Alaska DOT&PF Statewide Functional Classification Update of All Public Roads

Classification Criteria

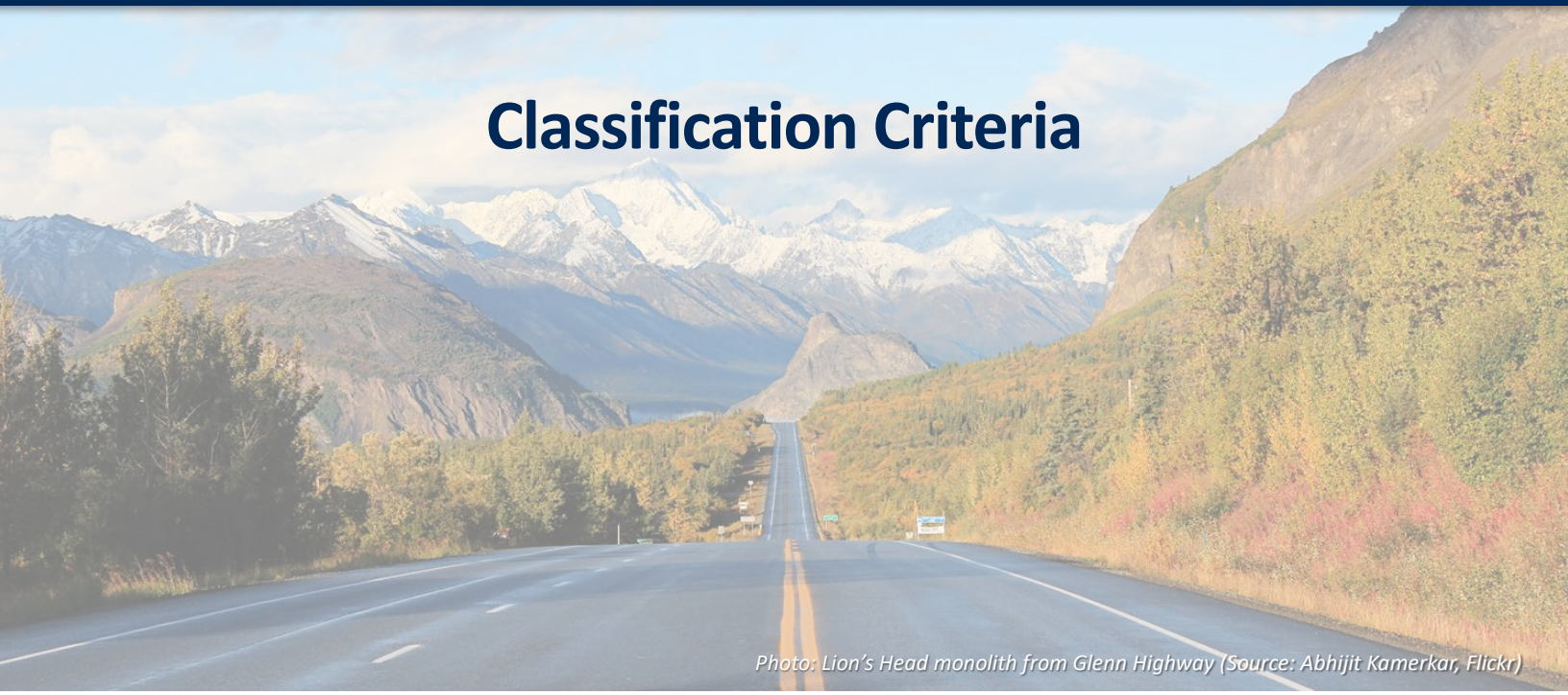

Photo: Lion's Head monolith from Glenn Highway (Source: Abhijit Kamerkar, Flickr)

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Prepared For

Alaska Department of Transportation and Public Facilities
Data Modernization and Innovation Office
PO Box 112500
Juneau, AK 99811

Prepared By

Michael Baker International, Inc.
3900 C Street, Suite 900
Anchorage, AK 99503

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ACRONYMS

AADT	Annual Average Daily Traffic
AHS	Alaska Highway System
CFR	Code of Federal Regulations
DMIO	Data Modernization and Innovation Office
DOT&PF	Alaska Department of Transportation and Public Facilities
FHWA	Federal Highway Administration
Michael Baker	Michael Baker International
NHS	National Highway System
NHFN	National Highway Freight Network
STIP	Statewide Transportation Improvement Program
STBG	Surface Transportation Block Grant
STRAHNET	Strategic Highway Network
USC	United States Code

1.0 INTRODUCTION

All public roads in Alaska and across the United States are assigned a functional classification based on the function they serve. These classifications impact project funding eligibility, emergency funding eligibility, maintenance priorities, management strategies, right-of-way width, and how roads are designed.

