FMATS NON-MOTORIZED TRANSPORTATION PLAN

March 2012

FMATS

INSIDE FRONT COVER

FMATS Non-Motorized Transportation Plan

Prepared for:

Fairbanks Metropolitan Area Transportation System Metropolitan Planning Organization

Adopted May 16, 2012

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CONTENTS

PREFACE

This plan has been guided by a project advisory group made up of agency staff and members of the general public. The four advisory group meetings held over the course of developing this plan have provided a forum to present, discuss, and receive feedback on major issues throughout the development of the project. Feedback from this group has been invaluable to this plan's development. Advisory group members are identified below.

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ADA Issues

Mike Schmetzer
City of Fairbanks

Nancy Hanneman
Area Resident

Rebecca Traylor & Art DeLong
Access Alaska

Roy Earnest
Ester Community Association

Shawn Crites
ADOT&PF, Maintenance

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This is the first non-motorized transportation plan (NMTP) prepared for the Fairbanks Metropolitan Area Transportation System (FMATS) metropolitan planning organization (MPO). A resurgence of interest in non-motorized travel, spurred by desires for better health, transportation options, environmental quality, and access to the area's natural surroundings, provides a strong motivation for completing this plan. Participants at an open house for the FMATS 2035 Metropolitan Transportation Plan update confirmed the community's strong interest in improving non-motorized options when participants rated bicycle and pedestrian system investments as a higher priority than roadway expansion. Moreover, increasing bicycling and walking also reduces traffic congestion, air and noise pollution, and pavement wear.

Blessed with scenic natural surroundings and generally flat or rolling terrain, the Fairbanks area is particularly well-suited to accommodate non-motorized transportation, when the weather cooperates. Many streets in Downtown Fairbanks have sidewalks and short block lengths and short signal cycle lengths further enhance the walkability of the area. The regional shared-use

path system provides cyclists and pedestrians the opportunity to make longer trips through urban and rural areas while separated from motor vehicles.

PLAN VISION

To help the Fairbanks area achieve its pedestrian and bicycle friendly vision, this plan outlines policy, programmatic, and infrastructure improvements to: (1) increase the number of Fairbanks area residents using non-motorized transportation and (2) improve the safety and comfort of those who already do. Full implementation of this plan (not including previously planned projects) will add approximately:

- 4 miles of shared-use paths;
- 8 road-miles[1] of shoulders;
- 10 road-miles of sidewalks;
- Signs and/or pavement markings on 17 miles of lower volume and lower speed roadways; and,
- Improvements at over 14 crossings to improve pedestrian and/or bicyclist comfort and safety.

1 Road-mile refers to the length of road that will be covered by a new facility. It does not differentiate between installations on one side or both sides of the road (e.g. new sidewalk on both sides of one mile of road is two miles of sidewalk, but only one "road-mile").

In addition to these infrastructure improvements, policy and program changes will help to create a more bicycle and pedestrian friendly culture with increased acceptance of these modes as viable forms of transportation and better understanding between motorized and non-motorized travelers.

GOALS AND OBJECTIVES

This plan aims to accomplish a number of goals and objectives. The goals provide discrete components of an improved non-motorized transportation network, that collectively will achieve the region's vision for a pedestrian and bicycle network that provides safe and comfortable transportation options to a wide range of Fairbanks residents and visitors. The five goals are shown below and have been approved by the FMATS Policy Committee.

Each goal is accompanied by specific objectives and performance measures that provide direction to accomplish the plan's goals and a means to assess progress toward these goals. The objectives and performance measures are summarized in Section 1.2 of the plan.

1. Plan for and provide a non-motorized transportation system that is continuous, accessible, and safe
2. Plan for and provide a non-motorized transportation system that interconnects major residential areas and other designated major generators of non-motorized travel
3. Develop and implement policies and programs to accommodate non-motorized travel
4. Develop and implement programs and strategies to increase awareness and use of the non-motorized transportation system
5. Develop and fund a list of prioritized investments that implements this Plan and adequately maintains the system

Where Did Public Comments Come From?

- 285 – Interactive Comment Map
  - 89 – Public Workshops
  - 57 – General Website Comment Form
- 24 – Sent Directly to FMATS

AGENCY AND PUBLIC INVOLVEMENT

This plan is the result of collaboration across agencies and input from the general public. This outreach has been accomplished through:

- *A project advisory group* made up of agency staff and members of the general public - The four advisory group meetings held over the course of developing this plan have provided a forum to present, discuss, and receive feedback on major issues throughout the development of the project
- *A project website* (http://fmats.project.kittelson.com/) - The website engaged area residents outside of the traditional open house setting by providing a map-based feedback tool and an electronic survey, posting project status updates, and providing relevant project documents for download and viewing by the general public.
- *FMATS Technical and Policy Committee meetings*– Regular updates have been provided to these committees and committee members have provided feedback on project deliverables and major issues.
- *Two public workshops* – These meetings provided the public an in-person opportunity to learn about the project and provide their comments to agency and project team staff.

PLAN OUTLINE

This plan is divided into four sections:

Section 1.0 – Introduction

Section 2.0 – Existing Conditions and Opportunities to Improve

Section 3.0 – Recommendations

Section 4.0 – Implementation Plan

Introduction

This section summarizes the plan's background, goals and objectives, and agency and public involvement process. It also provides a profile of Fairbanks area cyclists and pedestrians based on results from the project survey. This profile provides a snapshot of the characteristics of area cyclists and pedestrians (e.g. comfort level, facility preferences, and travel habits) and obstacles that prevent area residents from bicycling and walking more.

Existing Conditions and Opportunities to Improve

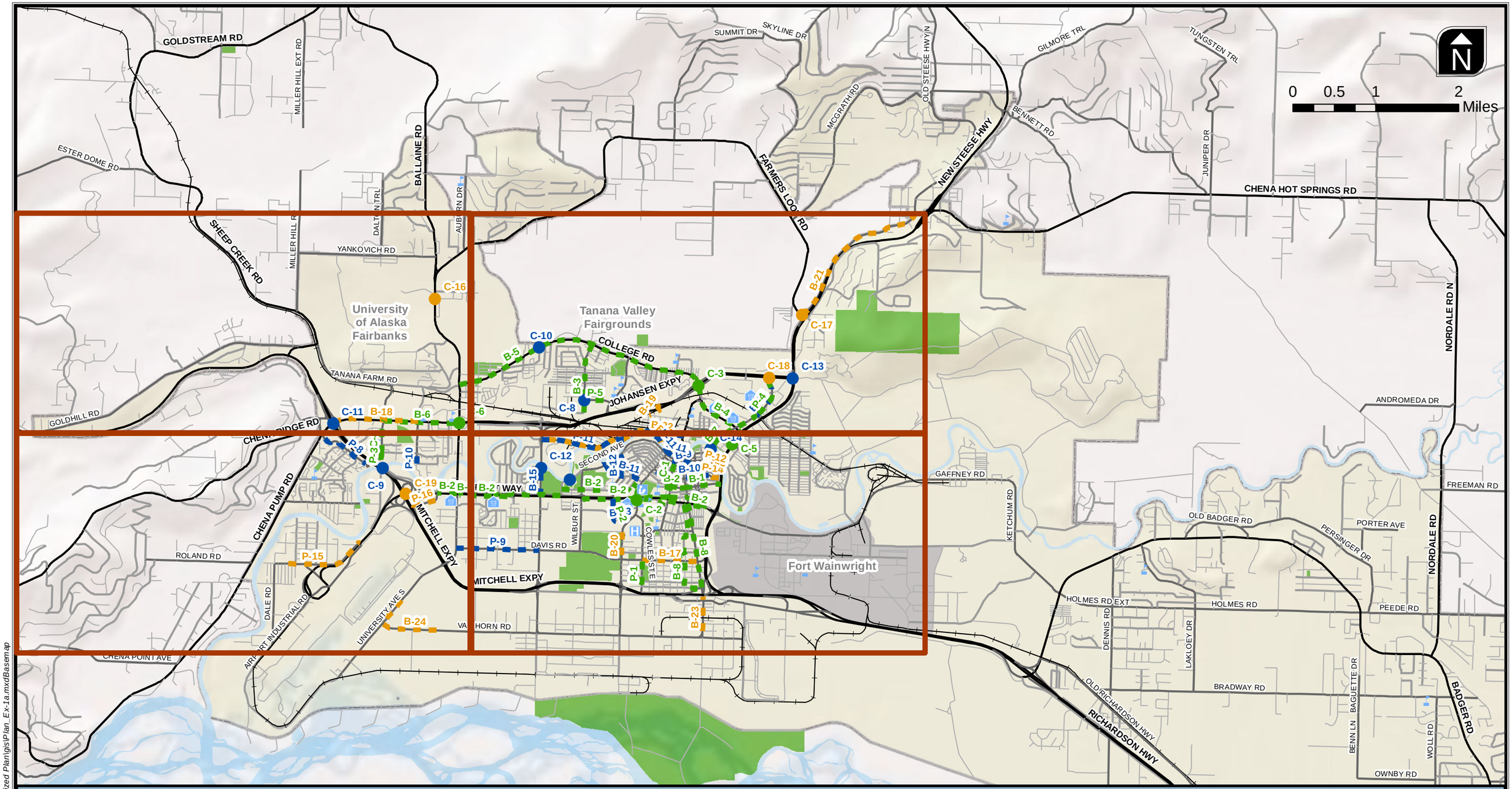
Section 2.0 of this plan provides a synopsis of the existing conditions of the bicycle and pedestrian systems in the FMATS planning area and opportunities to improve those systems. In doing so, it sets the stage for developing and recommending improvements to the system. Opportunities to improve are identified based on historical crash data, an analysis of the level-of-service (LOS) provided by select corridors, gaps in the system, and other deficiencies identified by FMATS area residents. Existing programs and policies are also analyzed.

Recommendations

The Recommendations section outlines the project team's recommendations. These include recommended bicycle and pedestrian networks and programmatic improvements. The recommendations are based on the findings summarized in the previous sections.

Implementation Plan

Section 4.0 summarizes the criteria used to prioritize infrastructure projects and presents the prioritized set of infrastructure projects that have resulted from this planning effort. This section will need to be updated every 4-5 years to ensure that FMATS maintains a list of projects that reflect the current needs and values of the community. Figures EX-1a – Ex-1g illustrate the recommended infrastructure projects by priority level.



LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary
- Detail Area in Following Figures

PRIORITIZED RECOMMENDED IMPROVEMENTS FAIRBANKS-WEST BADGER AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure EX-1A

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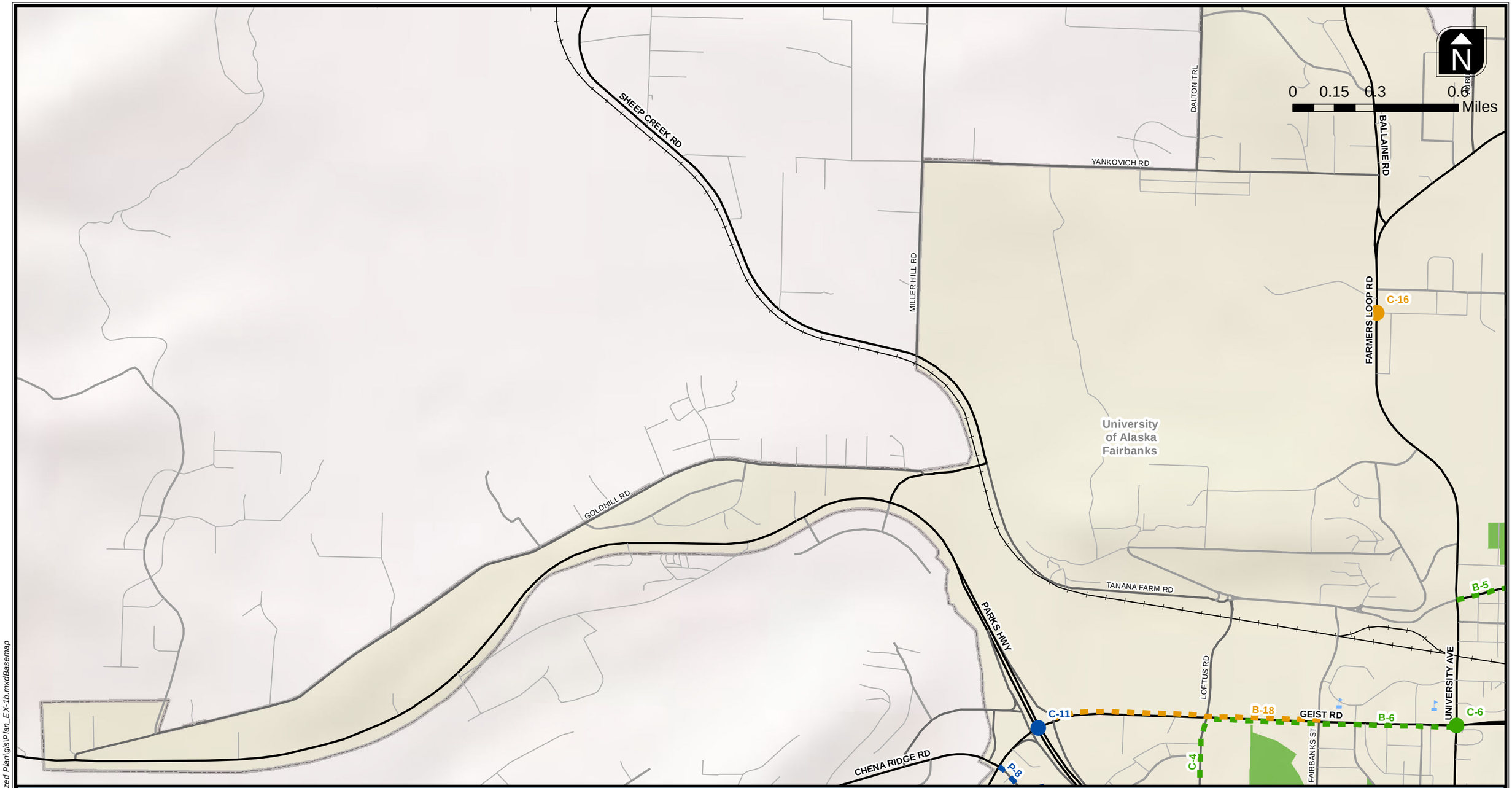

LEGEND

Linear Improvement
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- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS UNIVERSITY AREA

FMATS

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Figure

EX-1B

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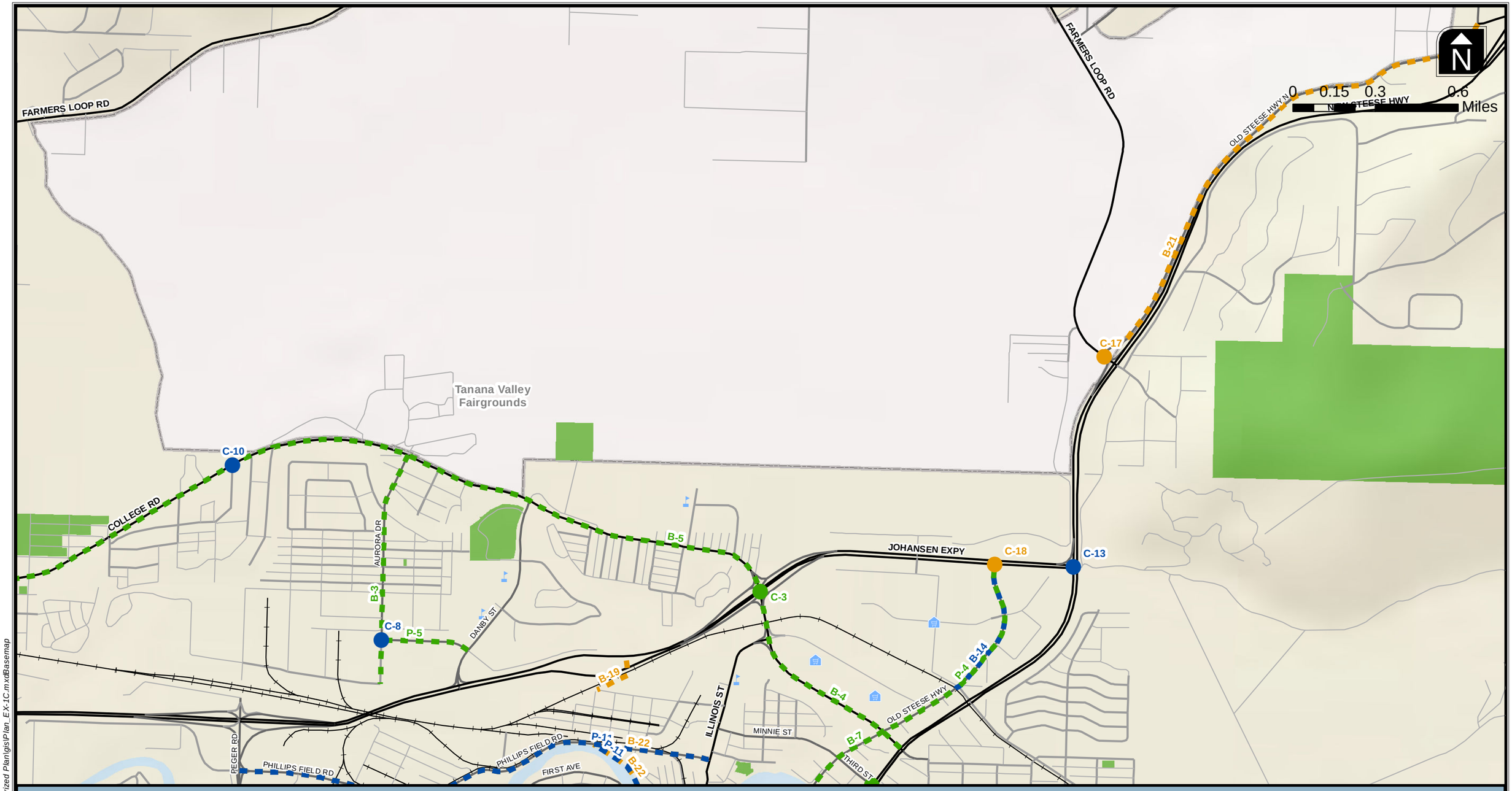

LEGEND

Linear Improvement
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- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH FAIRBANKS AREA

FMATS

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PDC INC. ENGINEERS

Figure

EX-1C

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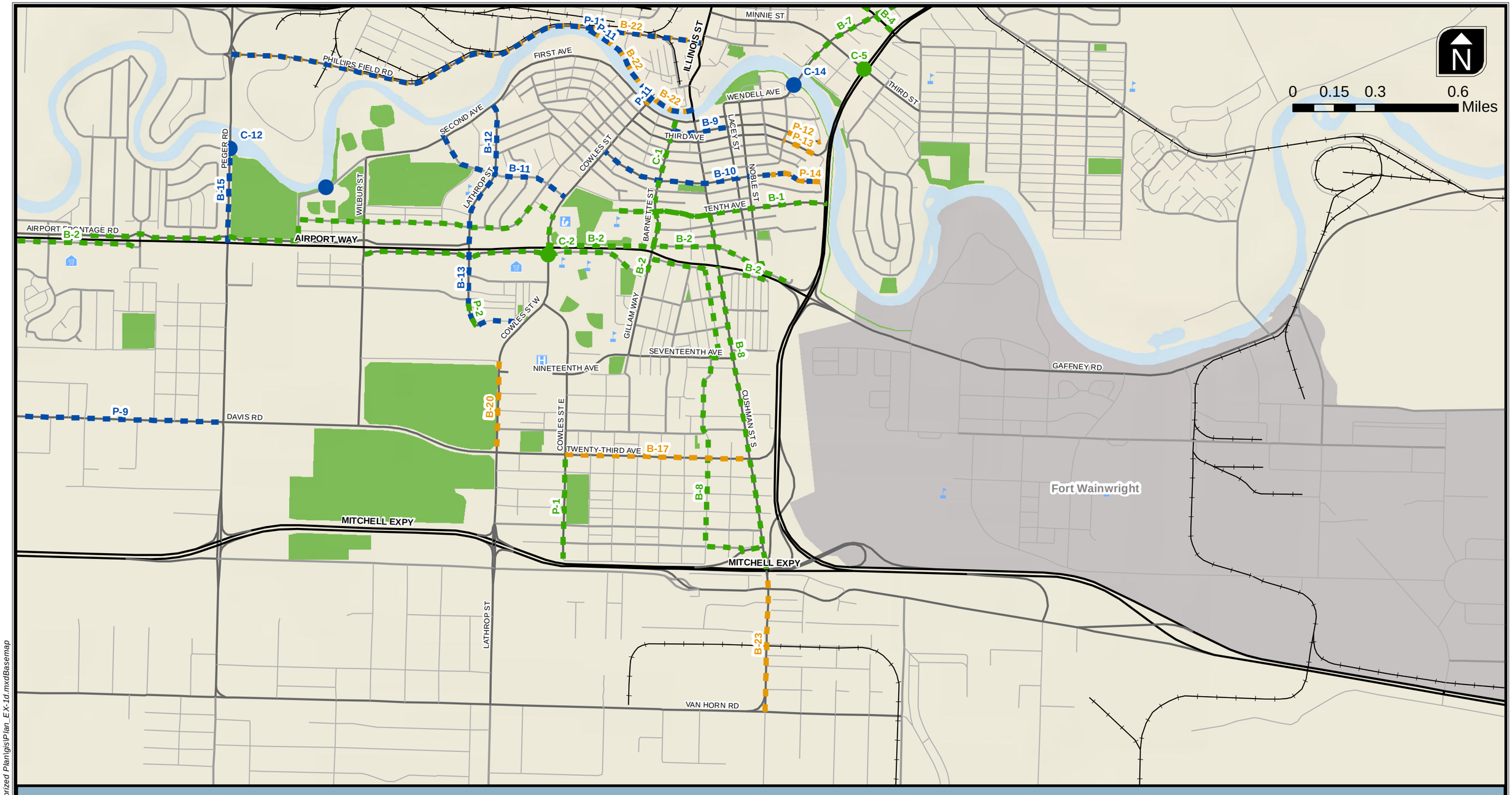

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS FAIRBANKS URBAN AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
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Figure EX-1D

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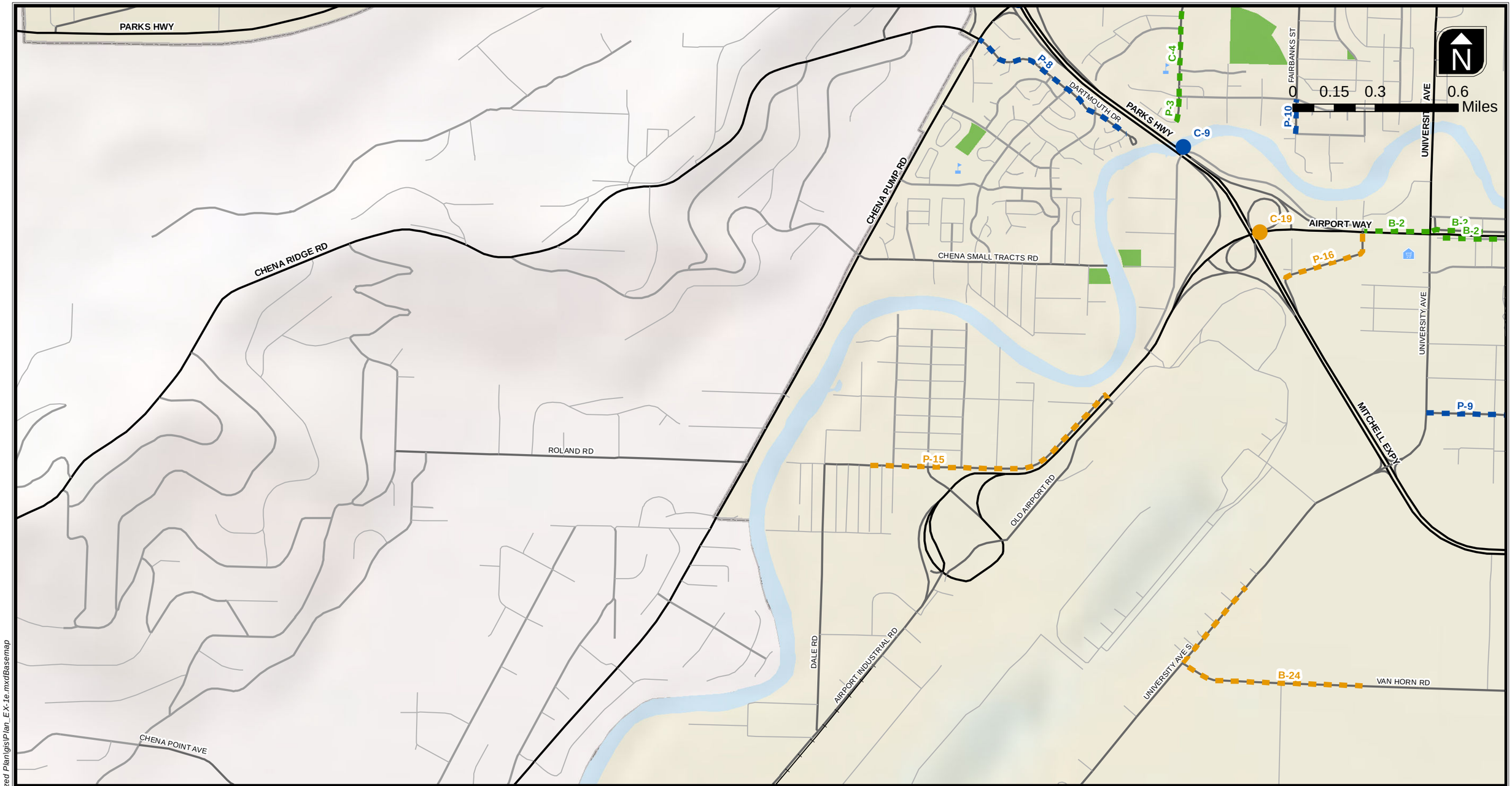

LEGEND

Linear Improvement
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Spot Improvement
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- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS AIRPORT AREA

FMATS
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PDC INC. ENGINEERS

Figure EX-1E

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LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

B = Bicycle Project C = Crossing Project P = Pedestrian Project

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH POLE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
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Figure

EX-1F

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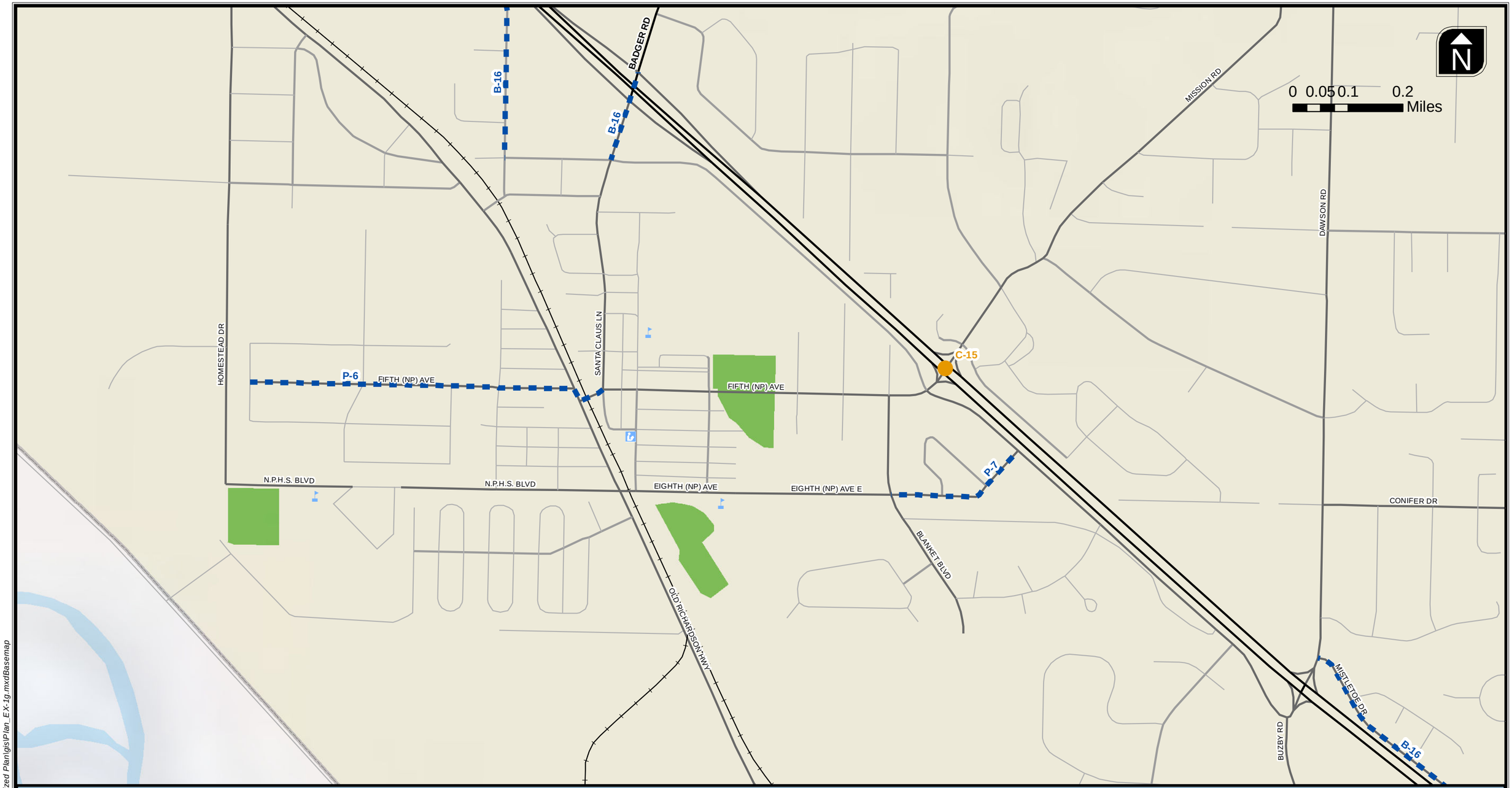

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

B = Bicycle Project C = Crossing Project P = Pedestrian Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH POLE CORE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure

EX-1G

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INTRODUCTION

1.0 INTRODUCTION

1.1 PLAN BACKGROUND

This is the first non-motorized transportation plan (NMTP) prepared for the Fairbanks Metropolitan Area Transportation System (FMATS) metropolitan planning organization (MPO). This plan focuses on the MPO area, which is shown in Figure 1-1. Previous non-motorized planning efforts in the area include the 1989 *FNSB Bike Plan* and its 1994 *North Pole Area Supplement*. A resurgence of interest in non-motorized travel, spurred by desires for better health, transportation options, environmental quality, and access to the area's natural surroundings, provides a strong motivation for completing this plan. Participants at an open house for the FMATS 2035 Metropolitan Transportation Plan update confirmed the community's strong interest in improving non-motorized options when participants rated bicycle and pedestrian system investments as a higher priority than roadway expansion. Moreover, increasing bicycling and walking also reduces traffic congestion, air and noise pollution, and pavement wear.

Blessed with scenic natural surroundings and generally flat or rolling terrain, the Fairbanks area is particularly well-suited to accommodate non-motorized transportation, when the weather cooperates. Many streets in Downtown Fairbanks have sidewalks and short block lengths and short signal cycle lengths further enhance the walkability of the area. The regional shared-use path system provides cyclists and pedestrians the opportunity to make longer trips through urban and rural areas while separated from motor vehicles. According to the US Census Bureau's 2005-09 American Community Survey (ACS, Reference 1), slightly less than 1% of residents of the Fairbanks metropolitan area bicycle to work and over 4% walk to work. These numbers exceed the national averages of approximately 0.5% and 2.9%, respectively. Long spring, summer, and early fall days bring residents and visitors out of their cars (or buses) to experience the existing approximately 76 miles of shared-use paths, 68 miles of major roadways[1] with shoulders, and 50 miles of roads with sidewalks[2].

1 Major roadways are defined as those functionally classified as a major collector or greater

2 On at least one side

However, there is room for improvement in all of these areas. While the mode split numbers cited above are greater than their respective national averages, they are still only a small portion of the total metropolitan area population and lag behind other winter climate cities, including the Alaskan cities of Juneau and Sitka and the metropolitan areas of Madison, Wisconsin and Missoula, Montana. A review of crash data for this plan also reveals that bicyclists and pedestrians account for over ten-percent of all fatal and severe-injury crashes in the Fairbanks metropolitan area during the time period for which data is available.

To help Fairbanks achieve its pedestrian and bicycle friendly vision, this plan outlines policy, programmatic, and infrastructure improvements to: (1) increase the number of Fairbanks area residents using non-motorized transportation and (2) improve the safety and comfort of those who already do. Full implementation of this plan will add approximately:

- 4 miles of shared-use paths;
- 8 road-miles[3] of shoulders;
- 10 road-miles of sidewalks;
- Signs and/or pavement markings on 17 miles of lower volume and lower speed roadways; and,
- Improvements at over 14 crossings to improve pedestrian and/or bicyclist comfort and safety.

In addition to these infrastructure improvements, policy and program changes will help to create a more bicycle and pedestrian friendly culture with increased acceptance of these modes as viable forms of transportation and better understanding between motorized and non-motorized travelers.

1.2 GOALS AND OBJECTIVES

This plan aims to accomplish a number of goals and objectives. The goals provide discrete components of an improved non-motorized transportation network, that collectively will achieve the region's vision for a pedestrian and bicycle network that provides safe and comfortable transportation options to a wide range of Fairbanks residents and visitors. The objectives provide specific direction to accomplish the plan's goals and a means to assess progress toward these goals. The objectives are measurable and time-bound, providing performance measurement targets to assist in implementation of the NMTP.

Table 1-1 displays the goals and objectives. Where possible, objectives are accompanied by a target timeframe and/or performance measure. These specific measures and timeframes are set based on feedback from agency staff and the general public. The regular monitoring of these objectives will allow agency staff to track and report performance and progress.

1.3 AGENCY AND PUBLIC INVOLVEMENT

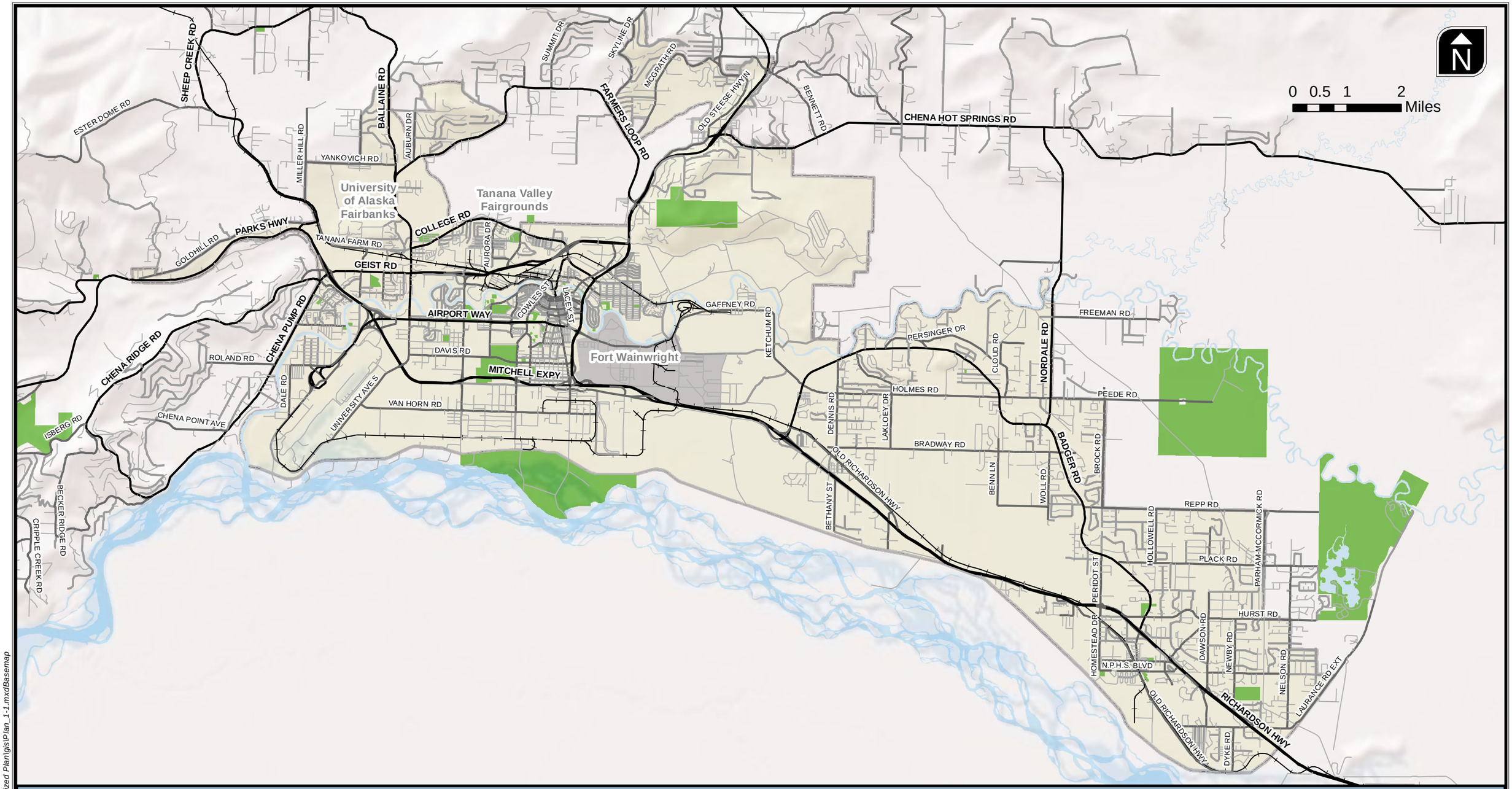
This plan is the result of collaboration across agencies and input from the general public. This outreach has been accomplished through:

- A project advisory group;
- A project website;
- FMATS Technical and Policy Committee meetings; and
- Two public workshops.

1.3.1 Project Advisory Group

This plan has been guided by a project advisory group made up of agency staff and members of the general public, as outlined in the introductory pages to this plan. The four advisory group meetings held over the course of developing this plan have provided a forum to present, discuss, and receive feedback on major issues throughout the development of the project. These meetings have covered the following items:

3 Road-mile refers to the length of road that will be covered by a new facility. It does not differentiate between installations on one side or both sides of the road (e.g. new sidewalk on both sides of one mile of road is two miles of sidewalk, but only one "road-mile").



LEGEND

FMATS Boundary

STUDY AREA

FMATS

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Figure 1-1

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Table 1-1 Goals and Objectives

Goals	Objectives	Measures
1) Plan for and provide a non-motorized transportation system that is continuous, accessible, and safe	Maintain a current inventory of the entire non-motorized transportation system.	Update the inventory at least every 2 – 4 years. Update in GIS after completion of each project, if possible.
	Improve the continuity of the non-motorized transportation system.	Eliminate all gaps in the primary non-motorized transportation system by year 2035.
	Improve the accessibility of the non-motorized transportation system for users of all abilities.	Implement the recommendations in the ADA Transition Plans as they are developed/updated by the City of Fairbanks and ADOT & PF.
	Improve the safety of the non-motorized transportation system.	Reduce the number and severity of crashes per capita between motorized vehicles and non-motorized users by 50% in 20 years.
2) Plan for and provide a non-motorized transportation system that interconnects major residential areas and other designated major generators of non-motorized travel	Maintain a current inventory of designated generators of non-motorized travel.	Inventory major residential areas and other major generators of non-motorized travel and update at least every 2 - 4 years
	Improve the connectivity of the non-motorized transportation system.	Provide connections between the non-motorized transportation system and all inventoried major generators by year 2035.
3) Develop and implement policies and programs to accommodate non-motorized travel	Ensure that agency staff has access to current best practices for non-motorized facility selection and design.	Adopt a Design Toolkit in 2012 and update it every 4 - 5 years.
	Promote a bicycle and pedestrian friendly culture.	Achieve Bronze level Bicycle Friendly Community Status from the League of American Bicyclists by 2015 and maintain status afterward.
		Implement policies and programs recommended in this plan.
4) Develop and implement programs and strategies to increase awareness and use of the non-motorized transportation system	Engage businesses, tourism associations, and Fairbanks area residents in the planning process.	Establish a bicycle-pedestrian advisory committee in 2012 and convene quarterly.
	Promote awareness of the existing non-motorized transportation system and how to use it.	Develop and implement a promotional program, in coordination with community partners (i.e., bike to work week, walk to school day) by year 2012.
		Update the FMATS Bikeways map every 4- 5 years.
		Develop a data collection program for monitoring and reporting the use of facilities and implement on a bi-annual basis
	Increase the proportion of Fairbanks area residents that bike or walk to work.	Increase the proportion of Fairbanks area residents that walk to work to 1.5 percent by year 2035
		Increase the proportion of Fairbanks area residents that bike to work to 2 percent by year 2035.
5) Develop and fund a list of prioritized investments that implements this Plan and adequately maintains the system	Provide adequate funding to ensure the primary non-motorized network is maintained to provide year-round access	Implement performance measures from the Seasonal Mobility Task Force.
	Maintain and fund a priority list of investments that meets the targets of the objectives of this Plan	Update this list every 4-5 years.

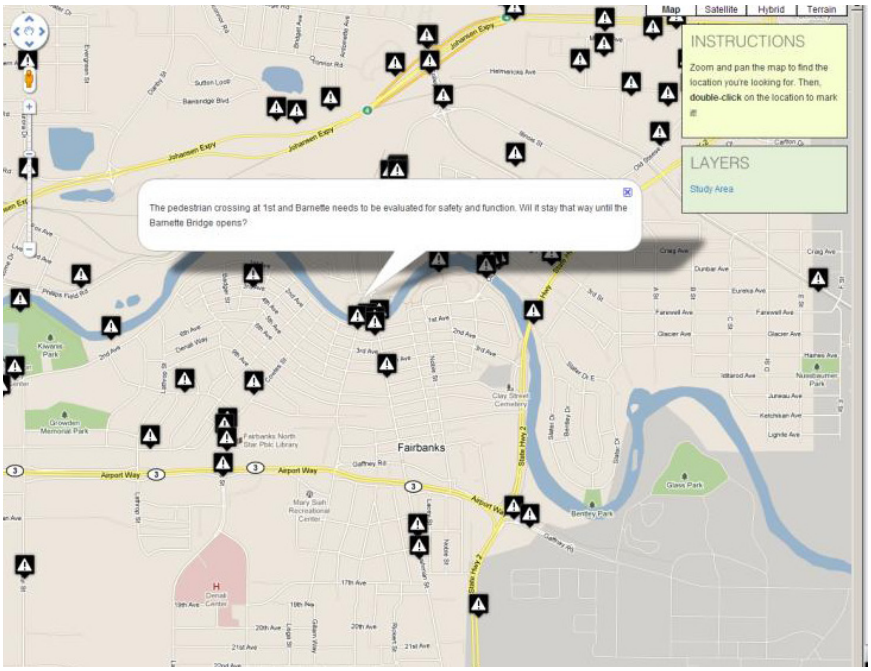
- Role of the Advisory Group; Draft Goals, Objectives, and Performance Measures; and Key Corridors/Generators;
- Draft Existing Conditions Analysis;
- Draft Needs Analysis; and
- Draft Recommendations and Prioritization Criteria.

The advisory group has also had the opportunity to review the prioritized list of projects outside of a formal meeting.

All advisory group meetings have been open to the general public and advertised on the project and FMATS websites. The first meeting was attended by several members of the general public. Their comments, as well as notes from all four meetings, are included in the Technical Appendix.

1.3.2 Project Website

The project team has maintained an interactive project website throughout the duration of this plan (http://fmats.project.kittelson.com/). This website has been advertised on, and linked to from, the FMATS home page. It has received additional advertising through links posted on other websites (e.g. Fairbanks Bike to Work Week website and Facebook page), FMATS newsletters, and targeted e-mailings to participants in Bike to Work Week. Many of these advertisements have been timed to coincide with Bike to Work Week to maximize project awareness through cross-promotional opportunities. The primary purpose of the website is to engage area residents outside of the traditional open house setting. This has been accomplished through including a map-based feedback tool and an electronic survey, posting project status updates, and providing relevant project documents for download and viewing by the general public.



The interactive map-based feedback tool opened for comments at the beginning of April 2011 and closed at the end of June 2011. During this time, the website received a total of 285 comments. A total of 89 comments received at the public workshops have been added to the map by the project team so that all geographic comments can be seen together. The Technical Appendix lists all of the comments. They may also be seen on the project website, though comments may no longer be added.

General comments have also been submitted to the project team through the project website and the FMATS website. The project website provides a general comment form that can be filled out and submitted to the project team. A total of 57 comments have been submitted through this form. Another 24 comments have been sent directly to FMATS staff. Many of these comments from these two sources are general comments about maintenance, education, and other broad issues. The Technical Appendix lists all of the comments.

The website also includes an online survey that was open for completion in May (timed to coincide with Bike to Work week) and June 2011. The survey includes questions regarding bicycling and walking habits and

preferences. Nearly 200 respondents completed the survey. The highlights of this survey are summarized in Chapter 2 of this plan. The Technical Appendix contains a complete summary.

1.3.3 FMATS Technical and Policy Committees

FMATS is guided by two standing committees: the Policy Committee and the Technical Committee. The Policy Committee has the ultimate responsibility of adopting this plan. Each committee has been regularly updated on the progress of this plan and members of both committees have provided feedback on project deliverables and what issues they feel are important to be addressed in this plan.

1.3.4 Public Workshops

In addition to the project website and advisory group meetings, the general public has had the opportunity to learn about the project and provide input via two public workshops held on the evenings of May 18th, 2011 (during Bike to Work Week) and September 8th, 2011. Both workshops have been held at the Noel Wien Library at 1215 Cowles Street in Fairbanks. Each workshop was conducted in a general open house format where the public could view presentation boards and provide comments to the project team and agency staff. Feedback from each meeting was received through general comment forms provided at the meetings and from specific comments provided on map displays placed throughout the open house. Computer stations were provided at the first workshop to allow participants to use the online tools to provide their feedback. Due to the low strength of the wireless signal in the meeting room, these stations were not provided at the second meeting. Comments received at these meetings are included in the Technical Appendix.

Each workshop has been staffed by members of the consultant team, FMATS, and ADOT&PF. Not including these staff, 43 people attended the first workshop and 21 attended the second. Outreach for the events spanned a number of mediums to various groups. Ads

were published in the Fairbanks Daily News-Miner, on the project and FMATS websites, and e-mails were been sent to targeted audiences. The first workshop also received mention in a staff article and Community Perspective piece in the Fairbanks Daily News-Miner and by FMATS staff on the Charlie O'Toole radio show on 970 AM during Bike to Work Week.

The primary purpose of the first public workshop was to introduce the project to the community and gather input on priority locations for improvements. Consequently, much of the space at this meeting was dedicated to providing maps that residents could mark-up and comment on. Informational boards were provided to cover the project purpose, goals, and existing bicycle and pedestrian networks.

The second public workshop took place after completion of the draft Existing Conditions and Opportunities to Improve memorandum. The purpose of this meeting was to inform members of the public of the draft set of identified needs and gather feedback on those needs and ones that may have been overlooked by the project team. Informational boards related to the results of the bicycle and pedestrian counts and online surveys were also provided.

