

Official Maps and Policies

Department of Community Planning 907 Terminal Street, Fairbanks, AK 99709

June 2023 Public Review Draft





RESPEC

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Executive Summary

The Fairbanks North Star Borough (FNSB) Comprehensive Roads Plan Official Maps and Policies (Roads Plan) provides the following:

- Provides guidance and plans for future road corridors and land access while facilitating the securing of legal right-of-way (ROW) and physical road development through the land subdivision process¹.
- Assigns a purpose for a future road corridor through a functional classification that is tied to the FNSB's subdivision development process.
- Encourages and supports the FNSB and developers working together to develop a road system that protects the health, safety, and well-being of the community.

The Roads Plan includes the following:

- The **Vision** The vision serves as the plan's guiding 'north star' and outlines the community's desired future road system. The vision answers the question of, in the future, how will the FNSB road system look different and better meet current and projected community needs, as the result of the Roads Plan implementation?
- Plan Policies by focus area:
 - The Goals the goals are the long-term road system-related changes the community aims to achieve by specific topic or focus areas. Focus areas include:



- The **Strategies & Actions** The strategies are how the community will achieve their goals; actions are shorter term tactics for achieving a strategy or goal.
- The **Future Road Corridors** These maps show the location of existing and proposed corridors in the borough.

¹ FNSB Title 17.56.110(A)

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I. Introduction

This Fairbanks North Star Borough (FNSB) Comprehensive Roads Plan Official Maps and Policies (Roads Plan) updates the 1991 Comprehensive Roads Plan and 2006 Mapping Update to meet the needs of a growing community within the borough. Since the Roads Plan's last update, significant population growth and development has occurred in multiple areas of the FNSB, including near Eielson Air Force Base and in North Pole, Ester, Chena Hot Springs Road, and Chena Ridge areas.

Unregulated development during the 1970s and early 1980s produced many undesirable conditions: long cul-de-sacs, large subdivisions with single points of ingress/egress, and land-locked parcels. This growth without consideration of future connections spurred the creation of the original Roads Plan, which was adopted by the Planning Commission and Assembly in 1991.

During the 1990s, the FNSB experienced slow but steady net population growth from 77,720 in 1990 to 82,840 in 2000, a 6.6 percent increase throughout the decade². This growth accelerated during the following decade from 2000 to 2010, with a 17.8 percent population increase from 82,840 in 2000 to 97,581 in 2010³. Much of this growth was a result of employment expansions in several of the Interior region's industries, including large-scale military and institutional construction projects, mining, retail, and services. Between 2010 and 2020, the FNSB lost 1,926 residents, or approximately 2 percent of its population, for a total of 95,655 people⁴.

The purpose of this update is to extend the Roads Plan to areas of community growth, reevaluate previously planned corridors with more detailed topographical information, revise the borough's functional classifications, and determine the locations and functional classifications of future road corridors. The Roads Plan is focused on corridors developed through the FNSB's subdivision process (see Figure 1). These corridors are most often developed incrementally over time as subdivisions on adjacent properties occur (Figure 2).

² See U.S. Census Bureau Redistricting Data (P.L. 94-171) Summary File and 1990 Census, https://www.census.gov/data/datasets/2000/dec/redistricting.html.

³ See U.S. Census Bureau, Decennial Census of Population and Housing (2000 & 2010), https://www.census.gov/programs-surveys/decennial-census.html.

⁴ See https://data.census.gov/table?q=fairbanks+north+star+borough+population&tid=DECENNIALPL2020.P1.

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Figure 1: Examples of typical FNSB subdivision roads.

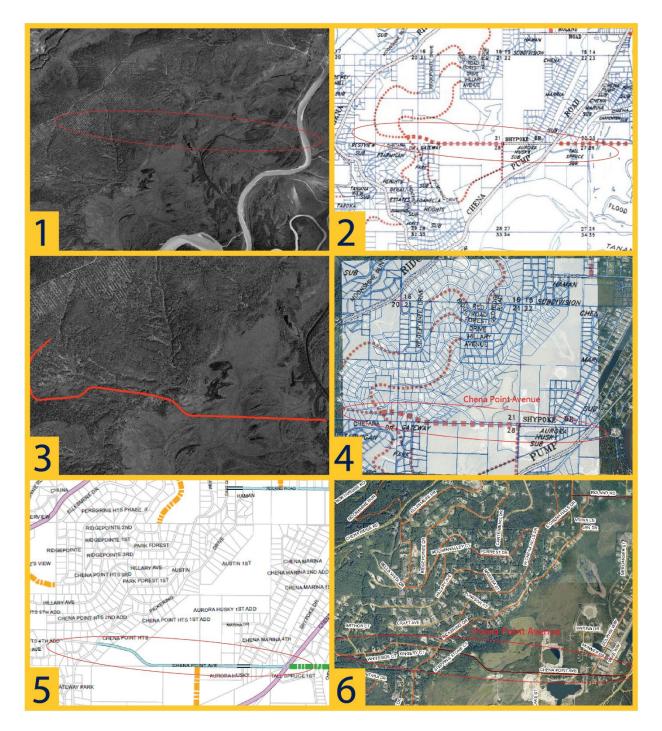


Figure 2: Example of building a planned corridor incrementally through subdivision process.

What the Roads Plan Does and Does Not Do

The primary purpose of the former Comprehensive Roads Plan is to obtain right-of-way (ROW) dedication and construction of public roads as part of the subdivision process. With a long-range plan, the FNSB and residents can ensure that a safe, predictable, and contiguous road network is established as subdivisions are developed. The purpose of the 2023 Roads Plan is to evaluate and update the 1991 Roads Plan to improve the current and future road network by creating appropriate and strategic road corridors and access points across the borough. This process aims to achieve the following:

- Bring together and build from the knowledge of residents, community leaders, transportation experts, and the private sector.
- Understand how the borough has and is projected to grow and change, recognizing related challenges and opportunities for a future roads network.
- Take advantage of new and improved data on permafrost, wetlands, and other topographical features.
- Share and document examples of successes and lessons learned from the 1991 Roads Plan and related roads policies.

The Roads Plan does...

- → Provide guidance and plan for future road corridors and land access while facilitating the securing of legal ROW and physical road development through the land subdivision process. (FNSB Title 17.56.110[A])
- → Assign a purpose for a future road corridor through a functional classification that is tied to the FNSB's subdivision development process.
- → Encourage and support the FNSB and developers working together to develop a road system that protects the health, safety, and well-being of the community.

The Roads Plan does not...

- → Allow the FNSB to come in and 'take' private land.
- → Allow the FNSB to force roads through private property—road corridor development is developer/owner initiated ONLY at the time of land subdivision.
- → Preclude other road corridor configuration options that meet the same needs for access, mobility, and protection of community health, safety, and welfare as those designated in the Plan.
- → Advocate for the subdivision and sale of large publicly owned tracts. The purpose of the Roads Plan is to plan for a logical, well-connected road network in the event that future subdivision and development of such areas does occur. The development of these areas depends heavily on the base zoning, FNSB Comprehensive Plan, and plans/goals of the owning agencies.
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Plan Development Process

The 2023 Roads Plan is the culmination of a 2-year effort involving in-depth technical analysis and extensive community input. In early 2021, the FNSB Mayor convened a Steering Committee comprising community members, surveyors, engineers, developers, emergency services personnel, and representatives of Road Service Areas (RSAs), Alaska Department of Transportation and Public Facilities (DOT&PF), Fairbanks Area Surface Transportation (FAST) Planning, FNSB Platting Board, and FNSB Planning Commission.

An Existing Conditions Report and a Functional Classification Technical Memorandum laid the groundwork for the plan by identifying existing issues on the road network and outlining a process



Figure 3: Roads Plan development timeline.

to update the functional classifications of borough roads. An initial Geographic Information Systems (GIS) analysis revealed how many corridors had been built since the last mapping update in 2006. Remaining corridors from the 1991 Roads Plan not yet built were analyzed and reevaluated using light detection and ranging (LiDAR) imagery and GIS tools that were not available to planners in 1991. As a result, corridors from the 1991 Roads Plan were either maintained, realigned to topography, or removed in the 2023 Roads Plan.

Next, vision, goals, strategies, and actions were developed, drawing on community input from an online comment map, issues identified in the Existing Conditions Report, and Steering Committee input. Corridor selection criteria were developed based on the vision, goals, and objectives, and applied to identify and evaluate new connections in the 2023 Roads Plan. Draft corridor maps were developed in GIS, revised by the Steering Committee, and shared with the public at two community open houses in May 2022, followed by a month-long public comment period. Draft maps were revised based on public input, and subsequent investigation informed the development of the draft 2023 Roads Plan. A second 30-day public comment period was held in September and October, and public and stakeholder input was integrated. A third public open house was held in January 2023 with a public comment period in January and February. Changes from this round of public input were presented to the Steering Committee in March 2023.

Developing the corridor maps was an iterative process that involved the consulting team and FNSB staff, as well as subject matter experts and the Steering Committee. Figure 3 shows the development timeline and Table 1 summarizes each major step in the map development process.

Table 1: Significant steps in the corridor identification and development process.

Process Step	Purpose
Review 1991 and 2006 maps	Identify completed corridors and road segments
Develop criteria	Establish quantitative and qualitative criteria for new corridors
Integrate public comments	Identify new corridors or proposed corridor modifications
January 6, 2022 work session	Review and modify corridors in the NW portion of the study area
January 20, 2022 work session	Continue edits to the NW portion of the study area
February 9, 2022 work session	Review and modify corridors in all portions of the study area
February 10, 2022 work session	Review previous corridor modifications and identify changes
February 18, 2022 work session	Continue review of proposed and potential new corridors
March 3, 2022 Steering Committee meeting	Review proposed corridors in the NW portion of study area
March 17, 2022 work session	Continue review of proposed and potential new corridors
March 31, 2022 work session	Review and adjust corridors in the NE section of the study area
April 6, 2022 Steering Committee meeting	Review and discuss corridors in the NE section of the study area
April 20, 2022 Steering Committee meeting	Review proposed corridors in the SE section of the study area
May 11, 2022 Steering Committee meeting	Review the edited corridor maps and prepare for the open houses
May 17 & 19, 2022 public open houses	Review draft corridor maps with the public and gather input
May 26 – June 26, 2022 public comment period	Hold public comment period for draft corridor maps
June 16, 2022 team work session	Conduct final reviews/edits of draft maps
June 23, 2022 team work session	Review functional classification maps
June 29, 2022 AMHT landholder meeting	Discuss Alaska Mental Health Trust comments on draft corridors
June 30, 2022 CIRI landholder meeting	Discuss Cook Inlet Region, Inc., comments on draft corridors
July 2022 topographic engineering analysis	Evaluate corridors against topography to determine feasibility
July 21, 2022 work session	Review public comments on draft maps
July 27, 2022 Steering Committee meeting	Review comments on draft maps to inform plan Public Review Draft
September 20, 2022 Corridors 69 & 295 meeting	Hold neighborhood meeting and site visit to discuss Corridors 69 & 295
September 21 – October 21, 2022 public comment period	Hold public comment period for public review draft of plan
October 26, 2022 Steering Committee meeting	Review and discuss public review draft comments
January 6, 2023 UA landholder meeting	Discuss University of Alaska comments on draft corridors
January 21, 2023 public open house	Hold public open house in Goldstream to gather additional input
January 10 – February 10, 2023 public comment period	Hold public comment period for revised plan and maps
February 14, 2023 USFWS agency meeting	Discuss U.S. Fish & Wildlife Service comments on draft corridors
February 14, 2023 work session	Discuss proposed corridor changes based on January open house
March 1, 2023 work session	Discuss proposed corridor changes based on January open house
March 7, 2023 Steering Committee meeting	Review proposed corridor changes based on January open house

A summary of in-depth community input and outreach for the 2023 Roads Plan included the following:

 More than 800 comments from the community and other stakeholders collected through an online comment map and survey during the summer and fall of 2021 (see Figure 4).

