

Rural Functional Classification

What Territory is included in the Rural Functional Classification?

The rural area of the state consists of all territory outside of the urban boundaries for urban clusters and urbanized areas.

What is the FHWA Guidance Regarding the Proportion of Total Rural Mileage Assigned Each Rural Functional Classification System?

The guidelines are presented in the following table. Note that the rural collector and local road systems combined should account for between 85% and 92% of total rural mileage. The total rural arterial mileage is to fall between 6% and 12%. However, the FHWA guidelines add that this mileage total should fall in the 7% - 10% range for most states.

Systems	Percentage of Total Road Length
Principal Arterial System	2 - 4%
Principal Arterial Plus Minor Arterial System	6 - 12 %
Collector Road System	20 - 25 %
Local Road System	65 - 75 %

Do the Local Highway Jurisdictions Need to be Concerned with Every Rural Functional Classification Category? Because direction from the FHWA limits the amount of mileage that can be classified in certain categories, *the Local Highway Jurisdictions are highly unlikely to classify rural roads as anything other than major collectors, minor collectors, and local roads.* Remember that the rural arterial mileage should account for 6% to 12% of *all* rural public road mileage.

Given the restrictions on total rural arterial mileage, rural public roads off the State Highway System will find it extremely difficult to achieve arterial status.

Criteria Used to Functionally Classify Rural Roads

Rural Principal Arterial Highways

- All Interstate highway mileage is included.
- Principal arterials serve:
 - All urban areas with a population of $\geq 50,000$;
 - A large majority of urban areas with a population of $\geq 25,000$;
 - The principal corridors of interstate travel. There are relative few corridors used by travelers when journeying to and from neighboring states.
 - The principal corridors for statewide travel. That is principal arterials serve the very highest volume, long distance trips within Idaho.
- In addition, the rural principal arterial system forms an integrated network without stub connections.

Principal arterials:

- Provide high speed travel.
- Provide minimal interference to through movement.
- Are to be appropriately spaced apart.
- Constitute no more than 4% of rural mileage statewide.
- Are the most traveled, long-distance rural roads. They should account for 30%-55% of rural VMT

Rural Minor Arterial Roads

Rural minor arterials:

- Serve most of the larger communities not served by the principal arterial system.
- Serve other traffic generators capable of attracting travel over long distances as do the larger communities.
- Form an integrated network.
- Provide interstate and intercounty service.
- Provide trip length and travel density greater than those served by collector systems.
- Provide relatively high travel speeds.
- Minimize interference to through movement.
- FHWA guidelines restrict the combined total principal arterial and minor arterial mileage to the 6-12 percent range, with most states falling in the 7-10 percent range.

Following rural principal arterials, minor arterials are the most heavily traveled rural highways. Minor and principal arterial mileage should account for 45%-75% of all rural VMT.

Rural Collector System

- Serve travel of intracounty and regional importance, rather than statewide importance.
- Regardless of traffic volume, travel distances are shorter than on arterial routes.
- Posted speed limits tend to be more moderate than those on arterial highways.
- All rural state highways that are not arterial highways will be on the rural collector system.

Rural Major Collector Roads

- Provide service to any county seat not on an arterial route.
- Provide service to the larger communities not directly served by the higher systems.
- Serve other traffic generators of the greatest intracounty importance equivalent to towns.

Examples are: consolidated schools, shipping points, regional parks, important mining and agricultural areas, etc.

- Serve the principal business area or a concentration of community facilities in rural communities with a population of between 500 and 5000.
- Rural major collectors tend to connect to rural arterials.

Rural Minor Collector Roads

- Are spaced at intervals consistent with population density.
- Collect traffic from local roads. Tend to feed predominantly residential traffic from side streets into major collectors or arterials.
- Bring all developed areas within a reasonable distance of a major collector or higher classification road.
- Tend to have lower traffic volumes than major collectors.
- When a minor collector carries as much traffic volume as a major collector, it tends to:
 - Carry traffic over a shorter distance than a major collector;
 - Carry traffic on trips to less important intracounty traffic generators; or
 - The route parallels a route of higher classification.

Rural Local Roads

- Rural local roads will comprise all rural roads that do not meet the criteria for arterial and collector systems.
- According to the FHWA manual the local road system should account for 65%-75% of all rural miles statewide and between 5%-20% of all rural VMT.
- Rural local roads serve primarily to provide access to land uses adjacent collector and arterial roadways.
- The main function of most local roads is to get to and from residences.
- Rural local roads may also serve some scattered business and industry, and land uses generating modest traffic.
- Tend to have lower traffic speed limits.
- Tend to have lower traffic volumes.
- Cul-de-sacs are usually local roads.
- Most, but not all, unpaved roads tend to be local roads.

