Appendix 7: Additional Transportation Information

This appendix includes three components:

- A snapshot of existing transportation conditions and trends
- Community survey results related to transportation
- A summary of transportation issues and needs

This appendix is intended to supplement the transportation chapter in the body of the main plan by adding additional background information, context and discussion.

Transportation Snapshot: Existing Conditions, Trends, Growth Potential

Transportation planning is diverse and takes many forms. Streets, highways, transit, and bike and walking paths – all provide means for moving people and goods into and throughout the region. Having an efficient, safe and sustainable transportation system is vital. Transportation affects local, regional and statewide economies, the natural environment, and overall quality of life. To some degree, a resident and visitor’s ability to work, shop, travel and recreate is impacted by how well the transportation system works.

Roadway Network

Ownership & Maintenance

Transportation facilities are permitted and managed by the Fairbanks North Star Borough (FNSB), Alaska Department of Transportation and Public Facilities (DOT&PF), or the City of North Pole. DOT&PF applies six classifications to roadways in rural Alaska: Interstate, Other Principal Arterial, Minor Arterial, Major Collector, Minor Collector, and Local Road (Figure 72). The FNSB uses the 1991 Comprehensive Road Plan (CRP) to assign road classifications to new roads. The CRP sets standards to reserve rights-of-way (ROW) for new roadways based on functional classification; however, since it was adopted the region has grown and best practices for roadway classification, dedication and design have evolved. For example, the standards do not adequately address bicycle and pedestrian facilities. Additionally, while new subdivisions must dedicate corridors in compliance with the plan, the FNSB has enacted ordinances that sometimes allow dedication of the ROW without construction to FNSB standards.
FNSB has elected to not establish areawide road powers; therefore, FNSB powers for road construction, road maintenance, and road lighting are through road service areas (RSAs). An RSA is a taxing jurisdiction established at the request of the voters within a geographical area to have the FNSB provide these services within their specific area. As a result, only state-owned roads and roads within road service areas and the City of North Pole are maintained. Roads within FNSB boundaries that are outside of RSAs are referred to as “orphan roads.”

DOT&PF has implemented a roadway priority hierarchy to commit to clearing key facilities within stated time periods following a snowfall. The City of North Pole maintains 18 miles of city roads and has identified 5th and 8th Avenues and North Pole High School Boulevard as priority facilities. The Public Works Department plows all city and state-owned pedestrian paths within city limits. These paths are also swept by Public Works in the spring and summer months. The city uses a private contractor to plow the city’s streets because they do not have the necessary heavy equipment.

**Traffic Volumes and Safety**

The DOT&PF online Geographic Information System (GIS) maps include average annual daily traffic (AADT) volumes for years 2012 - 2017 for most major roadways. There are up to ten years of historical AADT available from Northern Region DOT&PF on select subarea roadways; the most recent volumes are from year 2017 which are shown in Figure 73.
Figure 73: Average Annual Daily Traffic Volumes in the Salcha-Badger Road Area

Legend
- Salcha-Badger Road Plan Area
- City of Fairbanks
- City of North Pole
- Eielson AFB Boundary
- Fort Wainwright Boundary
- Park
- Water

Road Segments
- Badger Rd., Richardson to Dennis Rd.: 6,509
- Canaday Rd., Salcha area: 106
- Dawson Rd., Richardson to Livernash Ave.: 1,257
- Harding Rd., Salcha area: 318
- Johnson Rd., Richardson to Foster Rd.: 1,626
- Nelson Rd., Hurst Rd. to Laurence Rd.: 347
- Old Richardson Hwy., Badger area: 57
- Old Richardson Hwy., Salcha area: 412
- Pipeline Access Rd., Chena Slough to Eielson AFB: 16,901
- Richardson Hwy., Badger to Hurst Rd.: 7,977
- Richardson Hwy., Dawson to Pipeline Access Rd.: 2,417
- Richardson Hwy., Eielson AFB to Canaday: 1,740
- Southbound Ramp, Badger Rd. to Santa Claus Ln.: 8,553
- Northbound Ramp, Santa Claus Ln. to Badger Rd.: 12,470
- Stringer Rd., Salcha area: 249

Produced for Fairbanks North Star Borough by Kittelson + Associates, October 2018
Data Sources: Fairbanks North Star Borough, State of Alaska
Projection: NAD 1983, State Plane Alaska 3 FIPS 5203 feet

Miles
0 2 4 6 8
The Richardson Highway bisects the study area. It serves as a primary route between the subareas and is a critical freight route; connecting Fairbanks and Valdez. The Salcha subarea is located near milepost (MP) 325 of the Richardson Highway, and the Badger subareas are located near MP 359. According to the DOT&PF Northern Region 2013 - 2015 Annual Traffic Volume Report, Richardson Highway, just north of Eielson AFB (MP 346), is traveled by approximately 2,500 vehicles daily, with 15 percent truck traffic. Traffic volumes further south on Richardson Highway, near Salcha (MP 325), are lower with only 1,740 AADT reported in 2017.

Historical 10-year AADT on Richardson Highway (MP 325) near Salcha River Access Road and Eielson AFB (Richardson Highway MP 342) is shown in Figure 74. Eielson AFB is a major traffic generator and currently only has one 24-hour gate with access to the Richardson Highway. Traffic volumes have declined in the past 10 years, with an average annual growth rate of -2.41 percent at MP 325 and -2.17 percent at MP 342.

Figure 74: Richardson Highway Historical AADT

Source: Alaska Department of Transportation + Public Facilities
Traffic volumes further north on the Richardson Highway, between Badger Road and the City of North Pole, have steadily increased in the past five years (Figure 75). The calculated average annual growth rate for the Richardson Highway segment from MP 352 to 359 is 7.17 percent in the 2012 to 2017 timeframe.

