the 3-year period (27) although because of the high volume of traffic, it had the fourth highest accident rate. This site is currently signalized. No other improvements are planned until the Parks Highway is widened to four lanes in this area.
- Parks Highway at Glenn Highway (fifth highest accident rate) and Glenn Highway at Parks Highway (ninth highest accident rate). These sites may include some overlap in reported accidents. Although there are no specific improvements slated for the next few years, **within the next 20 years ADOT&PF planners assume that the intersection will be converted to an interchange that will include a grade-separated railroad crossing.** Both the intersection and the nearby crossing contribute to the accidents at these sites.
- Parks Highway 1 mile west of Glenn Highway. This site accumulated 11 accidents during the 3-year period and had the eighth highest accident rate. Although it is not in the current capital improvement plan (CIP), the improvement of this part of the Parks Highway will include expansion from two lanes to four lanes and creation of limited-access through this area.
- Parks Highway at Fairview Loop Road. Rated last of the 13 sites, this intersection was the site of 11 accidents during the 3 years. It is not signalized. Intersection improvements are planned by the ADOT&PF as part of the four-lane improvement of that part of the Parks Highway. **If the intersection upgrade is several years off, a signal may be warranted before the Parks Highway is widened.**

Because of the uncertainty of where and when development will occur, the recommended network improvements listed above are designed to respond to probable development in the areas with available land.

Proposed Trails – Paved Bicycle and Pedestrian Trail Improvements (related to the Parks Highway):

- Hyer Road: from the Parks Highway to the Palmer-Wasilla Highway.
- Palmer-Wasilla Highway: from Palmer to the Parks Highway
- Parks Highway: from the end of the existing trail near the Cottonwood Mall to Trunk Road.

- Seward Meridian Parkway: from Parks Highway to Bogard Road extension.
- Trunk Road: from Parks Highway to Palmer-Fishhook Road, including a spur to the Mat-Su College campus.

Some general goal statements on transportation issues:

- Encourage improvements to major corridors, such as adding frontage roads and limited access points, to allow the thoroughfares to operate at their design speed.

Some history on the Parks Highway:

The George Parks Highway was constructed through the core area in 1970 and 1971 made the core area attractive as a place for Anchorage and North Slope workers to live, and it brought tourism to the core area.

Land use patterns related to the Parks Highway:

The transportation network has influenced, and been influenced by, land use patterns in the core area. Because the core area is primarily a commuting population, much of the peak morning traffic moves from the core area to the Parks and Glenn Highway. These roads have become more heavily used and more attractive to development. Commercial activities have developed along these major transportation routes.

The Wasilla Comprehensive Plan notes the following roadway problems related to the Parks Highway:

- Commuter traffic destined for the Parks Highway and Anchorage must travel through the center of Wasilla, producing excessive congestion on Main Street and other nearby streets.
- The effectiveness of the Parks Highway to move its relatively heavy volumes of traffic is compromised by the “excessive number of driveways, turnouts and local roads which directly front the Parks Highway.”

The Wasilla Comprehensive Plan also makes recommendations for improvements to solve the problem of congestion in central Wasilla, for the core area (related to the Parks Highway):

- Parks Highway, Glenn Highway to Big Lake Road: This project would be an upgrade of the existing highway which would provide four lanes from the Glenn Highway through and west of Wasilla, with frontage roads in areas with commercial development.
- Extension of the Palmer-Wasilla Highway beyond the Parks Highway to Knik-Goose Bay Road: This project would allow motorists traveling to and from the Knik-Goose Bay Road and heading east to avoid the Parks Highway-Main Street intersection.
- Extension of Peck Street north to the Wasilla-Fishhook Road: This road extension would provide a Peck Street/Crusey Street alternative to Main Street for those bound for the Parks Highway.

Preliminary list of roadway and intersection improvements related to the Parks Highway, 1995-2015:

- Lucille Street, Parks Highway to Schrock Road. Not in 6-year CIP.

- Seward Meridian Parkway, Parks Highway to Bogard Road, possible widening to four to five lanes. In CIP.
- Palmer-Wasilla Highway, Parks Highway to Glenn Highway, widen to four to five lanes. Not in CIP.
- Trunk Road intersection, Parks Highway to Palmer-Fishhook Road, straighten, widen, two to three lanes. In CIP.
- Hyer Road intersection, Parks Highway to Palmer-Wasilla Highway, upgrade to collector status, widen, straighten. In CIP.
- Parks Highway and Palmer-Wasilla Highway, interchange. Not in CIP.
- Parks Highway and Hyer, frontage access or interchange. Not in CIP.
- Parks Highway and Trunk, signal/interchange. In CIP.

Rail transportation related to the Parks Highway:

The main line runs generally north to the junction with the Palmer branch at rail MP 151, then turns west and follows Wasilla Creek. The railroad crosses Wasilla Creek at MP 155, near the junction of the Parks Highway and Fairview Loop Road, and parallels Fairview Loop for about 1 mile. From the western boundary of the core area, the line passes through Wasilla and on to the west and north to Fairbanks.

