

## CHAPTER

# 4



# Network Development

The following chapter outlines the proposed non-motorized transportation network for the AMATS Metropolitan Planning Area. Based on the goals and vision stated in Chapter 1, the proposed network aims to provide connected facilities for all non-motorized users (pedestrians, bicyclists, skiers, and others) in the AMATS Planning area.

The recommendations were developed through an iterative process involving municipal staff, advisory group members, and the project team. These recommendations build on the previous bicycle, pedestrian and trails plans and consider the analysis discussed in Chapter 2 to create a network that reflects both past planning efforts and a new understanding of community wants and needs. The initial network recommendations were informed by the results of public engagement and the existing conditions analysis. The networks presented here represent the entire network if all the projects were to be built; example projects for implementation are defined in Chapter 6.

## 4.1 Bicycle Network

### APPROACH

The bicycle network recommendations include both on-street and off-street facilities, and build on the existing shared use pathway and sidepath network throughout the planning area. Several key trail crossings and conceptual corridors requiring additional study are also identified. The network aims to provide connected, low-stress travel for bicycling and other non-motorized modes like skiing, and it includes upgrades to existing facilities. For example, paved-shoulder bikeways currently exist along routes that provide vital connections among destinations and existing facilities. To reflect the role of these links in the network, the recommendations presented here include formalizing these routes into designated bicycle routes offering greater separation from motor vehicles. The bicycle facility type shown on the map should be considered a recommended starting place. The ultimate bicycle facility type should be determined during conceptual development. Bicycle-scaled lighting and intersection improvements should also be incorporated during the design and implementation of new bicycle network facilities in order to ensure safe connectivity across the network (see Design Guidance, in Chapter 7, for details).

Facility recommendations focus on the following types:

» **Enhanced Shared Roadway:** Located on local roadways, enhanced shared roadways include yield roadways and bicycle boulevards. This plan seeks to be visionary while balancing the needs of all roadway users. In places where implementation of enhanced shared roadways may require traffic calming to reduce motor vehicle volumes, traffic studies will be performed in partnership with the Traffic Department to demonstrate the need for any increased maintenance elements. An iterative process of traffic study, implementation of minimal necessary traffic calming elements, and further monitoring should be followed to ensure

enhancements result in improved safety and bicycling.

- **Yield roadway** - A yield roadway is designed to serve pedestrians, bicyclists, and motor vehicle traffic in the same slow-speed travel area.
- **Bicycle boulevard**- Bicycle boulevards provide comfortable and attractive places to ride a bicycle or walk for people of all ages and abilities using minor street design modifications including wayfinding signage, pavement markings, traffic calming and/or traffic reduction, and intersection modifications. These treatments allow through movements of bicyclists while discouraging similar through-trips by non-local motorized traffic.

» **Separated bikeway:** Located along major roadways, these facilities may reflect either a sidepath or physically separated bicycle lanes. It is understood that major roadways provide for the



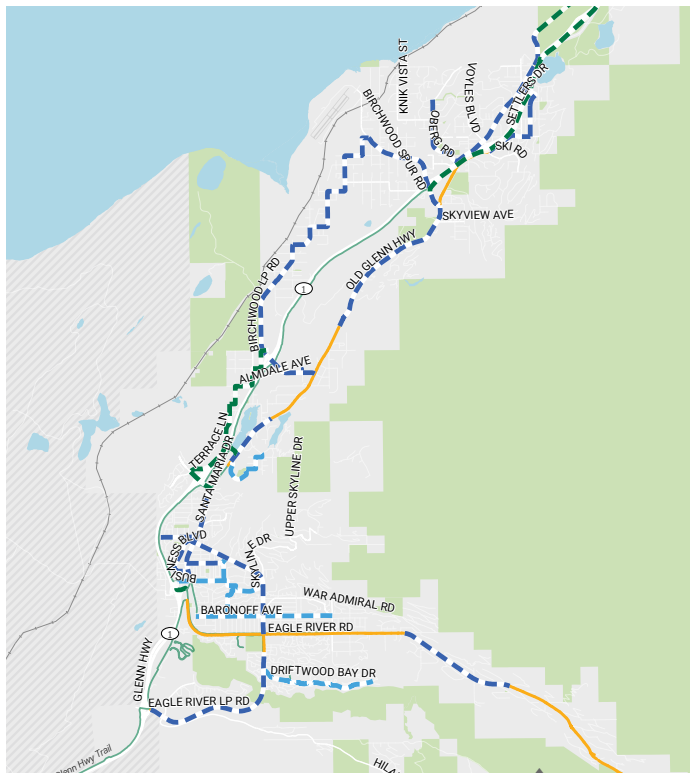
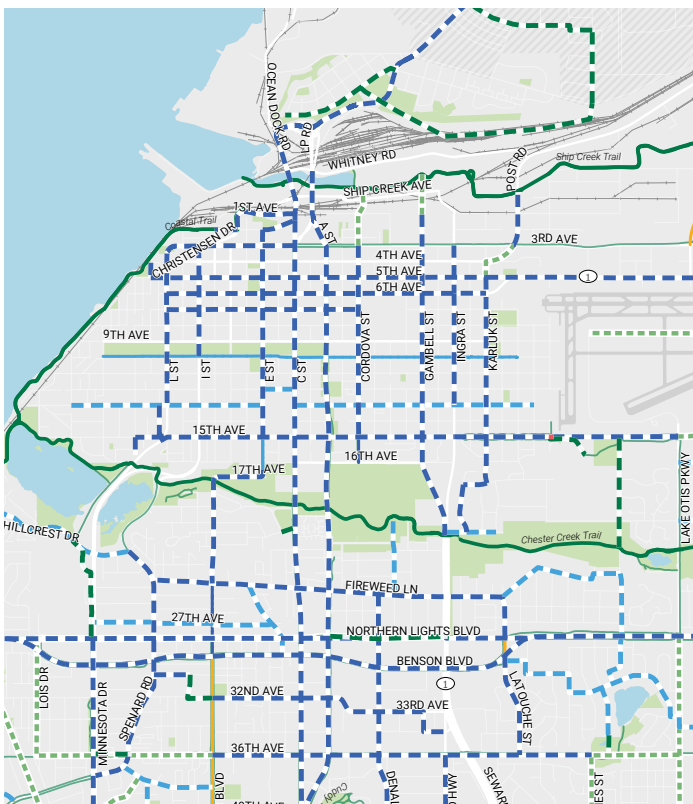
**Bicycle boulevard in Anchorage, AK**

