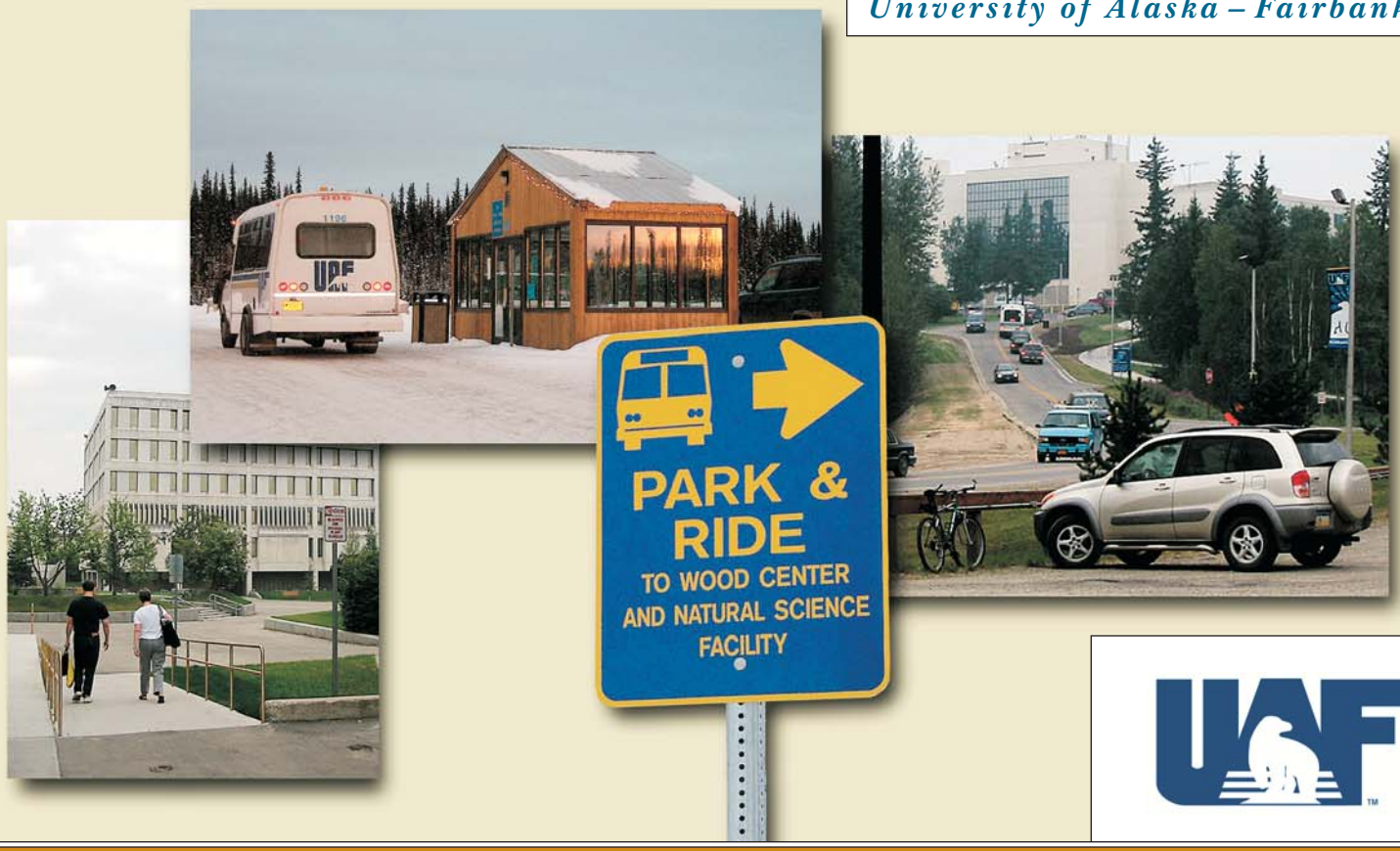
Final Report – October 2003

CIRCULATION AND PARKING PLAN

University of Alaska – Fairbanks



Circulation and Parking Plan for the University of Alaska Fairbanks

Fairbanks, Alaska

October 2003

Acknowledgements

Based on a recommendation from the University of Alaska Fairbanks Master Planning Committee, Chancellor Marshall Lind established the Circulation and Parking Subcommittee to the MPC. The subcommittee was charged with developing a long-range plan for circulation and parking for the UAF campus. The CPS reviewed and evaluated seven proposals and ultimately selected Kittelson and Associates Inc., a transportation, planning, and traffic engineering consulting firm, to develop this plan. This UAF Campus Circulation and Parking Plan is the result of the collective efforts of many groups and individuals over a one-year period.

The CPS members express their sincere appreciation to all the students, faculty, staff, and members of the Fairbanks community who provided valuable comments during the public meetings and via the web surveys. Thanks to their insights, this plan contains many recommendations for UAF to consider in its future development.

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Table of Contents

List of Figures

List of Tables

List of Charts

Section 1

Executive Summary

Executive Summary

The 2002 Campus Master Plan for the University of Alaska Fairbanks (UAF) established five primary goals for the campus, with an emphasis on access and circulation for the university and surrounding community. To achieve these goals, the Campus Master Plan identified 25 actions ranging from landscaping and signing improvements to developing new facilities. Several of the 25 actions pertain specifically to parking and multi-modal circulation. Implementation of the actions is intended to improve the efficiency of the parking system, mitigate vehicular access and circulation deficiencies, and improve pedestrian connectivity and continuity.

The purpose of the Circulation and Parking Plan is to provide additional guidance toward implementing the transportation related items in the Campus Master Plan. To this end, UAF formed the Circulation and Parking Subcommittee (CPS) to identify specific issues and mitigation measures to address near-term and long-term needs related to pedestrians and bicycles, the UAF shuttle system, motor vehicle circulation, and the parking system. As such, this project required technical data collection and analysis, as well as a qualitative review of the issues and potential improvements. CPS hired a team of consultants to provide expertise in the areas of transportation planning, traffic engineering, economics and finance, and landscape architecture. A public involvement process was undertaken, which included two public meetings and an on-line survey posted on the UAF web site. Additional comments were taken directly by members of the CPS.

Implementation actions were evaluated for both technical soundness and appropriateness for the character and goals of the campus community. The resulting Plan includes a wide range of measures to improve circulation and parking throughout the UAF campus. It also includes a range of strategies, from significant infrastructure changes to pedestrian enhancements to modified parking management measures. Many of the measures are tied to existing campus plans, such as the completing Tanana Loop, constructing Thompson Drive and the Visitors' Kiosk, as well as to building sites identified for future development. In addition, changes to the existing parking permit system are identified to optimize use of existing facilities.

The major recommendations are summarized below. Following these are sections describing the project purpose and process; assessing existing and future access and circulation systems; and recommending plans for non-motorized, motor vehicle, shuttle, and parking system.

Major Non-Motorized Circulation Recommendations

The primary recommended pedestrian enhancements include changes on Yukon Drive, constructing dedicated paths connecting the SRC to West Ridge/Butrovich and Residential Areas to SRC, extending the walkway in front of the Moor/Bartlett/Skarland (MBS) Complex (there is no Hess Commons) to Patty Center, a formal walkway along Kuskokwim to Yukon Drive, and covered walkways from the parking lots on Taku Drive to Tanana Loop. These can be very expensive. Yet the demand is well established and these connections are necessary to establish a comprehensive, safe, and well-connected

pedestrian system. The recommended non-motorized circulation improvements are identified below. More details can be found in the body of this Plan.

1. Yukon Drive Pedestrian Improvements

Design improvements on Yukon Drive will enhance the multi-modal environment in conjunction with Tanana Loop completion. Improvements include narrowing the motor vehicle travel-way, limiting motor vehicle access points, and providing wider sidewalks.

2. Tanana Loop Completion

Constructing the north section of Tanana Loop will connect West Ridge, the residential areas, and the trail system. Provide bike lanes or a wide paved shoulder, and a separate dedicated pedestrian path south of Tanana Loop or adjacent sidewalks.

3. West Ridge Pedestrian Priority Area

The Campus Master Plan identifies the West Ridge Plaza as a future open space. UAF should develop the pedestrian plaza as planned. Limited on-street parking could be considered along Koyukuk Drive for short-term visitors to allow easy accessibility for visitors.

4. Pedestrian/Bicycle Connection Between Student Recreation Center/Nenana Lots and West Ridge

The lack of a formal pedestrian path between West Ridge and SRC/Nenana Lots was one of the most frequently mentioned pedestrian system deficiencies indicated in the UAF web survey. Aerial photography reveals numerous informal trails between the two locations. Several improvements for pedestrian and bicycle connections are described in the body of the plan.

5. Pedestrian Connection from Western Lower Campus to Yukon and Residential Area

Given the high amount of use this connection receives, the existing pedestrian walkway down to Ambler Lane should be covered. In addition, a formal pedestrian facility should be provided extending the MBS Complex stairway to the Patty Center. While this cost is considerable, it would provide an essential link in the pedestrian system with significant connectivity, convenience, and safety benefits.

6. Sidewalk Connection on Kuskokwim Way Between Yukon Drive and Hess Village

Provide a formal dedicated walkway on Kuskokwim Way between North Chandalar and Yukon Drive. It could be constructed separately or in conjunction with the paving of Kuskokwim Way. The walkway should also connect to the MBS parking area to provide a continuous pedestrian connection from the parking lot to Yukon Drive.

7. North Chandalar Extension

The Campus Master Plan identifies the potential extension of North Chandalar to connect to Kuskokwim Way. This is included in the motor vehicle portion of this plan, and is extended to connect to the roadway north of the Natural Sciences Facility and further to Sheenjek Way. Issues of safety and liability may limit this extension as a motor vehicle route. However, whether or not motor vehicle access is allowed, North Chandalar should be extended as a pedestrian/bicycle route, especially as development occurs west of Kuskokwim.

8. Pedestrian Crossing at Nenana Lots

Pedestrian crossing conflicts were identified on Tanana Loop north of the Nenana Lots. The problem is exacerbated by the fact that peak vehicular arrivals at the parking lot coincide with the peak traffic volume on Tanana Loop. With the closure of Fairbanks Street, the major left-turning movement from this intersection will shift from Tanana Loop along Nenana Lots to Thompson Drive and will bypass the Nenana Lots. This will reduce the potential for pedestrian/vehicle conflicts to some degree. Several additional recommended mitigation measures, include narrowing Tanana Loop in this section, and improving sidewalks on the south side of Tanana Loop toward South Chandalar.

9. Pedestrian Conflicts with Vehicles in Front of Signers' Hall

Given this is one of the highest volume pedestrian areas on campus and pedestrian volumes are expected to increase in the future, the majority of this parking lot should be removed. Limited visitor parking could be provided directly adjacent to Signers' Hall.

10. Pedestrian Crossing and Pedestrian Path on Taku Drive at Tanana Loop

The existing Tanana Loop/Taku Drive intersection is characterized by a steep grade on the east leg of Taku Drive, a skewed intersection, and poor sight distance due to curvature of Taku Drive. Vehicles on Taku Drive do not have to stop before going through the intersection. Taku Drive should be closed to through traffic (identified in the motor vehicle plan). Additional measures are described in the body of the plan

11. Pedestrian Grade on Taku Drive from Parking Lots

The "serpentine" pedestrian path provided along Taku Drive is steep and slippery during the winter months. Students and faculty have expressed concern over the safety of this path, which connects the parking lot to Tanana Loop and the campus. Several measures to improve the safety of this connection, include providing a covered path and/or replacing the walkway with steps. In the long term, UAF should also consider constructing a tunnel or upgrading the existing tunnel to the Great Hall.

12. Other Pedestrian Facility Improvements for Consideration

Because of the cold-weather environment and steep terrain, pedestrian accessibility is complicated. UAF should consider special design features for future projects. As the campus population increases in the long-term future, the value of these improvements may increase, particularly if the campus is to increase the emphasis on non-motorized circulation modes and peripheral parking locations. Development activity may present opportunities to install more extensive pedestrian systems.

Protected pedestrian connections should also be considered for integration with all new buildings in the campus core. These could include underground tunnels, heated sidewalks, covered and/or enclosed walkways, or pedestrian bridges.

Major Motor Vehicle Recommendations

The motor vehicle system is the primary mode of transportation for students and faculty for getting to and from campus. Some of the key recommendations for the motor vehicle system relate to opportunities created by the Tanana Loop extension. The Tanana Loop extension will have many

impacts on the UAF circulation system, as identified above. It also provides an opportunity to mitigate existing intersection problems at the western Taku Drive/Tanana Loop intersection. With the new roadway connection, Taku Drive can be closed to through vehicles to alleviate the sight distance problems associated with the steep grade and curvature of Taku Drive. Closing the road would also further shift vehicle traffic away from Yukon Drive.

In addition, several potential mitigations were identified for "Malfunction Junction." However, the cost of these suggested solutions is very high. Given that traffic operations are expected to remain acceptable, and in the absence of any known safety problem, none of these mitigations is recommended.

The recommendations for the motor vehicle system are summarized below.

1. Tanana Loop Alignment and Design

The northern Tanana Loop extension project will provide improved circulation to the UAF campus by completing the Tanana Loop around the UAF campus. Several measures are identified to optimize future circulation opportunities, including alignment and cross-section considerations.

2. Yukon Drive Multi-Modal Enhancements

Yukon Drive serves as the central connector for all modes of travel, carrying high volumes of pedestrian and bicycle travel. Specific multi-modal enhancements suggested in conjunction with the Tanana Loop extension would significantly reduce motor vehicle volumes and travel speeds on Yukon Drive, consistent with the pedestrian priority treatment identified in the Campus Master Plan.

3. Tanana Loop/Western Yukon Drive Alignment at West Ridge

In conjunction with the Tanana Loop extension project, the alignment of the western ends of Tanana Loop and Yukon Drive on West Ridge is expected to be modified to provide a clearer line of sight for drivers on Yukon Drive, improving intersection sight distance and overall safety at the intersection for all approaches.

4. Natural Sciences Facility Connection to Tanana Loop

The 2002 UAF Campus Master Plan shows a planned extension of the Natural Sciences Facility access road from the Natural Sciences parking lot north to the future Tanana Loop extension. The intent of this extension is to provide access from Tanana Loop to the Natural Sciences Facility parking area. This will help to reduce traffic on Yukon Drive. For these reasons, this extension is recommended, as shown in the Campus Master Plan.

5. North Chandalar Avenue Extension

The extension of North Chandalar Avenue to Kuskokwim Way, as identified in the Campus Master Plan, would further improve connectivity and circulation for areas north of Yukon Drive and for residential areas. This connection would not substantially impact traffic on Yukon Drive

but would facilitate potential residential development west of Kuskokwim Way and could allow for efficient shuttle service to serve residential uses. UAF may want to consider further extending this roadway to the Natural Sciences Facility roadway and to Sheenjek Way, especially in conjunction with residential development in this location. Safety and traffic volume concerns for residents on North Chandalar might preclude this extension in the near term. However, as was indicated in the non-motorized circulation plan, a pedestrian and bicycle extension should be provided.

6. Thompson Drive and Roundabout Intersection at Tanana Loop/West Tanana (Farm Road)/Thompson Drive

A new roundabout intersection is under construction in the southwest portion of campus at the new Thompson Drive intersection with Tanana Loop/West Tanana (Farm Road). An analysis of weekday a.m. and p.m. peak hour traffic operations indicates that the roundabout will operate acceptably with 2010 background traffic volumes. With the new entrance at Thompson Drive, considerations should be given to gateway signage treatments and installing a visitor/information center along Thompson Drive between Geist Road and Tanana Loop.

7. South Chandalar Avenue/Tanana Loop/Alumni Drive Alignment

The intersection of South Chandalar Avenue/Tanana Loop/Alumni Drive (also known as "Malfunction Junction") has existing characteristics that cause this intersection to operate as a compound intersection. Traffic operations at this intersection are acceptable and there is no indication of any previous crash problems at the intersection. Yet in the recent UAF student, faculty and visitor survey, under motor vehicle areas to improve from a driver perspective, the alignment of this intersection was the most commonly identified.

The Campus Master Plan recommended constructing a roundabout to replace the existing intersection. While the existing intersection can be confusing and cumbersome, it was found to operate adequately and no history of safety problems was identified. Given the high cost of mitigation and the numerous other opportunities for circulation investments, no change to this intersection is recommended at this time.

8) Taku Drive/Tanana Loop Intersection Issues

The intersection of Taku Drive and Tanana Loop is located such that the grade and surrounding land topography create intersection sight deficiencies. Taku Drive west of the Cooperative Extension Service building should be closed to through traffic other than shuttle buses and emergency vehicles. The closure should not occur before the Tanana Loop extension is completed.

9) Kuskokwim Way from Yukon Drive to North Chandalar

The short unpaved segment of Kuskokwim Way was identified in the recent UAF student, faculty, and visitor survey as a motor vehicle concern. This segment of roadway should be paved and dedicated pedestrian walkways should be provided.

10) Wickersham Hall/Gruening Passenger Drop-off

Drivers frequently use the parking area located near Wickersham Hall and the Gruening Building as a passenger drop-off area. Due to the relative layout of the parking lot and dumpster and UAF Facilities Services parking space locations, circulation is limited. Remove all parking except for

handicapped spaces, and remove the dumpsters to allow more safe and efficient movement of vehicles.

Major Shuttle Recommendations

The shuttle system evaluation revealed that the shuttle currently provides good service to most connections where there is demonstrated demand. In the near term, minor system tweaks may be most appropriate to optimize service. However, as parking is shifted toward the perimeter of campus, a bi-directional loop route is recommended to most efficiently serve all origin-destination pairs. It is expected that the existing fleet could accommodate such a route structure while maintaining acceptable service frequency. However, UAF should anticipate increasing the fleet by one to three vehicles to maintain sufficient service frequency as the shift toward the perimeter is achieved. Capacity constraints may dictate the need for additional vehicles.

Major Parking Recommendations

Parking management design of new parking facilities plays an important role in both the accessibility and development of the campus. Major parking strategies are discussed in terms of parking development and management measures in the paragraphs below.

Parking Management

A modified parking permit system is recommended. The objectives of the modified system are to increase utilization of existing facilities and to encourage campus residents to leave their cars parked in perimeter locations during weekday school hours. It also provides a pricing incentive to park in the perimeter and use the shuttle system. All economy parking lots must be electrified and have shuttle service for this system to be most effective.

Future Parking Development

Parking demand is expected to increase by approximately 840 vehicles by the year 2010. Most of the growth is expected to occur in West Ridge due primarily to expanded research facilities. Based on a target campus-wide parking utilization of 80%, and assuming that existing surpluses could be better utilized, it is estimated that approximately 415 parking spaces would have to be constructed to meet parking needs associated with future growth.

In addition, several existing parking lots have been identified for potential redevelopment for pedestrian enhancements or as building sites. The total parking lost if all of these were to occur would be up to approximately 480 spaces. Approximately 300 of these spaces are in prime locations in Lower Campus.

Generally speaking, UAF should consider the following options with respect to future parking development for Lower Campus:

- Provide parking within structures to serve Lower Campus. These could be provided in parking levels in conjunction with future classroom and administrative buildings.

- Provide all replacement spaces in the campus perimeter (mostly North Tanana Loop) with an understanding that nearly all staff and faculty will have a much lower level of service with respect to parking.
- Reconsider some of the proposed parking removals within Lower Campus in order to retain adequate parking.
- Given that Lower Campus has relatively high parking utilization at present (non-restricted spaces were over 90% utilized in the peak hour), UAF should be proactive in addressing issues related to the potential removal of more than half of the existing parking supply.

Conclusion

This plan presents a framework that can help UAF maintain safe and efficient accessibility and circulation well into the future. While many specific improvements have been identified, the plan is by necessity flexible. Many future investments will have to be evaluated based on the opportunities, priorities, and specific needs of the time. UAF should anticipate updating the Circulation and Parking Plan as the campus environment changes in relation to population growth, new building development, and additional infrastructure investments.

Section 2

Introduction

Introduction

The 2002 Campus Master Plan for the University of Alaska Fairbanks established five primary goals for the campus, with an emphasis on access and circulation for the university and surrounding community. In order to achieve these goals, the Campus Master Plan identified 25 actions ranging from landscaping and signing improvements to developing new facilities. Several of the 25 actions pertain specifically to parking and multi-modal circulation. Implement ting these actions is intended to improve the efficiency of the parking system, mitigate vehicular access and circulation deficiencies, and improve pedestrian connectivity and continuity.

The purpose of the Circulation and Parking Plan is to provide additional guidance toward implement ting those items in the Campus Master Plan that relate to transportation. To this end, UAF formed the Circulation and Parking Subcommittee (CPS) to identify specific issues and mitigation measures needed to address near-term and long-term needs related to pedestrians and bicycles, the UAF shuttle system, motor vehicle circulation, and the parking system. CPS and the consultant firm of Kittleson and Associates, Inc. undertook a public involvement process, including two public meetings and an on-line survey posted on the UAF web site. CPS members also received and provided additional comments directly.

The UAF campus serves many different and overlapping constituent groups. The most frequent users of the campus are the students, faculty, and staff, some of whom are also residents on the campus. These every-day users of the campus require regular access to multiple areas of the campus, including housing, classrooms, research facilities, and dining services. In addition, the university plays a role in the recreational, educational, and cultural activities of the broader Fairbanks community. The campus also attracts a large number of visitors, including informal visitors coming to see the UA Museum or other attractions, academic visitors to UAF research facilities, as well as vendors or families of students.

A successful circulation and parking system must serve the needs of each of these constituent groups by providing clear and convenient connections among the many attractions and activities on campus. For the occasional users, the circulation and parking system should be clear and simple to understand so that those unfamiliar with the campus are easily able to get to their destinations.

Besides the different needs of the user groups, the climate and terrain in Fairbanks present unique challenges that must be considered in the Circulation and Parking Plan. Due to the cold temperatures and steep terrain in some locations, walking distances and proximity to parking are of significant concern to many users. The need for electrified spaces during freezing weather increases the cost of providing parking. The need for snow removal impacts all roadways, walkways, and parking areas throughout the winter.

PROJECT BACKGROUND

University of Alaska Fairbanks adopted the *2002 Campus Master Plan* to provide a framework for future growth and development on the UAF campus. The importance of the transportation system in the master planning process is evident in the five goals identified as the foundation of the Campus Master Plan:

- Create an efficient and attractive campus environment conducive to learning.
- Improve community access to the UAF campus.
- Make vehicle circulation and parking simple and direct.
- Promote safe and efficient travel throughout campus for pedestrians and non-motorized uses.
- Highlight natural assets of campus and the unique northern environment.

Upon adoption of the Campus Master Plan, UAF formed a Circulation and Parking Subcommittee (CPS) as a step toward implementing the Campus Master Plan. CPS enlisted a consultant team led by Kittelson & Associates, Inc. (KAI), a national transportation planning and traffic engineering firm, to provide technical support in developing a Circulation and Parking Plan that supports the five Campus Master Plan goals.

In addition to the Campus Master Plan Goals, KAI conversations with the CPS revealed priorities and concerns that helped set a general framework for the identification and evaluation of strategies. Those themes include the following:

- Provide access to both part-time and full-time students.
- Improve multi-modal access within the campus for pedestrians and bicycles, as well as motor vehicles.
- Provide a balanced parking system for staff, faculty, students and visitors.

The goals and objectives stated above provide the basis for identifying and evaluating near-term and long-term circulation and parking strategies and improvements.

PROJECT PROCESS

The Circulation and Parking Plan was developed to achieve the goals and objectives established by the Campus Master Plan and the CPS. KAI conducted extensive data collection and analysis to form the basis of the issue and strategy identification. The consultant team worked closely with the CPS to identify appropriate study periods, locations for traffic and parking counts, and anticipated campus growth and development. Two public meetings invited input and comment from the community, including one meeting targeted at the student population (held at the Wood Center) and a second meeting held at that the Noel Wien library in order to focus on general community input. In addition, an on-line survey was posted on the UAF web site, which asked for comments and suggestions about all circulation modes and the parking system. CPS members also received directly and provided additional comments. Input provided through these forums was integral to the development of the final plan. Two public meetings were held on campus to present the final version of the circulation and parking plan. Written comments that were provided after those meetings are summarized in Appendix A of this document.