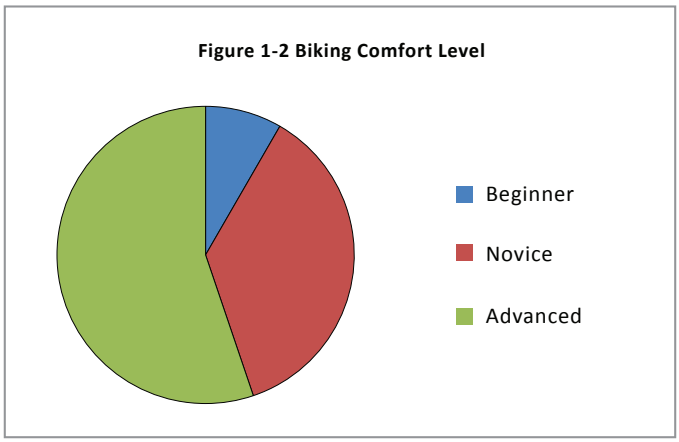
1.4 PROFILE OF FAIRBANKS AREA BICYCLISTS AND PEDESTRIANS

Nearly 200 area residents responded to the above-described online survey distributed through the project website. Their responses reveal their bicycling and walking habits and preferences. Highlights from the survey results are shown and described below. The Technical Appendix contains the complete survey results.

1.4.1 Bicyclist Characteristics

More than half of the survey respondents consider themselves advanced cyclists, as shown in Figure 1-2. Advanced cyclists are confident and comfortable riding with traffic on the road in most situations. This result is typical, as frequent cyclists are generally more likely to be active in efforts such as this. However, this needs to be kept in mind in interpreting the results of the survey to avoid over-representing this group.

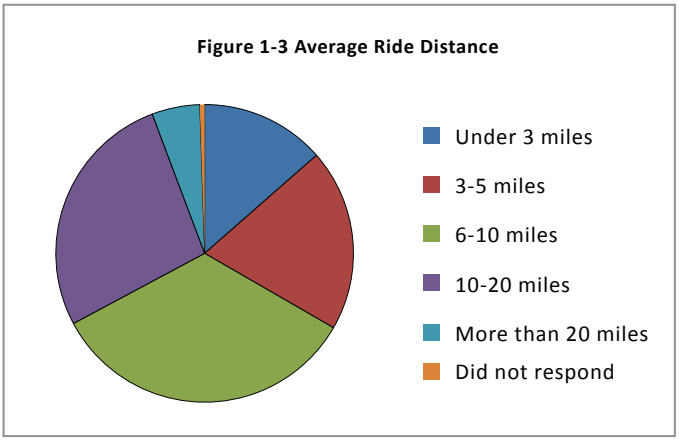
Figure 1-2 Biking Comfort Level



Novice riders are the second most represented group in the survey, with only a small portion of respondents considering themselves beginners who only feel safe on separated paths away from traffic. This indicates that reaching out to these groups will be important for increasing the number of bicyclists in the FMATS area.

Figure 1-3 shows that the vast majority of respondents on average ride more than five miles for each trip. This likely indicates the advanced nature of many of the respondents. Longer-distance travel by novice riders is also encouraged by the extensive system of regional

Figure 1-3 Average Ride Distance



shared-use paths that allow for longer trips away from traffic. There are also several low-volume rural roads in the area that are popular for longer rides.

As Figure 1-4 shows, FMATS area residents bicycle for the health of themselves and other members of the community, for recreation, to commute to work, and to save money. These results are consistent with those described above, showing that the most respondents are advanced or novice riders who are comfortable riding long distances for recreation or commuting purposes. They are also conscious of health and environmental issues.

Figure 1-4 Why Respondents Bike

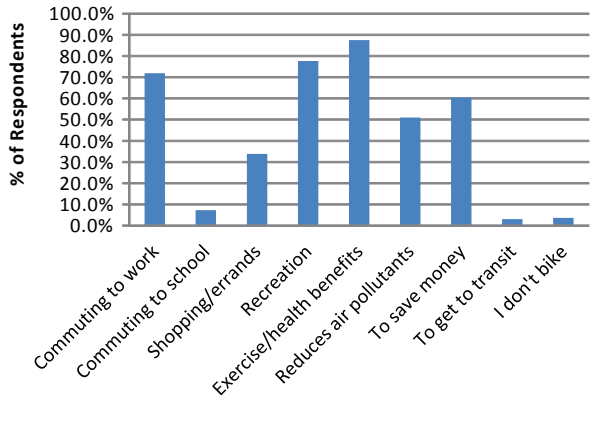
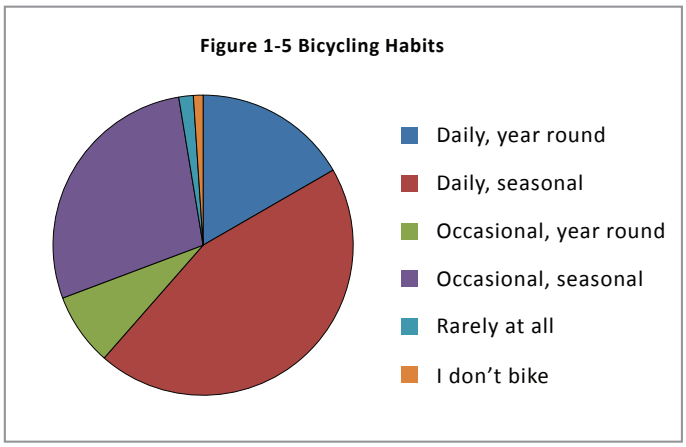


Figure 1-5 shows, not surprisingly given the extreme nature of Fairbanks weather, that most respondents are seasonal riders. Very few respondents indicated that they do not bike at all or that they bike only rarely. Con-



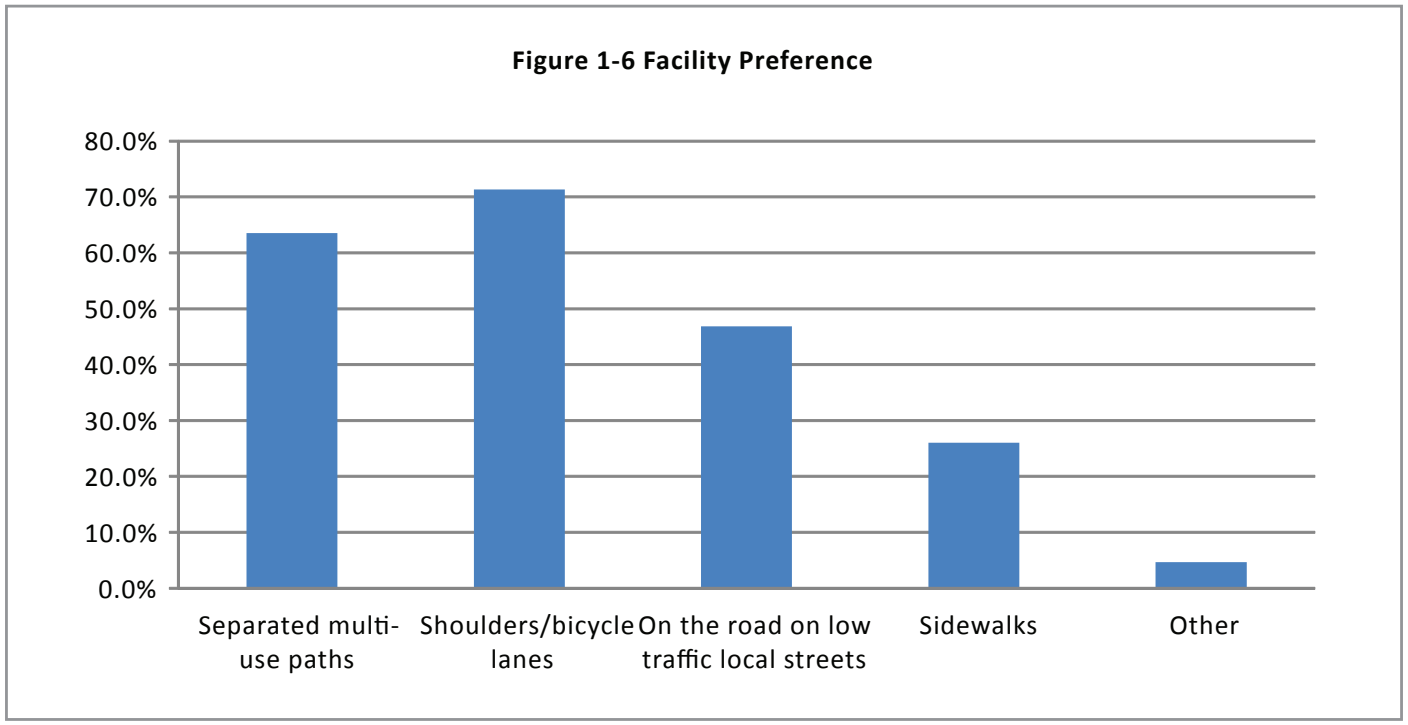
sistent with identified nature of the respondents, just over half of the respondents claim to ride daily.

Finally, FMATS area cyclists observe a number of safety precautions while riding with a significant majority of respondents indicating that they wear a bike helmet, ride with traffic, obey traffic signals, and yield to pedestrians.

1.4.2 Bicycling Preferences and Obstacles

The majority of survey respondents prefer to bike on either bike shoulders/lanes or multi-use paths, with shoulders being preferred slightly more, as shown in Figure 1-6. Over twice as many respondents prefer these facilities as compared to sidewalks. These findings are generally consistent with the make-up of the designated bicycle network described above in section 1.1. Note that these findings may be slightly biased toward shoulders given the nature of many survey respondents.

In addition to preferences, survey respondents identified obstacles that prevent them from biking more or biking at all and what factors would encourage them to bike more. Lack of bike infrastructure, poor maintenance of existing infrastructure, weather issues, and automobile traffic are the primary obstacles facing these cyclists. Respondents indicated they would like to see better wintertime maintenance, improved street crossings, and more bike infrastructure. Of these, providing additional infrastructure and increasing maintenance efforts on existing infrastructure would have the greatest impact on increasing bicycling. Over 85% of respondents indicated that more bicycle infrastructure would make them more likely to bicycle more. In addition, approximately 64% of cyclists in the survey perceive the FMATS area bike network as fragmented or as having several major gaps.



Other strategies not related to on-street infrastructure that could help improve bicycling in the FMATS area include providing more bike parking and encouraging employers to provide worksite amenities (e.g., lockers and/or showers).

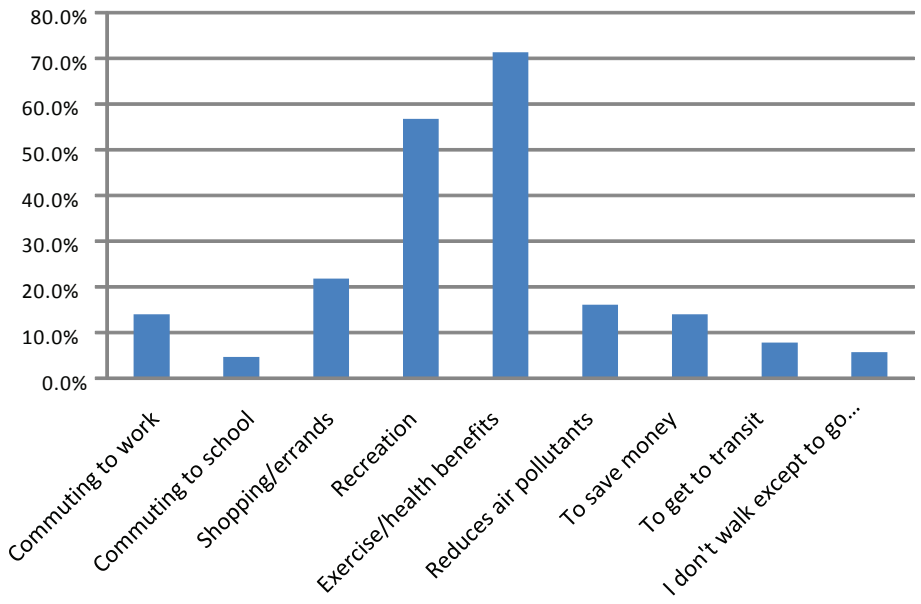
1.4.3 Pedestrian Characteristics

As Figure 1-7 shows, nearly 15% of the survey respondents cited commuting to work as a reason for walking. This is higher than the mode split found in data collected by the US Census Bureau for the 2005-09 American Community Survey (ACS) for the entire Fairbanks North Star Borough (FNSB) (4.3%) and the city of Fairbanks (5.4%). Therefore, these results are slightly biased toward individuals that walk to commute to work.

Figure 1-7 shows that the majority of survey respondents walk for recreation and/or health reasons. As such, nearly three-fourths of respondents say that their average walk is between three-quarters and five miles, with nearly half claiming average walk lengths between three-quarters and two miles. Longer distances are generally associated with recreational trips, as opposed to commuter or other utilitarian trips.

Weather is less of an issue for pedestrians than for bicyclists, as nearly 75% of all respondents indicated that they walk year-round, as opposed to around one-third of all cyclists bicycling year-round.

Figure 1-7 Why Respondents Walk



1.4.4 Obstacles to Walking

Survey respondents find the distance from where they live to destinations, lack of infrastructure, and weather to be the primary factors diminishing the walkability of the city. More than half of the pedestrians in the survey describe the pedestrian network as suffering from major gaps or fragmentation.

When compared to bicycling, land-use issues (e.g., distance from residence to destinations and time concerns), which are beyond the scope of this plan, are more significant obstacles for pedestrians. On the other hand, infrastructure and traffic issues are less of a concern for pedestrians than bicyclists. Traffic issues are generally cited as issues by less than half of all pedestrians; however, infrastructure issues are still primary concerns.

Subjects of the survey indicated that by constructing more pedestrian infrastructure and by better maintaining the current infrastructure during the winter months, people will likely walk more often.

EXISTING CONDITIONS AND OPPORTUNITIES TO IMPROVE

2.0 EXISTING CONDITIONS AND OPPORTUNITIES TO IMPROVE

This section provides a summary of the existing conditions of the bicycle and pedestrian systems in the FMATS planning area and opportunities to improve those systems. In doing so, it sets the stage for developing and recommending improvements to the system. Opportunities to improve are identified based on historical crash data, an analysis of the level-of-service (LOS) provided by select corridors, gaps in the system, and other deficiencies identified by FMATS area residents. Existing programs and policies are also analyzed.

For organizational purposes, the first part of this section is dedicated to the bicycle system, the second part to the pedestrian system, and the third part to programmatic actions.

2.1 BICYCLE SYSTEM

The following subsections describe the existing condition of bicycling in the FMATS area and opportunities to improve.

2.1.1 Existing System

The Alaska Bicycle and Pedestrian Plan (Reference 2) categorizes bicycle facilities into four general types:

- *Shared Lane (or Roadway)* - Bicyclists and motor vehicles share a travel lane on shared roadways. The shared roadway facility type is best used where there is minimal vehicle traffic to conflict with bicycle traffic. Most local roads and some collector level roads in the FMATS planning area are acceptable as shared roadways. Shared roadways may include special pavement markings or signs to alert drivers to the presence of cyclists and to inform cyclists of preferable routes.
- Bike Lane - These are separate lanes adjacent to vehicular travel lanes for the exclusive use of bicyclists. Bike lanes are most often found on moderate to high volume and/or speed roadways (some collectors and generally all arterials fit these criteria) in urban areas. The use of bike lanes is limited in the FMATS area.
- Shoulder - Paved shoulders alongside roads may also be used to accommodate bicyclists. These are most commonly used as a means to accommodate cyclists in rural areas, though they are also used in the urban areas of Fairbanks.
- *Separated (or Shared-use) Path (or Trail)* - These provide multiple modes of non-motorized transportation a dedicated facility separated from motor vehicle traffic. Separated, or shared-use (as they are generally referred to within the FMATS area), paths are often paved. They may also be unpaved trails, in which case they may be referred to as *unimproved facilities.*

Figures 2-1a – 2-1c show the existing designated bicycle network in the FMATS area. This inventory is based on

previous efforts, including the creation of the most recent version of the *Bikeways* map (2010).

Based on this inventory, there are approximately 76 miles of paved shared-use paths in the FMATS area, including just over 12 miles of paths in Fort Wainwright, and 68 miles of roads with shoulders. This represents a coverage of 33%[1] of all functionally classified roadways (minor collector and above) in the FMATS area. If minor collectors are removed from consideration[2], the coverage increases to approximately 55%. Table 2-1 provides a breakdown of the mileage of functionally classified roads within the FMATS boundary.

Table 2-1 Mileage of Functionally Classified Roads

Facility	Distance in FMATS (Miles)
Arterials (including Expressways)	108
Major Collectors	154
Minor Collectors	172
Total Functionally Classified Roads	434

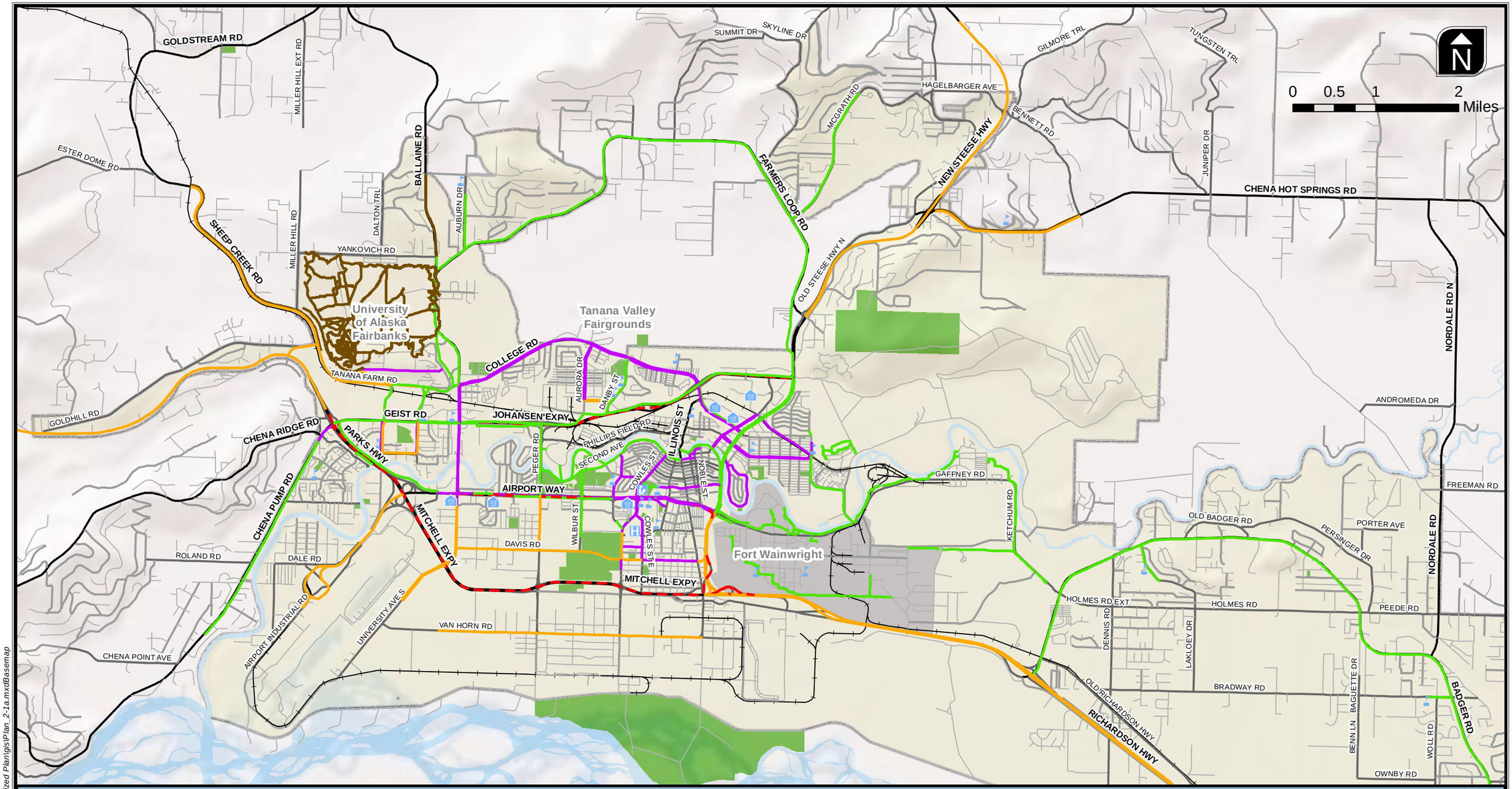
Shared-use paths make up a significant portion of the designated bicycle network. Many of the shared-use paths are located parallel to major roadway facilities and provide the opportunity for bicyclists to make longer regional trips while separated from high-volume and/or high-speed roadways, such as Johansen Expressway, Farmer's Loop Road, Steese Expressway, and Badger Road. These facilities provide regional connectivity for commuter and recreational trips.

Shoulders provide coverage along sections of some major roads, including University Avenue, Davis Road, Sheep Creek Road, Parks Highway, Richardson Highway, and Steese Expressway.

Bicycles are prohibited on a handful of high-speed, high-volume, and limited access roads, including the Mitchell Expressway, Airport Way (Steese Expressway – University Avenue), Steese Expressway (Airport Way – Johansen Expressway), Richardson Highway (Laurance Road – Badger Road and Old Richardson Highway – Airport Way), and Johansen Expressway. The Mitchell Expressway does not have a parallel shared-use path, with Davis Road and Van Horn Road providing the nearest parallel connections. Airport Way has a shared-use path along certain sections, with frontage roads providing alternative connections along much of the corridor.

1 This number may be slightly high as not all shared-use paths directly parallel a functionally classified road, though the vast majority does.

2 There is a relatively insignificant amount of shoulders along minor collectors.



LEGEND

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Sidewalk connection
- Unimproved facility
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

EXISTING BIKE NETWORK
FAIRBANKS-WEST BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure
2-1A

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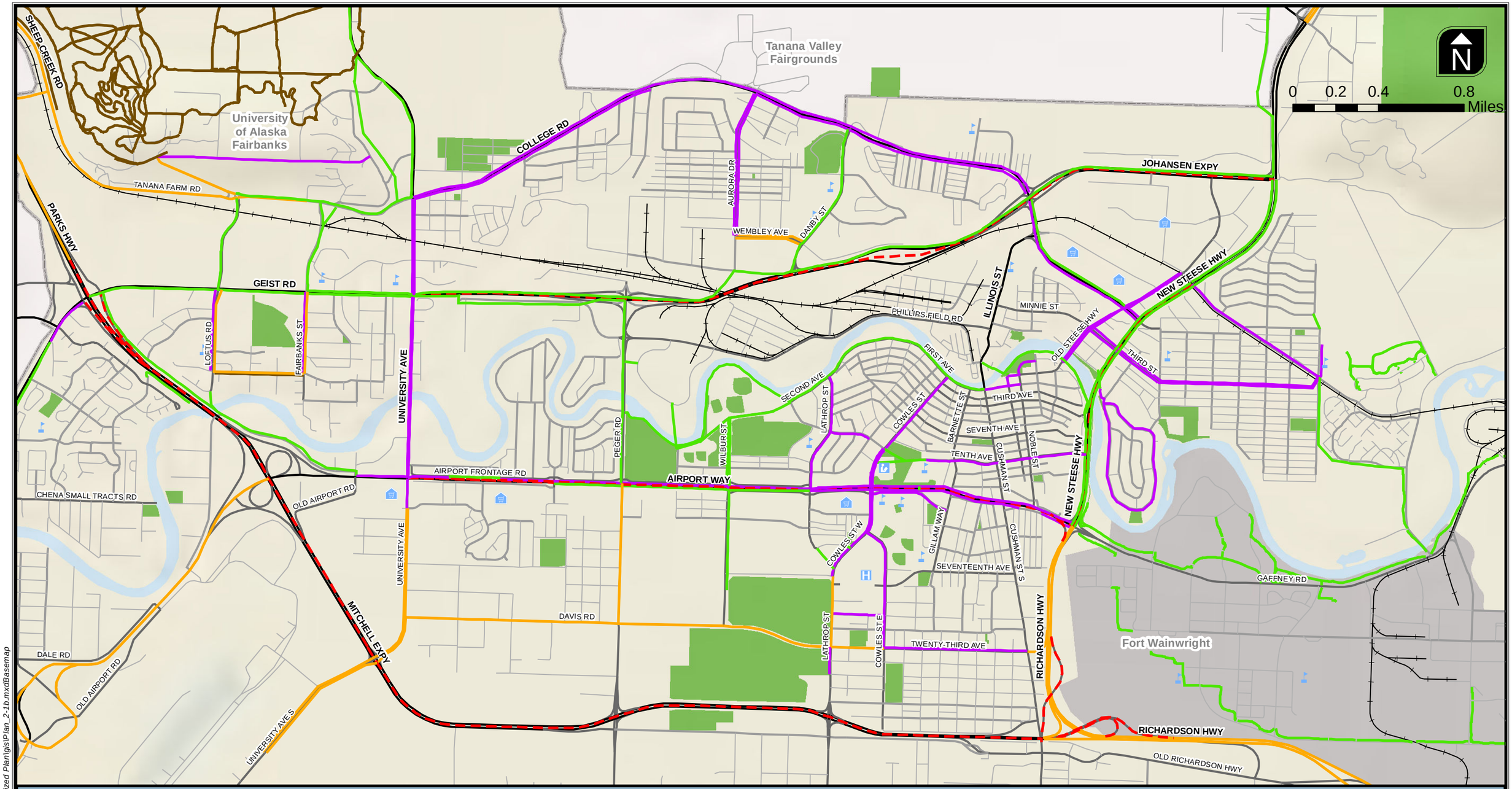

LEGEND

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Sidewalk connection
- Unimproved facility
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

EXISTING BIKE NETWORK FAIRBANKS

FMATS

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PDC INC. ENGINEERS

Figure 2-1B

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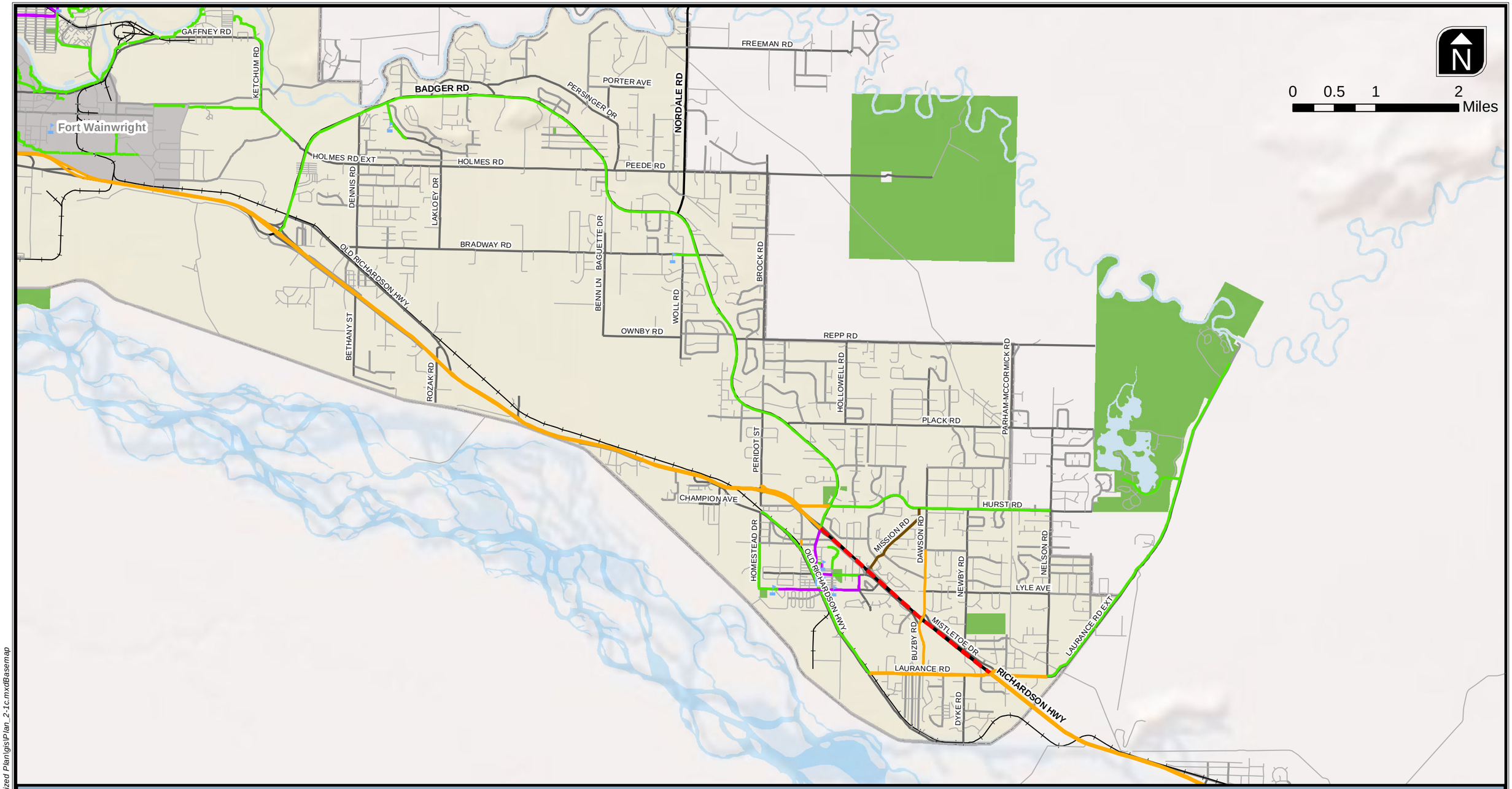

LEGEND

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Sidewalk connection
- Unimproved facility
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

EXISTING BIKE NETWORK NORTH POLE-BADGER AREA

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Figure 2-1C

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2.1.1.1 Sidewalk Riding

Certain sidewalk connections are included in the designated bicycle network shown in Figures 2-1a – 2-1c. Sidewalks are not a recommended bicycle facility in the Alaska Bicycle and Pedestrian Plan or in national guidance on bicycle facility design. However, in certain instances, sidewalks are signed as bicycle routes in the FMATS area and as such, they are part of the designated bicycle network. Figures 2-1a – 2-1c show approximately 33 miles of sidewalk connections, which is just under half of the mileage of shoulders or separated paths, or just under 20% of the network (not including local streets).

Bicycle riding on sidewalks is permitted in Alaska, except in business districts or where a regulatory traffic control device prohibits it (Reference 3). Generally speaking, including sidewalks as a part of the designated bicycle network is discouraged. Sidewalks are typically designed for pedestrians, who travel at slower speeds and with different maneuvering abilities (i.e. narrow sidewalks with frequent obstacles make bicycling uncomfortable and force the rider to travel at slower speeds).

Auto drivers are generally not looking for bicyclists, who are traveling at higher speeds than pedestrians, riding on the sidewalk at driveways and intersections. Also, riding on the sidewalk introduces conflicts with pedestrians, who travel at slower speeds and can change direction quickly. This degrades the experience for both types of users and increases the potential for a collision. Increasing the width of the sidewalk does not necessarily make it an acceptable bicycle route either. Greater widths may induce higher speeds, which in turn may increase the severity and frequency of crashes (Reference 4). The AASHTO publication *Guide for the Development of Bicycle Facilities* provides guidance that using sidewalks as bikeways should only be considered under the following circumstances:

- In order to provide continuity along high speed or high volume roadways that do not have a shoulder or other space for bicyclists and there are no driveways or intersections along the roadway for long distances.

Sidewalks are sometimes signed as bicycle routes in the FMATS area

- On long and narrow bridges (ramps will need to be installed at either end, and if the bicycle route being interrupted by the bridge is two-way, then the sidewalk along the bridge should be two-way).

2.1.2 How Many People Ride and Where They Ride

Counts have been conducted of bicyclists at several key locations throughout the FMATS area to better understand how many people do ride and where they ride. These counts have been conducted by volunteers and by ADOT&PF on a mid-week day in May and June. Counts conducted by volunteers cover two hours during the weekday p.m. peak period, generally between 4:00 and 6:00 p.m., though there are variations between counts. ADOT&PF counts cover a three-hour period during the weekday p.m. peak, generally between 4:00 and 7:00 p.m. The ADOT&PF counts are conducted as a part of its annual count program.

These counts are primarily focused on motor vehicle traffic, though they also include bicyclists traveling in the roadway and crossing at crosswalks. All bicyclists traveling in the roadway are captured by these counts, but that is not the case for bicyclists riding on the side-

walk. The counts only capture cyclists on the sidewalk if they cross at a crosswalk, therefore a number of cyclists that travel through the intersection being studied without actually crossing a street are not counted (e.g., cyclists riding on the sidewalk with the flow of traffic making a right-turn are not counted since they do not need to enter the crosswalk to continue on their way). Field observations indicate that sidewalk riding is common in the FMATS area, particularly on roads without shoulders or nearby shared-use paths. On certain major roads the sidewalk is the designated bicycle route (e.g., sections of College Road and University Avenue). As a result, these counts may be missing a significant portion of non-motorized traffic. Consequently, for comparison purposes, the ADOT&PF counts are not reduced from three-hour counts to two-hour counts to match the volunteer counts, but are instead left as longer counts to compensate for this discrepancy. Given these discrepancies, these counts should not be interpreted as absolute measurements. Instead, they should be viewed as an estimate of where traffic is generally the highest.

Figures 2-2a – 2-2c show the results of the bicycle counts. Table 2-2 contains a list of the top ten locations, by volume. The Technical Appendix contains the full count information.

As the figures show, the areas with the highest levels of observed bicycle activity are primarily located in the urban areas of Fairbanks. All but two of the top ten locations, Farmers Loop Road/Ballaine Road and Geist Road/Parks Highway, are in Fairbanks city limits. This top ten list also suggests that the three-hour ADOT&PF counts are roughly equivalent to the two-hour volunteer counts, as the ADOT&PF counts on Airport Way are similar to the volunteer counts from nearby intersections.

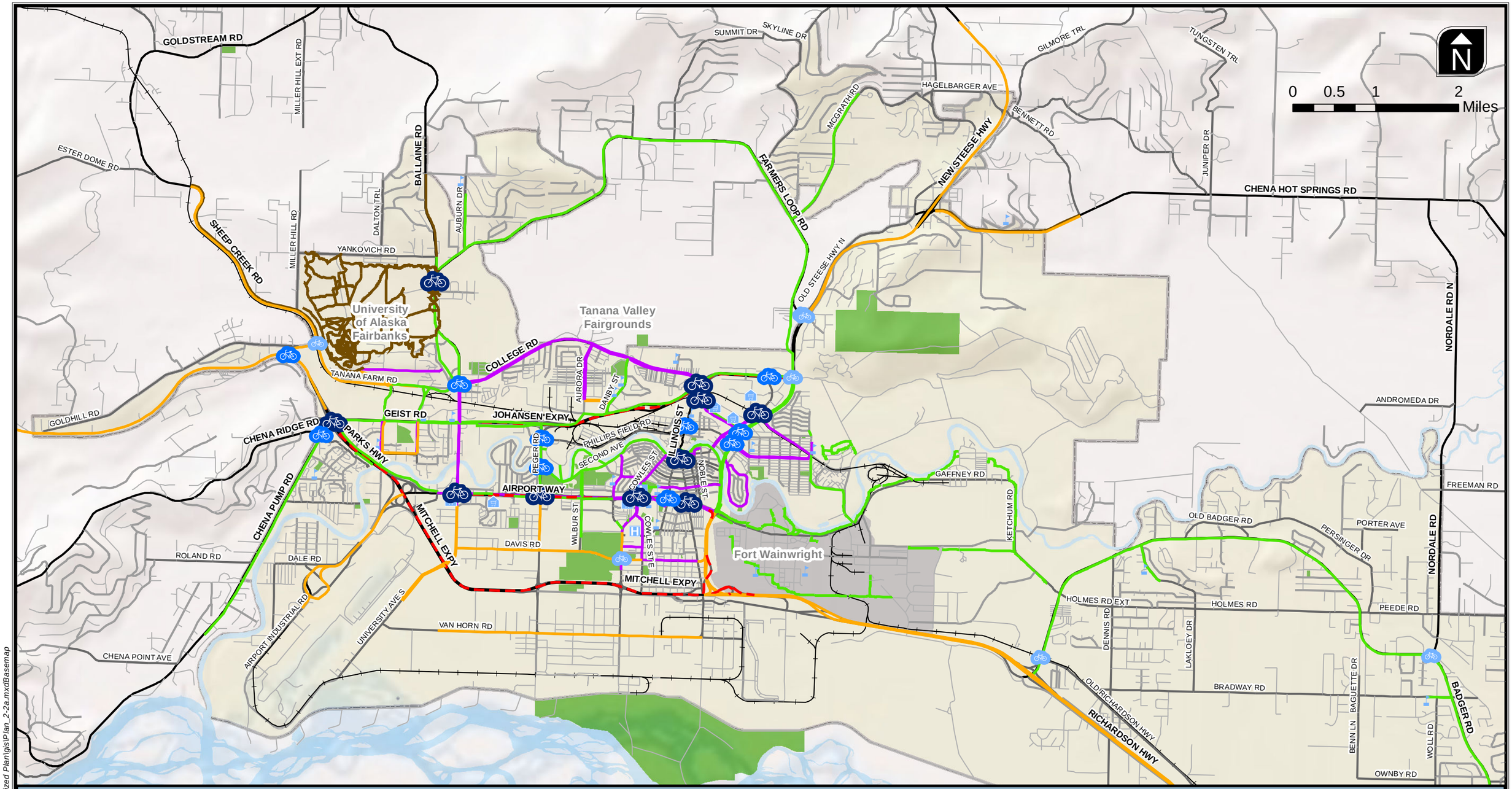
Table 2-2 Top Ten Bicycle Count Locations

Location	Number of Cyclists
College Road / Johansen Expressway	131
Airport Way / University Avenue	115
Airport Way / Peger Road	110
College Road / Illinois St	108
Airport Way / Cowles Street	105*
Airport Way / Cushman Street	96*
1st Avenue / Cushman Street	95*
Farmers Loop Road / Ballaine Road	94
Trainor Gate Road / Old Steese Highway	93
Geist Road / Parks Highway	81

**ADOT&PF 3-hour count*

The highest bicycle traffic volume in the North Pole area is at the Hurst Road/Badger Road intersection.

Bicyclist volume is generally the highest along major roads, such as Airport Way, College Road, and Cushman Street in downtown Fairbanks. These roads provide connections across Fairbanks, including to major destinations. This suggests that cyclists are more likely to choose where to bicycle based on route and destination preference, than based on a preference for a facility type. There is also limited connectivity in the local street network, so cyclists must use major roads for many trips. For instance, the majority of observed bicycle traffic at the College Road/Johansen Expressway intersection is traveling on College Road, not on the shared-use path alongside the Johansen Expressway.



LEGEND

Bicycle Traffic
- 2 - 36 Bicycles
- 38 - 68 Bicycles
- 81 - 131 Bicycles

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Sidewalk connection
- Unimproved facility
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

BICYCLE TRAFFIC COUNTS FAIRBANKS-WEST BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-2A

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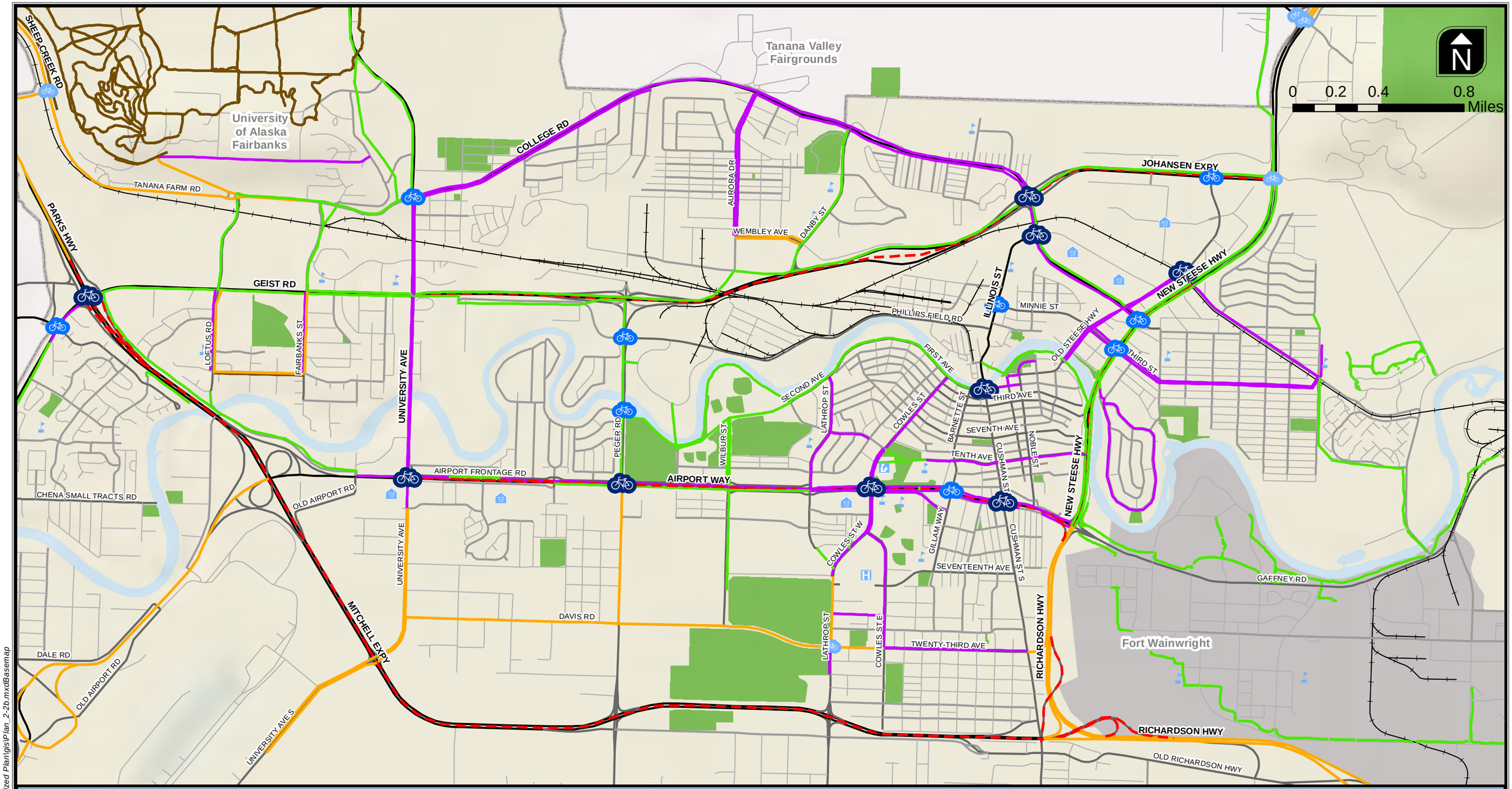

LEGEND

Bicycle Traffic
- 2 - 36 Bicycles
- 38 - 68 Bicycles
- 81 - 131 Bicycles

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Sidewalk connection
- Unimproved facility
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

BICYCLE TRAFFIC COUNTS FAIRBANKS

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PDC INC. ENGINEERS

Figure 2-2B

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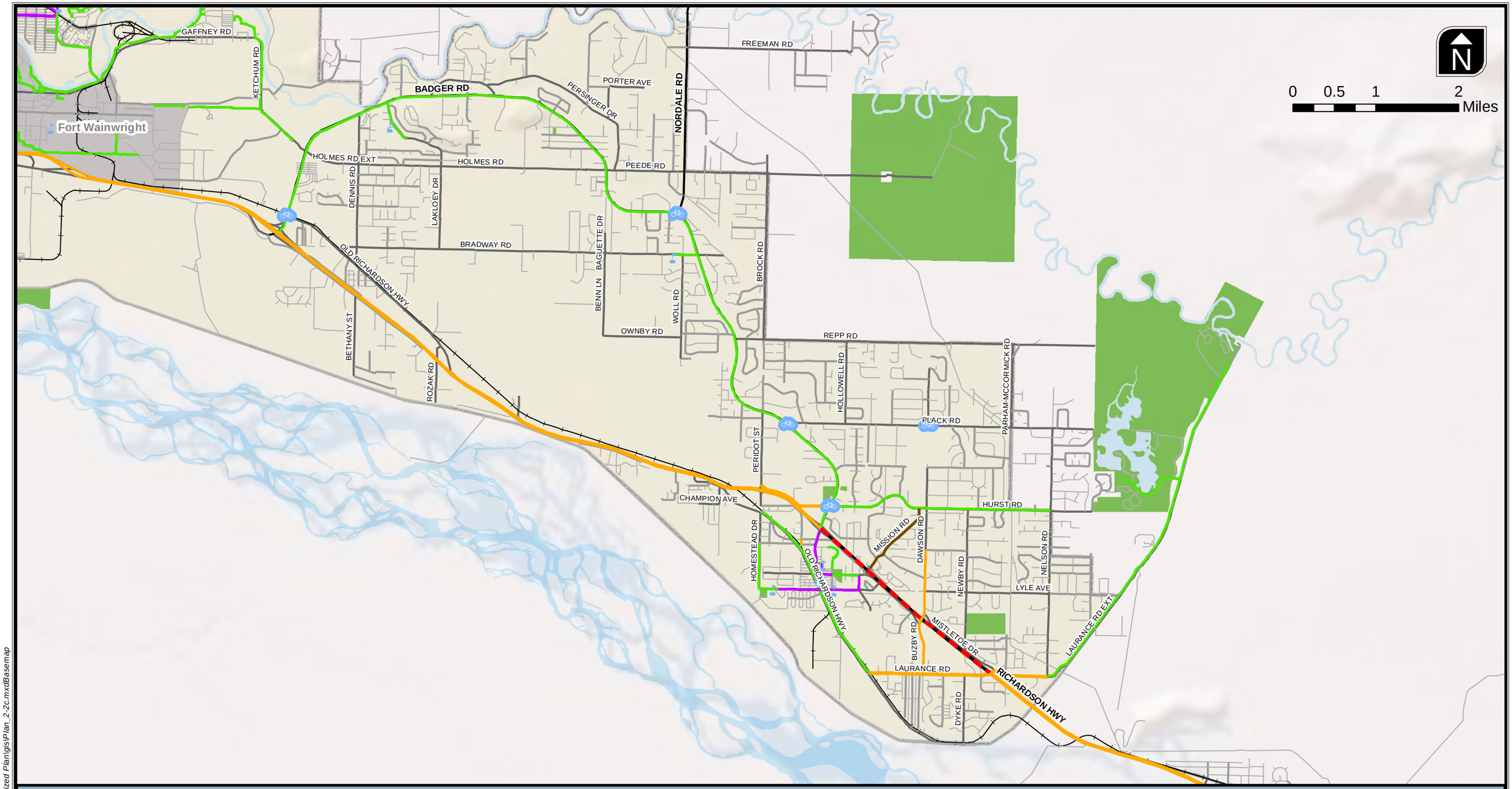

LEGEND

Bicycle Traffic	Existing Bike Network	Activity Generators	
2 - 36 Bicycles	Roads with shoulders	Hospital	Parks
38 - 68 Bicycles	Shared-use path	Library	FMATS Boundary
81 - 131 Bicycles	Sidewalk connection	School	
	Unimproved facility	Shopping	
	Bikes prohibited		

BICYCLE TRAFFIC COUNTS NORTH POLE-BADGER AREA

FMATS
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PDC INC. ENGINEERS

Figure 2-2C

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2.1.3 Crash Data Review

The review of historic crash data is summarized here for both pedestrians and bicyclists, given the overlap between the two in terms of locations of crashes.