Disclaimer for map on facing page: Any proposed facility on Port property will be subject to approval by the Port Director, Anchorage Assembly, and appropriate representatives from the Office of Homeland Security prior to implementation.

This plan and map do not alter any property lines within the AMATS area. Maps and graphics are conceptual in nature. Final alignment of recommended facilities, and their potential impact on properties, are subject to the platting and permitting process as currently exists within the Municipality of Anchorage and Chugiak/Eagle River.

**Figure 4.1: Recommended Bicycle Network**



**Figure 4.2: Recommended Bicycle Network | Chugiak-Eagle****Figure 4.3: Recommended Bicycle Network | Downtown****Bicycle Facility Recommendations**

- Shared Use Pathway
- Study Corridor
- Separated Bikeway
- Enhanced Shared Roadway
- Trail, Crossing, and/or Tunnel Improvement(s)
- Moose Loop

**Existing Bicycle Facilities**

- Bicycle Boulevard
- Bicycle Lane
- Paved Shoulder
- Shared Use Pathway

most direct, continuous path of travel in many locations, and these recommendations focus on improving these corridors for bicycle use.

» **Shared use pathways:** Located in areas without existing right-of-way, shared use pathways provide for connections among existing and/or proposed facilities where the roadway grid does not support direct travel. Shared use pathway recommendations are primarily located through parks or other open spaces; they are considered Class V under the forthcoming PM&E Design Criteria Manual. In some rural contexts, an unpaved/natural surface trail may be an appropriate and more feasible facility; however, the recommendations for shared use pathways in this plan refers to paved paths. It is understood that shared use pathway segments will also accommodate pedestrian travel. As the name denotes, these paths are shared—pedestrians, and other non-motorized users like skiers, are allowed on shared use paths and trails. Details of the design considerations for each of the above outlined facility types can be found in Chapter 7, including a chart of and methods for selecting the appropriate bicycle facility.

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» **Trail Crossing or Tunnel Improvement:** While the NMP recommendations are mostly comprised of corridors recommendations, several trail crossing and tunnel improvement projects are included. These projects provide critical connections that can provide significant accessible gains for all non-motorized transportation users.

» **Conceptual Corridor:** Some project recommendations are provided for new trails or future roadways. These alignments are shown as conceptual corridors requiring additional study to identify a specific alignment and proposed facility type. These corridors are shown as part of the proposed bicycle network but may also serve other types of non-motorized transportation.

The Recommended Bicycle Network maps (Figures 4.1, 4.2, and 4.3) reflect the proposed bicycle network. For further detail regarding example projects and implementation, please see Chapter 5. Large format maps, which the bicycle network recommendations in more detail are found in Appendix A.3.