The railroad-related issue that most directly affects the movement of people within the core area is the adequacy and safety of the railroad-highway grade crossings located on the main line and the Palmer branch. An agency or private entity that wants to build a road across the railroad has to obtain the railroad's permission to cross the railroad right-of-way and construct a crossing of the track.

Interviews (see Appendix A for Summaries of Interviews).

- Jim Sharp, ADOT&PF Right-of-Way, in Anchorage, AK. (Sept. 17, 2001).
- Rob Campbell, Chief of ADOT&PF Design and Engineering, in Anchorage, AK. (Sept. 17, 2001).
- Bob Leoffler, Director, and Rick Thompson, Regional Manager with Alaska Department of Natural Resources, in Anchorage, AK. (Sept. 17, 2001).
- Nancy Swanton, Park Planner with National Park Service, in Anchorage, AK. (Sept. 17, 2001).
- Interview with Lance Traske, Stewart Seaberg, Wayne Dolzell, and Steve Albert, Alaska Department of Fish and Game, in Anchorage, AK. (Sept. 17, 2001).
- Interview with Candace Beery, Cook Inlet Region, Inc., in Anchorage, AK. (Sept. 17, 2001).
- Interview with Tom Brooks and Bruce Carr, Alaska Railroad Corp., in Anchorage, AK. (Sept. 17, 2001).

- Interview with Jim Stratton, Alaska Department of Natural Resources, in Anchorage, AK. (Sept. 25, 2001).
- Interview with Ron Reitano, District Manager of ADOT&PF Maintenance, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Ralph Swarthout, Regional Director of ADOT&PF, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Mac McLean, Habitat Biologist, Alaska Department of Fish and Game, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Pat Cole, Administrative Director of City of Fairbanks, David Jacoby, Public Works Director, Larry Crouder, City Engineer, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Chris Milles, Natural Resource Manager, Paul Maki, Assistant Regional Forester, Anna Plager, Park Superintendent, Glen Franklin, Natural Resources Officer, Alaska Department of Natural Resources, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Tod Boyce, Transportation Planner, Bernardo Hernandez, Deputy Director, Jeff Bouton, Trails Planner, Fairbanks North Star Borough, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Ronda Boyle, Mayor of Fairbanks North Star Borough, in Fairbanks, AK. (Sept. 19, 2001).
- Interview with Bob Knight, Mayor of City of Nenana, Diane Neill, Assembly Member, Jason Mayrand, Assembly Member, in Nenana, AK. (Sept. 19, 2001).
- Interview with Edna Hancock, Nenana Native Village Council, in Nenana, AK. (Sept. 19, 2001).
- Interview with Dave Talerico, Chair of Nenana Canyon Ad Hoc Committee, in Healy, AK. (Sept. 19, 2001).
- Interview with John Gonzales, Mayor of Denali Borough, in Healy, AK. (Sept. 20, 2001).
- Interview with Gordon Olson, Acting Deputy Superintendent of Denali National Park, in Denali National Park, AK. (Sept. 20, 2001).
- Interview with Jim Caswell, Assembly Member for Denali Borough, in Cantwell, AK. (Sept. 20, 2001).
- Interview with Rose Jenne, Member of Matanuska-Susitna Planning Board, in Talkeetna, AK. (Sept. 20, 2001).
- Interview with Jerry Nelsen, Deputy Mayor of City of Houston, in Houston, AK., (Sept. 21, 2001).
- Interview with Dan Kelly, Assembly Member of Matanuska-Susitna Borough, in Wasilla, AK. (Sept. 21, 2001).

- Interview with Sarah Palin, Mayor of City of Wasilla, Don Shiesl, Public Works Director, Archie Giddings, City Engineer, Mike Kriebler, Alaska State Legislature Aide, in Wasilla, AK. (Sept. 21, 2001).
- Interview with Tim Krug, City Planner for City of Wasilla, in Wasilla, AK. (Sept. 26, 2001).
- Interview with Ron Swanson, Community Development Director, Sandra Garley, Planning Director of Matanuska-Susitna Borough, in Palmer, AK. (Sept. 21, 2001).
- Interview with Paul Hulbert, Platting Officer, George Strother, Borough Engineer, Marilyn McGuire, Senior Planner for Matanuska-Susitna Borough, in Palmer, AK. (Sept. 21, 2001).
- Interview with Gale Peiknik, Land Technician for Denali Borough, and Jerry Mueller, in Healy, AK. (Oct. 23, 2001).
- Interview with Helen Nienhauser, Chair of TRAAK Citizen's Advisory Board, in Anchorage, AK. (Sept. 24, 2001).
- Telephone Interview with John Bennett, ADOT&PF ROW (Sept. 17, 2001).
- Telephone Interview with Kelly Lankford-Ladere, Assembly Member for Matanuska-Susitna Borough (Sept. 26, 2001).
- Telephone Interview with Kelly Lankford-Ladere, Assembly Member for Matanuska-Susitna Borough (Sept. 28, 2001).