Every ten years, following the decennial census, state departments of transportation are required by the Federal Highway Administration (FHWA) under 23 CFR 470.105 to review and adjust the urban and rural area boundaries and update the functional classification of all public roadways. A summary of recommended functional classification changes must be submitted to FHWA within two years of that agency's approval of adjusted urban boundaries.

The previous statewide update in Alaska occurred in 2011 with a revised report that followed in 2016. Using the latest census data, the Alaska Department of Transportation and Public Facilities (DOT&PF) Data Modernization & Innovation Office (DMIO) completed and submitted the urban boundary update to FHWA for review on February 12, 2024, and received approval from FHWA on March 5, 2024. DOT&PF has two years from the date of approval to finalize and submit the functional classification update to FHWA. That requirement brings us to the current project and the discussion of criteria that will be used to update Alaskan roadways' functional classifications, as detailed in this document.

To give a broad overview of FHWA's guidance on functional classification, there are three main functional classification categories, including: Arterial (high volume, long distance, limited access), Collector (medium volume, medium distance, medium access), and Local (low volume, short distance, many access points). A single road may have multiple classifications for different segments if the function of the road changes over its length. There are additional subcategories for some of the main functional classification categories (see Figure 1 below). This document defines the criteria that will guide the team in updating and designating each of Alaska's roadway segments to fit into one of these classifications, while also detailing how the team arrived at those criteria.

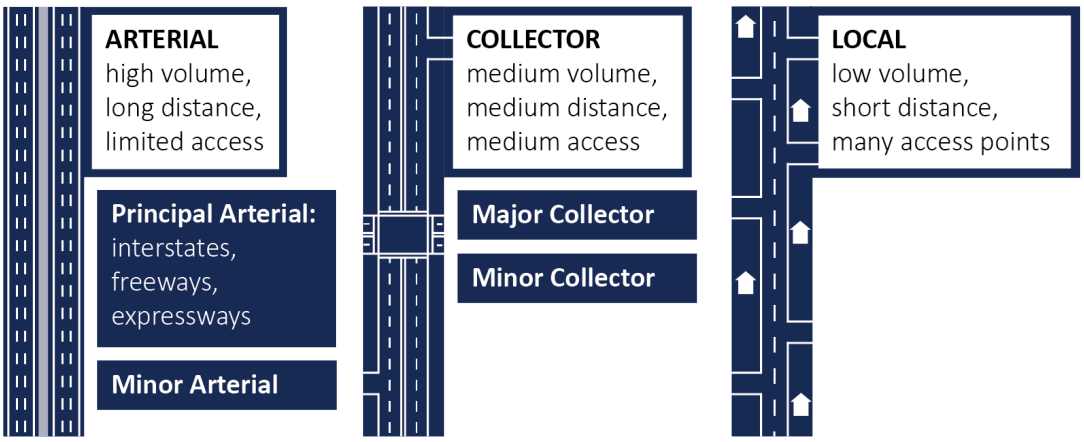

Figure 1. Functional Classification Categories

2.0 FHWA GUIDANCE

FHWA has specific guidance on the criteria that should be used when determining functional classifications. These guidelines are detailed in the 2023 edition of FHWA's *Highway Functional Classification Concepts, Criteria, and Procedures*. FHWA acknowledges that criteria can vary based on the unique characteristics of each state and that decisions must sometimes be subjective.

2.1 Roads to be Classified

FHWA requires that states classify and update all public roads. DOT&PF is the delegated authority for leading and completing Alaska's functional classification update. FHWA and DOT&PF define all public roads as "any road under the jurisdiction of, and maintained by, a public authority and open to public travel."