## METHODOLOGY

Bicycle facility recommendations were determined based on the existing conditions analysis, needs assessment, and public comments. Gaps in the existing arterial network were filled first, while a secondary network of enhanced separated bikeways was also identified to provide connections throughout neighborhoods. Where applicable, recommendations were compared to proposed projects from previous planning efforts and refined to incorporate the previous recommendation. In some cases, however, it should be noted that previous recommendations may not have supported the network vision for this plan; for this reason, previous recommendations were evaluated with the lens of this plan's goals, vision, and existing conditions analysis. Projects that were not identified in this plan, but were identified in previous planning efforts should be considered to be included in the forthcoming trails plan.

Bicycle network recommendations were assigned a general facility type based on corridor conditions and a final facility type will be selected during corridor design. For example the plan might recommend a separated bikeway but not specify a protected bicycle lane or sidepath. During the design phase, a sidepath might be selected as the best facility type in order to serve multiple types of active transportation users. Similarly, an enhanced shared roadway might be assigned in a corridor, but whether a yield roadway or bicycle boulevard is most appropriate will be determined in the design phase.

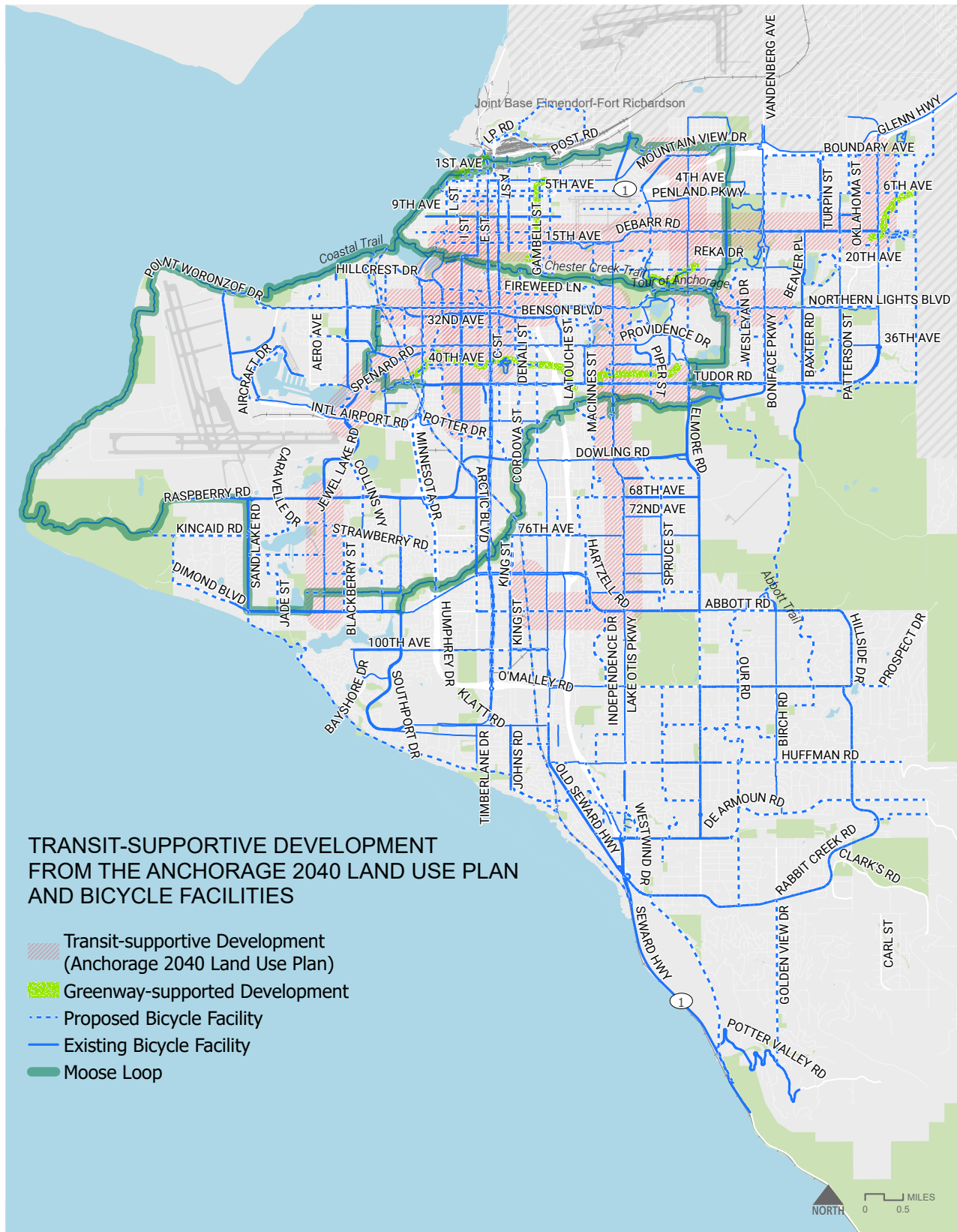
## MODAL INTEGRATION AND PLAN COORDINATION

The bicycle network recommendations made by the NMP are coordinated with current land use and transportation plans including the **Anchorage 2040 Land Use Plan**, the **Transit Plan** and the **Climate Action Plan**. Area plans, like the **Spenard Corridor Plan**, are used to implement the shared vision and goals laid out in these planning documents. A forthcoming **Street Typology Plan**, which will be initiated in 2022, will provide additional roadway design guidance that will incorporate Complete Streets principals to ensure non-motorized facilities along major corridors and routes, taking into account the transit analysis and land use analysis, as specified in this NMP and the **2040 Land Use Plan**, respectively.