SCOPE OF THE REPORT

Figure 1 shows a map of the developed UAF campus, and Figure 2 shows the campus core area included in the study and identifies the primary activity area:

Residential Area: the area, located north of Yukon Drive, which is primarily dormitories and apartments;

Lower Campus Area: the main campus area south of Yukon Drive which has the most dense and varied mix of activities, including dormitories and apartments as well as some classes and administration;

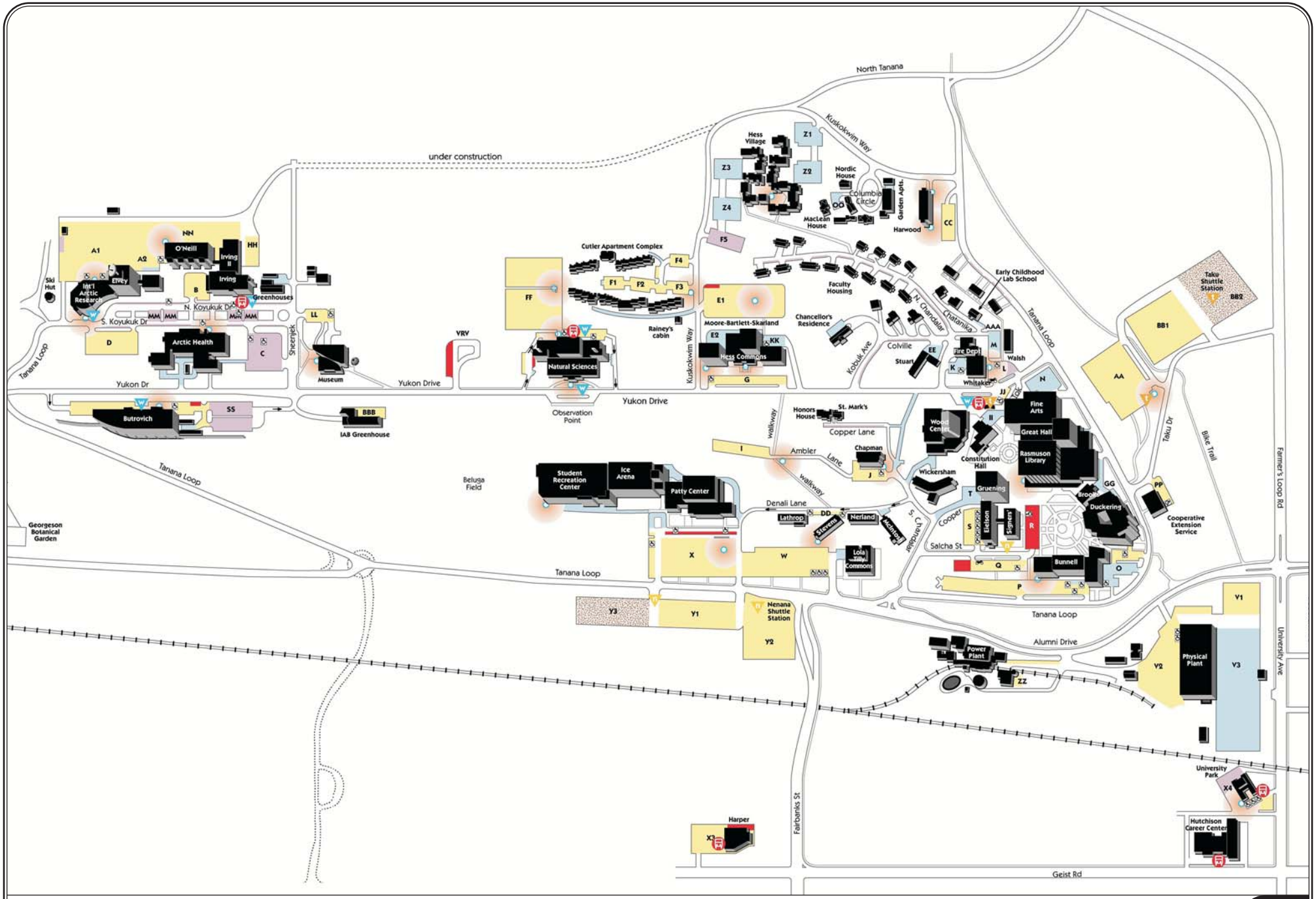
Recreation Area: the area north of Tanana Drive and south of Yukon Drive, which includes the Patty Center and athletic facilities; and,

West Ridge Area: the area west of the main campus including the UA Museum and much of the research and science program.

The map also shows primary roadways on campus and highlights some of the larger parking areas and shuttle stops on campus. These are critical nodes in the circulation and parking systems. The ability for users to have convenient access to and among these locations is a focus of this analysis.

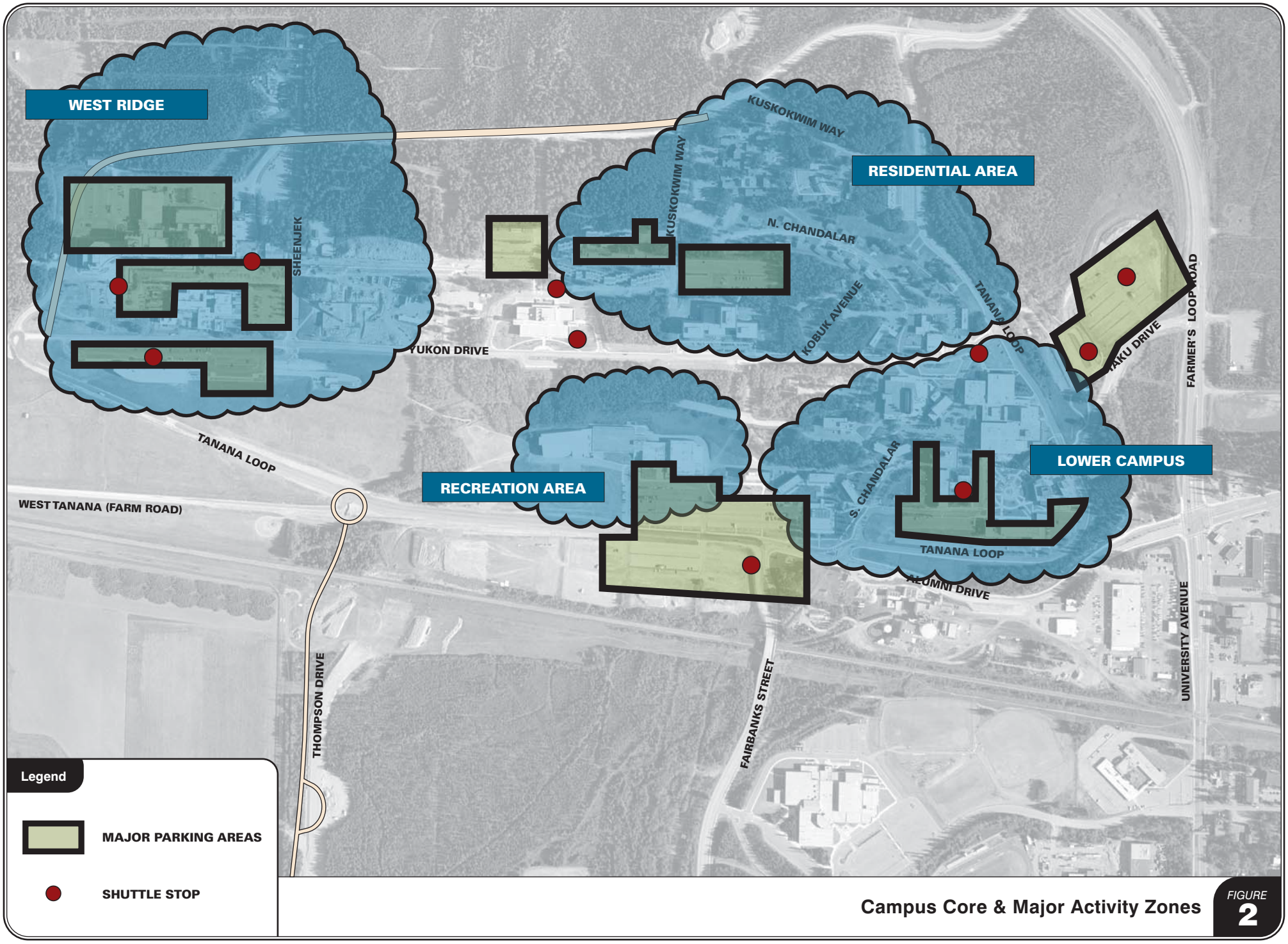
The UAF Campus Master Plan recognized the need for a multi-modal transportation system serving all members of the UAF community and Fairbanks area. Transit, walking, and bicycling are all key modes of transportation for the UAF campus. The circulation system plan includes non-motorized modes (walking and bicycling), personal automobile travel, and the UAF shuttle system. Each of these modes is discussed separately in the following sections, followed by a discussion of signage and way-finding enhancements to simplify access for the regular campus population and visitors alike.

As one of the steps in developing this traffic and circulation plan, KAI conducted a thorough technical evaluation of the pedestrian, bicycle, motor vehicle, shuttle, and parking systems serving the existing UAF community, as well as anticipated changes in infrastructure and campus population. The recommendations provided in this plan provide a framework for addressing the existing and future deficiencies for circulation and parking.



UAF Campus Map

FIGURE 1



Campus Core & Major Activity Zones

FIGURE 2

Section 3

Circulation System Assessment

Circulation System Assessment

The first step in developing a plan is to assess the existing conditions and identify near-term changes on the campus that will impact the transportation and parking system. This section provides an overview of the existing and future operations of the circulation and access systems serving UAF. The assessment includes the pedestrian and bicycle systems, motor vehicle circulation and parking conditions, the on-campus shuttle system, and the campus signing and way-finding system. All these modes of transportation work together to bring students, staff, and visitors to the campus and to their destinations within the campus.

Some of the key changes that will impact the circulation system include:

- Completing the Thompson Drive access
- Significant growth on West Ridge
- Completion of Tanana Loop Road
- Potential residential development west of Kuskokwim Way
- Relocation of most on-campus dining services to the Wood Center

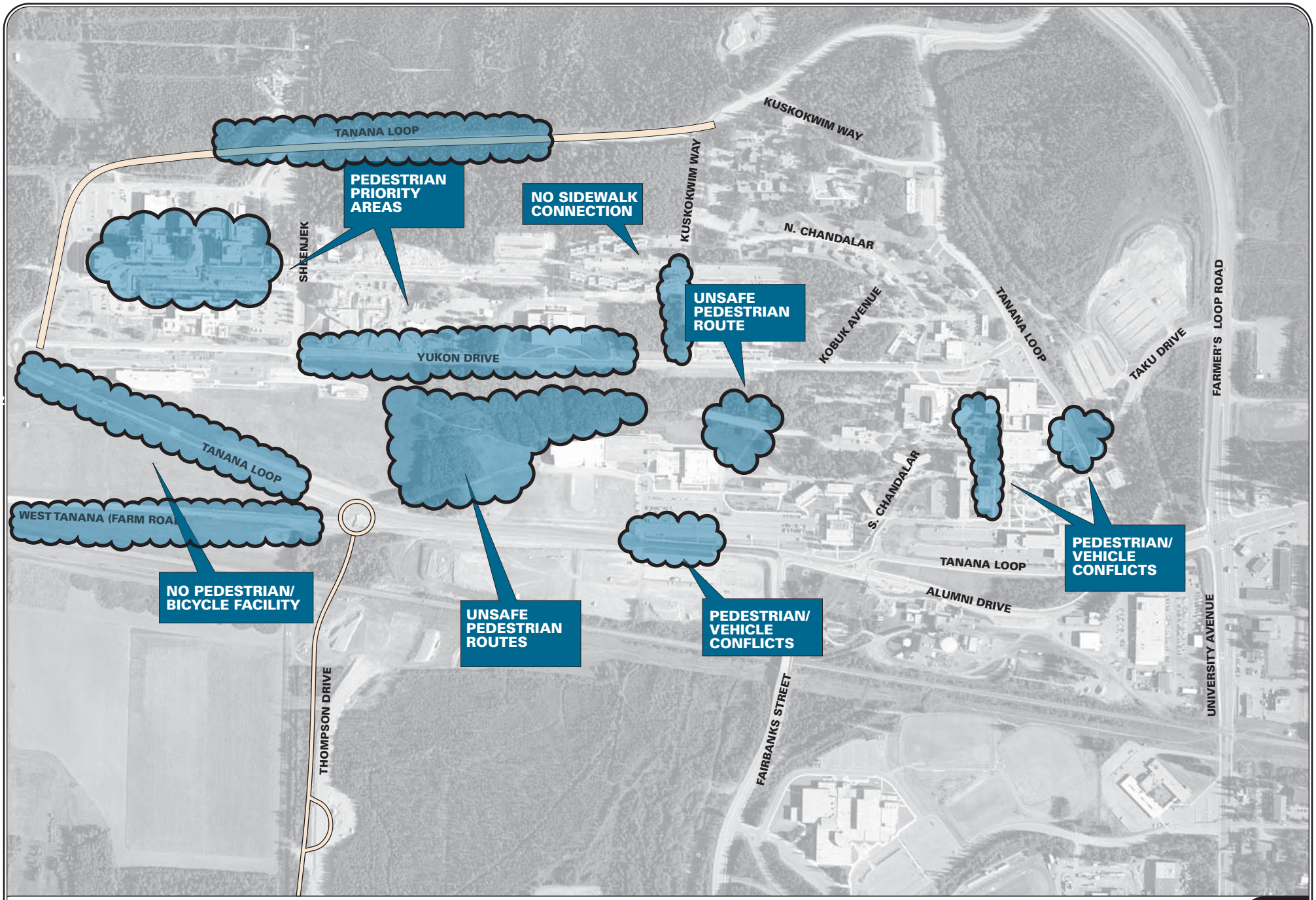
Each of these changes will impact the future circulation system and were considered in evaluating the future needs.

Non-Motorized Circulation Assessment

The assessment of existing conditions included an inventory and evaluation of the existing facilities on campus as well as a detailed review of comments received through meetings with the Circulation and Parking Subcommittee (CPS), public open house, and web survey.

The existing conditions assessment revealed that accessibility within defined activity centers is good. There are, however, gaps in the pedestrian system between the major activity centers and parking areas. In addition, the topography of the campus can make north/south pedestrian connections difficult. For these reasons, many of the most direct pedestrian routes require that pedestrians share the roadway with motor vehicles, or traverse the steep terrain in undeveloped areas. The key issues identified in the evaluation are depicted in Figure 3 and summarized below:

- Accessibility within West Ridge with significant expansion of research buildings and the museum
- Need for improvements to the pedestrian environment along Yukon Drive
- Need for pedestrian and bicycle accessibility along the planned North Tanana Loop
- Lack of a connection between West Ridge and the student recreation area and Nenana Parking Lot
- Lack of a good all-season pedestrian connection between residential area north of Yukon and Lower Campus
- Lack of sidewalk connection on Kuskokwim Way between Yukon Drive and Hess Village



Pedestrian/Bicycle System Issues

FIGURE 3

- Pedestrian/vehicle conflicts north of the Nenana Lots
- Pedestrian/vehicle conflicts on western Tanana Loop Road
- Pedestrian conflicts with automobiles in front of Signers' Hall
- Pedestrian conflicts with automobiles at the Taku Drive/Tanana Loop intersection
- Steep pedestrian grade on Taku Drive from Taku lots

UAF web survey responses were generally consistent with the findings of the existing conditions evaluation. The need for pedestrian and bicycle facilities on Tanana Loop between Nenana Lots/Recreational Area and West Ridge and the lack of a dedicated walkway from the Recreational Area to the Residential Area were both frequently identified. While the non-motorized system comprises primarily pedestrian and bicycle modes, skiing serves both recreational and transportation needs to and around campus. Other issues identified in the survey include difficulty for pedestrians crossing Tanana Loop from the Nenana Lots; difficulty with the steep terrain on Taku Drive; and deficient lighting on Yukon Drive and in Lower Campus.

Motor Vehicle System Assessment

In general, the existing roadway system serves the UAF campus with good connectivity and adequate capacity at the access intersections. A future conditions evaluation reflects a 28% increase in the UAF campus population, as indicated by the UAF Office of Planning, Analysis and Institutional Research (PAIR). The increase in campus population as well as an increase in research activities will translate to a similar increase in traffic demand throughout the campus. In addition, the future conditions analysis was conducted assuming the following system changes:

- Fairbanks Street will be closed to vehicular access and Thompson Drive will be the primary access to the campus from Geist Road.
- Tanana Loop will be completed from Kuskokwim Way to West Ridge, providing an alternative to Yukon Drive for east-west connections.
- A new roundabout intersection will be in place and operational at the intersection of Thompson Drive, Tanana Loop, and West Tanana Road.

Based on the technical analysis of existing and forecast conditions, responses to the UAF survey/open house, and input from the UAF CPS, the following issues were identified:

- Reduced motor vehicle traffic and enhanced pedestrian and bicycle connectivity on Yukon Drive
- Realignment of the western Tanana Loop/Yukon Drive intersection to improve safety
- The need for a new north-south connection the Natural Sciences Facility to Tanana Loop
- Possible extension of North Chandalar Avenue to Kuskokwim Way in order to increase circulation in the Residential Area, potentially connecting to future residential development west of Kuskokwim Way
- Possible improvements to the Alumni Drive/South Chandalar/Tanana Loop intersection, which can be confusing and is frequently referred to as "Malfunction Junction"

- Taku Drive/Tanana Loop intersection currently has inadequate sight distance on the westbound approach and conflicts with pedestrian crossing at unmarked locations
- Lack of pavement on Kuskokwim Way beside the MBS Complex up to Hess Village
- Conflicts between pedestrians, visitors, and maintenance vehicles at the parking lot near Wickersham Hall and the Gruening Building

The focus areas for the motor vehicle system are depicted in Figure 4.

Shuttle System Assessment

The existing shuttle service provides frequent connections between most major activity zones. The existing routes, identified below, are shown in Figure 5.

1. *Nenana Express,* connecting the Nenana parking lots and Lower Campus
2. *Taku Express,* connecting the Taku and Ballaine parking lots and Wood Center
3. *West Ridge Express,* connecting Wood Center and the West Ridge
4. *We-Nana Shuttle,* a temporary shuttle service during West Ridge construction, connecting West Ridge with the Nenana parking lots.

The Taku and Nenana Express are oriented toward campus parking facilities. Riders using the shuttle to get from their automobiles to the Lower Campus are well served with frequent shuttle pick-ups. In April 2003, Transportation Services initiated the We-Nana route, connecting West Ridge and the Nenana Parking Lots. The West Ridge Express provides frequent connections between West Ridge and Lower Campus, though capacity is sometimes constrained during class changes. During these peak times, shuttles sometimes fill up and must pass up waiting passengers, who have to wait for the next shuttle, or forego shuttle service.

UAF also offers a demand-response shuttle serving off-campus administrative buildings, locations not served or connected by the fixed-route system, and persons with temporary or permanent disabilities. Evening shuttle service combines several of the routes.

In addition to the campus shuttle, the Fairbanks North Star Borough (FNSB) operates the Red and Blue Lines with stops at Wood Center. FNSB Transit estimates that 40 to 50% of their total ridership is going to or from UAF.

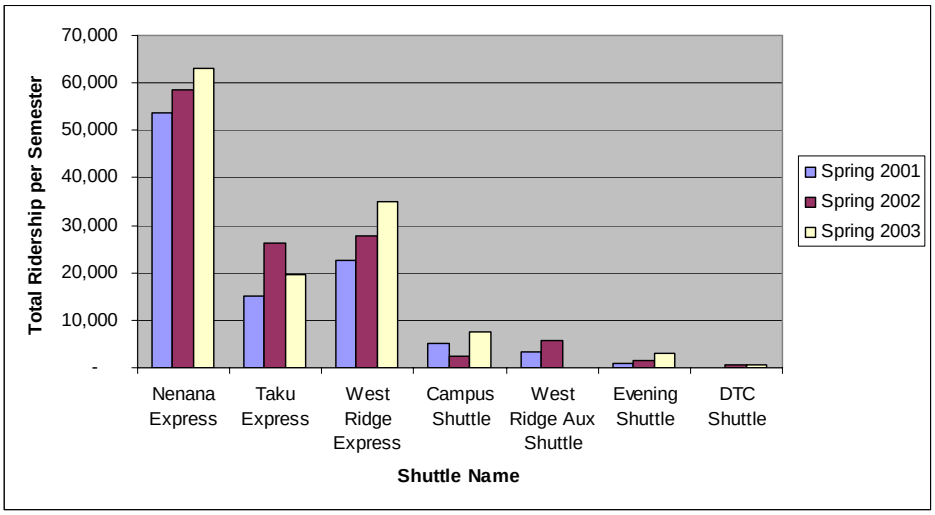
Shuttle vehicles are owned by Transportation Services and are rented by Parking Services for use as shuttles. UAF operates seven transit vehicles, including:

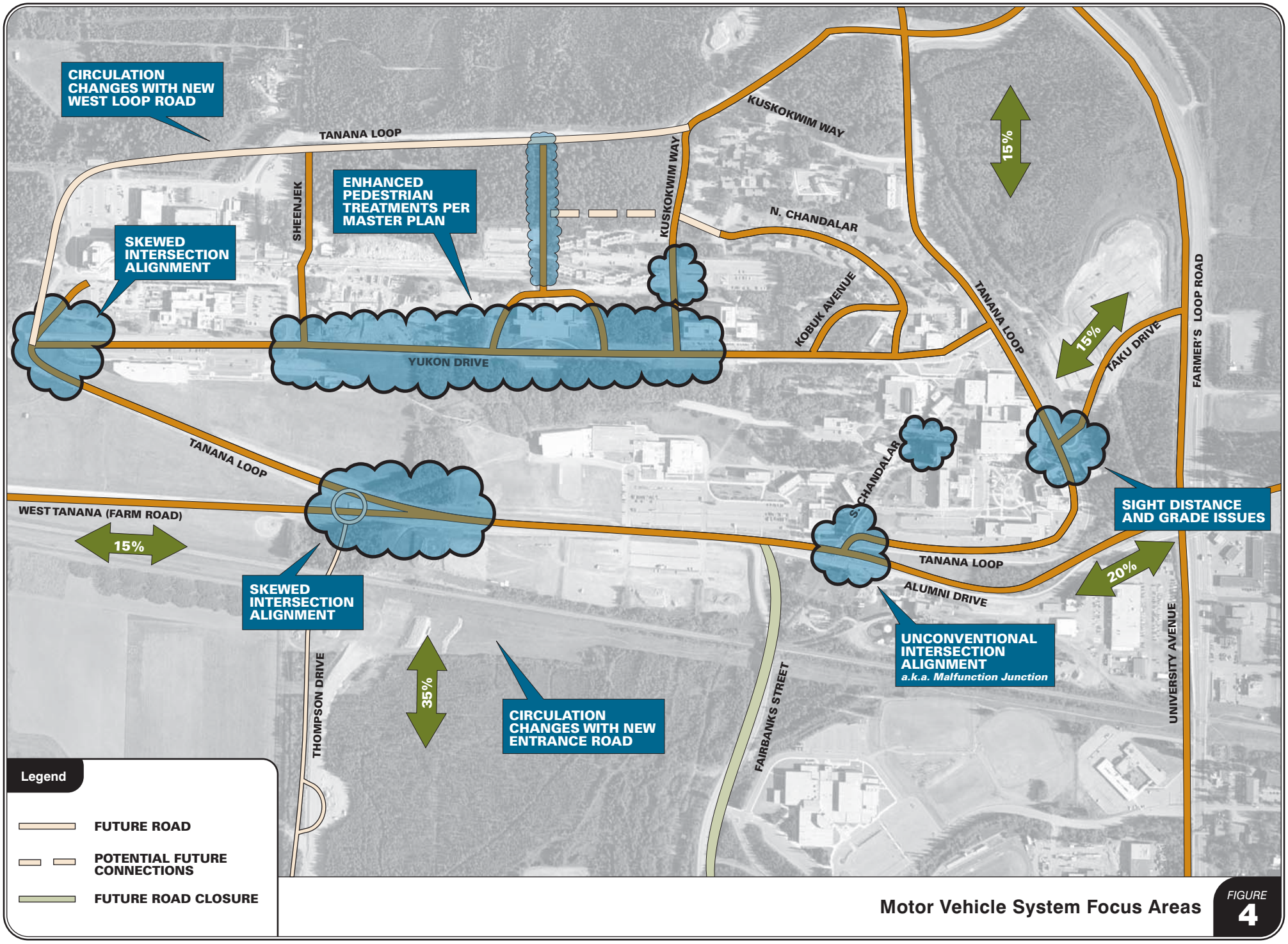
- Four 15-passenger buses: two serve the West Ridge Express, one serves the Taku Express, and one is used for the temporary We-Nana route
- One 33-passenger bus: it serves the Nenana Express
- Two 11-passenger buses: used for demand-response (dial-a-ride) service

Survey responses indicate that recent changes in the shuttle system operations have been successful at improving service quality. In particular, reliability has improved, largely as a result of hiring professional drivers.

Ridership history for the shuttle services is depicted in Chart 1. As the chart shows, ridership is by far the highest on the Nenana Express, though the Taku and West Ridge Express routes also have consistently high volumes. Ridership has generally increased for the system, especially for Nenana and West Ridge Express routes. The West Ridge Auxiliary Shuttle (We-Nana route) is very new and has lower ridership than other fixed routes, but according to Transportation Services staff, acceptance of the service is growing.