"Open to public travel" means a road is:

- *available*, except during scheduled periods (including seasonal closures), extreme weather, or emergency conditions.
- *passable by standard passenger cars*.
- *open to the general public for use* without restrictive gates, prohibitive signs, or regulations, except for restrictions based on vehicle size, weight, or class of registration.

2.2 Additional Considerations

Alleyways

Alleyways function as public roads and are open to public travel in most situations. Typical alleyways are expected to be classified as Local roadways. Local roadways are often classified by default, meaning that once all arterial and collector roadways have been identified, all remaining roadways are classified as local roads. If there are alleyways identified that do not function as public roads and are not open to public travel, then functionally classifying them would not be appropriate.

Future Roads

Future roads will be functionally classified using the existing system if they are included in an approved Statewide Transportation Improvement Program (STIP) and are expected to be constructed within the current STIP timeframe of four years or less. That said, these future roads will not influence the functional classification of existing roads until they are built. Per the FHWA guidance (2023), "states should assign functional classifications according to how the roadway is functioning in the current year only."

Ice Roads

In Alaska, seasonal ice roads provide access connecting communities to employment, subsistence hunting grounds, food, medical services, and cultural events. DOT&PF has established a competitive grant program for communities to access funding for ice roads. Funding is allocated through the Federal Surface Transportation Block Grant (STBG) program and ice roads do not require functional classification to be eligible for funding. For more information, see: *Safe Ice Roads for Alaska Program* and 23 USC 133(k).

Ice roads will not be functionally classified because they do not meet DOT&PF's definition of a public road due to the seasonality and variability in geographic location from year to year, and because they are not routinely accessible by standard passenger cars.

Ramps

Ramps and other non-mainline roadways will be assigned the same functional classification as the highest functional classification among the connecting mainline roadways served by the ramp.

Roadways Under Construction

For roadways under construction, the current classification of roadways shall be used until construction is complete. If necessary, the roadway will be reclassified once construction is complete.

Seasonal Roads

In Alaska, some public roads are closed during winter months. These seasonal roads will be classified based on how they function when they are open to travel.

Water Routes & Ferry Routes

Water routes and ferry routes are not considered roadways and do not require functional classification. However, seaports and ferry terminals may influence the functional classification of adjacent roadways providing access to a port or ferry. Thus, all seaport and ferry terminal locations will be considered when classifying roadways.

2.3 Mileage and Vehicle Miles Traveled Per Functional Classification

The Federal Highway Administration offers guidelines for the percentage of total mileage allotted for each classification type and for vehicle miles of travel (VMT) per classification type. FHWA's guidance for Rural States will be applied to Alaska since rural states are defined as having 75 percent or less of their population in urban areas and Alaska has approximately 65 percent of its population in urban areas.

Functional Classification	Mileage Extent for Urban Systems	VMT Extent for Urban Systems
Interstate	1% - 3%	17% - 31%
Other Principal Arterial	4% - 9%	16% - 33%
Minor Arterial	7% - 14%	14% - 27%
Major Collector	3% - 16%	2% - 13%
Minor Collector	3% - 16%	2% - 12%
Local	62% - 74%	9% - 25%

Functional Classification	Mileage Extent for Rural Systems	VMT Extent for Rural Systems
Interstate	1% - 3%	18% - 38%
Other Principal Arterial	2% - 6%	15% - 31%
Minor Arterial	2% - 6%	9% - 20%
Major Collector	8% - 19%	10% - 23%
Minor Collector	3% - 15%	1% - 8%
Local	62% - 74%	8% - 23%

These guidelines are considered general rules of thumb by FHWA. However, FHWA encourages states to generate these statistics for their own roadways and then evaluate whether they fall within the normal ranges presented in the table above.

3.0 ADJUSTED URBAN AREA BOUNDARIES

Federal transportation legislation permits the expansion of Census Bureau-defined urban boundaries to create adjusted urban area boundaries for transportation planning. This process involves collaboration between State and local officials. According to Federal regulations, these adjusted boundaries must cover the entire census-designated urban area (with populations of 5,000 or more) and be approved by the Secretary of Transportation (23 USC 101(a)(35)-(36) and 49 USC 5302(23)-(24)). Boundaries must be one simple polygon and should include transit routes and traffic generators without splitting roadways or ramps.