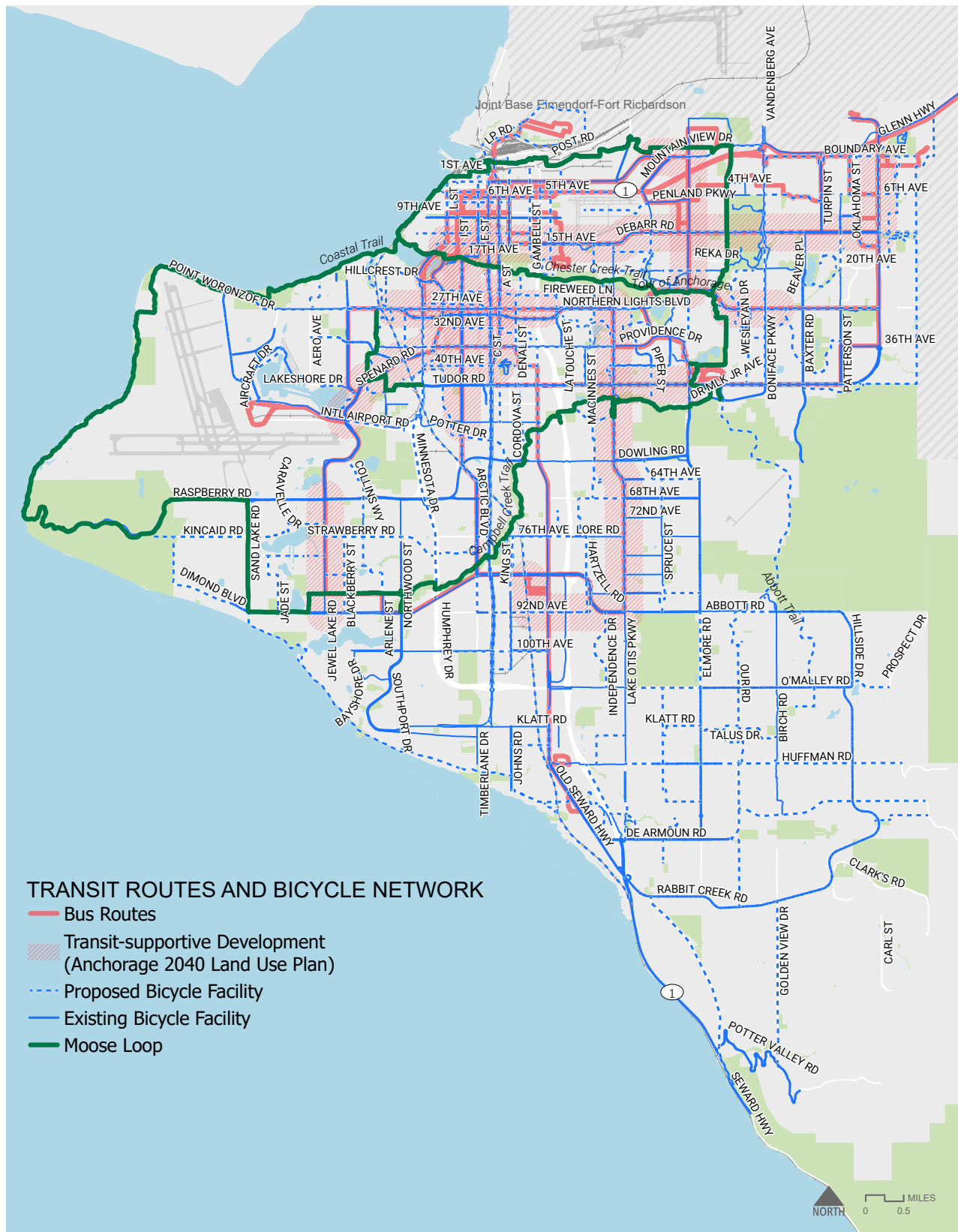
Figure 4.4 shows the relationship between the existing and proposed bicycle network and transit supportive and greenway supportive land use corridors. The relationship between the bicycle network and the existing People Mover (fixed bus route service) is shown in Figure 4.5. When completed the bicycle network will provide convenient and comprehensive coverage across Anchorage, complementing the transit system and facilitating first- and last-mile transit connections.