Knik-Fairview Planning Team, Matanuska-Susitna Borough, Knik-Fairview Comprehensive Plan (1997).

The objective of the Knik-Fairview Comprehensive Plan is to guide the future community growth and development, while balancing and protecting values that are important to the community.

The Knik-Fairview planning area is unincorporated and is a relatively sparsely populated residential area located south of the city of Wasilla and contiguous with its boundary. This planning area has limited commercial and industrial activity and residents would like any future commercial development to occur along the developed transportation corridors, but they do not want to see commercial strip development.

The ADOT&PF, the City of Wasilla, and the Matanuska-Susitna Borough have been involved in an extensive planning and public hearing process regarding the expansion of the Parks Highway to four lanes from the Glenn Highway through Wasilla to Lucas Road. The design options for the expansion include either a four-lane, controlled-access highway or a five-lane highway with a two-way left turn lane between Crusey Street and Hermon Road. Both options would include several separated-grade intersections (overpasses) and frontage roads. The Parks Highway improvements that ADOT&PF intends to construct that will affect the planning area are:

- Extension of the Palmer-Wasilla Highway to Glenwood Avenue/Knik-Goose Bay Road

- Interchange at Seward Meridian and Parks Highway and extension of Seward Meridian to Old Matanuska Road
- Interchange at Fairview Loop and Parks Highway

Land Design North, Matanuska-Susitna Borough, *Matanuska-Susitna Borough Asset Management Plan (2000)*.

The borough’s Asset Management Plan is intended to provide management guidance and direction for all Borough-owned land and natural resources. This document is inter-related with another borough planning document, the *Borough-Wide Recreational Trails Plan*, to provide borough residents with an outline of concrete actions the borough can take to develop, maintain, and protect residents’ recreational resources either immediately or during the next 20 years, and to provide a framework for the future shaping of land use patterns in the borough.

During the next zero to 5 years the MSB will seek to establish land disposal and development practices for borough-owned lands. The borough will work with state and local governments to ensure that scenic corridors and trail access areas are included in design guidelines. This will include combining trailheads and waysides, identified along the Parks Highway, with trails identified in the borough *Recreational Trails Plan*. Finally, emphasis will be placed on constructing multiple use, non-motorized trails along collector and arterial routes, to be completed in conjunction with road improvement projects.

Matanuska-Susitna Borough, AK., *Title 16 Subdivision Ordinance (1997)*.

This purpose of this title is to promote the common good and welfare with regard to platting of subdivisions. It establishes consistent minimum guidelines for the regulation of the subdivision and platting of lands within the borough in accordance with state statutes. This document includes Right-of-Way Acquisition Plats that will be pertinent to the Parks Highway.

National Park Service, U.S. Department of the Interior, Denali National Park And Preserve: North Access Feasibility Study (1997).

This feasibility study looks at two transportation modes, road and rail, on the new north access into Denali National Park and Preserve. The study is focused on the 80-mile-long park road that runs from the Parks Highway to Wonder Lake/Kantishna. This document is intended to provide a starting point for evaluating proposals for the new north access route into the park. It explores such issues as destination, route function, and potential user demand and expectations. It does not contain recommendations and it is not a decision document.

National Park Service, U.S. Department of the Interior, Denali National Park and Preserve: Entrance Area And Road Corridor Development Concept Plan (1997).

This development plan includes proposals for visitor use and resource protection and related facility development in the front country of Denali National Park and Preserve. The

front country includes all non-wilderness areas along the Parks Highway, the entrance and headquarters areas, and the park road corridor to the Kantishna airstrip.

Additional trails will be constructed primarily in the Nenana River and Savage River areas. New campsites will be developed in the entrance area, the Nenana River corridor, and in the Kantishna area.

National Park Service, U.S. Department of the Interior, Denali National Park and Preserve: South Side Development Concept Plan (1997).

This document sets the stage for establishing working partnerships for finding and phasing appropriate visitor facilities and services on the south side of the Alaska Range.

Plan summary related to the Parks Highway:

Up to two additional roadside exhibits will be developed at existing pullouts along the Parks Highway. Watchable wildlife areas along the highway and/or the Petersville Road will be identified and established based on existing and additional scientific information (e.g., wildlife, habitat).

Self-guiding interpretive brochures will be developed for appropriate portions of the highway and the Susitna River.

Selective brush cutting and vista clearing will be conducted to improve views along the highway.

State scenic byway designation for portions of the highway, including the section in Denali State Park, will be considered following corridor management planning by local governments.

Visitor facilities will be developed along the highway.

National Park Service, U.S. Department of the Interior, Denali National Park and Preserve Business Plan: 2000-2001 (2000).

This business plan was provided to convey a concise, understandable portrait of the park's operational health, challenges, and priorities. It includes information on growth management strategy, Alaska National Interest Lands Conservation Act (ANCILA) opportunities and challenges, financial update, and financial needs and solutions.