Using the latest census data, DOT&PF completed and submitted adjusted urban area boundaries to FHWA for review on February 12, 2024, and received approval from FHWA on March 5, 2024. These boundaries are considered authoritative and will be used to categorize roads under the appropriate urban area classification.

FHWA defines urban area types into two categories based on their population range:

FHWA Area	Population Range	
Urban	Small Urban	5,000 - 49,999
	Urbanized	50,000 +

Urban and rural areas differ significantly in terms of land use, road network density, travel patterns, and how these elements interact in defining the function of a road. Consequently, urban, and rural areas have distinct thresholds for criteria. For the purpose of defining criteria for functional classification of all public roads in Alaska, functional classification will be assessed across four area categories: Urbanized Areas, Small Urban Areas, Rural Areas, and Disconnected Rural Areas. Disconnected Rural Areas are those that are not connected to the core road network or the year-round ferry network and have a population of fewer than 5,000. In instances where a roadway defines the boundary between two areas, the roadway should be clearly assigned to the urban area it primarily serves. If the roadway serves each area equally, it will be assigned to the higher classification. Figure 2 shows the geographic distribution of Alaska's Urbanized Areas and Small Urban Areas, listed below:

Figure 2. Urbanized and Small Urban Areas in Alaska

Urbanized Areas

- Anchorage
- Fairbanks
- Wasilla; Knik-Fairview; North Lakes

Small Urban Areas

- Anchorage Northeast (Chugiak; Eagle River)
- Juneau
- Ketchikan
- Kodiak; Mill Bay
- Kenai
- Sitka
- Bethel

4.0 PRELIMINARY ANALYSIS

The Michael Baker team reviewed FHWA's 2023 Functional Classification Guidelines as well as the 2011 Alaska DOT&PF guidelines and their 2016 revised guidelines for the previous statewide functional classification update for Alaska. The team collected all relevant, timely, and available datasets that were used or mentioned in those guidelines (listed in Appendix A). This data review and subsequent data analysis was used to determine appropriate criteria thresholds for each functional classification for urbanized, small urban, rural connected, and rural disconnected roads in Alaska.

Given the unique structure of Alaska's transportation network compared to the rest of the country, and because Alaska's last statewide functional classification update was completed 13 years ago, the current functional classification of Alaska's roads needed to be considered. To assess existing conditions for each urban and rural area outlined in Section 3.0 above (Figure 2), a spatial analysis was conducted to determine the range of existing values for each quantitative parameter that could be used to determine functional classification. In addition to ranges, the median was derived for AADT values because the ranges included outliers and tended to be quite broad.

As recommended by FHWA and the previous Alaska functional classification, and after discussions with the Alaska project team, **this analysis was completed for the following parameters**:

- Average Annual Daily Traffic (AADT) (2023, 2022, 2012)
- Number of Public Road Intersections per Mile
- Lane Width
- Median Status (Divided or Undivided)
- Divided Median Type
- Access Control
- Speed Limit
- Number of Travel Lanes
- National Highway System (NHS) Designation
- Strategic Highway Network (STRAHNET) Designation
- National Highway Freight Network (NHFN) Designation
- National Network (NN)
- Bus Routes
- Length of Route

These existing conditions were compared against guidance from both FHWA and the previous functional classification to determine the criteria discussed in the next section. While only the most informative and critical datasets are included in the following criteria, the complete analysis will be available to the project team for reference during the functional classification update process.

5.0 CRITERIA

The following criteria were developed as a guide to functionally classify roadways in Alaska. They serve as an interpretation of FHWA's 2023 Functional Classification guidelines and were made specific to Alaska's transportation landscape and urban and rural area types.

Individual criterion function as guidelines in a holistic approach to identify the functional usage of a roadway. No single criterion is to be used on its own to make a classification determination, and similarly, it is unnecessary and even unlikely for a roadway to match all the criteria for a single classification. Rather, decisions on functional classification should look at the big picture of mobility and access, which are the two primary functions of roadways per FHWA. Qualitative criteria are used, and data ranges such as AADT or speed limit are intentionally wide and overlapping to allow for a more complete analysis of the function of the roadway and to serve as acknowledgement that there are no singular rules governing classification determinations. The primary function of a roadway is the basis for its functional classification, and these criteria are a guide to help the project team determine that function.