Historic crash data within FMATS is reviewed to identify opportunities to reduce crashes involving bicyclists and pedestrians. Crashes involving bicycles and pedestrians are typically underreported given that crashes between the two modes are often not reported and slow speed crashes with a vehicle may not involve an injury or enough property damage to warrant reporting. As such, only limited conclusions may be drawn from the data. The results of this analysis are used to help develop, refine, and prioritize infrastructure improvements. Other methods of data collection, including public input and stakeholder outreach complement this analysis by helping to identify where pedestrians and bicyclists do not feel safe.

ADOT P&F has provided crash history reports for the years 2004-2008. These records, which include all types of crashes, provide standard information for every reported crash in that time frame. The reports are usually provided by the police and include date, time, location, crash type, and severity. During this time period, 131 crashes involve either a pedestrian or bicyclist, including five fatalities. Figure 2-3 illustrates the crashes by year and severity and Table 2-3 summarizes the pedestrian and bicycle crashes relative to overall crashes in the FMATS area.

According to 2005-09 ACS data, pedestrians and bicyclists comprise just under 7-percent of the travel mode share in the entire Fairbanks North Star Borough (FNSB). They are involved in less than 2-percent of roadway crashes in the FMATS area. However, as shown in Table 2-3, non-motorized users are overrepresented in severe injury and fatal crashes . This data points to the vulnerability of non-motorized transportation users and supports an emphasis being placed on safety measures for them.

Figure 2-3 Bicycle and Pedestrian Crashes from 2004 to 2008

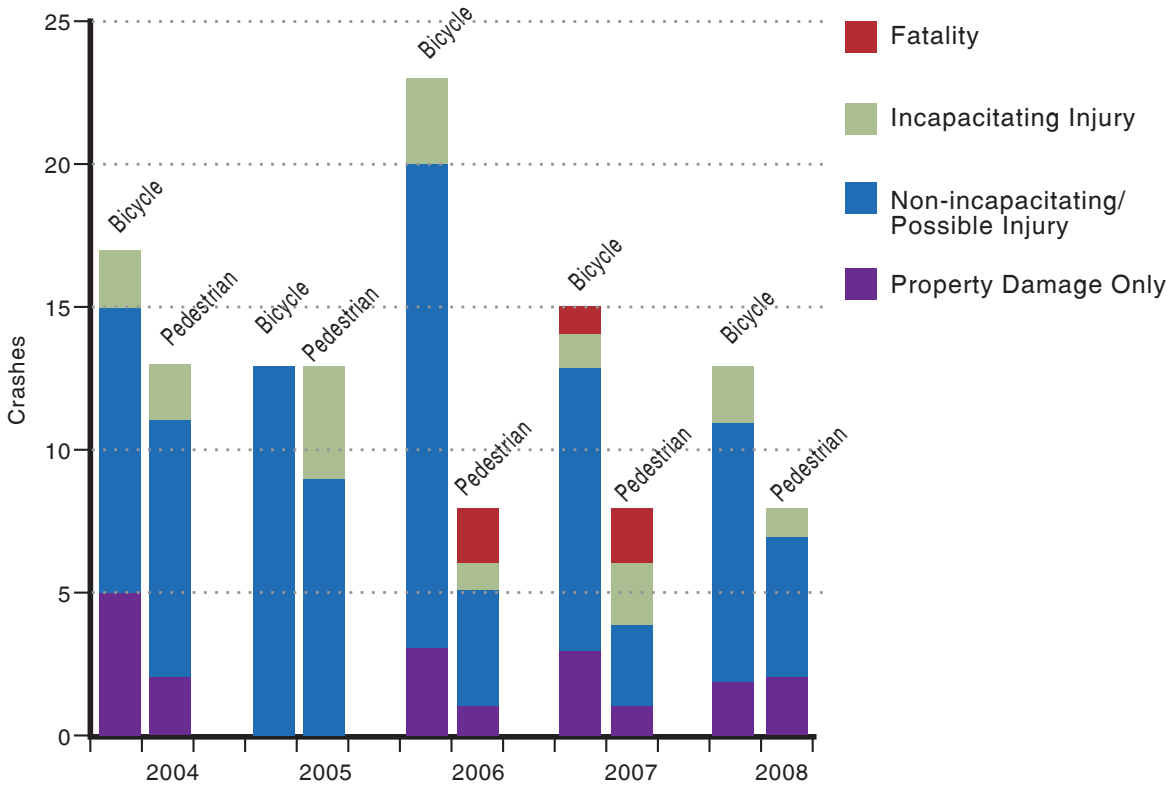


Table 2-3 Pedestrian and Bicycle Crashes in FMATS (2004-2008)

Crash Severity	Pedestrian	Bicycle	Other	Percent non-motorized
Propert y Damage Only[1]	8	16	5,257	0.5%
Non-Incapacitating Injury	28	56	1,469	5.4%
Incapacitating Injury	10	8	153	10.5%
Fatality	4	1	28	15.2%
Total	50	81	6,907	1.9%

[1]*These are most likely to be underreported because there is typically not a police report if the pedestrian or bicyclist does not need medical attention.*

The data is analyzed in greater detail in order to better understand possible trends in the data. First, the data is screened to identify any overall trends. Then, a crash density analysis in Geographic Information System (GIS) software highlights areas of particular concern (i.e. where crashes are concentrated most closely). Once those areas are identified, targeted "hot spots" are reviewed more closely.

2.1.3.1 Overall Trends

In many crash records, data related to the actions of individuals involved in the crash is not reported. Therefore, the review of trends focuses on areas where the data is more complete, such as roadway surface condition and light condition. These are both areas that can be influential due to the area's geographic location, which leads to a significant period of time with snow and ice on the ground and long hours of darkness during the winter months. Table 2-4 shows the results of this analysis.

Table 2-4 Surface and Light Conditions in Reported Non-Motorized Crashes (2004-2008)

Condition	Percentage of Crashes
Snow/Ice	20%
Dark	19%

The table shows that a significant portion of crashes involving non-motorized users reported during the study time period occur when snow and ice are present and/or when it is dark (with or without roadway lighting present). This analysis does not show that either of these conditions causes crashes. Rather, it is possible that they are contributing factors. Alcohol is also suspected to have been involved in nearly 25% (motorized and non-motorized users alike) of these crashes during this time period. However, the data does not fully indicate whether or not it actually is a factor in all these crashes as this may not be discovered until after the crash report is completed. This data is also missing from several entries. Therefore, it is difficult to draw any strict conclusions.

2.1.3.2 Crash Density Analysis

Bicycle and pedestrian crashes that occurred on an ADOT P&F roadway are mapped using a GIS to provide a spatial representation of the five years of crash data . Then, to identify crash clusters, a crash density analysis is performed. A density analysis is used to show where crashes are concentrated and spreads them across an area based on the number and proximity of the crashes. This analysis helps highlight those areas with the most active crash history that may warrant further evaluation. Crash density maps are provided for the Fairbanks urban area and the North Pole-Badger area in Figure 2-4 and Figure 2-5, respectively.

Figure 2-4 Pedestrian and Bicycle Crash Locations and Density (2004 – 2008), Fairbanks, Alaska

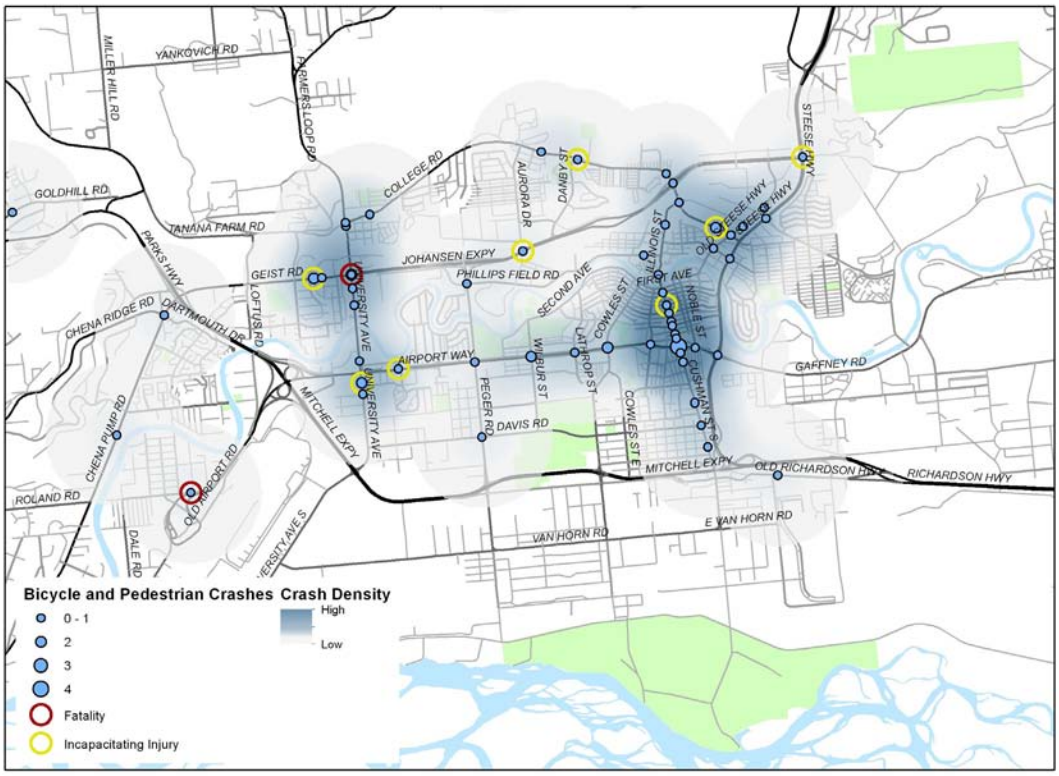
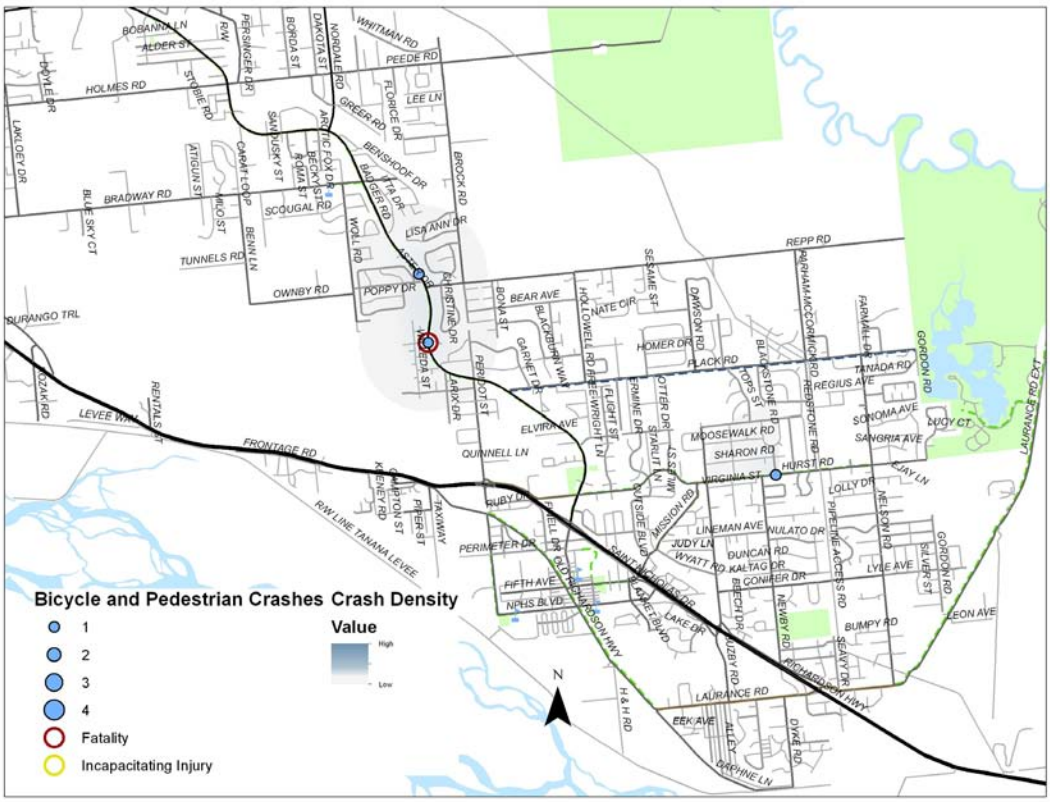


Figure 2-5 Pedestrian and Bicycle Crash Locations and Density (2004 – 2008), North Pole-Badger, Alaska



2.1.3.2 Corridor Analysis

Not surprisingly, the greatest density of crashes is found near downtown Fairbanks and along other major activity corridors. Using this analysis, the following corridors are further analyzed:

- University Avenue
- Airport Way
- Cushman Street
- College Avenue
- Geist Road

Table 2-5 summarizes the crashes on each corridor.

Table 2-5 Crash Summary on Selected Corridors (2004-2008)

Corridor	Crashes		Total	Roadway Length (Miles)	Crashes per Mile
	Pedestrian	Bicycle			
Airport Way	7	13	20	3.8	5.3
Cushman Street	6	10	16	2.5	6.4
University Avenue	4	8	12	2.2	5.5
College Road	4	7	11	4	2.8
Geist Road	-	6	6	0.5	12

Approximately half of the pedestrian and bicycle crashes recorded (65 out of 131) occur on these five corridors. Four of the five selected corridors have more than ten crashes during the five years for which data is analyzed, or more than two per year. When normalized for roadway length, four of the corridors also experience crash rates greater than five crashes per mile over the same timeframe. Geist Road has a particularly high rate of crashes per mile. This may be attributable to relatively high activity in the area, the frequency of commercial driveways across the shared-use path on the south side of the road, and high speed and high volume traffic on Geist Road.

2.1.3.3 Intersection Analysis

Additionally, intersections with more than one non-motorized crash during the past five years include:

- Cushman Street/Airport Way
- University Avenue/Geist Road
- Airport Way/Wilbur Street
- Airport Way/Cowles Street
- College Avenue/Crossover Way (signalized access to the Bentley Mall west of the Old Steese Highway)
- Geist Road/Jennie Lane
- University Avenue/Safeway Entrance (recently reconstructed; therefore the data is likely no longer applicable)

Cushman Street/Airport Way

Three pedestrian crashes and one bicycle crash have been reported at the intersection of Cushman Street/Airport Way, which is more than any other intersection in the FMATS area. Cushman Street/Airport Way is a four-way intersection controlled by a traffic signal. Airport Way is a four-lane divided arterial with left and right turn lanes on both approaches, and Cushman Street is a three-lane roadway with left turn lanes at the signal. The crashes are summarized in Table 2-6.

Table 2-6 Pedestrian and Bicycle Crashes at Cushman Street/Airport Way (2004-2008)

Date	Crash Type	Severity	Weather	Light Conditions	Reported Event	Alcohol Involved?
9-23-2004	Bicycle	Non-Incapacitating	Clear	Dark – Lighted Roadway	Cyclist entered traffic lane	Cyclist suspected of intoxication
9-27-2004	Pedestrian	Non-Incapacitating	Cloudy	Daylight	Pedestrian Error/ Confusion	No
5-31-2005	Pedestrian	Non-Incapacitating	Rain	Daylight	Left-turning driver collided with pedestrian in crosswalk	Driver suspected of intoxication
11-2-2005	Pedestrian	Non-Incapacitating	Clear	Dark – Lighted Roadway	Pedestrian entered roadway	Pedestrian intoxicated

Of the four crashes, only one is attributed to driver error. The other three crashes involve the non-motorized user entering a travel lane inappropriately. There are a number of possible causes for such behavior, including alcohol use, excessive pedestrian delay, or other events. Further examination of the intersection would be needed to draw firm conclusions.

University Avenue/Geist Road

The intersection of University Avenue/Geist Road is the location of three bicycle crashes between 2004 and 2008. University Avenue/Geist Road is a four-way signalized intersection and both roads have four lanes with turning lanes at the intersection. An off-street shared-use path runs parallel to University Avenue, crossing Geist Road at the crosswalk on the southern approach. Table 2-7 summarizes these crashes.

The third crash, known as a "right-hook" is a particularly common crash type for bicycles where a right-turning motorist hits a cyclist traveling through the intersection.

Other Intersections

The remaining intersections each experienced two crashes during the five years studied and are summarized in Table 2-8.

Many of the crashes are attributed to driver, cyclist, or pedestrian error, namely failing to yield right-of-way.

Table 2-7 Pedestrian and Bicycle Crashes at University Avenue/Geist Road (2004-2008)

Date	Crash Type	Severity	Weather	Light Conditions	Reported Event	Alcohol Involved?
7-12-2006	Bicycle	Non-Incapacitating	Cloudy	Twilight	No event data available	No
8-1-2007	Bicycle	Fatality	Clear	Twilight	Cyclist failed to yield right-of-way	Cyclist and motorist suspected of intoxication
11-9-2007	Bicycle	Non-Incapacitating	Clear	Daylight	Right-turning driver failed to yield right-of-way to cyclist	No

Table 2-8 Pedestrian and Bicycle Crashes at Selected Intersections (2004-2008)

Date	Crash Type	Severity	Weather	Light Conditions	Reported Event	Alcohol Involved?
Airport Way/Wilbur Street (Four-way stop-controlled intersection with frontage roads)						
5-24-2006	Bicycle	Non-Incapacitating	Clear	Daylight	Bicycle entered traffic lane, failing to yield	No
8-28-2007	Bicycle	Non-Incapacitating	Clear	Daylight	Driver turning left failed to yield to cyclist	No
Airport Way/Lathrop Street (Four-way stop-controlled intersection with frontage roads)						
9-7-2006	Bicycle	Non-Incapacitating	Clear	Daylight	Cyclist disobeyed traffic signal	No
4-24-2004	Bicycle	Non-Incapacitating	Clear	Daylight	Cyclist disobeyed traffic signal	No
College Road/Crossover Way (Four-way signalized intersection)						
1-17-2004	Pedestrian	Incapacitating Injury	Icy	Dark – Lighted Roadway	Pedestrian failed to yield; walked into roadway	Suspected of intoxication
7-19-2006	Bicycle	Non-Incapacitating	Clear	Daylight	Cyclist failed to yield and collided with vehicle	No
Geist Road/Jennie Lane (Three-way stop-controlled intersection)						
10-4-2005	Bicycle	Non-Incapacitating	Clear	Daylight	Unlicensed motorist ran stop sign and collided with bicycle	No
8-27-2008	Bicycle	Incapacitating Injury	Cloudy	Daylight	Cyclist ran stop sign and collided with vehicle	No

For these types of crashes, infrastructure improvements may be implemented to increase the visibility of non-motorized users or otherwise improve the crossing condition for them. Educational outreach efforts to inform all users of the rules of the road and their responsibility to look out for others (e.g., "Share the Road") may also be beneficial.

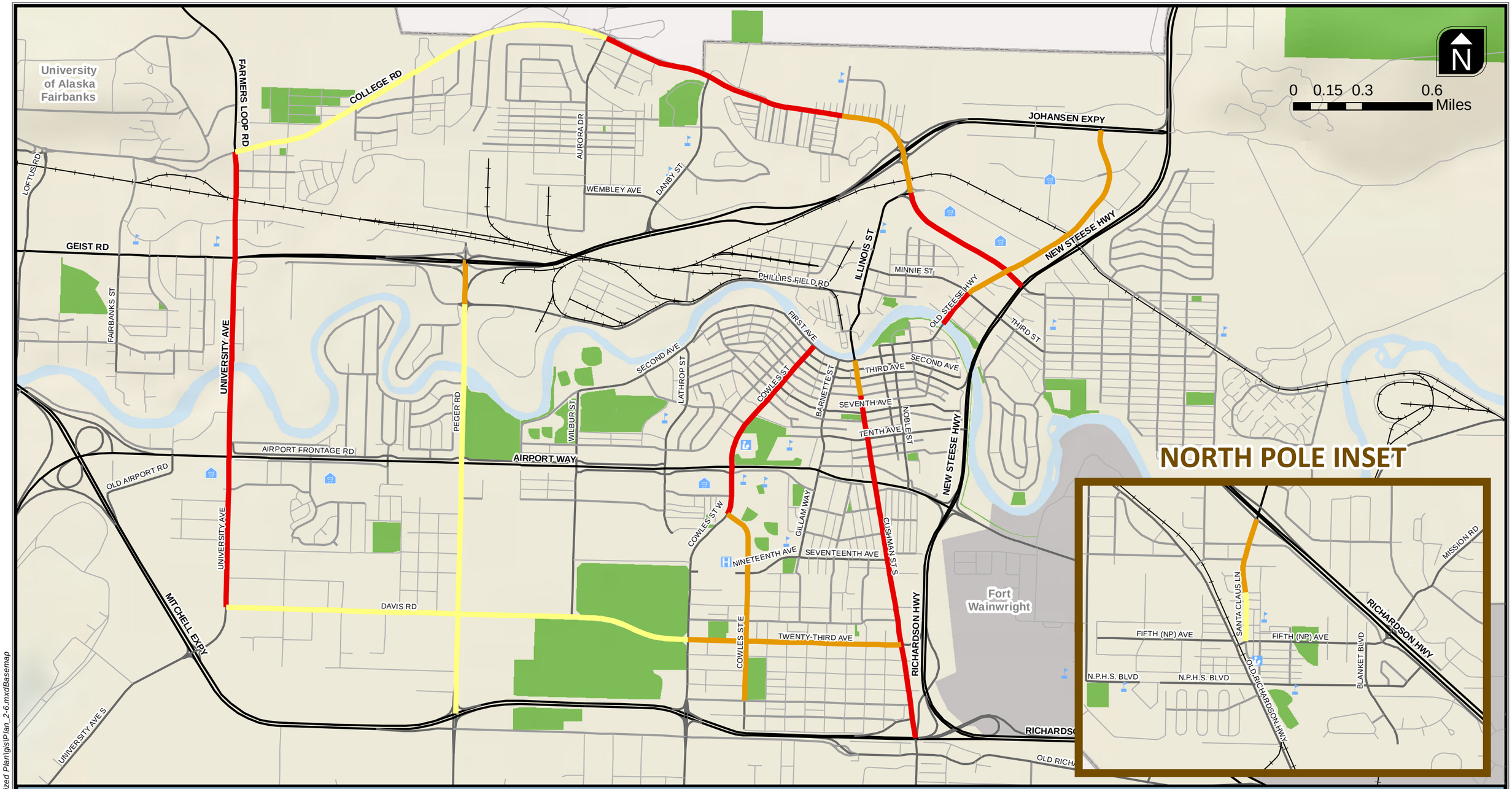
2.1.4 Measuring Bicycle Friendliness

The 2010 *Highway Capacity Manual* provides a scientific basis for evaluating multimodal level of service (MMLOS) on urban streets for autos, bicyclists, pedestrians, and transit riders. The MMLOS analysis method for urban streets consists of a set of recommended procedures for predicting traveler perceptions of quality of service and performance measures for urban streets. Because the models are perception-based, they offer a measure of how "bicycle friendly" an urban street is.

A level of service (LOS) for each mode is derived based on several inputs related to conditions along the corridor. The types of inputs considered by this analysis for bicyclists include peak hour traffic volumes, presence and width of shoulders or bicycle lanes, crossing delay, and driveway and unsignalized intersection density. The overall facility LOS score for bicyclists is based on the link LOS, intersection LOS, and the density of driveways and unsignalized intersections along the corridor. Note that the analysis assumes that the bicyclist is in the roadway and not riding on the sidewalk.

The following is a list of parameters that have a significant influence on the bicycle LOS scores. This is not a comprehensive list of all inputs.

- Vehicle volume in outside (right) lane
- Heavy vehicle percentage
- Vehicle speeds
- Travel lane and bicycle lane widths
- Pavement quality
- Signalized intersection cross street width
- Unsignalized intersections / driveways density



LEGEND

Bicycle LOS
- LOS C/D
- LOS E
- LOS F

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

BICYCLE LOS RESULTS FAIRBANKS AND NORTH POLE

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-6

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Back of 11x17 figure

The corridors examined for Bicycle LOS analysis are:

- College Road: University Avenue – Steese Expressway
- Cowles Street: 27th Avenue – 1st Avenue
- Cushman Street: 28th Avenue – 1st Avenue
- Davis Road/23rd Avenue: University Avenue – Cushman Street
- Old Steese Highway: Chena River – Johansen Expressway
- Peger Road: Mitchell Expressway – Johansen Expressway
- Santa Claus Lane: Fifth Avenue – Richardson Highway
- University Avenue: Davis Road – College Road

These corridors have been chosen based on input from the project advisory group and a number of selection criteria. These criteria include:

- The density of surrounding land-use
- Whether improvements to the corridor are likely needed
- Geographic diversity
- Whether or not the Bicycle LOS method is applicable to the corridor
- Level of use, as measured from the counts previously discussed.

A number of major corridors (e.g., Airport Way, Badger Road, Farmers Loop Road, etc…) are not included due to the nearby presence of a shared-use path, which would require the use of a different analysis method.

Figure 2-6 shows the results of this analysis for the eight corridors analyzed. Scores for the eight corridors range between LOS "C" and "F." Generally speaking, LOS "C" is the highest score one would expect to see for bicyclists due to the nature of the overall LOS model. A section that receives a score of LOS "C" has little to no room for improvement, from a LOS perspective. That is not to say that such a corridor may not need any improvements. There are factors not captured by the model that may still need to be addressed (e.g., crash issues, urban design, wayfinding, a particularly busy driveway, etc…). Also, local opinions of certain facilities may differ from the national work, which could also affect how the results are interpreted. Therefore they should not be treated as absolute measurements, but as a general view of how "bicycle-friendly" a corridor is.

It should also be noted that pavement condition has a significant effect on the Bicycle LOS. Due to extreme weather conditions, many area roadways have below-average pavement ratings. This has reduced the score for certain corridors in this analysis. To account for this, a second analysis has been performed, where each road is given an average pavement rating. These scores show what the rating would be if the road were recently repaved or rebuilt. The results of this analysis are shown in Figure 2-7.

> The analysis assumes that the bicyclist is in the roadway and not riding on the sidewalk

The results for each corridor are discussed in greater detail below.

College Road: University Avenue – Steese Expressway

Figure 2-6 shows that College Road currently provides a Facility LOS for bicyclists in the "C"-"D" range west of Aurora Drive. However, this score is due in large part to there being fewer unsignalized intersections and driveways than other sections and high intersection scores (LOS "A"/"B"). When the overall score is drilled down to the link element, that is the section between signalized intersections, only, the score for this section of College Road in both directions is "F". The link score could be improved by adding bicycle lanes or shoulders to the road.

College Road has a LOS of "E" and "F" between Aurora Drive and Illinois Street. These lower scores are the result of higher traffic volumes, lack of a bike lane or shoulder, traffic speeds, and the density of driveways and unsignalized intersections. Controlling for pavement quality in this section has limited impact, at best bringing the LOS "F" scores to LOS "E." The section from Illinois Street to the Steese Expressway is also at LOS "F." Traffic speeds and the density of unsignalized access points are not as much of a concern on this section, but traffic volumes are higher than on previous sections. Controlling for pavement quality in this section brings the scores up to LOS "E" from Illinois Street to the Old Steese Highway and LOS "D" from the Old Steese Highway to the Steese Expressway. The score is higher in the latter section due to the lower number of unsignalized access points. Link scores for this section are still in the LOS "E" to "F" range.

Cowles Street: 27th Avenue – 1st Avenue

Cowles Street is at LOS "F" for bicyclists between where it splits south of Airport Way to 1st Avenue. Traffic volumes are not a particular concern on Cowles Street; however, there are a number of unsignalized intersections and driveways along this corridor. Controlling for pavement quality improves the scores to LOS "E" north of Airport Way and LOS "D" south of Airport Way. Cowles Street also does not have a shoulder or bike lane.

South of the split, E Cowles Street is at LOS "E" due to a lack of shoulders or bike lanes. When the pavement quality factor is neutralized, the score improves to LOS "D." This is higher than north of the split, as traffic volumes are lower on the southern section of E Cowles Street.

Cushman Street: 28th Avenue – 1st Avenue

South Cushman Street is rated as LOS "F" for bicyclists between 28th Avenue and Airport Way. This section contains a relatively high density of unsignalized intersections and commercial driveways. It also lacks shoulders or bike lanes. Controlling for pavement quality has only a slight impact on the scores, with the section between Airport Way and 15th Avenue increasing to LOS "E," though it is right at the "F" threshold, and the other sections remaining at LOS "F."

Traffic volumes increase on Cushman Street north of Airport Way; however, the density of access points decreases. As a result, Cushman Street is at LOS "E" and "F" between Airport Way and 1st Avenue, with the slightly higher rating coming when access is more limited. Controlling for pavement quality generally improves scores to LOS "D" north of 7th Avenue as traffic volumes decrease slightly. The City is currently undertaking a study that will examine how to improve this section of Cushman Street to better accommodate cyclists.

Davis Road/23rd Avenue: University Avenue – Cushman Street

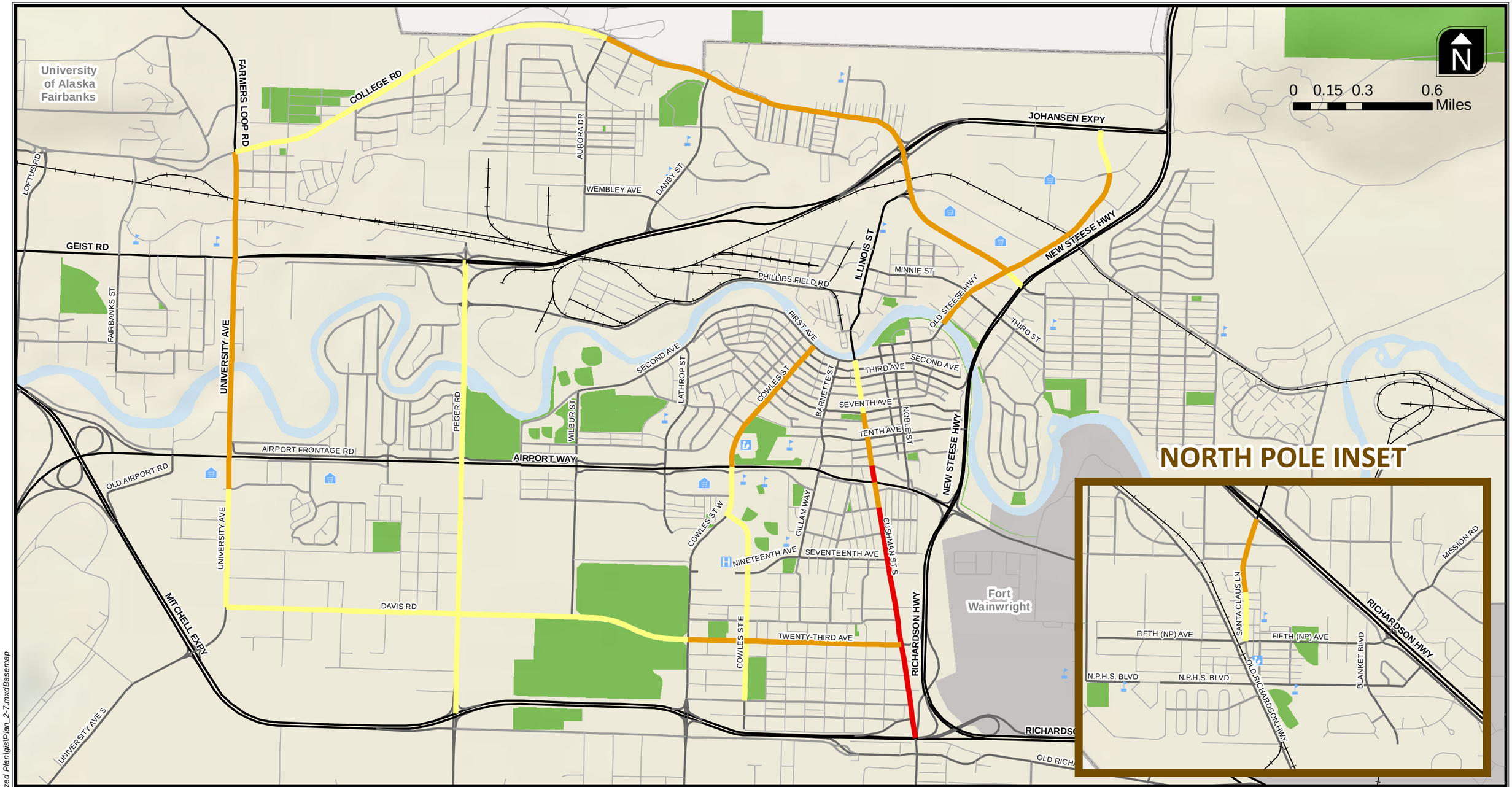
Davis Road from University Avenue to Lathrop Street is at LOS "C/D" for bicyclists. Traffic speeds are relatively high on this corridor (posted 45 mph); however, volumes are low. There are also few accesses onto Davis Road and bicyclists are able to ride on the approximately 7 – 8 feet wide shoulder out of the vehicular travel lane. The link scores for this section are LOS "B."

East of Lathrop Street, Davis Road becomes 23rd Avenue. From this point east, there are no longer shoulders on the road. Consequently, 23rd Avenue is rated at LOS "E," though it is right at the threshold for LOS "D."

Controlling for pavement quality has no impacts on this corridor.

Old Steese Highway: Chena River – Johansen Expressway

The Old Steese Highway receives its lowest LOS ratings for bicyclists ("E" and "F") between the Chena River and College Road because there are not shoulders or bike lanes. North of College Road, there are shoulders for bicyclists to use, but the density of driveways onto the road cause the LOS to remain at "E."



LEGEND

Bicycle LOS
- LOS C/D
- LOS E
- LOS F

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

BICYCLE LOS RESULTS (CONTROLLED FOR PAVEMENT QUALITY) FAIRBANKS AND NORTH POLE

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-7

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Controlling for pavement quality has limited impacts to the LOS on this corridor. It does improve the score north of Helmericks Avenue, but the raw numerical score is right on the LOS "E" threshold.

Peger Road: Mitchell Expressway – Johansen Expressway

Peger Road generally scores in the LOS "C" – "D" range from the Mitchell Expressway to Phillips Field Road. There are continuous shoulders, sometimes as wide as eight feet, and relatively few driveways along this section of Peger Road. North of Phillips Field Road, there is no shoulder and there are a number of conflicting movements around the interchange. Consequently, the LOS degrades to "E" for bicyclists. Controlling for pavement quality does improve this last section's LOS to "D;" however it is on the threshold for LOS "E" and the link LOS remains in the "E" to "F" range.

Santa Claus Lane: 5th Avenue – Richardson Highway

Santa Claus Lane receives its highest score in the LOS "C" to "D" range for bicyclists between 5th Avenue and 2nd Avenue. Its score lowers north of 2nd Avenue due to the lack of shoulders and an increase in the density of unsignalized access points. The road is fairly wide in this section and may actually perform better than is shown in this analysis. In fact, the link LOS for this section is in the "B" to "C" range.

Controlling for pavement quality has no impacts on this corridor.

University Avenue: Davis Road – College Road

In its current configuration University Avenue is rated at LOS "F" for bicycles. This is due primarily to high traffic volumes traveling at relatively high speeds, along with the density of unsignalized access points onto University Avenue. There are no shoulders on University Avenue north of Rewak Drive, either. There is a planned project to widen University Avenue and provide shoulders on both sides.

Controlling for pavement quality improves the LOS to "E" north of Rewak Drive and "D" south of Rewak Drive. The higher score south of Rewak Drive is largely due to the presence of shoulders.

MMLOS Summary

Of the eight corridors analyzed, certain sections of some of the corridors currently provide a LOS of "C" or "D" to bicyclists. Most are currently rated at "E" or "F". In the majority of these instances, this level of bicycle "unfriendliness" is due to high traffic volumes and a lack of separation from motorized vehicle traffic that would be provided if a shoulder, or better still, bike lane were present. Driveway consolidation along certain corridors would improve bicyclist comfort. Repaving or rebuilding certain corridors would also improve the experience for bicyclists.

As was previously mentioned, the Bicycle LOS model does not capture all elements that affect a bicyclist's experience. Nor do they take into account the uniqueness of each corridor and the local attitudes and norms of the FMATS region. Therefore the results of these analyses are used in conjunction with feedback from community members, local agency staff, and field observations to develop and prioritize recommendations later in this plan.

2.1.5 Bikes on Buses

Buses in the FNSB are equipped with racks to store bicycles. This allows individuals to use transit when their trip's origin and/or destination may be too far from the nearest transit stop for walking to be convenient or practical. According to FNSB staff, the Green and Grey lines are the most popular routes for bicyclists. These routes serve lower density areas in North Pole and along Farmers Loop Road, respectively, which may explain why bicycles are more common on them than other routes. Ridership data provided by FNSB staff shows

that from June 2010 to September 2011, the number of bicyclists riding the Green line ranges from a high of 806 bicyclists in June 2011 to a low of 84 bicyclists in December 2010.

Bicycle loading/unloading information is not available on a per-stop basis. If it were to be collected at some point in the future it could be used to help prioritize improvements or identify locations for bike parking.

2.1.6 Gaps and Other Opportunities to Improve

Gaps and other opportunities to improve the system have been identified based on comments provided by the public via the project's interactive website and a project team review of the network.

2.1.6.1 Priority Bicycle Network

A priority bicycle network has been developed to identify key travel links for cyclists in the FMATS area. The network is identified by assessing the existing transportation network, including on-street and off-street walking and cycling routes, feedback from the public, and the project team's familiarity with the area. Cyclists generally choose their travel route by finding a balance of directness and comfort. The priority network is intended to provide safe and comfortable facilities for most of the travel distance for the majority of cycling trips. The goal of the network is to provide these connections to and from major origins and destinations, including homes, offices, retail, and entertainment uses.

The priority bicycle network is divided into two tiers indicating the level of priority within the network. It includes the following roadways and is illustrated in Figures 2-8a and 2-8b:

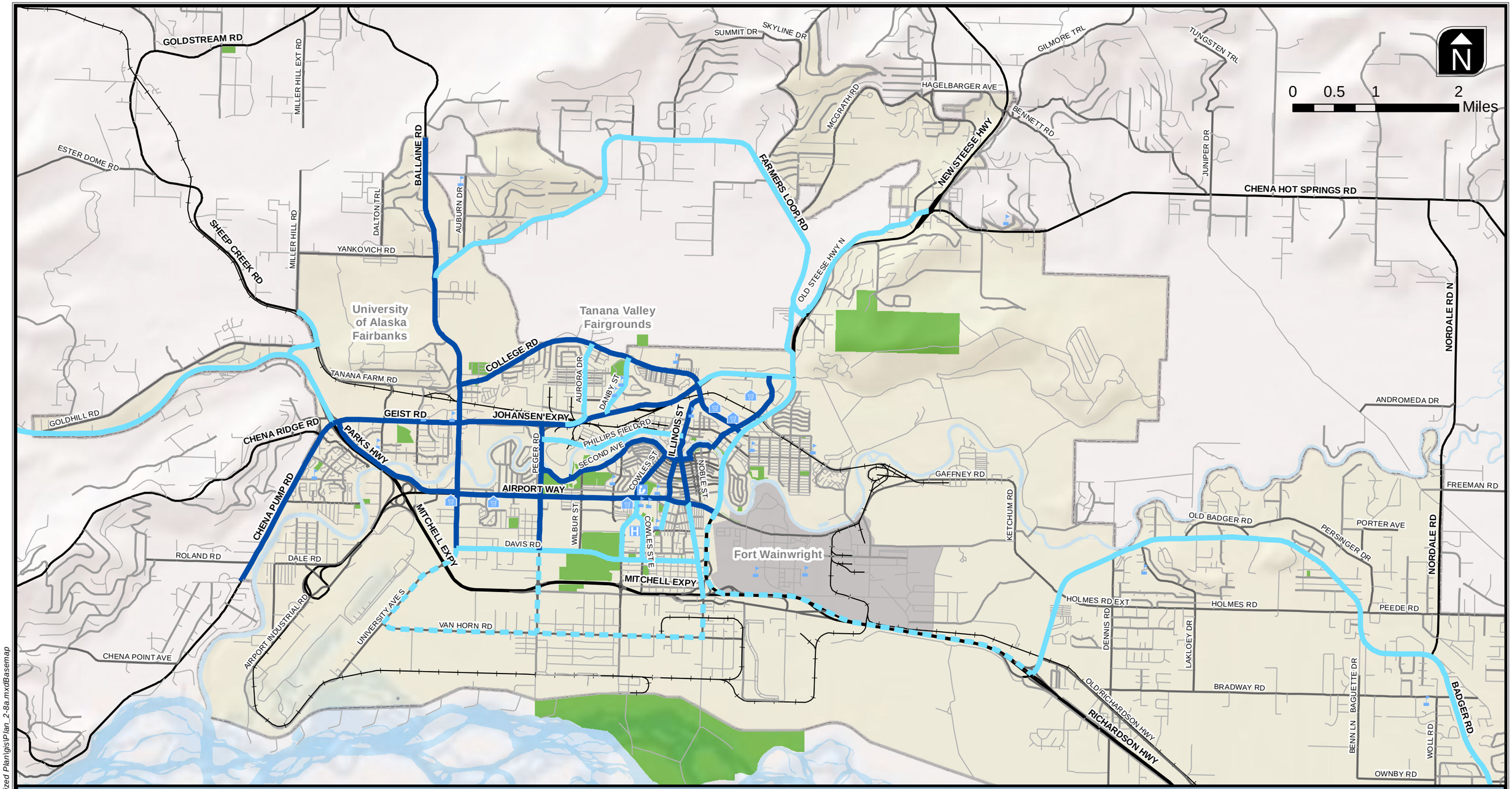
Tier 1 Corridors

- University Avenue
- College Road
- Geist Road
- Chena Pump Road
- Airport Way
- Peger Road
- 2nd Avenue
- Cowles Street (north of Airport Way)
- Cushman Street
- Illinois Street
- Old Steese Highway (south of Johansen Expressway)
- Barnette Street

Tier 2 Corridors

- Parks Highway
- Sheep Creek Road
- Farmers Loop Road
- Aurora Drive
- Danby Street
- Davis Road
- Cowles Street (south of Airport Way)
- Cowles Street W
- Cowles Street E
- Gillam Way
- S Cushman Street
- Old Steese Highway (north of Johansen Expressway)
- Badger Road
- Hurst Road
- Phillips Field Road

In addition to the existing tiers listed previously, Figure 2-8a also identifies future priority corridors. These are corridors that will likely see increased bicycle activity with future development. Consideration should be given to providing for bicycle traffic in advance of development along these corridors. They include:



LEGEND

Tier
- Tier 1 Corridor
- Tier 2 Corridor
- Future Corridor

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITY BICYCLE NETWORK FAIRBANKS-WEST BADGER AREA

FMATS
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PDC INC. ENGINEERS

Figure 2-8A

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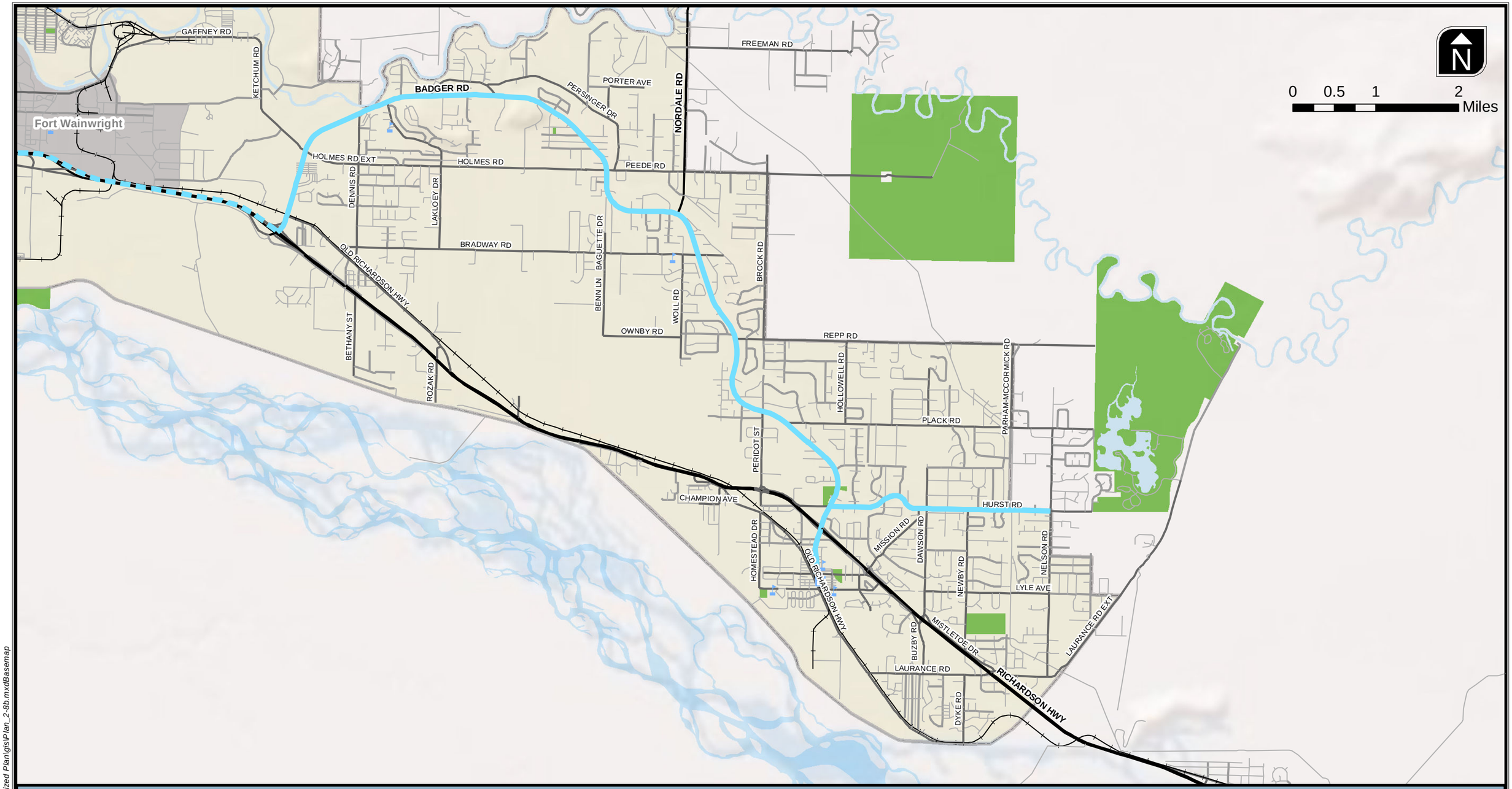

LEGEND

Tier
- Tier 1 Corridor
- Tier 2 Corridor
- Future Corridor

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITY BICYCLE NETWORK NORTH POLE-BADGER AREA

FMATS
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PDC INC. ENGINEERS

Figure 2-8B

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- University Avenue (south of Davis Road)
- Van Horn Road
- Peger Road (south of Davis Road)
- S Cushman Street (south of Mitchell Expressway)
- Richardson Highway (Airport Way – Badger Road)

2.1.6.2 Priority Bicycle Network Issues

The facilities in the priority network represent a wide range of cycling accommodation. Some of the travel routes have well developed cycling facilities, while others may provide a needed connection, but require investments to improve comfort and safety. This section identifies gaps in the network, either where facilities are missing or where they are inadequate based on public comment. Figure 2-9 illustrates these issues on the priority bicycle network.

University Avenue

University Avenue is a four-lane road with no shoulders. Traffic volumes and speeds are high, so cycling on the street is uncomfortable for most riders. As a result, many choose to ride on the sidewalk, which is the signed bicycle route. The sidewalk is technically wide enough to accommodate both cyclists and pedestrians. The width of University Avenue is reduced at the Chena River bridge and the sidewalks become too narrow for cyclists and pedestrians to share.