National Park Service, U.S. Department of the Interior, Denali National Park and Preserve: Alternative Transportation Modes Feasibility Study, Vol. Ii (1994).

The purpose of this study is to evaluate the economic and technical feasibility, environmental effects, projected costs and benefits as compared to the costs and benefits of existing transportation systems, and general suitability of transportation modes that would provide efficient and environmentally sound ingress to and egress from national park land;

and methods to obtain private capital for the construction of such transportation modes and related infrastructure.

National Park Service, U.S. Department of the Interior, Nenana River Corridor Recreation Study (1991).

This study was conducted by the National Park Service for the ADNR through the National Park Service Rivers, Trails, and Conservation Assistance program. The goal of the study is to present information about the river, its resources and uses, and explore management opportunities.

The Nenana River is one of the premier recreational rivers in Alaska. ADNR recently recommended it for Recreation River designation. The study area includes the river and its adjacent uplands from its glacial source to Healy, which includes about 93 river miles.

National Park Service, U.S. Department of the Interior, Alternative Transportation Modes Feasibility Study, Vol. I (1994)

This feasibility study was performed in response to a requirement of the Intermodal Surface Transportation Efficiency Act of 1991, which requested that a study be conducted of alternatives for visitor transportation in the national park system. Because of congressional intent and interest, the study used Denali National Park and Preserve, Yellowstone National Park, and Yosemite National Park as case study examples. Each of these parks has special transportation problems.

The study includes an evaluation of specific alternatives to private vehicle travel and a comprehensive inventory of transportation technologies. Only those transportation technologies that have been proven in everyday use have been discussed in detail. The transportation modes considered include bus transit, rail transit, group rapid transit, special purpose transit, and waterborne transit. Emerging technologies are also discussed.

National Research Council, Transportation Research Board, Report 435 – Guidebook for Transportation Corridor Studies: A Process for Effective Decision Making (1999).

This report contains the results of research into the design and management of corridor and subarea transportation planning studies. It is intended to provide transportation organizations, planning practitioners, and transportation decisionmakers with practical tools and guidance for designing, organizing, and managing these studies. It brings together lessons learned from different parts of the country on corridor and subarea studies with different scopes and levels of complexity. It provides a structured approach to the process of conducting corridor studies, with an emphasis on designing each study to address the conditions unique to the particular physical, social, and institutional environment.

Peratrovich, Nottingham & Drage, Inc., Matanuska-Susitna Borough, Point Mackenzie Transportation Corridor Study (1992)

This transportation study provides a brief history and description of the Point MacKenzie area. It looks at existing transportation systems and summarizes past transportation

corridor studies. Proposed transportation corridors are also discussed along with design considerations. Finally, the study provides information on land ownership and permitting. A good resource for consideration of future development of this area.

Planning and Zoning Advisory Commission, City Of Palmer, City of Palmer Comprehensive Plan (1999)

The comprehensive plan represents a strategy for the future that will preserve, maintain, and extend its historic character and allow for both economic and population growth. It gives a wonderful introduction into the history of Palmer, including the colony homesteaders who came to Palmer in 1935, bringing with them small town values, institutional structures and architecture that characterizes the rural upper Midwest.

Palmer has a rare advantage in that it is one of the few communities in which a person can live, work, and shop without an automobile or public transportation.

Planning Commission, Matanuska-Susitna Borough, City of Houston Comprehensive Plan (1999).

The comprehensive plan summarizes how the residents visualize the future of their community. It is intended as a tool to address questions and issues concerning the future growth and development of the city.

Information in this plan related to the Parks Highway:

Houston's city limits range from MP 52 to MP 61 of the Parks Highway. The Alaska Railroad crosses the Parks Highway within the city limits. Houston's location on the Parks Highway and the Little Susitna River provides an economic base and source of income for the community. The city's proximity to several recreational destinations as well as the Parks Highway Corridor ensures that it receives its share of highway travelers. Houston provides services to those travelers. Bike trails are being constructed along the Parks Highway through the city. There is a private camper park located adjacent to the Parks Highway. Much of the land southwest of the Alaska Railroad/Parks Highway corridor is targeted for rural residential development.

Planning Commission, Matanuska-Susitna Borough, Matanuska-Susitna Borough Recreational Trails Plan (2000).

The purpose of the trails plan is to evaluate the current need and desires of borough residents for trail development and management guidelines. This includes setting priorities for trail development that includes easement acquisition, and improving cost sharing and cooperation between government agencies and private groups. This plan focuses on primitive trails, those that are unpaved.

One objective for reaching the goals included in the Plan is to work with ADOT&PF to include separated paths on all arterial road projects within the borough.

There are several proposed trails listed in this Plan that would parallel or cross the Parks Highway.