5.1 Urbanized and Small Urban Areas

URBANIZED AND SMALL URBAN AREAS	
Functional Class	**Qualitative Criteria**
Interstate	• Federally designated
Principal Arterial	• Serve activity centers of statewide significance including airports, seaports, colleges, medical complexes, military bases, recreational areas, and industrial and commerce centers • Carry a high proportion of urban travel on minimal mileage • Accommodate trips entering and leaving urban areas and movements through the urban areas
Minor Arterial	• Serve activity centers of regional significance including airports, seaports, colleges, medical complexes, military bases, recreational areas, and industrial and commerce centers • Interconnect and augment the higher Arterial system and provide intra-community continuity • Distribute traffic to smaller geographic areas than Principal Arterials • Provide more land access than Principal Arterials without penetrating identifiable neighborhoods
Major Collector	• Serve both land access and circulation in higher density residential, commercial, and industrial areas • Distribute and channel trips between Arterials and Local streets, usually over a distance of greater than three quarters of a mile • Penetrate residential neighborhoods, often for significant distances
Minor Collector	• Serve both land access and circulation in lower density residential, commercial, and industrial areas • Distribute and channel trips between Arterials and Local streets, usually over a distance of less than three quarters of a mile • Penetrate residential neighborhoods, often for only a short distance • May serve schools, smaller colleges, and universities
Local	• Provide direct access to adjacent land • Provide access to higher systems • Carry no through traffic movement

Table 1. Qualitative Criteria for Functional Classes in Urbanized and Small Urban Areas

URBANIZED AREAS								
Functional Class	**ID**	**AADT** (2024)	**Access** (Controlled or uncontrolled)	**Access Points** (# of intersections on each route, including driveways)	**Speed Limit** (mph)	**Distance Between Routes**	**Distance Served** (Length of route)	**Significance**
Interstate	1	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Statewide
Principal Arterial	3	7,000 - 27,000	Partially/Uncontrolled	Few	45-55	1/2 - 1 mi	Longest	Statewide
Minor Arterial	4	3,000 - 14,000	Uncontrolled	Few	35-55	1/8 - 1 mi	Longest	Statewide
Major Collector	5	1,000 - 5,000	Uncontrolled	Medium	20-45	1/8 - 1/2 mi	Medium	Regional
Minor Collector	6	500 - 3,000	Uncontrolled	Medium	20-45	1/8 - 1/2 mi	Medium	Regional
Local Road	7	0 - 1,000	Uncontrolled	Many	35 or under	Lowest	Shortest	Local

Table 2. Typical Characteristics of Functional Classes in Urbanized Areas

SMALL URBAN AREAS								
Functional Class	**ID**	**AADT** (2024)	**Access** (Controlled or uncontrolled)	**Access Points** (# of intersections on each route, including driveways)	**Speed Limit** (mph)	**Distance Between Routes**	**Distance Served** (Length of route)	**Significance**
Interstate	1	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Statewide
Principal Arterial	3	7,000 - 27,000	Partially/Uncontrolled	Few	45-55	1 - 5 mi	Longest	Statewide
Minor Arterial	4	3,000 - 9,000	Uncontrolled	Few	35-55	1 - 3 mi	Longest	Statewide
Major Collector	5	800 - 4,000	Uncontrolled	Medium	20-45	1/2 - 1 mi	Medium	Regional
Minor Collector	6	200 - 1,500	Uncontrolled	Medium	20-45	1/2 - 1 mi	Medium	Regional
Local Road	7	0 - 800	Uncontrolled	Many	35 or under	Lowest	Shortest	Local