Figure 75: Historical AADT on Richardson Highway, Badger Road (MP 359) to Old Richardson Highway in North Pole (MP 352)

In addition to the variation in historical AADT volumes patterns on the Richardson Highway, there are significant seasonal fluctuations in daily traffic volumes. Volumes in summer months (June, July and August) are approximately 50 percent higher than in winter months (Figure 76).
Other key routes in the Salcha-Badger Road area are summarized in Figure 77, including average annual growth rate percentages. Overall, the Badger East, Eielson and North Pole subarea roadways have seen the most growth in traffic in the last five years. It is expected that this ADT will increase with the expansion at Eielson AFB.

### Figure 77: Salcha-Badger Road Area Roadway Facilities

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Subarea</th>
<th>Functional Classification¹</th>
<th>2017 AADT²</th>
<th>Annual Growth Rate (%) 2012 - 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nelson Road</td>
<td>Badger East</td>
<td>Minor Collector</td>
<td>1,626</td>
<td>36.07</td>
</tr>
<tr>
<td>Buzby Road</td>
<td>North Pole</td>
<td>Major Collector</td>
<td>2,604</td>
<td>13.09</td>
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<tr>
<td>Old Richardson Highway</td>
<td>Eielson AFB</td>
<td>Major Collector</td>
<td>4,568</td>
<td>12.17</td>
</tr>
<tr>
<td>Nordale Road</td>
<td>Badger West</td>
<td>Major Collector</td>
<td>3,274</td>
<td>8.74</td>
</tr>
<tr>
<td>Dawson Road</td>
<td>North Pole</td>
<td>Major Collector</td>
<td>2,797</td>
<td>2.08</td>
</tr>
<tr>
<td>Bradway Road</td>
<td>Badger West</td>
<td>Major Collector</td>
<td>2,070</td>
<td>1.58</td>
</tr>
<tr>
<td>Hurst Road</td>
<td>Badger East</td>
<td>Major Collector</td>
<td>4,714</td>
<td>1.22</td>
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### Roadway and Subarea Functional Classification

<table>
<thead>
<tr>
<th>Roadway</th>
<th>Subarea</th>
<th>Functional Classification¹</th>
<th>2017 AADT²</th>
<th>Annual Growth Rate (%) 2012 - 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peede Road</td>
<td>Badger East</td>
<td>Minor Collector</td>
<td>3,263</td>
<td>0.86</td>
</tr>
<tr>
<td>Santa Claus Lane</td>
<td>North Pole</td>
<td>Minor Arterial</td>
<td>12,470</td>
<td>0.75</td>
</tr>
<tr>
<td>Laurance Road</td>
<td>Badger East/Moose Creek</td>
<td>Major Collector</td>
<td>2,261</td>
<td>0.50</td>
</tr>
<tr>
<td>Canaday Road</td>
<td>Salcha</td>
<td>Local</td>
<td>87</td>
<td>0</td>
</tr>
<tr>
<td>Old Richardson Highway</td>
<td>North Pole</td>
<td>Major Collector</td>
<td>3,223</td>
<td>-0.23</td>
</tr>
<tr>
<td>Holmes Road</td>
<td>Badger West</td>
<td>Major Collector</td>
<td>3,201</td>
<td>-0.51</td>
</tr>
<tr>
<td>Balch Way</td>
<td>Salcha</td>
<td>Local</td>
<td>18³</td>
<td>-1.75</td>
</tr>
<tr>
<td>Johnson Road</td>
<td>Salcha</td>
<td>Minor Collector</td>
<td>318</td>
<td>-2.13</td>
</tr>
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<td>Old Richardson Highway</td>
<td>Badger West</td>
<td>Major Collector</td>
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<tr>
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<tr>
<td>Stringer Road</td>
<td>Salcha</td>
<td>Minor Collector</td>
<td>249</td>
<td>-5.31</td>
</tr>
</tbody>
</table>

¹ Per DOT&PF Statewide Functional Classification GIS Map data

² Representative AADT volumes from DOT&PF 2017 AADT GIS Map. Where multiple link volumes are available, highest AADT reported.

³ 2016 and 2017 AADT not available, 2015 reported

### Existing Safety Assessment

Figure 78 shows the locations of the serious and fatal crashes within the area from 2010 through 2014. Most of the serious injury crashes occurred on the Richardson Highway, Old Richardson Highway and Badger Road. Planned projects expected to reduce crashes at these areas include:

- Badger Road Two Way Left Turn Lane Highway Safety Improvement Project (HSIP) (2019 construction)
- Richardson Highway MP 353-357 Access Improvements Project (2019 construction)
- Old Richardson Highway Intersection Improvements (2021 construction)
- Richardson Highway MP 351 Interchange HSIP project (2021 construction)

The pedestrian and bicycle crash locations are shown in Figure 79.
Figure 78: Severe and Fatal Crash Locations in the Salcha-Badger Road Area
Figure 79: Bike and Pedestrian Crash Locations in the Salcha-Badger Road Subarea

Legend
- Salcha-Badger Road Plan Area
- City of Fairbanks
- City of North Pole
- Eielson AFB Boundary
- Fort-Wainwright Boundary
- Road
- Park
- Water
- Bike or Pedestrian Crash Location
  - Bicyclist
  - Pedestrian

Produced for: Fairbanks North Star Borough
by Kittelson & Associates, October 2018
Data Sources: Fairbanks North Star Borough, State of Alaska
Projection: NAD 1983, State Plane Alaska 3 FIPS 5003 Feet

0 2 4 8 Miles
Pedestrian and Bicycles

The availability of pedestrian and bicycle facilities is a key factor for residents to safely navigate their communities. Ideally, a non-motorized network typically resembles a grid pattern, with high connectivity and short travel distances, connecting people with services such as hospitals, schools, libraries and shopping. Significant challenges to achieving this in the planning area result from low housing and employment densities and the long travel distances between destinations. The existing bicycle and pedestrian network in the Salcha-Badger Road area consists of roads with shoulders, shared-use paths and sidewalks.