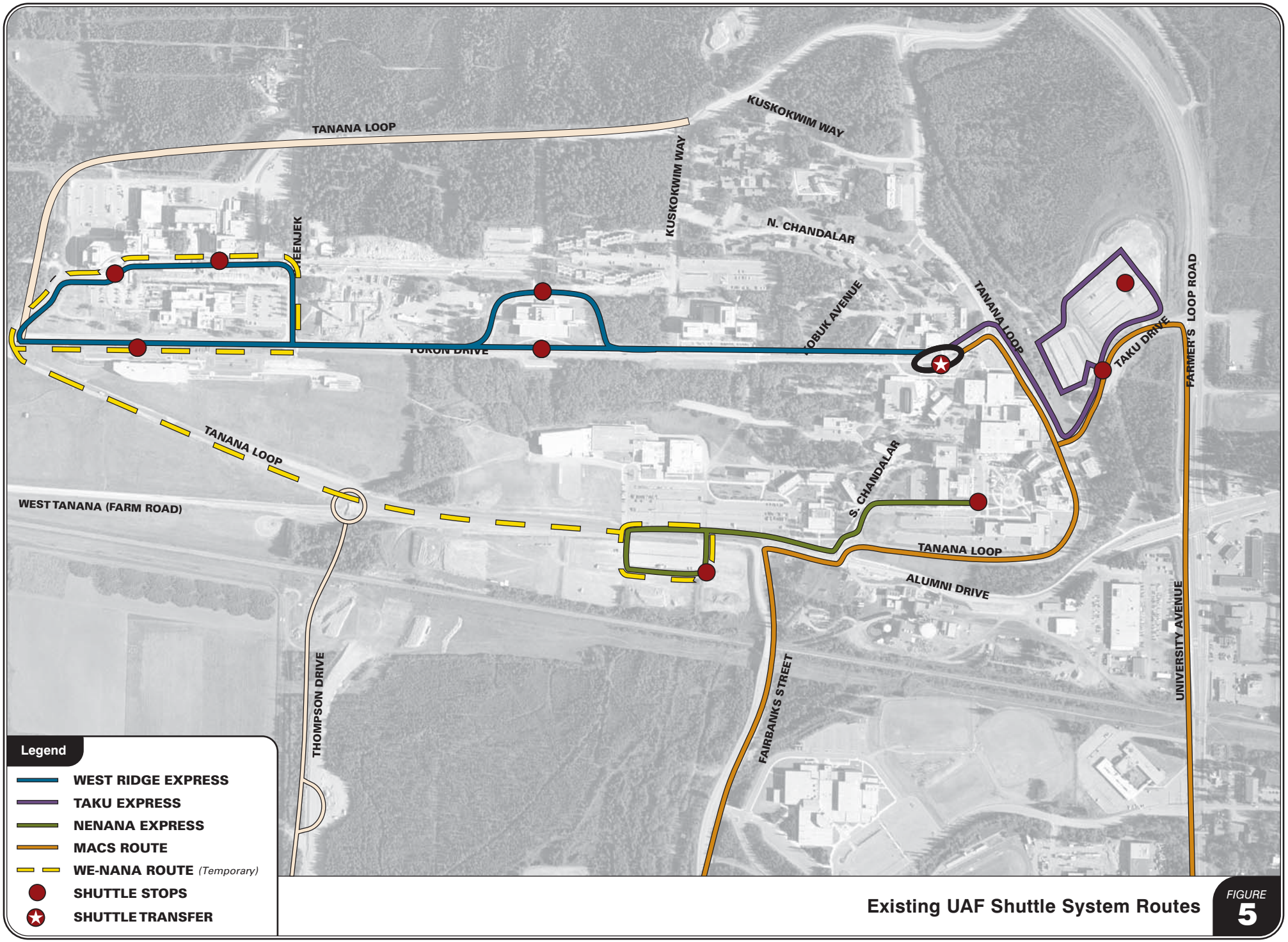
Chart 1. Shuttle Ridership Trends





Motor Vehicle System Focus Areas

FIGURE 4



Existing UAF Shuttle System Routes

FIGURE 5

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Shuttle Service Funding Evaluation

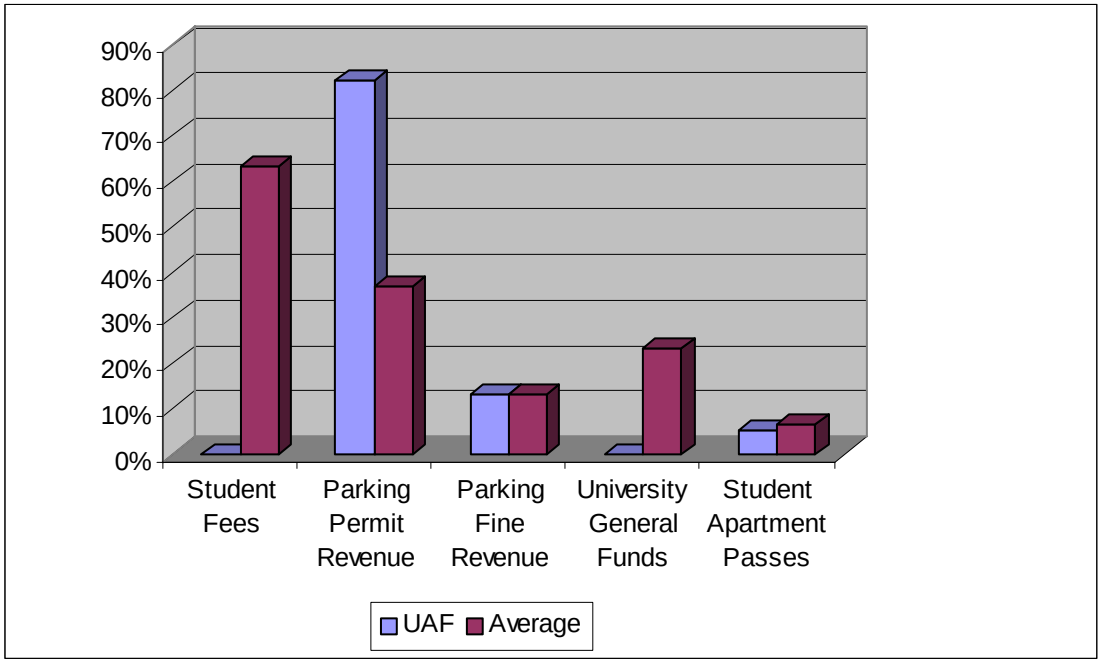
Financial consultants E.D. Hovee and Company evaluated the existing financial conditions of the parking and shuttle system. Their evaluation compared the UAF shuttle system with other college and university shuttle systems. The survey of other systems shows that while some campuses have shared responsibility arrangements with other agencies or jurisdictions, the UAF form, owned and operated by the university, is most common.

Operating expenses per passenger trip at UAF are at about the center of the range for both indicators, with roughly half of the programs performing at a lower cost/expense rate and roughly half at higher rates. UAF expenses per passenger trip (at $1.16) are slightly higher than the median of university-owned-and-operated transit or shuttle service programs (median is $1.02). UAF expenses per operational hour (at $36.00) are also consistent with the median for this performance indicator.

While UAF fits well within the norm for university shuttle systems, a significant difference is in the reliance on parking revenues to fund shuttle services. Chart 2 summarizes revenue sources for other pre-paid campus shuttle services.

As the chart shows, student fees are the primary source of shuttle revenues at most colleges and universities, followed by parking permit and fine revenue. At UAF, revenue from parking permits, meters, and fines account for approximately 95% of shuttle funding.

Chart 2. Sources of Prepaid Revenue for Campus Transit Systems



Note: Total exceeds 100% due to multiple responses.

Source: *Transportation on College and University Campuses: A Synthesis of Transit Practice*, Transportation Research Board – National Research Council, 2001.

As UAF grows and more land area is used to develop new facilities, new parking facilities will need to shift to the perimeter of campus as identified in the Campus Master Plan. This will increase reliance on the shuttle system for internal campus circulation. Over time, system improvements, including an expanded fleet, will be needed to provide adequate convenience, safety, and efficiency to support the overall campus circulation and parking system.

While service frequency is generally good for most of the routes, there are concerns that total travel times are sometimes excessive and cause students to be late to class. The average travel time between major origin and destination pairs are summarized in Table 1. Shuttle time estimates were estimated with help from Transportation Services staff. Average Wait Times were estimates as one-half the average headway for each route. For instance, if shuttles are scheduled to arrive every 10 minutes, an average wait time of 5 minutes was assumed. The total travel time is the sum of the shuttle time and the wait time. Travel times do not include walk times to specific buildings within a destination area. Some areas of campus, such as the recreational area, are not directly served by the shuttle system and therefore passengers must walk from the nearest shuttle stop.

Table 1 Existing Shuttle Travel Times

Connection	Estimated Travel Time (In Minutes)*		
	Shuttle Time	Ave Wait Time	Total
Fixed Route Direct Service			
West Ridge – Wood Center	5 to 6	5 to 6	10 to 12
West Ridge – Nenana Lots**	5 to 6	5 to 6	10 to 12
Lower Campus (Eielson) - Nenana	4 to 5	4 to 5	8 to 10
Wood Center – Taku Lots	3 to 4	3 to 4	6 to 8
Fixed Route with Transfer			
West Ridge - Taku Lots	8 to 10	10 to 12	18 to 22
Fixed Route with Walk			
West Ridge – Recreational Area	No Direct Service. Travel time is same as West Ridge to Nenana Lots plus walk between Nenana Lots and SRC		12 to 15
Wood Center - Nenana	No Direct Service. Travel time is same as Nenana – Eielson plus walk between Eielson and Wood Center		10 to 13
Wood Center – Recreational Area	No Direct Service. Walk between WC and Eielson Stop, Walk between Nenana and SRC. Plus 8 to 10 minute shuttle ride.		14 to 16
Demand Response Service			
Lower Campus (Eielson) – Residential Area* (Hess Village)	5 to 6	10 to 15	15 to 20
West Ridge-Residential	5 to 6	10 to 15	15 to 20

* Travel time estimates do not include walk time.
** Temporary We-Nana service

As Table 1 shows, most connections have relatively low travel times and are below 15 minutes in total travel time. Exceptions are for those transferring between West Ridge and Taku Lots, which increases the time considerably. This transfer is usually required for students with classes in both West Ridge and Lower Campus. Capacity limits are another issue for the West Ridge Express. During class change times, vehicles frequently fill up so that shuttles have to pass waiting passengers, who then have to wait for the next shuttle or walk to Lower Campus. This frequently causes them to be late for class. Demand response service can usually be accommodated in 15 minutes, slightly longer during busy times.

Signage and Way-Finding

The signage and way-finding system on campus provides a means of simplifying and clarifying the organization of campus. When the system is successful, a first-time visitor can easily find a destination without having to travel out-of-direction, or stop in traffic to read signs. The signage system should identify roadways, major attractions, parking areas, and shuttle stops.

The 2002 Campus Master Plan identifies the need for signing and way-finding improvements to clarify the campus for visitors, and to tie in a unifying theme throughout the campus. During field observations, KAI noted several deficiencies in the current signage system, including lack of consistency in sign styles, inconsistency in sign location, and lettering that is too small to read at travel speeds. One example is the RV parking sign on Yukon Drive west of the Natural Sciences Facility. This sign is small with small lettering, yet it is intended to serve RV drivers, many of whom tend to be older visitors with diminishing vision. Visitors may also have difficulty knowing which areas are open for visitor parking. In particular, the Koyukuk Drive and Arctic Health East lots are not clearly signed as visitor parking areas.

In 2001, UAF hired a design consultant to develop a signing and way-finding plan for the campus. Currently, prototype signs are being constructed for testing. However, a comprehensive signage plan has not been completed.

Signage Issues to Consider

A comprehensive signage and way-finding plan would significantly improve circulation and parking conditions at the university by simplifying travel paths to major attractors, clarifying parking designations, and identifying shuttle routes and stop locations. A new sign style is being tested, however the effectiveness could be compromised if there is a lack of consistency in signage throughout campus.

In addition to signage, visitors to campus often need other information, such as what buildings are hosting certain events, locations they can park, and instructions on how to use the shuttle and pathway systems within the campus. Many universities locate a visitors center or special mapping at their main entrances for this purpose. While there are no near-term plans for a visitors center at the new Thompson Drive entrance, there is a planned Visitors Kiosk, which will serve a similar function.

Section 4

Parking System Assessment

Parking System Assessment

The UAF campus is unique with respect to the campus population and parking needs. The campus has a large number of full-time and part-time commuter students, and there are considerable topographic and weather considerations related to parking locations. However, like many university campuses, increasing demand for developable land has forced at least some parking to the perimeter of campus.

The existing conditions analysis revealed that the overall parking supply at UAF is adequate to accommodate existing demand. Figure 6 shows the peak hour utilization at individual parking locations, and also within major activity zones. The current peak hour utilization of 70% shows that the system is not significantly over-built or under-supplied. However, there are some areas that are at capacity, and others that are underutilized. Several large parking areas operating at less than 50% utilization tend to be located farther from major activity zones, requiring shuttle connection or a longer walk. Also, the total available parking is reduced by restrictions to specific users or user groups, or lack of electric plug in capability, which is needed during cold weather. While the overall parking system was only 70% full during the peak hour, the general decal parking areas on West Ridge and Lower Campus are estimated to be effectively full, with utilization of 90% or higher.

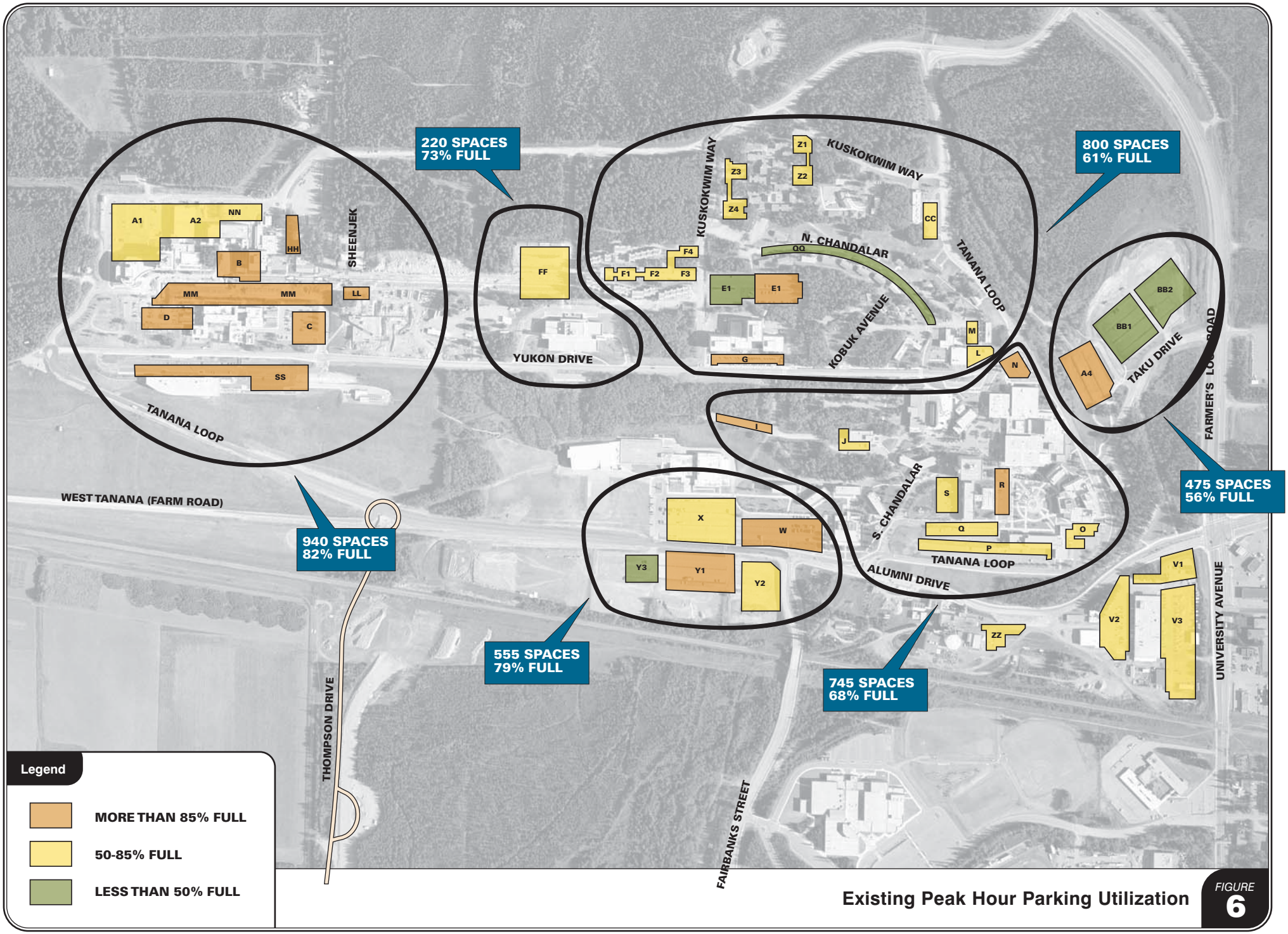
KAI estimated future parking needs based on anticipated growth in the UAF campus population and the effects of anticipated development on parking supply and demand. The population forecast for UAF was provided by the UAF Office of Planning, Analysis and Institutional Research (PAIR), and is summarized in Table 2.

Table 2 UAF Population Forecast

Semester	Employees	Students	Total Population	Change from 2003
Fall 2003	1,888	5,839	7,727	0%
Fall 2005	2,081	6,438	8,519	10%
Fall 2010	2,413	7,463	9,876	28%

As Table 2 shows, the UAF population is expected to increase by approximately 10% in the next two years, and approximately 28% by fall 2010, with a majority of near-term growth expected to occur on West Ridge. Based on current parking rates at UAF, the estimated 28% population growth will correspond to 840 additional parked cars during the peak hour. The distribution of growth throughout campus was determined in consultation with PAIR staff. Most of the increase is expected to occur on West Ridge, as staff and graduate student numbers will grow due to increased research activities. Lower Campus will also experience a large share of the growth, associated with general enrollment increases for undergraduate activity.

The estimate of future peak hour parked vehicles is summarized in Table 3. The table shows existing vehicle counts, the estimated increase associated with 2010 population forecasts, and the total number of peak hour parked vehicles anticipated in 2010. This estimate reflects “raw demand” and does not include the necessary “buffer” of parking supply that is needed to accommodate the peak demand.



Existing Peak Hour Parking Utilization

FIGURE 6

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Table 3 Future (2010) Peak Hour Parking Demand

Location	Share of Growth	Parked Vehicles (Raw Demand)		
		Existing	Increase	2010
West Ridge	40%	815	335	1,150
Residential	15%	450	125	575
Lower Campus	25%	555	210	765
Recreational Area	10%	415	85	500
Natural Science	10%	150	85	235
Ballaine/Taku Lots	0	260	0	260
Peripheral*	0	370	0	370
Total	100%	3,015	840	3,855

* Peripheral areas include the Facilities Services, Administrative Services, and UPark.

As Table 3 shows, parking demand on West Ridge is expected to increase by more than 300 vehicles during the peak hour. On Lower Campus, peak hour parking demand is expected to increase by approximately 210 vehicles. The total parking demand of approximately 3,855 is estimated for the peak hour. While the "raw" parking demand is estimated to be 3,855, the number of spaces to accommodate this demand could range between 4,800 and 5,500 to achieve 80% and 70% utilization, respectively.

Background Parking Supply

The existing parking system has recently been disrupted due to construction activities on West Ridge, resulting in the temporary displacement of 273 spaces and permanent displacement of 222 spaces, primarily from the West Ridge Plaza and behind the Elvey Building. Nearly 300 new parking spaces to serve West Ridge are part of current (summer 2003) construction activities, including an approximately 100 in the new Museum lot. The planned construction activities will result in a net gain of approximately 60 spaces on West Ridge.

In order to evaluate future parking needs, a baseline parking supply was developed assuming all near-term improvements already underway are completed. Table 4 shows the "background parking supply," in comparison to the 2003 existing supply. The background supply includes only those changes that are currently underway on West Ridge. Background supply reflects the parking supply that is known will exist without any additional construction or removal of parking. The background supply is used as a basis of comparison to assist in quantifying the needed changes in parking supply.

As Table 4 shows, the net background parking supply (4,385) for the campus will exceed the estimated 2010 peak hour parked vehicle demand (3,855 from Table 3). While parking on the campus as a whole might be able to accommodate the parking demand, it is not realistic to assume that parking can be managed to completely utilize the entire system throughout the day. For instance, it is unlikely that employees from West Ridge can utilize residential parking in North Campus. In addition, the parking plan must accommodate removal of spaces resulting from new building construction in the future.

Table 4 Background Parking Supply

Location	2003 Existing Supply	Background Supply
West Ridge	940	1,000
Residential	800	800
Lower Campus	750	750
Recreational Area	555	555
Natural Science	220	220
Ballaine/Taku Lots	475	475
Peripheral*	585	585
Total	4,325	4,385
* Peripheral areas include the Facilities Services, Administrative Services, and UPark.		

Potential Removal of Existing Parking Areas

As noted in the 2002 Campus Master Plan, the current UAF parking supply includes many small parking lots that serve adjacent buildings. While they may be convenient for a small group of users, the use of multiple small parking lots tends to lead to overall inefficiency of the system in terms of land dedicated to parking facilities and the ability to achieve efficient utilization.

As buildable land and parking conditions become increasingly constrained, redevelopment of some surface parking areas is anticipated. Redevelopment could occur for several reasons, including improvements to pedestrian conditions, consolidating parking areas, or constructing new buildings. The 2002 Campus Master Plan identified several parking locations to be considered for removal or redevelopment. Several lots were identified under Action A13, to reduce parking in the campus interior. In addition, potential building sites identified in the Campus Master Plan may result in loss of existing parking areas. Future parking development must consider the potential loss of the following existing parking facilities. These locations and the potential stalls that would be removed are shown in Table 5.

As Table 5 shows, the combination of proposed redevelopment of existing parking areas could result in the loss of nearly 500 parking spaces, most of which will occur in Lower Campus, exacerbating existing parking constraints. Removal of these spaces may be warranted to meet other campus goals and objectives, but doing so removes most of the prime parking locations in Lower Campus. Due to the scale of the potential parking loss and the existing parking constraints in Lower Campus, they should not be removed until replacement parking is available.

Table 5 Potential Parking Lot Removals

Lot ID	Location	Reason for Removal	Spaces
Lot L	Next to Whitaker	Master Plan Action A13	28
Lot N	North of Fine Arts	Master Plan Action A13	40
Lot JJ	Wood Center Shuttle Transfer	Master Plan Action A13	8
Lot R	East of Signers' Hall	Master Plan Action A13	44
Lot O	East of Bunnell	Building Site	62
Lot MM	West Ridge Plaza	Master Plan Action A13	130
Lot G	MBS Complex	Master Plan Action A13	53
Lot S	Eielson, West	Building Site	62
Lot I	Haida (north of Patty Center)	Building Site	34
Lot Q	Eielson, South	Building Site	78
Lot P	Bunnell, South (Partial)	Building Site	70
Summary of Potential Parking Removal			
Parking reduction on Lower Campus			426
Parking reduction in Residential Area			53
Total Parking Reduction			479

Parking Supply Strategies

Potential parking supply measures include constructing new parking, relocating existing facilities, and removing or consolidating small parking areas. Two alternative parking supply approaches were examined. A *Supply Emphasis* approach seeks to increase parking supply in proportion to increased demand, making parking convenience a priority and keeping the parking utilization consistent with current levels. In contrast, a *Management Emphasis* approach seeks to increase the effectiveness of parking facilities through various management measures. If successful, the management approach results in increased peak hour parking utilization above the current levels by increasing transit and shuttle accessibility and ridership, changing the parking decal system, and focusing on peripheral parking areas. The CPS recommended the *Management Emphasis* approach because its objectives are most consistent with the Campus Master Plan goals, particularly with respect to parking facility locations.

Parking conditions will change over time as changes occur in campus population, available parking facilities, and circulation options. The parking management plan should be viewed as a "framework" that should be modified over time as conditions and priorities change, and as resources, needs, and opportunities arise.

Parking Management Emphasis

The Parking Management emphasis is aimed at achieving higher utilization of parking facilities through efficient management measures. Under this approach, the parking system would be developed and managed to achieve 85% use of parking in key parking areas and 80% overall use during the peak hour,

compared to the existing 70% peak hour use. In order to successfully implement this approach, the following parking and multi-modal management measures are necessary:

- Electrify most of the existing parking areas to make their use feasible throughout the winter.
- Increase frequency and capacity of the shuttle system.
- Modify parking prices to encourage efficient transportation choices.
- Develop future residential parking in locations that encourage shared use by other campus activities.
- Improve/provide walking facilities between activity zones and parking areas.
- Improve/provide bicycle facilities between activity zones and parking areas, including bike lanes, bicycle lockers, bicycle racks on shuttle.
- Support carpool/vanpool options through coordination of services, reduced parking fees, and/or premium parking locations.
- Coordinate with Fairbanks North Star Borough (FNSB) to develop a joint UAF/FNSB plan for efficient and improved transit service.
- UAF should work with FNSB to develop transit service through and around Tanana Loop instead of a "U-Turn" at Wood Center.

The estimated 2010 parking surpluses and deficits under this approach are summarized in Table 6. Table 6 is based on peak hour utilization of 80%.

Table 6 Future Parking Surpluses/Deficits

Location	2010 Vehicles (Raw Demand)	Target Utilization	Effective Demand (Spaces Needed)	2010 Background Spaces	2010 Background Surplus/ (Deficit)	Potential Removals	Net 2010 Surplus/Deficit (Table 5)
West Ridge	1,150	85%	1,355	1,000	(355)	0	(355)
Residential Area	575	65%	885	800	(85)	55	(140)
Lower Campus	765	80%	955	750	(205)	425	(630)
Recreational Area	500	85%	590	555	(35)	0	(35)
Natural Science	235	85%	275	220	(55)	0	(55)
Ballaine/Taku Lots	260	85%	305	475	170	0	170
Peripheral*	370	85%	435	585	150	0	150
Total	3,855	80%	4,800	4,385	(415)	0	895

* Peripheral areas include the Facilities Services, Administrative Services, and UPark.

As Table 6 shows, in order to achieve 80% peak hour utilization, a net increase of 415 parking spaces would be needed under year 2010 background conditions. The need for new parking supply could be as high as 895 spaces if the parking spaces identified in Table 5 are removed or redeveloped. Future parking demand would have to be accommodated by a combination of new parking spaces and better utilization of existing surplus parking areas. While the table shows the parking demand by area of

campus, a critical aspect of this approach is provision of shuttles and other circulation improvements to better utilize peripheral parking areas.

Future Parking Development: Structures vs. Surface Lots

Developing additional parking facilities will be necessary to accommodate anticipated growth at UAF. Parking structures are frequently identified as the preferred form for parking, particularly when the number of needed stalls is large, or when there are multiple parking lots serving the same area. Structured parking has several benefits. By consolidating parking supply, structures reduce the total land used for parking, and reduce maintenance costs associated with snow removal. With appropriate design, parking structures can also support a more inviting pedestrian environment by providing active ground floor uses and reducing walking distances. Although the benefits of structured parking are significant, construction costs for structured parking are considerably higher than surface parking.

Typically, surface parking lots cost on the order of $2,000 to $5,000 per stall, whereas structured parking can range from $10,000 per stall for the simplest design, to more than $20,000 per stall. Costs can rise considerably when there are unstable soils, which is the case in some Fairbanks locations. In addition, when a surface parking lot is converted to a structure it is important to consider costs in terms of the net change in parking supply, because replacing a 100 stall surface lot with a 400 stall structure provides only 300 new spaces.

Although the construction costs for structured parking are high, many campuses determine that structured parking is a suitable solution to parking needs, especially when a campus has limited buildable land supplies. At UAF, this is especially true on Lower Campus, where both building density and parking demand are high and buildable land is limited. As noted in the Campus Master Plan, opportunities to combine structured parking with other capital development projects is encouraged in order to provide parking along with new academic, service, or administrative buildings. As the supply of parking on Lower Campus is reduced, shuttle service to perimeter parking areas will play an increasingly important role in campus circulation and access.

Parking Facility Location Considerations

Location of parking is a critical element in managing the parking system effectively. Whether parking is provided in structures or surface lots, several considerations can assist in making location decisions.

- Access Transportation Facilities: New parking facilities in the periphery of campus should be located within major roadways (Tanana Loop) in order to limit potential pedestrian crossing issues on Tanana Loop.
- Location of the Parking Demand: parking should be located as close as practicable to the area generating the parking demand.