Table 3. Typical Characteristics of Functional Classes in Small Urban Areas

5.2 Rural Connected Areas

RURAL CONNECTED AREAS	
Functional Class	**Qualitative Criteria**
Interstate	• Federally designated
Principal Arterial	• Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide travel • Serve activity centers of statewide significance including airports, seaports, ferry terminals, colleges, medical complexes, military bases, recreational areas, and industrial and commerce centers • Accommodate trips providing access between urban and rural communities • Provide an integrated network of continuous routes without stub connections (dead ends)
Minor Arterial	• Form an integrated network linking communities and some major destinations • Serve activity centers of regional significance including airports, seaports, ferry terminals, colleges, medical complexes, military bases, recreational areas, and industrial and commerce centers • Spaced at intervals consistent with population density so that all developed areas are within a reasonable distance of an Arterial roadway • Provide service to areas requiring greater travel lengths than Collectors and have relatively high speed limits and relatively low interference to through movement
Major Collector	• Provide access to communities and other traffic generators not on the Arterial system such as schools, shipping points, parks, and agricultural areas • May serve activity centers including airports, seaports, ferry terminals, colleges, medical complexes, recreational areas, and commerce centers • Link rural communities with nearby larger areas that are on Arterial routes • Penetrate residential neighborhoods, often for significant distances
Minor Collector	• Spaced at intervals consistent with population density to collect traffic from Local roads and carry it to more developed areas • Link locally important traffic generators with their rural lands
Local	• Serve primarily to provide access to adjacent land • Provide service to travel over short distances

Table 4. Qualitative Criteria for Functional Classes in Rural Connected Areas

RURAL CONNECTED AREAS								
Functional Class	**ID**	**AADT** (2024)	**Access** (Controlled or uncontrolled)	**Access Points** (# of intersections on each route, including driveways)	**Speed Limit** (mph)	**Distance Between Routes**	**Distance Served** (Length of route)	**Significance**
Interstate	1	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Currently designated Interstates	Highest	Currently designated Interstates	Statewide
Principal Arterial	3	1,000 - 20,000	Partially/Uncontrolled	Few	45-55	Highest	Longest	Statewide
Minor Arterial	4	500 - 3,000	Uncontrolled	Few	35-55	Highest	Longest	Statewide
Major Collector	5	300 - 2,000	Uncontrolled	Medium	20-45	Medium	Medium	Regional
Minor Collector	6	200 - 1000	Uncontrolled	Medium	20-45	Medium	Medium	Regional
Local Road	7	0 - 600	Uncontrolled	Many	35 or under	Lowest	Shortest	Local

Table 5. Typical Characteristics of Functional Classes in Rural Connected Areas

5.3 Rural Disconnected Areas

RURAL DISCONNECTED AREAS	
Functional Class	**Qualitative Criteria**
Interstate	• Not Applicable - No Interstates in rural disconnected areas
Principal Arterial	• Not Applicable - No Principal Arterials in rural disconnected areas
Minor Arterial	• Constitute main thoroughfares and connections through rural disconnected areas • Only exist in areas with populations greater than 2,500 • Spaced at intervals consistent with population density so that all developed areas are within a reasonable distance of an Arterial roadway
Major Collector	• May serve as main thoroughfares in smaller communities or as connections from more rural areas to Arterials • Serve remote rural airports that provide the only link to the state transportation system for communities of at least 500 permanent year-round residents without other reliable access. • May serve seaports or ferry terminals
Minor Collector	• Carry more distant communities to higher classified roadways • May serve remote rural airports that provide the only link to the state transportation system for communities of fewer than 500 permanent year-round residents without other reliable access • The lowest possible classification to serve landfills and sewage lagoons • May be unpaved
Local	• Serve primarily to provide access to adjacent land • Provide service to travel over short distances • May be unpaved

Table 6. Qualitative Criteria for Functional Classes in Rural Disconnected Areas

RURAL DISCONNECTED AREAS								
Functional Class	**ID**	**AADT** (2024)	**Access** (Controlled or uncontrolled)	**Access Points** (# of intersections on each route, including driveways)	**Speed Limit** (mph)	**Distance Between Routes**	**Distance Served** (Length of route)	**Significance**
Interstate	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Principal Arterial	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minor Arterial	4	500 - 4,000	Uncontrolled	Few	35-55	Highest	Longest	Statewide
Major Collector	5	300 - 2,000	Uncontrolled	Medium	20-45	Medium	Medium	Regional
Minor Collector	6	200 - 1,000	Uncontrolled	Medium	20-45	Medium	Medium	Regional
Local Road	7	0 - 600	Uncontrolled	Many	35 or under	Lowest	Shortest	Local