Frequent and closely spaced driveways along the strip retail development south of Airport Way create a number of potential conflicts for cyclists, especially since drivers may not expect cyclists riding on the sidewalk.

College Road

College Road is a very popular route for cyclists due to its proximity to the university and high numbers of potential cyclists. There are no paved shoulders on this four-lane road, and many cyclists ride on the sidewalk, which is the signed bicycle route. Traffic volumes are not very high west of the Johansen Expressway, so some cyclists are comfortable riding on the roadway. Still, to accommodate the majority of riders, paved shoulders and/or bike lanes are needed along College Road.

The offset Margaret Street and Antoinette Avenue intersections are awkward for cyclists. Motorists often pull through the crosswalk in order to acquire better visibility, introducing another potential hazard for cyclists.

The interchange at the Johansen Expressway creates a potential safety hazard for cyclists. No facilities are provided on the street, and the sidewalk crossing is confusing and difficult to navigate. Also, the design of the interchange encourages high-speed turning movements and creates four conflict points in each direction for cyclists on College Road.

East of the Johansen Expressway, the character of College Road changes considerably. Land use patterns reflect suburban style development with "big-box" retail stores in the area. Frequent and closely-spaced driveways create potential conflict points for bicycles and vehicles. Moreover, driveway designs encourage high-speed and unpredictable vehicle turning movements. Access management in this area would calm traffic and improve conditions for cyclists.

Peger Road

A separated biking and walking trail is located along Peger Road, which provides a comfortable cycling option for most riders. The quality of the off-street path is inconsistent, with significant repair needed in some parts, particularly near the bridge over the Chena River.

Cowles Street

Cowles Street is a relatively low-speed, moderate- to low-volume two-lane roadway connecting into downtown Fairbanks from the south. There is no shoulder for cycling, so some cyclists ride in the road and others use the sidewalk. The sidewalk is not wide enough to comfortably accommodate both cyclists and pedestrians, and cyclists in the road must ride in the travel lane forcing vehicles to pass when possible.

A particular problem occurs at the intersection of Cowles Street and the Airport Way frontage road. This unsignalized intersection features a pedestrian priority crosswalk with an opening in the Cowles Street median to permit bicycle and pedestrian through-movements. The crossing is slightly offset with the intersection which makes it awkward for cyclists. Moreover, the close proximity of this intersection to the Cowles Street/Airport Way intersection causes queuing problems in both directions.

Old Steese Highway

The Wendell Avenue bridge across the Chena River is used by cyclists to connect between the off-street trails on the north and south sides of the river, as well as Wendell Avenue. However, both the bridge itself and the connections between the trails and bridge are in need of upgrade. From the north, cyclists must either walk their bicycles up a set of stairs or detour to the intersection with 2nd Street. The south side connects to the Old Steese Highway sidewalk, but there is no curb cut to access the roadway. On the bridge there are no shoulders and only a narrow sidewalk on each side of the street. Cyclists must either ride in the street or attempt to negotiate the sidewalk. They face similar issues north of the bridge to College Road.

Several other issues occur north of College Road. Paved shoulders are provided, but a lack of access management (frequent and poorly defined driveways and a center left turn lane) creates unpredictable and uncomfortable traffic conditions. The intersection of Old Steese Highway/Johansen Expressway leaves cyclists with nowhere to go and is in need of some kind of accommodations.

The section of the Old Steese Highway north of Farmers Loop Road to Chena Hot Spring Road is used as an alternative to riding along the Steese Highway. Traffic volumes and speeds are lower on this road than the nearby access-controlled Steese Highway. However, unlike the Steese Highway, the Old Steese Highway does not have shoulders for bicyclists. The connection to the Old Steese Highway at Farmers Loop Road could also use improvement.

Cushman Street

Cushman Street becomes a one-way street at 10th Avenue that heads northbound into downtown Fairbanks, and becomes two-way at the Chena River crossing. Through downtown it is three lanes wide with no shoulders or bike lanes. The direct connection across the Chena River makes Cushman Street a popular choice for cyclists, pedestrians, and motorists. But the auto-focused design makes cycling uncomfortable. Reducing the number of travel lanes and adding a bike lane or providing in-street pavement markings would improve conditions through downtown.

Airport Way

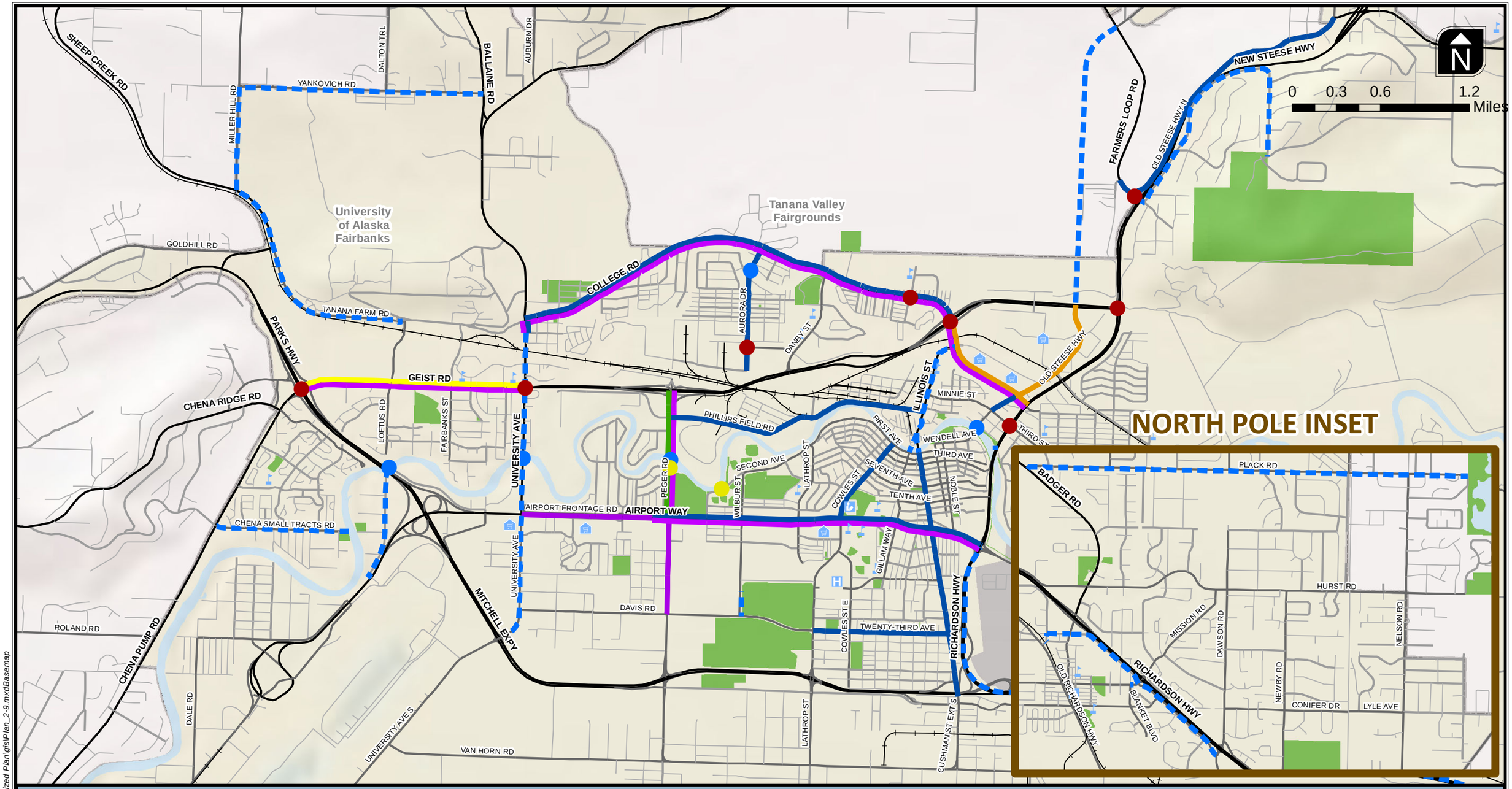
Bicycling is prohibited on Airport Way, but a separated bike path is provided west of Wilbur Street. East of Wilbur Street cyclists can ride on the Airport Way frontage road, which also provides local access to properties for vehicles. Several issues are noted along these routes, including path continuity, maintenance, crossings, and design. The frontage roads prioritize vehicle access and do not allow for comfortable through movements for cyclists.

Geist Road

Geist Road is a relatively high-volume and high-speed roadway between the Parks Highway and the Johansen Expressway. The south side of the road is lined with commercial uses and connections to the residential areas, while two schools and connections to UAF are on the north side. Consequently, this route is well-used by cyclists. The only continuous facility for cyclists is the shared-use path on the south side, which leads to conflicts with pedestrians. Also, as was previously mentioned, this area has the highest density of non-motorized crashes.

Aurora Drive

Aurora Drive provides a connection between College Road and the path along the Johansen Expressway. Currently cyclists either share the road or ride on the



LEGEND

Issue Type
- Pedestrian Conflicts
- Crash Issues
- Driveway Conflicts
- Maintenance Issues
- Needs Bike Facilities
- Bridge Crossing Issue
- Intersection Crossing Issue
- Path Abruptly Ends
- Planned Bike Facility

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

GAPS AND OTHER DEFICIENCIES ON PRIORITY BICYCLE NETWORK FAIRBANKS AND NORTH POLE

FMATS
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PDC INC. ENGINEERS

Figure 2-9

H:\proj\file\11220 - Fairbanks Non-motorized Plan\gis\Plan_2-9.mxd\Basemap

Back of 11x17 figure

sidewalk. The bridge over the Chena Slough also has a narrow sidewalk that is uncomfortable for cyclists and limited sight distance. This connection could be enhanced with shoulders or signage.

2.1.6.3 Other Bike Network Issues

In addition to the issues described above on the priority network, members of the public, agency staff, and the project team identified opportunities to improve other aspects of the bicycle network. These include location-specific and area-wide opportunities.

Location-Specific

Location-specific opportunities are noted here:

- Bradway Road – Improvements may be needed on the eastern end within the vicinity of the school.
- Van Horn Road-University Avenue-S Cushman Street – Connecting these roads by filling in the current gaps in the shoulders would provide a continuous route around southern Fairbanks.
- Wilbur Street: 19th Avenue – Davis Road – Extending the existing path would provide a complete connection to the parks.
- Santa Claus Lane – Improving the area around the roundabouts for bicyclists would enhance cyclist comfort and safety.
- Richardson Highway – Parallel facilities along the section from Badger Road to Laurance Road would provide a complete connection along the Richardson Highway.
- 10th Street – 10th Street is currently showing as a "sidewalk connection" in the existing bike network. Traffic volumes and speeds may be low enough on this street for a Bicycle Boulevard treatment.
- Goldhill Road – Goldhill Road provides a parallel route to the Parks Highway, but currently has relatively narrow shoulders.

Ice and gravel linger in Fairbanks into Spring

- Maintenance – Several areas were noted as being in need of repair or maintenance. These areas have been noted and will be forwarded on to the appropriate agency.

Area-wide

Programmatic opportunities are described in the Policies, Programs, and Laws Review subsection 2.3. However, one issue is mentioned in a significant portion of the comments received through the project website and bears a short mention here in this subsection: seasonal maintenance. In fact, several comments placed this as a higher priority than building new facilities.

The FMATS area experiences a long winter season with snow and ice present for several months. Several comments request that wintertime maintenance efforts (e.g., plowing) be increased on bicycle facilities, including maintaining more facilities and maintaining facilities more regularly.

Once the snow and ice melts, there is a significant amount of gravel left behind on roadway shoulders. Comments also indicate that this is a problem on shared-use paths where all-terrain vehicles (ATVs) ride adjacent to the path and kick gravel up on to the path. Gravel is particularly problematic for road bikes with narrow tires. Several comments request that sweeping efforts on these facilities be increased.

Improving both of these types of maintenance efforts will make bicycling in the FMATS area safer and more comfortable throughout the year. Doing so will in turn increase bicycle activity on the existing network. Therefore, increasing maintenance efforts on existing facilities will be important to increasing bicycling activity in the FMATS area.

2.1.6.4 Planned Bicycle Facility Projects

Figure 2-9 also illustrates currently planned bicycle facilities; either shoulders or shared-use paths. These facilities are already in some stage of the project development process, ranging from the early planning stages to the environmental and design phases. Comments received for these projects will be passed on to the appropriate agency project manager. This plan does not address these facilities, except for prioritization of the long-range projects.

Bicycle facilities are currently planned for:

- Chena Small Tracts Road
- Goldhill Road
- Yankovich Road
- Miller Hill Road
- Birch Hill Road
- Illinois Street
- Plack Road
- St. Nicholas Drive
- Park Way
- Finnell Drive
- Old Steese – McGrath Road connector
- Farmers Loop Road – Chena Hot Springs Road connection
- Richardson Highway
- University Avenue

2.2 PEDESTRIAN SYSTEM

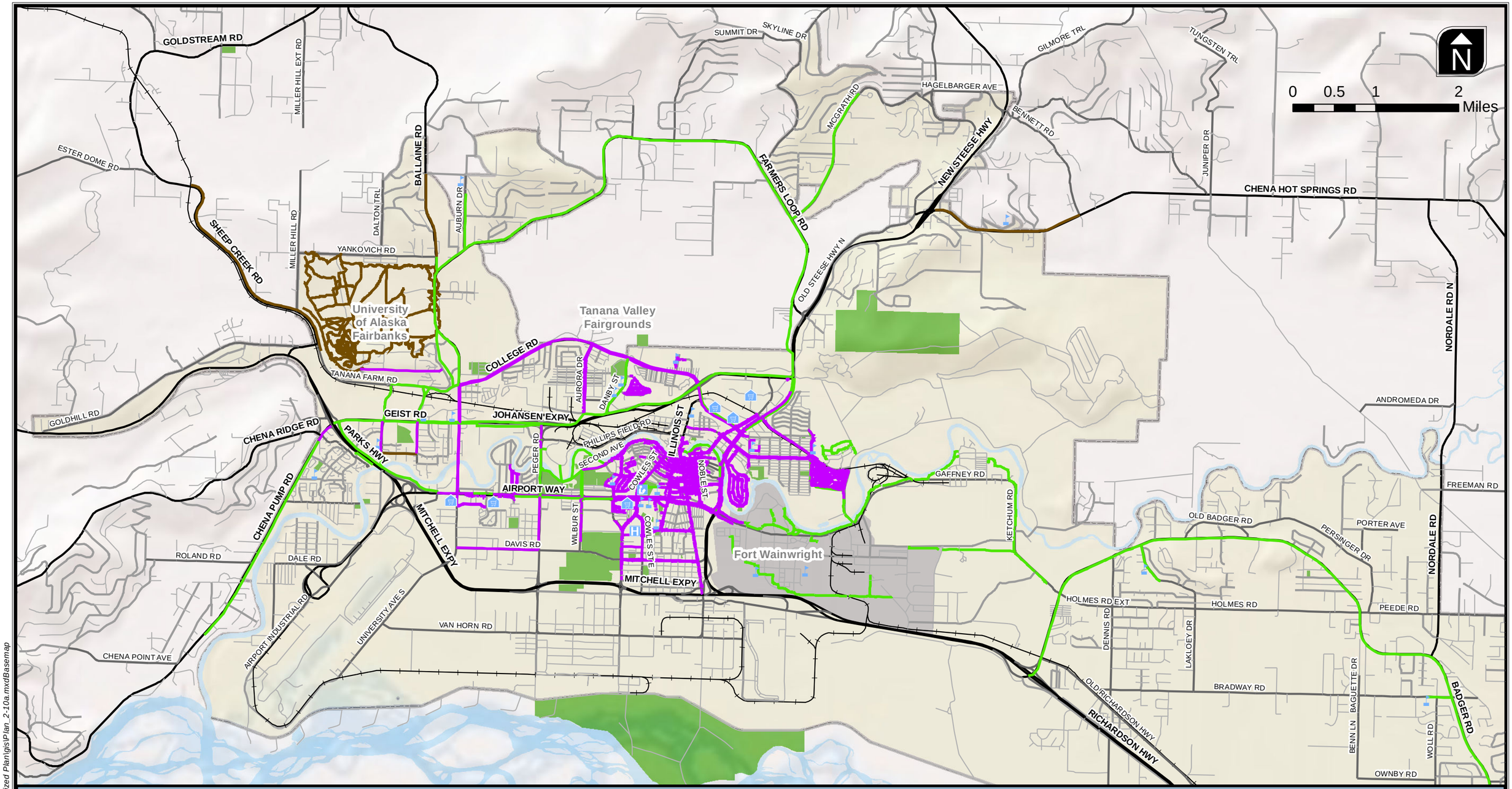
Walking is the most basic form of transportation. Nearly every trip begins and ends with a walking trip, even if it as short as the walk to and from the car on either end of the trip. Walking trips generally fall into one of the four following categories:

- Relatively short trips (under one mile) to local destinations, including schools, parks, stores, and civic facilities (e.g., libraries and recreation and community centers);
- Recreational trips;
- Commute trips, where residents live within walking distance to where they work; and
- Trips made by individuals without access to other transportation options.

The following subsections describe the existing condition of walking in the FMATS area and opportunities to improve.

2.2.1 Existing Network

The most obvious component of the pedestrian network is sidewalk. Shared-use paths are also an important piece of the pedestrian network. Figures 2-10a -2-10c show the existing sidewalk and shared-use path network in the FMATS area. This inventory is based on previous efforts, including the creation of the most recent version of the Bikeways map (2010), the FNSB North Pole Land Use Plan (2010), and a City of Fairbanks



LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

EXISTING PEDESTRIAN NETWORK FAIRBANKS-WEST BADGER AREA

FMATS
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PDC INC. ENGINEERS

Figure 2-10A

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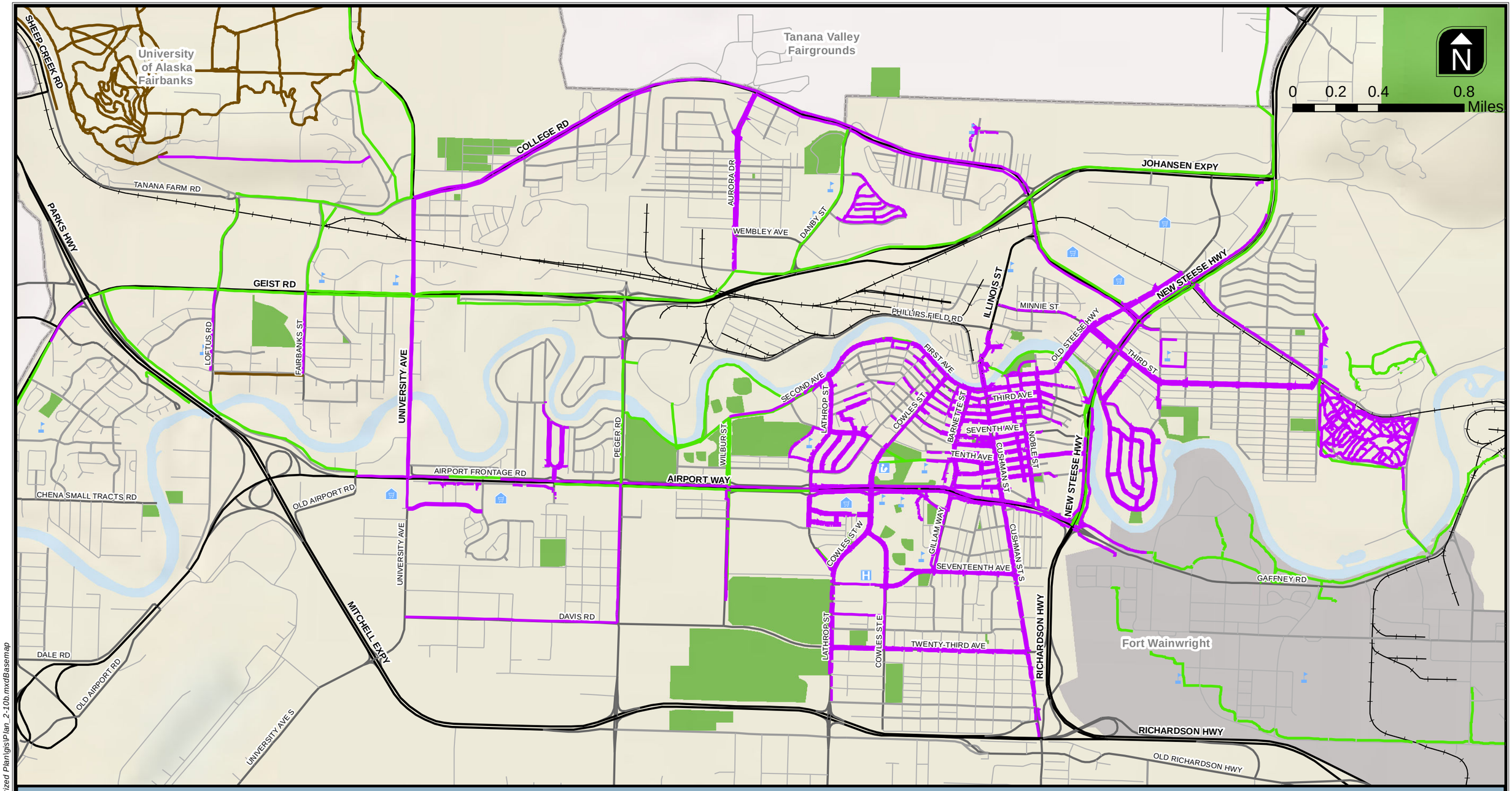

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

EXISTING PEDESTRIAN NETWORK FAIRBANKS

FMATS

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Figure 2-10B

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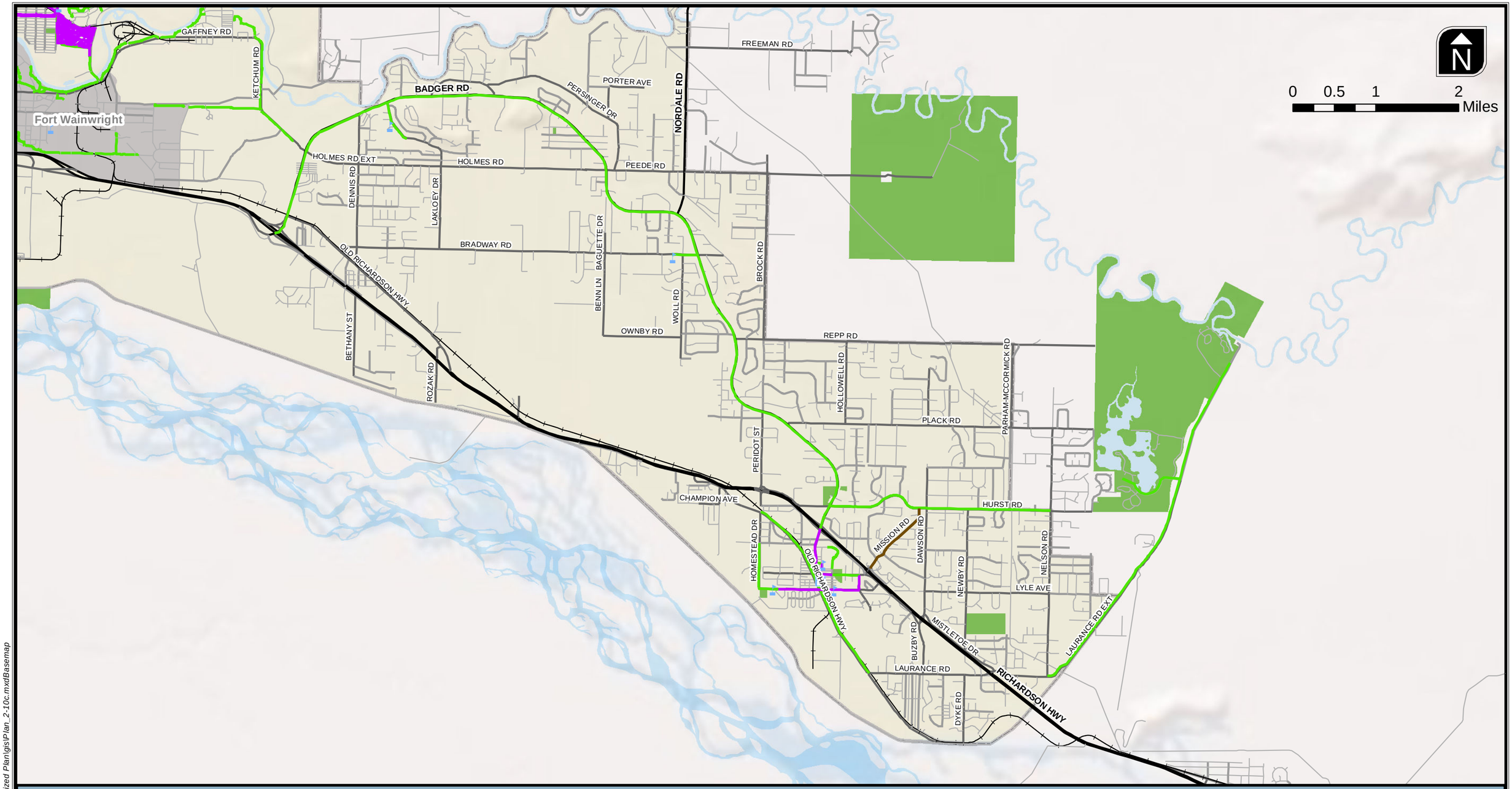

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

EXISTING PEDESTRIAN NETWORK NORTH POLE-BADGER AREA

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Figure 2-10C

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Table 2-9 Top Ten Pedestrian Count Locations

Location	Number of Pedestrians
Airport Way / Cowles Street	228 (152)*
1st Avenue / Cushman Street	154 (103)*
Airport Way / Cushman Street	114 (76)*
College Road / University Avenue	90 (60)*
Airport Way / University Avenue	55
Airport Way / Barnette Street	50
Airport Way / Peger Road	46
Trainor Gate Road / Old Steese Highway	43
Geist Road / Parks Highway	40
College Road / Steese Expressway	39

**ADOT&PF 3-hour count (2-hour estimate in parentheses)*

inventory. As such, the inventory shown in the figure is most complete within Fairbanks and North Pole city limits and along key bicycle corridors.

Sidewalks are most likely to be found alongside roads within the urban areas of Fairbanks. Based on the inventory shown in Figures 2-10a -2-10c, approximately 11% of all functionally classified roads within the FMATS boundary have sidewalks along one or both sides. However, just over 40% of all functionally classified roads, excluding expressways, within the more urban areas of Fairbanks have some degree of sidewalk coverage. When adjacent shared-use paths are taken into account, approximately 70% of these urban roads have some level of pedestrian facility coverage.

The FMATS region has an extensive network of shared-use paths. Many of the shared-use paths are located parallel to major roadway facilities and provide the opportunity for longer regional trips while separated from high-volume and/or high-speed roadways, such as Johansen Expressway, Farmer's Loop Road, Steese Expressway, and Badger Road. These types of trips are most suited for bicyclists, which are able to travel at faster speeds than pedestrians. For instance, nearly 75% of project survey respondents indicate their average walk is under five miles, while around two-thirds indicated their average bicycle ride is greater than five miles. Consequently, many pedestrian trips along some of these paths are likely to be recreational.

Shoulders can also serve as pedestrian facilities. This is most appropriate in rural areas where traffic volumes (both motorized and pedestrian) are relatively low and curbed sidewalks would be inconsistent with the context of the surrounding area. Curbed sidewalks may also present drainage issues in these areas if stormwater facilities do not exist in the area. An example of an area where this type of treatment may be appropriate is Davis Road between University Avenue and Peger Road.

2.2.2 How Many People Walk and Where They Walk

Counts of pedestrians have been conducted at several key locations throughout the FMATS area. These counts have been conducted by volunteers and by ADOT&PF on a mid-week day in May and June. Counts conducted by volunteers cover two hours during the weekday p.m. peak period, generally between 4:00 and 6:00 p.m., though there are variations between counts. ADOT&PF counts cover a three-hour period during the weekday p.m. peak, generally between 4:00 p.m. and 7:00 p.m. The ADOT&PF counts are conducted as a part of its annual count program. These counts are primarily focused on motor vehicle traffic, though they also include pedestrians crossing at crosswalks. Consequently, the counts only capture pedestrians if they cross at a crosswalk, therefore a number of pedestrians that travel through the intersection being studied without actually crossing a street are not counted (e.g., pedestrians walking with the flow of traffic making a right-turn are not counted since they do not need to enter the crosswalk to continue on their way). As a result, these counts may be missing a significant portion of non-motorized traffic. Consequently, for comparison purposes, the ADOT&PF counts are not reduced from three-hour counts to two-hour counts to match the volunteer counts, but are instead left as longer counts to compensate for this discrepancy. Given these discrepancies, these counts should not be interpreted as absolute measurements. Instead, they should be viewed as an estimate of where traffic is generally the highest.

Figures 2-11a – 2-11c show the results of the pedestrian counts. Table 2-9 contains a list of the top ten locations, by volume. The Technical Appendix contains the full count information.

As the figures show, the areas with the highest levels of observed pedestrian activity are primarily located in the urban areas of Fairbanks. All but two of the top ten locations, College Road/University Avenue and Geist Road/Parks Highway, are in Fairbanks city limits. Many of the locations are also similar to what is seen in the top-ten list for bicyclists, with the exceptions of College Road/University Avenue, Airport Way/Barnette Street, and College Road/Steese Expressway. Unlike with the bicycle counts, the top pedestrian activity locations come from ADOT&PF three-hour counts and are significantly higher than nearby intersections. This does not mean they are not reasonably calibrated; as was stated before pedestrian trips are not as long as bicycle trips, so it is not unusual for high areas of pedestrian activity to be more concentrated. Even if the 3-hour counts are reduced to 2-hours, they are still the highest four locations. The top four locations are either near downtown Fairbanks or the UAF campus where pedestrian activity is expected to be high.

The highest pedestrian traffic volume in the North Pole area is also at the Hurst Road/Badger Road intersection.

Pedestrian volume is generally the highest near expected activity centers, such as downtown Fairbanks, UAF, the Airport Way corridor, and around the major retail area surrounding the Bentley Mall.

2.2.3 Crash Data Review

The crash data review for pedestrians is previously summarized along with the bicycle crash data in section 2.1.3.

2.2.4 Measuring Pedestrian Friendliness

The 2010 *Highway Capacity Manual* provides a scientific basis for evaluating multimodal level of service (MMLOS) on urban streets for autos, bicyclists, pedestrians, and transit riders. The MMLOS analysis method for urban streets consists of a set of recommended procedures for predicting traveler perceptions of quality of service and performance measures for urban streets. Because the models are perception-based, they offer a measure of how "pedestrian friendly" an urban street is.

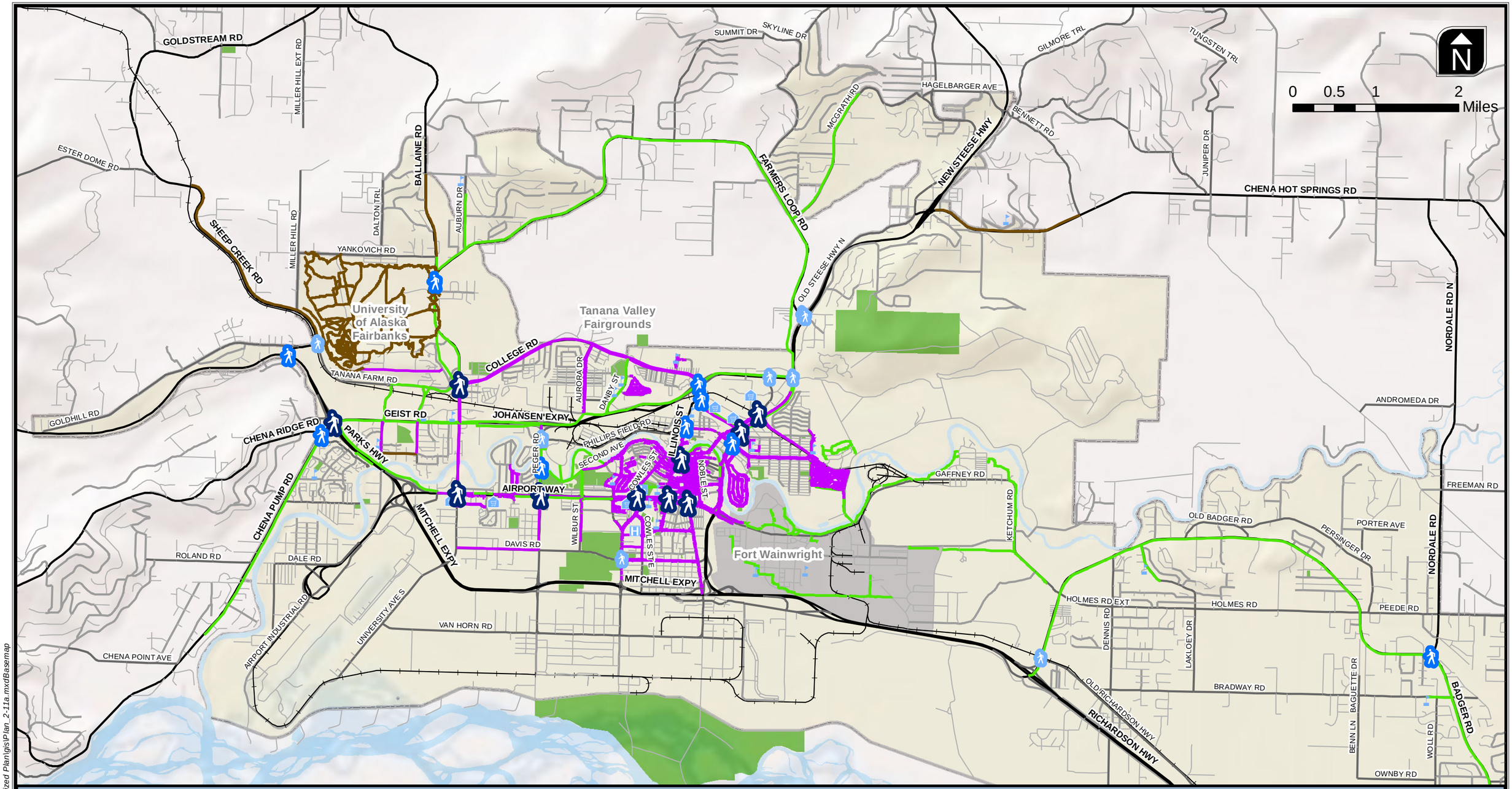
A level of service (LOS) for each mode is derived based on several inputs related to conditions along the corridor. The types of inputs considered by this analysis for pedestrians include peak hour traffic volumes, presence and width of sidewalks and bicycle lanes or shoulders, crossing delay, and the difficulty of making a mid-block crossing (if allowed). The overall facility LOS score for pedestrians is based on the link LOS, intersection LOS, and the difficulty of making a mid-block crossing (if allowed).

The following is a list of parameters that have a significant influence on the pedestrian LOS scores. This is not a comprehensive list of all inputs.

- Vehicle volume in outside (right) lane
- Vehicle speeds
- Presence and width of sidewalk and buffer
- Lateral separation between vehicles and pedestrians
- Right-turns on red and permitted left-turns during "Walk" phase
- Crossing delay (signalized and uncontrolled)

The corridors examined for Pedestrian LOS analysis are:

- College Road: University Avenue – Steese Expressway
- Cowles Street: 27th Avenue – 1st Avenue
- Cushman Street: 28th Avenue – 1st Avenue
- Davis Road/23rd Avenue: University Avenue – Cushman Street
- Old Steese Highway: Chena River – Johansen Expressway



LEGEND

Pedestrian Traffic
- 0 - 9 Pedestrians
- 12 - 37 Pedestrians
- 39 - 228 Pedestrians

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PEDESTRIAN TRAFFIC COUNTS FAIRBANKS-WEST BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-11A

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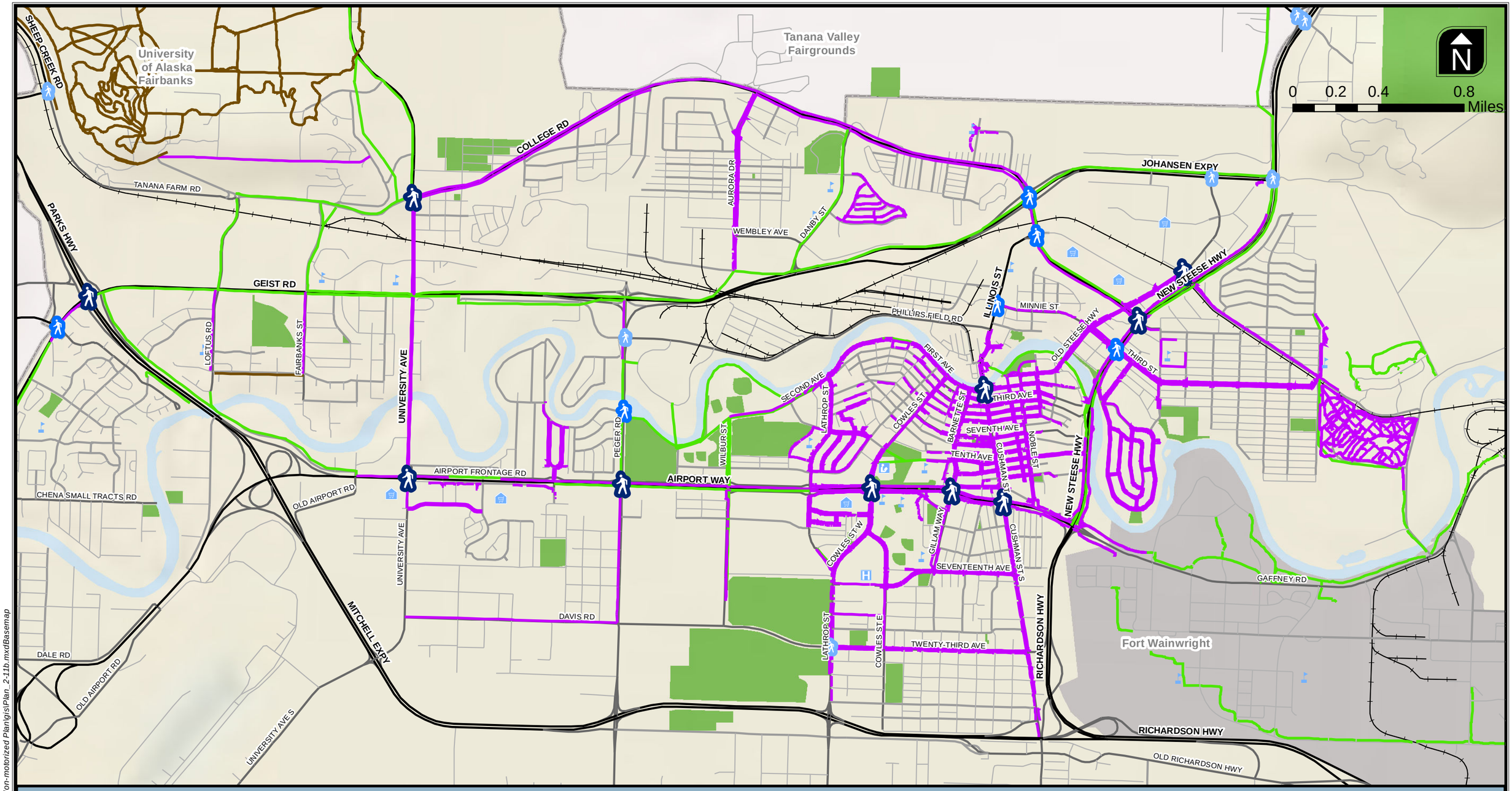

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LEGEND

Pedestrian Traffic
- 0 - 9 Pedestrians
- 12 - 37 Pedestrians
- 39 - 228 Pedestrians

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

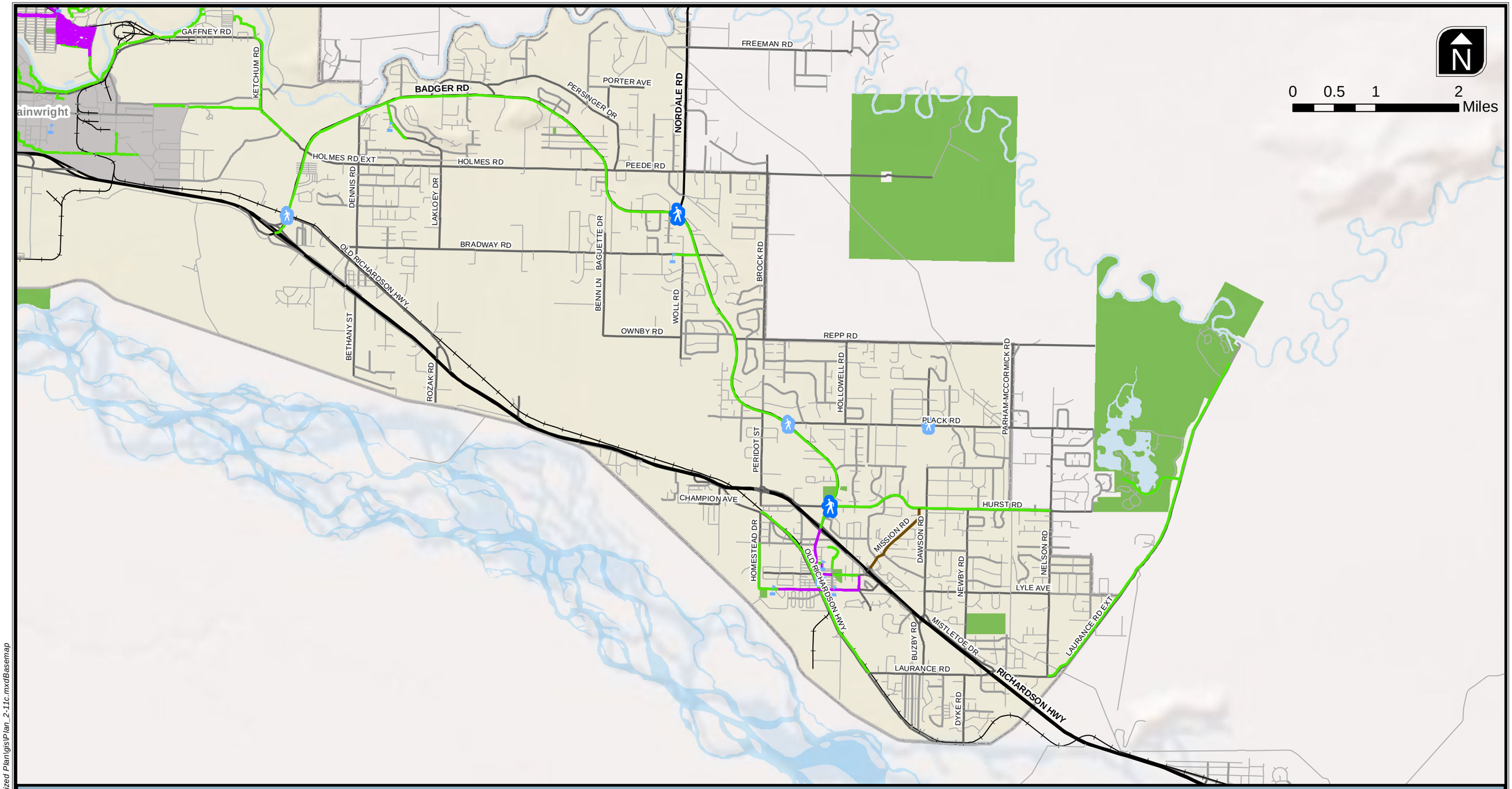
Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PEDESTRIAN TRAFFIC COUNTS FAIRBANKS

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-11B



LEGEND

Pedestrian Traffic
- 0 - 9 Pedestrians
- 12 - 37 Pedestrians
- 39 - 228 Pedestrians

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PEDESTRIAN TRAFFIC COUNTS NORTH POLE-BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
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Figure 2-11C

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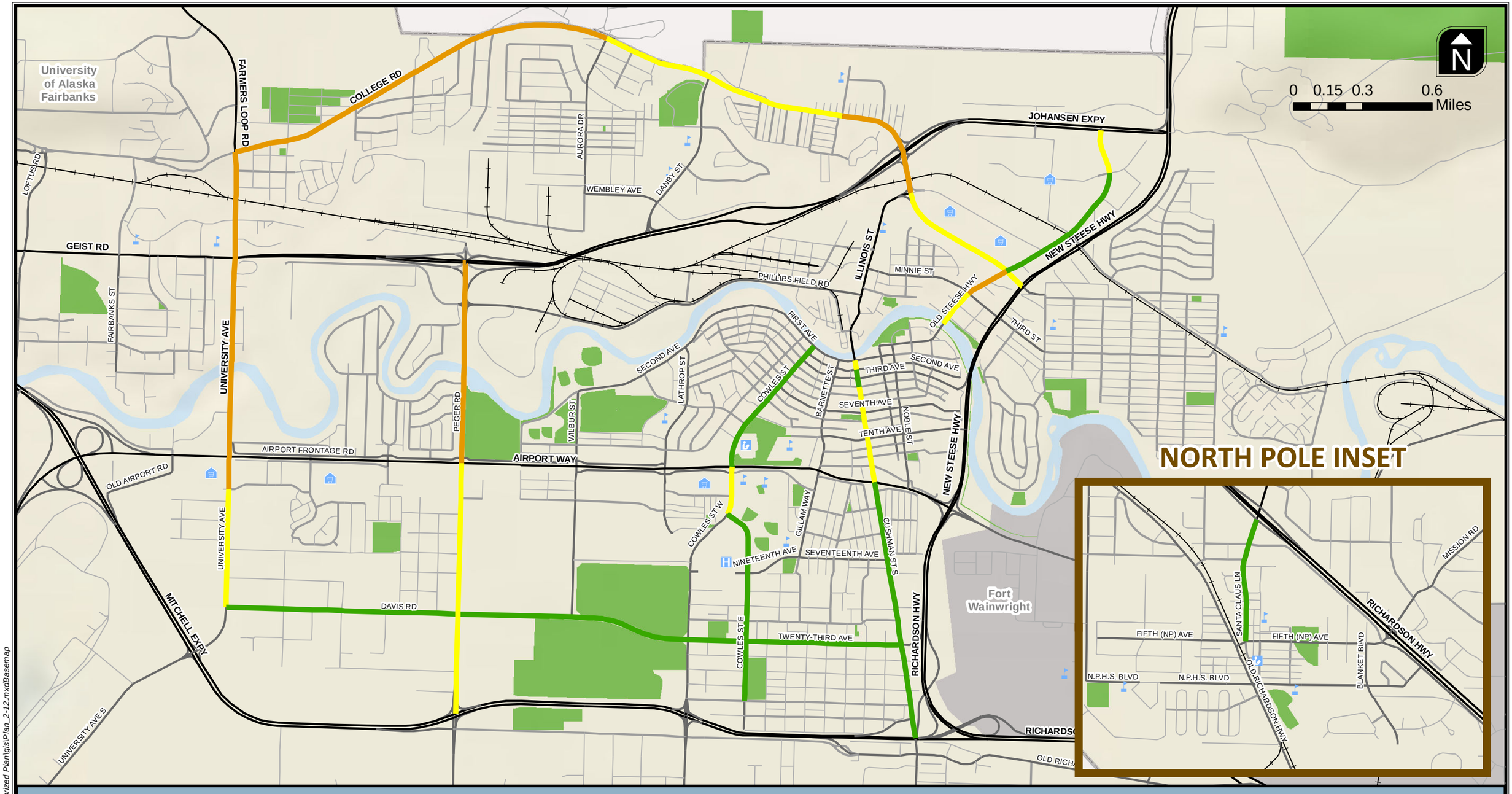

LEGEND

Pedestrian LOS
- LOS B
- LOS C
- LOS D

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PEDESTRIAN LOS RESULTS FAIRBANKS AND NORTH POLE

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Figure 2-12

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- Peger Road: Mitchell Expressway – Johansen Expressway
- Santa Claus Lane: Fifth Avenue – Richardson Highway
- University Avenue: Davis Road – College Road

These corridors have been chosen based on input from the project advisory group and a number of selection criteria. These criteria include:

- The density of surrounding land-use
- Whether improvements to the corridor are likely needed
- Geographic diversity
- Whether or not the Pedestrian LOS method is applicable to the corridor
- Level of use, as measured from the counts previously discussed.