**Figure 4.4: Transit-Supportive Development from the 2040 Land Use Plan and Existing and Proposed**





**Figure 4.5: Existing Bus Routes and Existing and Proposed Bikeways**

## 4.2 Pedestrian Network

### APPROACH

The pedestrian network recommendations include the shared use pathway and sidepath network recommendations as described in the bicycle network section. In addition, the pedestrian network recommendations include identified corridors where improvements to pedestrian facilities can have the greatest impact, and the plan recognizes the 2007 Pedestrian Plan as a primary resource for identifying the type of facility (e.g., sidewalk or sidepath) that has been recommended for a given corridor.

Previous planning efforts within the AMATS planning area have developed a list of specific project locations and recommended improvements. Through experience, AMATS has found that while these recommendations provide clear direction, over time they can become limiting. Conditions change over the life of a plan, initial funding scope can change significantly over time, best practices in infrastructure design may be updated, and demand patterns may change in response to growth.

Further, data availability limits the ability to comprehensively address issues such as sidewalk gaps and spot improvements.

For these reasons, this plan does not attempt to update every recommendation for the entire pedestrian network; rather it recognizes the 2007 Pedestrian Plan as the foundation for the pedestrian network recommendations (see Table 5.4) and identifies key corridors where pedestrian improvements may have the greatest impact. A

key corridor represents an area where pedestrian demand is high and improvements along the identified roadway or parallel routes should be made to create a quality pedestrian network that connects to destinations. This plan can be used to better direct project funding based on need and overall network benefit. By identifying corridors of need, the plan provides flexibility during the engineering and design phase where the most appropriate facility type for a given corridor can be identified.

It should be noted, however, that in many locations throughout the AMATS Planning area, routing options are limited due to the roadway configuration: the nearest parallel route may require significant out-of-direction travel for pedestrians and limit access to commercial centers and other services. While this plan aims to provide flexibility in project implementation, it is recommended that the selected corridors be given preference for implementation. Detailed, area specific recommendations from the previous pedestrian plan have been retained and are carried forward in Table 5.4 and can be consulted as a starting point for projects along priority corridors or other spot improvements that can be completed over time.

We acknowledge that this plan calls for improvements along priority pedestrian corridors rather than laying out a complete pedestrian network. The plan recommends additional data collection so more detailed pedestrian planning can be completed over time. This plan includes a recommendation in the implementation chapter to develop a complete core pedestrian network.

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**Note:** The corridors shown on this map were determined to be priorities for providing safe access to destinations. See bicycle network maps for additional shared use pathway recommendations.





Figure 4.7: Recommended Pedestrian Network | Chugiak-Eagle River

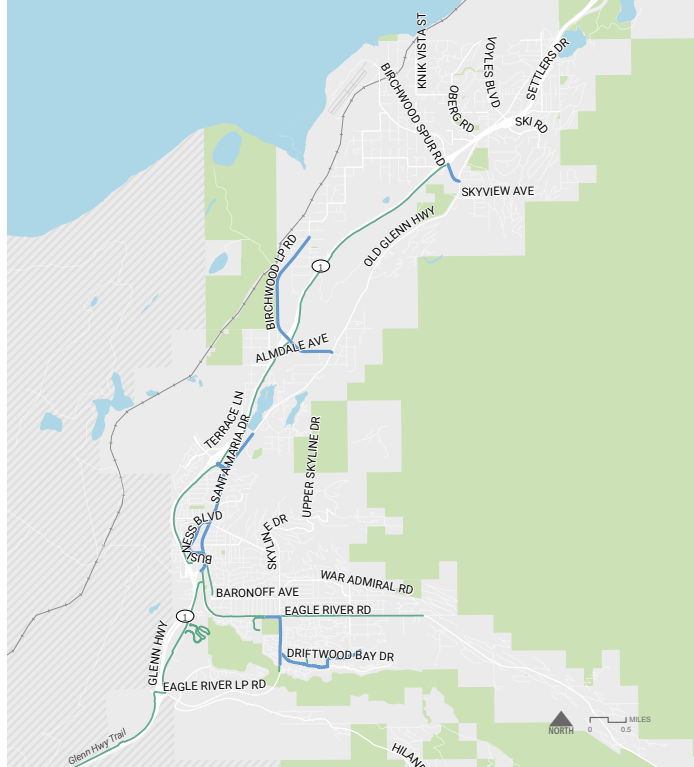
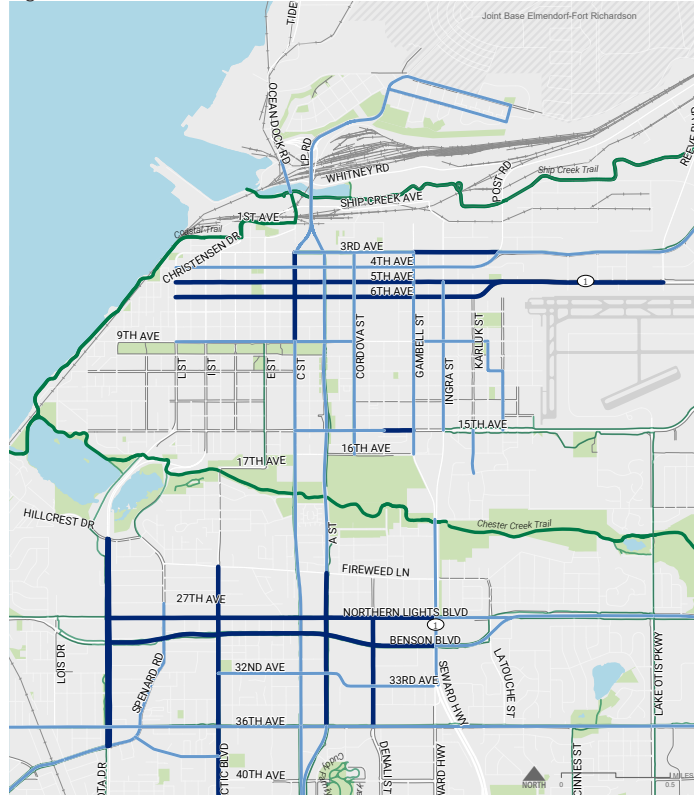