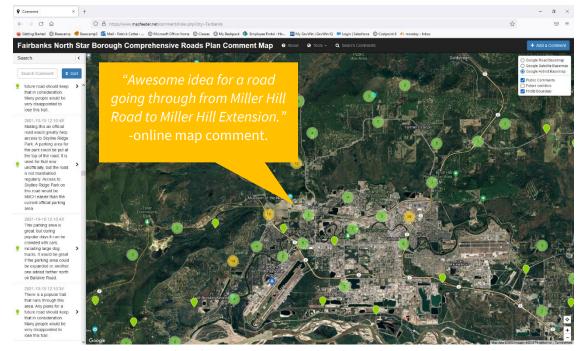


Figure 4: The online comment map generated more than 800 comments.

- Community open houses in July 2021, May 2022, and January 2023; a booth at the 2021 Alaska State Fair; local news coverage in 2021 and 2022; social media posts and Facebook events; two e-newsletters; and three postcard mailouts to residents (see Figure 5), including more than 3,000 property owners who are potentially impacted by draft road corridors on or adjacent to their property.
- Interviews and 10
 meetings with the project
 advisory Steering
 Committee, which consists
 of FNSB residents, RSA
 Commissioners,
 transportation experts,
 developers, surveyors,
 engineers, and public
 agency representatives, all
 of whom are helping to
 guide the process (see
 Figure 6).



Figure 5: Postcard mailed to residents before the May 2022 open houses.

- **Steering Committee** meetings:
 - → April 8, 2021
 - → September 30, 2021
 - → January 19, 2022
 - → March 3, 2022
 - → April 6, 2022
 - → April 20, 2022
 - → May 11, 2022
 - → July 27, 2022
 - → October 26, 2022
 - → March 7, 2023
- Public open houses:
 - → July 15, 2021 (virtual)
 - → May 17, 2022 (North Pole High School; see Figure 7)
 - → May 19, 2022 (Lathrop High School)
 - → January 21, 2023 (Ken Kunkel Community Center)

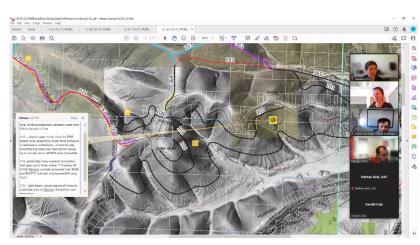


Figure 6: A screenshot from the virtual April Steering Committee meeting to review draft corridor maps.



Figure 7: Community members and FNSB staff review draft corridor maps at the Roads Plan open house at North Pole High School on May 17, 2022.

II. Plan Policies & Corridor Selection Criteria

The following vision, goals, strategies, and actions were developed based on analysis of the existing road network, public feedback gathered through the online comment map, and Steering Committee input.

Vision

We envision a road system in the Fairbanks North Star Borough that:

- Allows safe and efficient multi-modal travel in all seasons.
- Optimally connects neighborhoods, businesses, and the community while protecting neighborhood integrity.
- Provides appropriate levels of access and mobility for residents, visitors, and essential goods and services.
- Can be developed at the time of subdivision, meeting the future needs of the community while protecting private property rights.
- Appropriately considers long-term and seasonal maintenance of existing and future roads.

Policies by Focus Area

GOAL 1 – Land Use & Future Growth: Consider land use when developing the transportation network to better move people and essential goods and services safely and efficiently while minimizing adverse impacts on local neighborhoods.

- → **STRATEGY 1.1:** Regularly update and maintain the Roads Plan.
 - **ACTION 1.1.A:** Update the Roads Plan at least every 20 years and the maps every 10 years, or in alignment with community development and growth.
 - ACTION 1.1.B: In recognition of the Roads Plan vision, where a previously dedicated corridor is removed in a plan update, FNSB Community Planning will support vacating those dedications upon request of property owners fronting the dedication.
- → **STRATEGY 1.2:** Implement the future road corridor map to support areas that are currently developing or expected to soon develop with a sufficient road network.
 - ACTION 1.2.A: Use the platting process to implement the future corridor map to ensure that corridors comprising a sufficient road network are established as new areas develop.
 - ACTION 1.2.B: Plan road corridors through large tracts of public land for dedication and construction if or when that land is subdivided.⁵

⁵ Certain areas of public land have been used as open space but could be subdivided and developed in the future depending on the owner. The intention of this plan is not to advocate for the subdivision and sale of large publicly owned tracts, but to plan a logical, well-connected road network in the event that future subdivision and development of such areas does occur. The development of these areas depends heavily on the base zoning, FNSB Comprehensive Plan, and plans/goals of the owning agencies.

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- → **STRATEGY 1.3:** Update, make consistent, and mutually support the FNSB's Title 18 Zoning Code and Title 17 Subdivision Code.
 - ACTION 1.3.A: Revise the sight distance requirement in FNSB Title 18.96.100
 "Street intersection visibility" to consider the functional classification and/or speed of adjacent roadways.
 - ACTION 1.3.B: Explore the integration of a Transportation Impact Analysis into the platting process for new large subdivision developments to better understand land use impacts on the transportation network.

GOAL 2 – Functional Classification: Develop and implement the functional classification map to better manage access, reflect local land use patterns, and integrate multiple transportation modes.

- → **STRATEGY 2.1:** Implement the functional classification map at the time of land subdivision to employ functional classification for access management.
 - ACTION 2.1.A: Classify roadways for access management and ROW dedication by their anticipated future function, based on projections of land use, population growth, and Average Annual Daily Traffic.
 - **ACTION 2.1.B:** Update FNSB Title 17.56.100(C)(4) regarding intersection spacing by functional class based on state and national best practices⁶.
 - ACTION 2.1.C: Consider the future trip generation potential of key destinations and new developments when siting and classifying future road corridors in the functional classification map.

GOAL 3 – Access Management & Safety: Solidify connections between land use and transportation planning to effectively manage access across the road network.

- → **STRATEGY 3.1:** Limit access along higher capacity roads through a comprehensive access management approach that supports the development of a supportive collector and local subdivision road network.
 - ACTION 3.1.A: Continue to prohibit direct lot access to major collector and higher classification roads during the subdivision process.
 - ACTION 3.1.B: Continue to require the development of internally circulating local road networks for subdivisions that are adjacent to a major collector or higher classification road.
 - ACTION 3.1.C: Enforce access management in partnership with the DOT&PF, City
 of Fairbanks (CoF), and City of North Pole (CoNP) through plat notes and driveway
 permits and standards.

⁶ See American Association of Highway and Transportation Officials (AASHTO) *Green Book* and the DOT&PF *Alaska Highway Preconstruction Manual*, Tables 1190-3 and 1190-4.

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- ACTION 3.1.D: Partner with FAST Planning, DOT&PF, the CoF, CoNP, and/or RSAs
 to apply access management design features such as turn lanes, frontage roads,
 and driveway consolidation where appropriate or as aspects to construction
 projects.
- → **STRATEGY 3.2:** Develop and implement the functional classification map to support orderly road network development and appropriate access management through the subdivision process.
 - ACTION 3.2.A: Update subdivision regulations to include sufficient spacing standards for unsignalized intersections based on state and national best practices guidance and functional classification.⁷
 - ACTION 3.2.B: Consider developing minimum access point and driveway spacing standards for subdivision regulations based on roadway speed and functional classification.⁸
 - ACTION 3.2.C: Update sight distance, corner visibility, cul-de-sac length,⁹ intersection approach angle,¹⁰ and intersection spacing standards to align with state and national best practices guidance and functional classification.

GOAL 4 – Environmental Impacts: Minimize and mitigate road network impacts on the natural environment and FNSB community.

- → **STRATEGY 4.1:** Retain the integrity of neighborhoods as the road network expands.
 - ACTION 4.1.A: Implement the future corridors map in a way that discourages roadway alignments penetrating or dividing established residential neighborhoods from major service facilities such as schools and parks.
 - ACTION 4.1.B: Provide safe pedestrian access across roadways when they do create barriers for neighborhoods, with an emphasis on at-grade facilities with safety features such as Rectangular Rapid Flashing Beacons or High Intensity Activated Crosswalk signals.
 - ACTION 4.1.C: Support DOT&PF and FAST Planning to establish and implement official heavy industry and trucking through-routes away from areas planned or zoned as residential or commercial.

⁷ See AASHTO *Green Book* and DOT&PF *Alaska Highway Preconstruction Manual*, Tables 1190-3 and 1190-4.

⁸ See AASHTO Green Book and DOT&PF Alaska Highway Preconstruction Manual, Tables 1190-3 and 1190-4.

⁹ See National Fire Protection Association (NFPA) 1141: *Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas*, sections 11.2.17.1 through 11.2.17.3.

¹⁰ Intersection legs that operate under stop control should intersect at right angles, wherever practical, and should not intersect at an angle less than 75 degrees.

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- **ACTION 4.1.D:** Minimize the impacts of light pollution caused by intersection and road lighting on residential neighborhoods and other sensitive areas outside of the urban core. In sensitive areas, use cutoff fixtures or other techniques to mitigate impact if lighting is deemed necessary.
- **ACTION 4.1.E:** Minimize the impacts of road noise pollution on neighborhoods and in other sensitive areas. Coordinate with DOT&PF and the cities to mitigate the noise impacts of roads during and after construction.
- **ACTION 4.1.F:** Discourage the routing of commercial and industrial traffic through residential areas.
- → STRATEGY 4.2: Identify and implement projects and strategies to reduce wildlife collisions and conflicts.
 - **ACTION 4.2.A:** Implement the future corridors map in a way that discourages roadway alignments penetrating or dividing established recreational and wildland corridors.
 - **ACTION 4.2.B:** Ensure that road crossings of waterways allow for adequate fish passage.
- → **STRATEGY 4.3:** Implement the future road corridors map that sites roads away from areas with challenging environmental conditions if possible, and work to mitigate road deterioration in challenging areas through improved road standards and design.
 - **ACTION 4.3.A:** Discourage road corridors through areas that are currently environmentally challenging or are expected to become environmentally challenging because of changing climatic conditions.
 - **ACTION 4.3.B:** Consider hydrological and permafrost conditions when siting subdivision streets during the platting process.
 - **ACTION 4.3.C:** Ensure that subdivision road designs are of sufficient standards in areas of permafrost and wetland areas and/or areas of other environmental concern, such as those adjacent to streams, rivers, and other waterbodies.
 - **ACTION 4.3.D:** Ensure that subdivision road designs are of sufficient standards in floodplain areas and in areas with challenging or poor soil conditions.
- GOAL 5 Multi-Modal Connections: Support multi-modal transportation linkages and encourage use of non-motorized transportation systems through corridor development.
 - → **STRATEGY 5.1:** Integrate safe walkway and sidewalk circulation into urban road networks and maintain walkways and sidewalks for commuter and recreational users, including those in wheelchairs and users of other mobility aids, pedestrians, and bikes.