- Land Requirements: Land requirements can be estimated assuming that parking facilities will occupy approximately 300 to 350 square feet per stall. Parking facility sites can best achieve efficient design where the buildable footprint is at least 200 feet on its shortest side.
- Impacts on Internal Circulation: Parking facilities should not be located in areas where motor vehicles are secondary to pedestrian and bicycle accessibility. A good example is that large parking areas should not access Yukon Drive, given the multi-modal goals for Yukon Drive.
- Ability to Share Parking: As new residential development occurs, parking should be developed in areas that can be shared with other buildings, rather than as accessory parking to specific housing units. The added flexibility of potential shared use parking lots will help to achieve more efficient utilization of parking facilities.
- Enhanced Linkages Between Uses: Where practicable, parking should be located in a manner that increases the cohesiveness of the campus. For instance, on West Ridge, parking should be located generally east of West Ridge and south of the planned Tanana Loop extension. This would facilitate shorter walking distances to the Residential Area or Lower Campus. Conversely, additional parking development on the west side of West Ridge should be avoided because it would further elongate the campus, increasing walk/shuttle/bicycle distances between West Ridge and the east side of campus.

The Campus Master Plan identified four sites for potential structured parking. These sites and the estimated number of levels and spaces are summarized below along with a brief evaluation.

Ballaine Lot, 4 levels, 100 spaces per level, 400 total spaces

This proposed parking would provide a total of 400 spaces. However, the existing Ballaine surface lot has 164 spaces, according to the inventory provided by Parking Services. As such, the net gain in parking would be approximately 235. Based on typical costs of $20,000 per stall, the total price tag for the parking would be $8,000,000. When calculating the cost per *net new space*, the cost would be approximately $34,000 per stall ($8,000,000/235 stalls). This illustrates the importance of looking at net new parking when converting from surface to structured parking.

Nevertheless, the Ballaine Lot provides many potential benefits as a site for a parking structure, including mixed uses of the building, and the concept of providing a pedestrian elevator with pedestrian bridge access to Lower Campus. Vehicle access to the site is good, and proximity to Lower Campus makes it convenient to a high demand area.

Lot west of Bunnell, 2 levels, 40 spaces per level, 80 total spaces

Similar to the Ballaine site, this site would replace significant surface parking so that the net gain in parking is limited. Structured parking at this location may be suitable, especially if combined with building construction at this site.

The provision of 40 spaces per level for structured parking usually results in a large amount of surface area being dedicated to ramping and internal circulation, rather than parking. There may be opportunities to utilize the steep grade to accommodate access and circulation efficiently.

Lot east of Arctic Health, 2 levels, 86 spaces per level, 172 total spaces

There are currently 73 parking spaces in this parking lot. Therefore, the estimated 172 parking spaces would reflect a net gain of just around 100 spaces. If building height is limited to two levels, the potential net gain in parking would significantly increase the per stall cost of a structure at this location.

West Ridge unknown location, 4 levels, 58 spaces per level, 232 total spaces

Similar to the Bunnell site, the estimated 58 spaces per level would likely result in a large proportion of surface area being dedicated to ramping and circulation. Given the high demand for parking in West Ridge, it is recommended that if a suitable site can be identified for structured parking, a larger footprint (200′ by 200′ minimum) be developed, which would provide approximately 100 spaces per level.

Section 5

Non-Motorized Circulation Plan

Non-Motorized Circulation Plan

Pedestrian and bicycle accessibility is the most important element of transportation within the university environment once students are on campus. Good pedestrian and bicycle accessibility is critical since it is not realistic to design a parking and vehicular circulation system that provides every student, visitor and employee with the ability to drive to their destinations. In addition, many students do not own automobiles. Pedestrian accessibility can be broken into the following categories:

- Accessibility between residential buildings and parking areas to educational and support facilities on the campus.
- Accessibility between classroom, administration, and research buildings.
- Accessibility to food service and recreational facilities from residential buildings.
- Accessibility to off-campus activities and destinations.

It is important to provide good accessibility for all of these categories in order for the campus to function efficiently. The analysis of existing conditions revealed that accessibility within defined activity centers is good, while there are significant gaps in the pedestrian system between the major activity centers and parking areas. In addition to the numerous gaps in the system, the topography of the campus can make north/south pedestrian connections difficult. For these reasons, many of the most direct pedestrian routes require that pedestrians share the roadway with motor vehicles, or traverse the steep terrain in undeveloped areas.

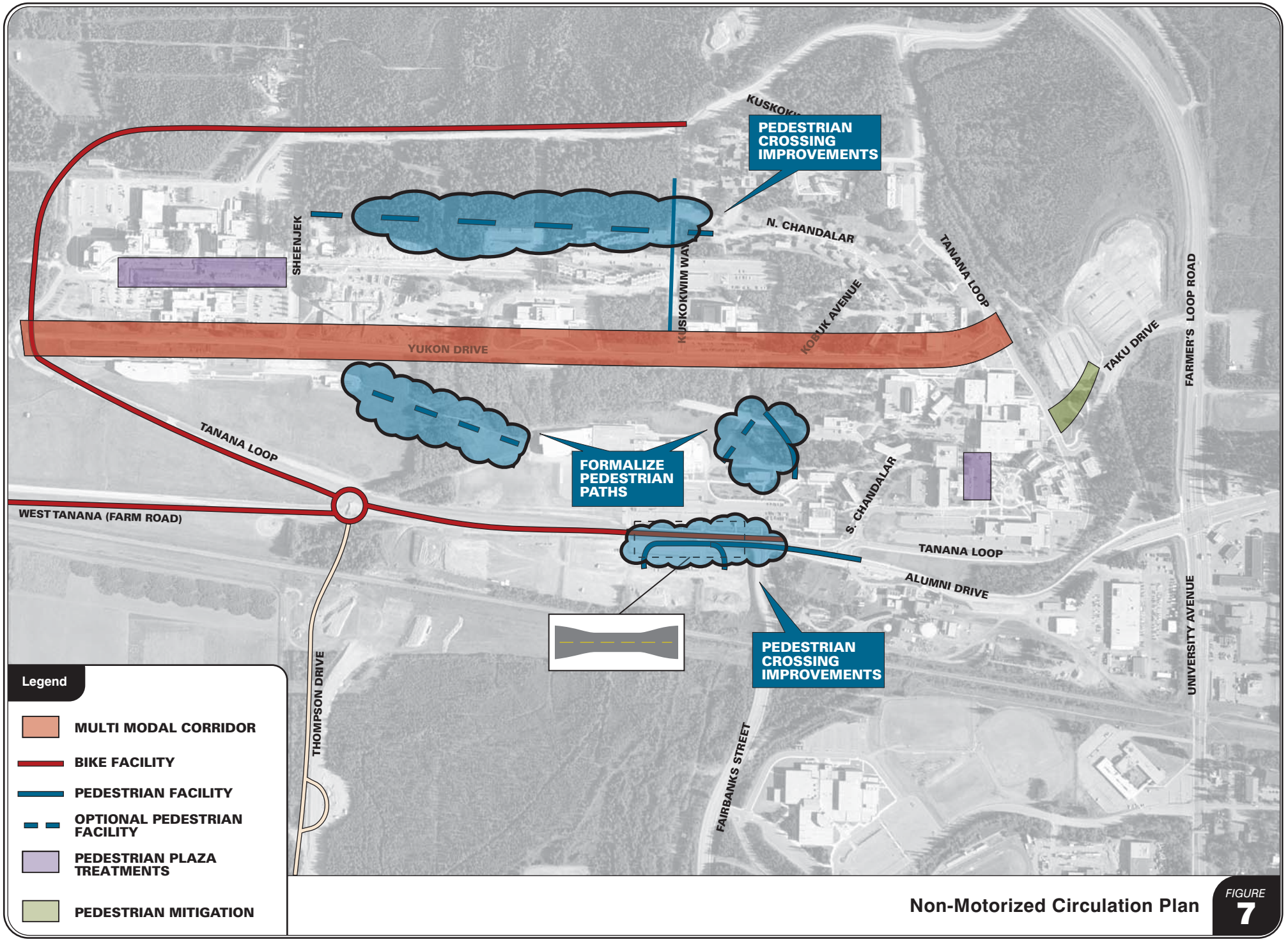
Key Plan Components

The recommended strategies to improve the non-motorized transportation system are depicted graphically in Figure 7. Each of the strategies is described below.

1. Yukon Drive Pedestrian Improvements

Yukon Drive is well-situated to serve as the backbone of the UAF non-motorized circulation system. Bisecting the campus from east to west, Yukon Drive connects West Ridge with Lower Campus and the Residential Area. The planned completion of Tanana Loop on the north side of the campus provides an opportunity to divert automobile traffic away from Yukon Drive. Several design improvements are suggested to occur in conjunction with the Tanana Loop completion. The roadway has been divided into three sections according to the current design characteristics:

Yukon Drive Section 1, the western-most section between Tanana Loop and Sheenjek Way, serves moderate pedestrian volumes and should have continuous sidewalks.



Non-Motorized Circulation Plan

FIGURE 7

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Yukon Drive Section 3 is the eastern-most portion between Kuskokwim Way and Tanana Loop, and currently has the most multi-modal friendly roadway characteristics. It has a narrower pavement width of around 23 feet and a landscape barrier between the roadway and sidewalk. The parking lot in the NE corner of Yukon/Kuskokwim is planned to be removed.

Figures 8, 9, and 10 show design concepts for multi-modal enhancements on each section of Yukon Drive. For each section of the roadway, sketches have been developed showing the plan view and pedestrian view of the improvements. The figures illustrate the following design features:

- Narrow motor vehicle travelways: Drivers tend to drive more slowly on narrow travel lanes. Pavement width should be 20 to 24 feet, which is adequate to provide two-way motor vehicle travel.
- Limited motor vehicle access points: When Tanana Loop is completed, motor vehicle access should be redirected away from Yukon Drive. Wherever possible, motor vehicle access should occur on Tanana Loop, except for shuttle vehicles and emergency/official vehicles.
- Wider sidewalks: The current five-foot sidewalks are narrow for the large volume of pedestrians between the Residential Area and West Ridge. Sidewalk widths of 10 feet would more safely and comfortably accommodate pedestrian demand. Narrow sidewalks may be acceptable on the south side of Yukon Drive where pedestrian demand tends to be lower.
- Bicycle considerations: A parallel path should be constructed alongside sidewalks on Yukon Drive for bicycles. A minimum width of ten feet is recommended. Different pavement surfaces (i.e. asphalt for bicycles and concrete for pedestrians) or striping and signing should be provided to direct bicycles to one side of the path in order to minimize pedestrian and bicycle conflicts. If the majority of traffic can be diverted from Yukon Drive, and remaining traffic is effectively slowed, shared use of the travel lane by bicycles would be appropriate.
- Landscape buffer: A landscape buffer is recommended between sidewalks (or multi-use paths) and motor vehicle travel ways, especially in high pedestrian areas, and according to where land is available. This is shown on the north side of the road.
- Major and minor pedestrian nodes that can be anchored with benches, informational kiosks, or directional signage. The locations shown in Figures 8, 9, and 10 give some indication of approximate locations that may be suitable for UAF.

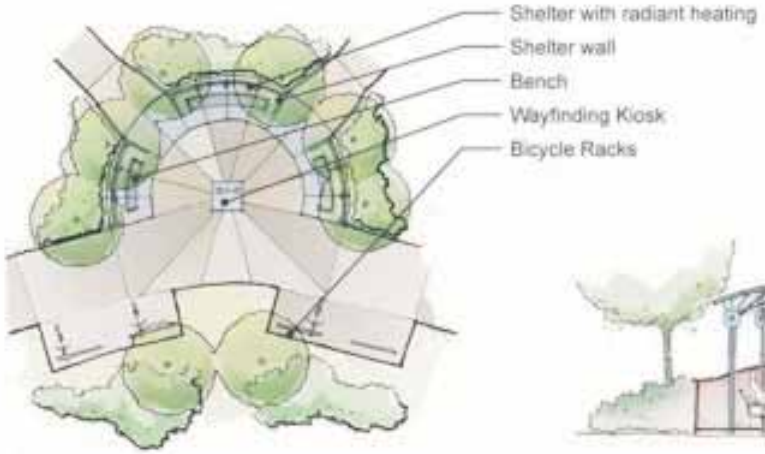
In addition to these roadway design features, other improvements such as lighting enhancements, street furniture, and warm-up shelters for pedestrians and shuttle bus riders should be installed to enhance comfort, security, and safety.

Circulation and Context

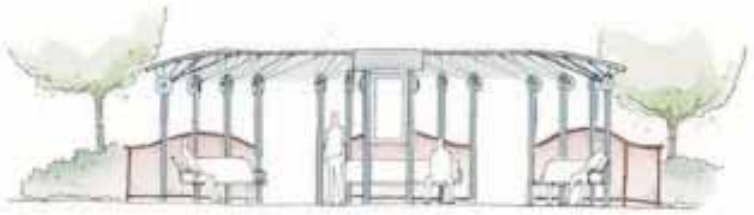
North

Legend

- 10' Sidewalk Detached from Road
- 10' Sidewalk Adjacent to Road
- Connections
- Major Pedestrian Node (Larger Plaza Area, Information Kiosk, Covered Seating, Bicycle Racks)
- Minor Pedestrian Node (Smaller Plaza Area, Seating, Bicycle Racks)



Major Node - Plan



Major Node - Elevation

Yukon Drive Western Area Concept Drawing

FIGURE 8

Yukon Drive Central Area Concept Drawing

FIGURE 9

Legend

- 10' Sidewalk Detached from Road
- 10' Sidewalk Adjacent to Road
- Connections
- Major Pedestrian Node (Larger Plaza Area, Information Kiosk, Covered Seating, Bicycle Racks)
- Minor Pedestrian Node (Smaller Plaza Area, Seating, Bicycle Racks)

Yukon Drive Eastern Area Concept Drawing

FIGURE 10

2. Tanana Loop Completion

The construction of the north section of the Tanana Loop will provide a good opportunity to connect West Ridge, the residential areas and the trail system. Campus Master Plan Action A18 indicates that future roadways should include nearby multi-use lanes to accommodate non-motorized travel. The Tanana Loop completion is one of three roadways specifically identified for multi-use lanes. The cross section shown in preliminary alignment options developed in a separate engineering study indicates 10-foot paved shoulders, which are adequate for bicycle travel. No sidewalk is shown in the figure. The importance and necessity of sidewalk connections will increase as residential development occurs in the area south of Tanana Loop and west of Kuskokwim, as identified in the Campus Master Plan. Depending on the exact locations and orientations of future developments, a separate dedicated pedestrian path south of Tanana Loop may be preferred to sidewalks adjacent to the road. If sidewalks are provided adjacent to Tanana Loop Road, UAF should provide a landscape buffer separating pedestrians from traffic.

3. West Ridge Pedestrian Priority Area

The Campus Master Plan identifies the West Ridge-Koyukuk Drive as a future open space. It is recommended the pedestrian plaza be developed as planned. Limited on-street parking could be considered along Koyukuk Drive for short-term visitors to allow easy accessibility. If allowed, these parking spaces should be restricted to short-term visitors and/or vendors and could be controlled with parking meters. Specific design considerations, including parking, are being addressed separately from this Circulation and Parking Plan process.

Koyukuk Drive provides an excellent opportunity for a pedestrian plaza, while maintaining its role as a primary access way to many West Ridge facilities. While removal of the majority of the parking would improve the area for pedestrians, it is possible to develop an inviting pedestrian area while retaining some parallel or angled parking along the roadway, primarily for short-term visitors. In fact, on-street parking often has the effect of slowing traffic, which enhances the pedestrian environment. In this instance, parallel parking would have the benefit over angled parking of requiring less roadway width. In addition, angled parking tends to be associated with higher collision rates than parallel parking. One general trade-off is the increased difficulty with snow removal caused by on-street parking.

4. Pedestrian/Bicycle Connection Between Student Recreation Center/Nenana Lots and West Ridge

The lack of a formal pedestrian path between West Ridge and SRC/Nenana Lots was one of the most frequently-mentioned pedestrian system deficiencies indicated in the UAF web survey. Aerial photography reveals numerous informal trails between the two locations. These informal trails are slippery and difficult or even dangerous due to the steep slope. While the steep terrain makes construction of the trail problematic, a formalized trail will provide a safer connection then the worn trail students have already created. Recommended mitigations to this gap in bicycle and pedestrian facilities are identified below.

Construct a Dedicated Trail for Pedestrians

Aerial photography reveals an informal pedestrian path through the field between SRC and West Ridge. A dedicated trail should be provided generally along this path for pedestrians. The alignment should be as direct as possible. The trail should be paved and well lit to provide safe access during the winter. The steep grade may make construction costs high, particularly as

needed to meet ADA requirements. However, because demand for this connection is well established, it should be considered a priority among pedestrian improvements.

Provide Bicycle Lanes along Tanana Loop and West Tanana

Currently, bicycles share the travel lanes with motor vehicles on Tanana Loop between the Nenana Lots and West Ridge. Observed peak hour traffic volumes on this section of the Tanana Loop are 380 (335) during the a.m. (p.m.) peak hour, which is higher than normally considered comfortable for shared bicycle/motor vehicle travel. Since the proposed pathway recommended above is not intended to be used by bicycles, on-street bicycle lanes are recommended on Tanana Loop. Dedicated bicycle lanes at least six feet wide should be provided adjacent to Tanana Loop to provide this connection.

Provide Alternative Connectivity Improvements via Shuttle Service

In addition to improving bicycle and pedestrian access between SRC/Nenana Lots and West Ridge, alternative access should be provided, in particular to meet ADA requirements. Provide shuttle service connecting SRC/Nenana Lots to West Ridge to supplement the dedicated pedestrian path and Tanana Loop bicycle lanes.

5. Pedestrian Connection from Lower Tanana Loop to Yukon Drive and the Residential Area

Currently a covered pedestrian stairway is provided across from the MBS Complex. The covered stairway quickly becomes uncovered stairs down to Ambler Lane, at which point students either follow the roadway east toward Lower Campus or take an informal route down the hillside toward the Patty Center. The route down the hillside is signed as dangerous, but a well-worn path demonstrates the high demand for a safe and formal pathway in this area between two priority locations. In addition, the steep terrain poses safety liability issues for UAF.

Given the high amount of use, the existing pedestrian walkway down to Ambler Lane should be covered. In addition, provide a formal pedestrian facility extending the stairway from the MBS Complex to the Patty Center, as the pedestrian trails reveal this is the path that students will take. Earlier cost estimates developed for UAF indicate that constructing such a stairway would cost on the order of $750,000 to $800,000 in order to meet ADA requirements. While this cost is considerable, it would provide an essential link in the pedestrian system with significant connectivity, convenience, and safety benefits.

6. Sidewalk Connection on Kuskokwim Way Between Yukon Drive and Hess Village

Field observations verified by survey comments identified a deficiency in the pedestrian system on Kuskokwim Way. Currently, pedestrians utilize the roadway to access the residential areas and parking lot, as sidewalks are not provided on either side of the road. Kuskokwim Way is unpaved in this section and pedestrians have expressed concerns with the dust churned up by the vehicles in the summer. In addition, the access to the parking lot is poor and the western half of the Moore Upper parking lot was approximately 20% occupied during the peak hour, while the eastern half, which has a protected

pedestrian connection to the dormitories, was nearly 100% full. This illustrates the interrelationship between the pedestrian system and efficient use of parking facilities.

Based on the concerns expressed in the survey, it is recommended that a formal dedicated walkway be provided on Kuskokwim Way between North Chandalar and Yukon Drive. It could be constructed separately or in conjunction with paving Kuskokwim Way. The walkway should also connect to the MBS parking area to provide a continuous pedestrian connection from the parking lot to Yukon Drive. The walkway would provide a safe and convenient path for pedestrians accessing the parking lot and residential areas. With the addition of a formal walkway for pedestrians, it is likely that parking lot use could be increased.

7. North Chandalar Extension

The Campus Master Plan identifies the potential extension of North Chandalar to connect to Kuskokwim Way. This is included in the motor vehicle portion of this plan and is extended to connect to the roadway north of the Natural Science Building and further to Sheenjek Way. Issues of safety and liability may limit this extension as a motor vehicle route. However, whether or not motor vehicle access is allowed, North Chandalar should be extended as a pedestrian/bicycle route, especially as development occurs west of Kuskokwim.

8. Pedestrian Crossing at Nenana Lots

Pedestrian crossing conflicts were identified on Tanana Loop north of the Nenana Lots. Tanana Loop carries high traffic volumes at this location, and pedestrians are unprotected when crossing from the parking lot to the campus. The problem is exacerbated by the fact that peak arrivals at the parking lot coincide with the peak traffic volume on Tanana Loop.

With the closure of Fairbanks Street, the major left-turning movement from this intersection will be shifted from using Tanana Loop along Nenana Lots to using Thompson Drive and bypassing the Nenana Lots, which will reduce the potential for pedestrian/vehicle conflicts to some degree. The following measures are recommended for implementation to improve conditions further.

Use the Nenana Parking Lots for Long-Term Economy and Residential Parking

By using parking management strategies, more long-term parking could be located in the Nenana Lots, which will reduce the pedestrian crossings during the mid-day. This option is discussed in conjunction with parking system recommendations outlined further in this Plan.

Reduce Roadway Width at Pedestrian Crossing

Reducing the roadway width through the used of curb extensions would have a traffic calming effect by "necking" down the roadway to reduce travel speeds and highlight the presence of pedestrians to drivers. In addition, it would shorten the crossing distance for pedestrians. The specific design would have to take into consideration snow removal issues.

Pedestrian Diversion

After Fairbanks Street is closed, improved sidewalks from the Nenana Lots to the east on the south side of the street could provide the opportunity for some pedestrians to walk eastward and cross at the all-way stop intersection at South Chandalar. This intersection is characterized by unconventional alignment and confusing channelization, as will be discussed in the motor

vehicle section of this Plan. Nevertheless, motor vehicle traffic is stopped at all approaches, providing protected crossing for pedestrians.

9. Pedestrian Conflicts with Vehicles in Front of Signers' Hall

There is currently parking in front of Signers' Hall. During the data collection for this study, the parking was only allowed on the west side due to construction activities. Members of the Circulation and Parking Subcommittee, and the Campus Master Plan committee expressed concerns about pedestrian/vehicle conflicts in the parking lot in front of Signers' Hall. High pedestrian volumes were noted during field observations, particularly pedestrians crossing from Bunnell toward the Rasmuson Library and Wood Center. When construction is finished and the construction fences are removed to allow pedestrian passage through the Campus Quad area, these pedestrians will be better accommodated.

Given this is one of the highest volume pedestrian areas on campus and volumes are expected to increase in the future, the majority of this parking lot should be removed. Limited visitor parking could be provided directly adjacent to Signers' Hall. Additional replacement visitor parking can be provided in Eielson South, which is discussed in the parking section of this Plan.

10. Pedestrian Crossing and Pedestrian Path on Taku Drive at Tanana Loop

The existing Tanana Loop/Taku Drive intersection is characterized by a steep grade on the east leg of Taku Drive, a skewed intersection, and poor sight distance due to curvature of Taku Drive. Vehicles on Taku Drive do not have to stop before going through the intersection. This is appropriate due to the steep grade and frequent icy condition of the roadway. However, there is limited visibility of pedestrians at the Tanana Loop intersection. A number of options were considered which are described below:

Option 1: Close Taku Drive to Through Traffic – Recommended Option

Closing Taku Drive to through traffic would sharply reduce the traffic using this intersection, thus reducing the number of possible pedestrian conflicts. Access could still be made available to shuttles and emergency vehicles, but would eliminate all traffic not related to the parking lot on Taku Drive. This option is discussed in the motor vehicle section of this Plan. A signed crossing at Tanana Loop is also recommended to better alert traffic on Tanana Loop of the pedestrian crossing.

Option 2: Construct Parking Structure With Pedestrian Bridge

Constructing a parking structure on the existing Ballaine Lot was identified in the 2002 Campus Master Plan. The Campus Master Plan shows a parking structure with an elevator connecting to a pedestrian bridge between the structure and Great Hall or Fine Arts Building. The pedestrian bridge would eliminate pedestrian vehicle conflicts, and the elevator would resolve steep pedestrian grade issues. Further, the parking structure may be a desired component of the long-range parking plan. This is a long-term solution that may be implemented in the future. However, a nearer term solution is required in the interim.

This option is likely not feasible in the near term but may be appropriate in conjunction with long-term campus development plans.

Option 3: Construct a Pedestrian Diversion Guardrail

A pedestrian guardrail could be constructed in the northeast corner of the intersection to divert pedestrians away from Taku Drive before crossing Tanana Loop. This would improve the conflicts at the intersection, but would result in a mid-block pedestrian crossing of Tanana Loop. Care should be taken to ensure that vehicle sight distance is not hindered by the guardrail. This would be a relatively low-cost, low-impact measure that could improve conditions by moving pedestrians away from the critical intersection. This measure should be considered as a temporary, partial mitigation, only if closure of Taku Drive is not implemented, or does not fully mitigate the deficiency.

This option is recommended only if other options are not possible and conflicts worsen.

11. Pedestrian Grade on Taku Drive from Parking Lots

In addition to pedestrian crossing issues, the "serpentine" pedestrian path provided along Taku Drive is steep and slippery during the winter months. Students and faculty have expressed concern over the safety of this path, which connects the parking lot to Tanana Loop and the campus. The following measures are recommended to improve the safety of this connection:

Provide a Covered Path

Covering the pedestrian path would reduce snow and ice accumulation on the path. Even with a covered path, water will drain toward the path and freeze, causing slippery conditions. Consequently, there will be a need for drainage improvements, and regular maintenance will be required even with the cover in place.

Replace the Walkway with Steps

This option is not preferred until covered walkway options have been explored. This option requires the removal of the path, and replacing it with stairs. This measure would reduce the tendency for the path to become slippery. However, snow removal would be more difficult.

Construct a Tunnel or Upgrade the Existing Tunnel

An existing tunnel utilidor connects the Taku Parking Lots to the Great Hall. The use of tunnels can be beneficial given the cold weather environment as long as security can be accommodated. The existing utility tunnel was renovated for structural reasons. Significant additional upgrades would be needed to make the tunnel appropriate for pedestrians. In addition to structural and security concerns, the tunnel connection to the Great Hall raises concerns about high volumes of pedestrian traffic in this building. Given the concerns about the existing tunnel, a new tunnel would likely be needed if it were used for accommodating pedestrians.