Figure 4.8: Recommended Pedestrian Network | Downtown



## METHODOLOGY

Pedestrian corridors were selected based on the following criteria:

- » Vision Zero High Injury Network, as identified in the concurrent Vision Zero planning process
- » Alaska State Highway Safety Improvement Program (HSIP) 2018 Priority Pedestrian Corridors, representing roadways corridors identified as locations with high numbers of pedestrian fatalities and serious injuries that will benefit from infrastructure upgrades
- » Areas of High Demand, representing the top two tiers of composite demand analysis completed as part of this plan
- » Areas of High Need, representing the top tiers of the composite equity analysis completed as part of this plan; this captures the top two groupings of the composite score
- » Proximity to transit stop locations and pedestrian-focused public input were also used to further

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Note: The corridors shown on these maps were determined to be priorities for providing safe access to destinations. See bicycle network maps for additional shared use pathway recommendations.



refine the corridor recommendations. Transit stop locations were a component of the Demand Analysis. Details of this analysis, as well as the criteria list above, can be found in Chapter 2.

Selected corridors are classified into two categories. **Primary Corridors** represent roadways that fall within areas of high demand and high equity need, or are identified as part of the High Injury Network; they represent the greatest potential to positively impact the pedestrian network. **Secondary Corridors** are roadways that fall within only one of the criteria but also provide access to transit, close gaps between primary corridors, or were identified through public input or the HSIP.

Within Chugiak-Eagle River, no Vision Zero High Collision Corridors were identified, and no area falls within the threshold of equity need. For this reason, only secondary corridors were identified based on demand, existing shared use pathway connections, and in some locations, connections to schools. Large format maps showing the Pedestrian Corridors in more detail are included in Appendix A.3.

## CONSIDERATIONS FOR CORRIDOR SELECTION

Selection of the precise alignment of an improvement within the corridor should be based on a number of considerations. The selected corridor should provide a continuous path of travel with connections to destinations, improved safety, and where possible, maximum separation from motor vehicles. The selected alignment should consider these elements—and others—in combination with each other and with existing movement patterns. The list on **page 68** provides some considerations for selecting an alignment within a corridor if the proposed alignment is not feasible at the time of implementation.

The Anchorage Pedestrian Plan of 2007 can be used as a primary resource for identifying the type of facility (e.g., sidewalk or sidepath) that is recommended for a given corridor. However, the recommended facility type can and should be updated according to current conditions and best practices, which may have changed since the 2007 plan. The specific improvement along a selected corridor should be selected based on the context of the corridor, presence of a bicycle network recommendation, existing gaps, and particular safety considerations at that location. See Chapter 7 for facility options, including design considerations to facilitate winter maintenance.

The Recommended Pedestrian Network map shows the selected corridors for pedestrian improvement. Project implementation should focus on the best route along or adjacent to these corridors to provide for safe, connected pedestrian travel.