Figure 2-12 shows the results of this analysis for the eight corridors analyzed. Scores for the eight corridors range between LOS "B" and "D." Generally speaking, LOS "A" is the highest score one would expect to see for pedestrians, though this score is rarely achieved. That is not to say that a corridor that is rated at LOS "B" may not need any improvements. There are factors not captured by the model that may still need to be addressed (e.g., cracks and heaving in the sidewalk, ADA deficiencies, crash issues, urban design, wayfinding, a particularly busy driveway, etc…). Also, local opinions of certain facilities may differ from the national work, which could also affect how the results are interpreted. This analysis does provide a general view of how "pedestrian-friendly" a corridor is and can inform a prioritization process.

The results for each corridor are discussed in greater detail below.

College Road: University Avenue – Steese Expressway

College Road generally provides a LOS of "D" to pedestrians between University Avenue and Aurora Drive. This is largely due to the significant gap in the sidewalk on the south side of College Road from Alaska Way to Aurora Drive. This gap will be filled in as part of a rehabilitation project on College Road. When this is completed, the overall LOS will be "C."

Much of the rest of the College Road area is at LOS "C" for pedestrians. There are sidewalks along these sections and the score would be higher if not for traffic volumes. Providing a buffer space between the sidewalk and the travel lane, even in the form of a shoulder, could improve the LOS.

The other area not at LOS "C" is the area surrounding the Johansen Expressway interchange. Traffic volumes are relatively high in this area. In addition, there are a number of vehicles turning on and off College road at the interchange, including a relatively high-volume of free-right-turns onto the interchange.

Cowles Street: 27th Avenue – 1st Avenue

The majority of Cowles Street is at LOS "B." Sidewalks are present along the roadway and traffic volumes south of the E/W Cowles Street split and north of Airport Way are relatively low. The LOS degrades to "C" between Airport Way and the E/W Cowles Street split, though it is close to the LOS "B" threshold. This degradation is due to an increase in traffic volumes.

Cushman Street: 28th Avenue – 1st Avenue

South Cushman Street provides a LOS "B" to pedestrians south of Airport Way. There are sidewalks on both sides of the road in this area and traffic volumes are moderate. The score for this area benefits from the relative ease of making a mid-block crossing along South Cushman Street, which has only moderate traffic volumes and a short cross-section (approximately 24 feet). If mid-block crossings are not considered, the LOS would be "C."

Cushman Street is in the LOS "B" to "C" range north of Airport Way through downtown Fairbanks. Sidewalks are continuous in this area and in some places they are relatively wide. Making a crossing of Cushman Street in downtown Fairbanks is relatively simple due to the short spacing and cycle lengths of traffic signals. The segments that are LOS "C" generally have sidewalk widths (approximately 5-7 feet) that are more consistent with a suburban arterial than a downtown main street. Buffer space in the form of a planter or bike facility would also improve the score in these areas.

Davis Road/23rd Avenue: University Avenue – Cushman Street

Despite not having sidewalks, Davis Road is currently at LOS "B" for pedestrians from University Avenue to Lathrop Street. It should be noted that the raw numerical score is near the LOS "C" threshold and the link (the section between signalized intersections) LOS is in the "C" to "D" range when there is not sidewalk. This segment is somewhat rural in nature and has relatively wide shoulders (approximately 7-8 feet) that provide pedestrians a space separated from motor vehicle traffic. Traffic volumes are in the low-moderate range in this area and the cross-section provides a short crossing distance (approximately 24 feet). It is likely that the estimated ease of making a midblock crossing is having more of an impact than it should in this case. Crossing demand is likely to be highest during events at the soccer fields, when traffic volumes will also be higher, making the crossing more difficult. If this factor is removed, then the score is a solid LOS "C." As the area around Davis Road develops, including the new sports fields around Lathrop Street, sidewalks will be needed.

23rd Avenue is also at LOS "B" for pedestrians. There are continuous sidewalks along 23rd Avenue and there is a buffer between the sidewalk and travel lane between Lathrop Street and Cowles Street. Traffic volumes are also lower on 23rd Avenue than on Davis Road.

Old Steese Highway: Chena River – Johansen Expressway

The Old Steese Highway provides a LOS of "C" from the Chena River to Minnie Street-3rd Street. This section has continuous sidewalk and moderate traffic volumes. The LOS degrades to "D" north of Minnie Street-3rd Street as traffic volumes increase on the Old Steese Highway. Traffic volumes decrease and shoulders provide additional separation from vehicular traffic north of College Road, resulting in a LOS of "B." Sidewalks do not exist north of Trainor Gate Road, forcing pedestrians to walk in the shoulder and resulting in a LOS of "C" that is right on the threshold of being LOS "D." It should be noted that this portion of the Old Steese Highway serves a number of big-box retailers and consequently traffic volumes are likely higher, and the LOS worse, on Saturdays and other peak shopping periods.

Peger Road: Mitchell Expressway – Johansen Expressway

Peger Road is rated the highest between the Mitchell Expressway and Airport Way at LOS "C" for pedestrians. There are no sidewalks on Peger Road between the Mitchell Expressway and Davis Road; however, traffic volumes are moderate and spread across two travel lanes. There are also 8-feet wide shoulders for pedestrians to walk along. It should be noted that the raw numerical score for this section is near the LOS "C"/"D" threshold. From Davis Road north to Airport Way there is a sidewalk on the west side of the road, but pedestrians on the north side must walk in the shoulder. The overall score for this section in both directions is "C," but the east side alone is rated at "D" due to the lack of a sidewalk.

The LOS decreases to "D" north of Airport Way. Again, there is no sidewalk on the east side of Peger Road, and in fact it scores a LOS of "E" in this section when looked at alone. The west side has a five-foot wide sidewalk from Airport Way to the Chena River where it transitions to an approximately nine- to ten-feet wide shared-use path to the Johansen Expressway. This section with the path is rated at LOS "C" when looked at individually. The addition of sidewalk on the east side of Peger Road be-

tween Davis Road and the Johansen Expressway would improve the experience for pedestrians.

Santa Claus Lane: 5th Avenue – Richardson Highway

Santa Claus Lane provides a LOS of "B" to pedestrians from 5th Avenue to the Richardson Highway. With the exception of the east side of the road between Cross Way and 2nd Avenue, there are relatively wide sidewalks (ranging approximately seven to fifteen feet) along Santa Claus Lane. Traffic volumes are relatively light and there is either a shoulder or a wide travel lane that provides additional separation between pedestrians and motor-vehicle traffic.

University Avenue: Davis Road – College Road

University Avenue receives its highest rating of LOS "C" from Davis Road to Rewak Drive. There are not sidewalks on this section and pedestrians must walk along the shoulder of the road. Consequently, the raw numerical score is right at the LOS "D" threshold.

From Rewak Drive to College Road, University Avenue provides a LOS of "D" for pedestrians. There are continuous sidewalks along this section, and in some cases they are wider than the standard five-feet. The score is degraded by the relatively high traffic volumes and the distance between signalized crossing opportunities. There is a planned widening project that will further buffer the sidewalks from motor-vehicle traffic with the installation of a shoulder.

MMLOS Summary

Of the eight corridors analyzed, many provide a LOS of "B" or "C" to pedestrians. However, many also provide a LOS of "D" or a "C" that is close to the "D" threshold. In the majority of these instances, this level of pedestrian "unfriendliness" is due to high traffic volumes and a lack of sidewalks.

As was previously mentioned, the Pedestrian LOS model does not capture all elements that affect a pedestrian's experience. Nor does it take into account the uniqueness of each corridor and the local attitudes and norms of the FMATS region. Therefore the results of these analyses are be used in conjunction with feedback from community members, local agency staff, and field observations to develop and prioritize recommendations.

2.2.5 Gaps and Other Deficiencies

Pedestrians experience the transportation network in two distinct yet interrelated ways: walking along a roadway and crossing roadways at intersections. Gaps in the network can occur in both areas, either where sidewalks are missing or inadequate or where roadway crossings are challenging, dangerous, or inconvenient. But even where sidewalks and crossings exist, they can be of a low level of service, as was discussed in the above section.

The pedestrian gap analysis, therefore, is a two-tiered process. First, physical gaps in the network are identified, such as missing sidewalks and crossings. Second, facilities with low levels of service are selected to prioritize future network improvements. The following sections summarize the types and nature of the gaps in the pedestrian network, which are illustrated in Figures 2-13a and 2-13b.

2.2.5.1 Sidewalks

Missing and/or poorly maintained sidewalks pose a major problem for pedestrian travel. They can be forced to walk in the grass or in the street itself, putting them into possible conflict with vehicles. This is an unacceptable treatment on all but the most low volume local streets and rural roads with shoulders. Figures 2-13a and 2-13b illustrate noted gaps in the FMATS area sidewalk network based on public and agency input and a project team review of the existing network. Note that public input for additional sidewalk facilities is less than for bicycle facilities. Many of the gaps shown in these figures are identified as a result of technical analysis. The figures also show that few gaps are identified on high volume and/or speed roadways, indicating that

area agencies have done a good job of ensuring that the most critical facilities provide at least some sort of pedestrian accommodation.

As shown in the figures, several major pedestrian corridors are missing sidewalks or have sidewalks on only one side.

2.2.5.2 Intersection Crossings

Dangerous intersection crossings cause considerable discomfort to pedestrians and can reduce non-motorized travel in an area. Several intersections with challenging crossing issues have been identified, including:

- Farmers Loop Road/Steese Highway
- Farmers Loop Road/Army Road
- Tanana Loop E/Alumni Drive
- Cowles Street/Airport Way frontage road
- Cowles Street/McGown Street
- Steese Highway/Third Street
- Steese Highway/Johansen Expressway
- College Road/Johansen Expressway
- Parks Highway/Geist Road
- Parks Highway/Airport Way
- University Avenue/Geist Road-Johansen Expressway
- 5th Avenue - Mission Road/Richardson Highway
- College Road at the Tanana Valley Farmer's Market

More or enhanced crossing opportunities are needed along the following roadways:

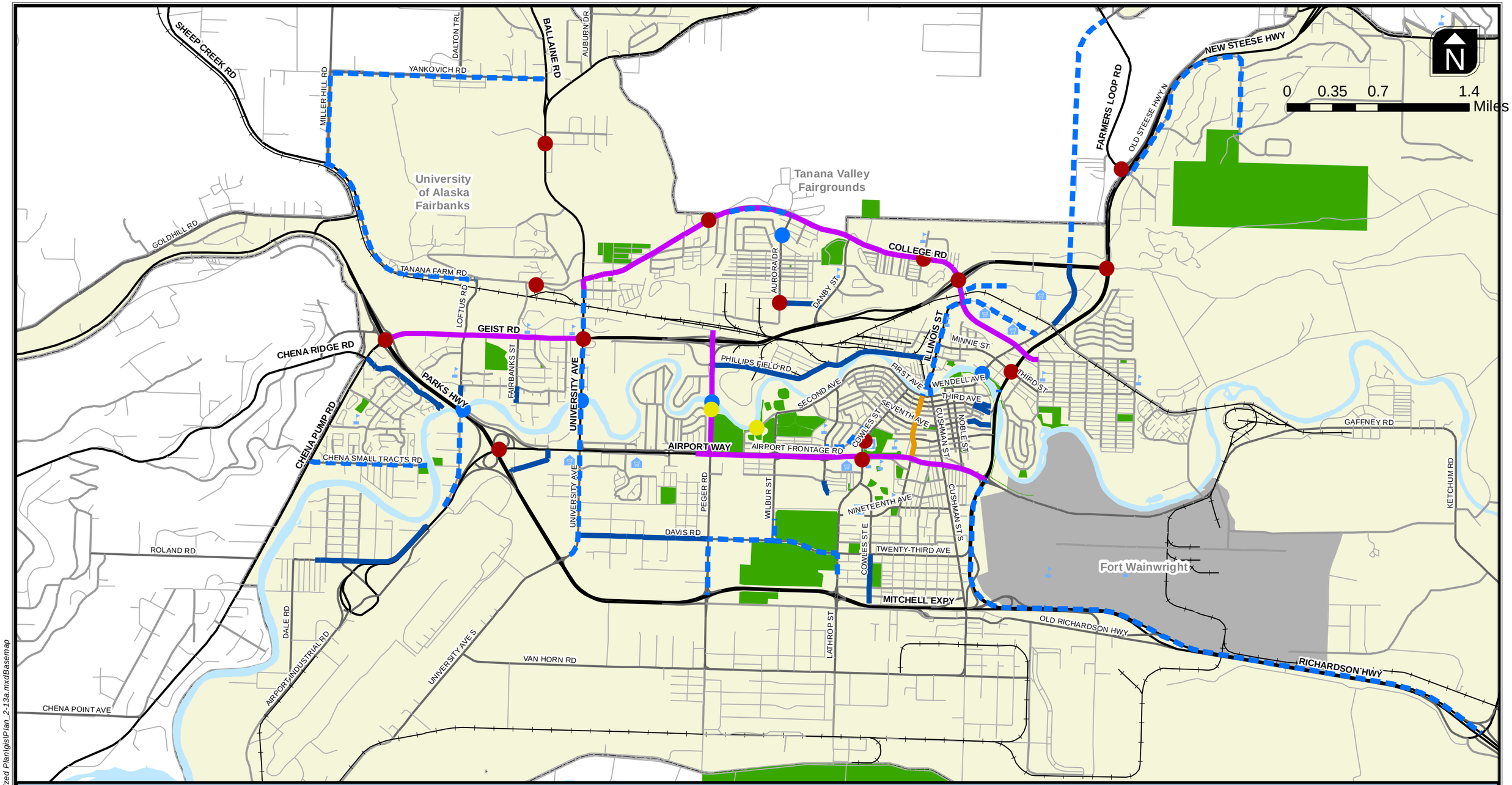
- College Road
- Alumni Drive
- Loftus Road
- Tanana Drive
- S Cushman Street
- Barnette Street

Additionally, it has been noted that crosswalk markings are faded in many areas, including Cushman Street and Airport Way. Once a crosswalk is marked, regular maintenance is needed to ensure that the markings are still visible to motorists and pedestrians. Otherwise they will not be effective.

2.2.5.3 Conflicts with Cyclists

As was previously discussed, some streets in the FMATS area have no on-street cycling facilities, riding on the sidewalk is legal, and it is encouraged in some areas. This creates a conflict between pedestrians and cyclists, especially where the sidewalk is narrow. Streets on which cyclists use the sidewalk for riding include:

- University Avenue
- College Road
- Peger Road
- Geist Road
- Airport Way



LEGEND

Issue Type
- No Sidewalks
- Crossing Issues
- Bicycle Conflicts
- Bridge Crossing Issue
- Intersection Crossing Issue
- Path Abruptly Ends
- Planned Pedestrian Facility

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

GAPS AND OTHER DEFICIENCIES FAIRBANKS

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 2-13A

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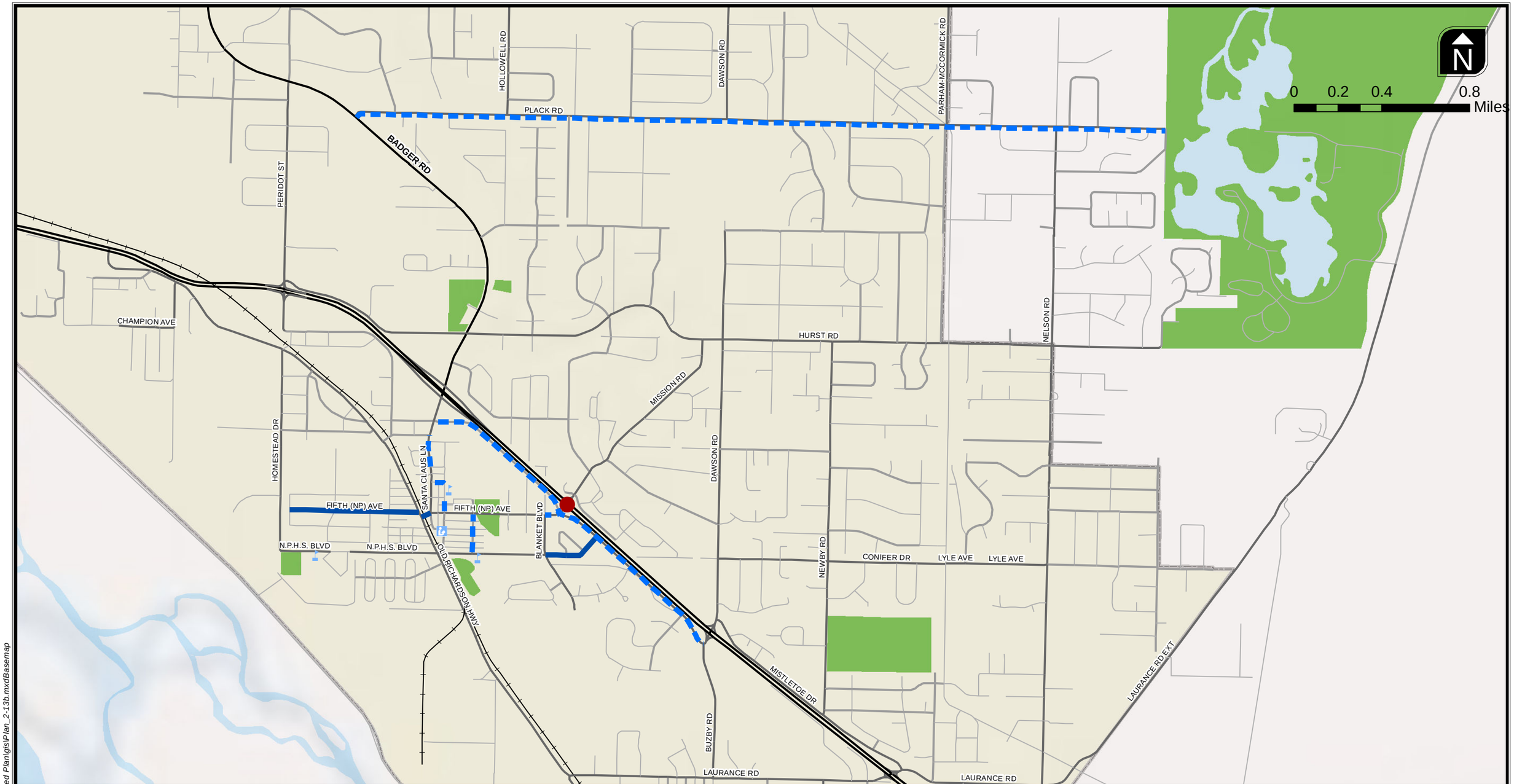

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LEGEND

Issue Type

- No Sidewalks
- Crossing Issues
- Bicycle Conflicts
- Bridge Crossing Issue
- Intersection Crossing Issue
- Path Abruptly Ends
- Planned Pedestrian Facility

Activity Generators

- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

GAPS AND OTHER DEFICIENCIES NORTH POLE-BADGER AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

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Figure

2-13B

2.2.5.4 ADA Issues

This project does not directly address compliance with the Americans with Disabilities Act (ADA) for existing facilities. Previous plans have noted a lack of ADA facilities in areas, including downtown Fairbanks. The City of Fairbanks is undertaking efforts to improve its existing facilities to ADA standards. These efforts are described in greater detail in the *Policies, Programs, and Laws Review* section 2.3.

2.2.5.5 Safe Routes to School

Areas within the immediate vicinity of most junior high and elementary schools in the FNSB have been inventoried and reviewed as part of the FMATS Safe Routes to School program. The draft final report, *Walk Zone Inventory Report & Engineering Recommendations*, documents the findings of this project (Reference 5).

2.2.5.6 Planned Pedestrian Facility Projects

Figures 2-13a and 2-13b also illustrate currently planned pedestrian facilities; either sidewalks or shared-use paths. These facilities are already in some stage of the project development process, ranging from the early planning stages to the environmental and design phases. Comments received for these projects will be passed on to the appropriate agency project manager. This plan does not address these facilities, except for prioritization of the long-range projects.

Lack of curb ramps and obstacles in the sidewalk limit accessibility for all users

Pedestrian facilities are currently planned for:

- Chena Small Tracts Road
- Goldhill Road
- Yankovich Road
- Miller Hill Road
- Birch Hill Road
- Illinois Street
- College Road (gap between Alaska Way and Aurora Drive)
- Bentley Mall Road
- Plack Road
- St. Nicholas Drive
- Kellum Street
- McGown Street
- Davis Road
- Peger Road
- Lathrop Street
- Wilbur Street
- Helmericks Avenue Extension
- Graehl Park connection
- Several local streets in North Pole

2.3 POLICIES, PROGRAMS, AND LAWS REVIEW

The project team has reviewed existing policies, programs, and laws related to non-motorized transportation for the FMATS area. FMATS staff provided this information, which is included in the Technical Appendix. The project team compared this information to the criteria used in the Bicycle Friendly Community (BFC) program of the League of American Bicyclists (LAB) and the

Walk Friendly Communities (WFC) program of the Highway Safety Research Center (HSRC) at the University of North Carolina (UNC). This comparison serves to identify areas where the Fairbanks region already does well at promoting a friendly culture toward non-motorized transportation, as well as opportunities to become an even more bicycle and pedestrian friendly community.

2.3.1 Overview of BFC and WFC Programs

Both the BFC and WFC programs consider factors related to all of the "5 E's" of non-motorized transportation (i.e., engineering, education, encouragement, enforcement, and evaluation). While engineering topics are the primary focus of this particular planning effort, this review also provides FMATS and the community with direction and strategies to move forward in the other four "E's."

Note that this review does not determine whether or not the Fairbanks region qualifies for any level of recognition from either program. This is best accomplished by reviewing the materials and applications for each program (printed applications are provided in the Technical Appendix, though it should be noted that the BFC criteria is expected to change in 2012 and the WFC criteria is evolving also), performing an initial internal assessment, and then applying for recognition (both programs provide feedback and assistance to non-qualifying communities to help them achieve their status-level goals and the only cost to apply is agency staff time). As such, this review is an important first step in helping the region to determine how it would like to proceed in regard to either program. Also, the opportunities for improvement identified in this plan are not exhaustive, but simply illustrative of example common activities.

2.3.1.1 Bicycle Friendly Community

The League of American Bicyclists administers the Bicycle Friendly Community program as a part of its overall Bicycle Friendly America program, which also includes sub-programs for states, businesses, and universities. This program provides four status levels for communities: bronze, silver, gold, and platinum. There is also an Honorable Mention category granted to certain communities that apply for, but do not receive, status. The program awards recognition to a range of jurisdictions, including cities, boroughs, and metropolitan planning organizations, such as FMATS. Communities frequently advertise their status as a "Bicycle Friendly Community" through use of the program's official recognition logo on websites, road signs, and other materials.

The program currently recognizes three Alaska communities (all at the Bronze level): Anchorage, Juneau, and Sitka. Alaska as a state ranks 39th out of 50 states under the League's criteria (Reference 1).

2.3.1.2 Walk Friendly Communities

The Walk Friendly Communities program is relatively new, having just completed its first award cycle in April. It is administered by the Pedestrian and Bicycle Information Center component of the UNC Highway Safety Research Center. The WFC program is modeled after the BFC program, though it has its own unique aspects and includes the same tiers of recognition status. As the program has only gone through one award cycle at the time of this review, there are currently relatively few (eleven) cities that have achieved recognition. None are in Alaska at this time. Unlike the BFC program, the WFC program currently only provides recognition to cities (Reference 2).

2.3.2 Engineering and Planning

Engineering and planning programs and policies pertaining to non-motorized transportation may include:

- Non-motorized transportation plans
- Maintenance practices
- Complete Streets, or similar, policies
- Design standards
- Training
- End-of-trip facility requirements (e.g., bicycle parking)

- Other engineering and planning practices aimed at accommodating non-motorized transportation

Existing Conditions

Non-motorized transportation plans include bicycling, walking, trails, and Americans with Disabilities Act (ADA) transition plans. Existing plans in the Fairbanks region include:

- *Comprehensive Recreational Trail Plan* – This plan, last updated in 2006, covers recreational trails under the jurisdiction of the Fairbanks North Star Borough (FNSB) Parks and Recreation Department.
- *ADA plans* – The Alaska Department of Transportation & Public Facilities (ADOT&PF) has an ADA Transition Plan for its facilities, though it is currently outdated. An update is planned for later this year. The City of Fairbanks is currently updating its ADA transition plan and recently completed an inventory of City sidewalks.
- *Winter Transportation Study* – ADOT&PF completed this study around 2000, which serves as a resource for addressing issues related to snowmobiling in the right-of-way adjacent to the state highway system.
- *Alaska Bicycle and Pedestrian Plan* – This is the non-motorized component of the Vision 2020 Alaska Long-Range Statewide Transportation Plan. It was completed by ADOT&PF in 1995. The plan outlines ADOT&PF's goals and objectives related to non-motorized transportation and includes summary discussions on engineering, education, enforcement, encouragement, and funding.

Maintenance is a key non-motorized transportation issue. Due to the area's winter climate, non-motorized facilities must be cleared of snow and ice in order to be walkable and bikeable for most people during a significant portion of the year. Wintertime maintenance of non-motorized facilities has increased in recent years, spurred in part by the formation of the FMATS Seasonal Mobility Task Force (SMTF). The SMTF is a collaborative effort involving maintenance personnel from ADOT&PF, the City of Fairbanks, FNSB, and Festival Fairbanks (an organization that clears certain areas around downtown Fairbanks); representatives from the ADA community and the Downtown Association; and, FMATS staff. *The Mobility Recommendations Report* summarizes SMTF work and includes the following recommendations (Reference 3):

1. Present the Seasonal Mobility Task Force recommendations to the FMATS Committees for endorsement
2. Develop consistent performance standards and performance guidelines agreed upon by all applicable agencies
3. Improve interagency communication and coordination regarding facility maintenance
4. Encourage the revision and enforcement of the City of Fairbanks Ordinance General Code Sec. 70-321
5. Adopt a Complete Streets Policy for federally funded road projects within the MPO
6. Develop a comprehensive Pedestrian and Bicycle Plan for the FMATS area
7. Conduct an air quality improvement analysis on proposed major bicycle corridor construction projects
8. Increase public awareness of pedestrian and bicycle facilities

Strategies for accomplishing these recommendations are included in the report. This effort has also produced a map outlining maintenance responsibilities within Fairbanks. More detailed information on maintenance efforts may be found in the FMATS memorandum the Technical Appendix.

Other engineering and planning efforts in the Fairbanks region include:

- ADOT&PF recently hosted the National Highway Institute (NHI) courses on pedestrian and bicycle facility design and plans to host Complete Streets workshop put on by the Association of Pedestrian and Bicycle Professionals (APBP)

- FNSB buses are equipped with bicycle racks and the FMATS Bikeways map includes instructions on how to use the racks
- FNSB has a Trails Advisory Commission
- FNSB requires that most roads, except pioneer access roads and alleys, be constructed with two-feet shoulders
  - This provides additional space for bicyclists, but is short of the minimum four-feet recommended in the AASHTO *Guide for the Development of Bicycle Facilities* (1999).
- FNSB requires "large-scale developments" to construct minimum 8-feet wide sidewalks connecting to all customer entrances along the frontage of all buildings and connecting to existing facilities, if they exist, or to the adjacent public right-of-way
- FNSB also requires large-scale developments to install bike parking near the main entrances of the building(s)

Opportunities for Improvement

Based on this review, opportunities for improved programs and policies related to engineering and planning include:

- An area-wide non-motorized transportation plan with targets that allow for monitoring (note: this is accomplished by this plan)
- Updated ADA transition plans (note: the City of Fairbanks is working on its plan and ADOT&PF intends to update its plan in the near future)
- A Safe Routes to School plan (note: this is currently being completed)
- Adoption of a Complete Streets, or similar, policy, including policies to require development to construct non-motorized facilities when building new roads or to retrofit existing roads when applicable – FMATS actively considers these principles in its efforts, but outside of this the FNSB policy regarding large-scale developments described above is the only ordinance or policy adopted by any agency related to this
  - Encouraging adoption of these policies, including a statewide policy, is a strategy in the draft 2011 *Alaska Strategic Traffic Safety Plan* (STSP)
- Reference materials, or toolkit, for planning for and designing non-motorized facilities (note: this is currently being accomplished by this plan)
- Regular training courses for designers and planners
- Formation of an area bicycle and/or pedestrian advisory committee, similar to the FNSB Trails Advisory Commission
- Adoption of a bike parking requirement policy for new development or a program to improve the availability of bike parking

Bike chained to streetlight due to lack of nearby bike parking

- A wayfinding program for bicyclists and pedestrians – This could include signs or on-street/trail maps directing non-motorized users to destinations and possibly the estimated trip length in terms of time and/or distance
- Regular inventories of sidewalk conditions and curb ramp locations

2.3.3 Education

Educational efforts may target walkers, bicyclists, and/or drivers and offer instruction in areas such as safety, rules of the road, bicycle maintenance and repair, and commuting tips. There is often overlap between education and encouragement activities.

Existing Education Efforts

Existing educational outreach efforts in the Fairbanks region include:

- Bike rodeos put on by Volunteers in Policing and Banner Health – The bike rodeos, which help teach bicycle safety to children, are available to any elementary school in the FNSB that requests one and one is also offered at the annual Fairbanks Cycling Club (FCC) Bike Expo.
- FCC Bike Expo – In addition to a bike swap, the annual FCC Bike Expo includes a bike rodeo for children and clinics covering on-the-road and home bike maintenance and repair.
- Bicycle and pedestrian safety media campaigns – ADOT&PF and the Alaska Injury Prevention Center (AIPC) run occasional media campaigns to promote bicyclist and pedestrian safety.

Opportunities for Improvement

Opportunities to improve educational outreach efforts include:

- More regular "Share the Road" or other outreach campaigns – Among other things, these types of educational efforts could include media public service announcements (PSAs), newspaper columns, promotional giveaway materials, helmet giveaways, web pages on area websites, pocket guides on non-motorized traffic laws, and Safe Routes to School and other events.
  - Educational campaigns are included as a strategy in the draft 2011 STSP
- Training for professional drivers – This could include incorporating a bicycle and pedestrian awareness and safety component into training efforts for taxi, transit, school bus, and other professional drivers.

2.3.4 Encouragement

Encouragement activities aim to promote bicycling and walking and increase awareness of opportunities for non-motorized travel. There is often overlap between encouragement and education activities.

Existing Encouragement Efforts

Existing outreach efforts to improve non-motorized transportation awareness in the Fairbanks region include:

- Bike to Work Month, Week, and Day campaigns – The area celebrates these nationally designated occasions, with a number of activities including a Mayor's Ride, Community Perspective submissions to the News-Miner, prize giveaways, breakfasts, and free tune-ups offered by a local business.
- "Don't be Fuelish" campaign – Now in its sixth year, this is a competition hosted by the Northern Alaska Environmental Center between businesses and other organizations in the Fairbanks area to see which organization's employees can conserve the most amount of fuel in their daily commute.

- FMATS Bikeways Map – FMATS recently updated its Bikeways map for the Fairbanks region, which highlights the locations of trails, shoulders, and other facilities for bicyclists, as well as parks, schools, transit stops, and other destinations. It also includes safety tips, relevant legal information, and instructions for how to load a bicycle onto a transit vehicle.
- FCC Bike Expo – In addition to a bike swap, the annual FCC Bike Expo includes a bike rodeo for children and clinics covering on-the-road and home bike maintenance and repair.
- Fairbanks Cycle Club - The FCC hosts a number of group rides, puts on the annual Bike Expo and Tour of Fairbanks race, and maintains a website that includes forums and announcements related to area cycling.
- Volunteers in Policing – This volunteer group, which operates in partnership with the Fairbanks Police Department, put on bike rodeos and conducts helmet and prize giveaways during Bike to Work Week and throughout the summer.

Opportunities for Improvement

Opportunities to improve awareness outreach efforts include:

- More regular promotional campaigns – This could include building on the success of Bike to Work Month/Week/Day with other events and promotional campaigns throughout the year.
- Bicycle Friendly Businesses – Encouraging local businesses to participate in this program could help businesses encourage their employees to bicycle to work more often.
- A wayfinding program for bicyclists and pedestrians – This could include signs or on-street/trail maps directing non-motorized users to destinations and possibly the estimated trip length in terms of time and/or distance.

2.3.5 Enforcement

The Enforcement category includes both ordinances as well as police efforts to enforce them. For more information on the specific laws referenced here, please refer to the Technical Appendix.

Existing Enforcement Efforts

Existing enforcement activities in the Fairbanks region include:

- Laws prohibiting obstructing sidewalks
- Laws requiring the clearing of sidewalks
- Laws against jaywalking in business districts with traffic signals and requiring cyclists to use shoulders when provided and practical and to follow the same traffic laws as motor vehicles when riding on the road – Note that while these ordinances restrict non-motorized activity, they do so to improve their safety.
- Laws requiring motorists to yield to pedestrians crossing the road at intersections and crosswalks
- Bike rodeos put on by Volunteers in Policing and Banner Health – The bike rodeos, which help teach bicycle safety to children, are available to any elementary school in the FNSB that requests one and one is also offered at the annual Fairbanks Cycling Club (FCC) Bike Expo.
- Volunteers in Policing – This volunteer group, which operates in partnership with the Fairbanks Police Department, put on bike rodeos and conducts helmet and prize giveaways during Bike to Work Week and throughout the summer.

Opportunities for Improvement

Opportunities to improve enforcement efforts include:

- Targeted enforcement efforts at crosswalks to ensure that vehicles are yielding to pedestrians
- Bicycle patrol officers on separated paths and trails

- Additional bicycle helmet and light giveaways and Share the Road and other outreach campaigns to promote bicycle and pedestrian safety
- Officer training related to non-motorized transportation safety and laws, including courses and roll call and pocket reference materials
  - These are strategies from the draft 2011 STSP

2.3.6 Evaluation

It is important that efforts to improve safety and promote non-motorized transportation are evaluated in order to help determine their effectiveness and guide improvements to subsequent efforts.

Existing Evaluation Efforts

Existing evaluation activities in the Fairbanks region include:

- Before and after studies of safety countermeasures – ADOT&PF regularly conducts before and after studies of safety countermeasures in order to determine their effectiveness.

Opportunities for Improvement

Opportunities to improve evaluation efforts include:

- Implement a regular bicycle and pedestrian count program – This could be done in association with the National Bicycle and Pedestrian Documentation Project or along a different timeframe that works best for the area.
  - The draft 2011 STSP includes strategies for improving data collection efforts for non-motorized users
- Distribute and collect walkability and bikeability checklists – This is being done as part of this plan and could become an annual activity
- Adopt a non-motorized transportation plan with measurable targets (note: this is accomplished by this plan)
- Implement the maintenance performance standards from the SMTF report

RECOMMENDATIONS

3.0 RECOMMENDATIONS

This section provides a summary of the project team's recommendations. These include recommended bicycle and pedestrian networks and programmatic improvements. The recommendations are based on the findings summarized in the previous sections.

For organizational purposes, the first part of this section is dedicated to the bicycle system, the second part to the pedestrian system, and the third part to programmatic actions.

Signs and pavement markings can be used in conjunction
Source: www.pedbikeimages.org

3.1 BICYCLE NETWORK

The recommended bicycle network consists of a variety of treatments, including:

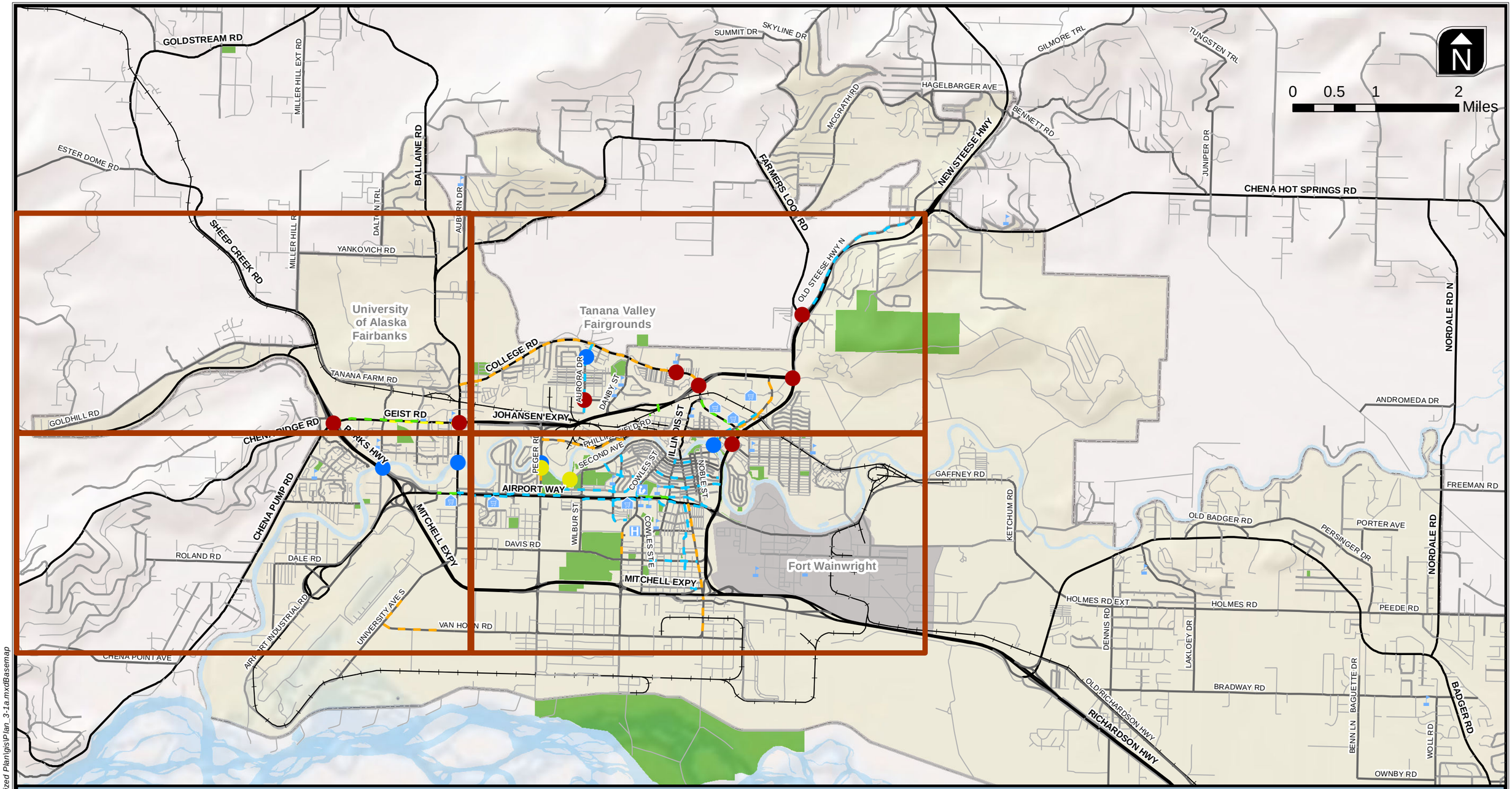
- *Shoulders/Bike Lanes* – Either adding a shoulder or bicycle lane where one does not exist, or converting an existing shoulder to a bicycle lane to provide a dedicated space for bicyclists and to alert drivers to their possible presence on the roadway.
  - Generally bicycle lanes are preferred; however there may be instances when a shoulder is the preferable treatment.
- *Signing/Pavement Markings* – When adding bicycle lanes or shoulders is not feasible or warranted and traffic volumes are relatively low to moderate, signing, pavement markings, or some combination thereof can be used to:
  - Provide indication to cyclists where designated bicycle routes are;
  - Alert motorists to the likely presence of bicyclists in the roadway or crossing the roadway and remind them to share the road with cyclists;
  - Define where in the road cyclists should ride; and/or
  - Provide direction to popular destinations (i.e., bicycle guide, route, and wayfinding signs).
- *Travel Lane Modifications* – On four-lane and wider roadways where widening the roadway to provide extra width for bicycle lanes is not feasible in the near-term, extra space can sometimes be provided for bicyclists to share with vehicles in the outer lane by restriping the inner lanes to a more narrow width (e.g., converting two 12-feet wide lanes to an 11-feet wide inner lane and a 13-feet wide outer lane). It should be noted that travel lane width reductions will reduce the capacity of the roadway if the width is reduced to below 10 feet (Reference 6). Reductions may also cause a road to not meet applicable design standards. This treatment is

Unique signs can be used to distinguish a Bicycle Boulevard.

only recommended in this plan in areas where a minimum width of 10-feet can be maintained for all travel lanes; however, each instance will need to be examined further in the project development phase to determine if the reduction will require an exception to applicable design standards.

- *Bicycle Boulevard* – A bicycle boulevard is a shared-use roadway that is enhanced for bicycle travel through the use of signs, pavement markings, intersection crossing treatments, and/or traffic calming/reduction measures. They are typically implemented on low-speed (25 mph or less), low-volume (4,000 vehicles per day or less) streets (Reference 7). Bicycle boulevards can be distinguished from a standard shared roadway with pavement markings and/or signs through the use of unique identifying signs, the prioritization of bicycle through movements (e.g., limited stop signs along the routes), and/or traffic reduction measures (e.g., restricting through movements on the corridor at an intersection to bicyclists only).
- *Shared Use Paths* – Creating a new path or extending an existing path to better connect with a destination or the overall network
- *Intersection Crossing Treatments* – This plan generally identifies where intersection crossing treatments should be considered. A detailed study of traffic volumes and the existing problem at the intersection is often needed to select an appropriate treatment. *The Design Toolkit* contains treatments that should be considered at locations identified in this plan.

Improvements to the existing bicycle network are identified from the work completed for this plan and summarized in the previous section, *Existing Conditions and Opportunities for Improvement,* as well as other plans for specific improvements (e.g., the reconstruction of University Avenue). Recommended and previously planned improvements are shown in Figures 3-1a – 3-1f.