This option is recommended for further evaluation as a long-term mitigation.

12. Other Pedestrian Facility Improvements to Consider

Because of the cold-weather environment and steep terrain, pedestrian accessibility is complicated. UAF should consider special design features for future projects. Each of these treatments can be very expensive. As the campus population increases in the long-term future, the value of these improvements may increase, particularly if the campus is to increase emphasis on non-motorized circulation modes and peripheral parking locations. Development activity may present opportunities to install more extensive pedestrian systems.

Some high demand pedestrian areas that would be well served by improved connections include:

- Taku Lot to Lower Campus
- The Bunnel-Duckering-Library "triangle"
- MBS Complex to SRC

Protected pedestrian connections should also be considered for integration with all new buildings in the campus core.

Underground Tunnels

The most prevalent alternative to sidewalks is underground tunnels, which are used to varying degrees at universities in North Dakota, Indiana, Calgary, and Minnesota. Carleton University in Ottawa has all of its approximately 30 buildings attached by underground tunnels. Student parking lots all are located in the campus perimeter, and have easy access to tunnels as well. At Carleton University there is a wall in the tunnels separating underground utilities (including central heating and cables) from the pedestrians. One benefit of the tunnel system is the elimination of standard maintenance vehicles. Maintenance personnel drive golf carts in the tunnels to get to building locations. The tunnel system has also been a considerable access benefit for persons with disabilities.

Tunnels can present safety and security concerns, but are very well received when designed appropriately. In order to minimize safety concerns, sharp corners should be avoided to ensure good visibility; adequate lighting should be installed; and telephones can be provided at regular intervals. The most successful tunnels should be active corridors, which is the best security.

Heated Sidewalks

The University of Idaho in Northern Idaho provides heated sidewalks throughout the central campus. Steam tunnels below ground heat the sidewalks. The heated sidewalks eliminate ice and snow accumulation, improving both comfort and safety for pedestrians. As new buildings are constructed at UAF, the potential for channeling steam or other heating methods for this purpose could be considered.

Covered/Enclosed Walkways

UAF currently has a covered stairwell connecting MBS Complex to Lower Campus, and also to the parking area behind MBS Complex. In addition to providing shelter, the use of covered walkways reduces snow accumulation. An extension of the existing covered walkway to Lower Campus was recommended. Additional use of covered walkways may be appropriate in other

dense pedestrian corridors. While covering walkways is expensive, it is generally lower cost and less maintenance than many other alternatives.

Enclosed walkways at ground level are another option to provide shelter for pedestrians and keeps walkways free of ice. Examples of enclosed walkways can be seen at University of Alaska in Anchorage.

Pedestrian Bridge

Covered pedestrian bridges can help overcome steep grade and cold climate pedestrian barriers such as snow, ice, and wind. The Campus Master Plan identifies a potential parking garage at the existing Ballaine Lot, to be connected to the Library Terrace.

Escalators for Steep Terrain

In addition to cold and icy conditions, pedestrians at UAF face steep terrain. Escalators have been proven in many cold weather environments to be a feasible option. The idea of an escalator on especially steep locations has been identified in previous planning activities on campus. The cost of such a system would be very high, as would maintenance issues regarding moisture and snow/ice accumulation.

13. Other Bicycle Facility Improvements for Consideration

Despite the cold weather, UAF has considerable bicycle use, as evidenced by the number of bicycles observed in the field, comments to the web survey, and census data indicating a nearly 2% mode share for bicycles among commuters in the UAF areas.

Bicycle Parking

Field observations indicate that existing bicycle parking tends to be well utilized, particularly near residential buildings. General estimates of installation costs for several bicycle parking options are summarized below.

- Bike racks: $150 each (parks two bikes)
- Bike lockers: $1,000 each (parks two bikes)
- Bike sheds: $4,500 (fits 10 to 15 bicycles)

Bike Racks on Shuttle

Bike racks on transit vehicles allow bicyclists to utilize the public transportation system to and from campus. While shuttle buses could be equipped with bike racks, it likely that given the size of the campus most bicyclists would choose to ride their bikes on campus. In addition, loading and unloading bikes on the racks increases the shuttle dwell time at stops. However, as parking locations shift toward the perimeter of campus, some drivers choose to ride bicycles rather than use the shuttle for internal campus access.

Many U.S. transit agencies, including FNSB, offer this service to customers. Bicycles are secured on racks mounted to the front of the bus; racks can generally hold two bicycles. The actual type and design of bike rack would vary depending on the size and model of the shuttle.

Section 6

Motor Vehicle Circulation Plan

Motor Vehicle Circulation Plan

The motor vehicle system lays much of the groundwork for the campus circulation system on most universities. This is due in part to the dominance of motor vehicles in mode choice. However, even as emphasis moves toward non-motorized transportation, the motor vehicle system typically represents a substantial infrastructure investment that should be managed to achieve overall connectivity objectives. In most instances, facilities designed primarily for automobiles also serve as travel ways for pedestrians, bicycles, and transit vehicles. For these reasons, an efficient motor vehicle circulation plan can greatly enhance campus circulation for all travel modes.

Key Plan Components

The following motor vehicle system improvements are recommended to address the focus area issues identified in the Motor Vehicle Circulation System Assessment. Figure 11 shows the primary components of the motor vehicle circulation plan.

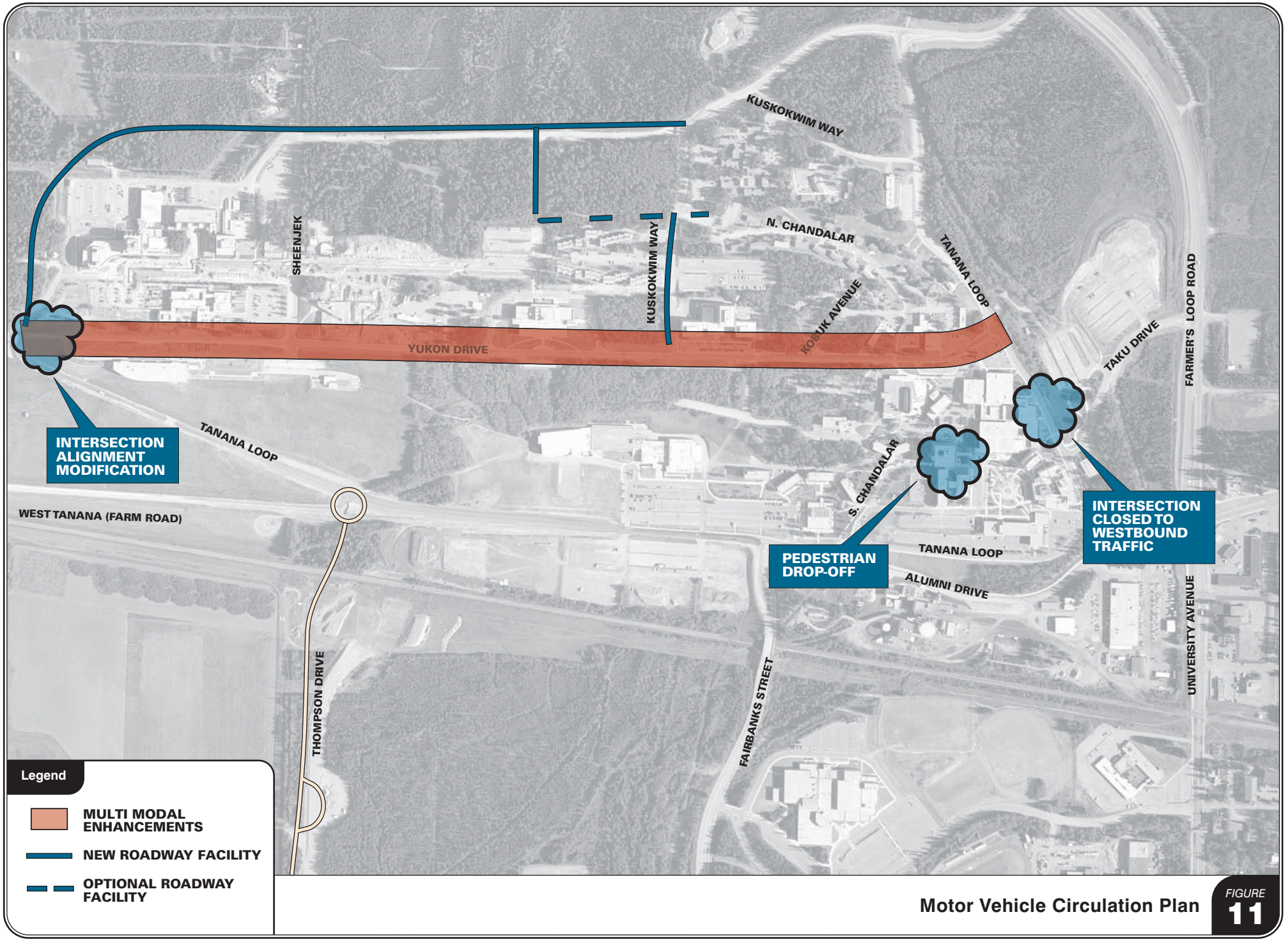
1. Tanana Loop Alignment and Design

The northern Tanana Loop extension project will provide improved circulation to the UAF campus by completing the Tanana Loop around the UAF campus. The northern Tanana Loop extension will increase accessibility to West Ridge and Yukon Drive, provide a multi-modal connection to future campus growth on the north side of campus in the form of parking, buildings, recreational activities, etc., and will reroute a certain percentage of trips for all modes of travel on campus.

Circulation Opportunities of Tanana Loop Extension

The Tanana Loop extension will provide a significant alternative for east-west campus travel, linking West Ridge and the Residential Area of campus. The roadway has the potential to divert substantial motor vehicle traffic from Yukon Drive, which was identified as a key goal of the 2002 Campus Master Plan. The connections of Tanana Loop extension to Sheenjek Way, Kuskokwim Way and a future Natural Sciences Facility roadway will further facilitate this diversion of trips from Yukon Drive to the Tanana Loop extension.

The extent to which completing the Tanana Loop extension impacts circulation will be greatly influenced by many factors, including roadway design characteristics, alignment, and changes to Yukon Drive. Roadway elements to facilitate this goal of increased motor vehicle appeal on this roadway extension would include wider travel lane widths of 12 to 14 feet, higher roadway speeds of 30 to 35 miles per hour, and access to parking facilities. This is consistent with the alignment concept provided by Harding ESE, which is provided as Attachment B.



Motor Vehicle Circulation Plan

FIGURE 11

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

Tanana Loop Alignment Considerations

The alignment of the Tanana Loop extension must take into consideration the general contours of the topography, the planned functional characteristics of the roadway, and the impacts to adjacent lands, including research and recreational activities. Harding ESE developed two alternative alignments for the Tanana Loop Extension (see Attachment B). Future connections to Yukon Drive via Kuskokwim Way, a future Natural Sciences Facility roadway, and Sheenjek Way are possible under either of the options.

The proposed alignments vary slightly at the west end of the roadway extension at West Ridge. One option allows a straighter, more direct east-west alignment, with less curvature and thus a higher design speed of 35 miles per hour. This alignment would also require slightly more land and be farther from the existing West Ridge campus section. The Option B alignment has more roadway curvature and thus a lower design speed of 30 miles per hour. This alignment remains closer to the existing West Ridge portion of campus and may require less land to be impacted.

An important factor to consider when UAF chooses an alignment will pertain to the location of any planned future parking lots or buildings. Constructing campus attractions (i.e. buildings, parking lots, etc.) inside, or south of the Tanana Loop extension, would reduce the need for pedestrian and bicycle to cross Tanana Loop at West Ridge. As stated in the Parking section of this Plan, estimated future parking needs will comprise approximately seven acres of surface area. This amount includes new parking to accommodate growth, and replacement parking from redeveloped existing lots. If the parking is intended to be provided in surface lots, approximately seven acres will be needed for their construction. The roadway alignment selection should allot for this future parking need.

Tanana Loop Cross-Section

The Harding ESE concept includes a proposed cross-section showing 14-foot travel lanes and 10-foot shoulders. The combined 48-foot paved cross section is a relatively conservative design, providing more than adequate travel lane width for motor vehicles. The wide travel lanes could encourage high travel speeds. As a result of the high-speed design, it will be important to limit pedestrian crossings.

The cross section does not identify adjacent sidewalks on the Tanana Loop Extension. When the roadway is completed, a parallel pedestrian facility should be provided. Constructing sidewalks adjacent to and in conjunction with Tanana Loop might have cost advantages depending on roadway drainage requirements. As an alternative, a parallel path south of Tanana Loop may provide a more direct and convenient pedestrian path.

2. Yukon Drive Multi-Modal Enhancements

Yukon Drive serves as the central connector for all modes of travel, carrying high volumes of pedestrian and bicycle travel. Specific multi-modal enhancements suggested in conjunction with the Tanana Loop extension would significantly reduce motor vehicle volumes and travel speeds on Yukon Drive, consistent with the pedestrian priority treatment identified in the Campus Master Plan. These were illustrated in the pedestrian and bicycle system section of this Plan. The intention of the Yukon Drive changes is to divert motor vehicle traffic to Tanana Loop extension when construction of the roadway is complete and to emphasize pedestrian, bicycle, and shuttle service on Yukon Drive.

Figures 8, 9, and 10 in the non-motorized circulation plan showed concept sketches for Yukon Drive that would emphasize non-motorized uses. The concepts include narrower traffic lanes, which tend to reduce travel speeds for motor vehicles. The figures also show continuous sidewalks that would be considerably wider than existing and landscaping buffers between walkways and vehicle traffic.

In addition to the specific enhancements identified for Yukon Drive, future motor vehicle access points should be diverted to Tanana Loop and away from Yukon Drive to the extent practicable. UAF may also want to consider closing a portion of Yukon Drive (for example, between Sheenjek Way and Kuskokwim Way) to through traffic for personal automobiles. This type of restricted access is not recommended at this time, but is common on college campuses and would significantly reduce vehicular conflict points for pedestrians and bicyclists. Should a section of Yukon Drive be closed to private automobile traffic, ensuring safe and convenient access to Tanana Loop could minimize the impacts to vehicular operations.

Bicycles must be accommodated along Yukon Drive. This can be done two ways. The first is to minimize traffic volumes on Yukon such that conflicts between automobiles are minimized. The second option is to construct a parallel path for bicycles that is separate from the sidewalk for pedestrians and not part of the roadway. Given the relatively high volumes and speeds that currently exist on Yukon, a separate path should be considered.

3. Tanana Loop/Westerly Yukon Alignment

In conjunction with the Tanana Loop extension project, the Tanana Loop/western Yukon Drive alignment is expected to be modified consistent with the concept plan developed in a previous engineering study for UAF. According to the concept, the west terminus of Yukon Drive will be moved slightly south to improve the T-shaped intersection geometry. This improvement is necessary and will allow for a clearer line of sight for drivers on Yukon Drive, improving intersection sight distance and overall safety at the intersection for all approaches.

4. Natural Sciences Facility Connection to Tanana Loop

The 2002 UAF Campus Master Plan shows a planned extension of the Natural Sciences Facility access road from the Natural Sciences parking lot north to the future Tanana Loop extension. This extension would likely facilitate circulation between Yukon Drive and Tanana Loop, providing a diversion path for vehicles from Yukon Drive if and when the previously mentioned multimodal improvements to Yukon Drive occur. This extension will again promote vehicle usage on the northern Tanana Loop as described in the Campus Master Plan and would allow greater vehicle access to the Natural Sciences parking lot. For these reasons, this extension is recommended, as shown in the Campus Master Plan.

5. North Chandalar Avenue Extension

The extension of North Chandalar Avenue to Kuskokwim Way, as identified in the Campus Master Plan, would further improve connectivity and circulation in upper campus, which is predominately residential land use. This connection would not substantially impact traffic on Yukon Drive but would

facilitate potential residential development west of Kuskokwim Way and could allow for efficient shuttle service to serve residential uses. UAF may want to consider further extension of this roadway to the Natural Sciences Facility roadway and further to Sheenjek Way, especially in conjunction with residential development in this location. Safety and traffic volume concerns for residents on North Chandalar might preclude this extension in the near term. However, as was indicated in the non-motorized circulation plan, a pedestrian and bicycle extension should be provided.

6. Thompson Drive and Roundabout Intersection at Tanana Loop/West Tanana Loop/Thompson Drive

A new roundabout intersection is under construction in the southwest portion of campus at the new Thompson Drive intersection with Tanana Loop/west Tanana Loop. An analysis of weekday a.m. and p.m. peak hour traffic operations indicates that the roundabout will operate acceptably with 2010 background traffic volumes. With the new entrance at Thompson Drive, considerations should be given to gateway signage treatments and a visitor/information center along Thompson Drive between Geist Road and Tanana Loop.

7. South Chandalar Avenue/Tanana Loop/Alumni Drive Alignment

The intersection of South Chandalar Avenue/Tanana Loop/Alumni Drive (also known as "Malfunction Junction") has existing characteristics that cause this intersection to operate as a compound intersection. This leads to driver confusion, especially for drivers unfamiliar with the intersection. As was discussed in the intersection operations portion of this document, this intersection is operating acceptably and is forecast to continue to do so in the 2010 background scenario. The intersection is well signed and there has been no indication of any previous crash problems at the intersection. Yet in the recent UAF student, faculty and visitor survey, under motor vehicle areas to improve from a driver perspective, the alignment of this intersection was the most commonly identified.

The Campus Master Plan recommended that a roundabout be constructed to replace the existing intersection. Traffic operations under this option, as well as three other alternatives were evaluated. The roundabout option was found to operate adequately. However, while the existing intersection can be confusing and cumbersome, it was found to operate adequately and no history of safety problems was identified. Given the high cost of the mitigations and the numerous other opportunities for circulation investments, no mitigation to this intersection is recommended at this time.

8) Taku Drive/Tanana Loop Intersection Issues

The intersection of Taku Drive and Tanana Loop is located such that the surrounding land topography and grade create intersection sight deficiencies. Taku Drive leading up to Tanana Loop is at a very steep uphill grade. Thus, this vehicular movement from the Taku Drive westbound approach is uncontrolled, allowing vehicles to avoid stopping on the steep grade of Taku Drive. This is key under icy conditions, where vehicles would not be able to easily regain traction to continue forward motion from Taku Drive on the steep grade. The sight distance deficiency for the westbound movement and southbound movement, coupled with pedestrian crossing issues on Tanana Loop near this intersection could result in an unsafe condition under heavy traffic or pedestrian volumes.

It is recommended that Taku Drive west of the extension offices be closed to through traffic other than shuttle buses and emergency vehicles. The closure should not occur prior to the completion of the Tanana Loop extension. An added benefit of such a change is that it would support the shift in traffic to

Tanana Loop and away from Yukon Drive. Traffic analyses indicate that this change could be implemented without significant impacts on the overall system operations.

This traffic change will require education and enforcement to ensure compliance, especially during early phases. If frequent violations become a problem, a mechanized gate could be installed to restrict access to authorized vehicles only. Physical changes to Taku Drive to help communicate its intended operations could include reducing Taku Drive to one lane in the shuttle-bus only areas, or constructing roadway "chokers" or other curb extensions and surface treatments, particularly at the end points of the limited access portions of the roadway. These changes could be implemented in order to clearly communicate a variation in intended roadway usage.

9) Kuskokwim Way from Yukon Drive to North Chandalar

The short unpaved segment of Kuskokwim Way was identified in the recent UAF student, faculty, and visitor web survey as a motor vehicle concern. Concerns at this location mostly relate to dry conditions where dust creates problems for both pedestrians and vehicles from a discomfort and perhaps slight safety perspective. The majority of Kuskokwim Way is paved except for this short segment.

This segment of roadway should be paved and dedicated pedestrian walkways should be provided.

10) Wickersham Hall/Gruening Passenger Drop-off

Drivers frequently use the parking area located near Wickersham Hall and the Gruening Building as a drop-off area. Due to the relative layout of the parking lot, circulation is limited due to dumpster and UAF facilities parking space locations. Options to allow better circulation at this location would include realigning or eliminating strategic parking spaces and relocating the dumpsters out of the relative path of travel. Due to the relatively high volume of pedestrians and motor vehicle traffic, a specific design effort will be needed to minimize conflicts.

UAF Facilities Services parking and dumpsters should be removed from this location to allow more safe and efficient drop-off.

Section 7

Shuttle System Plan

Shuttle System Plan

As UAF grows and parking facilities are shifted to the perimeter of campus, as identified in the Campus Master Plan, reliance on the shuttle system for internal campus circulation will increase significantly. Over time, system improvements, including an expanded fleet, will be needed to provide adequate convenience, safety, and efficiency to support the overall campus circulation and parking system. These changes will be needed as other planned projects are completed, including the completion of Tanana Loop and new residential development west of Kuskokwim Way. However, significant system-wide changes are not anticipated in the life of this Circulation and Parking Plan.

The strategies identified for the UAF shuttle system have been grouped into the following categories: Capacity and Frequency, Service Reliability, and Route Connectivity. A discussion of funding considerations follows these topics.

Capacity and Frequency Considerations

Over the past few years, UAF has seen a steady increase in its shuttle ridership. This trend is expected to continue as the number of students, faculty, and staff increase, and campus construction and university policies limit the availability of parking in close proximity to classrooms and offices. UAF Transportation Services identified as priorities the issues of fleet capacity and the "dwell time" for vehicles during passenger loading and unloading. Many buses are full during peak hours, and the need for passengers to embark and disembark the vehicle using one door lengthens the dwell time. There are several recommendations to mitigate capacity and frequency of service.

1. Increase Fleet Size

The UAF shuttle service plays an important role in connecting activity zones with each other and to major parking areas. As the campus population increases, with simultaneous reductions of parking in the campus core, the need for expanded capacity of the shuttle system will also increase. Capacity deficiencies can significantly reduce quality of service. Especially frustrating for passengers are occasions when shuttles arrive but have no room for additional passengers, which is an issue during class changes. The most direct way to approach increased service frequency is through procurement of additional transit vehicles.

UAF should plan for increased shuttle fleet as population increases and parking shifts toward the campus perimeter. Additional vehicles would ensure frequency of service and/or new route options. It is estimated that with an additional one to three vehicles, UAF could continue to provide service with seven- to ten-minute headways, including adding new service routes or a bi-directional loop route.

Clearly, an increase in fleet size provides opportunities to expand shuttle service, which can in turn lead to increased ridership. Under the current routing system, shuttle service is provided with good frequency and generally good travel times. Increased vehicle fleet could alleviate capacity constraints during the peaks on West Ridge Express. However, the additional capacity is not needed for other time periods.

The expense of additional vehicle procurement coupled with additional operating expenses may not be justified under the existing operating structure and campus layout. However, as UAF grows and parking shifts toward the perimeter of campus, increased shuttle service should be provided to ensure convenient and efficient connections throughout the campus.

2. Vehicle Design Considerations

UAF Transportation Services should continue to incorporate the design considerations to increase vehicle capacity as part of the procurement process.

The capacity of the fleet vehicles is adequate for most conditions. However, as noted above, during class changes shuttles sometimes are full so that students waiting for the shuttle are passed up and must either wait for the next shuttle or forego shuttle service. As future shuttle vehicle procurement occurs, vehicle size and design considerations can increase system capacity. The existing vehicle fleet includes two vehicles that can accommodate 11 passengers, four vehicles that can accommodate 15 passengers, and one bus that can accommodate 33 passengers. Transportation Services staff have been investigating vehicles with "longitudinal seating," with hopes of increasing seating capacity to 20 passengers per vehicle on new buses. There are several other vehicle design considerations that effect vehicle and system capacity. Some considerations are identified below:

> Procure vehicles with a second door to allow passengers to use the back door to disembark the vehicle while boarding passengers use the front door.
>
> Procure larger, low-floor vehicles. Low floor vehicles reduce boarding and alighting time by eliminating the need to go up and down stairs. They also make it easier for disabled passengers.
>
> Increase the seat pitch (the spacing between rows of seats). This allows persons with bulky winter clothing and daypacks to get in and out of their seats more quickly.
>
> Procure buses with longitudinal seating (seats facing the interior of the bus). This provides room at one's feet to store daypacks and provides more floor area for people to maneuver in when boarding and de-boarding.

Options such as dual doors, low-floor design, and seating layout can increase vehicle capacity and reduce dwell times, effectively increasing the overall system capacity. However, trade-offs have to be considered. Dual doors reduce seating capacity, as do increased seating pitch and longitudinal seating. Larger vehicles can increase vehicle capacity, but could negatively impact headways and travel times. Clearly, cost considerations will also be important. As noted above, Transportation Services staff have been investigating longitudinal seating design and are targeting vehicle capacity of 20 passengers for new procurement.

3. Handrails

UAF does not currently allow riders to stand while the shuttle is in motion for safety reasons. The shuttles are not equipped with rails or straps for standees to hold onto. Disallowing standees constrains capacity, and requires more (or larger) vehicles to serve the same number of passengers. Retrofitting vehicles with hand straps and allowing some passengers to stand would increase capacity of existing vehicles. Handrails and wrist straps could also be included as options when procuring new transit vehicles. These are relatively low cost options that can marginally increase vehicle capacity. UAF Transportation Services staff have expressed concerns about safety for standing passengers. Experience

has shown problems in high-speed crashes. However, provided that shuttles maintain low travel speeds, standing with handrails and/or wrist straps should be considered.

4. Service Hour / Seasonal Modifications

UAF plans to increase summer service from one to three buses this year (2003), which should improve service during the summer break. To address staff and faculty needs, the following additional actions are recommended for consideration:

- Begin fixed-route shuttle service at 7:00 a.m., rather than 7:30 a.m. (this could also serve early-rising students who eat breakfast at the Lola Tilly Dining Commons).
- Monitor summer service and expand if needed.
- Expand fixed-route service during winter and spring breaks.

Although a majority of shuttle riders are UAF students, faculty and staff also comprise a sizeable customer market. This group has slightly different, sometimes unmet needs for the shuttle service, which could be accommodated with some tweaking to the existing service schedule.