- ACTION 5.1.A: Work with and support FAST Planning, DOT&PF, CoF, and CoNP, and/or RSAs to integrate pedestrian-friendly sidewalks, bike and pedestrian paths, bike lanes, or widened shoulders along newly developed roads or as enhancements during road maintenance in urban areas or along arterials and major collectors.
- ACTION 5.1.B: Consider updating FSNB Title 17 to consider pedestrian and bike facilities in the subdivision platting process for new developments in urban areas.
- ACTION 5.1.C: Work with other public agencies, through the Seasonal Mobility
 Task Force, to implement a maintenance plan for pedestrian walkways that, when
 possible, makes sidewalks usable year-round for all citizens.
- ACTION 5.1.D: Explore the feasibility of dedicated ROWs or established easements for:
 - Pedestrian and bicycle facilities along major collectors and arterials during the subdivision platting process.
 - Recessed bus stops for public transportation systems during the subdivision process.
- → **STRATEGY 5.2:** Integrate safe multiuse trail circulation into road networks and maintain multiuse trails for commuter and recreational users, including bikes, pedestrians, ATVs, and snowmachines.
 - ACTION 5.2.A: Work with and support FAST Planning, DOT&PF, CoF, CoNP, and/or RSAs to integrate multiuse trails, paths, or widened shoulders along newly developed roads or as enhancements during road maintenance in suburban areas or along arterials and major collectors. Emphasis should be given to areas specifically called out in the FAST Planning Non-Motorized Transportation Plan.
 - ACTION 5.2.B: Work with developers to acquire additional ROW for shared trail and road corridors and trail/road crossings through the subdivision platting process, where appropriate.
 - ACTION 5.2.C: Continue to require dedicated ROWs or established easements for trails and crossings identified in the FNSB Comprehensive Trails Plan during the subdivision platting process.
 - ACTION 5.2.D: Encourage vegetative buffers between recreational trails and roads to preserve trail quality and minimize impacts.
- **GOAL 6 Road Construction:** Ensure that road design improves safety for roadway users of all transportation modes and minimizes adverse community and environmental impacts.
 - → **STRATEGY 6.1:** Encourage subdivision design that uses existing roads, if available and without access restrictions.

- → **STRATEGY 6.2:** Secure federal, state, or other funding to assist RSAs with upgrading roads to economically sustainable standards or the most current FNSB Title 17 road standards.
 - ACTION 6.2.A: Coordinate with FAST Planning, DOT&PF, CoF, CoNP, and/or RSAs
 to apply for and establish new funding mechanisms for road maintenance and
 construction in the FNSB.
- → **STRATEGY 6.3:** Partner with FAST Planning, DOT&PF, CoF, CoNP, and/or RSAs to realign or regrade high crash locations, steep corridor segments, or areas that do not meet current design standards.
 - ACTION 6.3.A: Work with and support FAST Planning, DOT&PF, CoF, CoNP, and/or RSAs to identify and correct high crash locations.
- → **STRATEGY 6.4:** Apply consistent roadway design standards based on state and national best practices.
 - ACTION 6.4.A: Develop and adopt typical cross sections for each functional classification based on state and national best practices.
 - ACTION 6.4.B: Adopt a user-friendly road standards manual with the goal of functional and economically sustainable road design and construction, informed by state and national best practices and community priorities.
 - ACTION 6.4.C: Explore minimizing exemptions to road construction, especially in urban and developing areas, while allowing for flexibility in road design if health, safety, and welfare objectives are met.
- **GOAL 7 Future Road Corridors:** Implement the future road corridors map at the time of subdivision to improve and/or create connections reducing out-of-direction travel, vehicle miles traveled, air pollution, and travel time. *Note: See considerations for future corridor selection in Table 2.*
 - → **STRATEGY 7.1:** Site new road corridors to minimize conflicts and at-grade crossings between the railroad and road corridors.
 - ACTION 7.1.A: Implement the future road corridors map to site new road corridors in alignment with the FAST Planning Road/Rail Reduction/Realignment Plan and to minimize new at-grade crossings between Alaska Railroad Corporation (ARRC), road network, and non-motorized transportation facilities.
 - ACTION 7.1.B: Work to implement the FNSB Comprehensive Plan goal and ARRC memorandum of agreement to relocate the rail mainline from the urban core to a more suitable peripheral location. Consider amending the future road corridor map if/when a preferred alignment for the railroad reroute is established.
- **GOAL 8 Road Maintenance:** Work to ensure consistent, affordable, and equitable road maintenance for roads, bridges, and rail crossings within the borough.

- → STRATEGY 8.1: Work with FAST Planning to implement potential options in the 2021 Road Service Area Expansion Plan to provide consistent and equitable road maintenance.
- → STRATEGY 8.2: Work with FAST Planning to implement potential options in the 2021 Road Service Area Expansion Plan to provide consistent and equitable road maintenance for non-governmentally supported public roads (i.e., constructed roads with no public maintenance authority).
- → **STRATEGY 8.3:** Research and secure additional funding, including potential funds through the Federal Infrastructure Bill, for RSAs, bridges, and rail crossing maintenance activities.
- → **STRATEGY 8.4:** Explore potential solutions for identifying a permanent maintenance authority for bridges throughout the borough to improve access and safety and ensure consistent maintenance.
- → **STRATEGY 8.5:** Ensure that dedicated ROWs or established easements are consistently wide enough for snow removal and storage, drainage, and mailbox pullouts.
 - ACTION 8.5.A: Use the platting process to consider whether roadway designs, specifically shoulders and drainage ditches, provide enough space for snow removal and storage.
 - **ACTION 8.5.B:** Explore potential revisions to FNSB Title 17 ROW requirements to ensure that roadways provide enough space for snow removal and storage.
- → **STRATEGY 8.6:** Work with the ARRC to clarify that maintaining all unmaintained rail crossings is outside of FNSB powers, and work to improve safety by identifying and assigning a permanent maintenance authority to all rail crossings.
 - **ACTION 8.6.A:** Work with and support FAST Planning and other agency partners to facilitate long-term solutions to provide maintenance to unmaintained roads in the borough. Consider the FAST RSA Expansion Plan for RSAs in the Metropolitan Planning Area.
 - **ACTION 8.6.B:** Coordinate with the ARRC to maintain and minimize at-grade crossings between rail, road, trail, and non-motorized transportation networks.

GOAL 9 - Economic Vitality: Strengthen economic vitality with a transportation network that supports a diversified, sustainable, and thriving local economy in the FNSB and Interior region.

- → **STRATEGY 9.1:** Support the development of an adequate transportation network to serve commercial business activities in the borough.
 - **ACTION 9.1.A:** Implement the future road corridors map to ensure that existing, developing, and future commercial areas can be easily and safely accessed via the road network.

- ACTION 9.1.B: Work with FAST Planning, DOT&PF, CoF, CoNP, and/or RSAs to ensure that roads accessing commercial areas are sufficiently and consistently maintained year-round.
- ACTION 9.1.C: Explore updates to FNSB Title 17 road standards that ensure sufficient road design standards for the long-term viability of delivery of goods and services, including fuel and water delivery, package delivery, and trucking.
- → **STRATEGY 9.2:** Balance the need for protection of private property rights with the development of a sustainable, safe, and multi-modal road network in the borough.
 - ACTION 9.2.A: Through the platting process, allow for alternatives to the future road corridor map when topographical or environmental features make corridor development as shown in the future corridor map infeasible or cost prohibitive, and provided the alternative corridor meets the same health, safety, and welfare requirements as the original planned corridor.
 - ACTION 9.2.B: Consider the economic and fiscal feasibility of road construction and related maintenance when determining new road corridors.
 - ACTION 9.2.C: Consider the practical and fiscal feasibility of road construction when working with developers to implement the road network through the platting process.
 - ACTION 9.2.D: Explore public/private partnerships on larger developments with extensive Roads Plan connections and construction requirements that would benefit both the developer and the general public.
 - ACTION 9.2.E: Lessen the need for variance applications by allowing for a
 reasonable level of flexibility in road designs through a user-friendly FNSB road
 standards manual. Alternate road designs must meet other national best practices
 or nationally recognized engineering standards and be approved by the FNSB
 engineer.
- **GOAL 10 Emergency Access & Alternate Routes:** Implement the future road corridor map to expand community connectivity to provide safe, year-round automobile and multi-modal transportation routes within and between neighborhoods, public and recreational facilities, and commercial areas.
 - → **STRATEGY 10.1:** Develop and maintain alternate routes to and from neighborhoods to ensure year-round emergency access and essential services delivery.
 - ACTION 10.1.A: Update FNSB Title 17 subdivision standards to ensure multiple access points for emergency (e.g., fire and EMS) and essential delivery services (e.g., fuel, water, mail, and packages) to new and existing subdivisions.¹¹

¹¹ See NFPA 1141, section 11.1.4 Number of Means of Access and Tables 11.1.4.1(a) and 11.1.4.1(b).

¹⁶ | FNSB Comprehensive Roads Plan: Official Maps and Policies

- → **STRATEGY 10.2:** Improve and expand road and bridge linkages between and within communities to ensure year-round emergency access and essential services delivery.
 - ACTION 10.2.A: Site road corridors and implement the future road corridors map
 to prioritize routes that improve and expand year-round emergency access and
 essential services delivery to residential areas.

Corridor Selection Criteria

Table 2 presents criteria developed and used to guide decision-making related to identifying and siting new corridors during the Roads Plan process.

Table 2: Future road corridor selection criteria.

FNSB Fu	ture Road Corridor Selection Crite	ria
Category	Criterion	Considerations/Guiding Questions – will, or does, the future road corridor
	Alternative routes	Provide alternate routes to existing residential areas?
	Emergency and essential services	Address a gap and/or provide emergency access and essential services?
Access	Multiple access points	Support multiple access for residential areas that currently have > 100 dwelling units or have the potential to develop > 100 dwelling units 12
	New access	Provide new access into an area expected to be developed?
	Bridges	Provide alternate routes to areas currently accessed solely via bridge?
vity	Vehicle Miles Traveled (VMT)/out-of- direction travel	Decrease overall VMT and/or out-of-direction travel?
Connectivity	Small gap closures	Close an existing small gap in the road network?
Social	Public input	Address community feedback? Do public comments support or oppose the corridor?
Soc	Encroachment	Avoid encroachment on military or other existing uses?
	Compatibility	Be compatible with existing uses and FNSB plans?
nent	Wetlands, flood zones, permafrost, soils	Traverse wetlands, flood zones, permafrost, and/or poor soils? Can impacts be mitigated?
Environment	Recreation/habitat	Conflict with trails, wildlife habitat, or recreational lands? Can conflicts be mitigated?
omic	Property rights/ROWs dedication	Follow existing ROWs/easements? Is additional ROW required?
Economic	Feasibility	Be reasonable/feasible to construct?
	Road grade	Have a grade < 10%?
etry	Intersection grade	Have an intersection grade <4% or 6% for through-road?
Geometry	Approach angle	Approach angle as close to 90° as possible and no less than 75°?
	Corridor spacing	Have corridor spacing 0.25 mile or greater?

¹² See NFPA 1141, section 11.1.4 Number of Means of Access and Tables 11.1.4.1(a) and 11.1.4.1(b).

