

A Guide to Functional Classification, Highway Systems and Other Route Designations in Montana



Montana Department of Transportation

**Multimodal Planning Bureau
Rail, Transit & Planning Division**

FUNCTIONAL CLASSIFICATION

Functional classification is a method of classifying roads by the service they provide as part of the overall highway system. Most travel involves movement through a network of roads. Functional classification defines the nature of traveling within a network in a logical and efficient manner by defining the part that any particular road or street should play in serving the flow of trips through the entire highway network.

History

Montana's initial functional classification, completed in 1968, used criteria and procedures specified by the 1968 *National Highway Functional Classification Study Manual*. In 1970, FHWA embarked on a sophisticated study to functionally classify highways for the future and to estimate highway

needs by functional system for the 20-year period from 1970-1990. This needs study incorporated population projections, future urban boundaries, and future travel demands. In 1974, Montana conducted an update of the 1970-1990 study.

In 1992, MDT conducted another functional reclassification study in cooperation with local government officials to comply with the requirements of the Intermodal Surface Transportation Efficiency Act (ISTEA).

Pursuant to guidance for the 2012 authorization law, Moving Ahead for Progress in the 21st Century (MAP-21) and the 2015 law, Fixing America's Surface Transportation (FAST) Act, MDT processes follow FHWA's *Highway Functional Classification Concepts, Criteria, and Procedures* (2013).

Explanation

Most streets and highways have a predominant function: either to provide the motorist

HIGHWAY FUNCTIONAL CLASSIFICATION SYSTEM

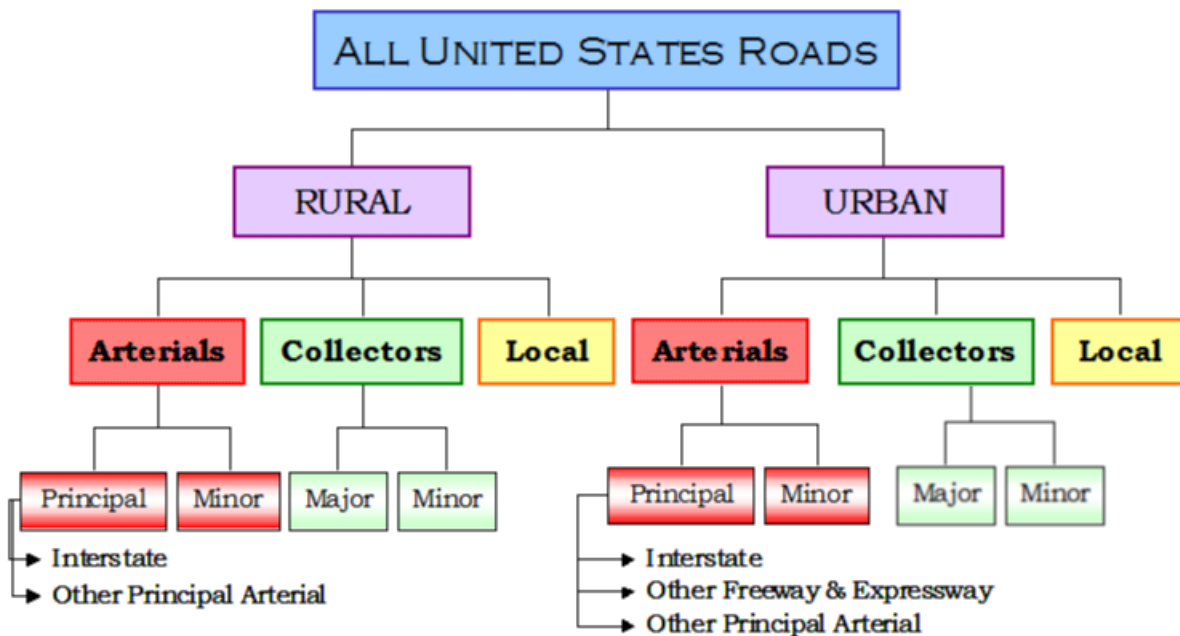


Figure 1

with access to abutting land or to allow movement through an area. Traffic that gains access to abutting land is considered "local," whereas all other traffic is considered "through." Through traffic neither originates nor terminates within a designated area, but simply passes through. On the other hand, local traffic has origins or destinations within the designated area.