## Considerations for Project Selection

The design guidelines, in Chapter 7, as well as the PM&E Design Criteria Manual and the ADOT&PF Preconstruction Manual, provide a starting point for the type of improvements that can be completed for each corridor. Anticipated projects include sidewalk or sidepath infill, sidepath or sidewalk repair and curb ramp and other crossing improvements. Recommendations from the previous pedestrian plan, included in Table 5.4, can also be used as a starting point. Within a corridor, high priority areas include access points to community destinations, commercial areas, transit stops and trail heads. All pedestrian network facilities should include pedestrian-scaled lighting (see Design Guidance in Section 7.4), and intersection improvements should be incorporated into the design of new pedestrian facilities to ensure connectivity of the network across major roadways.

## MODAL INTEGRATION AND PLAN COORDINATION

Consistent with bicycle network recommendations, pedestrian corridor recommendations consider the current and future land use and transit plans for Anchorage. As shown in Figure 4.9 pedestrian corridors are consistent with the 2040 Land Use Plan Transit Supportive Corridors and the current People Mover route network, shown in Figure 4.10.

### Safety

- » Can project selection help remedy an existing safety concern through improved sidewalks, enhanced signage and lighting, gap closure, or improved connectivity? Evaluate collision locations, frequency of collisions, and the High-Injury Network. The Vision Zero plan contains additional detail on recommended countermeasures designed to improve safety.

### Connectivity

- » Does the alignment provide opportunity to connect directly to destinations, including schools, parks, commercial districts, and employment centers?

### Network Completeness

- » Does the alignment connect to existing facilities and lend to a complete network?

### Improved Comfort

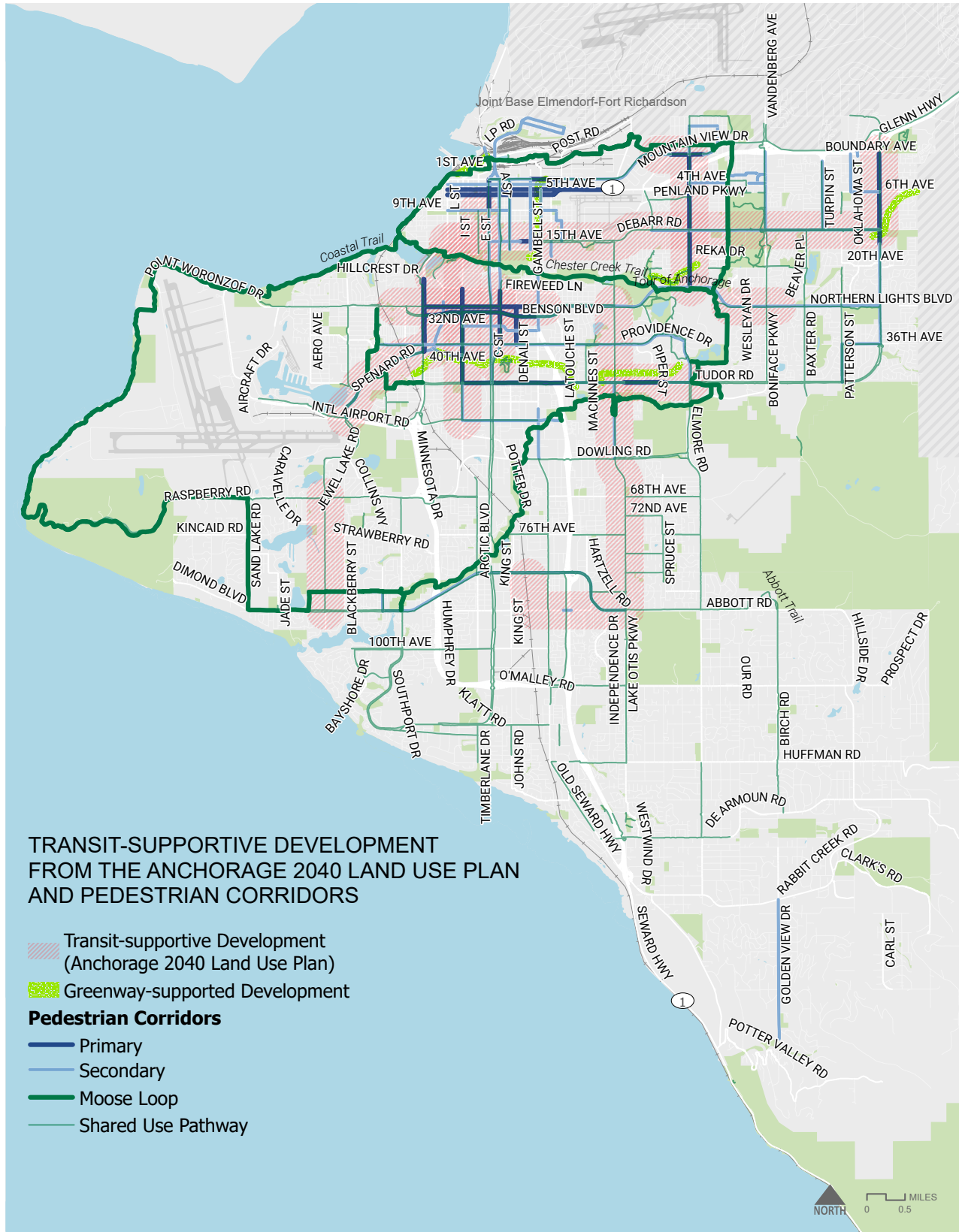
- » Does the alignment provide for increased separation from motor vehicles?