^{17 |} FNSB Comprehensive Roads Plan: Official Maps and Policies

III. Implementation

Who Is Responsible for Roads in the Borough?

As a second-class borough, the FNSB does not directly construct or maintain roads. It does, however, provide a transportation network through its mandatory areawide planning, platting, and land use regulation powers, as granted in Alaska State Statutes. The FNSB facilitates the construction of roads through its subdivision process. At the time of land subdivision, landowners (developers) work with the FNSB to design and construct subdivision roads. FNSB Title 17 contains the road design and construction standards that apply to subdivision roads within the borough. After subdivision roads located outside CoF and CoNP are constructed, the roads can be voted into an existing RSA, which then provides long-term maintenance.

⊕ Grants 2nd-class boroughs mandatory areawide planning, platting, and land use regulation powers, and the ability to adopt the areawide power to "provide transportation systems" by ordinance. (AS 29.35.180 & AS 29.35.210)

Elected to "provide a transportation system" on an areawide basis by ordinance, and does so through the subdivision and exactions process based on its land use regulation, planning, and platting powers. (FNSB Title 1.12.040)

 At the time of land subdivision, **○** developers work owith the FNSB to **Φ** design and construct ☐ subdivision roads to
 FNSB Title 17 standards through the subdivision and exactions process. (FNSB Title 17.56)

Serve as the maintenance authority for many roads within the FNSB but outside of the cities. Residents within an area vote to establish an RSA and tax themselves for road maintenance. (FNSB Title 14)

Road Maintenance and Orphan Roads

Currently, the FNSB has approximately 260 miles of roads without a dedicated maintenance authority. These roads, often referred to as "orphan roads," are either maintained by local groups of neighbors who hire a contractor for maintenance or do the work themselves, or the roads are not regularly maintained. Orphan roads exist in the borough because of historical exemptions to road construction standards that were previously allowable for some subdivisions per FNSB code. As unmaintained and sub-standard roads have become a growing access and safety issue in the borough, the code has been amended to minimize road construction exemptions. Addressing unmaintained roads in the borough are also hindered by the stringent voting process for accepting new roads into existing service areas and a State of Alaska law that prohibits the creation of new RSAs. See the FAST Planning Road Service Area Expansion Plan for more information about unmaintained roads in the borough and potential solutions for expanding road maintenance to these areas.

Implementation Examples

The Roads Plan is implemented through the FNSB's subdivision process. At the time of land subdivision, developers work with the FNSB's platting division to determine the best layout of subdivision streets following the road construction and design standards located in FNSB Title 17. Through this process, developers are asked to dedicate land for subdivision roads and construct these to FNSB Title 17 standards. This process ensures that lots are granted necessary access, and that subdivisions develop in an orderly manner with appropriate levels of access, circulation, and safety. In short, the Roads Plan and subdivision process help to guide road network development so that the borough remains a safe and healthy place to live, work, and play as it continues to grow.

Canterbury Drive

Canterbury Drive is a 1.4-mile-long minor collector in west Fairbanks that connects Chena Ridge Road to several residential subdivisions (see Figure 8). The area is predominantly a south-facing hillside with moderate slopes and good soils. As such, it is an attractive area for development.

The 1991 Roads Plan identified Canterbury Drive as a minor collector (see Figure 9). The proposed corridor passed through a large, undeveloped parcel owned by the University of Alaska that connected Chena Ridge Road to subdivisions off Forest Drive.

By the time of the 2006 Mapping Update, several subdivisions had been developed in the area. Canterbury Drive was included in the plan again as it was still an important connection (see Figure 10).

Canterbury Drive was constructed through two subdivisions shortly after the 2006 Mapping Update. The road is an important collector for several local roads in the area.



Figure 8: Canterbury Drive in 2021.

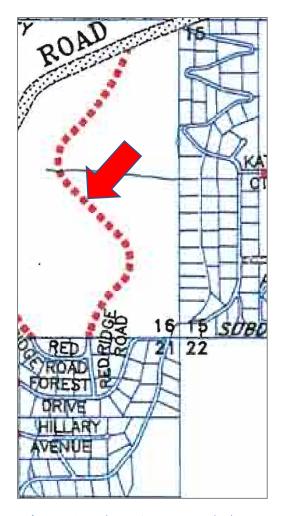


Figure 9: Canterbury Drive - 1991 Roads Plan.

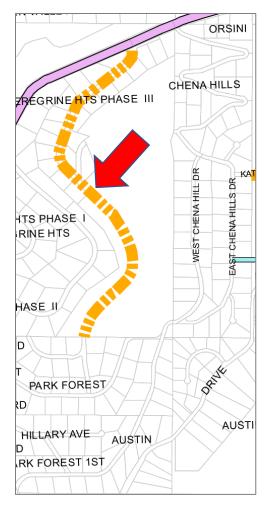


Figure 10: Canterbury Drive - 2006 Mapping Update.

Donna Drive

Donna Drive is located north of Farmer's Loop Road on a south-facing slope and connects with Skyline Drive on its east end. The area contains many single-family homes and is a desirable area for development because of good soils, moderate slopes, and southern exposure.

Donna Drive was identified as a minor collector in the 1991 Roads Plan, at which time a small portion (less than ¼-mile) of the eastern end had been constructed (see Figure 11).

At the time of the 2006 Mapping Update, Donna Drive had not been extended but was kept in the plan as it was still considered an important connection between the neighborhoods off Skyline Drive to the east and the neighborhoods off Summit Drive to the west (see Figure 12).

Today, Donna Drive is ½-mile long and is only ¼-mile from a road (Cranberry Ridge Drive) to the west. Once constructed, Donna Drive will be only the second connection between Skyline Drive and Summit Drive (see Figure 13).

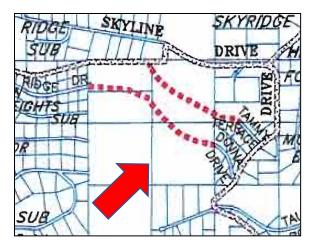


Figure 11: Donna Drive – 1991 Roads Plan.

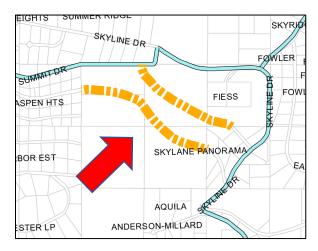


Figure 12: Donna Drive – 2006 Mapping Update.

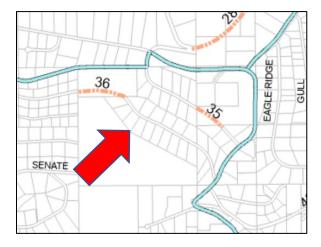
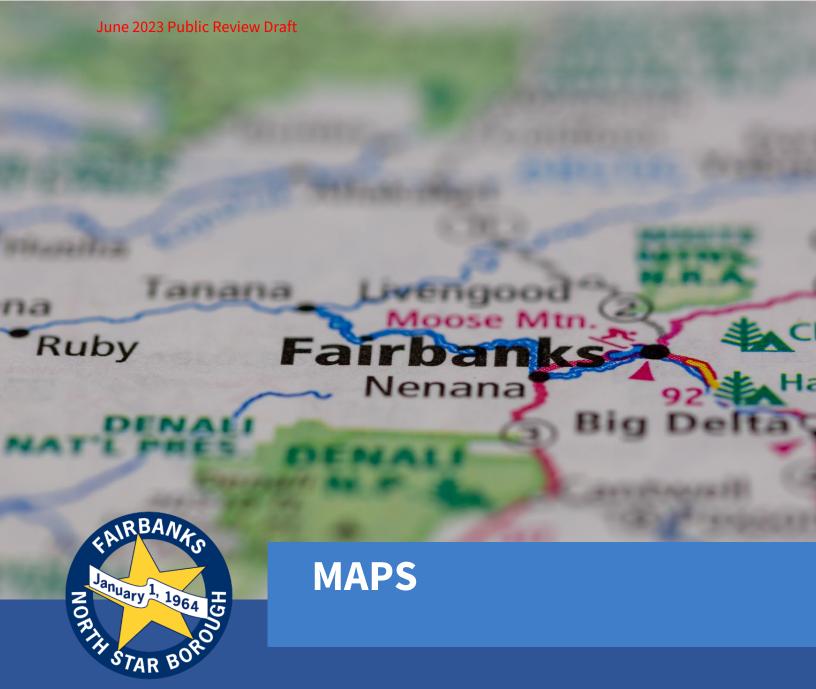


Figure 13: Donna Drive – 2023 Roads Plan.



IV. Maps

The following maps depict proposed future corridors across the borough. For this update, six townships were added to the study area to accommodate growth in those areas. Thirty-nine new corridors were added to the 2023 Roads Plan. Table 3 summarizes the corridors and the rationale for their inclusion. Some of the corridors overlap with constructed roads. In these instances, the constructed road does not have ROW and, thus, is included in the 2023 Roads Plan. Additionally, several of the corridors established in the original 1991 Roads Plan were slightly rerouted because of more accurate topographical information. Figure 14 presents the 2023 Roads Plan study area location.

Important points to remember about how the Roads Plan is implemented:

- Road corridors in the plan will only be dedicated on private property at the time that landowners subdivide. If land never subdivides, a road corridor shown in the Roads Plan maps may never actually be built.
- The subdivision process allows for some flexibility in road alignment and design if the alternative corridor achieves the same goals as the connection identified in the Roads **Plan**. Developers work closely with the FNSB's platting division to identify the optimal alignment of subdivision streets.
- The Roads Plan is intended to encourage and support the FNSB and developers working together to develop a road system that protects the **health**, **safety**, **and well-being** of the community as it continues to grow.
- Certain areas of public land have been used as open space but could be subdivided and developed in the future depending on the owner. The intention of this plan is not to advocate for the subdivision and sale of large publicly owned tracts, but to plan a logical, well-connected road network in the event that future subdivision and development of such areas do occur. The development of these areas depends heavily on the base zoning, FNSB Comprehensive Plan, and plans/goals of the owning agencies.

Table 3: New road corridors added in the 2023 Roads Plan.

New Corridor No. ¹³	Rationale	
204	New access to Murphy Dome Rd from the Frenchman stub	
205	Old Murphy Dome Rd needs ROW	
213	New access to Ester Dome area	
214	Connects Old Ridge Rd to Old Nenana Highway	
217	Connects two subdivisions and provides alternate access	
228	Provides new access to large parcels via Desperation subdivision	
232	232 Replaces Corridors #29 and #30	
234	Provides additional access to Adit stub, large parcels, and Old Murphy Dome Rd	
243	Provides alternate access and connects to platted road stubs at Chad St and Ridgemont Dr	
251	Connects Musk Ox subdivision to Ski Boot Hill	
254	Provides alternate access to Spinach Creek	
256	Provides additional access via Winchester Rd stub to Old Murphy Dome Rd	
272	Provides new access to large parcels south of Murphy Dome Rd	
274	Provides alternate access via existing platted road stubs	
275	Provides access to parcels via Birch Hollow stub	
281	Provides access to parcels via Hawkeye Downs stub	
282	Provides alternate access to subdivision	
309	Connects Smallwood Trail to Hopper Creek Dr	
310	Obtains ROW along Amanita Rd	
314	Creates a Misty Fjords Ct to Chena Valley View Ln connection using stub	
331	Extends newly platted road east for connection between ESRO Rd and Amanita Rd	
349	Extends Corridor #51 to Chena Hot Springs Rd via Heritage Hills	
357	Creates a loop with Bates St to provide new access	
358	Connects Steese Highway to Elliot Highway via Corridor #301 and Silver Fox	
359	Connects Reschaven stub to Chigmit Dr via existing roadway easement	
361	Creates a loop from Corridor #57 to avoid a long cul-de-sac	
362	Connects John Cole Rd to Hopper Creek Dr and Smallwood area	
369	Connects Chief John Dr and Reschaven stubs	
379	Connects Fiddle Way to Becker Ridge Rd	
384	Connects Moosewood Cir to Birch Knoll Rd	
386	Connects with Corridors #125 and #122	
387	Connects Sebaugh Rd to Joline Ave across an SLE	
404	Replaces Corridor #38 for Amanita-Hopper Creek Dr connection via constructed road needing ROW	
405	Connects Johnson Rd to Grieme Rd	

 $^{^{13}}$ Corridor numbers were assigned at the beginning of the project and many corridors have since been removed by the project Steering Committee.