Wintertime weather can present an obstacle to the use of the pedestrian and bicycle system. Often after snow events, snow is plowed and stored in the bicycle lane, shoulder, or sidewalk, which limits the ability of users to safely utilize the facility. Fairbanks Area Surface Transportation (FAST) Planning (formerly FMATS) is currently working to designate a network of pedestrian facilities that will be maintained during the winter to a defined standard (e.g., snow removed within 72 hours of a snow event). In 2017, DOT&PF has established a practice to clear sidewalks on state facilities with the same priority as their adjacent road.

Bicycle Facilities

To make bicycling a viable transportation form, bicycle facilities should connect residential areas to schools, retail areas, major attractions, and employment centers. These areas are collectively called “activity generators.” Figure 80 displays the existing bicycle network and the locations of major activity generators, which were identified in the FMATS Non-Motorized Plan, throughout the Salcha-Badger Road area. There are only a few multi-use pathways in the study area, mostly in the Badger West, Badger East subareas and in the City of North Pole. There are no bicycle facilities provided south of Laurance Road, in the Eielson Farm Road or Salcha subareas, other than unpaved shoulders on some of the collector roadways.
Figure 80: Bicycle Facilities and Activity Generators in the Salcha-Badger Road Area

Legend
- Salcha-Badger Road Plan Area
- City of Fairbanks
- City of North Pole
- Eielson AFB Boundary
- Fort Wainwright Boundary
- Road
- Park
- Water

Activity Generators
- Library
- School
- Senior Center

Existing Bike Network:
- Road with Shoulders
- Shared Use Path
- Sidewalk Connection
- Unimproved Facility

Produced for: Fairbanks North Star Borough by Kottelson = Agnew/Beck, October 2018
Data Sources: Fairbanks North Star Borough, State of Alaska
Projection: NAD 1983 State Plane Alaska 3 FIPS 003 Feet

0 2 4 8 Miles
The network available to bicyclists in the City of North Pole is generally well connected. Multi-use paths provide connections to the schools and shoulder and pathways exist near many of the major roadways. Also, low volume roadways provide good connections within the city.

Gaps and other deficiencies on the priority bicycle network, updated from the 2012 FMATS Non-Motorized Transportation Plan, are shown in Figure 81 and summarized below. Addressing these will result in completed networks and key safety improvements that will make bicycling more desirable for recreation and commuting.

- Bradway Road: improvements to the eastern end within the vicinity of multiple school zones.
- Santa Claus Lane: improve the area around the roundabouts for bicyclists.
- Richardson Highway: parallel facilities along the section from Badger Road to Laurance Roadway.
- Richardson Highway: parallel facility extending the existing path south to Salcha.
Figure 81: Bike Deficiency Gaps in the Salcha-Badger Road Area

Legend
- Salcha-Badger Road Plan Area
- City of Fairbanks
- City of North Pole
- Eielson AFB Boundary
- Fort Wainwright Boundary
- Road
- Park
- Water
- Needed Bicycle Facilities

Activity Generators
- Library
- School
- Senior Center

Produced for: Fairbanks North Star Borough by Kittelson & Associates, October 2018
Data Sources: Fairbanks North Star Borough, State of Alaska
Projection: NAD 1983 State Plane Alaska 3 RPS 5003 Feet

0 2 4 6 8 Miles
Pedestrian Facilities

To promote walking, separation of pedestrians from vehicular traffic should be provided to connect neighborhoods with activity generators. Activity generators for pedestrians include those previously mentioned for bicyclists. An ideal pedestrian network will provide for the following uses:

- Relatively short trips (under a mile) to major pedestrian attractors, such as schools, parks, open spaces, retail centers, churches, libraries, recreational centers, and community centers.
- Recreational trips, such as jogging or hiking.
- Commute trips, where mixed use development is provided, and people choose to live near where they work.
- Access to transit (generally trips around ¼-mile to bus stops).

Figure 82 shows the existing sidewalk and shared-use path network in the Salcha-Badger Road area. The only sidewalks within the study area are in downtown North Pole. There are shared use paths along Badger Road, Hurst Road, and Laurance Road, as well as in downtown North Pole. No sidewalks or shared use paths are provided south of Laurance Road.

Other pedestrian considerations include Americans with Disabilities Act (ADA) issues and Safe Routes to School. Fairbanks is undertaking efforts to improve its existing facilities to ADA standards.

As part of the Safe Routes to School program, routes to Midnight Sun, North Pole and Ticasuk Brown elementary schools and North Pole Middle School within the project area were inventoried and recommendations were made to improve pedestrian and bicycle safety. There are currently no walking routes to Salcha Elementary and all students are bussed. Key findings are summarized below:

- **Midnight Sun Elementary School on Bradway Road**
  - The Bradway and Woll Road intersection does not have a marked crosswalk or signage indicating it is school route. A crosswalk with a pedestrian activated crossing signal/beacon should be installed.
  - Bradway Road has a separated bike path that connects to the bike path on Badger Road but it does not continue west beyond the school. The path should be extended to west to Benn Lane.
  - Woll Road lacks sidewalks, adequate shoulders and lighting. A separated path and street lights should be constructed along its entire length.