The Campus Master Plan identified shuttle improvements including increased evening and summer service. This is consistent with survey comments, which identified the need for shuttle service during student breaks, as well as in the morning. Most department offices open at 8:00 a.m., which puts staff on campus between 7:00 and 7:30 each morning. The existing shuttle service begins at 7:30 a.m., which does not provide sufficient time for all staff to get to their offices on time, especially if a transfer is required. Additionally, most offices operate year-round, yet UAF offers limited or no shuttle service during academic breaks. Demand for shuttle service may increase as changes in parking supply and location occur.

Service Reliability Strategies

Service reliability can be a perceived or an actual issue. Lack of actual service reliability could mean buses not adhering to their schedule the majority of the time. Lack of perceived service reliability would include riders that the bus is off schedule, whether this is the case or not. Achieving both actual and perceived service reliability is critical to the success of any transit service.

Recent operating changes of the UAF shuttle system, most notably making the move to professional drivers, appear to have made significant improvements on the perceived reliability of the shuttle system. The web survey included several negative comments about service reliability, but these could be from infrequent riders who have not ridden the service since the switch to professional drivers. Nevertheless, there are several additional measures that could be considered to improve conditions further. These include improvements in shuttle information, as which was identified in the Campus Master Plan for shuttle system improvement.

1. Full-Time Dispatch Personnel

If more than one bus is assigned to a route in the future, faster drivers could catch up to slower drivers, causing bus bunching, particularly when schedules are headway-based, rather than time-point-based. Bus bunching results in increased wait times between buses and less efficient use of the available seat capacity. Even with consistent shuttle drivers, the strongly peaked nature of shuttle demand around class change times would result in dwell time differences that would cause shuttles to catch up to each other.

Currently, a Transportation Services staff person has primary responsibility for dispatching buses and taking calls requesting demand-responsive service. When she is not available, calls are forwarded to one of the shuttle drivers' cell phones. A full-time dispatcher could focus on maintaining shuttle headways and would relieve the drivers of the need to both drive and take requests for service.

Use of a full-time dispatcher could improve headway maintenance and service consistency. However, increased labor costs are an important consideration. Also, a dispatcher would reduce customer service for some cases (e.g., not waiting for late passengers), but improve it for others (e.g., reducing time required to request service). UAF Transportation Services should consider assigning a full-time dispatcher.

A few survey respondents noted a concern with different driver speeds and service standards. These concerns mainly relate to how long drivers would wait in a parking lot for more passengers to arrive before departing. Inconsistency in this area results in passenger uncertainty about day-to-day headways and travel times.

2. Centralize Demand-Response Requests

The *Campus Shuttle* and *Disabled Persons* shuttle operates on an on-call basis during the daytime and all shuttle service operates on an on-call basis in the evenings. Requests are either filtered through Transportation Services or are forwarded to the driver directly. This limits Transportation Services from being able to comprehensively analyze service requests, for example, in planning future service expansion. Maintaining a central log of all requests, as well as shuttle usage and needs over time could assist Transportation Services in analyzing service demand and planning for future service.

UAF Transportation Services should seek ways to expand data collection and analysis of demand-response service to assist in planning for future service. A full-time dispatcher could achieve this task.

3. Phones in Warming Huts

Currently, warming huts at shuttle stop locations provide a phone *number* for demand-response service, but not a phone. Several survey respondents requested a way to contact dispatch from the shuttle stops, especially during evening hours when service is demand-response. Benefits of providing phones include increased rider confidence in reliability and safety. During non-peak periods, it could eliminate unnecessary trips to the Taku and Ballaine lots when no passengers are waiting.

The costs associated with wiring phone service to warming huts could be relatively high, and there would be additional maintenance costs. Another concern raised by Transportation Services was that a phone could be abused or vandalized. Providing a phone with a direct line to dispatch, and no keypad to allow other outgoing calls could mitigate this concern.

It is recommended that installation costs for this option be further investigated, and that if not prohibitive, this option should be implemented.

4. Time-Point Shuttle Scheduling

Time-point based scheduling is recommended whenever service headways exceed 10 minutes. Currently, evening service operates at 15-minute headways and would benefit from time-based scheduling. In general, time-point based schedules are not needed when headways are 10 minutes or less, as the wait for a bus is short. The regular daytime shuttle service currently is intended to operate at 7-10 minute headways.

When service headways are more than 10 minutes, a time-point based schedule improves rider confidence about shuttle arrivals times. This improvement can be provided at relatively low costs. Time-point scheduling requires testing and tweaking to ensure reliable service, and a lack of adherence can reduce riders' perceptions of service reliability.

Route Connectivity Strategies

The current fixed-route shuttle system is oriented toward providing point-to-point connections: either from a specific parking lot to a specific activity center, or between West Ridge and Wood Center. Some pairs of campus activity zones are not directly connected by the shuttle system. For instance, there is no regular fixed-route service to the Residential Area. Instead, this area is served by dial-a-ride service. Service connecting the Residential Area to the Commons during the dinner hour was tried in the past, but was discontinued because it only had two or three passengers per day. Also, there is no regular scheduled service connecting West Ridge to Taku or Nenana parking lots. This was not an issue as long as there was adequate parking in West Ridge. When construction activity forced temporary loss of large parking areas in West Ridge, Transportation Services initiated the We-Nana shuttle connection to the Nenana lots.

In general, the UAF shuttle provides frequent connections where there is demonstrated demand. Survey responses and discussions with Transportation Services staff indicate that the service is well run and well received. Under existing and near term conditions, minor routing changes may be sufficient to optimize the level of shuttle service. Toward this end, a Priority Connection Alternative was developed for future shuttle route changes. Priority connectivity options are summarized below.

Priority Connections Alternative

Each of these potential connections is evaluated below with consideration of their benefits and potential disadvantages as new service connections.

1. West Ridge to Recreation Area/Nenana Lots Connection

UAF recently began temporary We-Nana shuttle service to connect the West Ridge academic and research buildings and the Nenana Parking Lots during West Ridge construction. This service does not have a formal connection to the Recreation Area, though drivers sometimes elect to detour through the SRC parking lot on the request of passengers. More frequently, riders need to get off at one of the Nenana Parking Lots and walk across Tanana Loop. Many survey respondents noted this lack of a direct

connection as a concern, especially for faculty and staff wishing to use the Patty Center during the lunch hour.

This service gap was frequently mentioned in the web survey. The temporary We-Nana service has been provided using the existing vehicle fleet, without reducing the service to another dedicated route. UAF is considering maintaining the We-Nana service after current construction activities in West Ridge are complete.

The temporary We-Nana service should be made permanent. UAF should also consider scheduling regular shuttle stops at SRC, for which significant demand has been identified. This could have the added benefit of reducing pedestrian/vehicle conflicts on Tanana Loop, in addition to providing additional service. Capacity and travel time impacts will have to be evaluated.

2. West Ridge and Lower Campus Connection

A shuttle stop at the Bunnell East parking lot should be given consideration in conjunction with proposed parking removal. However, due to added travel time for additional stops, this may not be an effective measure under the existing route structure.

The Campus Master Plan identified a service goal of providing shuttle connections between West Ridge and Lower Campus within 15 minutes, including waiting time. The current class schedule provides 15 minutes between classes, and some students need to use this time to move between classes on West Ridge and Lower Campus. Currently the West Ridge Express shuttles students back and forth between West Ridge and Wood Center, and students then walk from Wood Center to class. Some academic buildings are adjacent or very close to Wood Center, while others require a 5 to 10 minute walk. Running on 7.5-minute headways during the day, if a student does not catch a bus right away, he or she will be late for their next class. UAF has structured the shuttle service so that buses leave from both ends of the West Ridge Express route at class-change times. Survey respondents commented that this approach appears to be helping.

A new shuttle stop at the existing Bunnel East parking lot (see Figure 16) could be offered instead of or in addition to the existing Wood Center stop, depending on demand. The Bunnell parking lot was identified in the Campus Master Plan for potential removal of parking. As such, it could be a suitable shuttle stop serving Lower Campus. Extending the route would reduce the total travel time for some passengers, due to reduced walking distance. However, longer headways would also result from the longer route.

3. Fixed-Route Service to Residential Area: Future Roadway

This connection should be considered as roadway connections, residential development, and parking facility construction occur near the new Tanana Loop extension. The 2002 Campus Master Plan calls for an extension of North Chandalar way westward to reach Kuskokwim Way. This roadway connection will provide an opportunity for UAF shuttle service to provide convenient and efficient fixed-route service into the residential area. This option may be especially effective as new residential development occurs west of Kuskokwim Way. Future service could loop north to Tanana Loop and back south through the future Natural Science building roadway. This service might also provide convenient connections to future parking lots near the Tanana Loop connection.

Shuttle Funding

The assessment of the funding for the shuttle system showed that most colleges and universities with "prepaid" shuttle service rely on broader revenue sources, including student fees. UAF should consider charging student fees for shuttle service in order to ensure that convenient and reliable service can be provided.

In addition to student fees, some institutions obtain government grants for their shuttle programs. Most government transit funds for university programs similar to UAF are provided directly or indirectly through the Federal Transit Administration (FTA). FTA funds most frequently cover capital costs, but in some cases also include planning, engineering, evaluation and transportation studies. Other programs such as the Job Access and Reverse Commute program can cover operating and promotional costs as well as capital investments.

The FTA may directly provide capital assistance grants to states or local agencies through the Bus and Bus Related Capital Program – as allocated to the City of Fairbanks in 2002. Urbanized Area Formula Grants may also be provided to urbanized areas and states that may then allocate funds for planning, engineering, evaluation, and capital projects to universities in publicly or cooperatively owned and/or operated arrangements. Most programs require a local match, usually at a minimum of 20% of project costs. UAF should work closely with FNSB and DOT&PF to seek out state local, and federal funds to support increased transit service to the campus as well as improved shuttle circulation service.

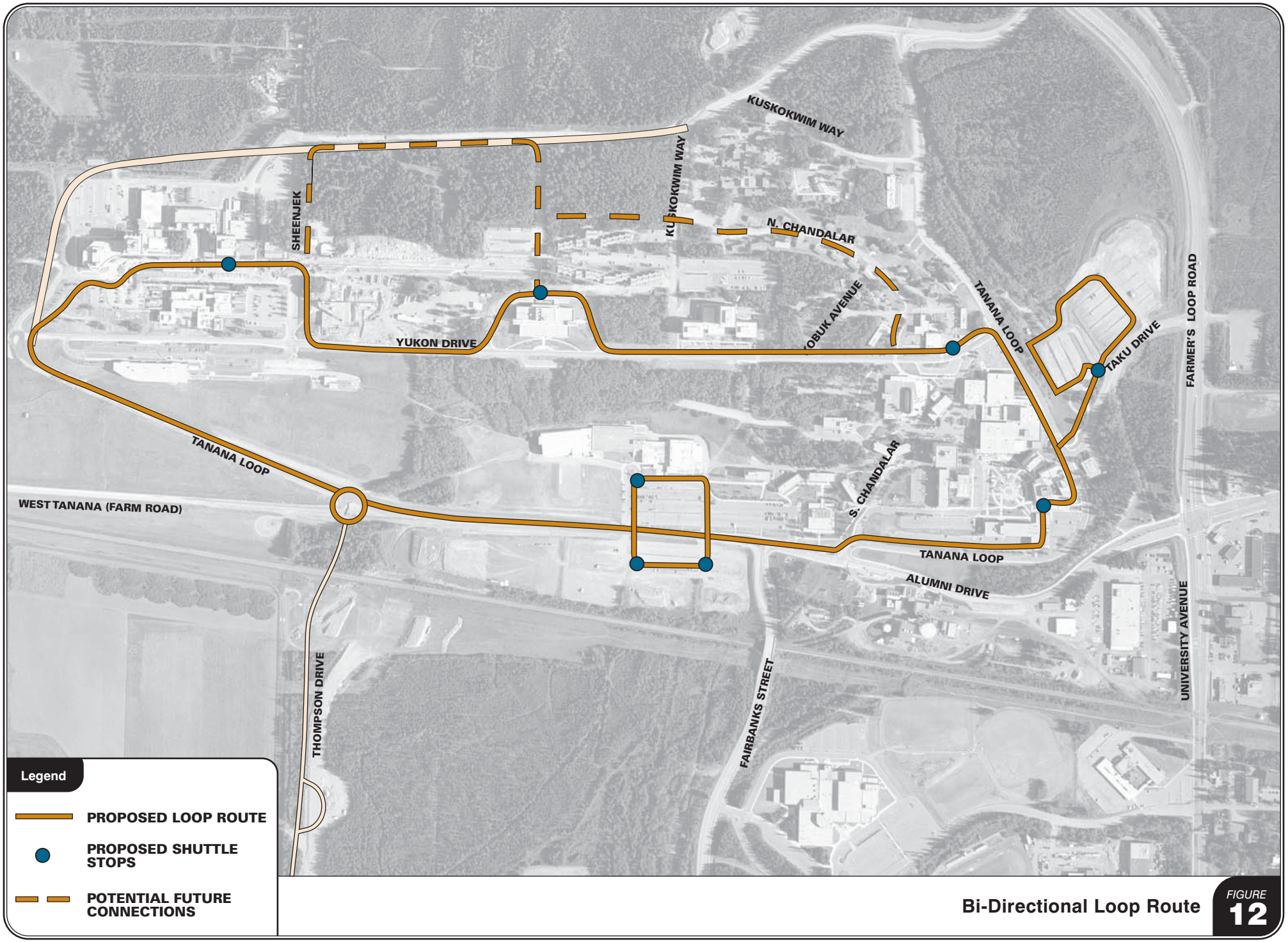
Future Transit Considerations

The UAF transit system currently comprises the shuttle fleet owned and operated by UAF, with linkages to the FNSB transit system. As the Campus Master Plan goal of shifting parking to the campus perimeter is realized, it will be necessary to provide convenient and safe connections between parking areas and the campus core. This will require investments in the shuttle system to increase the shuttle fleet and provide additional services. As the general orientation of campus parking shifts toward the perimeter, and the internal campus becomes less auto-oriented, more significant changes may be warranted, as described below.

Bi-Directional Loop System

The UAF Campus Master Plan identifies a shift in parking toward the perimeter, away from the core, as a priority. As this vision is realized, increased reliance on the shuttle service should be anticipated. In addition, point-to-point service will become more difficult to maintain with more perimeter parking lots. The most direct way to connect all activity zones would be to use a loop service that serves several destinations across campus in addition to the major parking facilities. A bi-directional service (clockwise and counter clockwise routes) would be the most efficient, as it allows passengers the opportunity to choose the shortest route. Consideration of a bi-directional loop route is recommended, particularly as parking shifts to the perimeter.

One disadvantage of such a service is that it gives equal service to all locations without regard to different levels of demand. Nevertheless, as the campus parking system shifts away from the core and toward the perimeter, as personal motor vehicle use is diverted away from Yukon Drive, and as residential development increases west of Kuskokwim, a loop service may prove to be the most efficient route structure for the UAF shuttle service. Figure 12 shows a proposed route for a bi-directional loop route structure.



Bi-Directional Loop Route

FIGURE 12

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TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

As the figure shows, the proposed route includes a new shuttle stop in the current Duckering parking lot east of Bunnell. This stop would replace the existing Nenana stop at Eielson, and is intended to save shuttle travel time.

Total travel time to cover one loop is estimated at between 22 and 25 minutes. UAF shuttle service managers indicated that this estimate is reasonable. If maximum route time of 30 minutes could be maintained, four vehicles could operate the service with 15-minute headways in each direction. Passengers able to take either direction of the loop would have on average 7.5-minute headways. At this frequency, time-based shuttle stops are recommended (i.e., scheduled stops at 15, 30, and 45 minutes after each hour, etc.). If six vehicles could be dedicated to a bi-directional loop route, the service headways would be 10 minutes per direction.

The time requirements to provide service to Taku Lot may be one of the principle challenges to schedule adherence.

Table 7 summarizes a comparison of travel times between major origin-destination pairs. The table shows estimated travel times under the existing system and the bi-directional loop route. Six vehicles providing 10-minute headways were assumed for the loop route.

Table 7 Shuttle System Travel Times Comparison

Connections	Existing	Loop Route
West Ridge – Wood Center	10 to 12 minutes	10 to 12 minutes
West Ridge-Residential	15 to 20 minutes	10 to 12 minutes
West Ridge – Nenana Lots	10 to 12 minutes	10 to 12 minutes
West Ridge – Recreational Area	12 to 15 minutes	10 to 12 minutes
West Ridge - Taku Lots (w/ Transfer)	18 to 22 minutes	13 to 15 minutes
Wood Center – Taku Lots	6 to 8 minutes	8 to 9 minutes
Wood Center - Nenana	10 to 13 minutes	10 to 13 minutes
Wood Center – Recreational Area	14 to 16 minutes	10 to 12 minutes
Lower Campus (Eielson) - Nenana	8 to 10 minutes	9 to 11 minutes
Residential to Recreational	No service	13 to 15 minutes

As Table 7 shows, most connections would see neither a change nor a reduction in travel times. There would be increased service time to the Taku lots. It should be noted that the loop route assumes consolidating some shuttle stops, such as in West Ridge. It is expected that the precise routes and shuttle stops would be tweaked based on experience. It will be critical to maintain 30-minute round-trip travel times in order to sustain 10-minute headways.

UAF operated the shuttle service using a loop route approximately three years ago. There was very low ridership associated primarily with lack of schedule reliability, so this service configuration was discontinued. Recent service improvements may make this service a more viable option than when

previously tried. Also, the service was provided in only one direction, which would tend to increase travel times for many trips.

Public Transit Service

The Fairbanks North Star Borough (FNSB) operates the Red and Blue Lines with stops at Wood Center. FNSB Transit estimates that 40 to 50% of their total ridership is going to or from UAF. This translates to at least 400 to 500 trips per day, which corresponds to parking demand for approximately 200 vehicles. Providing better transit service to the campus could reduce the need for additional parking. UAF staff should work with FNSB Transportation staff to examine how ridership could be increased. One common suggestion from the public input process for the development of this report was to provide later evening and Sunday transit service. Others suggested that new routes be added to serve areas not presently served by the transit system. When the northern portion of Tanana Loop is constructed, perhaps additional transit stops could be provided around the perimeter of campus, to provide direct connections to areas of campus now requiring transfer to a shuttle (e.g., West Ridge).

Fixed Rail Transit Service

Although the system currently is limited to shuttle buses, interest has been expressed in developing a fixed-rail system to enhance campus circulation. The general layout of the campus may be well suited to such a system, potentially providing high-quality connections between east and west ends of Yukon Drive. However, the cost of such systems is probably prohibitive at this time. Future consideration may be worthwhile if technological advances increase the feasibility, or if a significant funding source is identified.

Section 8

Signage and Way-Finding Plan

Signage and Way-Finding Plan

The Campus Master Plan identified a clear and cohesive signage and way-finding system as a needed improvement in the UAF circulation and parking system. This was underscored by comments to the web-based survey, and by members of the Fairbanks community who attended a meeting in April. Those who attended were nearly universal in their frustration with the confusion that they experience when coming to campus for special events or other activities. The absence of clear signage was identified as the primary deficiency of the visitor parking system. This is the case for casual visitors during weekdays as well as special event visitors.

Several specific issues were identified through the above sources, or were observed in the field. For instance, many signs contain more information than drivers can safely read while maintaining prevailing travel speed. Also, the system lacks cohesiveness, characterized by the several different sign styles used to depict the same types of facilities, such as parking lots.

UAF had a signage plan developed by Biesek Design in late 2001. Signs are currently being prepared using the designs put forth as part of that plan. To supplement that work, a conceptual signage plan for UAF has been developed and is shown in Figure 13. The plan shows the following major elements, which are the most relevant to the circulation and parking system:

- A Visitors Center is shown at the future Thompson Drive access.
- Gateway signage is shown at each of the five arrival/departure roadways to the campus.
- Vehicular Direction Signs are shown at major decision points for drivers.
- Parking Lot signs are shown at major parking areas. These are especially important at visitor parking locations.
- Trail head signs are included.

Other signage and way-finding plan elements include Trailblazer signs, which direct people from key locations in the community (e.g. the airport), building identification signs, and internal building circulation signs.

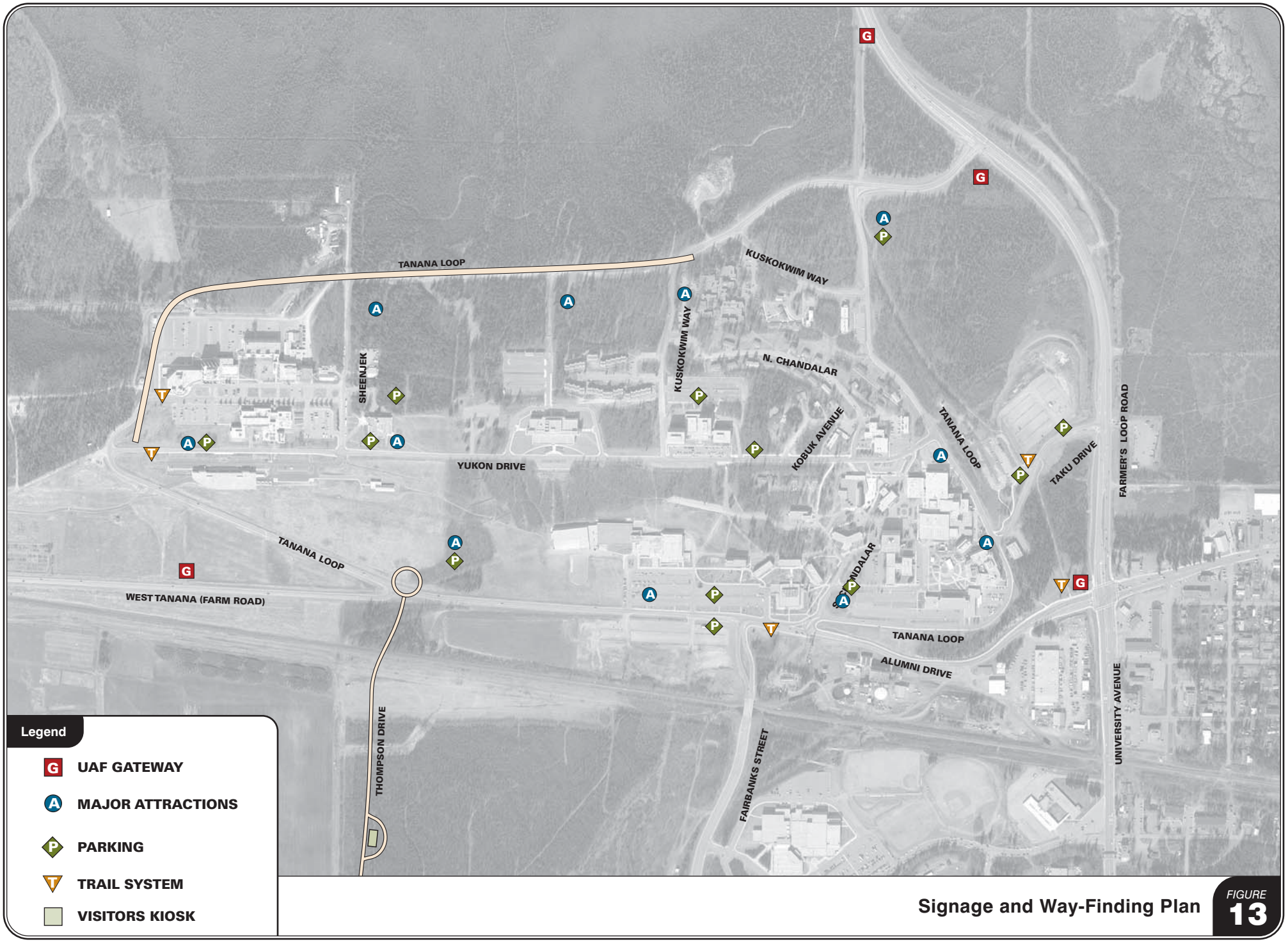
The signage plan should also include pedestrian directional signage and information kiosks. These are not identified in Figure 14 but should be included on major pedestrian routes or at locations where pedestrians change modes (shuttle stops or parking lots). Pedestrian information signage was incorporated in the Yukon Drive concepts in Figures 8, 9, and 10.

UAF should adopt and implement a uniform signage style for a comprehensive signage and way-finding system. Signage for parking should incorporate color-coding that identifies staff, student, economy, and visitor parking, consistent with the proposed parking management plan.

In general, the priority should be placed on helping visitors to campus. A Visitors Center at the future Thompson Drive access roadway would be convenient for most visitors coming to campus through this main entrance. The following locations are frequent destinations of visitors to campus:

- Fine Arts Complex/Wood Center
- Signers' Hall
- Patty Center/SRC
- West Ridge
- Museum
- Georgeson Botanical Gardens
- US Geological Survey
- Mather Library/DOT&PF library

Wherever possible, *changeable signage* should be provided at frequent event venues that are used for specific, frequently changing events. Examples are SRC/Patty Center, Wood Center, and the Fine Arts Complex.



Signage and Way-Finding Plan

FIGURE 13

Section 9

Parking System Plan

Parking System Plan

The Campus Master Plan identified fundamental changes in the general organization of the campus, with an emphasis on the locations and scale of, and access to, parking supply. In particular, Action A13 increases parking in the perimeter of campus, with subsequent reduced parking in the interior. Several locations for potential parking structures were identified in the Campus Master Plan. The Plan also notes concerns about the inefficiency of several small parking lots and identified several for possible removal.

While the Campus Master Plan recommends measures to consolidate and relocate some of the parking supply, considerable concern has been expressed, especially among UAF employees, about the lack of convenient parking. These concerns were exacerbated by recent construction activities that temporarily reduced the parking supply in West Ridge. While these spaces are planned to be replaced by Fall 2003, increased development activities are expected to focus new growth in parking demand in the West Ridge area.

These issues clearly point to a need for increased parking supply over time. At the same time, the assessment of current conditions revealed some parking areas that are underutilized during the peak demand period. Given these conditions, and the clear direction given in the Campus Master Plan increase parking in the campus perimeter, the future UAF parking system will increasingly have to rely on efficient management, circulation, and access in order to optimize efficiency and convenience to meet parking needs.