Functional classification is an important and widely-accepted tool in planning highway system development, in determining jurisdictional responsibility, and in fiscal planning.

Figure 1 shows the basic hierarchy of the Highway Functional Classification System by rural and urban setting. The classes are defined by certain characteristics as well as the level of access and the type of travel mobility the roads provide. The three roadway classes are arterials, collectors, and local.

Urban and rural areas have different characteristics as to density and types of land use, nature of travel patterns, density of

street and highway networks, and the way in which all these elements are related to highway function. Federal regulations recognize these differences through separate urban and rural functional classification systems and associated criteria.

Arterials

Arterials provide the highest level of mobility, at the highest speed, for long uninterrupted travel. The Interstate Highway System is an arterial network. Arterials generally have higher design standards than other roads and many principal arterials have multiple lanes with some degree of access control.

Arterials are broken into principal and minor routes. The rural arterial network provides interstate and intercounty service so that all developed areas are within a reasonable distance of an arterial highway.

The urban principal arterial system serves major metropolitan centers, corridors with the highest traffic volume, and those with the longest trip lengths. It carries most trips entering and leaving urban areas, and it provides continuity for all rural arterials that intercept urban boundaries.

Collectors

Collectors provide a lower degree of mobility than arterials. They are designed for travel at lower speeds and for shorter distances. Collectors are typically two-lane roads that collect and distribute traffic from the arterial system. The collector system is stratified into two subclasses: major and minor collectors. In urban areas, the collector system provides traffic circulation within residential neighborhoods and commercial and industrial areas. Unlike arterials, collector roads may penetrate residential commu-

Urban and Rural Definitions:

- *Small Urban Areas* - those areas with populations greater than 5,000 and not within any urbanized area.
- *Urbanized Areas* - areas with population over 50,000 as designated by the Bureau of the Census.
- *Rural Areas* - areas outside the boundaries of small urban and urbanized areas.

Montana has three urbanized areas (Billings, Great Falls, and Missoula) and 16 small urban areas.

nities, distributing traffic from the arterials to the ultimate destination for many motorists. Urban collectors also channel traffic from local roads onto the arterial system.

Local

Local roads represent the largest element in the American public road network in terms of mileage. Local roads provide basic access between residential and commercial proper-

ties, connecting with higher order roadways.

Figure 2 shows the system characteristics of the different function classification categories by rural and urban settings. More information about the Highway Functional Classification System can be found in the U.S. Department of Transportation-FHWA publication, *Highway Functional Classification-Concepts, Criteria, and Procedures* (2013).