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LEGEND

Recommended Improvement
- Driveway Treatments
- Shared-Use Path
- Bike Lanes/Shoulders
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary
- Detail Area in Following Figures

RECOMMENDED BICYCLE IMPROVEMENTS FAIRBANKS-WEST BADGER AREA

FMATS
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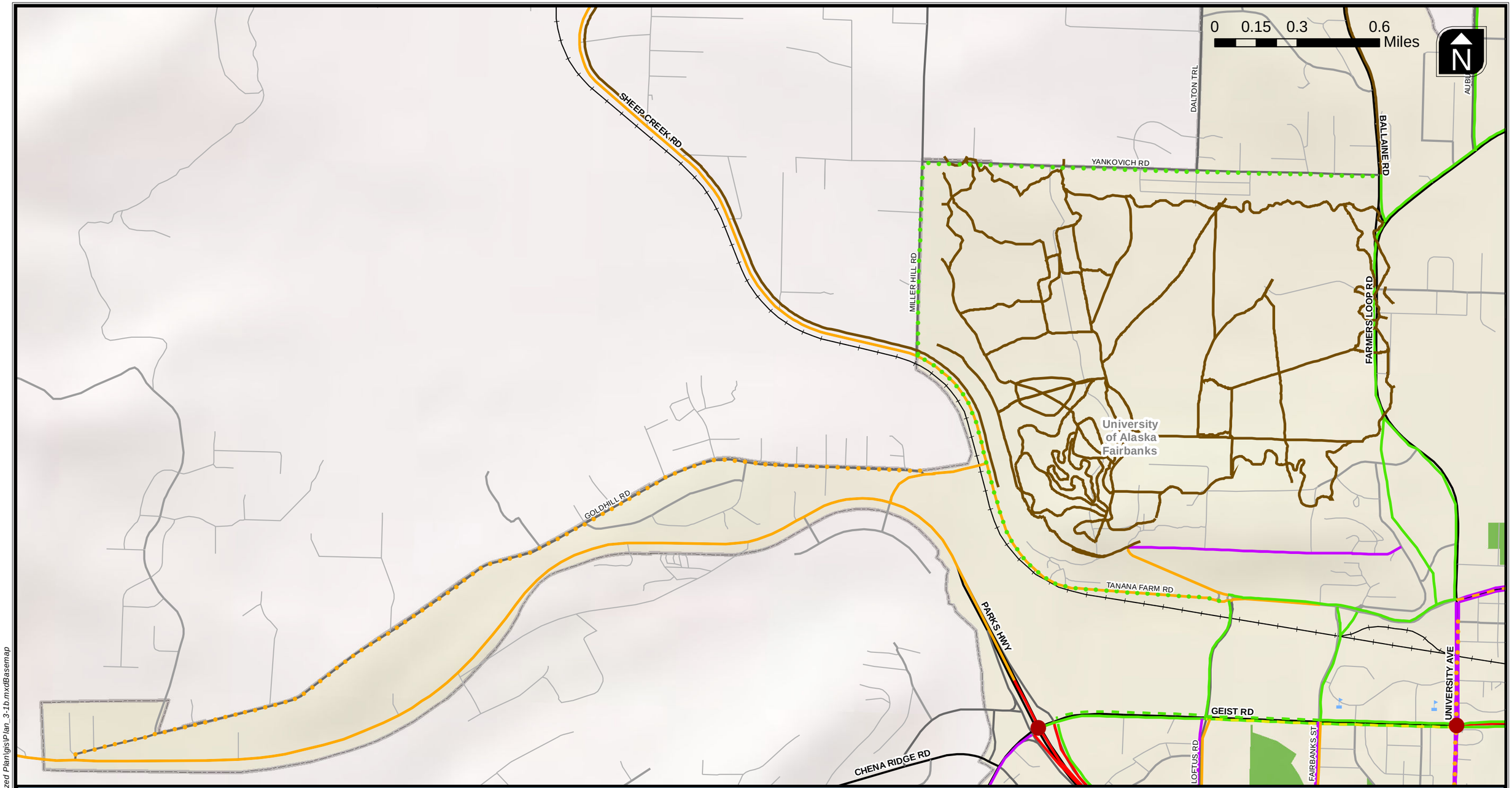
Figure 3-1A



LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Sidewalk Connection
- Unimproved Facility
- Bikes Prohibited

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Driveway Treatments
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED BICYCLE IMPROVEMENTS UNIVERSITY AREA

FMATS
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Figure
3-1B

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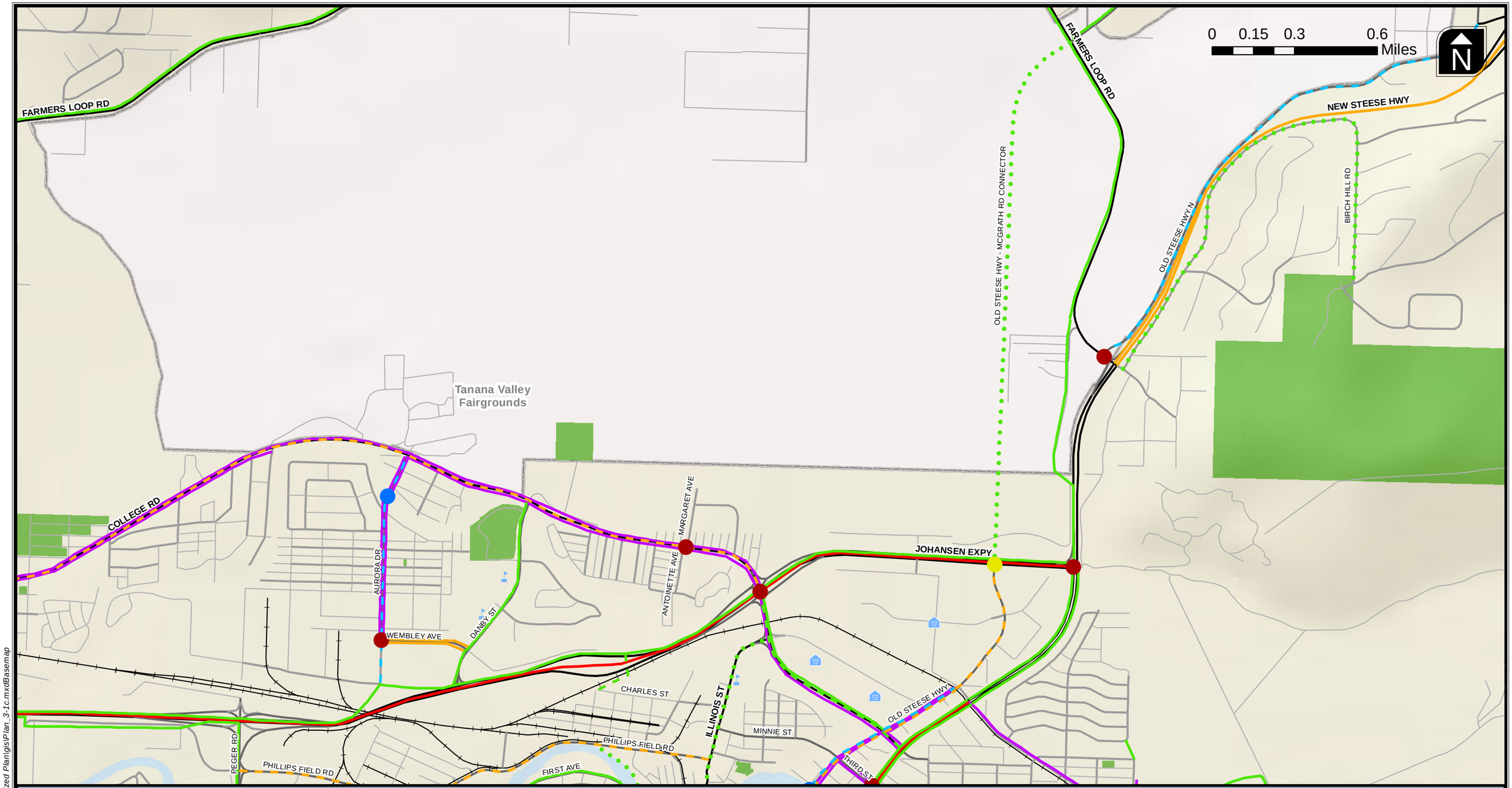

LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Sidewalk Connection
- Unimproved Facility
- Bikes Prohibited

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Driveway Treatments
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED BICYCLE IMPROVEMENTS NORTH FAIRBANKS AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
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Figure 3-1C

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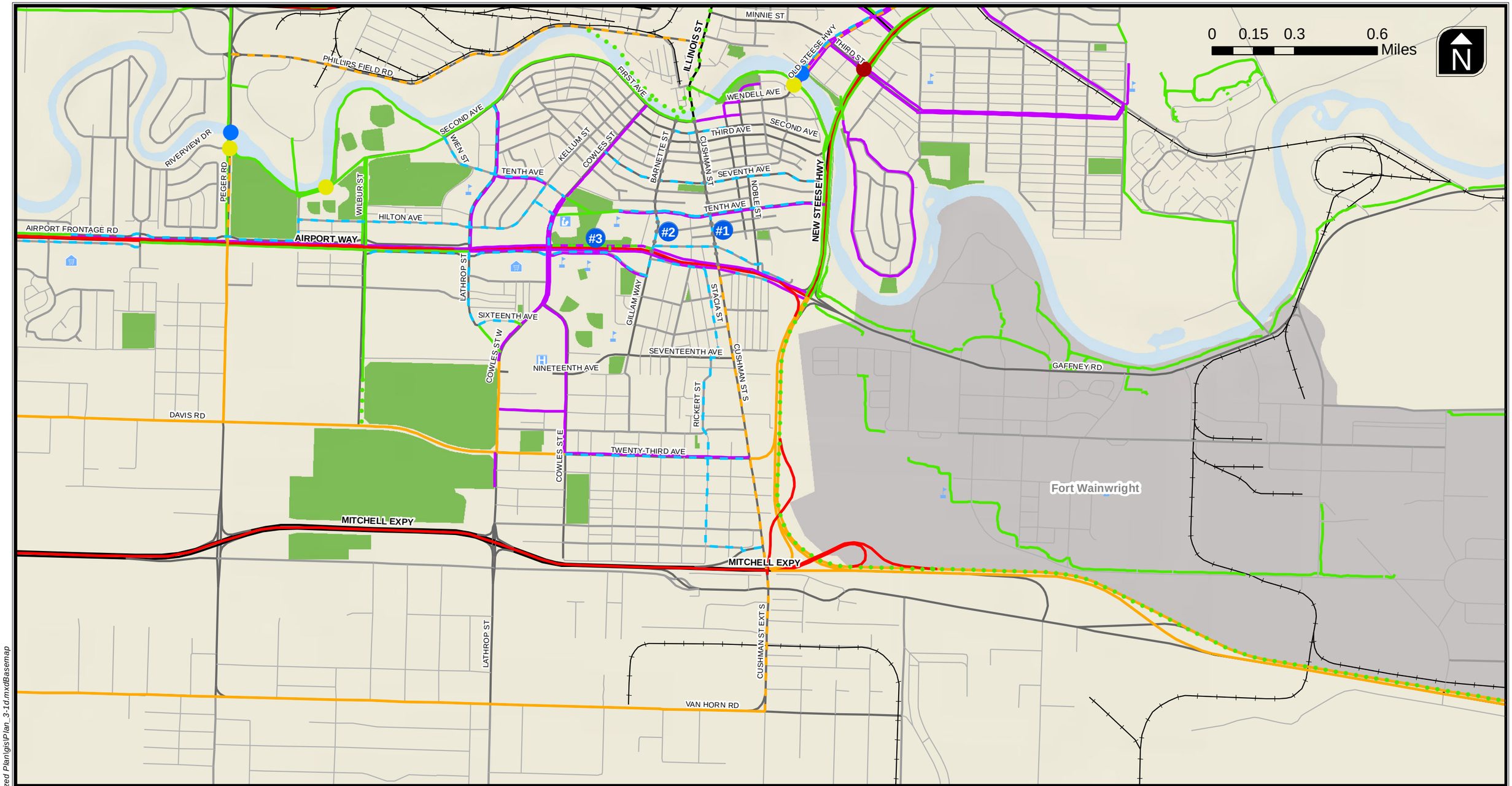

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LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Sidewalk Connection
- Unimproved Facility
- Bikes Prohibited

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Driveway Treatments
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- # Airport Way Bike Route Options
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED BICYCLE IMPROVEMENTS FAIRBANKS URBAN AREA

FMATS
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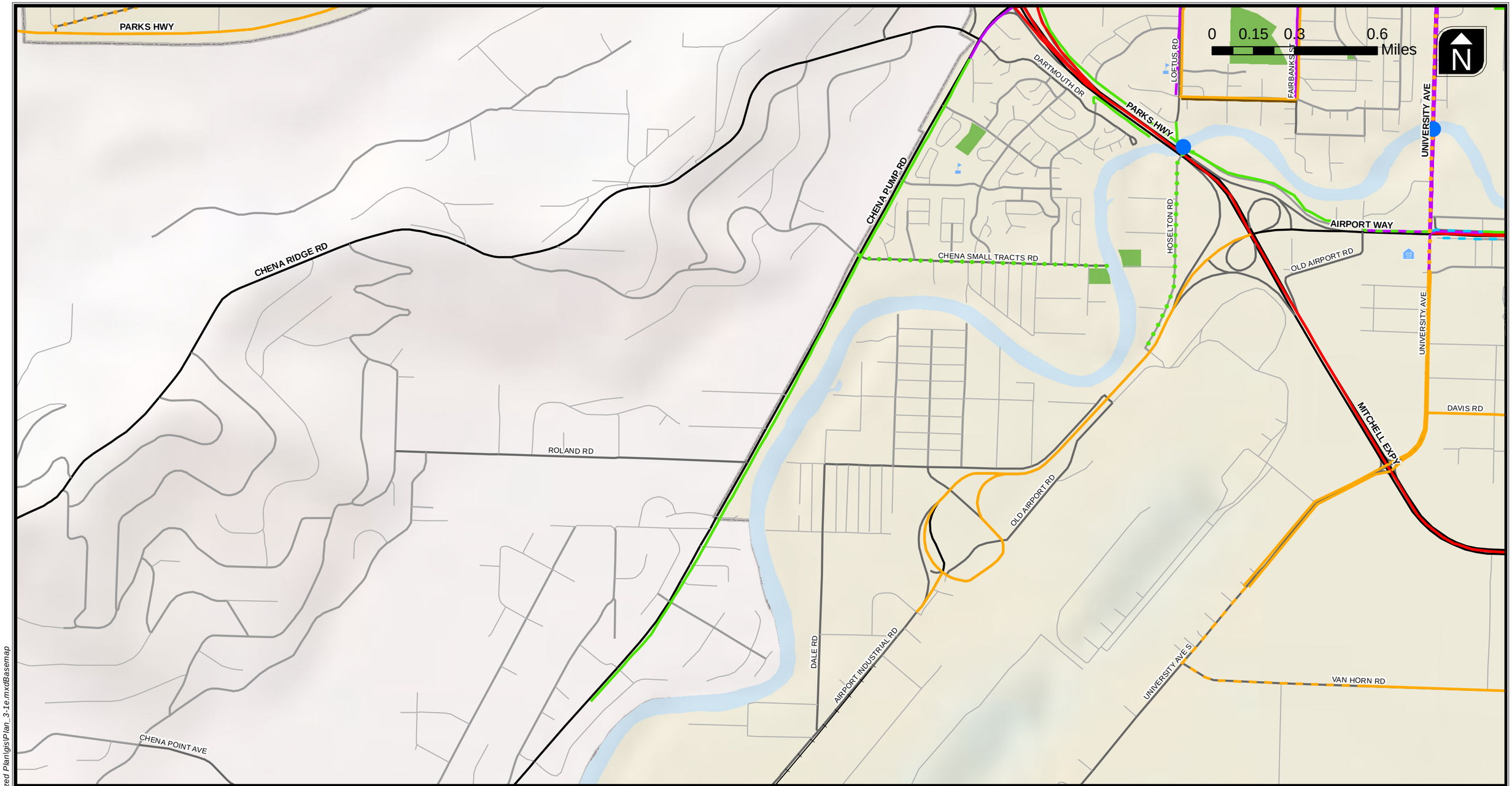
Figure 3-1D



LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Sidewalk Connection
- Unimproved Facility
- Bikes Prohibited

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Driveway Treatments
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED BICYCLE IMPROVEMENTS AIRPORT AREA

FMATS

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Figure 3-1E

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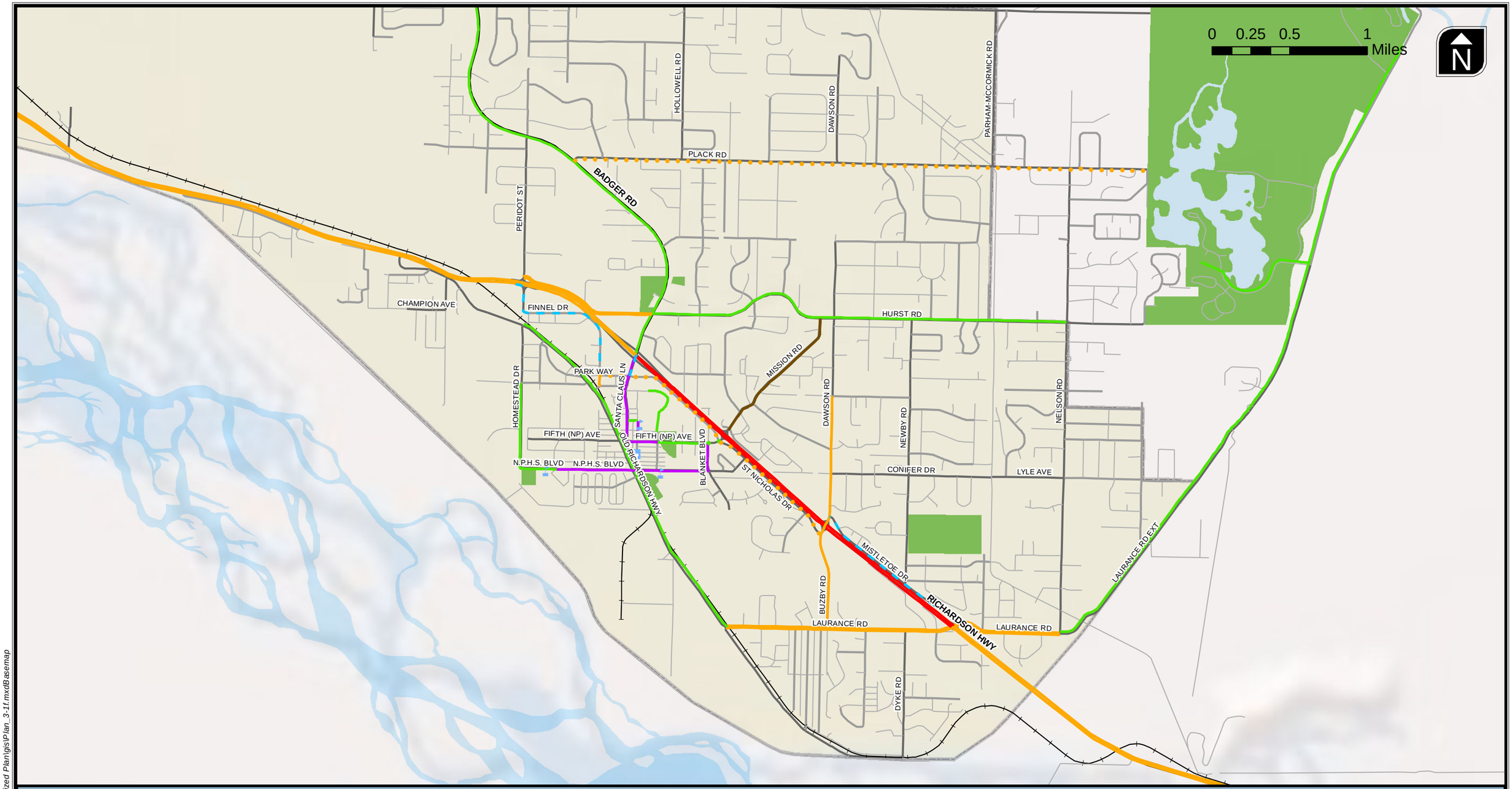

LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Sidewalk Connection
- Unimproved Facility
- Bikes Prohibited

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Driveway Treatments
- Signs, Markings, or Bicycle Boulevard
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED BICYCLE IMPROVEMENTS NORTH POLE AREA

FMATS
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Figure 3-1F

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3.1.1 Recommended Improvements

The recommended improvements shown in Figures 3-1a – 3-1f are described in the following subsections.

Airport Way

Airport Way is a limited-access facility that the Alaska Department of Transportation & Public Facilities (ADOT&PF) has restricted to use by only motor vehicles. Given its role as the primary east-west connection through Fairbanks it is important to provide a similar connection for bicyclists. This could be accomplished through the use of parallel routes and the existing shared-use path. Figures 3-2a – 3-2c shows the proposed Airport Way bicycle routes.

The following are key characteristics and considerations for both routes:

- The parallel roads recommended for designation as a bicycle route are generally low-volume, low-speed roadways, so pavement markings and signs should be installed along the routes to indicate that it is a designated bicycle route
  - Due to the potential for high use, consideration should be given to naming the route and using unique identification signs to further enhance the route. Note that this may require an act of the Alaska legislature.
- Intersection crossing treatments should be considered at all crossings of major roads, especially unsignalized crossings
- Bicycle guide signs should be used to direct cyclists along the route, especially at locations where the direction of the route is not obvious (e.g. when the route "T's" into another road)
- Bicycle guide signs should also be placed at nearby locations on major roads and other routes indicating where the routes are

Signs can be used to give a route a unique identity.
Source: www.pedbikeimages.org

North Side

On the north side, from the Steese Expressway to Cowles Street the designated route would include one of the following options:

- Gaffney Road to Cushman Street to 10th Avenue to the shared-use path across Wien Park grounds to McGown Street (Option #1 on Figure 3-2b); or
- Gaffney Road to Barnette Street (would require a contraflow bike lane on Barnette Street to provide for northbound travel) to 10th Avenue to the shared-use path across Wien Park to McGown Street (Option #2 on Figure 3-2b); or
- Gaffney Road to Barnette Street to the sidewalk north of Airport Way (would require widening the sidewalk to a shared-use path width of 10 feet) to Cowles Street to McGown Street (Option #3 on Figure 3-2b).

A study is currently underway that is considering a contraflow lane on Barnette Street. If this becomes the ultimate recommendation from the study, then the second option presented above would be the recommended

route. Otherwise, one of the other two options should be put in in place.

From Cowles Street to the Parks Highway, the recommended route is as follows:

- McGown Street, to Kellum Street, to Hilton Avenue (preferred over the Airport Way Frontage Road because there are not commercial driveways), to Moore Street, to the frontage road along Airport Way (sometimes referred to as Bartlett Avenue), to the shared-use path at Riverside Drive, to the sidewalk north of Airport Way on the west side of University Avenue, which should be considered for future widening to a shared-use path standard.

From Sportsman Way, bicyclists would have the option to continue northwest on the shared-use path or use the shoulder on Airport Way.

South Side

From Sportsman Way to the Steese Expressway, the recommend route on the south side is as follows:

- The shoulder of Airport Way (or widen the sidewalk to a shared-use path), to the frontage road that starts on the east side of University Avenue, to Market Street, to the shared-use path on the south side of Airport Way from Market Street to Wilbur Street (which should be considered for widening to a full width of 10 feet), to the frontage road on the south side of Airport Way, to Stacia Street, to 14th Avenue.

Aurora Drive

Aurora Drive provides a key connection between College Road and the shared-use path along the Johansen Expressway. Traffic volumes are around the upper limit of being acceptable for Bicycle Boulevard treatments (3,000 to 4,000 vehicles per day). Signing and pavement markings should be considered for Aurora Drive to make it a more bicycle friendly street.

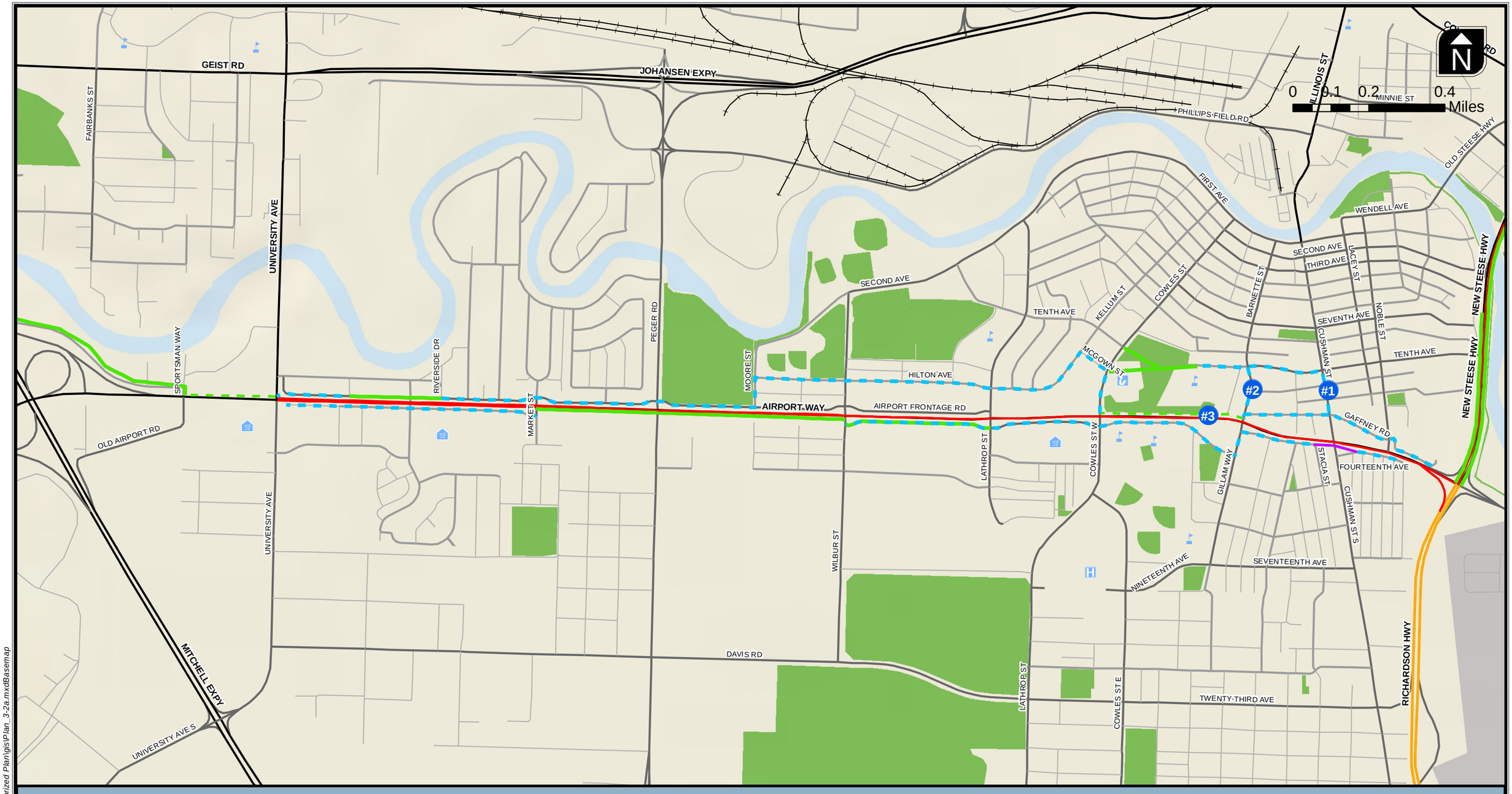
Hilton Avenue

The bridge over the Noyes Slough should be designed to better accommodate bicyclists when it is reconstructed.

The Wembley Avenue intersection can be problematic for northbound cyclists due to its current configuration and traffic volumes. Better accommodating bicyclists should be a priority of any future improvements at this intersection.

College Road

College Road is one of the most popular routes in the region for bicyclists, who currently either share the road with motorists or ride along the sidewalk, which is the designated bicycle route. This configuration is undesirable; particularly in areas where conflicts with driveways and intersections are relatively high (i.e. from Aurora Drive to west of Illinois Street). The preferred improvement for all of College Road would be to add bicycle lanes on both sides of the roadway.



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LEGEND

Recommended Improvement
- Shared-Use Path
- Signs, Markings, or Bicycle Boulevard
- # Route Options

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Unimproved facility
- Sidewalk Connection
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

RECOMMENDED AIRPORT WAY BICYCLE ROUTE FAIRBANKS

FMATS
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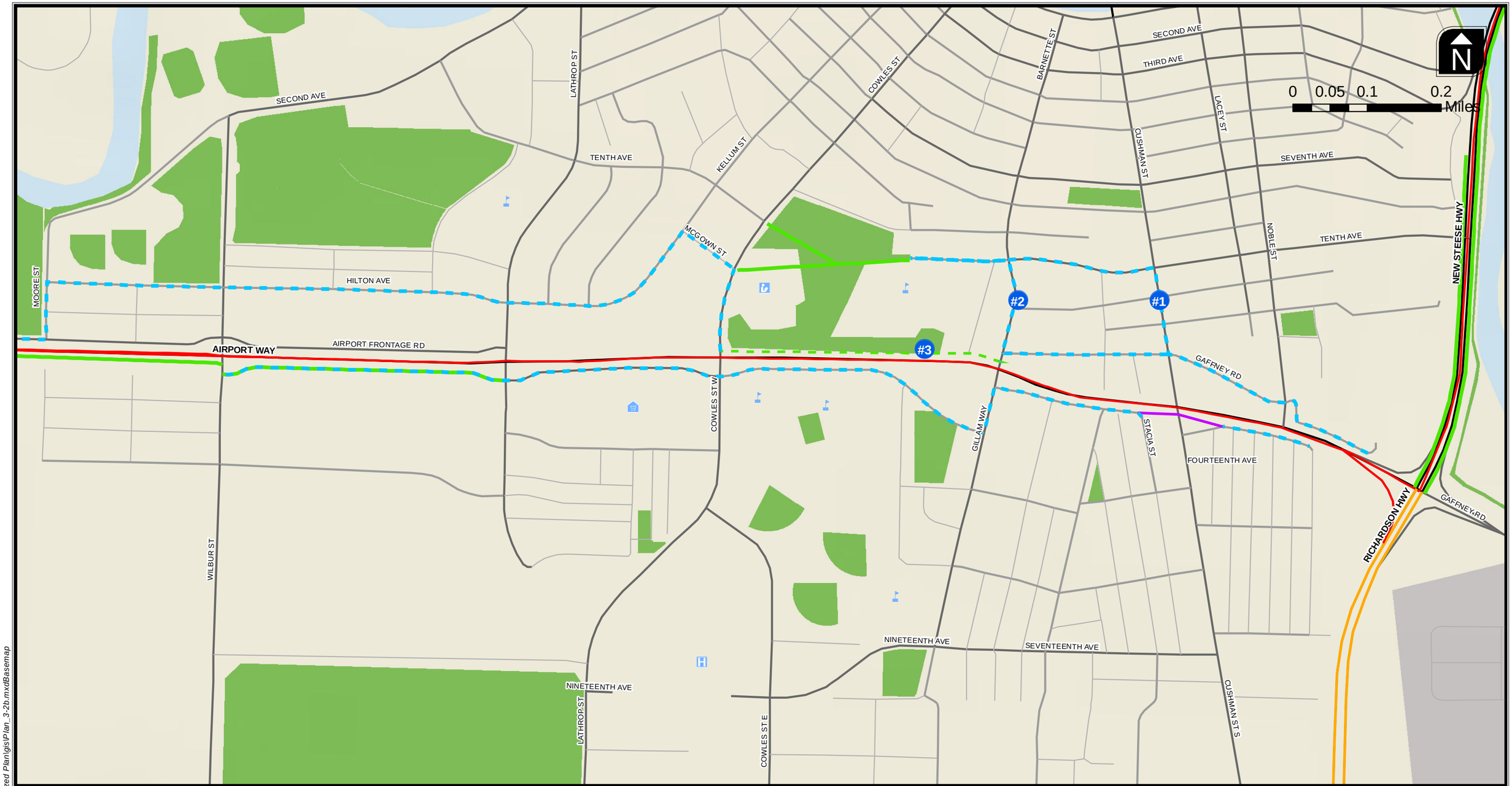
PDC INC. ENGINEERS

Figure 3-2A



LEGEND

Recommended Improvement
- Shared-Use Path
- Signs, Markings, or Bicycle Boulevard
- # Route Options

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Unimproved facility
- Sidewalk Connection
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

RECOMMENDED AIRPORT WAY BICYCLE ROUTE (STEESE-MOORE) FAIRBANKS

FMATS
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PDC INC. ENGINEERS

Figure 3-2B

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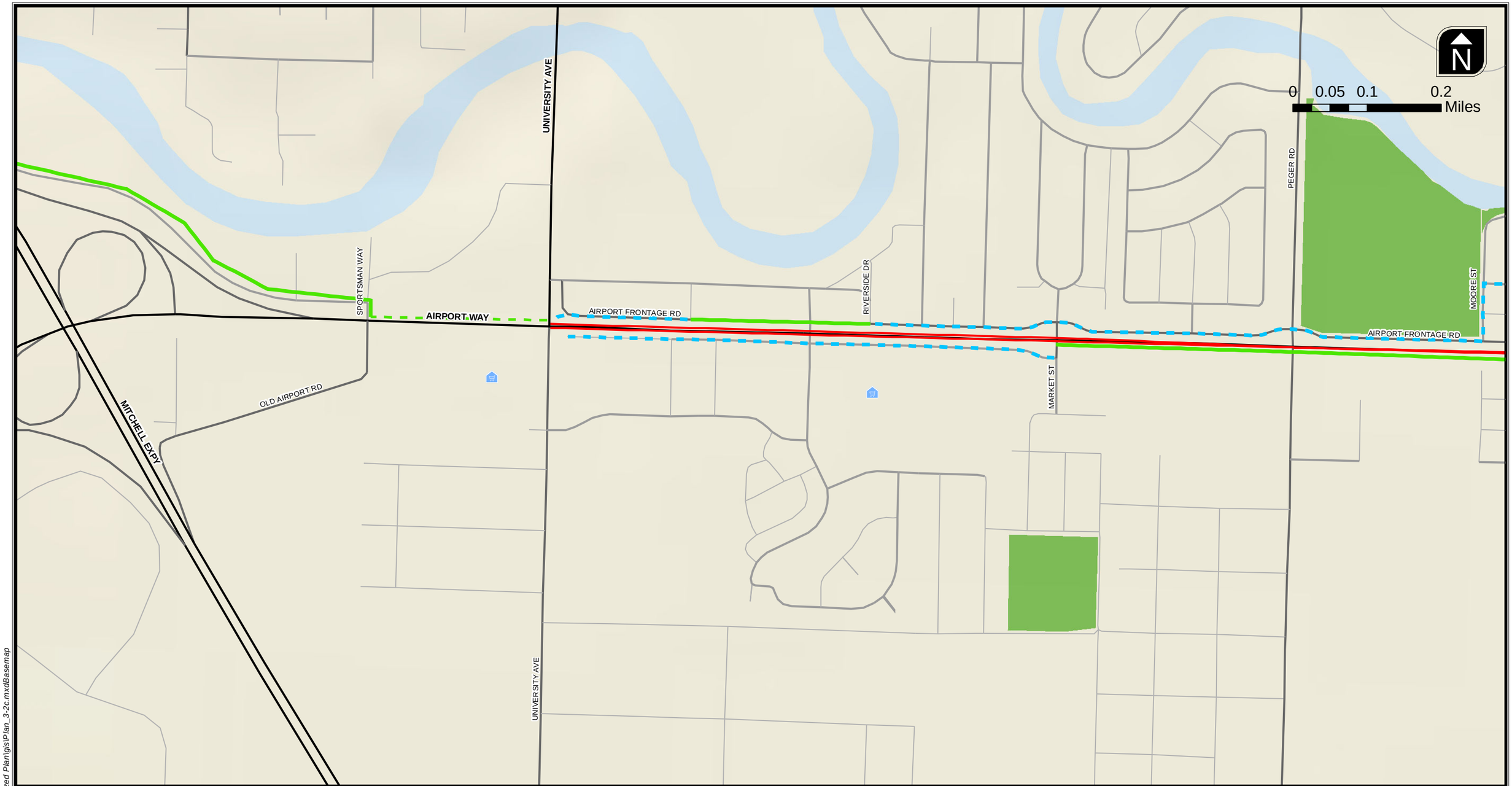

LEGEND

Recommended Improvement
- Shared-Use Path
- Signs, Markings, or Bicycle Boulevard

Existing Bike Network
- Roads with shoulders
- Shared-use path
- Unimproved facility
- Sidewalk Connection
- Bikes prohibited

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

RECOMMENDED AIRPORT WAY BICYCLE ROUTE (MOORE-PARKS) FAIRBANKS

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure
3-2C

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Adding bicycle lanes by widening the roadway may be impractical in certain areas that are already built-out. Reallocating the existing right-of-way may make it possible, though. A road diet (i.e., converting the current four-lane section to a three-lane section with two travel lanes, a center turn lane, and bike lanes) should be considered to provide bicycle lanes on College Road west of the Johansen Expressway.

Traffic volumes are generally low enough (8,000-12,000 per day, Reference 8) west of the Johansen Expressway that a road diet may be feasible from a traffic volume perspective. Current roadway widths vary on the corridor from approximately 50 feet to 40 feet. Generally speaking, 46 feet or wider is a desirable width as it provides for 36 feet to be allocated between the travel and turn lanes and 10 feet for two 5-feet wide bike lanes, though a more narrow section can be accommodated. College Road is only approximately 40-feet wide from curb-to-curb east of Aurora Drive.

A road diet in this section would involve narrow travel, turn, and bike lanes (e.g. two 10-feet wide travel lanes, a 12-feet wide center turn lane, and two 4-feet wide bike lanes). Travel lanes in this section of College Road are already only 10-feet wide, so this would not be a departure from the existing widths. Additional space could potentially be provided by narrowing the sidewalks on both sides, generally 8-feet wide, to 5-feet wide, which would provide 46-feet of total width curb-to-curb. Further investigation would be needed to determine if this is feasible.

Traffic volumes on College Road are higher east of the Johansen Expressway (approximately 15,000 vehicles per day), which may make a road diet on this section impractical from a motor vehicle congestion perspective. Widening the road to provide bicycle lanes would be the preferred option, but this is likely costly. The sidewalk is generally 8 to 14-feet wide along both sides of College Road in this section and acts as a shared-use path. This treatment appears to be sufficient on this section given that driveways are limited along much of this segment of College Road. Consideration should be given to widening the sidewalk to a full 10-feet shared-use path width where it is narrower than 10-feet.

Intersections along College Road that should be considered for crossing treatments include:

- Margaret Avenue-Antoinette Avenue (currently under consideration for realignment)
- Johansen Expressway ramps

FMATS is currently considering conducting a detailed corridor study along College Road. If the study moves forward, it will likely recommend detailed improvements for bicyclists and pedestrians along the corridor. The recommendations from this study will become the preferred improvement plan.

S Cushman Street

Wider sidewalks, approximately 8-feet wide, are being considered for one side of S Cushman Street. While this would provide additional space for cyclists and pedestrians to share, given the number of access points along the street, it is not a long-term solution. The preferred improvement on S Cushman Street from Airport Way to the Mitchell Expressway is to install bicycle lanes. Most of the area along the road is built out and there are curbs and above-ground utilities. Installing shoulders on this road has been previously considered and dismissed due to the cost and difficulty of widening the road. An alternative solution would be to designate a parallel bicycle route on Stacia Street and Rickert Street. Traffic volumes and speeds are likely low enough on these streets for Bicycle Boulevard treatments, including signs, pavement markings, intersection treatments at major intersections, and lighting.

Bicycle lanes should be considered south of the Mitchell Expressway to provide a connection to Van Horn Road.

Johansen Expressway Overcrossing

There is currently a partially constructed bicycle/pedestrian overcrossing of the Johansen Expressway between the railroad depot and College Road. If completed, the overcrossing would connect the shared-use path along the Johansen Expressway to Charles Street near the railroad depot. Charles Street, in turn, provides access to

Pavement markings can remind drivers to expect cyclists across a driveway or unsignalized intersection

Illinois Street. At this time, Charles Street is not entirely paved, nor does it provide a direct connection to the passenger train depot. Both of these items would need to be addressed to allow the overcrossing to reach its full usage potential. Completing the crossing and making these other improvements should be considered.

Geist Road

The shared-use path on the south side of Geist Road crosses many commercial driveways and unsignalized intersections. It also has the highest bicycle crash density of any route in the FMATS boundary. Treatments should be considered to remind drivers to exercise caution and look for cyclists crossing driveways or unsignalized intersections. While pavement markings would not be visible much of the year, most of the reported bicycle crashes on this section of Geist Road occurred during the summer or early fall when they likely would be visible. Signs promoting caution for crossing cyclists and pedestrians should also be considered for the path.

On the north side, the shared-use path should be extended toward the Parks Highway. As much of this area is undeveloped, driveways across the path will not be an issue in the near-term. Longer-term, access to Geist Road should be managed to avoid driveway conflicts across the path.

Old Steese Highway

There are several distinct areas along the Old Steese Highway for which there are recommendations.

Wendell Avenue Bridge

There are a few recommendations for the area around the Wendell Avenue bridge over the Chena River. The bridge should be designed to accommodate bicycles in a shoulder or bike lane when it is rebuilt. Connections to the bridge from nearby shared-use paths (i.e. paths along the Steese Expressway and along the south side of the Chena River) should be improved. On the north side of the river, this would involve constructing ADA compliant ramps from Front Street to the Old Steese Highway on both sides of the road. These ramps would allow bicyclists to access the Old Steese Highway without having to either detour or carry a bike up the existing stairs, in addition to improving accessibility for travelers of all abilities. A ramp is currently considered for the west side of the bridge.

On the south side of the Chena River, a curb cut in the sidewalk where the shared-use path comes up to the road on the west side of Wendell Avenue would provide cyclists better access to the path.

Bicycle guide or wayfinding signs in this area would also help direct cyclists to popular destinations and could be tied into the signs installed around the Morris Thompson Cultural & Visitors Center.

Chena River to Johansen Expressway

Bike lanes are the preferred improvement along the Old Steese Highway from the Chena River to the railroad tracks, especially north of College Road where traffic volumes significantly increase. Widening the roadway to provide the extra width for bike lanes or shoulders may be difficult and expensive due to much of the area being developed and the presence of above-ground utilities. A more practical way of adding bicycle lanes or shoulders would be to add them in conjunction with other projects, such as redevelopment of existing parcels or as part of a project to underground the

utilities. An interim solution for this section of the Old Steese Highway would be to restripe the travel lanes to provide extra width to the outer lane and install signs reminding bicyclists and motor vehicles to "share the road."

The existing shoulders on the Old Steese Highway could be restriped as designated bicycle lanes north of the railroad tracks to the Johansen Expressway.

Bicycle guide signs at the Johansen Expressway intersection directing cyclists to the Johansen Expressway shared-use path should be considered.

North of Farmer's Loop Road

The Old Steese Highway is a popular alternative to the Steese Expressway north of Farmer's Loop Road. To improve the conditions of the road for cyclists, shoulders should be widened where feasible, signs reminding bicyclists and motor vehicles to "share the road" should be considered. An improved crossing of Farmer's Loop Road and the potential for bicycle guide signs should also be investigated.

Note that ADOT&PF is currently considering a project to connect Farmer's Loop Road to Chena Hot Springs Road. The recommendations from the ADOT&PF project will likely affect the need for the improvements described here.

Peger Road

It is recommended that the shoulders on Peger Road north of Airport Way to the Chena River bridge be widened. They are currently only slightly wider than the recommended minimum of 3 feet (Reference 9). Additional space could potentially be provided by narrowing the vehicular travel lanes from their current width of approximately 13-feet to 11-12 feet. However, the current width is provided because Peger Road is a designated freight route between the Mitchell Expressway and the Johansen Expressway. Other options to narrowing the travel lanes should also be considered in order to provide adequate width for a standard bicycle lane.

Designating the shoulders on Peger Road as bicycle lanes is also recommended.

Bicycle guide signs are recommended for the west end of the path undercrossing of Peger Road at Riverview Drive as it has been noted that currently there is no indication for where designated bicycling routes continue from there.

The shared-use path along the west side of Peger Road north of Airport Way should be considered for rehabilitation in areas where it is in poor condition.

The width and security of the existing path underneath the Peger Road bridge should be improved with any future bridge project.

Phillips Field Road

Phillips Field Road is physically constrained in locations by the river and the railroad. This makes widening the roadway to provide bike lanes or a shared-use path difficult. However, a shared-use path along the north side of the Chena River from Peger Road to Illinois Street has been considered by Festival Fairbanks and the *Vision Fairbanks Downtown Plan* includes a bridge across the Chena River at Cowles Street that would connect to a north-side path. This path would provide a parallel connection to Phillips Field Road on the north side of the river. If such a path can be determined to be cost-feasible, it should be constructed. Bicycle lanes should be considered where they are feasible along Phillips Field Road if this path cannot be built.

Richardson Highway

Bicycles are currently prohibited on the Richardson Highway from Laurance Road to Santa Claus Lane-Badger Road. If this prohibition is not lifted, then the following are recommended parallel routes for northwest-bound (toward Fairbanks) and southeast-bound (toward Eielson Air Force Base) cyclists. These routes are also shown in Figure 3-3.

US Bicycle Route Sign from 2009 MUTCD
Source: Adventure Cycling Association

- Northwest-bound:
  - Laurance Road, to Mistletoe Drive, to Dawson Road, to Saint Nicholas Drive, to Santa Claus Lane to the Richardson Highway via the Badger Road interchange.
- An alternate route completely on the north side of the Richardson Highway would involve taking Mistletoe Drive to Mission Road, to Hurst Road, to Badger Road.
- Southeast-bound:
  - Leave the Richardson at either Peridot Street (and then proceed on Finell Drive to Park Way) or Santa Claus Lane, connect to Saint Nicholas Drive, to Buzby Road, to Laurance Road, to the Richardson Highway.

Similar to the previously described Airport Way parallel route, bicycle route, guide, and/or wayfinding signs should be considered to direct cyclists along this route (and possibly to destinations within North Pole). The Richardson Highway is part of the U.S. Bicycle Route system, so accompanying bicycle routes signs may be used along it.

Van Horn Road-S Cushman Street-University Avenue

Bike lanes should be considered on these roads to provide a complete connection around the southern edge of Fairbanks.

Downtown Fairbanks

The following subsections describe recommendations for non-motorized travel in and around downtown Fairbanks.

East-West Travel

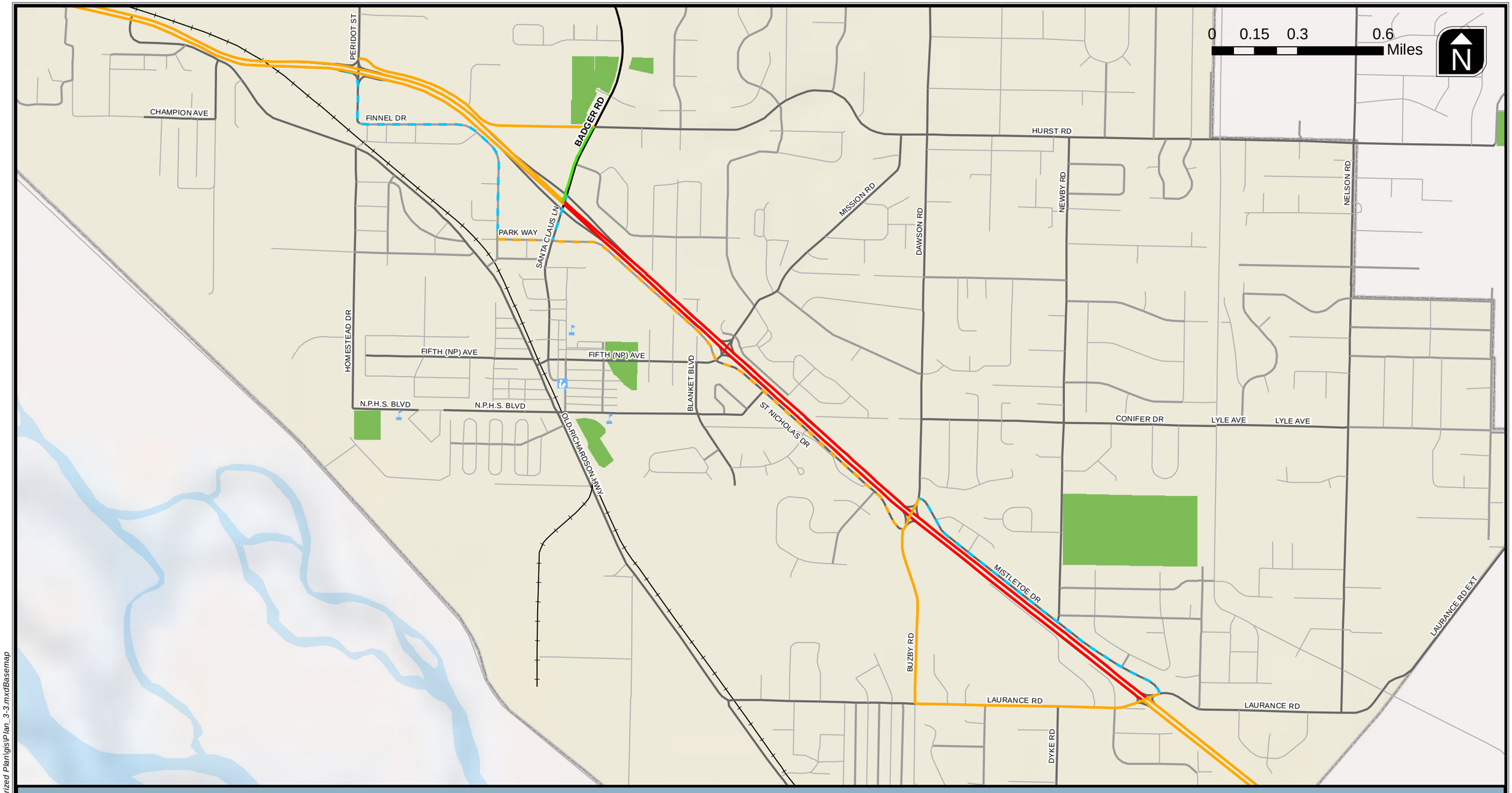
The only designated east-west bicycle route in downtown Fairbanks is along the Chena River. Traffic volumes are low enough on all of the east-west streets in downtown Fairbanks, except 1st Avenue between Cushman Street and Barnette Street , that signs and pavement markings, if not full Bicycle Boulevard treatments, could be applied to any of them.

The following street segments stand out as particularly good candidates for bicycle route treatments due to the connections they provide:

- 7th Avenue: Cowles Street to 3rd Avenue
- Wien Street/10th Avenue: 2nd Avenue to Cowles Street
- 10th Avenue: Barnette Street to the Steese Expressway

1st Street: Cushman Street – Lacey Street

Bicycles are prohibited in Golden Heart Plaza along 1st Street between Cushman Street and Lacey Street. This area is also busy during the summertime with tourist bus loading/unloading and relatively high pedestrian activity along the sidewalks. Bicycles in this section of 1st Street must share the road with auto traffic. This can be uncomfortable for cyclists, given the amount of crossing pedestrians, turning autos, and loading/unloading buses. Furthermore the transition between the shared-use path on the north side of 1st Street west of Cushman Street and needing to travel in the same direction as auto traffic in 1st Street on the east side is awkward for eastbound cyclists.



LEGEND

Existing Bike Network
- Bike Lanes/Shoulders
- Shared-Use Path
- Bikes Prohibited

(Dashed line indicates recommended/planned facility)

Other Recommended/Planned Improvements
- Signs, Markings, or Bicycle Boulevard

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED RICHARDSON HIGHWAY BICYCLE ROUTE NORTH POLE

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Figure 3-3

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2nd Avenue east of Cushman Street

The roadway section is physically constrained by Golden Heart Plaza on the north side and development on the south side, so widening the road to provide bicycle lanes would be costly and would not address the crossing conflicts described above. It is recommended that an alternate route be provided to encourage cyclists to avoid this section of 1st Street, unless their destination is Golden Heart Plaza or the Springhill Suites hotel. Alternate route options include 2nd Street or an elevated path over the Chena River. The elevated path over the Chena River would need to connect to the 1st Avenue path and travel under the Cushman Street bridge before tying back into the shared-use path near Lacey Street. Such a path would be a nice amenity for residents and visitors alike and provide the most continuous connection of the path along the Chena River; however, it would also be costly. Therefore it is recommended that signs be used to direct cyclists to use 2nd Avenue between Barnette Street and Lacey Street, unless they are planning on crossing the Chena River at the Cushman Street bridge.