- **North Pole Elementary School (Snowman Lane and 4th Avenue) and Middle School (Santa Claus Lane and 8th Avenue)**
  - There are no sidewalks, shoulders, or lighting along Davis Street, E. 5th Avenue, or Snowman Lane. Recommended improvements include the following:
    - Redesign the intersection at Davis Boulevard and 5th Avenue. Extend curb radii to make the crossing distance shorter and to slow traffic and install painted crosswalks with signage.
    - Pave and install lights on the bike path between 2nd Avenue and 3rd Avenue along the Snowman Lane.
– Install ADA-compliant sidewalks and lighting along the north side of 4th Avenue between Santa Claus Lane and Snowman Lane.
– Install ADA-compliant sidewalks along Davis Street, 5th Avenue, and Snowman Lane.
– Install crosswalks with pedestrian-activated rectangular rapid flash beacon (RRFB) across the intersections of North Pole High School (NPHS) Boulevard and Old Richardson Highway (two), the train track crossing across NPHS Boulevard, and 8th Avenue and Snowman Lane (two).
– Install crosswalks with pedestrian-activated RRFB across the intersections of 5th Avenue/Old Richardson Highway and Old Richardson Highway/Santa Claus Lane.
– Upgrade sidewalks immediately around the school for ADA compliance.

DOT&PF is currently working on a project to further analyze the intersections at Santa Claus Lane and 5th Avenue, and the Old Richardson Highway and North Pole High School Boulevard and identify improvements.

• **Ticasuk Brown Elementary School (Lakloey Drive, south of Badger Road)**
  The school is surrounded by private property and students cannot walk directly to the school from local neighborhoods to the west. Students must walk to Badger Road and connect back to Lakloey Drive. The bike path on Lakloey Drive does not have lighting and snow removal is limited. Recommendations include:
  ○ Install lighting along the bike path on Lakloey Drive from Badger Road to Holmes Road.
  ○ Extend the bike path from where it ends on Lakloey Drive at Valley Water Co. Inc. to Holmes Road.
  ○ Install crosswalks with pedestrian-activated RRFB across the intersection of Lakloey Drive and Range View Road.
  ○ Install bike path on the north side of Lakloey Drive from Holmes Road to Range View Road.
  ○ Install flashing school speed limit assembly signs in both directions on Lakloey Drive.
  ○ Investigate the possible acquisition of easements for Block 10, Lot 13, Valley 6 Subdivision; Block 10, Lot 10, Valley 6 Subdivision; and Lot F, Valley 6 Subdivision, to connect Matthew Circle with the school property.

It was also noted during the stakeholder engagement process that bus routes serving several of the Salcha-Badger Road area schools, particularly the North Pole and Salcha schools, include bus stops on the Richardson Highway which is a concern due to the lack of bus stop waiting areas, lighting and vehicular speeds.
Figure 82: Pedestrian Facilities and Activity Generators in the Salcha-Badger Road Area
Planned Roadway Projects

Fairbanks Area Surface Transportation (FAST) Planning, formerly FMATS, is the Metropolitan Planning Organization that covers the urbanized cities of Fairbanks and North Pole. The FAST Planning southern boundary overlaps with the Salcha-Badger Road area study boundary. FAST allocates funding for specific transportation projects in the Transportation Improvement Plan (TIP). The 2017 – 2020 TIP includes several planned projects within the Salcha-Badger Road area.

**Roadways**

- **North Pole Street Light Standardization**
  - Upgrading the streetlights in older subdivisions and illuminate several areas in the city currently not illuminated. Consolidate streetlights on to one or a few circuits.

- **Highway Safety Improvement Program (HSIP): Badger Road Two Way Left Turn Lane**
  - Upgrade Badger Road between Dennis Road and Hurst Road to accommodate a two-way left turn lane. Accommodating the two-way left turn lane may require road widening. Additional work will include signing, striping, drainage and utilities. According to the FMATS 2045 MTP Existing Conditions report, this project is in-process as of 2017.

- **Old Richardson Highway Intersection Improvements**
  - Analyze, design and construct intersection and safety improvements with emphasis on safety for all users, road function and quality of life. The intersections to be considered are Santa Claus Lane/E 5th Avenue and North Pole High School (NPHS) Boulevard at Old Richardson Highway/8th Avenue the railroad crossing will also be brought to current standards under this project. According to the FMATS 2045 MTP Existing Conditions report, this project is in-process as of 2017.

- **Richardson Highway 353 – 357 Access/Safety Improvements**
  - Improve access control on the Richardson Highway between approximate MP 353 -357. This project will upgrade and extend the existing frontage road system, construct at-grade intersections and eliminate several existing access approaches onto the Richardson Highway. According to the FMATS 2045 MTP Existing Conditions report, this project is in-process as of 2017.

DOT&PF allocates funding for statewide transportation projects through the Statewide Transportation Improvement Program (STIP). The 2016 – 2019 STIP, approved June 28, 2017 includes the following additional planned projects located within the Salcha-Badger Road area:

- **Richardson Highway MP 337 Eielson AFB Intersection Improvements**
  - Intersection improvements at the southern access of the Eielson AFB at MP 337 of the Richardson Highway to accommodate additional freight volumes in support of the addition of two F-35A aircraft squadrons.

- **Richardson Highway MP 359 Railroad Grade separated Facility**
Construct a grade-separated facility on the Richardson Highway near MP 359 to reduce railroad/vehicle conflicts; improve connectivity with the Old Richardson Highway and provide Fort Wainwright south gate access.