- The East Petersville Road Trail (crosses the Parks Highway at Trapper Creek). Recommendations include the need for an access trail developed that will allow travel to businesses and public facilities located at or near the intersection of the Parks Highway and Petersville Road.
- Chulitna Bluff Trail (would parallel and then cross the Parks Highway north of MP 131)
- Rabideux Trail (starting 0.25 mile east of the intersection of the Parks Highway and Petersville Road, would travel south between the Parks Highway and the Susitna River, coming back to the Parks Highway right-of-way near MP 105.5, then crossing the Parks at MP 106 and becomes the 106 Seismic Trail).
- 106 Seismic Trail (trail starts at the trailhead located on the Parks Highway near Rabideux Creek and heads west). Recommendations call for improving/upgrading winter trailhead at the Parks Highway as necessary.
- Sheep Creek Trail (follows Hidden Hills Road to the Park Highway right-of-way, and turns north traveling across Sheep Creek. About 0.25 mile north of Sheep Creek, the trail crosses the highway to the west). Recommendations include working with advocates and private landowners in the area to establish an adequately large trailhead facility near the Parks Highway to include an information kiosk and other needed amenities.

All the above trails are proposed for winter use only.

The Plan addresses other plans pertinent to trail development (not included in the *Parks Highway Visioning Document Library*):

Susitna Area Plan

The *Susitna Area Plan* guides land management practices for state and borough lands. It represents a land use plan for public lands in the entire Susitna River drainage basin area. The region guided by the *Susitna Area Plan* encompasses all of the Matanuska-Susitna Borough excluding that area covered by the *Willow Sub-Basin Area Plan*. Some of the management guidelines in this plan, which may affect the Parks Highway use and/or development, are listed below.

- The state should retain lands of regional or statewide recreational significance.
- Trails of regional or statewide significance should be protected through public ownership of trails corridors at least 100 feet. wide.
- The *Matanuska-Susitna Borough Trails Plan/Trails Inventory*, the *Susitna Basin Land Use/Recreation Atlas* and *Alaska's Existing Trails System* should be consulted before disposal of public lands.

Matanuska-Susitna Borough Tourism Development Program

Several consulting firms were commissioned by the borough in 1983 to draft a tourism development program. This document recommends bike trails along the Parks Highway as a way of converting passive sightseeing into a participative experience.

Planning Commission, Matanuska-Susitna Borough, Matanuska-Susitna Borough Long Range Transportation Plan (1997).

The Long Range Transportation Plan (LRTP) identifies the desired future transportation network and related development policies for the Matanuska-Susitna Borough. The LRTP gives an introduction to the planning process and identifies goals and objectives, which reflect the Borough's future transportation system and address the principal components of that system: public participation, the environment, the economy and quality of life, public transportation, air, marine and roadway improvements, and the transportation system in general.

The plan as it relates to the Parks Highway:

Two major interstate highways, the Glenn Highway and the Parks Highway, traverse the borough. Virtually all out-of-state highway traffic travels through the borough via one of the two interstate highways.

The Parks Highway connects Anchorage and the borough to interior Alaska and Fairbanks. Construction was accomplished in several segments and completed in the mid-1970s. It provided a shorter, more direct route between Anchorage and Fairbanks, and quick access to Denali National Park. Although the Parks Highway is an interstate highway, it functions as a major arterial where it bisects the central area of the borough and the community of Wasilla.

One of the objectives of the LRTP is to maintain an acceptable level of service on roads that generally corresponds to level-of-service D or better. It was determined that the Parks Highway, from end of four-lane (approximately Lucas Road) to Big Lake Road, is one of two roads that does not meet this objective without additional improvements. Additionally, the following road improvement projects are recommended for a road network that will meet the goals and objectives of this plan for the year 2015.

- Upgrade Parks Highway to a four-lane facility from Glenn Highway to Big Lake Road.
- Upgrade Parks Highway to include passing lanes and pullouts where possible to accommodate the slower-moving recreational and tourism traffic.
- Other upgrades that may have an impact on the Parks Highway during their construction include:
 - Palmer-Wasilla Highway
 - Trunk Road
 - Seward Meridian Road
 - Big Lake Road
 - Vine Road

Some highly used arterials, such as the Parks Highway (MP 33 to MP 44), are congested during the peak hour.

Separated Pathways:

The borough currently has approximately 14 miles of separated pathways. The longest contiguous stretch of separated pathway in the borough will be the newly constructed trail along the Parks Highway west of Wasilla. It is approximately 3 miles long, while most other sections are only 1 mile or less in length. The following is a list of existing paved, separated pathways in the borough (along the Parks Highway):

- Parks Highway, from Lucas Road to railroad overpass, 3 miles.
- Parks Highway, Crusey Street to Lucille Street, 0.7 mile.

Future separated pathway projects (along the Parks Highway):

- Parks Highway, separated paths around schools/communities on all highway upgrades.

Planning Commission, Matanuska-Susitna Borough, Petersville Road Corridor Management Plan (1998)

The *Petersville Road Corridor Management Plan* provides guidelines for the continued enjoyment and management of the corridor, and serves to promote tourism within the corridor and the Trapper Creek and Petersville communities. It seeks to promote public health, safety, convenience, and welfare.