North-South Travel

Major north-south streets in downtown Fairbanks have volumes ranging from greater than 10,000 vehicles per day (Cushman Street) to under 3,000 vehicles per day (the northern end of Cowles Street). Therefore treatment options for north-south travel cover a broader spectrum than those recommended for east-west travel above. This plan focuses on the main north-south route through downtown, the Cushman Street-Barnette Street couplet, and a western route.

Cushman Street-Barnette Street Couplet

The Cushman Street-Barnette Street couplet is the primary north-south route through downtown Fairbanks. Options for improving these roads for bicyclists are under consideration as part of a separate project. Improvement alternatives that may be considered by this project include removing one travel lane in order to provide bicycle lanes or installing shared lane markings and signs designating the outer lane(s) as appropriate locations for bicyclists.

Western Downtown

Cowles Street and Lathrop Street have been identified as possible locations for a north-south route through western downtown Fairbanks. Traffic volumes are generally low enough (under 5,000 vehicles per day north of 10th Avenue) on both streets that bicycle route signs, as well as signs reminding drivers and cyclists to "share the road" could be installed. Given Cowles Street's proximity to Barnette Street and its higher volumes south of 10th Street (greater than 6,000 and approaching 10,000 vehicles per day south of Airport Way), the Advisory Group recommends that Lathrop Street be the designated bicycle route on the west side of downtown Fairbanks.

Lathrop Street has sufficient width for two travel lanes and bike lanes on either side; however this would require removing the two-way left-turn lane north of 10th Avenue and on-street parking south of 10th Avenue. Replacing the two-way left-turn lane with bicycle lanes, and potentially space for on-street parking on one side could be considered. Removing the on-street parking in favor of bicycle lanes south of 10th Avenue is likely to be unpopular with the surrounding residents, though. Given Lathrop Street's residential character and the relatively low traffic volumes, less than 4,000 vehicles per day, and speeds, 25 miles per hour, shared roadway treatments, such as signing and pavement marking, should be considered. An exception to this

would be if there is sufficient space to convert the two-way left-turn lane to bike lanes and on-street parking on one side and the surrounding residents and City feel this would be a better use of space north of 10th Avenue.

Immediately south of Airport Way, Lathrop Street remains a low-volume roadway with less than 2,000 vehicles per day. The designated route should direct cyclists along Lathrop Street to where it is interrupted at 16th Avenue. From 16th Avenue the route should proceed to direct cyclists to the two paths that connect to the continuation of Lathrop Street south of the stub. One path extends directly from the stub of Lathrop Street and the other connects from the eastern end of 16th Avenue. It is unclear if the path extending directly from the stub of Lathrop Street will be kept in place as the surrounding land is developed. If it is not, then the other path connection should be preserved to provide this continuous route from the Chena River to south of the Mitchell Expressway.

1st-2nd Avenue (Fairbanks) Bike Path

Bicycle route, guide, and/or wayfinding signs are recommended along the 1st-2nd Avenue (Fairbanks) bike path east of Pioneer Park where it is not clear where the path picks up after it briefly ends.

23rd Avenue (Fairbanks)

Signs, and possibly pavement markings, should be considered along 23rd Avenue to indicate that the travel lane is to be shared between motor vehicles and cyclists.

Intersection Improvements

In addition to intersections mentioned above, the following intersections should be examined to identify possible treatments to make them more comfortable and safe for bicyclists:

- Chena Pump Road-Geist Road/Parks Highway
- Third Street/Steese Expressway
- Johansen Expressway/Steese Expressway

Identifying improvements for these intersections will require a more detailed examination of each intersection. Potential treatment options can be found in the accompanying Design Toolkit.

3.1.2 Planned Improvements

A number of projects that will improve conditions for bicyclists in the FMATS region are already in-process. They are shown on Figures 3-1a – 3-1f and described below.

- Birch Hill Road/Farmers Loop Road – Chena Hot Springs Road Connection – ADOT&PF is considering alternatives for accommodating bicyclist and pedestrians along Birch Hill Road. One option includes constructing a connection between Birch Hill Road and Chena Hot Springs Road (Reference 10). Such a connection would reduce reliance on the Old Steese Highway for travel between Farmer's Loop Road and Chena Hot Springs Road. Therefore, whatever is decided from the ADOT&PF project will determine the need for the recommended treatments on the Old Steese Highway.
- Chena Small Tracts Road - A shared-use path is planned for Chena Small Tracts Road east of Chena Pump Road. The project is currently undergoing environmental study (Reference 11).
- Cowles Street Bridge - The V*ision Fairbanks Downtown Plan* includes a bridge across the Chena River at Cowles Street that would connect to a north-side path.
- Gold Hill Road - ADOT&PF plans to provide four-feet wide shoulders on Gold Hill Road from the Parks Highway to Sheep Creek Road (Reference 12).
- Graehl Park – A shared-use path connection is planned from the Steese Expressway to Graehl Park north of the Chena River (Reference 13).

- Hoselton Road – A shared-use path connection is planned for Hoselton Road from Airport Way to the Boat Street path as part of the Airport Way West project (Reference 14).
- Illinois Street – ADOT&PF is preparing to reconstruct Illinois Street. The project will include a shared-use path on at least one side of the new roadway (Reference 14).
- Old Steese Highway – McGrath Road Connector – A new road along with an adjacent shared-use path is planned to connect the Old Steese Highway from its intersection with the Johansen Expressway to McGrath Road at its intersection with Farmers Loop Road (Reference 13).
- Park Way – ADOT&PF has a proposed project to construct 4-feet wide shoulders on Park Way from Finnel Drive to Santa Claus Lane (Reference 15).
- Plack Road – ADOT&PF plans to construct approximately 6-feet wide shoulders on Plack Road from Badger Road to Nelson Road (Reference 11).
- Richardson Highway – A shared-use path is planned for alongside the Richardson Highway from Airport Way to the western Badger Road exit (Reference 13).
- St. Nicholas Drive – ADOT&PF is considering a project that will construct 4-feet wide shoulders along St. Nicholas Drive from Buzby Road to Santa Claus Lane (Reference 16).
- University Avenue – ADOT&PF plans to reconstruct University Avenue from Thomas Street to the Mitchell Expressway with 6-feet wide shoulders on both sides (Reference 17).
- Wilbur Street – The existing shared-use path is planned to be extended to Davis Road (Reference 13).
- Yankovich Road/Miller Hill Road – A shared-use path is planned for Yankovich Road and Miller Hill Road. Funding is currently available for the section from Ballaine Road to Dalton Trail (Reference 11). FMATS staff has indicated that the path will likely ultimately extend down Tanana Farm Road to Thompson Drive.

3.2 PEDESTRIAN NETWORK

Improvements to the existing pedestrian network are identified from the work completed for this plan and summarized in the previous section, Existing Conditions and Opportunities for Improvement, as well as other plans for specific improvements (e.g., the reconstruction of University Avenue). The overall recommended and planned set of improvements is shown in Figures 3-4a – 3-4g and described below.

3.2.1 Recommended Improvements

The previous section identified five major issue types on the existing pedestrian network, which are addressed in this plan. These issue types, along with how they are addressed are listed below:

- *No Sidewalks* – Sidewalk construction projects are recommended to fill in identified gaps in the sidewalk network.
- *Crossing Issues* – Corridors with identified crossing issues are listed later in this section. A detailed study of traffic volumes and the existing problem at the intersection is often needed to select an appropriate treatment. The Design Toolkit contains treatments that should be considered at locations identified in this plan.
- *Bicycle Conflicts* – Bicycle conflicts are created when pedestrians and bicyclists share a path or sidewalk, often below the recommended width of 10-feet. These are generally addressed by recommendations described in the Bicycle section above that will either provide a shoulder or bike lane for bicyclists or an alternate route away from the current shared space.
- *Intersection Crossing Issues* – This plan generally identifies where intersection crossing treatments should be considered. A detailed study of traffic volumes and the existing problem at the intersection is often needed to select an appropriate treatment. The Design Toolkit contains treatments that should be considered at locations identified in this plan.

- *Bridge Crossing Issues* – Bridges with narrow sidewalks are uncomfortable for pedestrians to cross. A listing of bridges with known issues is provided later in this section.

The following subsections describe the recommended improvements shown in Figures 3-4a – 3-4g. Americans with Disabilities Act (ADA) related improvements and school area improvements are also discussed.

3.2.1.1 Sidewalk Projects

Sidewalks are recommended to be constructed to fill in gaps identified throughout the course of this project. These locations include:

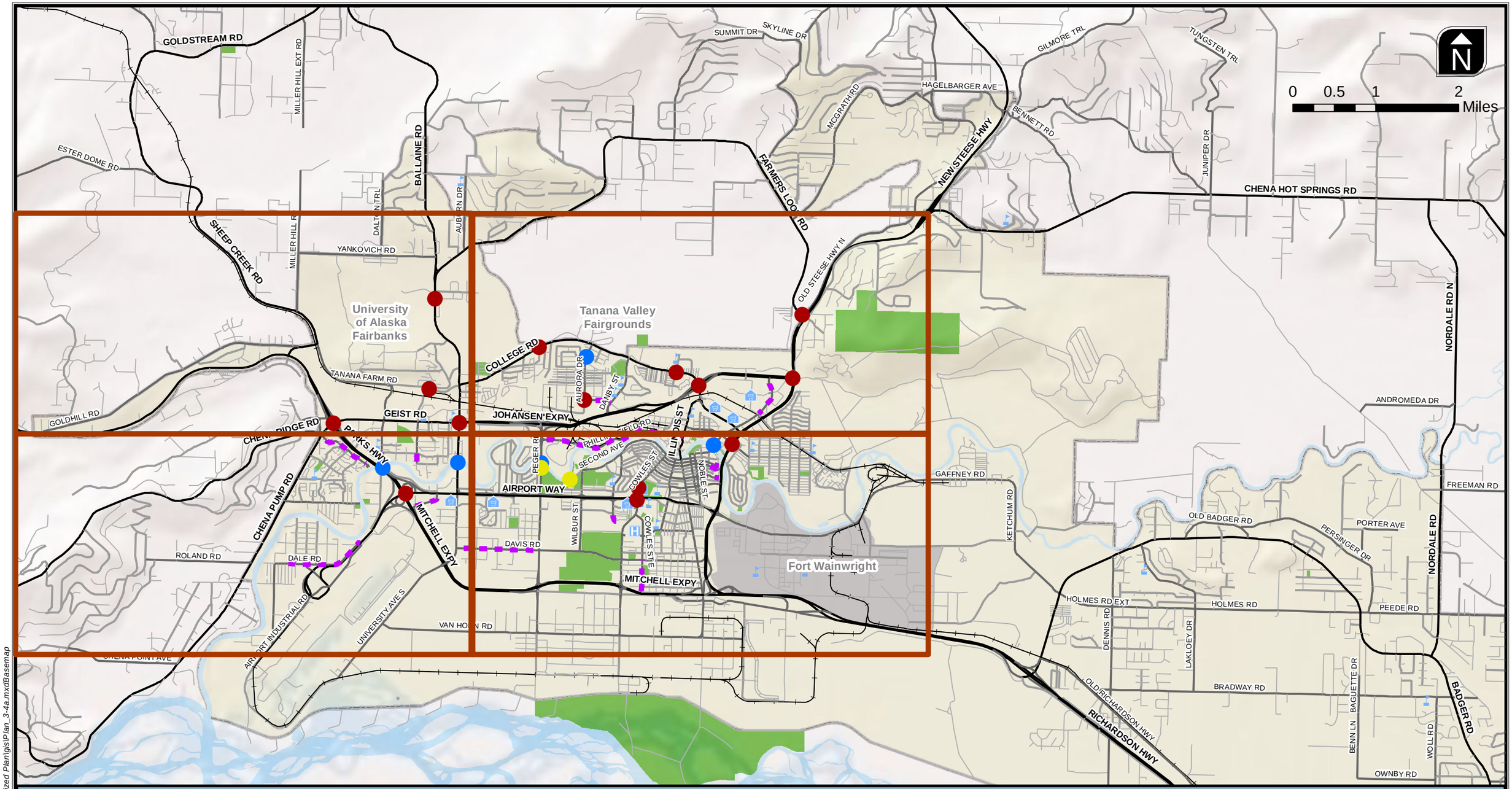
- 2nd Avenue (Fairbanks): Clay Street to Hall Street
- 3rd Avenue (Fairbanks): Steese Expressway off-ramp to Hall Street
- 3rd Avenue (Fairbanks): Grant Street to Bonnifield Street
- 5th Avenue (North Pole): Santa Claus Lane to Therron Street
- 7th Avenue (Fairbanks): 3rd Avenue to end of existing sidewalk (approximately 450 feet east of Noble Street)
- 8th Avenue (North Pole): St Nicholas Drive to Blanket Boulevard
- Dale Road: Ellis Street to Airport Way
- Dartmouth Drive: Chena Pump Road to Stanford Drive
- Davis Road: University Avenue to Peger Road
- E Cowles Street: 23rd Avenue to 29th Avenue
- Fairbanks Street: Teal Avenue to Birch Lane
- Lathrop Street: 16th Avenue to Eagan Avenue
- Loftus Road: Condor Court to Birch Lane
- Old Airport Road: Mitchell Expressway ramp to Airport Way
- Old Steese Highway: Railroad Tracks to Johansen Expressway
- Phillips Field Road/North Side of Chena River: Peger Road to Illinois Street
- Sidewalks along Phillips Field Road or a shared-use path along the north side of the Chena River would provide this connection
- Wembley Avenue: Danby Street to Aurora Drive

As was previously noted, few of these projects are located on high volume and/or speed roadways. This indicates that area agencies have done a good job of ensuring that the most critical facilities provide at least some sort of pedestrian accommodation.

3.2.1.2 Crossing Projects

Crossing issues have been identified at the following intersections:

- 5th Avenue - Mission Road/ Richardson Highway
- Aurora Drive/Wembley Avenue
- College Road / Johansen Expressway
- College Road at the Tanana Valley Farmer's Market
- College Road/Margaret Avenue-Antoinette Avenue
- Cowles Street/Airport Way frontage road
- Cowles Street/McGown Street
- Farmers Loop Road/Steese Highway
- Farmers Loop Road/Army Road
- Parks Highway/Airport Way
- Parks Highway/Geist Road
- Steese Highway/Third Street
- Steese Highway / Johansen Expressway
- Tanana Loop E/Alumni Drive
- University Avenue/Geist Road-Johansen Expressway



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LEGEND

Recommended Improvement
- Sidewalk
- Shared-Use Path
- Crossing

- Bridge Crossing
- Intersection Crossing
- Guide Signs

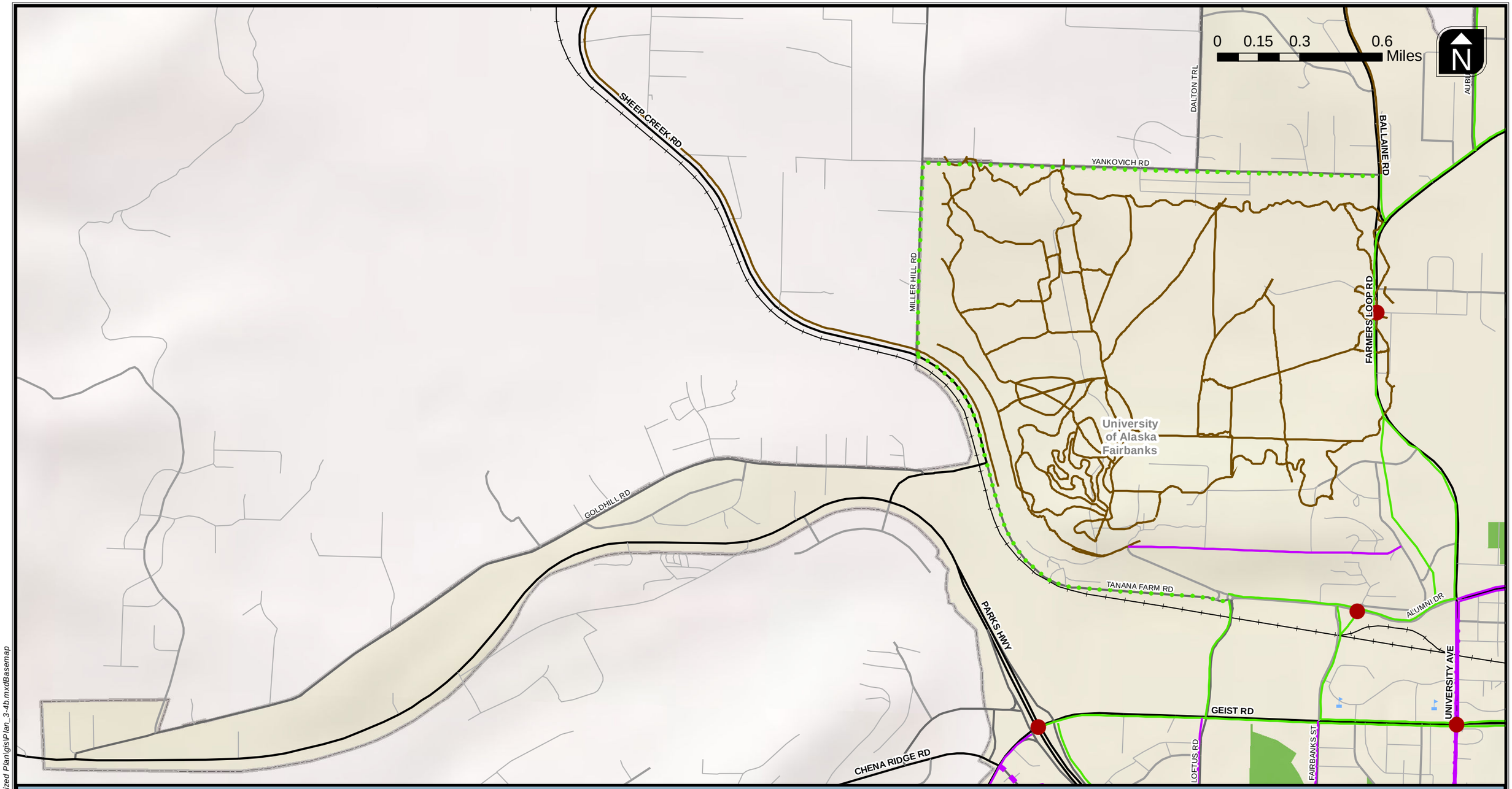
Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary
- Detail Area in Following Figures

RECOMMENDED PEDESTRIAN IMPROVEMENTS FAIRBANKS-WEST BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 3-4A



LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS UNIVERSITY AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure

3-4B

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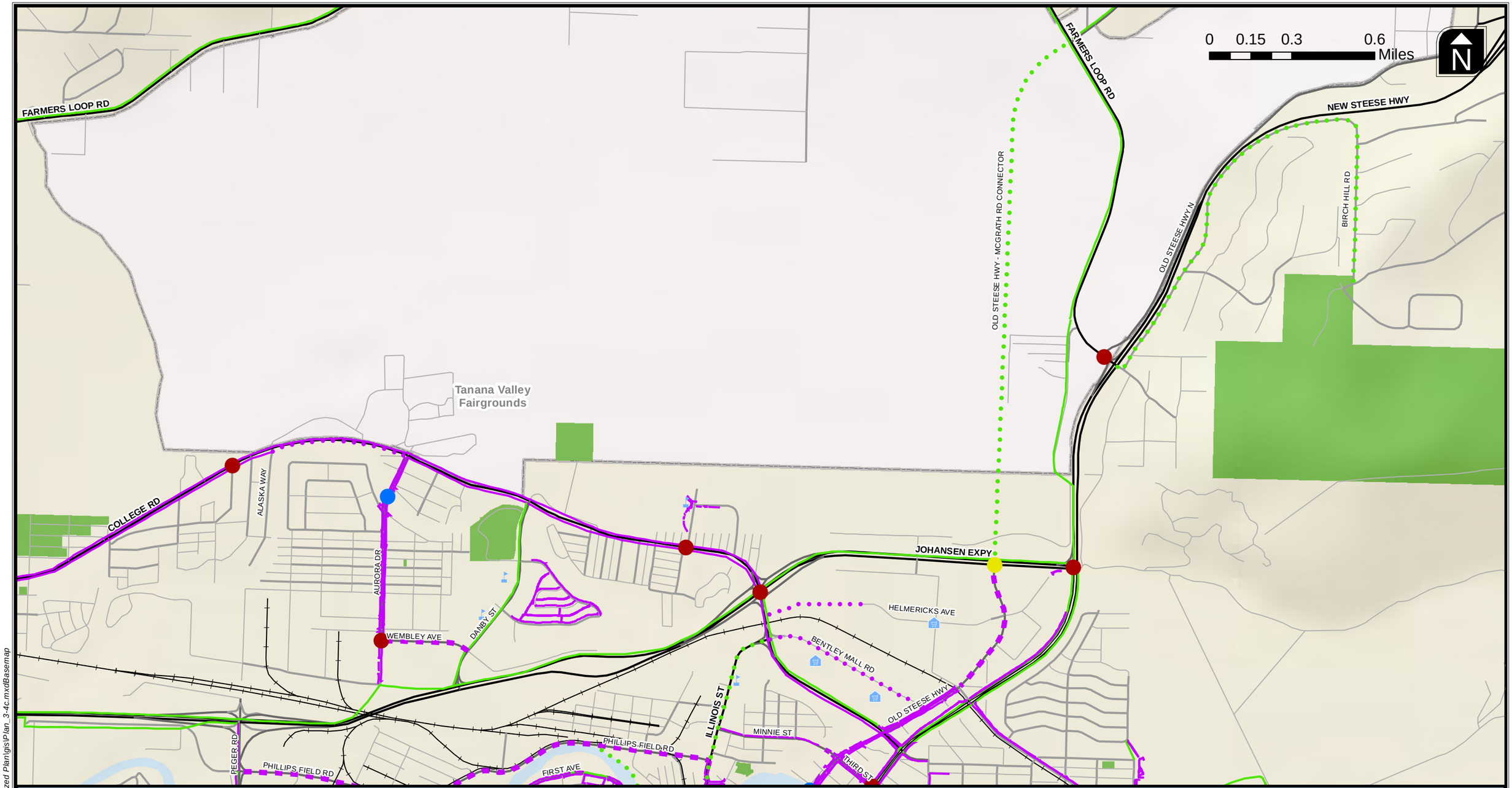

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS NORTH FAIRBANKS AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure 3-4C

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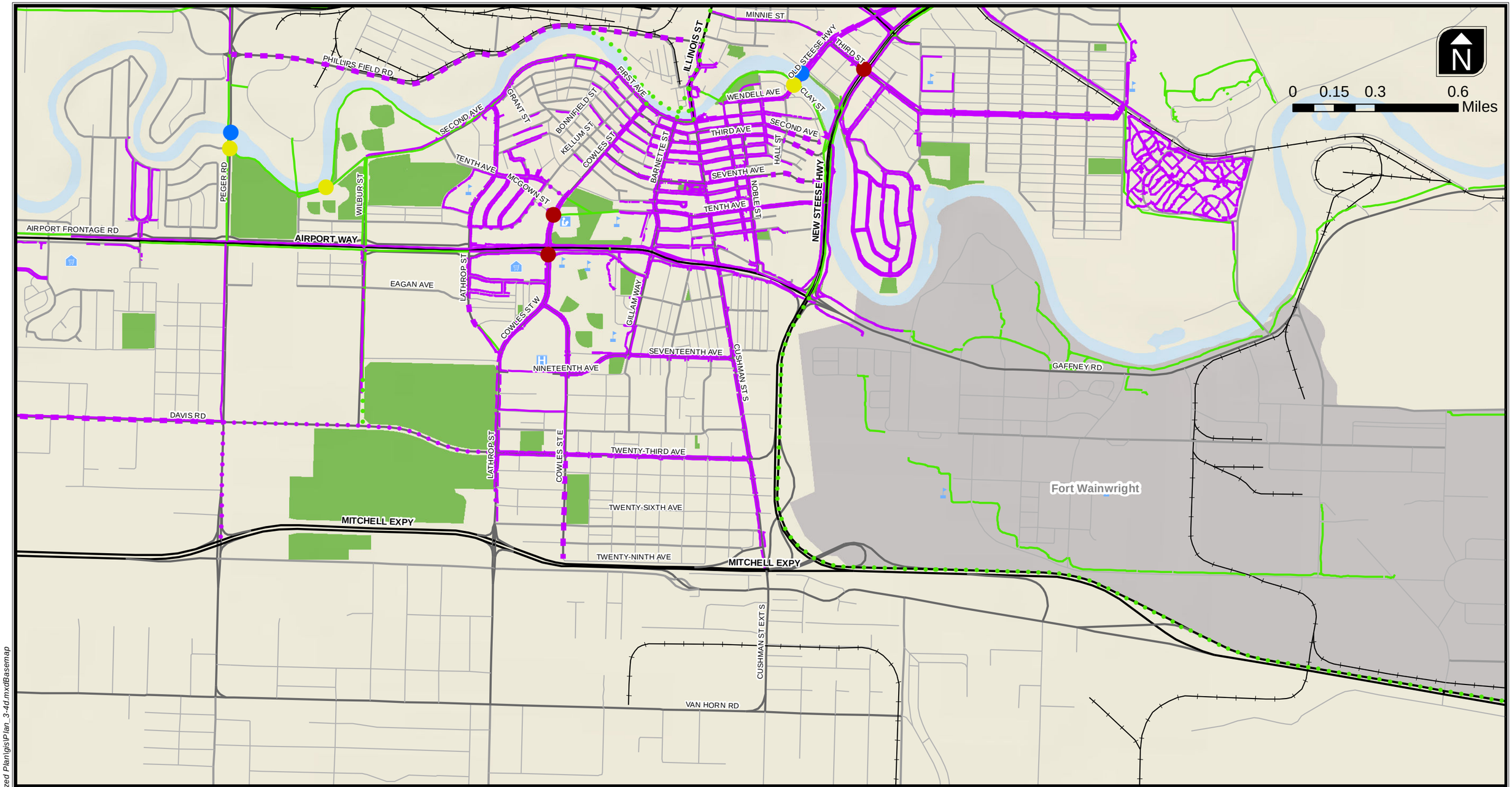

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS FAIRBANKS URBAN AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 3-4D

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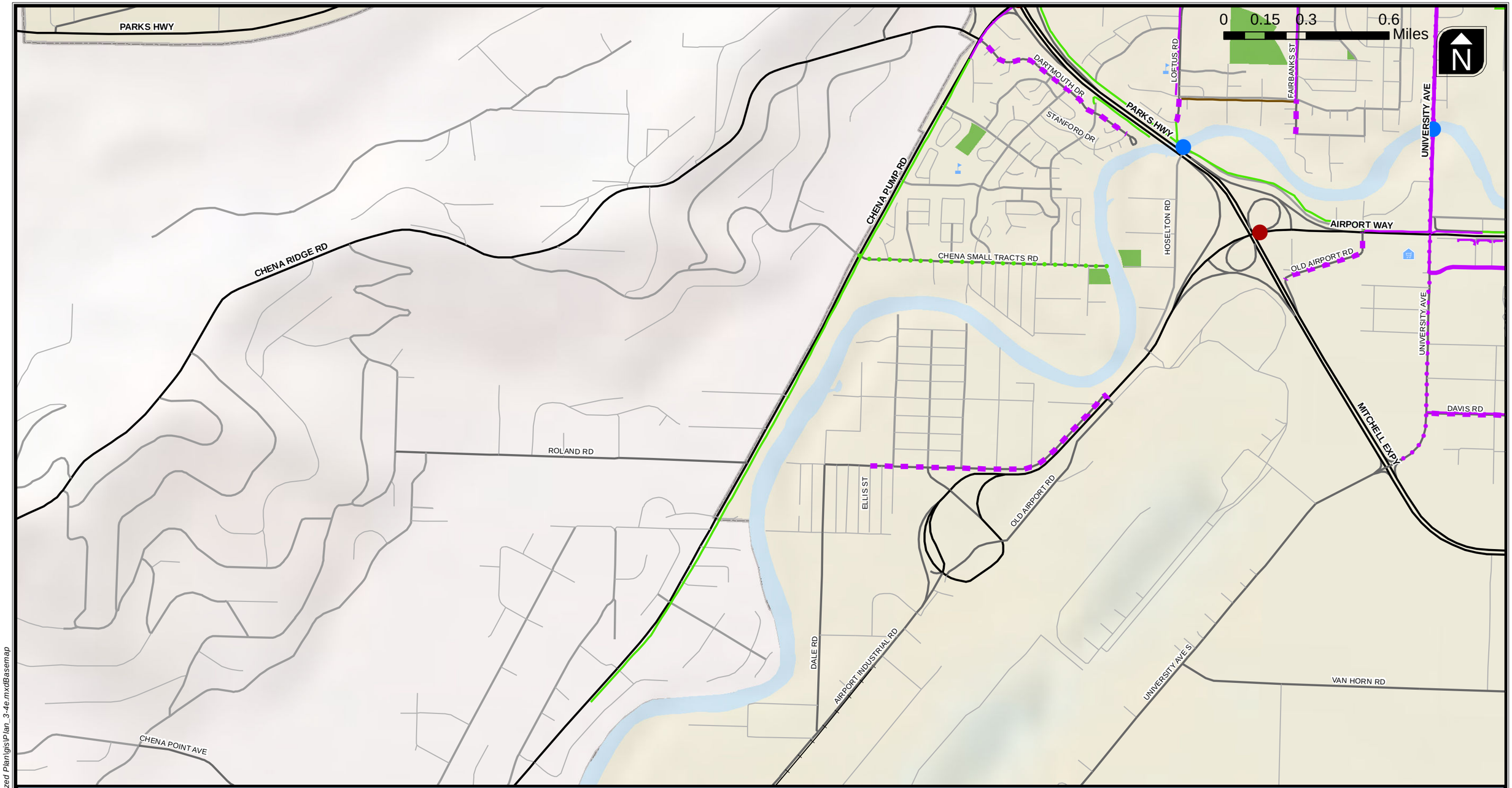

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended/Planned Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS AIRPORT AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure 3-4E

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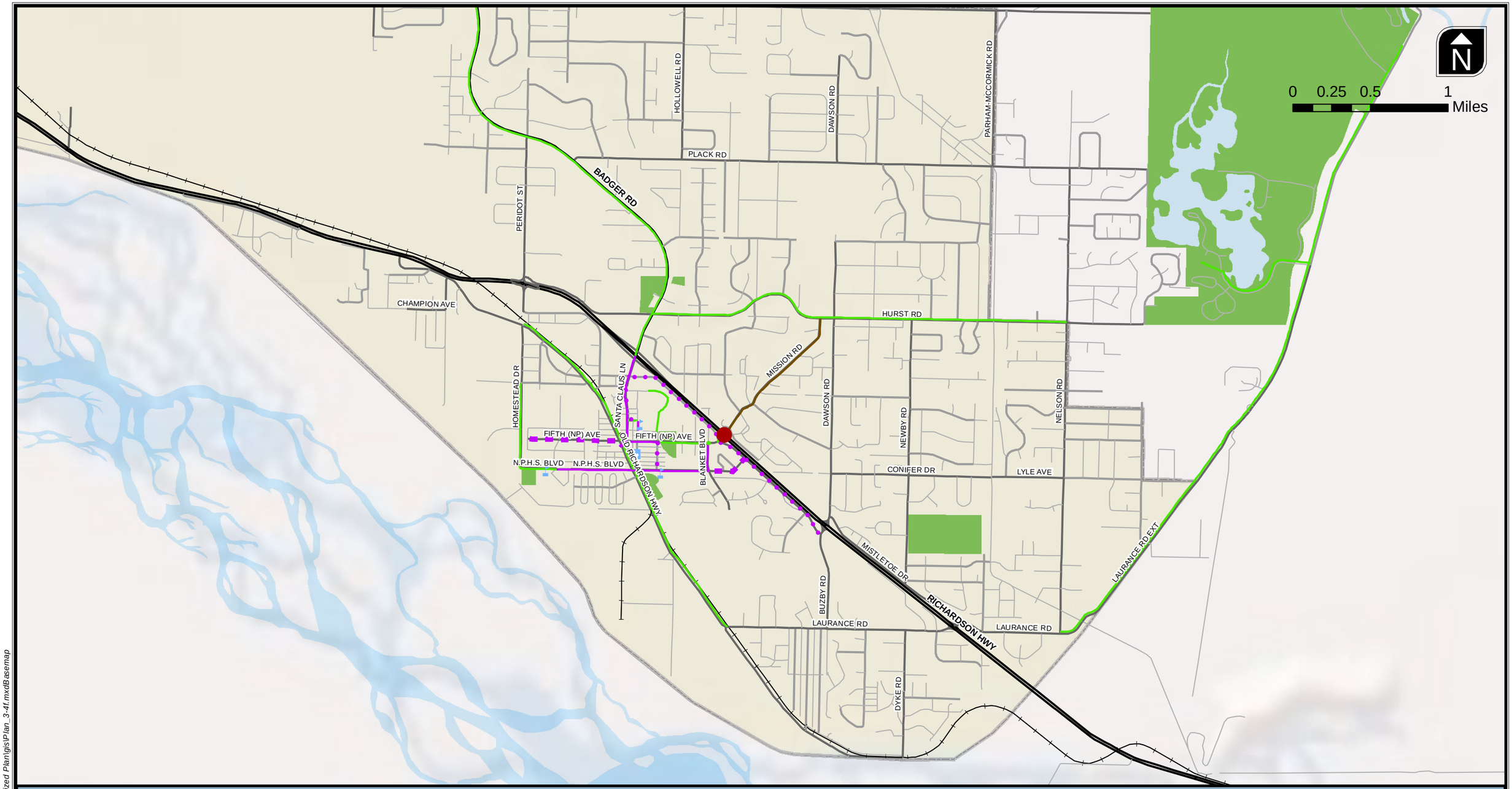

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS NORTH POLE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure

3-4F

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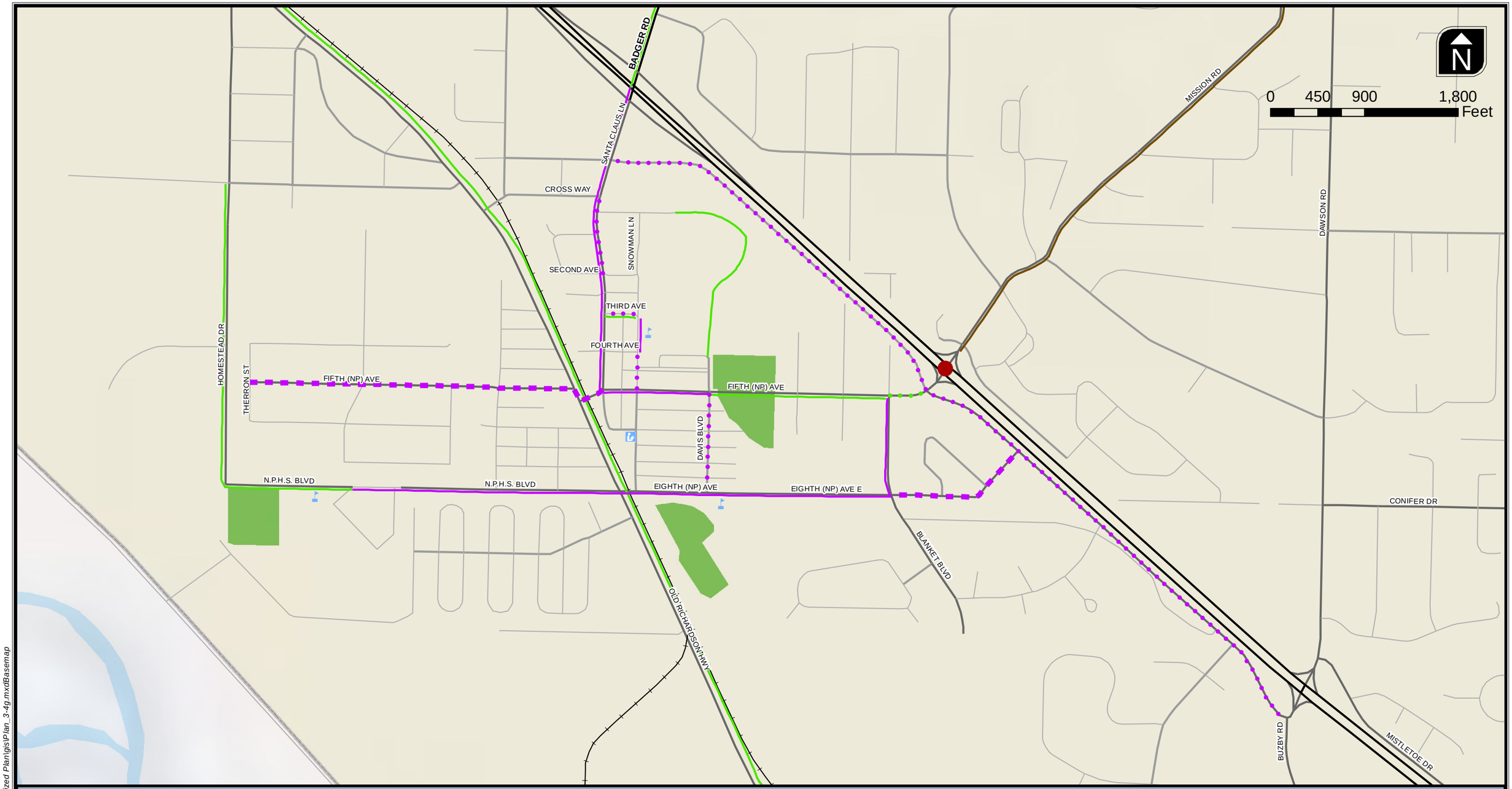

LEGEND

Existing Pedestrian Network
- Sidewalk
- Shared-use path
- Unimproved facility

(Dashed line indicates recommended facility. Dotted line indicates planned facility.)

Other Recommended Improvements
- Crossing Treatments
- Bridge Crossing
- Intersection Crossing
- Guide Signs

Activity Generators
- Hospital
- Library
- School
- Shopping
- Parks
- FMATS Boundary

RECOMMENDED AND PLANNED PEDESTRIAN IMPROVEMENTS NORTH POLE CORE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure

3-4G

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Back of 11x17 figure

More or enhanced crossing opportunities are needed along the following roadways:

- Alumni Drive
- Loftus Road
- S Cushman Street
- Barnette Street

As was previously mentioned, determining specific treatments will require a more detailed study of the crossing to be improved. Therefore specific recommendations are not made in this plan. The accompanying Design Toolkit provides treatment options for crossings to be considered for these locations.

3.2.1.3 Bridge Crossings

Several bridge crossings were identified as being uncomfortable for walking across, typically due to narrow sidewalks. When these bridges are reconstructed, they should include standard width pedestrian facilities, and if necessary, physical barriers:

- Aurora Drive
- University Avenue (planned for improvement)
- Peger Road
- Wendell Avenue
- Cushman Street

3.2.1.4 ADA Improvements

This project does not directly address compliance with ADA for existing facilities. Previous plans have noted a lack of ADA facilities in areas, including downtown Fairbanks. The City of Fairbanks is undertaking efforts to improve its existing facilities to ADA standards.

New construction projects are required to comply with ADA standards and therefore all of the above projects will improve accessibility in the FMATS region. FMATS has also committed federal Congestion Management and Air Quality (CMAQ) funding to improving ADA accessibility in Fairbanks through a recurring City of Fairbanks curb corner and sidewalk upgrade project in its Transportation Improvement Program (TIP), along with specific projects. Funding for projects such as this one should continue in order to bring all existing facilities into compliance with ADA standards.

3.2.2 Planned Improvements

A number of projects that will improve conditions for pedestrians in the FMATS region are already in-process. They are shown on Figures 3-4a – 3-4g and described below.

- 10th Avenue (Fairbanks) – A sidewalk will be constructed on the south side between Kellum Street and Cowles Street.
- Bentley Mall Road – Sidewalks will be constructed along this road as part of the Steese Highway/ Johansen Expressway Area Traffic Improvements project (Reference 18).
- Birch Hill Road/Farmers Loop Road – Chena Hot Springs Road Connection – ADOT&PF is considering alternatives for accommodating bicyclist and pedestrians along Birch Hill Road. One option includes constructing a connection between Birch Hill Road and Chena Hot Springs Road (Reference 10).
- Chena Small Tracts Road - A shared-use path is planned for Chena Small Tracts Road east of Chena Pump Road. The project is currently undergoing environmental study (Reference 11).
- College Road – Conversations with FMATS staff indicate that ADOT&PF intends to fill the gap in sidewalk between Alaska Way and Aurora Drive as part of an upcoming rehabilitation project.
- Cowles Street Bridge - The *Vision Fairbanks Downtown Plan* includes a bridge across the Chena River at Cowles Street that would connect to a north-side path.
- Davis Road – Sidewalks are planned for Davis Road from Peger Road to Lathrop Street (Reference 13).

- Graehl Park – A shared-use path connection is planned from the Steese Expressway to Graehl Park north of the Chena River (Reference 13).
- Helmericks Avenue Extension – The extension of Helmericks Avenue to College Road will include sidewalks (Reference 18).
- Hoselton Road – A shared-use path connection is planned for Hoselton Road from Airport Way to the Boat Street path as part of the Airport Way West project (Reference 14).
- Illinois Street – ADOT&PF is preparing to reconstruct Illinois Street. The project will include a shared-use path on at least one side of the new roadway and sidewalk on the other side (Reference 14).
- Kellum Street/McGown Street – Sidewalks will be constructed from Cowles Street to Lathrop Street (Reference 13)
- Lathrop Street – Sidewalks are planned for Lathrop Street from Davis Road to 26th Avenue (Reference 13).
- North Pole Pedestrian Connections – Sidewalks or shared-use paths are planned for several local streets in North Pole, including (Reference 15):
  - 3rd Avenue: Snowman Lane to Santa Claus Lane (Sidewalk)
  - 5th Avenue: Blanket Boulevard to St. Nicholas Drive (Shared-use Path)
  - Davis Boulevard: 5th Avenue to North Pole Elementary School (Sidewalk)
  - Santa Claus Lane: 2nd Avenue to Cross Way (Sidewalk)
  - Snowman Lane: 4th avenue to 5th Avenue (Sidewalk)
- Old Steese Highway – McGrath Road Connector – A new road along with an adjacent shared-use path is planned to connect the Old Steese Highway from its intersection with the Johansen Expressway to McGrath Road at its intersection with Farmers Loop Road (Reference 13).
- Peger Road – Sidewalks are planned for Peger Road from Davis Road to the Mitchell Expressway (Reference 13).
- Richardson Highway – A shared-use path is planned for alongside the Richardson Highway from Airport Way to the western Badger Road exit (Reference 13).
- St. Nicholas Drive – ADOT&PF is considering a project that will construct 4-feet wide shoulders and a 5-feet wide sidewalk along St. Nicholas Drive from Buzby Road to Santa Claus Lane (Reference 16).
- Yankovich Road/Miller Hill Road – A shared-use path is planned for Yankovich Road and Miller Hill Road. Funding is currently available for the section from Ballaine Road to Dalton Trail (Reference 11). FMATS staff have indicated that the path will likely ultimately extend down Tanana Farm Road to Loftus Road.

3.2.2.1 School Area Projects

Specific sidewalk and shared-use path connections around nearly all of the elementary and middle schools in the Fairbanks North star Borough (FNSB) have been identified as part of a separate project in the report Walk Zone Inventory Report & Engineering Recommendations (Reference 5).

3.3 PROGRAMMATIC RECOMMENDATIONS

Based on the review from the previous section, the following subsections describe recommended actions for each of the 5 "E" areas:

- Engineering (and planning)
- Education
- Encouragement
- Enforcement

- Evaluation

3.3.1 Engineering and Planning

Recommended engineering and planning actions include:

- Improving maintenance of existing bicycle and pedestrian facilities - Over half of all respondents to this plan's surveys indicated that better maintenance would encourage them to bike or walk more and approximately 20% of all comments received on the interactive map were primarily related to maintenance. Snow clearing, gravel sweeping, and surface rehabilitation efforts are important to maximizing the utility of existing infrastructure and user satisfaction. Continuing the efforts of the Seasonal Mobility Task Force (SMTF) will be important to improving maintenance of non-motorized facilities. Consideration should be given to expanding the SMTF's scope beyond just wintertime maintenance to include gravel clearing as well.
- Implementing ADA transition plans – The City of Fairbanks is updating its plan and ADOT&PF intends to update its plan in the near future. These plans contain improvements that will bring current facilities into compliance with ADA standards. Implementing these plans can be accomplished through regularly funding ADA-specific projects (e.g. curb corner and sidewalk upgrades) and prioritizing projects that overlap between other plans and the ADA transition plans.
- Adoption of a Complete Streets, or similar, policy, including policies to require development to construct non-motorized facilities when building new roads or to retrofit existing roads when applicable – Such a policy would need to be adopted by local agencies, including the City of Fairbanks, City of North Pole, and FNSB (has a policy for sidewalks around large-scale development). Encouraging adoption of these policies, including a statewide policy, is a strategy in the draft 2011 Alaska Strategic Traffic Safety Plan (STSP).
- Regular training courses for designers and planners – FMATS and its member agencies have been sponsoring such courses and should continue to do so.
- Adoption of a bike parking requirement policy for new development or a program to improve the availability of bike parking – Again, such a policy would need to be adopted by local agencies with land-use approval.
- Formation of an area bicycle and/or pedestrian advisory committee, similar to the FNSB Trails Advisory Commission – This group could meet on either a regular or as-needed basis to advise FMATS and/or its member agencies on bicycle and pedestrian issues and projects and potentially serve as a steering committee for area bicycle promotion events (e.g. Bike to Work week).
- A wayfinding program for bicyclists and pedestrians – This could include signs or on-street/trail maps directing non-motorized users to destinations and possibly the estimated trip length in terms of time and/or distance. Such a program would likely increase usage of the existing system and help promote the area as being bicycle and pedestrian friendly to residents and visitors alike.
- Collecting bicycle loading/unloading data on a per-stop basis – This data could be used to help prioritize improvements or identify locations for bicycle parking.
- Upgrade FNSB buses to hold more than two bikes – Upgrading select buses to carry more than two bikes on routes where the rack currently fills up would allow more cyclists to ride the bus system.
- Consider using smaller rock chip on roads designated as bike routes – The use of rock chip ¼" or smaller when chip sealing roads provides a smoother ride for bicyclists.

3.3.2 Education/Encouragement

Education and encouragement actions are combined into one section due to the amount of overlap between the two areas. Recommended actions include:

- Maintain existing efforts – There are currently a number of outreach efforts in the area, including bicycle rodeos put on by Banner Health and Volunteers in Policing (VIP), distribution of the FMATS Bikeways map, the "Don't be Fuelish Campaign," and Bike to Work Month, Week, and Day events.
- Look for opportunities to expand outreach efforts – This could include expanding business participation in ongoing campaigns (i.e., Bike to Work Week events, "Don't be Fuelish"), partnering with local businesses and organizations to distribute Bikeways maps (e.g., cycle and outdoor shops, visitor organizations, hotels), Safe Routes to School educational programs, sponsoring League of American Bicyclists education courses, and partnering with agencies and businesses to publish "Share the Road" and other outreach campaigns.
- A wayfinding program – This is described in the Engineering and Planning section.