²⁴ | FNSB Comprehensive Roads Plan: Official Maps and Policies

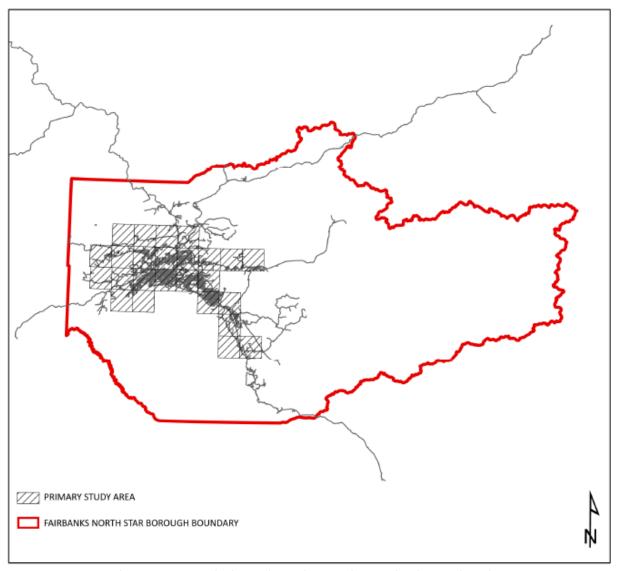


Figure 14: 2023 Roads Plan study area location shown within the FNSB boundary.

What is functional classification?

Functional classification is *grouping streets and highways into categories according to the type of service that they provide*. All roads help the traveler move across the network, called *mobility*, and reach specific destinations, referred to as *access*.

What are the functional class categories?

The three standard road categories are *arterial*, *collector*, and *local*. Arterials and collectors are also often broken down into *major* and *minor* subcategories, with different implications for roadway design. For example, direct lot access is limited on *major collector* and higher roads. In addition, FNSB Code Title 17 provides guidelines for functional classifications based upon how many lots are served within subdivision.

Arterial. The highest category, these roads are designed to move travelers quickly and efficiently with higher mobility and speeds, and with few stops, turns, and intersections. Arterials in the FNSB are generally managed by the Alaska DOT&PF. *Example: the Johansen Expressway in Fairbanks. Meant for high speed and through traffic.*

- Major Collector. These roads collect and distribute traffic from local streets and channel it onto the arterial system. Examples: N. Cowles in Fairbanks and Bradway Road in North Pole. Connects subdivisions and commercial areas.
- Minor Collector. These roads collect and distribute traffic from local streets and channel it onto the major collector and arterial system. Examples: Wilcox Avenue in Fairbanks and Davis Blvd. in North Pole. Typically serves over 40 lots.
- Future Study. These roads are desirable connections but will require additional research before they will be officially included in the Roads Plan as a major or minor collector. Examples: Corridor 382, which connects Two Rivers and North Pole, and Corridor 121 that would require a bridge over the Chena River to connect Roland and Dale Roads.

Local. The lowest category, these roads typically have slower speeds and capacity since their main purpose is to provide access to properties such as homes and businesses. Local roads are determined by the subdivision design in the platting process. *Examples: Your friendly neighborhood streets. Typically serves 40 or fewer lots.*

In general, *collector* and *local* roads are established throught the FNSB's subdivision process. The FNSB Roads Plan Future Corridors map series identifies the planned locations for *major* and *minor collector* roads within the Roads Plan study area. *Local* road locations are determined during the platting process by the subdivision design. The Roads Plan maps also identify several corridors as *future study*, meaning that they are desirable connections but will require additional research before they can be officially included as a *collector* road.

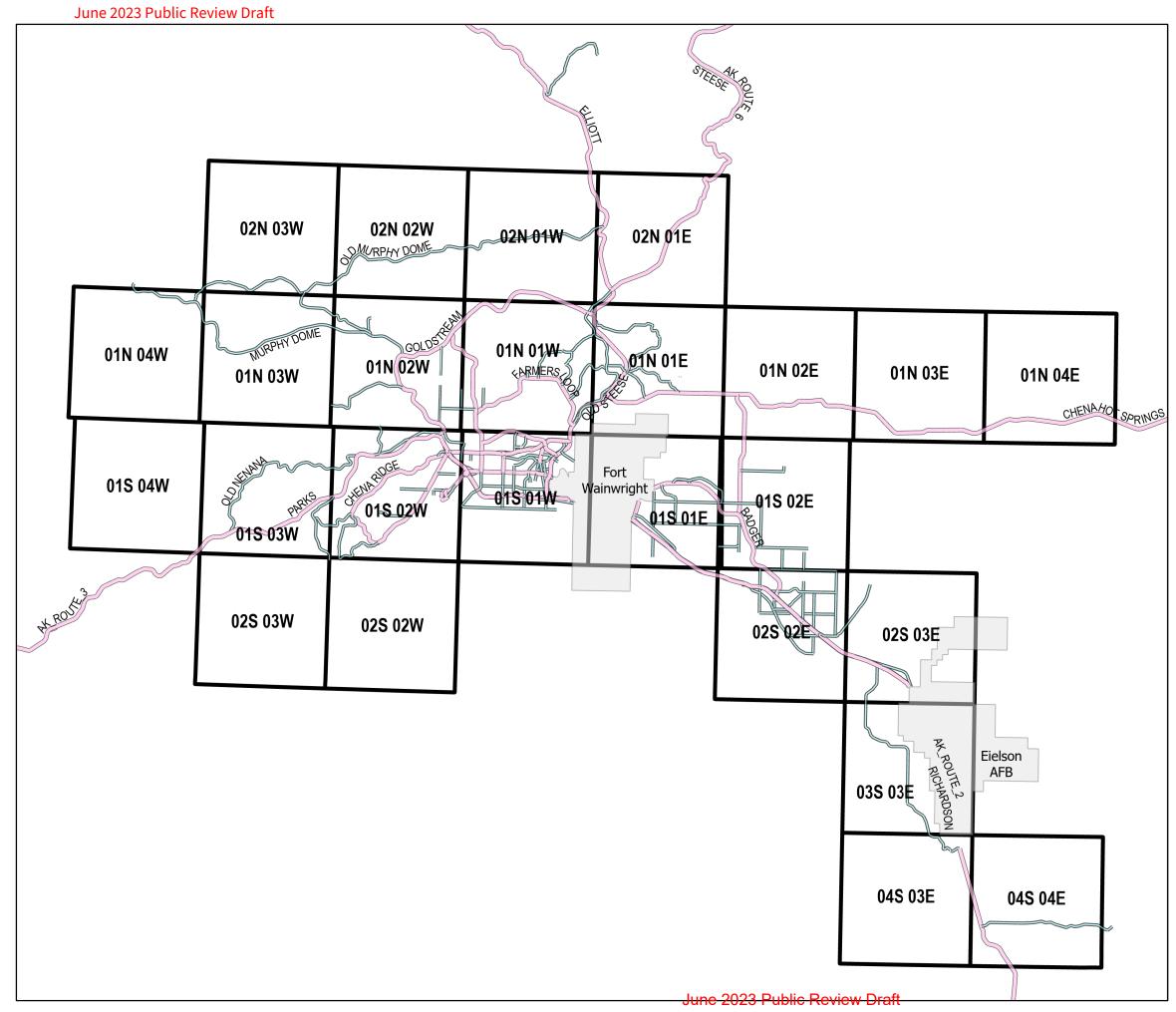
What is the purpose of functional classification?

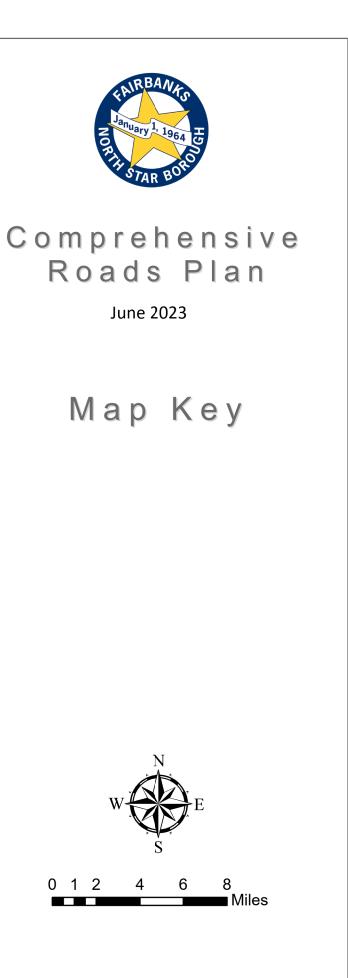
The broad purpose of functional classification is *to develop an orderly road network, balancing the needs for access and mobility to promote safe and efficient travel*. At a more detailed level, different functional classification systems serve slightly different purposes. The purpose of the FNSB functional classification system is to guide the design of subdivision streets and access to local properties.

How does the borough use functional classification?

FNSB uses Functional Classification for *three separate and distinct purposes during the subdivision process*. *Access control policies* on roadway facilities depend upon their classification. Higher order roads have more restrictive access control. Based on a road's functional classification there are varying *design standards*. Finally, for a road to be included in the road plan it must be a *collector road or above*.