Information in this plan related to the Parks Highway:

From the intersection of the Parks Highway to Moose Creek, the corridor boundary includes the Petersville Road right-of-way and a 300-foot-wide scenic buffer. The Parks Highway provides access to Petersville Road.

Most activities and land uses are concentrated near the intersection of Parks Highway.

Several borough and state plans affect the area including the borough-wide plan adopted in 1971 that recommends a new community be located at the intersection of the Parks Highway and Petersville Road, and ADOT&PF Planning Team recommendations that turning lanes be established at Parks Highway as well as a 45 miles-per-hour speed zone for 2,000 feet north and south of the Petersville Road intersection with flashing yellow balls to alert motorists of the speed change. The National Park Service proposes that visitor services might be developed along the Parks Highway in the vicinity of Denali State Park.

Planning Commission, Matanuska-Susitna Borough, Talkeetna Comprehensive Plan (1999)

The plan is a component of the *Matanuska-Susitna Borough's Comprehensive Plan*. In addition to providing some insight into Talkeetna's unique setting and history, this document provides background on the social and economic environment, natural and physical environment, and existing land ownership and management. It discusses the over-all planning goals based on common ground agreed on by the community. Eleven goals were developed by the comprehensive plan's advisory committee under the main topics of land use and community development, historic resources, transportation, and public facilities and services goals.

State-owned land and Matanuska-Susitna Borough owned lands in the planning area are managed under the *Susitna Area Plan* and the *Susitna Basin Recreation Rivers Management Plan*. The *Susitna Area Plan* was prepared by an interagency team from the government agencies and represents a land use plan for public land in the entire Susitna River drainage basin area. Those areas in Talkeetna that are subject to the plan fall into the South Parks Highway subregion. This subregion includes public land that is located east and south from the Talkeetna River extending to the foothills of the Talkeetna Mountains and to beyond the boundaries of this planning area. The South Parks Highway subregion's overall management goal is to preserve much of the character of the area by retaining habitat and recreation lands, protecting visual qualities along the highway, and maintaining low population densities in some settlement areas, while providing for future growth in the area.

According to the plan most of the state-owned land near the Parks Highway is recommended to be retained in public ownership to provide for recreation sites, material sites, woodlots, and open spaces. Other public land farther from the highway will be retained in public ownership for forestry, fish and wildlife habitat, and recreation.

Transportation goals (that may have an impact on the Parks Highway) include guiding the future development of roads, trails, or other access within the Talkeetna planning area with a sensitivity and respect for the natural topographic features and historic use patterns established up to this time; and having Talkeetna continue to be an "END OF THE ROAD" town (i.e., no bridges across the rivers).

Talkeetna is located at the end of the Talkeetna Spur Road, which runs approximately 14 miles from the junction with the Parks Highway, the state's major north-south transportation corridor. The Parks Highway is outside of this planning effort, but is considered the primary access to Talkeetna.

Public Works Department, Matanuska-Susitna Borough, Subdivision Construction Manual (1991).

This manual provides the subdivider and engineer with information and guidelines on the requirements necessary for design of roads and utilities within subdivisions of the Matanuska-Susitna Borough.

R&M Consultants, Alaska Department of Transportation & Public Facilities, Design Study Report: Parks Highway MP 44-57 (1992).

This report evaluates the resurfacing, restoration, and rehabilitation of 13 miles of the Parks Highway beginning in Wasilla at Lucas Road, and ending near Houston, just south of the Little Susitna River. The goal is to preserve and extend the service life of the highway and enhance highway safety.

Scott L. Hattenburg, City of Wasilla, Wasilla Alaska Railroad Relocation Reconnaissance Study (2001).

The purpose of this reconnaissance study is to develop alternatives and estimate costs for relocating the Alaska Railroad around the City of Wasilla. The objective is to improve safety,

improve railroad run times to facilitate better commuter passenger service, improve area water quality protections, and make the railroad and highway consistent with City of Wasilla's planning objective for the downtown area. The study provides existing railroad route information, alternative railroad routes, and cost estimates.

The City of Wasilla planning objective is to fundamentally change the character and environment of the Parks Highway corridor through the center of the community. Adding traffic channelization, landscaping, trails, waysides, and interpretive areas is necessary. Stormwater controls are to be included with planned improvements to protect water quality of important area streams and lakes. The relocation of the railroad is the first step in transforming the Parks Highway from multiple lanes of asphalt into a more interesting, environmentally friendly place.

Thomas Engineering Et Al., Alaska Railroad Corporation, Fairbanks Bypass Realignment Reconnaissance (2001).

The purpose of this study is to present and evaluate the technical aspects of serving these businesses and destinations by a new main line. The new main line would begin just past the Alaska Railroad's Sheep Creek connector road at-grade crossing. By taking advantage of the Parks Highway's transportation corridor the new main line will connect with the COE Tanana River Flood Levee. From there the line would remain on the top of the levee to Moose Creek, approximately 2 miles north of the City of North Pole.