- Weigh-In-Motion (WIM) Program
  - Design and installation of WIM equipment sites at MP 358 of the Richardson Highway (at the existing weigh station).
- Richardson Highway MP 266 – 341 Passing Lanes (Delta Junction to Eielson AFB)
  - Construct passing lanes at various locations (yet to be determined) between MP 266 and MP 341 on the Richardson Highway to improve safety. Including intersection improvements at MP 337 (southern access of Eielson AFB) to accommodate freight volumes in support of the addition of two F-35A aircraft squadrons.

Though not listed above as a TIP project, the STIP also includes the Richardson Highway MP 353 – 357 Access/Safety Improvements project. Also, not listed in the TIP or STIP, another in-process HSIP is the Richardson Highway MP 359 Interchange (12 Mile Village). Alternatives are currently being considered for a grade separated interchange to reduce turning conflicts and crashes at the intersection, which historically has had a crash rate 2.5 times higher than the statewide average for intersections of that type.

FAST Planning is currently updating the Metropolitan Transportation Plan (MTP) to planning year 2045 from 2040. The 2045 MTP Update - Needs Assessments includes a list of planned projects from the 2040 improvements in the Salcha-Badger Road area, which are listed below.

- Richardson Highway: North Pole Area Interchange, Phase II
- Richardson Highway: North Pole Area Interchange, Phase III
- Richardson Highway Corridor Study: Badger Road to Eielson AFB
- Richardson (City of North Pole) Alternative Route: Peridot Street – Laurance Road
- 5th Avenue – Mission Road/Richardson Highway

**Bicycle and Pedestrian Projects**

FMATS TIP projects specific to Salcha-Badger Road area:

- Richardson Highway MP 357 – 362 Bicycle/Pedestrian Path
  - Construct a bicycle/pedestrian path on the Richardson Highway between MP 357 – 362, starting from the Richardson Highway/Airport Way intersection, continuing along the Richardson Highway to the Badger Loop North Bound Ramp, and terminating at the Badger Road/Old Richardson Highway intersection.

FMATS 2040 MTP projects specific to Salcha-Badger Road area:

- Peridot Street Reconstruction: FNSB
  - Reconstruct Peridot Street from the Richardson Highway to city limits, approximately 0.21 miles, and pave. Provide street lights and bike/pedestrian facilities as funding allows.
• 5th Avenue (City of North Pole): Santa Claus Lane – Theron Street
  ○ Construct sidewalk from Santa Claus Lane to 5th Avenue’s terminus at Therion Street.

• 8th Avenue (City of North Pole): Saint Nicholas Drive – Blanket Boulevard
  ○ Construct sidewalk from the terminus of the shared-used path west of Blanket Boulevard to Saint Nicholas Drive.

• Dyke Road Improvements
  ○ Construct paved shoulders for bicyclists and pedestrian along Dyke Road from Laurance Road to the Old Richardson Highway.

• 5th Avenue – Mission Road/Richardson Highway
  ○ 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.

• Plack Road Bike/Pedestrian Facility: FNSB
  ○ Construct a bicycle/pedestrian path on Plack Road from Badger Road to Nelson Road.

Transit System
FNSB provides fixed-route bus service, also known as Metropolitan Area Commuter System (MACS), and a demand-response service known as Van Tran.

MACS service includes nine fixed-route bus lines, though only the Green Line serves the Salcha-Badger Road area. As shown in Figure 83, the Green Line operates between the City of North Pole and the downtown Fairbanks transit center, primarily along Badger Road. An Express Route (6 AM trip only) utilizes Richardson Highway rather than Badger Road. On weekdays, the Green Line operates at 90 minutes headways 6:00 a.m. through 9:00 p.m. On Saturdays, the Green Line runs at 90-minute headways from 9:00 a.m. to 7:00 p.m., with no Sunday service. According to the FNSB Coordinated Transportation Plan 2015 (Reference 1), in Fiscal Year 2015, Green Line ridership was approximately 40,000 passengers.

Bus fares are currently $1.50 per ride for a regular adult fare. Discounted fares of $0.75 are available to active military members and their dependents, school-age children, disabled, and Medicare cardholders. Day passes are $3.00 (regular) and $2.00 (discount) and monthly passes are $40 (regular) and $20 (discount). Seniors and children under five ride for free, as do University of Alaska Fairbanks (UAF) faculty, staff, and students.

Historically, an additional route, the Black Line, served Salcha from 2012 through March 2017, connecting Salcha, Eielson AFB, the City of North Pole and downtown Fairbanks. This route only operated on weekdays, with 120-minute headways from 5:15 a.m. through 7:45 p.m. The Black Line served less than 5,000 passengers and was discontinued in 2017.

Van Tran paratransit service is a demand response, door-to-door service provided to individuals whose physical, cognitive or sensory disabilities prevent them from using the MACS Transit System. Drivers
accompany patrons to and from the first entryway door of the pick-up and drop-off location. To be eligible for the Van Tran service, an application and eligibility review is required. Operating hours are Monday through Friday between 5:45 a.m. and 9:45 p.m., and Saturday between 8:45 a.m. and 7:45 p.m. There is no Sunday service or holiday service. Regular, senior and guest fares are all $2.00.
The FMATS 2045 MTP Update Needs Assessment included an analysis of predicted 2045 employment, household density and existing transit routes, from which the areas east and northeast of the City of North Pole were identified as areas that should be considered for future transit expansion. Additionally, the lack of service from Eielson AFB and Saleha is identified as a specific future need. General system wide concerns also include uncertain funding for vehicle acquisition, lack of service on Sundays, inadequate and insufficient bus stop shelters and amenities.