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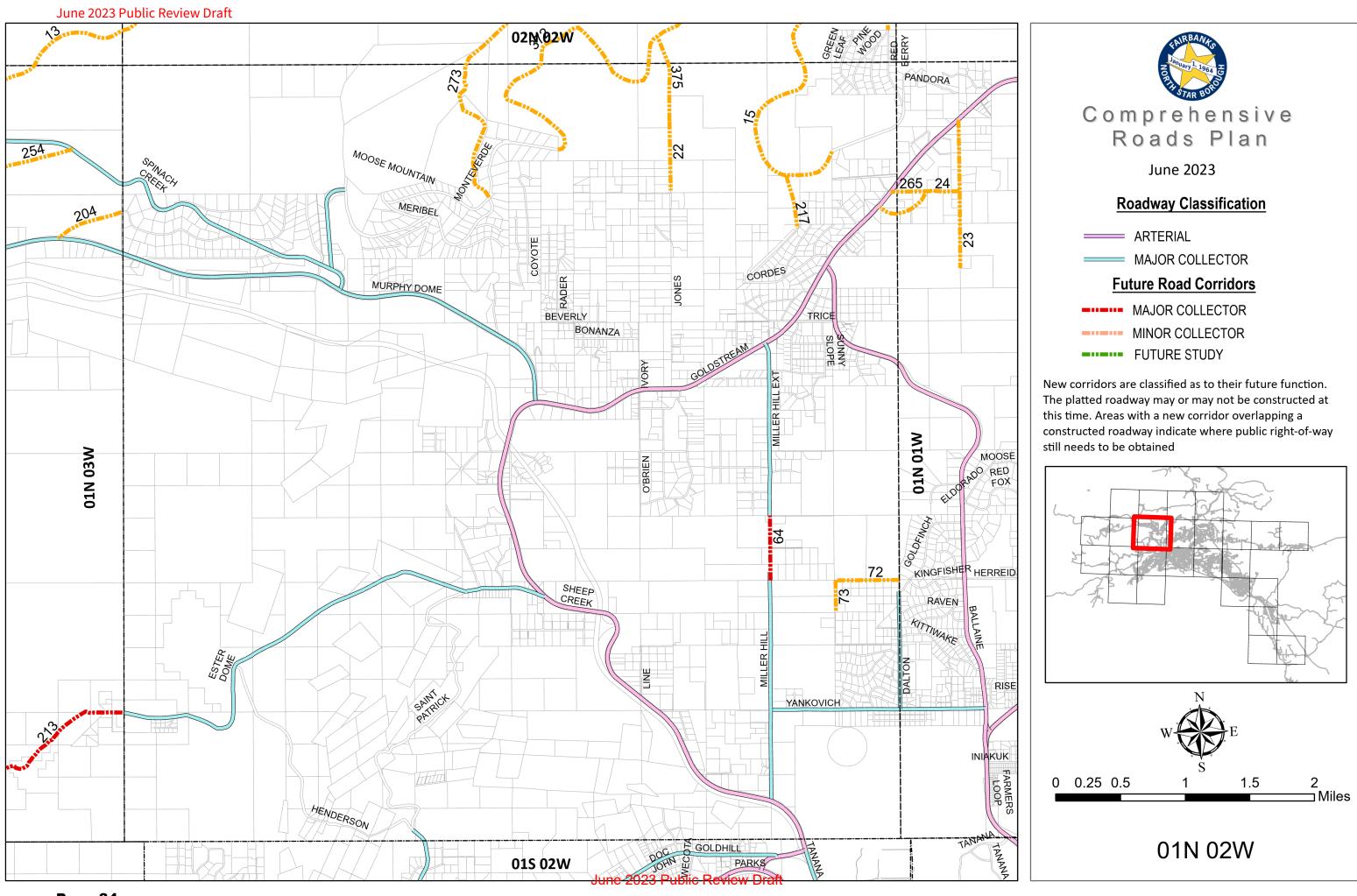
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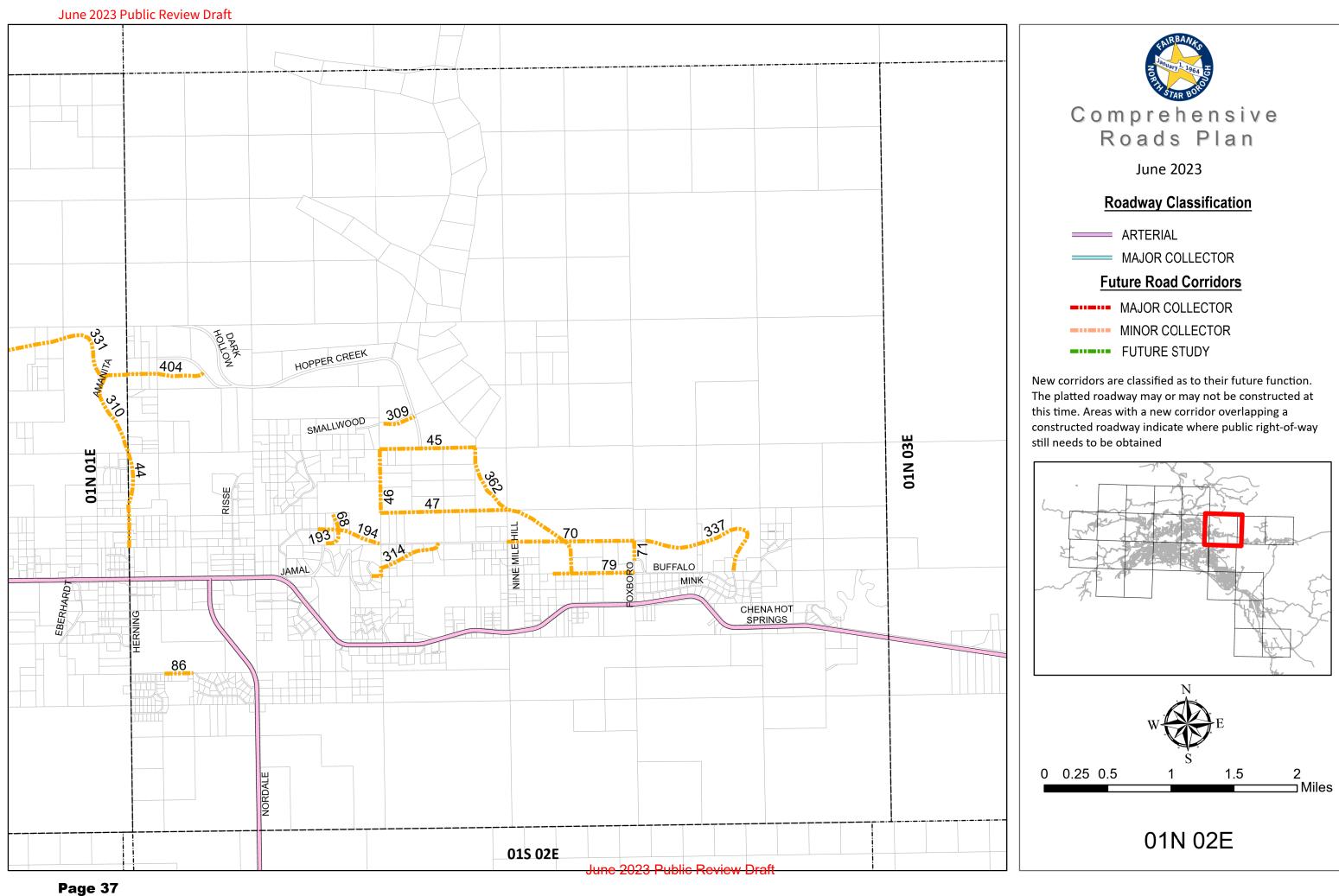
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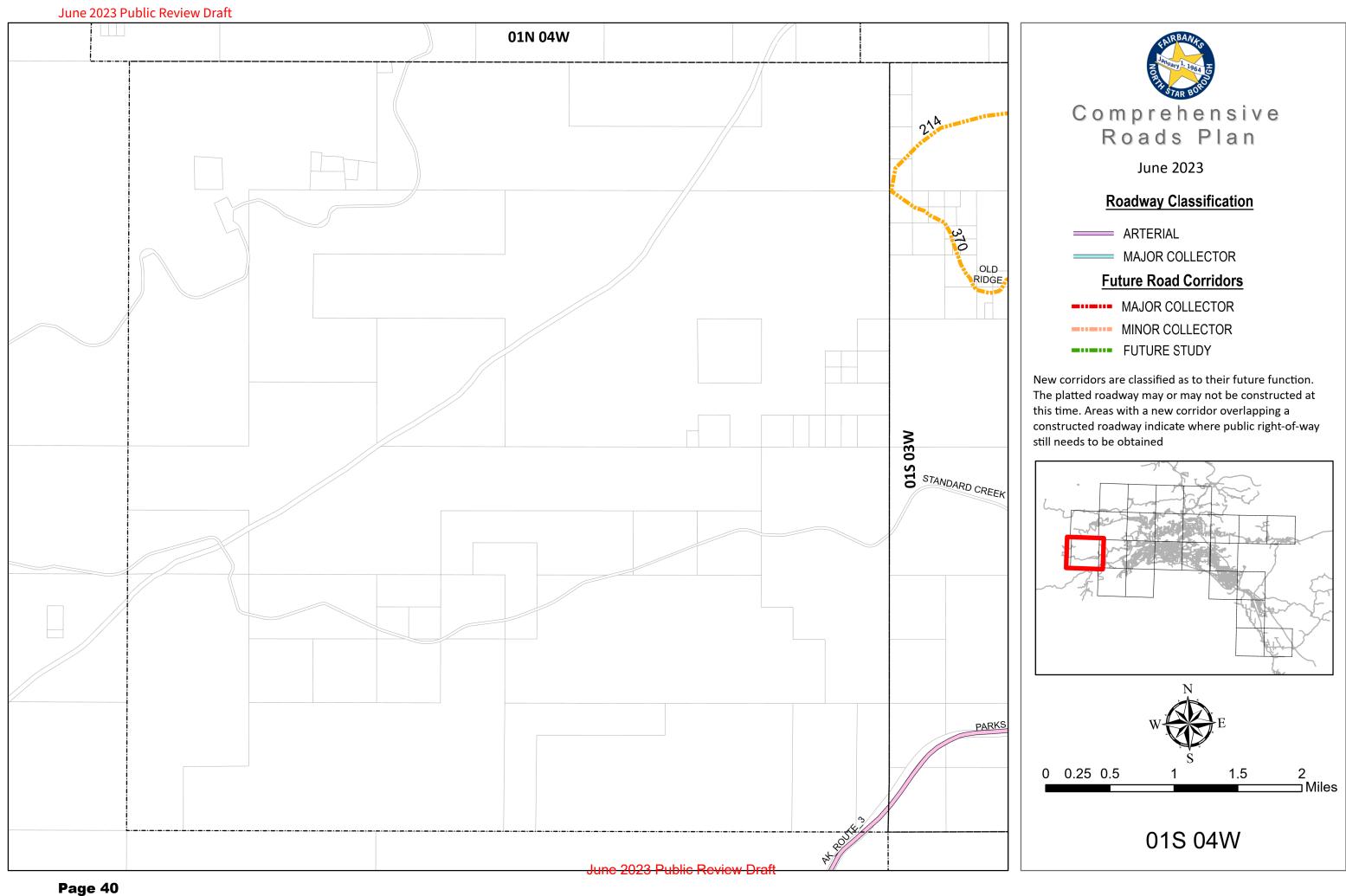
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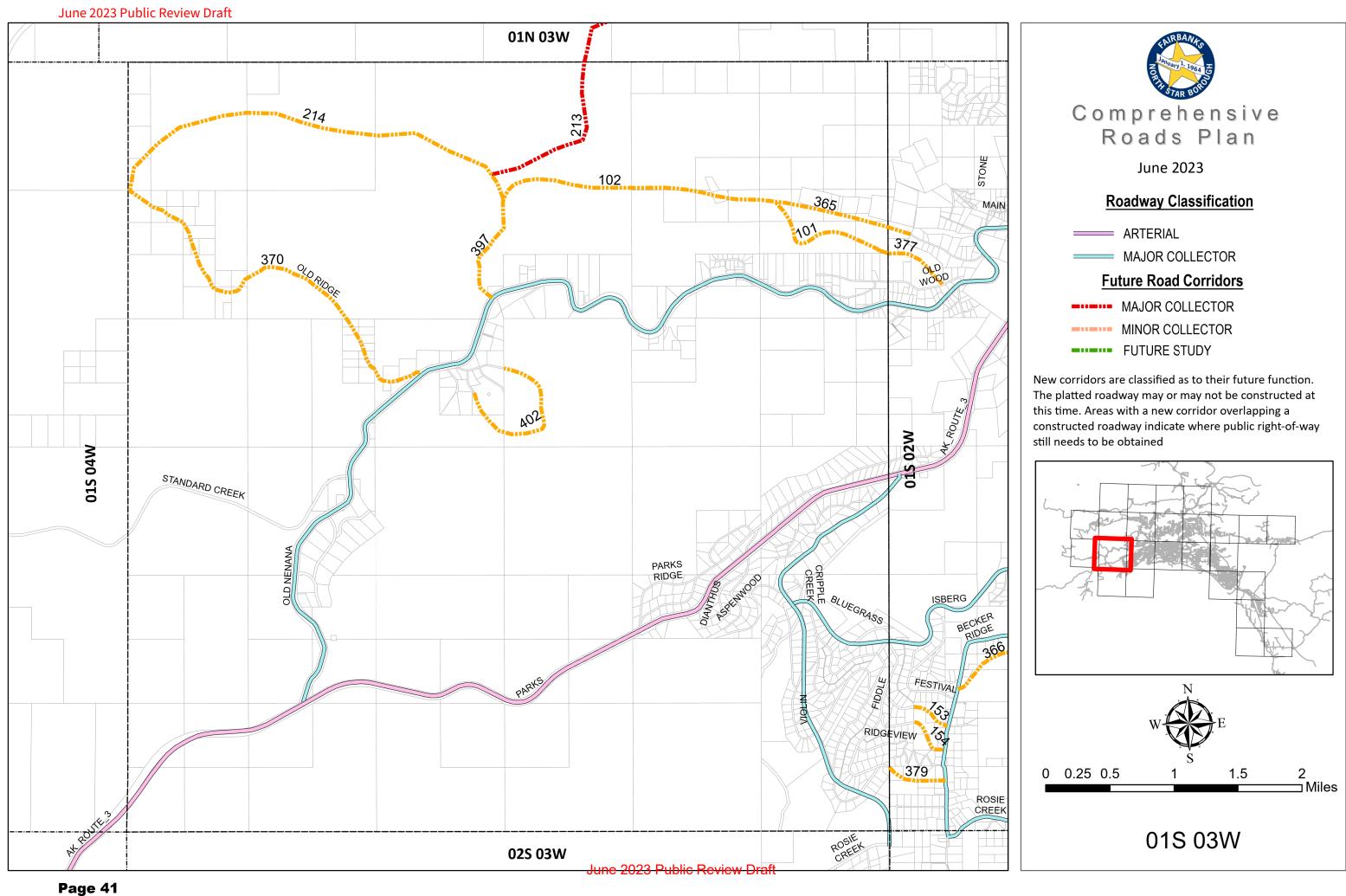
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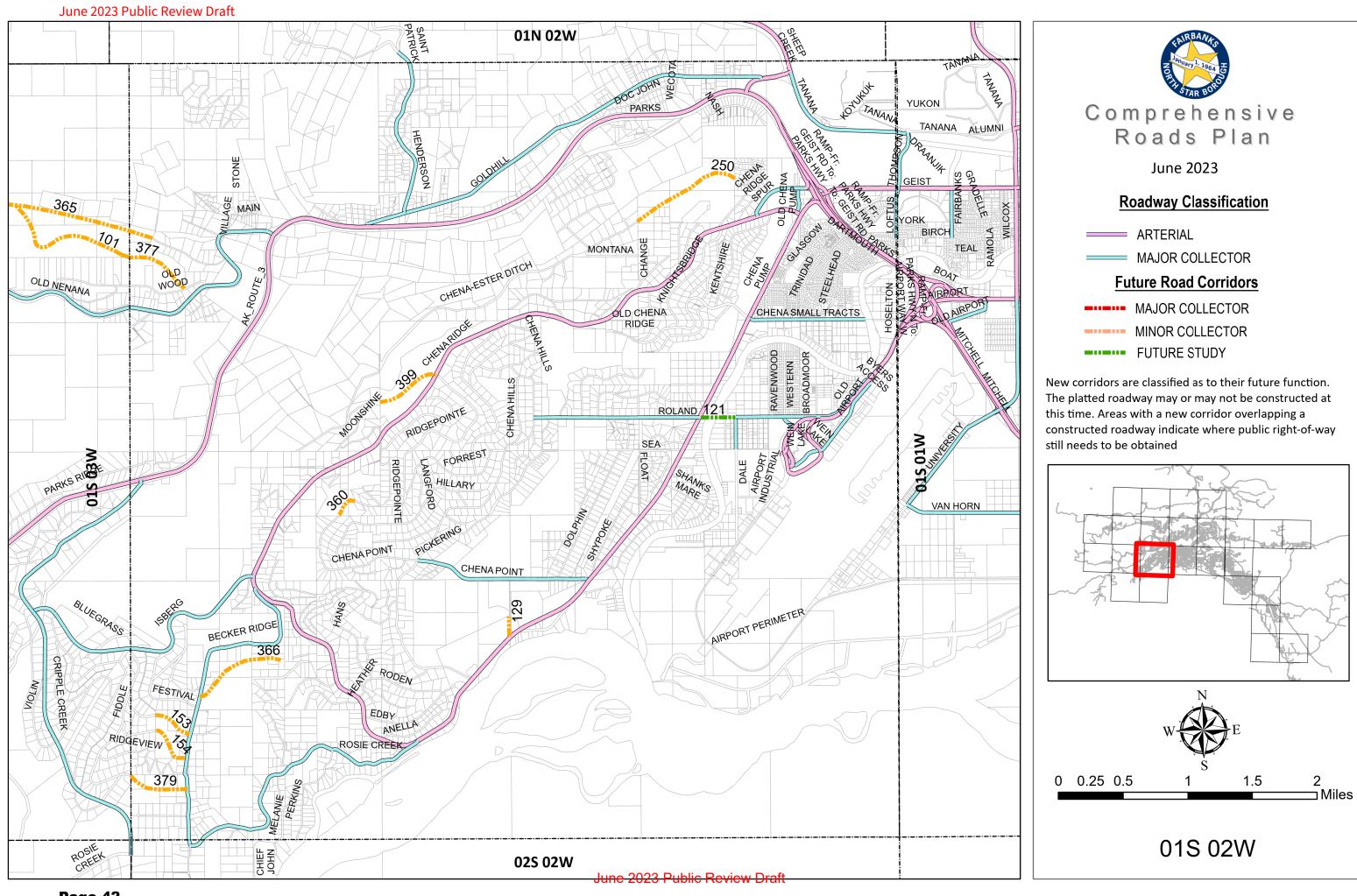
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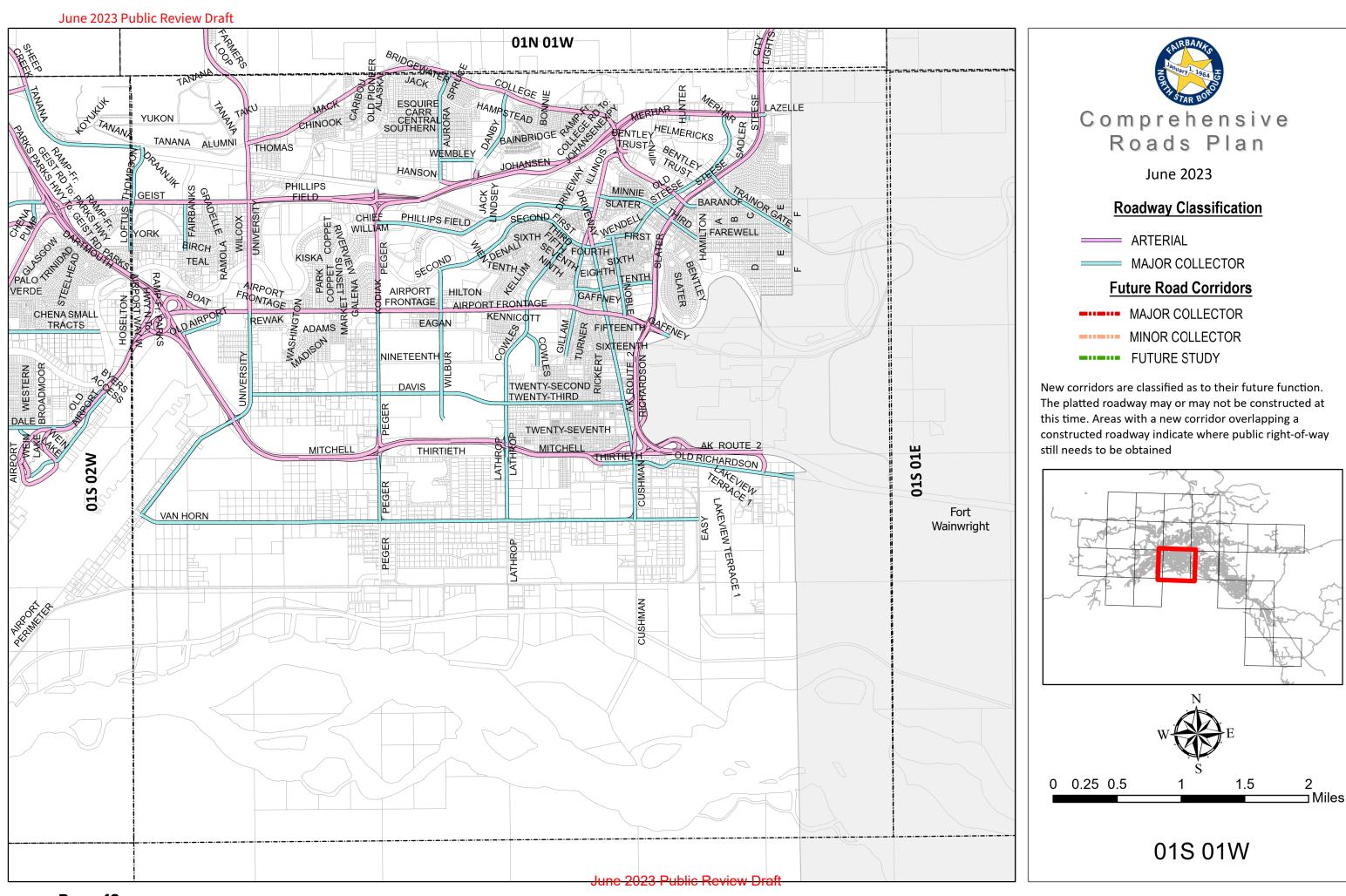
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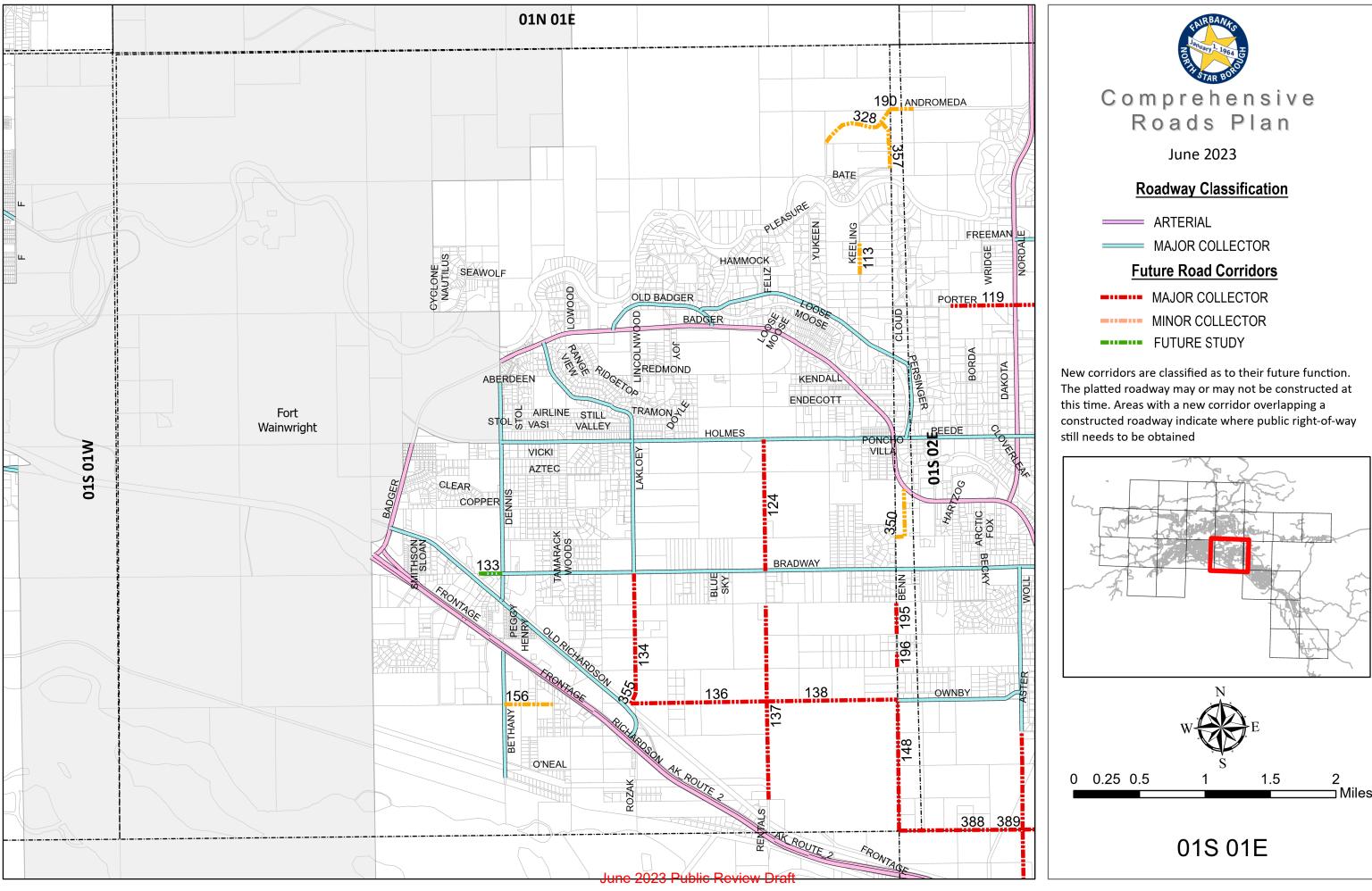