The objective of the study is to determine the feasibility of the project through evaluation of alignment, costs, obstacles, and preliminary environmental analyses.

Traak Board, Traak Corridor Assessments – Section D: George Parks Highway (Undated).

This document contains a list of the public facilities and opportunities along the corridor (corridor features) as well as a good narrative describing rest stops, shoulder widths, separated trails, and water access along the corridor.

Introduction from this document (background information for the Parks Highway write up):

The Parks Highway begins near Palmer and Wasilla at the junction with the Glenn Highway (MP 35) and runs for 325 miles connecting the two largest centers in Alaska, Anchorage and Fairbanks. Traversing across some of the most rugged landscape in all of Alaska, the Parks Highway provides a major commercial trucking route between Anchorage and interior Alaska. The spring and summer months bring a high volume of recreational vehicles as spectacular views of Mount McKinley can be seen from the roadway. The Parks Highway provides the most direct access to Denali National Park and Preserve. Between the southern border of Denali State Park (MP 132) and Healy (MP 248) the highway has been designated a "State Scenic Byway."

State Scenic Byway:

The ADNR has proposed that with the designation of a portion of the Parks Highway as a "State Scenic Byway," the state conduct a more in-depth look at opportunities for specific

scenic corridor improvements needs, including scenic overlooks, viewing areas, interpretive kiosks, trailheads, etc., particularly through Denali State Park and Denali National Park.

The largest single landowner along the Parks Highway is ADNR State Lands.

Rest Rooms:

The high volume of recreational traffic along the Parks Highway particularly warrants the standard of rest rooms every 50 miles. The highway has few public rest areas that are not state park sites. Refer to the document for more specific information about location of state managed rest areas, proposed locations, and facility use hours.

Rumble strips, climbing lanes, and shoulder widths:

With relatively mild grades, typically wide paved shoulders, frequent campgrounds, rest areas and service centers, the Parks Highway is one of the best long distance cycling routes in the state, and has the potential to become one of the best in the world. Items which detract from its potential include:

- 23-mile section near Clear without paved shoulders
- 40-mile section from Houston to Talkeetna Road with narrow shoulders
- Two sections totaling 50 miles in which the shoulder area has excessively wide rumble strips
- Several bridges with narrow shoulders
- Narrowed shoulders adjacent to climb lanes between Nenana and Fairbanks

Please refer to the document for more specific information on location of rumble strips, climbing lanes and shoulder widths, and off-road vehicle trails.

Separated Trails:

The Fairbanks North Star Borough and the City of Fairbanks have several proposed projects in the STIP and “Needs List” for facilities. Bicycle and pedestrian facilities through Wasilla are being addressed with several projects currently in planning, in design, or under construction. The Matanuska-Susitna Borough has begun trail planning in *its Core Area Comprehensive Plan*, which encompasses a portion of the Parks Highway, and through the *Matanuska-Susitna Recreational Trails Plan*.

There is heavy pedestrian traffic in the vicinity of stream crossings along the corridor. Shared-use pathways and pedestrian bridges should be considered in these areas. The pathways should connect the nearby campgrounds, recreation sites, and commercial/retail areas.

The area around the entrance to Denali National Park (MP 237.3) has significant foot and bicycle traffic. Projects have been programmed in the STIP for improvements to both pedestrian and vehicular traffic control. There has been a recommendation that a separated trail be part of the improvements. Refer to the *TRAAK Corridor Assessments* for further information.

Recreational Water Access Opportunities:

ADFG recommended providing improved parking and short trails for recreational access to several creeks along the Parks Highway. Refer to document for more specific information as necessary.

ADNR has identified the opportunity for improved recreational access including improvements for a boat launch at the Little Susitna River (MP 57.1); and a trail and pedestrian bridge improvements at Sheep Creek Fishing Access (MP 88.7). The National Park Service suggested an opportunity for recreational water access at the entrance to Denali National Park (MP 237.3), although no specifics were given. ADNR suggested that an additional river access facility be provided off of the adjacent Suntrana Road at the Nenana River Bridge. This site is an unofficial boating takeout area used extensively by boaters floating the middle portion of the Nenana River. Although the assessment does not include the Suntrana Road, a facility would enhance boating opportunities in the Parks Highway area. Refer to document for additional recreational opportunities identified.

Winter Usage:

Recognition needs to be given to winter uses of pullouts at trailheads along the highway. This is a key concern, particularly for winter recreation use and cabin owners. Many pull-offs get relatively little use in the summer, but are full on winter weekends. Much of the country along the Parks Highway, both north and south of the Alaska Range, is only accessible during the winter.

Related Planning Activities:

Related planning efforts associated with the Parks Highway, which should be considered include: *Susitna Area Plan* (1985); *Susitna Basin Recreation Rivers Plan* (1995); *Tanana Basin Area Plan* (1995); *Scenic Resources along the Parks Highway: Inventory and Management Recommendations* (1981) and the *Denali State Park Master Plan*.