**Planned Transit Improvements**

The 2013 FNSB Short and Long-Range Transit Plan identifies the North Plaza in the City of North Pole as a promising future location for a park and ride facility as travel demand and land use density increases. This is based on rider and community surveys and the number of people who commute between North Pole to the City of Fairbanks.

Proposed infrastructure improvements include adding benches and shelters to key bus stops, upgrading the transit center, expanding the vehicle service facility, installing bike racks at key stops and increased service to the Red and Blue Lines in the urbanized Fairbanks area.

**Alaska Railroad Corporation (ARRC)**

ARRC facilities connect the region to Anchorage and Seward providing vital transportation services for commercial freight and the tourism industry. In general, the railroad passes along the south side of the City of Fairbanks, through the center of the City of North Pole and terminates at Eielson AFB. Major industrial land uses in the City of North Pole including Petro Star Inc. and the Flint Hills terminal are adjacent to the ARRC tracks. Looking forward, rail freight services may increase resulting from temporarily increases to support F-35 bed-down construction, small increases in coal transport, and potential development associated with a future natural gas pipeline.

**Planned ARRC Improvements**

FNSB has been working with ARRC to optimize rail alignments to: 1) enhance the safety of road/rail crossings, railroad operations, and pedestrian activities 2) reduce travel times and improve operational efficiency 3) accommodate future mass transit/passenger service. In general, planned improvements focus on reducing the number of crossings to improve public safety and reduce transportation conflicts for all modes. Projects have been identified by ARRC, FAST Planning, the Alaska State Railroad Plan (2016), and the North Pole Comprehensive Strategic Plan.

**State Rail Plan**

- The North Pole Road/Rail Crossing Reduction Project: The existing route through North Pole has multiple at-grade rail crossings. By realigning 8-mile section of the railroad of Eielson Branch track to Tanana River Levee up to 11 crossings could be removed. An alternative has also proposed to realign the track landward of Tanana River Levee and road over rail at Richardson Highway Crossing, close 9 at grade crossings within the City of North Pole.

- Northern Rail Extension: Extend 80 miles of new line to connect the Eielson AFB rail line at the Chena River overflow structure to Delta Junction to facilitate freight movement along the Eielson
AFB corridor and potentially provide passenger services. The extension has four phases for funding purposes: Phase 1 – Tanana River crossing at Salcha (Joint Tanana Range Access) completed in 2014; Phase 2 – Moose Creek near the City of North Pole to the Salcha Tanana River crossing; Phase 3 – Salcha Tanana River crossing to the Donnelly Military Training Area; and, Phase 4 – Donnelly to Delta Junction.

**FMATS MTP**

- Fairbanks Road/Rail Crossing Reduction/Realignment Plan: The primary purpose of the plan would be to serve as a long-range road/rail planning document to more effectively integrate passenger and freight rail elements into the regional multi-modal transportation networks. This $500,000 project was approved in the January 2018 FMATS TIP.
- Richardson Hwy MP 359 Railroad Overpass—Construct a grade-separated railroad crossing at MP 359 of the Richardson Highway and a pedestrian underpass east of the railroad crossing.

**North Pole Comprehensive Strategic Plan**

- Continue to work with the ARRC to develop a realignment route for railroad along the Tanana levee.
- Reduce the number of at-grade crossings. Support efforts for an overpass at Mile 12, as proposed in the ADOTPF 2016-2019 Statewide Transportation Improvement Program.
- Identify ways to improve property access along the railroad corridor.
- Advocate for a railroad depot station in North Pole as a part of the realignment of the rail line to the levy. A proposed location is identified in the North Pole Land Use Plan to the southwest of the North Pole High School Boulevard and Homestead Drive.

**Freight – Trucking**

Reducing truck congestion and improving travel time reliability and safety in urban areas and key corridors is a key performance area addressed in the Alaska Statewide Long-Range Transportation Plan: Alaska State Freight Element Plan (2016) with a focus on first and last mile truck connections to/from ports, airports, and other major freight trip generators while also accommodating the needs of a changing and growing population increasingly concentrated in urban areas.

The primary truck routes in the area are the Old Richardson and Richardson Highways. Important connector routes include roadways networks to Fort Wainwright, distribution centers, resource extraction/industrial zones, ARRC facilities and energy lines. Freight delays have been identified at the unsignalized intersection at the Richardson Highway and Peridot Street, the intersections of Buzby Road and Laurance Road; and the Richardson and Old Richardson Highways. Two other local roadways also have a higher percentage of truck traffic based on AADT: Laurance Road east of Nelson Road (20.6% trucks) and North Pole High School Boulevard west of Old Richardson Highway (14.5% trucks)

**Planned Freight Improvements**

The policy direction in the Alaska Freight Element plan is that DOT&PF will collaborate with other units of government so that freight-related performance is addressed in area and metropolitan planning organization
Recreational Trails

The Comprehensive Recreational Trail Plan (Trails Plan, revised April 2006) is a tool used to identify, manage, and preserve recreational trail corridors. Key elements of the plan include establishing a category system of trails: 1) federal and state recreational trails, 2) the FNSB recreational trail system, and 3) neighborhood recreational trails. The second major component is the “Adopt-a-Trail Program.” This program involves establishing agreements with trail user groups, service organizations, neighborhood associations or other interested parties to provide maintenance or other specified work on individual trails. The third element is establishing trail dedication authority for trails identified in the Comprehensive Recreational Trail Plan which cross land undergoing the subdivision process.