The UAF parking system plan includes parking management measures to increase the overall utilization of the parking supply, coupled with preferred locations for future parking facilities.

Parking Management Designations

The major component of most university parking management programs, including UAF, is the parking permit system. Parking permits provide the means to reserve certain parking areas to specific users, to manage premium parking locations for optimal use, and to differentiate parking areas by appropriate pricing.

The UAF parking permit system provides two basic types of parking permits: general decals and gold decals. During the Spring 2003 semester, there were 5,280 general decals sold for a total of 3,114 general parking spaces. Drivers willing to walk, bike, or take the shuttle can easily find parking in the Taku or Nenana Lots. However, drivers who place a premium on close parking could search for parking in nearly any of the 68 parking lots on the UAF campus, depending on which lots are closest to their destinations.

Modifications to the permit system could be implemented in order to better match the preferences and priorities of the users. Those willing to walk or use the shuttle could have a parking permit at a reduced price, whereas those who value convenience could pay additional for closer parking. The reduced price for shuttle service lots would support the Campus Master Plan goal of shifting parking to the perimeter by providing a pricing

incentive to users. Discounted pricing could also be used to get better utilization of existing facilities by making underutilized lots more desirable. Note that the different pricing levels for parking permits should not correspond to a safety or security differential. Safety and security are obligations in all parking areas. Nearly all college and university campuses have designated parking facilities for students, typically preserving the most convenient spaces for staff and faculty. UAF is unusual in that it makes no provision to provide preferential parking locations for faculty and/or staff. This is entirely a campus decision and would not in itself impact the effectiveness of the parking decal program. Instead, the main elements of the program are decal pricing, the amount of available parking, and their locations. If parking areas are made available to the general population, then the price differential between students and staff/faculty should be minimized or eliminated.

Recommended Parking Designations

The following parking permit types are identified to optimize the use of the parking system:

Premium Parking

Premium permits would be a modified version of the current Gold permit and would designate the most convenient parking locations at higher prices than other designations. Most universities would reserve premium parking locations for faculty and staff. This, however, is not necessary if UAF chooses to make premium permits available to the general campus population.

Unlike the current Gold permit system, premium permits would not designate a specific space for an individual user. This practice has led to inefficiency in the current system, with only 50% utilization of the most convenient spaces during the peak hour. Instead, premium permits would be made area-specific and lot-specific where needed. Premium lots could also be made available for long-term (two or more hours) visitor parking with special visitor permits. In general, premium parking lots should be managed to relatively low peak hour utilization of approximately 70% to 80% in order to ensure availability to permit holders.

Premium decals would still be the most expensive, but significantly reduced from the current Gold decal. Pricing in the range of $250 to $400 should be considered, depending on demand and revenue requirements. Parking Services would likely have to tweak the pricing over time, as demand becomes clear.

General Parking

The largest single designation for parking would be general parking. General permits would be priced lower than premium lots, but would not preclude the possibility of walking from parking to many destinations. General parking would be managed to achieve approximately 90% utilization during the peak hour.

It is expected that the pricing of the general permits would be consistent with the current decal pricing. Again, if students and staff/faculty have equal access to general parking areas, the price differential should be minimized or eliminated.

Economy Parking

Economy permits can be an effective means to get the most out of perimeter parking areas. Parking lots that are currently underutilized could be designated economy lots to provide a lower

cost alternative for students on campus that rarely drive their cars or for off-campus students who don't mind parking is a few designated perimeter lots. The economy designation will free up more desirable spaces on-campus for more intensive use and turnover. However, in order for economy lots to be effective, they must be supported by proper infrastructure (plug-ins) and access (shuttle, bike/pedestrian facilities). If plug-ins are not provided, then the economy lots will not adequately serve the students who want to park and leave their cars for extended periods of time. Economy parking should be very low cost, possibly on the order of half the cost of the general permit.

Residential Parking

Residential permits could be offered at a very low cost and would be strictly limited to parking areas at the residential site. This designation is especially appropriate for those residential parking areas that are not well suited to general campus users, such as Hess Village or Columbia Circle. It may be necessary to increase shuttle service to the residential area in order to make this a viable option.

Residents should have the option of getting one of the standard permit designations. However, the residential permit would be issued to encourage resident students/staff to leave their cars at home instead of driving onto campus. Also, residents who do not have adjacent residential parking facilities (such as Wickersham Hall residents) should be provided economy parking at residential rates, if requested.

Visitor Parking

The need to better provide short-term parking was identified in the Campus Master Plan (Action A14), as well as in community meetings. Visitor parking should be provided in close proximity to major attractors. Other than the Museum, most visitor parking may best be operated with short-term parking meters. Designated parking should be provided for the Museum in order to limit the difficulty for visitors. Visitors on official business that need access to general facilities should also be allowed at the approval of the University to obtain a one-day pass which will allow them to utilize the premium or general lots throughout the campus.

Different types of visitors have different needs for parking:

- All-day Visitors: These visitors need to stay all day on-campus and need access to parking while they are on-campus. For these visitors, the University should provide a permit that allows the visitor to park in the general or premium lots.
- General Visitors: These visitors come to campus to visit or meet with students and staff, or use recreational facilities. These stays are usually one hour or two. These visitors will be able to utilize 2-hour parking meters.
- Short-Term Visitors: These visitors need parking for loading and unloading as well as short errands and can often be accommodated by short duration parking meters in select locations. For example, 10- or 30-minute parking meters would accommodate short errands to the Post

Office or UAF parking services, or passenger loading/unloading at large resident halls. These should be available to all users, whether or not they have UAF affiliated decals.

While meters can be an important source of revenue, the main purpose of using meters is to increase parking turnover and aid in enforcement of time limits. Meter rates should be high enough to be a disincentive for the regular campus population to use during classes. Hourly rates of $0.50 may be an appropriate start. For very short term parking, it may be desired to provide a short time stay (10 or 15 minutes) with no charge. The maximum time designation for meters should also be set to a maximum of two hours with some 30-minute meters near high-turnover locations such as the bookstore. Visitors requiring more than two hours should obtain a visitor parking pass for either the premium or general lots.

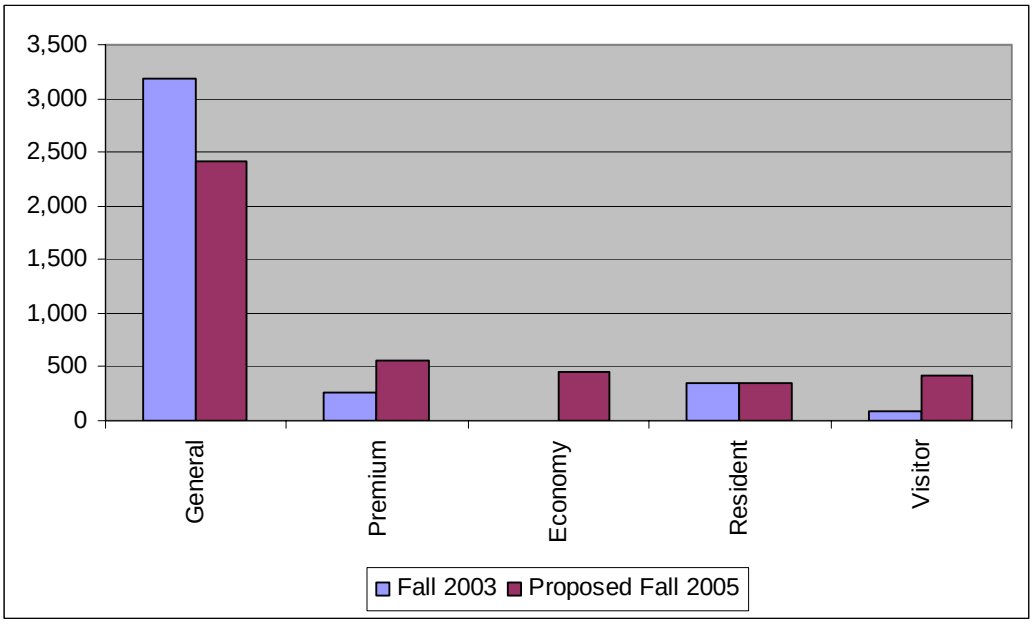
Installing a coordinated signing plan directing visitor traffic to and clearly identifying visitor parking areas is a priority recommendation. A signage concept plan is provided in the signage and way-finding section of this plan.

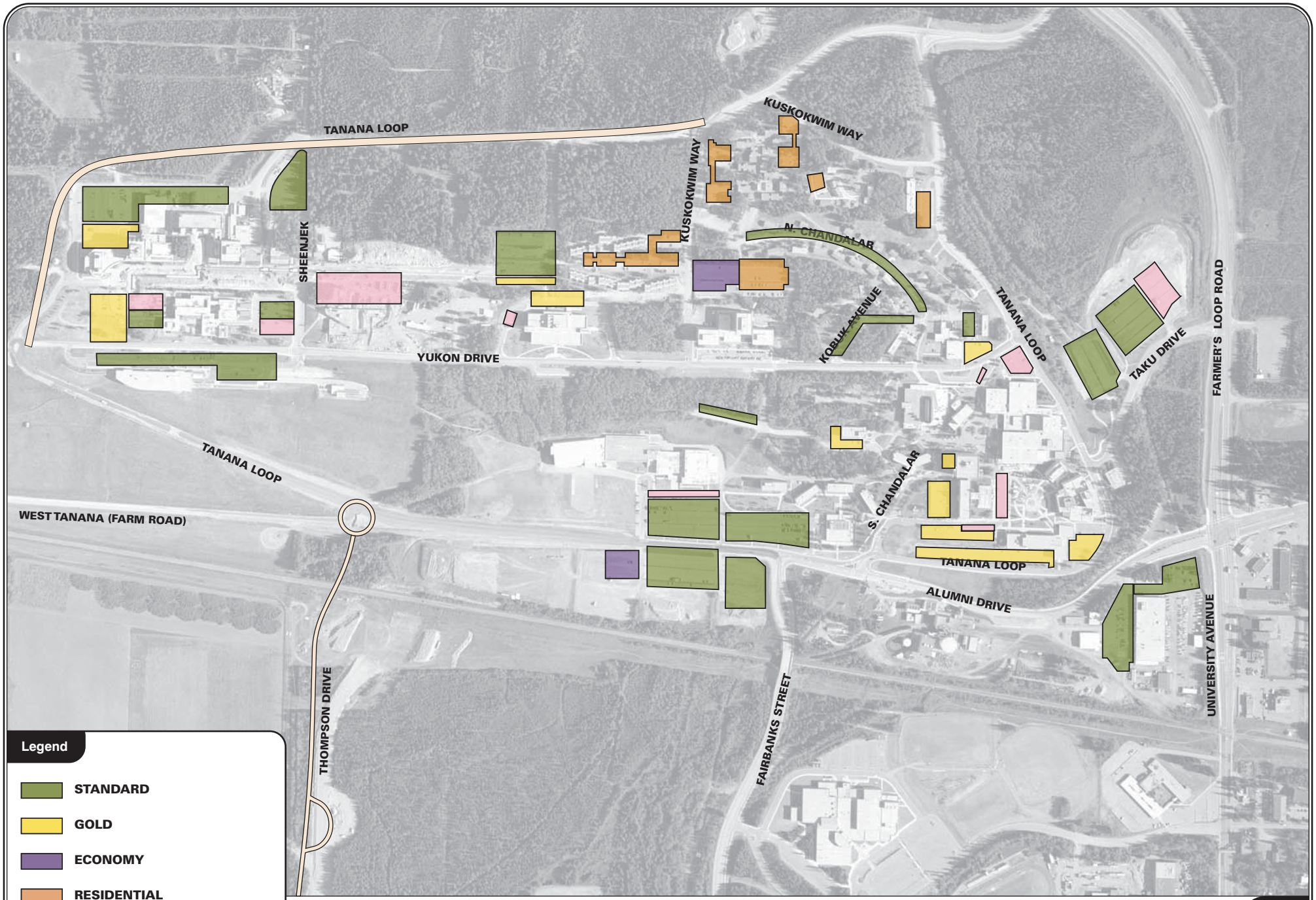
Recommended Near-Term Parking Designations

A proposed near-term parking management plan using the parking designations described above is shown in Figure 14. It is expected that Parking Services would monitor and modify the arrangement of parking designations over time. The plan does not include "nondiscretionary" spaces that are unavailable for general use, such as handicapped, loading zones, facilities services, and authorized vehicle spaces. These will need to be incorporated based on identified legal and operating requirements, and should be determined by facilities and parking managers.

The proposed parking designation plan is summarized in Chart 3 for comparison to the existing parking designations. The chart shows that while general parking would remain the predominant type, there would be increases in the numbers of premium, economy, residential, and visitor spaces. Non-discretionary spaces include handicapped, facilities services, police/fire, and others that will be assigned by parking managers based on specific needs.

Chart 3. Current and Proposed Parking Stall Types





Recommended Near-Term Parking Designations

FIGURE 14

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Additional Parking Management Considerations

Other consideration should be given to special user groups with specific parking needs or other characteristics.

Part-Time Commuter Students

The Campus Master Plan also identifies the need to serve part-time commuter students. Part-time students often arrive on campus after most convenient parking areas are full and tend to have relatively short visits of one to three hours.

One option for serving part-time commuter students would be to require special decals that would allow parking in designated locations not open to the general student population. Meters could be installed with parking rates that are high enough to discourage resident and other full-time students. However, reserving parking for part-time commuters could result in inefficient parking utilization, and allowing them to use metered spaces would reduce availability for visitors.

It is recommended that part-time commuter students work within the existing student parking system with a reduced price for the parking decal, as is currently the case. Access for all user groups on campus should make easy and timely access from parking to campus buildings a priority.

Carpool Parking

UAF currently does not offer reduced parking fees for carpool users. Many campuses and downtowns have found that carpooling can be encouraged by offering reduced fees or premium parking locations. While carpool permits would be expected to comprise a small portion of the overall parking system, they can be an effective incentive to reduce single-occupancy-vehicles.

Community Permits

UAF allows non-UAF affiliated community members to purchase membership to use the SRC facilities. A $20 fee is charged at the time the contract is arranged which allows parking in the Patty Center lot only. There is no renewal requirement for the parking permit. This should be modified to require regular permit renewals and a time limitation for parking should be implemented to ensure commuter students do not park at the Patty Center and Nenana Parking Lots. As an alternative, some metered parking could be used at SRC for infrequent users. With the use of meters, the amount that individuals pay for parking would directly correlate with their use of the facilities.

No Over-Night Parking Areas

Overnight parking restrictions should be considered to discourage residential parking in prime locations. Adequate parking must be provided in other locations, including electric hook-ups, prior to implementing this restriction. The following locations are recommended for the overnight parking restriction:

- SRC and Patty Center lots
- All Lower Campus lots
- Lot G in front of the MBS Complex

Long-Term Parking System Management

Over time, Parking Services will need to monitor parking demand and may need to shift designations, and/or modify supporting shuttle services. Periodic utilization studies should be conducted to evaluate conditions in comparison to the target utilization level for each area. This will provide an objective measure of parking operations, and reduce reliance on user perceptions to identify deficiencies. However, input from users will continue to provide guidance toward modifications in other aspects of the parking system.

In the long-term, site-specific parking permit designations will depend on locations of future parking facilities. Nearly all of the lots identified for premium permits are being considered for removal or redevelopment. These spaces will have to be replaced, either in other convenient locations (likely structured), or in periphery lots with supporting shuttle service. Several of the circulation options identified in this report will have impacts on suitability of parking supply locations and designations. However, future parking should be planned with anticipation of higher reliance on the shuttle system and greater integration with all circulation modes.

Parking Supply Recommendations

Increased efficiency of existing parking facilities is the first priority of the parking system plan. Nevertheless, there will be a need to develop additional parking facilities in the future in order to accommodate anticipated population growth and to replace parking that may be removed for redevelopment. Table 8 summarizes the combination of growth and replacement parking for each of the major activity areas.

The first column identifies the 2010 Background Deficit or Surplus, which is reproduced from Table 6 of the parking assessment. This column identifies the future parking surplus or deficit based on anticipated demand and known changes in supply (primarily in West Ridge). The second column identifies those existing parking lots identified in the Campus Master Plan for potential removal, either due to redevelopment or in keeping with Action A13, to eliminate small lots in the campus core. This column is reproduced from Table 5 of the parking assessment. The 2010 Net Parking Surplus/(Deficit) shows the future parking needs to accommodate both growth in demand as well as replacement of the potentially removed parking lots.

In addition to the future background and net parking supply conditions, Table 8 identifies the total square footage of parking surface needed based on an estimated 350 square feet per parking stall. The table also identifies options for meeting the future deficits. For instance, the 355-space deficit in West Ridge could be accommodated through a combination of new parking in the periphery and increased use of the Nenana Parking Lots, whereas for Lower Commons, forecast parking deficits would need to be accommodated by increased peripheral parking or structured parking.

As shown in Table 8, the combination of anticipated UAF population growth and redevelopment of existing parking facilities would result in a need to build about 900 parking spaces in order to achieve an 80% campus-wide utilization level. This assumes that parking demand is effectively diverted to utilize existing surpluses, especially in the Nenana and Taku Lots. Assuming 350 square feet per stall would be needed, this would be equivalent to approximately 313,000 square feet, or approximately seven acres of parking area.

Table 8 Future Parking Development Required

Location	2010 Background (Deficit)/ Surplus (Table 6)	Potential Parking to be Removed (Table 5)	2010 Net Parking Surplus/ (Deficit)	Maximum Total Square Footage	Parking Development Options
West Ridge	(355)	0	(355)	124,250	Periphery & Nenana Lot
Residential Area	(85)	55	(140)	49,000	Tanana/ Kuskokwim & Hess Commons Lot; Taku & Nenana lots
Lower Campus	(205)	425	(630)	220,500	Structured or Periphery; increased Taku use
Recreational Area	(35)	0	(35)	12,250	Accommodated in Nenana
Natural Science	(55)	0	(55)	19,250	Periphery
Ballaine/Taku Lots	170	0	170	0	Increased use by Lower Campus
Peripheral*	150	0	150	0	Increased use as appropriate
Total	**415**	**480**	**895**	**313,000**	**Mostly Peripheral**

* Peripheral areas include the Facilities Services, Administrative Services, and UPark.

As the required surface area dedicated to parking increases, there will be increased pressure to shift parking to peripheral locations. This is consistent with Campus Master Plan goals and will increase the reliance on effective and efficient campus circulation, especially on the shuttle. In addition, it is likely that more consideration will be given to building parking garages in order to reduce total land requirements for parking.

Figure 15 shows potential locations for future parking development along with an estimate of the number of spaces that could be provided. Two categories of potential parking sites are shown. New parking facilities would be independent lots or structures developed specifically for the purpose of parking. In addition, several locations are identified for future parking as components of mixed-use facilities. In particular, the existing Eielson South and Bunnell South lots were identified in the Campus Master Plan as potential future building sites. Their inclusion in Figure 15 represents a recommendation to include at least one level of parking as part of the new building development. Similarly, the Campus Master Plan identified the Ballaine Lot as a potential structured parking facility, which would be developed along with non-parking uses.

In total, the parking sites shown in Figure 15 would accommodate more than 2,000 additional parking spaces. This exceeds the amount identified in Table 8, but they have been identified in order to provide flexibility in planning to ensure that parking development best suits other campus development priorities.

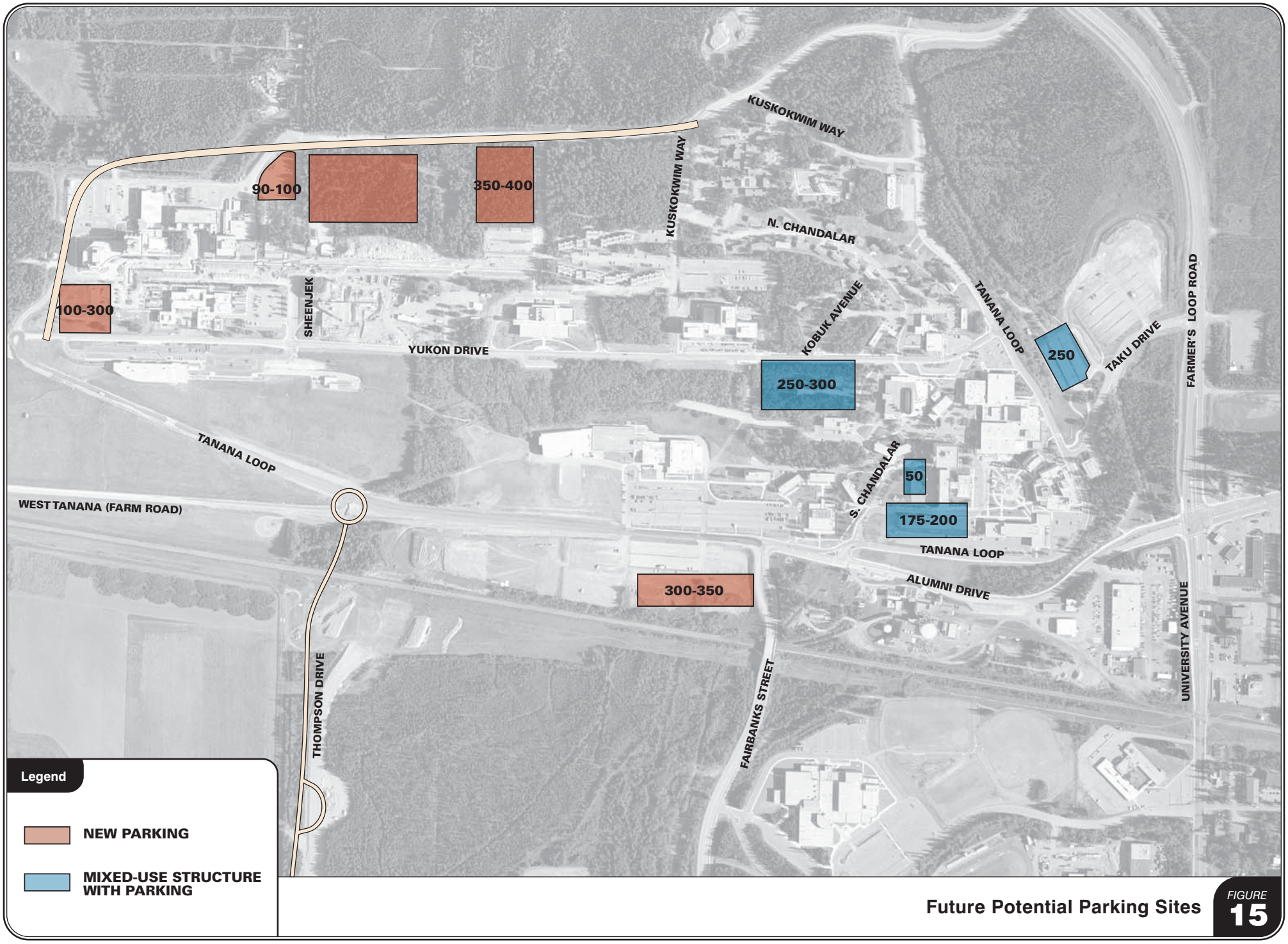
Lower Campus Parking Issues

As the historic campus core, Lower Campus is the location of most general academic and administrative functions at UAF. The numerous small parking lots that have long served Lower Campus were identified in the Campus Master Plan for potential removal. In total, approximately 426 out of the existing 750 spaces could be removed either for future building development or under the Campus Master Plan Action 13.

Generally speaking, UAF should consider the following options with respect to future parking development for Lower Campus:

- Provide parking within structures to serve Lower Campus. These could be provided in parking levels in conjunction with future classroom and administrative buildings.
- Provide all replacement spaces in the campus perimeter (mostly Tanana Loop) with an understanding that some staff and faculty will have a much lower level of service with respect to parking.
- Reconsider some of the proposed parking removals on Lower Campus.

Given that Lower Campus has relatively high parking utilization at present (non-restricted spaces were over 90% utilized in the peak hour), UAF should be proactive in addressing issues related to the potential removal of more than half of the existing parking supply.



Future Potential Parking Sites

FIGURE 15

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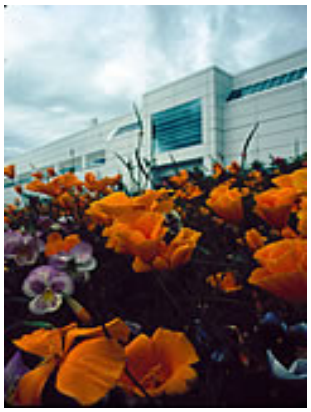
Section 10

Conclusion

Conclusion



The recommendations in this plan form an integrated set of strategies designed to help achieve the transportation goals set forth in the UAF Campus Master Plan. Individual strategies are mutually reinforcing and form a comprehensive program of improvements. The planned Tanana Loop completion is a critical component of the plan, as it will open up opportunities for shifting parking to the perimeter, enhancing the multi-modal environment of Yukon Drive, and simplifying shuttle system routing.

While the strategies will be most effective as a fully integrated system, most of the strategies, implemented independently, will provide considerable benefits that can be enjoyed through every phase of the plan implementation.

Non-Motorized Circulation System

The existing pedestrian and bicycle facilities provide basic access to most areas of campus. Each of the individual improvements recommended begin to close existing gaps and improve safety and connectivity to enhance the multi-modal environment, as set forth in the Campus Master Plan. Considerable improvements in comfort, safety, and convenience for non-motorized travel will be gained through construction of wider sidewalks on Yukon Drive, and pedestrian improvements near the Taku and Nenana parking lots. Similarly, construction of bicycle lanes on Tanana Loop would create a continuous circuit to provide a framework for a campus-wide bicycle network.

Motor Vehicle System

The motor vehicle system is still the dominant mode of access to UAF and a primary means of circulation within campus. The completion of Tanana Loop will significantly alter the internal campus circulation opportunities, including a reduced role for Yukon Drive for motor vehicle travel, as well as intersection alignment improvements at the Tanana Loop/Yukon Drive intersection.