Miscellaneous Letters, Pamphlets, Maps, and Other Informational Sources:

- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Draft Boundary Map* (2000).
- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Draft Corridor Map* (2000).
- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Map, Fig. 1* (2000).
- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Map, Fig. 2* (2000).
- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Map, Fig. 3* (2000).
- Alaska Geographic Alliance, Alaska Department of Natural Resources, *Parks Highway Map, Fig. 4* (2000).

- **Alaska Geographic Alliance, Alaska Department of Natural Resources, Parks Highway Map, Fig. 5 (2000).**
- **Bureau of Land Management, U.S. Department of the Interior, *Denali Highway Points of Interest* (2000).**
 This pamphlet provides points of interest along the Denali Highway, mile post numbers, a map, and travel tips.
- **Christopher Beck & Associates, *Healy Towncenter* (Undated) (Drawing).**
- **City Of Houston, Alaska, *Land Use Ordinance Summary* (Undated) (Pamphlet).**
 This pamphlet provides a brief overview of the land use ordinance of Houston, a summary of zoning district regulations, and a land use district map of the city.
- **CITY OF WASILLA, *STREET MAP AND INDEX* (undated).**
 This pamphlet provides a street map, points of interest, community agencies, emergency numbers and the City of Wasilla directory.
- **Cook Inlet Region, Inc., *Regional Boundary* (2000) (Map).**
- **Denali Borough, AK., Code of Ordinances, ch. 35 at 1 (undated) (Planning Functions).**
- **Denali Borough, AK., Res. No. 00-05 (Aug. 13, 2000) (a resolution authorizing Alaska transportation consultants to negotiate with DOT so that a proposal for MOU under AS 35.15.080 (A) for a public works project with funds provided by the FHWA).**
 This packet of material also contains Denali Borough Assembly meeting minutes, work session minutes, and a letter from Borough Mayor John Gonzales. The information contained therein describes the north Denali Access Study.
- **Fairbanks North Star Borough, *Comprehensive Plan Map* (1999) (Map).**
- **Fairbanks North Star Borough, *Comprehensive Plan Map* (1990) (Map).**
- **Forestry Program, Tanana Chiefs Conference, Inc., *Forest Roads* (1999) (Partial Map).**
- **Gross Bar Recreational Maps, *A Fisheries and Animal Map of The Matanuska-Susitna Region* (Undated).**
 This map provides game management units, distribution of game animals, descriptions of animals and fish as well as illustrations, public camping areas and services, and a directory to public services.
- **HATTENBURG & DILLEY, *PARKS HIGHWAY LANDSCAPE CONCEPT* (2001) (CD).**
- **HEALY LIONS CLUB, ALASKA, *VISITOR'S INFORMATION GUIDE* (undated).**
 This pamphlet provides visitor information for Cantwell, Denali Park, Healy and Nenana. It includes maps and points of interest.
- **Lcmf, Inc., *City of Wasilla Trail System and Railroad Relocation Map* (2000).**

- **Lcmf, Inc., City of Wasilla Transportation Study Map (Undated).**
- **Letter from Stephen Martin, Superintendent, Denali National Park and Preserve**, to Ms. Roselynn Ressa Smith, Natural Resource Specialist, *Alaska Department of Natural Resources* (Sept. 10, 2001) (on file with author).
- **Letter from Stephen Martin, Superintendent, Denali National Park and Preserve**, to John Shively, Commissioner, *Alaska Department of Natural Resources* (July 19, 2000) (on file with author).
- **Letter from Jim Stratton, Director, Alaska Department of Natural Resources**, to Dave Hanson, Arktos, (Oct. 22, 2001) (on file with author).

This letter forwards an email from Dave Porter regarding brush cutting in Denali State Park to improve Denali scenic vistas.

- **Matanuska-Susitna Borough, Comprehensive Plan Map (Undated).**
- **Matanuska-Susitna Borough, ADOT&PF, Mat-Su Valley Traffic Map (1999).**
- **Matanuska-Susitna Borough, ADOT&PF, Mat-Su Valley Traffic Map (1990).**
- **Oregon Department of Transportation, State of the Interstate Report (2000) (CD#1 Report And Installation).**
- **Oregon Department of Transportation, State of the Interstate Report (2000) (CD#2 Aerial Photographs).**
- **Oregon Department of Transportation, State of the Interstate Report (2000) (Executive Summary And Users Guide).**
- **Todd Communications, Matanuska-Susitna Valley Sport Fishing Map (2000).**

This map provides information on campgrounds, roads and trails, fishing, points of interest, contours, and businesses.

- **University Land Management, University Trust Lands (Undated) (Partial Map).**
- **Wilbur Smith Associates, Alaska Railroad Corporation, South Central Rail Network Draft Commuter Study and Operation Plan (Undated) (CD).**
- **Denali National Park and Preserve, The Denali Dispatch (2001) (Newsletter).**

This special winter edition newsletter includes an overview of the plan and planning process for the park and preserve, description of draft alternatives, potential management areas, and traditional activities.