### Seasonality

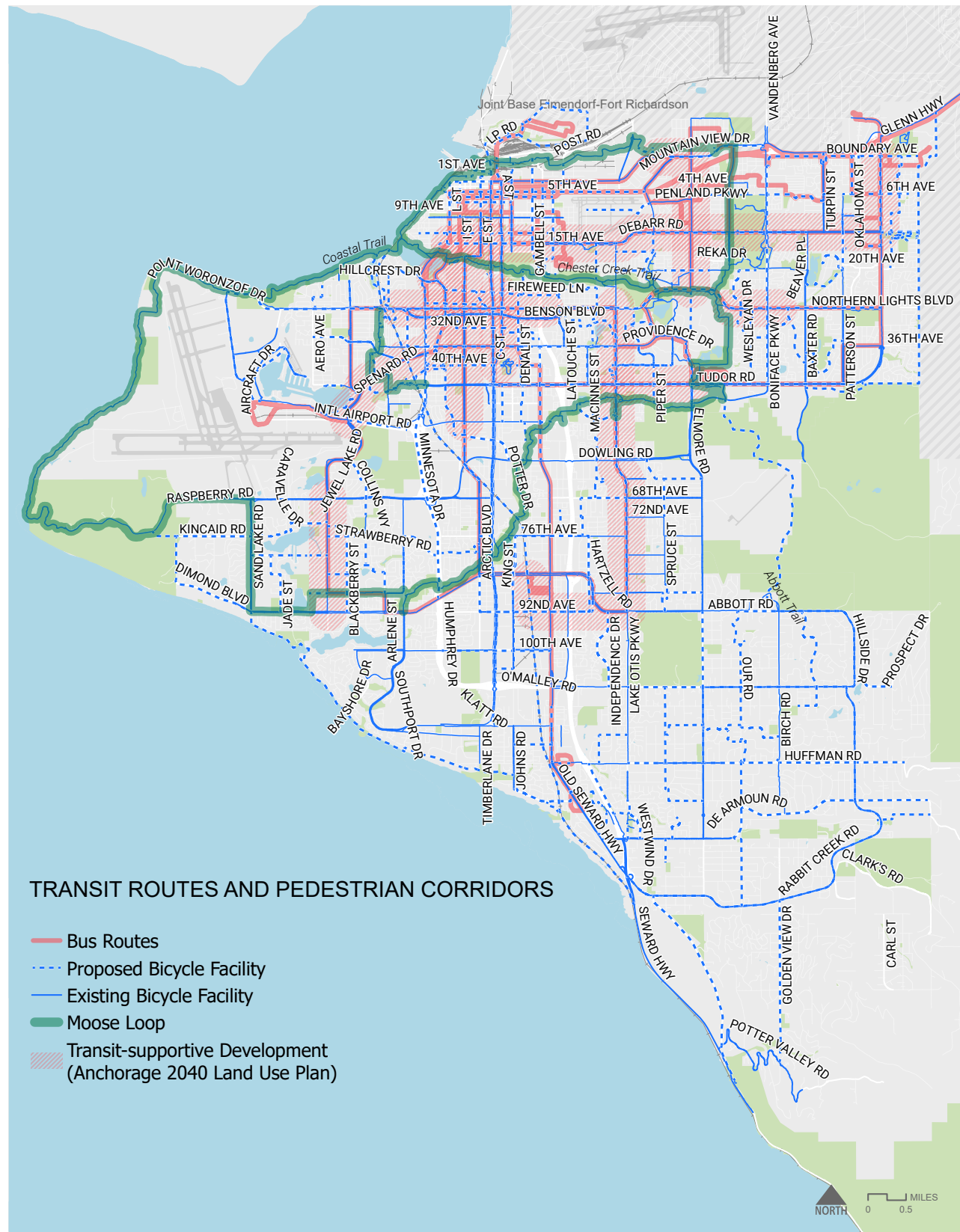
- » Does the alignment provide for safe, efficient pedestrian travel during all seasons? How does the alignment correspond with existing snow clearance schedules or agreements? Priority should be given to alignments that facilitate pedestrian travel across seasons.



**Figure 4.9: Transit-Supportive Development from the 2040 Land Use Plan and Pedestrian Corridors**



**Figure 4.10: Existing Bus Routes and Pedestrian Corridors**





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