Table 7. Typical Characteristics of Functional Classes in Rural Disconnected Areas

APPENDIX A – DATA INVENTORY

A review was conducted of existing datasets that may be relevant for the functional classification of roads in Alaska. Unless otherwise noted, datasets listed below were sourced from Alaska DOT&PF's "REPORT" geodatabase (REPORTGDB_MBI_FC_24.gdb) downloaded on July 19, 2024.

Dataset	Feature Class / Web Service	Source
Current Functional Class	LRSE_Functional_Class	DOT&PF
Current AADT	2023: https://alaskatrafficdata.drakewell.com/publicmultinodemap.asp 2022: AADT_2022_Final	2023: Drakewell 2022: DOT&PF
Historic AADT ***2012 – 2020***	AADT_TrafficCounts	DOT&PF
Percent Change in AADT	$\frac{\text{Current AADT} - \text{Historic AADT}}{\text{Historic AADT}} \times 100 = \%\ \text{change}$	DOT&PF
Access Control	LRSE_Access_Control	DOT&PF
Speed Limit	LRSE_Speed	DOT&PF
Number of Lanes	LRSE_Through_Lane	DOT&PF
Lane Width	LRSE_Lane_Width	DOT&PF
Transit Routes*	Statewide: https://dot.alaska.gov/transit/rcs_providers.shtml Anchorage: Bus_Routes_Hosted Bethel: https://www.cityofbethel.org/247/Public-Transit-System Fairbanks: Bus_Lines_MACS_Transit Girdwood: https://glaciervalleytransit.com/ Juneau: https://maps.trilliumtransit.com/map/feed/cityandboroughofjuneau-ak-us Ketchikan: https://www.kgbak.us/DocumentCenter/View/12748/BUS-Schedule-2024-Summer Sitka: https://ridesitka.com/wp-content/uploads/2016/07/newtherideschedulewithqrcode.pdf	DOT&PF Municipality of Anchorage Bethel Borough Fairbanks North Star Borough Glacier Valley Transit Trillium Transit Ketchikan-Gateway Borough Ride Sitka Michael Baker International
Shoulder Width	LRSE_HPMS_Shoulder_Width	DOT&PF
Urban/Rural Designation	LRSE_FHWA_Urban_Area	DOT&PF
Alaska Highway System	LRSE_AHS	DOT&PF
Facility Type**	LRSE_Facility_Type	DOT&PF
Intersections	LRSI_Intersections	DOT&PF
Maintenance Category***	LRSE_Maint_Category	DOT&PF
Management Responsibility	LRSE_Management_Resp	DOT&PF
Divided/Undivided	LRSE_Median	DOT&PF
National Highway Freight Network	LRSE_National_Highway_Freight_Network	DOT&PF

Dataset	Feature Class / Web Service	Source
National Highway System	LRSE_NHS	DOT&PF
Railroad Crossings	LRSE_Rail_Crossing_Line	DOT&PF
Road Curvature	LRSE_Curve	DOT&PF
Road Grade	LRSE_Grade	DOT&PF
Road Surface	LRSE_Road_Surface	DOT&PF
School Zones	LRSE_School_Zone	DOT&PF
K-12 Schools	Alaska Schools	Alaska Dept. of Education and Early Development
Colleges and Universities	Colleges and Universities	Esri Living Atlas, US Dept. of Education
Parks	USA Parks	Esri Living Atlas, TomTom
Hospitals	Hospitals Registered with Medicare	Esri Living Atlas, Centers for Medicare and Medicaid Services (CMS)
Military Installations, Ranges, and Training Areas	Military Installations, Ranges, and Training Areas - Polygons	Esri Living Atlas, Department of Defense (DOD)
Statewide Transportation Improvement Program	LRSE_STIP	DOT&PF
Strategic Highway Network	LRSE_STRAHNET	DOT&PF
Winter Maintenance Priority	LRSE_Winter_Maint_Prty	DOT&PF
2020 Population	AK_popn_census_blocks_2020	U.S. Census Bureau
Percent Change in Population	$\frac{\text{2020 census} - \text{2010 census}}{\text{2010 census}} \times 100 = \%\ \text{change}$	U.S. Census Bureau
Urban Areas	AKDOTPF Revised Final Urban Boundaries July 2024	DOT&PF
Airports	Airports or REF_Airport	DOT&PF
Harbors	Harbors or REF_Harbor	DOT&PF
Ferry Terminals	Ferry_Terminals or REF_Ferry_Terminal	DOT&PF