The trails plan identifies recreational trails, or trail systems in the planning area which are presently established or proposed for public dedication. Individual trails are recommended by category (state or federal, FNSB Recreational or neighborhood trail). Each trail is also identified as multi-use or non-motorized uses only. Trails identified as multi-use are normally used for both motorized and non-motorized recreational uses. Key trails in the planning area are summarized below and shown in Figure 84.

- **Salcha Elementary School Darrell L. Coe Nordic Ski Trails.** This system as 5, 7.5, 10, and 15-kilometer loops.
- **Chena Lake Recreational Area Trails.** There are multiple trails within this area. Primary winter trails include the Mike Agababa Trail System (12 miles of groomed trails) and the River Park Cross Country Ski Trails (4.4 miles of groomed trails). Summer trails include the Chena Lake Bike Path and the Chena River Nature Trails. Both are non-motorized in the summer.
- **Chena Lowlands Winter Trails.** Multiple trails in the Badger Road area provide potential links to the winter trail network along the Chena River and to the north. The primary intent identified in the trails plan is to reserve one or more main connecting routes so residents of the North Pole/Badger Road subareas have access to the Chena Hot Springs Winter Trail and reserved public lands such as Heritage Park and the Chena Flood Control Project system.
- **Chena Slough Trail.** The Chena Slough runs from the Richardson Highway through the North Pole/Badger Road subareas and connects to the Chena River east of Fort Wainwright. It has year-round multiple-use value with an emphasis on canoeing, skiing, snowmachining, and dog mushing. The slough gives nearby residents access to the winter trail network along the Chena River and the area to the north and east. Roads constructed over the slough without bridging or with inadequate sized culverts have impeded trail user access. This has created a segmented trail use pattern along the slough and at-grade road crossings. The trails plan recommends that future road crossings provide adequate passage to accommodate all trail uses.
Figure 84: Current Trail Plan in the Salcha-Badger Road Area

Off-road vehicle use allowed from November – April 1st within the flood control area but not atop or on the side slopes of the dam.
- **Flood Control Levee Trail**: This is the main recreational trail connection between South Fairbanks and the City of North Pole with high winter use. The trails plan identifies this route as the primary option to connect the southern portion of the 100 Mile Loop Trail. It also is recommended as a bike path. A three-mile segment of the levee crosses property owned by Fort Wainwright being used as an Army firing range. The most likely proposal to reroute the trails would be to the north and then adjacent to the Richardson Highway to avoid any conflict with the range. A reroute along the Richardson Highway would also be beneficial to provide a connection to the Badger Road multi-use trail.

- **100 Mile Loop Trail**. The 100 Mile Loop concept proposes linking existing trails to form one major non-motorized trail to which other trails connect. The trails plan identifies this as a long-range objective of the Trail Program. Decisions on the final routing will be dependent on links to other trails and recreation areas and the feasibility of incorporating the trail into the land developments. Compatibility with public land management goals should also be a factor in trail routing decisions.

### Transportation Survey Results

This section offers an overview of the transportation-related results from the project survey of community residents. When asked to grade current transportation facilities and services in the Salcha-Badger Road area, over 70 percent of survey respondents gave highways and roundabouts an “A” or “B” grade (Figure 85). Survey respondents were less satisfied with public transportation, local/community roads and pedestrian pathways/sidewalks.

**Figure 85: Survey responses to the question, "How would you grade current facilities and level of services in the Salcha-Badger Road area?"**

Survey respondents were also asked to identify the biggest barriers to biking and walking (Figure 86) and driving (Figure 87) in the Salcha-Badger Road area. Top barriers to biking and walking include no shoulders or separated paths (selected by 53 percent of respondents), distance from destinations (39 percent) and traffic (34 percent). Top barriers to driving include lack of turning/passing lanes (41 percent), winter road maintenance (38 percent) and other drivers driving too fast for conditions (37 percent).
Figure 86: Survey responses to the question, “What are the three biggest barriers to biking or walking in the Salcha-Badger Road area?”

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No shoulders, separated paths</td>
<td>53%</td>
</tr>
<tr>
<td>Live too far from destinations</td>
<td>39%</td>
</tr>
<tr>
<td>Traffic (volume of vehicles and/or speed)</td>
<td>34%</td>
</tr>
<tr>
<td>Personal safety concerns</td>
<td>33%</td>
</tr>
<tr>
<td>Weather</td>
<td>32%</td>
</tr>
<tr>
<td>Maintenance of existing shoulders, or separated paths</td>
<td>19%</td>
</tr>
<tr>
<td>Drivers not sharing the road</td>
<td>15%</td>
</tr>
<tr>
<td>Other: (anything not mentioned above/additional...)</td>
<td>14%</td>
</tr>
<tr>
<td>Intersections/road crossing concerns</td>
<td>13%</td>
</tr>
<tr>
<td>Time concerns</td>
<td>12%</td>
</tr>
</tbody>
</table>

NOTE: This figure totals to more than 100 percent because survey respondents could select multiple responses

Figure 87: Survey responses to the question, “What are the three biggest barriers to driving in the Salcha-Badger Road area?”

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of turning/passing lanes</td>
<td>41%</td>
</tr>
<tr>
<td>Winter road maintenance</td>
<td>38%</td>
</tr>
<tr>
<td>Other drivers driving too fast for conditions</td>
<td>37%</td>
</tr>
<tr>
<td>Subdivision road conditions (i.e. local roads)</td>
<td>34%</td>
</tr>
<tr>
<td>Narrow lanes and shoulders</td>
<td>29%</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>16%</td>
</tr>
<tr>
<td>Access approaches—sight distance</td>
<td>15%</td>
</tr>
<tr>
<td>Conflicts with ATVs/ snowmachines</td>
<td>11%</td>
</tr>
<tr>
<td>Highway pavement/maintenance</td>
<td>10%</td>
</tr>
<tr>
<td>Roadway congestion</td>
<td>8%</td>
</tr>
<tr>
<td>Lack of signage and lighting</td>
<td>8%</td>
</tr>
<tr>
<td>Conflicts with bicycles and pedestrians</td>
<td>5%</td>
</tr>
<tr>
<td>Parking availability</td>
<td>2%</td>
</tr>
</tbody>
</table>

NOTE: This figure totals to more than 100 percent because survey respondents could select multiple responses
Detailed Summary of Transportation Issues and Needs

What are the barriers and opportunities affecting the area’s goals?