Functional Classification		Characteristics	Montana Examples
Interstate (Principal Arterial)		<ul style="list-style-type: none"> Primary through travel route Longest trip lengths 	I 15, I 90, I 94
URBAN (population > 5,000)	Principal Arterial	<ul style="list-style-type: none"> Serves major activity centers Corridors with highest traffic volumes Longest trip length within city 	US 12-Helena
	Minor Arterial	<ul style="list-style-type: none"> Interconnects urban principal arterials 	
	Major Collector	<ul style="list-style-type: none"> Serves both land access and traffic circulation in higher density residential and commercial/industrial areas Distributes and channels trips between locals and arterials usually over a distance of greater than ¼ mile Penetrates residential neighborhoods, often for significant distances 	
	Minor Collector	<ul style="list-style-type: none"> Serves both land access and traffic circulation in lower density residential and commercial/industrial areas Distributes and channels trips between locals and arterials, usually over a distance of less than ¼ mile Penetrates residential neighborhoods, often only for a short distance 	
	Local	<ul style="list-style-type: none"> All remaining streets Direct land access and link to higher classifications 	
RURAL	Principal Arterial	<ul style="list-style-type: none"> Predominant route between major activity centers Interstate or Intrastate significance Long trip lengths Heavy travel densities Provide service to most large urban areas 	US 93, US 12, US 2, US 87
	Minor Arterial	<ul style="list-style-type: none"> Link cities and larger towns (or major resorts) Spaced at intervals so that all developed areas are within a reasonable distance of an arterial Interconnects network of arterial highways 	US 83, US 89, US 24, US 59
	Major Collector	<ul style="list-style-type: none"> Service to travel of primarily intra county importance Serves important travel generators (i.e. County seats, consolidated schools, mining or logging areas) 	S 279, S 241
	Minor Collector	<ul style="list-style-type: none"> Land use access and spaced at intervals consistent with population density 	
	Local	<ul style="list-style-type: none"> Access to adjacent land - short distances All remaining roads not classified under higher system 	

Figure 2



HIGHWAY SYSTEMS IN MONTANA

Funding & Functional Classification

For the purpose of allocating state and federal highway funds, Montana’s public highways and streets are placed on systems based in part on the functional classification system. A guide to the highway systems in Montana is shown in Figure 3. It’s important to note that “upgrades” in functional classification and highway system designation do not automatically lead to increased funding for improvements. Factors such as funding availability, project eligibility, and project prioritization are equally important considerations.

Changing Functional Classification

Local governments may request functional classification changes at any time significant changes in operating characteristics occur. After receiving a request, MDT staff analyzes the route in accordance with Federal Highway Administration guidelines to determine if the proposed change is justified and makes a recommendation to the Montana Transportation Commission. If approved by the Commission, the change ultimately requires FHWA approval before becoming official.

Note: Some communities have their own street classification system for planning purposes which may not be synonymous with the MDT/FHWA.

As mentioned previously, Montana’s public highways and streets are placed on systems for allocating state and federal funds. Montana has both federal and state designated highway systems that are recognized by either federal or state statutes.

Federally Designated Highway Systems

National Highway System (NHS)

A federal system of public highways as defined in Title 23, USC and designated by Congress or the Secretary of Transportation that includes the Interstate System as well as other roads important to the nation’s economy, defense, and mobility.

Interstate NHS

The Dwight D. Eisenhower National System of Interstate and Defense Highways consists of routes of highest importance to the nation, which connect, as directly as practicable, the principal metropolitan areas, cities, and industrial centers including important routes into, through, and around urban areas, serve the national defense and, to

Highway System	Functional Classification
National Highway System (NHS) —>	Principal Arterial
Primary Highway System —>	Principal or Minor Arterial
Secondary Highway System —>	Minor Arterial or Major Collector
Urban Highway System —>	Urban Arterial or Major Collector

Figure 3

the greatest extent possible, connect at suitable border points with routes of continental importance in Canada and Mexico.

Non-Interstate NHS

Principal arterials other than the Interstate that serve major travel destinations and transportation needs, connectors to major transportation terminals, the Strategic Highway Network and connectors, and high priority corridors identified by law. [MCA 60-2-125(2)]

State Designated Highway Systems

Primary Highway System

Highways that have been functionally classified by the Department as either principal or minor arterials and that have been selected by the Transportation Commission to be placed on the Primary Highway System. [MCA 60-2-125(3)]

Secondary Highway System

Highways that have been functionally classified by the Department as either minor arterials or major collectors and that have been selected by the Transportation Commission, in cooperation with the boards of county commissioners, to be placed on the Secondary Highway System. [MCA 60-2-125(4)]

Urban Highway System

Highways and streets in and near incorporated cities with populations of over 5,000 and within urban boundaries established by the Department, that have been functionally classified as either urban arterials or collectors, and that have been selected by the Transportation Commission, in cooperation with local government authorities, to be placed on the Urban Highway System. [MCA 60-2-125(6)]

State Highways

State highways are defined in MCA 60-2-125(5) and are a system of roads (referred to as X routes within MDT) that are maintained by MDT, but are not part of the NHS, Primary, Secondary or Urban Systems.