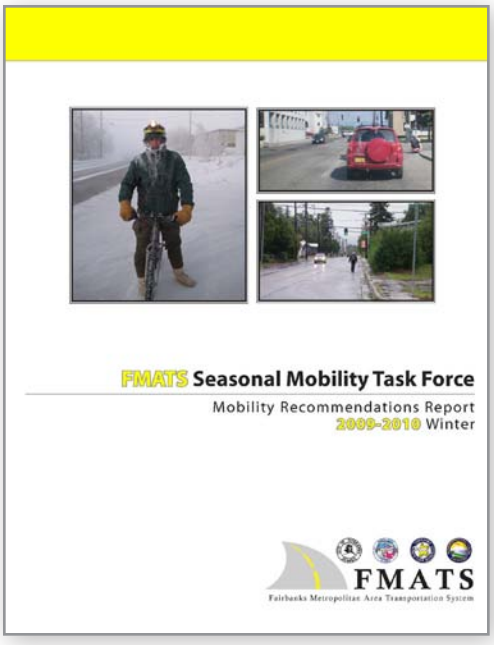
3.3.3 Enforcement

The draft 2011 Alaska STSP contains strategies for improving law enforcement officer training on non-motorized transportation safety and laws. FMATS should look for opportunities to support the implementation of these actions.

3.3.4 Evaluation

Actions that FMATS should consider to evaluate the performance of the existing non-motorized transportation system and the implementation of this plan include:

- Implement a regular bicycle and pedestrian count program – This could be in conjunction with the National Bicycle and Pedestrian Documentation Project or along a timeframe that is more convenient for the area (e.g. late May or June may be better timeframes than an early or mid-May count). To the extent possible, the counts should be done on a regular schedule at consistent locations. The counts conducted for this plan provide a template for how this program could continue. Counts of all pedestrians and bicyclists through an area are preferred to counts that only identify intersection crossing movements.
- Implement the maintenance performance standards from the SMTF report – This will allow for evaluation of maintenance efforts during the winter.
- Distribute and collect walkability and bikeability checklists – This could be done by posting links to them on the FMATS website or through targeted efforts where the checklists are distributed.
- Measuring progress toward meeting the objectives of this plan - This will allow FMATS to evaluate the progress made toward the goals of this plan.



IMPLEMENTATION PLAN

4.0 IMPLEMENTATION PLAN

This section presents the prioritized set of infrastructure projects that have resulted from this planning effort. It also summarizes policy and programmatic actions. This section will need to be updated every 4-5 years to ensure that FMATS maintains a list of projects that reflect the current needs and values of the community.

4.1 PRIORITIZATION CRITERIA

The project team has developed a set of criteria to prioritize the recommended infrastructure projects. These criteria have been reviewed by FMATS and other agency staff and the project advisory group. They are summarized below in Table 4-1. The Technical Appendix contains more details regarding the criteria.

4.2 PRIORITIZED PROJECT LISTINGS

The criteria in Table 4-1 have been applied to the projects in Section 3, with each project receiving a score between 0 and 2 points for each criterion. This process is outlined in further detail in the Technical Appendix; though a couple observations from this process are noted here:

- The prioritization scores for bicycle projects are well distributed, with scores for reach criterion a mixture of 0, 1, and 2 points.
- Many sidewalk projects received 0 points in the public input category. This reflects the higher level of interest in bicycle projects that is seen in many planning efforts. Consequently, technical criteria play a stronger role in the prioritization of sidewalk projects than they do in bicycle projects.

Once points have been assigned for each criterion, scores are totaled for each project. Based on total scores, projects are then assigned into three tiers: high, medium, and low. Projects within each tier are considered to be of the same priority, providing flexibility to the implementing agencies when selecting projects to construct. Tables 4-2 through 4-4 summarize the results of this process for bicycle, pedestrian, and crossing projects, along with each project's respective planning-level cost estimate. Projects within each tier are listed in alphabetical order. In some cases, elements not captured in the prioritization criteria (e.g. physical constraints) are used to assign projects to a tier. Instances where this occurs are noted in the tables.

Table 4-1 Prioritization Criteria

Criteria	Measurement Method
Public Input	Manual count of public comments received requesting improved facility or new connection
Redundancy	Proximity of recommended facility to other existing bicycle facilities (Applied to bicycle projects only)
Traffic	Traffic volume and speed of adjacent roadway
Safety	Number of crashes along facility from 2004 – 2008 as recorded in crash analysis described in Section 2
Density	Population density in adjacent US Census Blocks using 2010 Census data
Socioeconomics	Density of population without a vehicle in adjacent transportation analysis zones (TAZs) from 2008 FMATS Metropolitan Transportation Plan update
Transit	Proximity to fixed-route transit service
Schools	Proximity to nearest school, include elementary, middle, and high schools, and UAF
Other Attractors	Proximity to other key destinations, including parks, community centers, shopping centers, and employment centers.
Benefit-Cost	Subtotal of all other criteria divided by the estimated cost.

Table 4-2 Prioritized Bicycle Projects

#	Location	Description	Cost Estimate[1]
High Priority Projects			
1	10th Avenue (Fbks): Barnette St – Steese Hwy	Signs/Markings	$170,000
2	Airport Way: Steese Hwy – Parks Hwy	Parallel Route	$1,500,000[2]
3	Aurora Drive: College Rd – Johansen Path	Signs/Markings	$230,000
4	College Road: Johansen Expwy – Steese Hwy	Shared-Use Path Widening	$180,000
5	College Road: University Ave –Johansen Expwy	Bike Lanes (New Pavement)/ Road Diet	$2,200,000/ $830,000
6	Geist Road: University Ave – Loftus Rd	Driveway Treatments	$150,000
7	Old Steese Highway: Chena River – Trainor Gate Rd	Bike Lanes	$450,000
8	S Cushman Street: Airport Way – Mitchell Expwy (or Parallel Route on Stacia/Rickert)	Parallel Route/ Bike Lanes	$340,000/ $780,000
		Subtotal	**$3,850,000 - $5,660,000**
Medium Priority Projects			
9	1st Avenue (Fbks) bike route around Golden Heart Plaza (1st/Cushman)	Signs/Markings	$62,000
10	7th Avenue (Fbks): Cowles St – Steese Hwy	Signs/Markings	$220,000
11	10th Avenue (Fbks): 2nd Ave – Cowles St	Signs/Markings	$140,000
12	Lathrop Street: 2nd Ave – Airport Way	Signs/Markings	$150,000
13	Lathrop Street: Airport Way – 16th Ave	Signs/Markings	$110,000
14	Old Steese Highway: Trainor Gate Rd – Johansen Expwy	Bike Lanes	$370,000
15	Peger Road: Chena River – Airport Way	Widen Bike Lanes	$270,000
16	Richardson Highway (NP) Alternate Route: Peridot St – Laurance Rd	Signs/Markings	$620,000
		Subtotal	**$1,942,000**
Low Priority Projects			
17	23rd Avenue: Davis Rd – S Cushman St	Signs/Markings	$180,000
18	Geist Road: Parks Hwy – Fairbanks St	Shared-Use Path	$670,000
19	Johansen Path Bridge to Charles Street	Shared-Use Path	$140,000[3]
20	Lathrop Street: 19th Ave – Davis Rd	Convert Bike Lanes to bike lanes	$230,000
21	Old Steese Highway: Farmers Loop Rd – Chena Hot Springs Rd	Signs/Markings	$510,000
22	Phillips Field Road: Peger Rd – Illinois St	Bike Lanes or Shared-Use Path	$1,200,000[3]
23	S Cushman Street: Mitchell Expwy – Van Horn Rd	Bike Lanes	$350,000
24	Van Horn Rd – University Ave – Peger Rd	Bike Lanes	$1,700,000
		Subtotal	**$4,980,000**
		Total	**$10,772,000 – 12,582,000**

[1] Cost estimate notes:

Estimates are planning level only and do not include right-of-way costs or utility relocation.

Estimates for "Signs/Markings" projects assume both signs and markings.

[2] Slight variation in estimate depending on option selected for north side.

[3] Does not include potential structures

Table 4-3 Prioritized Pedestrian Projects[1]

#	Location	Cost Estimate[2]
High Priority Projects		
1	Cowles Street E: 23rd Ave - 29th Ave	$410,000
2	Lathrop Street: Eagan Ave - 16th Ave	$120,000
3	Loftus Road : Birch Ln - Shared Use Path	$100,000
4	Old Steese Highway: Trainor Gate Rd – Johansen Expwy	$540,000
5	Wembley Avenue: Aurora Dr - Danby St	$350,000
	Subtotal	**$1,520,000**
Medium Priority Projects		
6	5th Avenue (NP): Santa Claus Ln – Therron St	$710,000
7	8th Avenue (NP): St Nicholas Dr – Blanket Blvd	$290,000
8	Dartmouth Drive: Chena Pump Road – Stanford Dr	$720,000
9	Davis Road: University Ave – Peger Rd	$1,100,000
10	Fairbanks Street: Birch Ln – Teal Ave	$140,000
11	Phillips Field Road: Peger Rd – Illinois St	$1,200,000[4]
	Subtotal	**$4,860,000**
Low Priority Projects		
12	2nd Avenue (Fbks): Hall St – Clay St[3]	$140,000
13	3rd Avenue (Fbks): Hall St – Steese Hwy[3]	$160,000
14	7th Avenue (Fbks): End of sidewalk – 3rd Ave[3]	$200,000
15	Dale Road: Airport Way – Ellis St	$1,100,000
16	Old Airport Way: Mitchell Expwy – Airport Way	$400,000
	Subtotal	**$2,000,000**
	Total	**$8,380,000**

[1] See Section 3.2.1.4 for a discussion of ADA improvements.

[2] Cost estimates are planning level only and do not include right-of-way costs or utility relocation.

[3] Assigned to low priority tier due to significant obvious right-of-way (ROW) and/or physical constraints that will require significant ROW purchasing or that the project is built with future development.

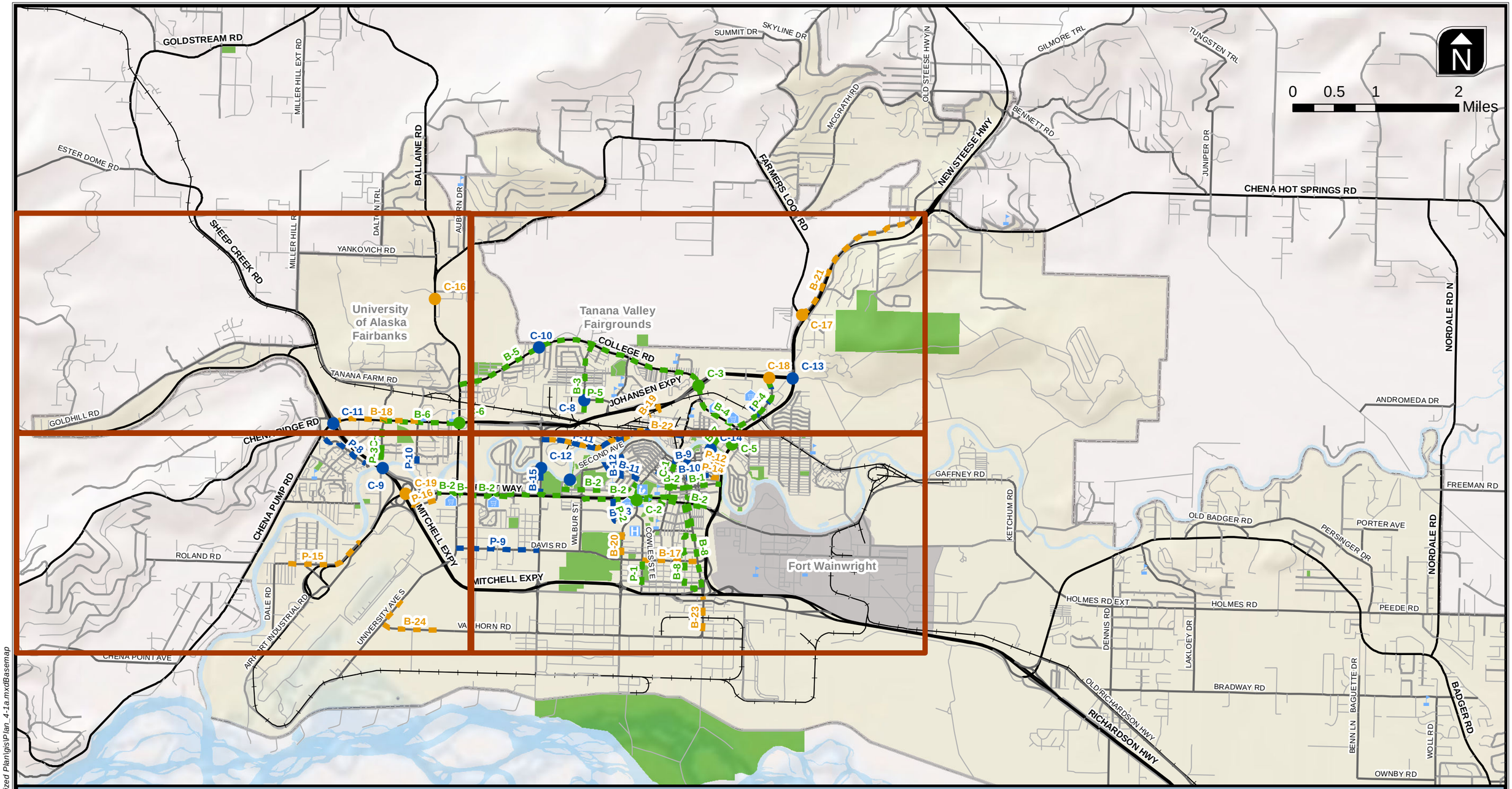
[4] Does not include potential structures

Table 4-4 Prioritized Crossing Projects

#	Location	Description
High Priority Projects		
1	Barnette Street: 1st Ave - Airport Way	Crossing Treatments
2	Cowles St/Airport Frontage Rd	Crossing
3	Johansen Expwy/College Rd	Crossing
4	Loftus Road: Wood River Dr - Birch Ln	Crossing Treatments
5	Steese Hwy/3rd St	Crossing
6	University Ave/Geist Rd - Johansen Expwy	Crossing
Medium Priority Projects		
7	1st Ave-2nd Ave (Fbks) Path - East of Pioneer Park	Guide Signs
8	Aurora Dr/Wembley Ave	Crossing
9	Boat Street Path - Chena River Bridge	Bridge
10	Caribou Way/College Rd (Farmer's Market)	Crossing
11	Parks Hwy/Chena Pump Rd-Geist Rd	Crossing
12	Peger Road Undercrossing	Guide Signs/ Security
13	Steese Hwy/Johansen Expwy	Crossing
14	Wendell Avenue - South of Chena River Bridge	Guide Signs/ Curb Cut
Low Priority Projects		
15	5th Ave-Mission Rd/Richardson Hwy	Crossing
16	Farmers Loop Rd/Army Rd	Crossing
17	Old Steese Hwy/Farmers Loop Rd	Crossing
18	Old Steese Hwy/Johansen Expwy	Guide Signs
19	Parks Hwy/Airport Way	Crossing

As the tables show, there are 24 bicycle projects with a total estimated cost of approximately $10.8 to $12.6 million, 16 pedestrian projects with a total estimate cost of approximately $8.4 million, and 19 stand-alone crossing/spot location projects. Cost estimates are not provided for the crossing/spot-location projects because the exact nature of each improvement will be determined by further detailed study. A summary of the assumptions behind the cost estimates is provided in the Technical Appendix.

Figures 4.1a – 4.1g illustrate the recommended projects by priority level.



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LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

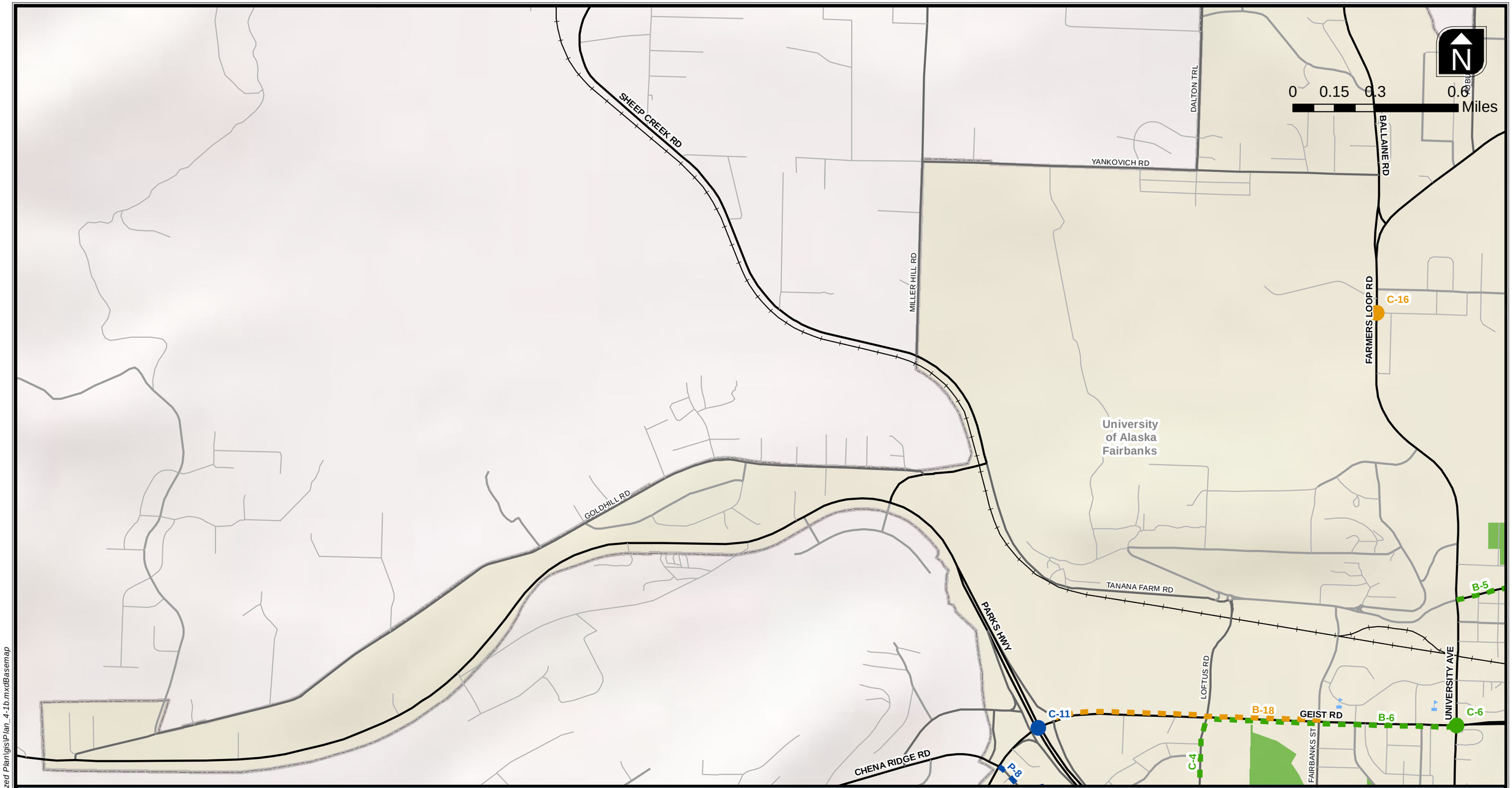
Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary
- Detail Area in Following Figures

PRIORITIZED RECOMMENDED IMPROVEMENTS FAIRBANKS-WEST BADGER AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 4-1A



LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS UNIVERSITY AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure

4-1B

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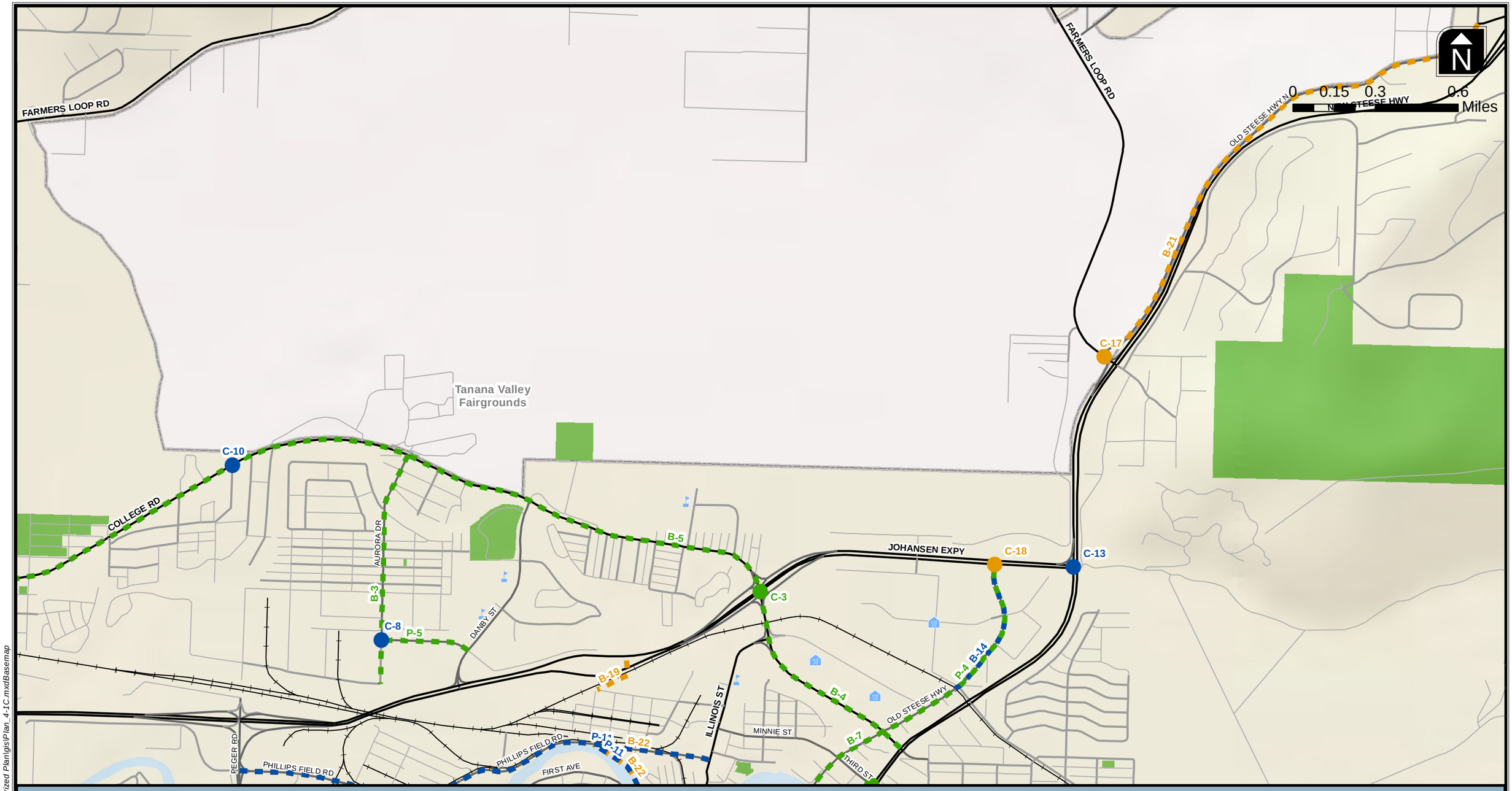

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH FAIRBANKS AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure
4-1C

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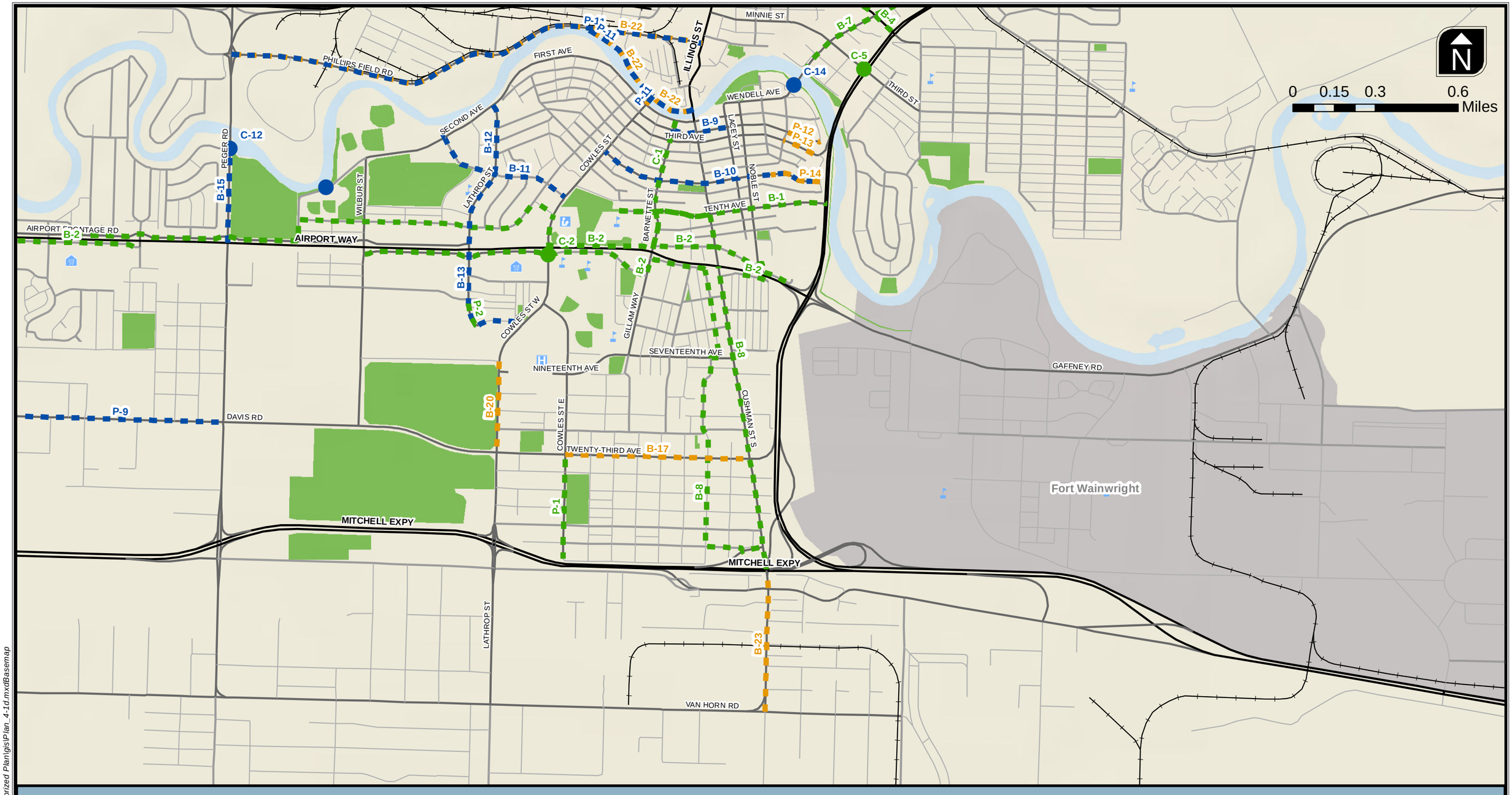

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS FAIRBANKS URBAN AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 4-1D

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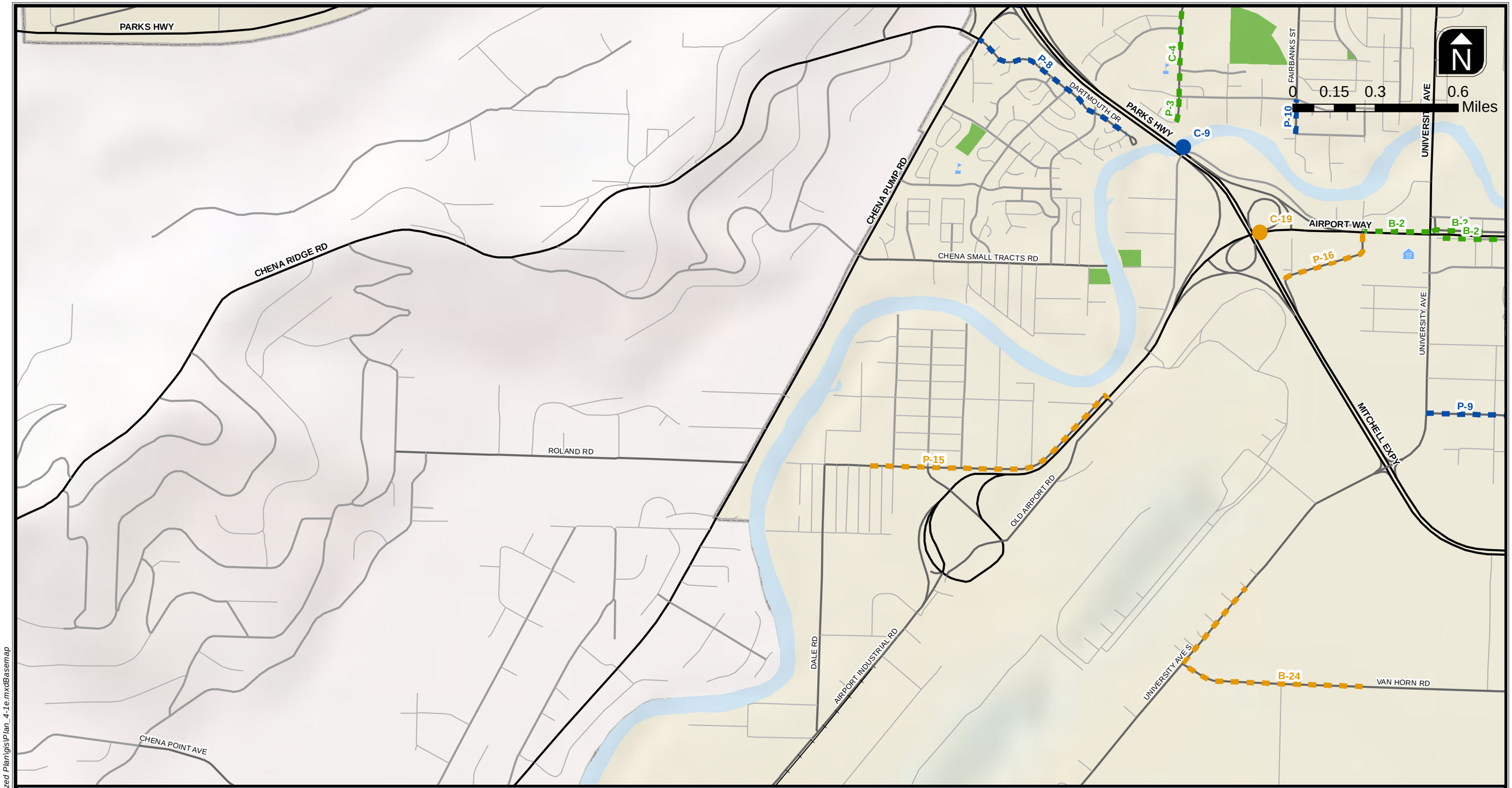

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS AIRPORT AREA

FMATS

KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING

PDC INC. ENGINEERS

Figure

4-1E

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LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH POLE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure 4-1F

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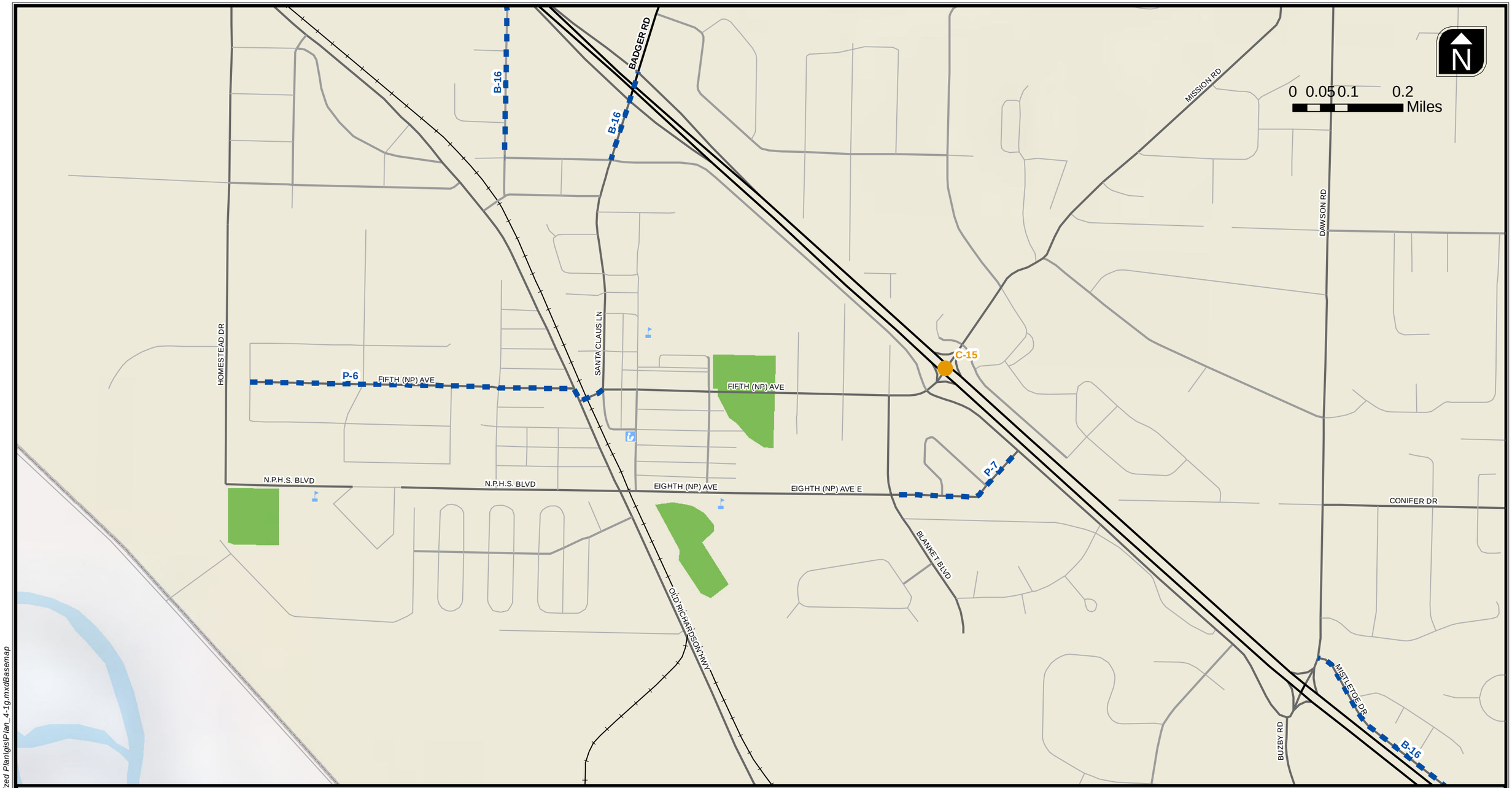

LEGEND

Linear Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Spot Improvement
- High Priority Project
- Medium Priority Project
- Low Priority Project

Activity Generators
- Hospital
- Library
- School
- Shopping

- Parks
- FMATS Boundary

PRIORITIZED RECOMMENDED IMPROVEMENTS NORTH POLE CORE AREA

FMATS
KITTELSON & ASSOCIATES, INC. TRANSPORTATION ENGINEERING/PLANNING
PDC INC. ENGINEERS

Figure
4-1G

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4.3 PROJECT SUMMARY DESCRIPTIONS

The following subsections provide a brief description of each project. More information about each project may be found in Section 3.

4.3.1 Bicycle Projects

4.3.1.1 High Priority Bicycle Projects

B-1: 10th Avenue (Fbks): Barnette St – Steese Hwy – Install bicycle route signs and/or pavement markings. Consider full Bicycle Boulevard treatments.

B-2: Airport Way: Steese Hwy – Parks Hwy – Designate and construct improvements to parallel routes on the north and south sides of Airport Way as described in Section 3.1.1.

B-3: Aurora Drive: College Rd – Johansen Path – Install bicycle route signs and/or pavement markings.

B-4: College Road: Johansen Expwy – Steese Hwy – Widen sidewalk to full 10-foot shared-use path width. Note that a future corridor study may identify different improvements.

B-5: College Road: University Ave – Johansen Expwy – Provide bike lanes, possibly through a road diet. Note that a future corridor study may identify different improvements.

B-6: Geist Road: University Ave – Loftus Rd – Install pavement markings and/or signs across major driveways and unsignalized intersections.

B-7: Old Steese Highway: Chena River – Trainor Gate Rd – Provide bike lanes. An interim solution could be to restripe the travel lanes to provide extra width to the outer lane and install signs reminding bicyclists and motor vehicles to "share the road."

B-8: S Cushman Street: Airport Way – Mitchell Expwy – Designate a parallel bicycle route on Stacia Street and Rickert Street using Bicycle Boulevard treatments, including signs, pavement markings, intersection treatments at major intersections, and lighting.

4.3.1.2 Medium Priority Bicycle Projects

B-9: 1st Avenue (Fbks) bike route around Golden Heart Plaza (1st/Cushman) – Designate an alternate route using signs to direct cyclists to use 2nd Avenue between Barnette Street and Lacey Street, unless they are planning on crossing the Chena River at the Cushman Street bridge.

B-10: 7th Avenue (Fbks): Cowles St – Steese Hwy – Install bicycle route signs and/or pavement markings. Consider full Bicycle Boulevard treatments.

B-11: 10th Avenue (Fbks): 2nd Ave - Cowles St – Install bicycle route signs and/or pavement markings. Consider full Bicycle Boulevard treatments.

B-12: Lathrop Street: 2nd Ave – Airport Way – Install bicycle route signs and/or pavement markings. An exception to this could be if there is sufficient space to convert the two-way left-turn lane to bike lanes and on-street parking on one side and the surrounding residents and City feel this would be a better use of space north of 10th Avenue.

B-13: Lathrop Street: Airport Way – 16th Ave – Install bicycle route signs and/or pavement markings. From 16th Avenue the route should proceed to direct cyclists to the two paths that connect to the continuation of Lathrop Street.

B-14: Old Steese Highway: Trainor Gate Rd – Johansen Expwy – Provide bike lanes by converting the existing shoulder to bike lanes and widening where necessary.

B-15: Peger Road: Chena River – Airport Way – Widen shoulders, if possible, and designate as bike lanes.

B-16: Richardson Highway (NP) Alternate Route: Peridot St – Laurance Rd – Designate and construct improvements to parallel routes on the north and south

sides of the Richardson Highway through North Pole as described in Section 3.1.1.

4.3.1.2 Low Priority Bicycle Projects

B-17: 23rd Avenue: Davis Rd – S Cushman St – Install bicycle route signs and/or pavement markings.

B-18: Geist Road: Parks Hwy – Fairbanks St – Construct an extension of the existing shared-use path on the north side of the road to the Parks Highway.

B-19: Johansen Path Bridge to Charles Street – Complete the partially constructed bicycle/pedestrian overcrossing of the Johansen Expressway between the railroad depot and College Road and provide a paved connection to the railroad depot and Illinois Street.

B-20: Lathrop Street: 19th Ave – Davis Rd – Convert the existing shoulders to designated bike lanes.

B-21: Old Steese Highway: Farmers Loop Rd – Chena Hot Springs Rd – Widen shoulders where feasible and install signs reminding bicyclists and motor vehicles to "share the road." Note that ADOT&PF is currently considering a project to connect Farmer's Loop Road to Chena Hot Springs Road. The recommendations from the ADOT&PF project will likely affect the need for this project.

B-22: Phillips Field Road: Peger Rd – Illinois St – Construct a shared-use path along the north side of the Chena River, if feasible, including the Cowles Street Bridge described in the *Vision Fairbanks Downtown Plan*. Bicycle lanes should be considered where they are feasible along Phillips Field Road if this path cannot be built.

B-23: S Cushman Street: Mitchell Expwy – Van Horn Rd – Install bicycle lanes.

B-24: Van Horn Rd – University Ave – Peger Rd – Install bicycle lanes to provide a complete connection around southern Fairbanks.

4.3.2 Pedestrian Projects

4.3.2.1 High Priority Pedestrian Projects

P-1: Cowles Street E: 23rd Ave – 29th Ave – Construct sidewalk from existing sidewalk to the end of Cowles Street E.

P-2: Lathrop Street: Eagan Ave – 16th Ave – Construct sidewalk from existing sidewalk to the end of Lathrop Street.

P-3: Loftus Road: Birch Ln – Shared Use Path – Construct sidewalk to connect the shared-use path to the existing sidewalk along Loftus Road north of Birch Lane.

P-4: Old Steese Highway: Trainor Gate Rd – Johansen Expwy – Construct sidewalk from existing sidewalk to the Johansen Expressway.

P-5: Wembley Avenue: Aurora Dr – Danby St – Construct sidewalk along the north side of Wembley Avenue.

4.3.2.2 Medium Priority Pedestrian Projects

P-6: 5th Avenue (NP): Santa Claus Ln – Therron St – Construct sidewalk from Santa Claus Lane to 5th Avenue's terminus at Therron Street.

P-7: 8th Avenue (NP): St Nicholas Dr – Blanket Blvd – Construct sidewalk from the terminus of the shared-use path west of Blanket Boulevard to St Nicholas Drive.

P-8: Dartmouth Drive: Chena Pump Rd – Stanford Dr – Construct sidewalk along Dartmouth Drive.

P-9: Davis Road: University Ave – Peger Rd – Construct sidewalk on the south side of Davis Road (likely as the area develops and traffic on the road increases).

P-10: Fairbanks Street: Birch Ln – Teal Ave – Construct sidewalk on west side of Fairbanks Street.

P-11: Phillips Field Road: Peger Rd – Illinois St – Construct a shared-use path along the north side of the

Chena River, if feasible including the Cowles Street Bridge described in the *Vision Fairbanks Downtown Plan*.

4.3.2.3 Low Priority Pedestrian Projects

P-12: 2nd Avenue (Fbks): Hall St – Clay St – Construct sidewalk along the north side of 2nd Avenue (likely with redevelopment due to right-of-way and physical constraints along the corridor).

P-13: 3rd Avenue (Fbks): Hall St – Steese Hwy – Construct sidewalk along the 3rd Avenue from Hall Street to the Steese Highway shared-use path connection (likely with redevelopment due to right-of-way and physical constraints along the corridor).

P-14: 7th Avenue (Fbks): End of Sidewalk – 3rd Ave – Construct sidewalk along 7th Avenue from where the existing sidewalk ends to 3rd Avenue (likely with redevelopment due to right-of-way and physical constraints along the corridor).

P-15: Dale Road: Airport Way – Ellis St – Construct sidewalk along Dale Road.

P-16: Old Airport Way: Mitchell Expwy – Airport Way – Construct sidewalk along Old Airport Way.

4.3.3 Crossing Projects

4.3.3.1 High Priority Crossing Projects

C-1: Barnette Street: 1st Ave – Airport Way – Investigate potential improvements to make crossing this section of Barnette Street more comfortable for non-motorized users.

C-2: Cowles St/Airport Frontage Rd – Investigate potential improvements to make this unsignalized intersection crossing more comfortable for non-motorized users (possibly done in conjunction with the designation of the Airport Way bicycle route described previously).

C-3: Johansen Expwy/College Road – Investigate potential improvements to make the crossings of the ramp terminals more comfortable for non-motorized users.

C-4: Loftus Road: Wood River Dr – Birch Ln– Investigate potential improvements to make crossing this section of Loftus Road more comfortable for non-motorized users. Crossings are recommended along this road as part of the previously mentioned Safe Routes to School project.

C-5: Steese Hwy/3rd St – Investigate potential improvements to make this signalized intersection crossing more comfortable for non-motorized users.

C-6: University Ave/Geist Rd – Johansen Expwy – Investigate potential improvements to make this signalized intersection crossing more comfortable for non-motorized users.

4.3.3.2 Medium Priority Crossing Projects

C-7: 1st Ave - 2nd Ave (Fbks) Path – East of Pioneer Park – Install guide signs directing non-motorized travelers to the continuation of the shared-use path.

C-8: Aurora Dr/Wembley Ave – Investigate potential improvements to make this unsignalized intersection crossing more comfortable for non-motorized users including improving sight distance.

C-9: Boat Street Path – Chena River Bridge – Improve the ramp connections onto the bridge to provide a smooth transition for cyclists.

C-10: Caribou Way/College Rd (Farmer's Market) – Investigate potential improvements to make this unsignalized intersection crossing more comfortable for non-motorized users. This project could be combined with the College Road corridor project (B-5).

C-11: Parks Hwy/Chena Pump Rd-Geist Rd – Investigate potential improvements to make the crossings of the ramp terminals more comfortable for non-motorized users.

C-12: Peger Road Undercrossing – Investigate potential improvements to make this undercrossing feel more secure.

C-13: Steese Hwy/Johansen Expwy – Investigate potential improvements to make this signalized intersection crossing more comfortable for non-motorized users.

C-14: Wendell Avenue – South of Chena River Bridge – Install guide signs directing non-motorized travelers to the shared-use path along the Chena River and install a curb cut in the sidewalk where the shared-use path meets Wendell Avenue to facilitate bicycle travel to and from the path.

4.3.3.3 Low Priority Crossing Projects

C-15: 5th Ave-Mission Rd/Richardson Hwy – Investigate potential improvements to allow non-motorized users to cross the Richardson Highway at this location. This may require an overpass, which could be completed in conjunction with a future interchange at this location.

C-16: Farmers Loop Rd/Army Rd – Investigate potential improvements to make this unsignalized intersection crossing more comfortable for non-motorized users.

C-17: Old Steese Hwy/Farmers Loop Rd – Investigate potential improvements to make this unsignalized intersection crossing more comfortable for non-motorized users.

C-18: Old Steese Hwy/Johansen Expwy – Install guide signs to direct northbound non-motorized travelers on the Old Steese Highway to the shared-use path along the Johansen Expressway.

C-19: Parks Hwy/Airport Way – Investigate potential improvements to make the crossings of the ramp terminals more comfortable for non-motorized users.

4.4 FUNDING

Funding for non-motorized transportation projects has been historically provided through a number of sources, many of which are funded by the US Department of Transportation. The current federal transportation authorization bill, the Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), contains a number of programs providing funds that can be used for non-motorized transportation projects. At the writing of this plan, the US Congress is considering versions of a new transportation authorization bill that would replace SAFETEA-LU. The impacts that a new bill would have on funding for non-motorized transportation are uncertain at this time. Therefore, funding sources are not analyzed as part of this plan.

4.5 POLICY AND PROGRAM ACTIONS

The following is a summary of policy and programmatic actions. These actions are described in greater detail in Section 3.3.

- Improve maintenance of existing bicycle and pedestrian facilities
- Implement ADA transition plans
- Adoption of a Complete Streets, or similar, policy
- Provide regular training courses for designers and planners
- Adopt a bike parking requirement policy for new development or a program to improve the availability of bike parking
- Form an area bicycle and/or pedestrian advisory committee, similar to the FNSB Trails Advisory Commission
- Implement a wayfinding program for bicyclists and pedestrians
- Collect bicycle loading/unloading data on a per-stop basis
- Upgrade FNSB buses to hold more than two bikes

- Investigate using smaller rock chip on roads designated as bike routes
- Maintain existing educational efforts
- Look for opportunities to expand outreach efforts
- Support the implementation of law enforcement officer training on non-motorized transportation safety and laws from the draft 2011 Alaska STSP
- Implement a regular bicycle and pedestrian count program
- Implement the maintenance performance standards from the SMTF report
- Distribute and collect walkability and bikeability checklists
- Measure progress toward meeting the objectives of this plan

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REFERENCES

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