Specific Issues and Needs

Roadways/Intersections

The following intersections may need further evaluation and improvements to better accommodate all modes (vehicular, bicycle, and pedestrian traffic) if significant housing and population growth occurs along the corridors as they are approaching capacity:

- Badger Road and Nordale Road
- Richardson Highway/Johnson Road (left turn lane)
- Bradway/Badger
- Peede/Holmes
- Lawrence/Nelson
- Hurst/Nelson
- Plack/Nelson
- The unsignalized intersection at the Richardson Highway & Peridot Street (specifically the through and left-turn movements) is projected to be over capacity in the year 2045. This intersection has also been identified as a freight bottleneck. Congestion at this intersection for all vehicles is expected to get worse as travel demands increase.
- There is a community desire to have reduced speeds and potentially channelization (turn lanes) on the Richardson Highway as it passes through Salcha to improve safety for vehicles turning into the community and for pedestrians crossing the Richardson Highway and waiting at school bus stops.
- The Dennis Road Extension Project from Badger Road to Seawolf Drive would provide public access to approximately 100 private residences through Fort Wainwright. Currently, the subdivision is accessed through Fort Wainwright creating security concerns and limiting access. Building a public access would require a bridge across environmentally sensitive lands to access the residences but it would encroach on critical Fort Wainwright airspace; however, it would also reduce emergency service response time, improve access to schools and other essential services, and reduce travel times.

Pedestrian and Bike Facilities

Based on community input and the growing population, the demand for improved pedestrian and bicycle facilities is increasing and will continue to do so. According to electronic project survey results, the lack of shoulders, separated pathways and traffic volumes were the biggest barriers to walking and riding bicycles.

The Federal Highway Administration’s Small Town and Rural Multimodal Networks document provides guidance on the suitability and design of pedestrian and bicycle facilities. Shared road facilities where pedestrians and cyclists use the travel lanes are suitable only for roadways with low volumes (less than 2,000 vehicles/day) and low speeds (under 30 miles per hour). Non-motorized facilities on roads with higher speeds and/or volumes must be visually or physically separated. Where paved roadway shoulders are intended to serve as bicycle and pedestrian routes, the shoulder width should be a minimum of four feet of
pavement of good quality delineated by edge lines with wider shoulders recommended for higher vehicle speeds and volumes. Shoulder bicycle facilities can be designated as bicycle lanes through signing and striping in the future, though only if pedestrian facilities are also provided.

In general, as roadways are improved and lands developed or redeveloped, opportunities to expand and connect the sidewalk and pathway networks should be given high priority in the Badger West, Badger East and North Pole subareas. Specific priorities include:

- Bradway Road and Woll Road. Multiple improvements are needed to address access between the neighborhoods and Badger Elementary School including an improved crossing at the intersection and extension of the existing separated path west to Benn Lane. Pedestrian/bicycle facilities should also be added to Woll Road.
- Santa Claus Lane: Improve the area around the roundabouts for bicyclists.
- Improved the intersection crossing at Plack Road and Badger Road.
- Add pedestrian/bicycle facilities on Repp Road and Plack Road.
- Improve and extend the path and intersection crossing on Lakloey Drive to Holmes Road and onto Range View Road to facilitate access to Ticasuk Brown Elementary School.
- Identifying opportunities to connect neighborhoods to the recreational trail system and parks. For example, improve pedestrian/bicycle connection from Plack Road and Gordon Road to the Chena Lakes Recreational area.

Additionally, there are no shared pathways or bicycle facilities provided south of Laurance Road, in the Eielson Farm Road or Salcha subareas, other than unpaved shoulders on some of the collector roadways. Separated, parallel facilities along the Richardson Highway from Badger Road to Laurance Road and from the City of North Pole to Salcha Elementary School would provide a complete connection along the highway. Designated pedestrian crossings should also be established in the Salcha subarea.

Transit

- Continue monitoring of the need for a North Pole Transit Center to meet increased ridership demands.
- Assess need for improved transit service within the City of North Pole and serving the Badger West and East subareas as density in these areas increase.

Alaska Railroad & Freight

- There is a desire to reduce the number of at-grade crossings throughout the subarea to reduce conflicts between rail, freight, vehicles, pedestrians and bicyclists.

Recreational Trails

A summary of key issues outlined in the plan and heard during stakeholder engagement are as follows:

- Based on the community survey, the most needed recreational facilities are a system of walking and biking trails. It is important to link roadway pedestrian and bicycle facilities to regional trails and recreational areas.
- Two specific needs identified include:
○ Provide a multi-use path from Eielson AFB to Harding Lake State Rec Area.
○ Develop an East-West Regional Trail – Construct connection from the airport to the Chena Lakes bicycle and pedestrian trail.

• There is a need to acquire legal public rights-of-way for some of the existing trails to protect recreational use.
• Recreational trail use types are designated as motorized and non-motorized but enforcement can be a challenge.
• There is a need to understand and minimize liability related to trail maintenance agreements to improve maintenance.