OTHER ROUTE DESIGNATIONS

Many of Montana's highway designations are numbered and signed with four basic methods that can be seen on roadway signs and maps. Interstates and United States Numbered Highways are the most recognizable. Montana has other designations including State Numbered Highways and Secondary Highways. Figure 4 shows the four route designation shields used on Montana's roadways.

History

In 1926, to bring some order to route designation throughout the United States, the Bureau of Public Roads formed a committee that developed and officially adopted the United States Numbered Highways.

This committee, which was later assigned to the American Association of State Highway and Transportation Officials (AASHTO), is still responsible for maintaining the official records of the United States Numbered Highways. It was also in 1926 when the Montana Highway Commission, following the recommendations from AASHTO mandated numerical designations for Montana's highways.

U.S. Numbered Highways

The American Association of State Highway and Transportation Officials (AASHTO) is responsible for maintaining the official records of the United States Numbered Highways. The AASHTO Special Committee on U.S. Route Numbering meets twice each year to consider applications from state highway and transportation agencies for changes to the Interstate and U.S. Numbered Highway Systems.

State Numbered Highways

As mentioned earlier, Montana enacted the numbering system in 1926 that was tied to the nationwide program. Nonetheless, many of the routes did not have posted signs until the 1930's. All the east-west routes are even numbered and all north-south are odd numbered. However, many of the routes were referred to mostly by name. For instance, U.S. Highway 10 (now I-90) was almost always referred to as the Yellowstone Trail.

Likewise, U.S. Highway 2 was the Theodore Roosevelt Highway. Other route names included the Yellowstone-Glacier-Banff Line (Y-G Bee Line), the Park-to-Park Highway, the Buffalo Trail, Custer Battlefield Highway, and etc. Even well into the 1930s, references to

the Yellowstone Trail and Y-G Bee Line are mentioned in the Highway Commission minutes.

Secondary Highways

Within the 1944 Federal-Aid Act, provisions were made for the designation of a Federal-Aid Secondary System. These routes were to be made up of principal farm to market and feeder roads. It wasn't until 1956 that the Highway Act classified roads into four systems for the purpose of identifying routes eligible for federal funding. Included in these systems were the Federal-Aid Secondary routes. It wasn't until the 1960's that Montana signed its Secondary routes.

After the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the highway system was restructured including the elimination of Federal-Aid Primary, Secondary, and Urban Highway Systems. Montana retained these systems through state statute and many of the Federal-Aid Secondary routes became part of Montana's Secondary Highway System. [MCA 60-2-125(3), 60-2-125(4), and 60-2-125(6)]

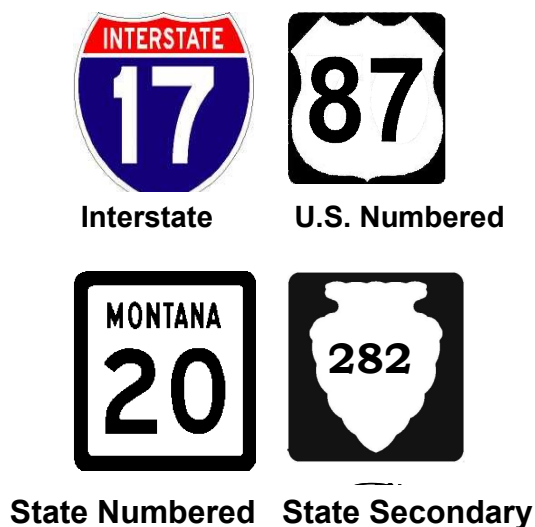


Figure 4

**For more information about Functional
Classification and System Designation:**

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