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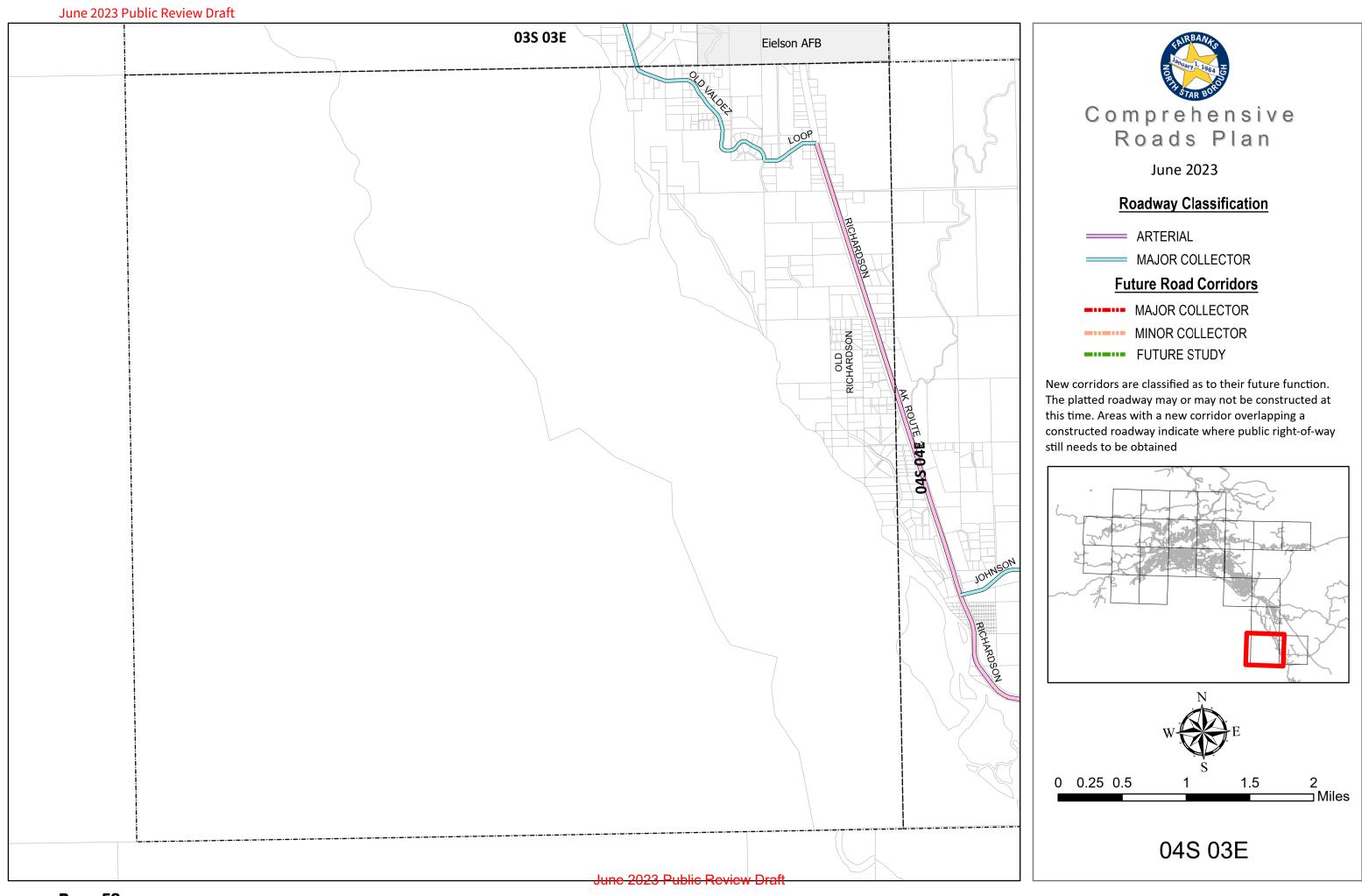
June 2023 Public Review Draft ROSIE CREEK 01S 02W Comprehensive Roads Plan June 2023 KALLENBERG **Roadway Classification** ----- ARTERIAL — MAJOR COLLECTOR **Future Road Corridors MAJOR COLLECTOR** ---- MINOR COLLECTOR **FUTURE STUDY** New corridors are classified as to their future function. The platted roadway may or may not be constructed at this time. Areas with a new corridor overlapping a constructed roadway indicate where public right-of-way still needs to be obtained 02S 03W 0 0.25 0.5 02S 02W