Shuttle System

The existing shuttle system has made considerable gains in service reliability in recent years, followed by increased regular ridership. Service to the Taku/Ballaine and Nenana Lots tends to be frequent and well-received, there are some capacity problems connecting West Ridge to Lower Campus, and certain activity zones do not currently have regular service (e.g., the residential area). Several measures were identified to improve capacity, reliability, and route connectivity. These include the likely need for additional fleet vehicles in order to improve service frequency on certain routes. In general, incremental modifications will be adequate to address gradual changes in population and other activities. However, as parking facilities are shifted toward the campus perimeter, as indicated in the Campus Master Plan, the reliance on the shuttle system is expected to increase dramatically and will likely require a more comprehensive change in the overall route structure. This plan identifies a bi-directional route system for consideration to address this anticipated change in the campus layout. Funding opportunities have also been identified to support continued improvements for the shuttle program. In addition, UAF should work with FNSB Transit to increase ridership on campus.

Parking System

The parking system assessment showed that the overall campus is approximately 76% full during the peak hour. While this is not high enough to be considered "at effective capacity," the analysis, coupled with community input, revealed considerable parking pressures in specific areas, such as West Ridge and Lower Campus. At the same time, there is unused capacity in the Taku, Ballaine, and Nenana lots. The parking permit modifications recommended in this plan were developed to distribute parking demand more evenly by providing options that meet different needs and preferences. Additional parking facilities will be needed to accommodate the growing campus population and to replace parking that is lost to redevelopment or conversion to open space and pedestrian areas. Several potential sites for future parking facilities are identified in this plan.

Long-Term Considerations

While many specific improvements have been identified in this plan, it is flexible by necessity. Many future investments will have to be evaluated based on the opportunities, priorities and specific needs of the time. UAF should anticipate updating the Circulation and Parking Plan as the campus environment changes in relation to population growth, new building development, and additional infrastructure investments.

Section 10

Glossary

Glossary

Bus Bunching – The situation in which a single bus becomes late at stops along a route, causing the headways between buses to decrease.

Demand-Responsive Service – Transit service that is available in response to specific requests, rather than a set schedule or route.

Effective Parking Demand – The number of spaces required to accommodate vehicles, including a buffer for circulation. For example, if the targeted parking occupancy level is 85% full, 100 parking spaces would be the effective demand for 85 vehicles.

Headway – The time interval between two vehicles traveling in the same direction on the same route.

Multi-Modal System – A transportation system that accommodates multiple modes of travel, such as bicycles, pedestrians, transit and vehicles.

One-Way Couplet – A pair of one-way streets that connect at common endpoints to provide access for travel in opposite directions. They are frequently parallel to each other and serve an access function similar to a two-way roadway.

Pedestrian View (Profile) – A graphical rendering from the perspective of a pedestrian.

Plan View – A graphical rendering from a vertical perspective; "bird's eye view".

Roundabout – A type of intersection control with specific design and traffic control features, such as yield control of all entering traffic, channelized approaches, and appropriate geometric curvature to ensure slow travel speeds on the circulatory roadway.

Stop-Controlled Intersection – A form of intersection control that relies on signing and striping to instruct either all or some of the approaches to come to a complete stop before determining whether or not it is safe to enter the intersection. Includes: all-way stop controlled; two-way stop controlled.

Uncontrolled Approach – An approach to a stop-controlled intersection in which there is no traffic control device.

Way-Finding – A system of signing and other directional devices that provide direction to services, facilities, and other destinations.

Appendix A

Additional Public Comments

Additional Public Comments

The following comments were provided in writing after this plan was presented in September 2003. This report was in its final stage when the comments were received. As such, they have been reproduced here verbatim.

I attended the presentation and have read the Circulation and Parking Plan for the University of Alaska Fairbanks (CPP) (8/13/03) and am writing to comment on it. I have been employed by UAF for 26 years with the recent years being on West Ridge with a few earlier years on the lower part of campus. I drive to work and nearly always walk to get around campus, rather than taking the shuttle. I often leave the building in which I work during my lunch break, either for physical exercise or to run errands in town. There are many good points raised by the CPP including the needed pedestrian route between the SRC and West Ridge, more bicycle paths especially along Yukon Drive and wider sidewalks as well as the proposed decal system.

I have also reviewed the West Ridge Plaza design (WRP) done by Wallace, Roberts & Todd (8/12/03). There appear to be several conflicts between the CPP and the WRP. The CPP shows a recommended Gold lot in front of O'Neill Building (Figure 14) whereas the WRP shows a gathering area with picnic tables. Figure 15 shows 200-250 future potential parking spaces west of Sheenjek and north of Koyukuk. The greenhouse, the new USDA Labs and the new Sheenjek parking lot are currently in the area, so there cannot be 200-250 parking spaces there in the future. Figure 15 also indicates 50-75 spaces on what used to be North and South Koyukuk Drives.

The CPP recommends on-street parking on Koyukuk Drive for short-term visitors. I think it is a good idea to have visitor parking which is convenient to the Irving, O'Neill, Elvey, IARC and Arctic Health Research Buildings for short term visitors, but I question if the new road was designed for parking. I am also concerned that with its curves whether there would be a likelihood of collisions between moving and parked vehicles in the winter. I think the CPP has excellent ideas for parking in this area for visitors. It is unfortunate that the utilidor contract was changed before the CPP was finished. The CPP lists the Mather Library as a frequent destination for for visitors but does not list the BioSciences Library in the Arctic Health Research Building. The BioSciences Library is a frequent destination for visitors as it has the most comprehensive collection of medical and biological materials in interior Alaska that is accessible to the public. There has been special reserved parking for Map Office and Mather Library visitors, but people visit the West Ridge for many reasons. With parking becoming increasingly full on the West Ridge there needs to be visitor only spaces that are open to any visitor and located so that they are convenient to the various locations that visitors frequent such as the Irving, O'Neill, Elvey, IARC and Arctic Health Research Building. There also need to be visitors only spaces for people using the UAF trails beginning at the Ski Hut. Were there any comments during the spring survey indicating that Koyukuk Drive is a problem for pedestrians? I know of many people who commented to leave the Koyukuk Drive area the way it was. Did anyone on from West Ridge state that more "green space" was needed in the area? It appears that the subcommittee and consultants chose to ignore these many comments if they were not in accordance with the Master Plan. If it unfortunate that these comments were not mentioned in the CPP, although other comments were.

A deficiency of the CPP is that no mention was made of the Skarland Ski trail which would be crossed by the North Tanana Loop. Any plan of the construction of the North Tanana Loop needs to address this problem and possible solutions. There was little mention of the ski trails in the CPP. It is important that the Skarland trail not be rerouted to accommodate the North Tanana Loop. Students ski on this trail from the Cutler Apartments and Hess Village to get to the West Ridge for classes and research activities.

As pointed out the West Ridge has and will continue to have the largest parking shortage. I believe the best solution to this problem is to make it a priority to construct a parking lot located east of Sheenjek and north of the museum parking lot which is shown on Figure 15. This MUST be done before construction on the Biological and Computational Sciences (BICS) building is started. The BICS building will take away the west AHRB parking lot and I would imagine that the current temporary gravel parking lot west of this lot will be used as a staging area for the construction of the BICS building. The East Sheenjek lot must be built with headbolt outlets and it must have good lighting as well as Sheenjek Drive. This parking lot probably does not need to have all 400-475 parking spaces developed, but should be at least half that size when initally constructed. This would be a solution for the loss of parking places when the BICS building is started, whereas shuttling to the Nenana lot is not, as those lots are at near capacity when it is -40. This parking lot could also serve as overflow parking for the Museum, expecially RV and bus parking as it will not be as full in the summer as during winter.

Thank you.

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Dear Parking and Circulation Subcommittee,

Here are some comments that might be of use, following up on the excellent presentation given by Judith Gray of Kittelson and Associates last week Monday in the Wood Center.

First, thank you for your hard work on these issues, I'm sure that in particular at the present time, where construction and other changes are leaving people somewhat frustrated if not belligerent, focusing on the longer-term vision may be difficult. Nevertheless, I think it is important for UAF to arrive at a modern campus, not just from the perspective of buildings, infrastructure, research and teaching but also from the perspective of how to get from A to B.

In this regard, the point made during the presentation that the parking and circulation solutions arrived at should be such that people have different options with respect to transportation, parking etc. is an excellent one. Overall, the plan as presented looks like it does in fact point to several different approaches that would work very well in concert. The point that I would raise in this context is that such an approach does require a professional, coherent and reliable system of circulation and parking measures. For example, if students have exactly 15 minutes between classes, getting students from West Ridge to Lower Campus requires shuttles leaving exactly at a consistent, widely publicized time at a given location (and furthermore, for some classes this may require more than one shuttle).

Right now, even with an apparently significantly improved shuttle system just the simple fact that clocks on campus are not synchronized in any apparent fashion (at least that's my West Ridge perception, where time as indicated by local clocks appears to be a random variable with a standard deviation of around 5 minutes) makes this somewhat difficult. Having shuttles circulate on a floating schedule or no

schedule at all (but at something like 7 minute intervals) may not be the best option, partly because 7 minutes can easily turn into 14 minutes in winter and partly because that seems to encourage temporal clustering of shuttles.

Another problem that one might want to think about relates to the fact that flexibility, e.g., with respect to parking options, in combination with increased loading of different parking lots may result in increased traffic and obstruction across campus. The current West Ridge situation is a good example. Currently, the scarcity of parking spaces with a small but finite chance of obtaining parking spots in different locations results in cars cruising around looking for parking spots, flittering to and fro from their favourite spots (and on occasion not paying too much attention to other traffic, pedestrians etc.). Parts of the plan as shown during the meeting suggest that this might continue in the future even with construction gone.

A final note on parking relates to "economy" parking. Generally, I think it is a great idea to have different priced parking options, in particular if this allows people to park offsite and shuttle/walk/bike the campus. The one thing, however, that the University owes the community as well as its integrity would be to not encourage people parking without plugging in their car at low temperatures. Not having enough outlets or creating parking lots where people can park out of the way at a lower rate without being able to plug in goes against everything that common sense, University research on carbon monoxide emissions of cold combustion engines and Fairbanks' problems with exceeding federal limits on CO concentrations in wintertime air would dictate.

Concerning foot traffic across campus, it strikes me as important to map existing trails and provide a trail system that does offer the shortest route from and to key locations on campus. Some of the landscaping underway on Koyukuk Drive suggests that more efforts are needed in this regard. There is nothing uglier than seeing foot/mud/dead-grass etc. paths crossing what somebody intended to be a nicely landscaped flower bed/lawn/green belt etc. On top of that, it is a waste of resources to replant and reseed all of these areas year after year.

For the past five years I've seen this on various footpaths between West Ridge and Natural Sciences where well-meaning and well-intentioned efforts to recultivate these paths have not led anywhere but kept a whole bunch of UAF landscaping personnel busy. Why not take the more pragmatic approach of looking at an aerial photograph of campus in early spring after onset of snow melt or even in summer, identify and map the paths and turn those into nice walkways? If the new plan is to encourage more bicycling on campus while at the same time narrowing roads, this should be done in a manner that ensures safety and comfort for both bicyclists and car operators. Right now there are quite a few people (both among cyclists and car drivers) who appear to be somewhat uncertain about how to best share the roadways. Narrowing Yukon Drive, Koyukuk Drive and other spots without providing some means of traffic separation or driver/cyclist education will probably not improve things.

Finally, some areas might benefit from modern, covered bicycle racks. This would be important on lower campus and numerous other spots on campus where current racks are exposed and sport a design that doesn't allow for efficient parking of bicycles. Also, secure, covered parking for cycles would be great in particular at the outlying parking spots so that people could leave a bicycle there overnight, drive in with their car in the morning and then cycle around on campus).

Well, thanks again for all your work on this, I admit to being somewhat frustrated at times with the whole parking situation on campus (and the costs associated with it), but overall I think the master plan process and your work to this point have really pushed us in the right direction!

The parking situation at UAF shows signs of becoming degraded. Part of this is said to be due to the fact that the campus is growing and has limited land area. This is BS. I speculate that a large fraction is that planners are carrying out a political motivation of trying to discourage driving and parking on campus. I base this, for one thing, on the observation that the street in front of the major research Institutes has been turned into an obstacle course, that robbed about 85 parking places. The group designing this is based on the east coast and in California and has no experience with Arctic Conditions. I believe the obstacle course is going to prove disastrous!! Once snow falls and ice fog comes people will be bumping into everything.

As part of my job as Professor, I assume a heated office space, a decent parking place, telephone, lights and a library. Living in Fairbanks where the environmental conditions are often miserable it is not an option to count on public transportation or shuttle buses. We are busy people and need access to our cars. Access to cars has diminished and tickets have increased since this fall. The situation is awful. When it gets cold it is going to be intolerable. Everybody is seething at the research institutes. In my 33 years on campus I've never seen so much anger.

==========

I have been to previous open houses about parking on campus. I am sorry that I wasn't able to come to the forums on Monday, September 29th.

My only regular use of parking space, other than for lectures and performances, is while I am volunteering as a docent at the Museum. We consider ourselves eligible to use the visitor parking. By the time the docent program starts in the fall, the visitors are few, but as there are up to six docents on any morning of the week there is not enough parking for all in the currently designated spaces for Museum visitors. I am not sure they are left open by employees.

As you have assured us that there will be more parking spaces available when the planned changes are complete, it appears that convenience has not been the criteria. All the street parking on the West Ridge appears to have gone. I hope that you are replacing it with spaces in parking lots. You should have made it clear to begin with that one of the aims of the plan was to create parking spaces that could be sold to employees in order to increase revenue. Truth in advertising.

Here is another comment not really related to parking, but to roads. I would like to see a reflective curb/flagging at the west end of Yukon Drive when turning left to go down Tanana Loop. On a winter night after a Museum lecture it is very hard to see exactly where the road is and the shoulder begins. Between faded white and yellow lines and no visible edge to the road, I take that corner very tentatively. Probably not a bad thing anyway.

To whom it may concern:
Having read the UAF 'master plan' and attended the evening meeting on 27 Sept 2003, I have the following comments:

Traffic:(1) I'm glad to see that finishing north Tanana Loop is finally in the works. This ss LONG overdue!

Parking: (2) I find the plan to move parking to the 'perimeter' of UAF very troubling. It shows a LACK of consideration for the people who commute on and off campus, and a FAILURE to appreciate the Fairbanks climate. It's a formula to waste half an hour of my day, every day, for NOTHING. Whoever came up with this gem CLEARLY did not put themselves in the place of those who are going to be affected.

Shuttle: (3) I don't see how ANY one can consider UAF's shuttle system 'effective'. To me it is virtually USELESS at rush hours and class change times. Even setting aside time wastage, the 'perimeter parking' plan is a farce when coupled with the complete inadequacy of the bus system.

(4)Overall, public impact in this process has been essentially zero. I believe that this whole 'plan' has been 'slipped in under the RADAR' on the University community. People had NO chance in the formative stage of this plan, to comment on it. It has been simply presented as an accomplished fact ; what exactly is the logic in putting up comment boards in IARC and IAB when construction is already under way? NONE. It's stupid, unless maybe they're intended as "feel goods" to make people feel as if they're being heard.

The comments were ignored anyway; no responses have been forth coming to them. At NO STAGE in this process have I seen any willingness on the part of the 'planners' to stand up in front of people and face the music. Making no-comments presentations and 'allowing' one-on-one conversations at poster sessions DO NOT COUNT. No public forums for input were held where people could stand up and ask pointed questions, BEFORE work was started. Even now that it's really too late (by design in my opinion), comments are just ignored.

In my opinion this whole plan has been put together by a handful of people who have taken no consideration of those who will have to live with it; they've just said 'this is the way it is, deal with it." Pretty arrogant....

I want to comment on the Circulation and Parking document.

Tables 5,6,8 are inaccurate because they do not identify parking reductions at West Ridge due to the WRRB building and the construction for the utilidor and BICs building. See figures below:

West Arctic Health Research Center added 92 spots non-plugin
Koyukuk Drive - lost 100+ non-plugin
Sheenjek lot adding 73 plug-ins
WRRB Bldg adding about 40 plug-ins
GI lot (WRRB footprint) lost 106 plug-ins
O'Neill lot lost about 30 spots, mostly plugin

With WRRB construction, we have a deficit of about 71 existing parking spots PLUS spots needed for the new staff of WRRB come spring 2004.

Of these total 71 lost spaces, 63 were plugin spots and 8 were non-plugin spots. The Nenana lot is already at capacity when plugins are needed. Taku lot is not yet to capacity, but does it have at least 63 plug-in spots to accommodate the removal of spots at West Ridge?

I hope you will be able to modify tables 5,6 & 8 to accurately reflect the changes to West Ridge parking in the near future for 2003.

Addendum
Please modify my earlier message. I have been told the

WRRB Bldg adding about 40 plug-ins
will take place and

Sheenjek lot adding 73 plug-ins
are in the process of being installed right now.

This changes the number of reduced spots to 31, with 23 of those being plugin and 8 non-plugin spots.

I hope you will be able to modify tables 5,6 & 8 to accurately reflect the changes to West Ridge parking in the near future for 2003.
==========

Hello!

I am an administrative assistant. I work on the first floor at the entrance to Suite 105 of the Butrovich Building on West Ridge.

Many tourists and others, especially in the summer months, ask me where they can find things on campus. To someone unfamiliar with our campus, the Butrovich Building seems like a good place to stop, get oriented and find someone to ask for help. The most requested directions are to the Museum and the Botanical Gardens. I also get requests for the GI Map Office, the Arctic Health Bldg, etc.

I would like to see signage improvements to address visitor questions such as these. Especially for the botanical garden. When visitors on foot ask me for directions to the botanical garden, it is difficult to do because it is not in sight and there are no signs. They can walk from the lookout intersection, but there are no signs.
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It appeared from the plan that there was interest in replacing the assigned space "gold decal" program with a "close to a building of interest premium" program. Lower cost and better utilization was listed as the benefit of this, but an assigned parking space gives me the flexibility to find parking no matter what hours I am working, leave and know I can return to find parking during the day, etc, all of which allows me to be more effective in my work on campus. The $100 I might save with the new premium program is just not worthwhile if it means I have to trudge across campus every day, carrying a laptop, texts, etc, or even once every couple of weeks when the premium spaces around my building were full and I ended

up parking halfway across campus in the last remaining spot.

I believe there is a demand for assigned parking, and that serving that demand is not only in the interest of the individuals paying for gold decals, but in the interest of the university, as it gives people the flexibility to use a vehicle throughout the day in order to accomplish their work. For example, if I know that going to the technology center to make a purchase is likely to mean that I have to park across campus on my return, from where I would then carry my pruchase back to the office, then I probably won't make that trip.

I have read the Circulation and Parking Plan.

The plan seems to be thoughtful and well reasoned. Nevertheless, any plan can be improved. Below are comments on five topics.

(1)
I wish to raise an issue that I do not see anywhere in the document: the discussion of parking addresses daytime use, and overnight use. There is no discussion of parking needs in the evenings. Restriction of regular shuttle service to the prime hours of university operation, which may be logical, does mean that university personnel who work other hours (e.g., evenings) will strongly resist using peripheral parking. I include myself in this group; I normally arrive at the university around 9:30-11:00 am and leave between 6:30 and 10:30 pm, occasionally as late as 1:00 am. On the West Ridge, on any given day some faculty, researchers, and graduate students are on campus late into the evenings.

For people who work these long hours, adding an extra 30-40 minutes for commuting to a peripheral parking lot is a burden. Furthermore, there is no shuttle service after 6:00 pm. (All the talk about 'frequent shuttle service' in the document refers to daytime hours.) Finally, even if we were willing to walk to a peripheral lot in the middle of the winter, it is not safe to do so on steep, slick hillsides that have no walking path, in the dark at subzero temperatures.

Nevertheless, I understand that the university is inevitably going to do something to push people toward the peripheral lots. I recommend that some consideration be given to the question of who is on campus during 'business hours' only. Those are the people who will be least burdened by having to use the peripheral lots, partly because they are here during regular shuttle operations and partly because they are not already spending 10-14 hours working on campus. Note that I do not mention students as a group in this context; many of them, especially graduate students, work long hours and use university offices/libraries/labs in the evenings. Instead, I am thinking of the administrative support staff and others who are on regular work schedules.

Yes, I would certainly be willing to pay a premium for a permit that guaranteed me a parking place near my building. It is that important.

Let's put it this way: if my graduate student found it productive to work at the university in the evenings, I would be willing to use funds from a research grant, that are intended to support student research, to buy her a 'premium parking permit' to enable her to park near her building. This kind of parking access can be directly related to productivity of researchers, both faculty and student (at least some of them), and I think you should make some provision for this reality.

(2)
I do not want to imply that I am unwilling to use the shuttles. I do use them for getting around campus during the day, particularly to attend meetings on Lower Campus (my office and classrooms are on West Ridge). The shuttle works well for me for that purpose and I am grateful for it.

(3)
Who decided to eliminate the 130 parking spaces in the West Ridge plaza? That was a poor decision. It seems to have been done for the benefit of pedestrians (how does this benefit pedestrians? there was not a traffic problem on this road, and there were sidewalks on both sides) and for 'beautification.' Well, I'm sorry, but the place was nice as it was, and it could have been further beautified without removing 130 parking spaces.

I sincerely doubt that it was people who actually WORK on West Ridge who wanted this area turned into a grassy lawn - someone else made this decision on our behalf, as it were, and we are not pleased about it.

(4)
On the same theme, I do not think that a good case was made for removing the small parking lots distributed around Lower Campus. This appears to be someone's idea of 'simplifying' the parking situation for the purpose of 'efficiency.' I do not understand how removing these parking spaces increases any kind of efficiency, other than maybe that of the snowplows, and removing them would obviously tighten the availability of premium parking spaces. Who does this benefit? This is the sort of decision that will appear to be arbitrary and capricious if a better explanation is not offered.

(5)
And yes, as the document states several times, ALL parking spaces should have plugins to qualify for the university's formal parking inventory. During the months from November to March, spaces without plugins are not suitable. It is not good for our cars, and, more important, it is irresponsible of the university to offer parking spaces that contribute to the air pollution problem in the town.

(6)
I disagree that the university should fund shuttle operations in part using student fees. For those students who only need the shuttles to travel between university buildings, and not from buildings to parking lots, use of the shuttles is not optional (except that they could walk, if their schedules permit). The university has been physically structured in such a way as to require them to travel these distances. I think the shuttles should continue to be funded through parking fees (and yes, I pay parking fees).

As discussed in the document, it would be wonderful if the shuttle expenses could be supplemented by some kind of federal funding, either directly or through the city or borough (which was just reclassified as 'urban' for transportation purposes, and thus is - I think - now getting substantially more transportation funds).

I saw a lot of information on pedestrians and bicycles but nothing on the need for cross country ski trails to link the different parts of campus.

Per Circulation and Parking Plan final report, dated August 13, 2003:

8) Taku Drive/Tanana Loop Intersection Issues The intersection of Taku Drive and Tanana Loop is located such that the grade and surrounding land topography create intersection sight deficiencies. Taku Drive west of the Cooperative Extension Service building should be closed to through traffic other than shuttle buses and emergency vehicles. The closure should not occur before the Tanana Loop extension is completed.

Per the Cornerstone this morning:

Taku Drive from Tanana Loop to the Ballaine parking lot will be permanently closed to up-hill traffic, beginning in mid-October. The Taku and Ballaine parking lots will be unaffected by this closure. The shuttle bus route will be modified and the turnaround time between Wood Center and Farmers Loop parking areas will increase by three minutes.

Tanana Loop extension is not complete.

The action contradicts the recommendation.

I just wanted to mention that one of the major problems with parking is the loading zones. I work in the art department and have to unload bags that are 100lbs of plaster, metal, and sometimes projects. The back doors are always blocked by cars because there is not enough loading zones. Paying for parking close by is one option for carrying some of the smaller supplies in, even if it takes several trips. However, larger items and student projects are always difficult to arrange. I'm not sure if anyone considers this but it is a difficulty for the department. Thanks for your consideration on this matter.

Overall the plan looks good, nice work, but a couple comments:

Tiered parking prices: Great idea especially if the economy lots have electricity. A lot without headbolt heaters is all but useless. However, I saw no mention of "after hours" parking - After 5 pm (maybe 5:30) an economy/general permit should be good in any lot. The first year gold permits came into existence they were 24hour permits and the effect was to drive cars out of core parking and lead to vast underutilization of core parking. Don't make the mistake again!

On a local note - the "premium" parking area around the Natural Science Building is way too big. I doubt that more than about 5 "premium" spots are needed, if that. Evidence is that there have been probably less than 10 gold spots in the Natural Science lot since the building has been in existence. Also, why have "general" parking at the northernmost part of the lot? There are ATCO's out there. Why should the ATCO inhabitants get premium parking, right in front of their offices, at a general price?

Good luck on a tough problem.

Dear Committee

I appreciate that people are working to improve UAF as it grows.

Still, it is pretty shocking to realize the final parking/landscaping situation here on the West Ridge. It might help me come to terms with the unfriendliness of the setup, and the lack of access we now have to our buildings if you can tell me how it all came about. I would appreciate learning

1. What did the committee hope to accomplish by eliminating the parking lot immediately south of the O'Neill building, eliminating the on-street parking, creating one one-way road where a 2-way boulevard had existed and served us well?

2. In what city is the landscape architecture an/or engineering firm based which created the plaza plan?

3. Does anyone on the Circulation and Parking plan committee work on the West Ridge?

4. Did the deans and directors working on the West Ridge approve of the changes?

Thanks for your help. This is important!

I agree with the whole Circulation and Parking Plan. I see the move for a more pedestrian friendly campus as a good thing. The shift of parking to the outer perimeters also allows for future building development in the few areas available.

I like Section 9's Recommend Parking Designations. I can only imagine how frustrating it is to students to pull into a parking lot that appears to have many spaces available only to find out they are reserved for Gold Decals. And short of having assigned parking for everyone, staff , faculty, or student, a change is needed to the current permit system.

The Premium Parking will have to be expensive enough that there aren't more users at any one time than spaces available. This might be a tough goal. And the Economy Parking (with all the proper infrastructure) should be inexpensive enough to encourage people to use it. (There should also be a mechanism, especially at implementation if not always, to allow a change from one level to another, i.e. pay the difference pro-rated over 12 months to go from a standard to a premium permit.)

Good job on the plan.