Dataset	Feature Class / Web Service	Source
Municipality Roads	Anchorage: Streets_Hosted Fairbanks: Road_Centerlines Haines: Roads Juneau: Street_labels Kenai Peninsula: KPB_Roads Ketchikan: KetchikanAKFeatures Kodiak Island: KIB_Roads Matanuska-Susitna: Road_Centerlines (Public Safety) Official_Streets_and_Highways_Plan_2022 (Streets & Hwys Plan) Cartegraph_GIS_Public (OMS GIS Pavement Mgmt System) North Slope: Parcel_lines Blks Lots Tracks Setbacks Street_Names Nome: Nome_Streets Unalaska: streets Wrangell: RoadCenterlines	Municipality of Anchorage Fairbanks North Star Borough Haines Borough City and Borough of Juneau Kenai Peninsula Borough Ketchikan Gateway Borough Kodiak Island Borough Matanuska-Susitna Borough North Slope Borough City of Nome City of Unalaska City and Borough of Wrangell
Municipality TIP Projects	MSB_TIP2021	Matanuska-Susitna Borough
Alaska High-Resolution Imagery	Alaska High Resolution Imagery (RGB)	Alaska Geoportal (Maxar, Alaska Geospatial Office, USGS)
Esri World Imagery	World Imagery	Esri (Esri, Maxar, Earthstar Geographics, and the GIS User Community)
Google Maps Imagery	https://www.google.com/maps/vt?lyrs=s@189&gl=cn&x={col}&y={row}&z={level}	Google
Google Street View	https://www.google.com/maps/	Google

** Transit Routes include those that provide regularly scheduled public transport along defined routes.*

*** Facility Type identifies properties like boardwalks, restricted roads, ferry access, connectors, and roundabouts.*

**** Maintenance Category identifies roads that are maintained year-round.*

APPENDIX B – ROADWAY MILEAGE AND VEHICLE MILES OF TRAVEL

A review of existing roadway mileage and vehicle miles of travel (VMT) by functional classification was conducted and compared to the recommended FHWA ranges found on pages 23 and 24 of the 2023 *Highway Functional Classification Concepts, Criteria, and Procedures* document. This review was based on the 2023 data in the Highway Performance Monitoring System (HPMS) Extent and Travel Report dated August 2, 2024. The calculations and the FHWA recommended ranges are presented below as a percentage of total mileage and VMT. FHWA states that their recommended ranges should be considered general rules of thumb.

MILEAGE				
	Urban Area		Rural Area	
Functional Classification	Existing	Recommended	Existing	Recommended
Interstate	2.5%	1% - 3%	6.9%	1% - 3%
Principal Arterial	4.4%	4% - 9%	5.5%	2% - 6%
Minor Arterial	6.4%	7% - 14%	3.0%	2% - 6%
Major Collector	8.0%	3% - 16%	9.5%	8% - 19%
Minor Collector	7.5%	3% - 16%	9.9%	3% - 15%
Local	71.2%	62% - 74%	65.2%	62% - 74%

VEHICLE MILES OF TRAVEL				
	Urban Area		Rural Area	
Functional Classification	Existing	Recommended	Existing	Recommended
Interstate	24.9%	17% - 31%	35.0%	18% - 38%
Principal Arterial	27.2%	16% - 33%	11.9%	15% - 31%
Minor Arterial	16.2%	14% - 27%	4.9%	9% - 20%
Major Collector	7.6%	2% - 13%	13.1%	10% - 23%
Minor Collector	3.5%	2% - 12%	9.9%	1% - 8%
Local	20.7%	9% - 25%	25.3%	8% - 23%