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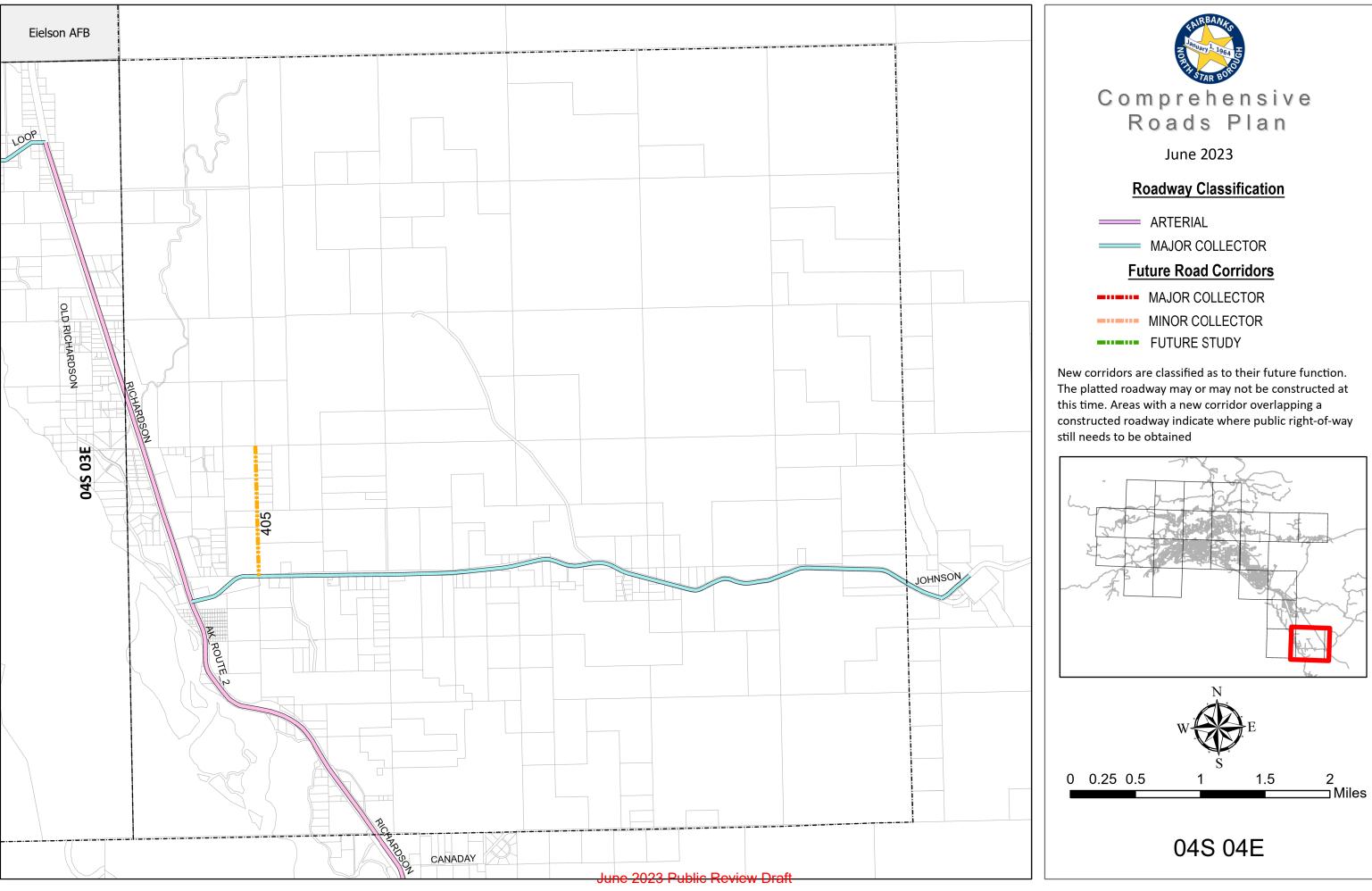
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