Additional Considerations

- The more important traffic generators typically generate more traffic. Thus, current ADT and
- VMT are potential indicators of the importance of the roadway for the county, region, or state.
- Arterial highways roads should be connected to routes of the same or higher functional classification at both termini.
- All collector routes should be connected to routes of the same or higher functional classification at one or both termini.
- By definition, collector status implies a level of traffic greater than neighboring local roads since the collector gathers traffic from these roads.
- A very short road may function as a major collector if it is serving one of a county's major traffic generators.
- A rural, non-arterial road that is at least a mile in length and which carries a high volume of commercial vehicles (i.e., > 10 percent) is likely to be a major collector.

- A road whose principal function is to provide residential access can be said to be a collector when the both size and density of the residential development served is more characteristic of urban areas.
- In rural Idaho we would expect the minimum ADT for major collectors to range from 600- 800 vehicles per day. In unique circumstances (i.e., the central business area of a town) it maybe somewhat lower.
- We would expect the minimum ADT for minor collectors to be 300-500 in most cases. For longer roads (e.g., 5 or more miles in length), the minimum may be 200.
- One very typical characteristic of a local road is that the road is not the preferred route by travelers to traffic generator roads of intracounty or greater importance.
- A long road carrying little traffic (e.g., less than 200 vehicles per day) is not a collector route.

Generally these roads are forest service roads, jeep trails, or access to low-use recreation areas, scattered farms, ranches, or other residences in very rural areas. They function to link minor traffic generators with the collector and arterial systems. They are not serving the more important county-level or higher traffic generators.

The classification of a rural non-arterial road crossing the County border must take into account the nature of traffic generators in the adjacent state and the functional classification assigned by the neighboring state.

Some Final Suggestions for Classifying Rural Roads

Remember, the higher the functional classification, the lower the percentage of mileage. For instance, principal arterials account for 2-4 percent of all mileage in most states. In contrast, local roads account for 65-75 of all mileage in most states.

- **As a general rule, minor collectors should account for more mileage than major collectors, while the total local roadway mileage should be triple the combined mileage of minor and major collector roads.**
- The FHWA requires that a route should be connected to routes of the same or higher classification at both ends. This rule should be followed to the greatest extent possible.

Rural Major Access Roads

Rural major access roads serve a dual function of **providing access to abutting properties as well as providing through or connecting service between other local roads or higher type facilities.** In rural areas, major access roads may have significant local continuity and **may operate at relatively high speeds.** Because of the possibility of through traffic, there may be a meaningful segment of traffic that includes unfamiliar drivers. Major access roads may thus, in some respects, function like collector or even minor arterial roads, particularly since even arterials often carry low traffic volumes in rural areas. Major access roads are usually paved, but may be unpaved in some rural areas. As discussed in Chapter 1, the design guidelines for very low-volume local roads may also be applied to some collector roads that primarily serve familiar drivers. Such collector roads should be treated as major access roads for purposes of these guidelines.

Rural Minor Access Roads

Rural minor access roads serve almost exclusively to provide access to adjacent property. **Many of these roads are cul-de-sacs or loop roads with no through continuity.** The length of minor access roads is typically short. Because their sole function is to provide access, such roads are used predominantly by familiar drivers.

Minor Access roads generally serve residential or other non-commercial land uses. Speeds are generally low for the local environment, given the purpose of the road and short trip lengths. As noted above, many minor access roads end in cul-de-sacs or dead ends, thus limiting the opportunity for high travel speeds. Minor access roads are frequently narrow, and in some rural areas may function as one-lane roads. Minor access roads can be either paved or unpaved. **Traffic is largely composed of passenger vehicles or other smaller vehicle types.** However, such roads need to be accessible to school buses, fire trucks, other emergency vehicles, and maintenance vehicles such as snot plows and garbage trucks. Access roads serving commercial or industrial land uses are classified separately.

Rural Industrial/Commercial Access Roads

Industrial or commercial access roads serve developments that may **generate a significant proportion of truck or other heavy vehicle traffic.** The primary or sole function of such roads is generally to provide access from a factory or another commercial land use to the local or regional highway network. Typical industrial/commercial access roads are very short, and in many cases they do not serve any through traffic. Industrial/commercial access roads may be either paved or unpaved. Such roads are classified separately from minor access roads, which they otherwise resemble, because consideration of trucks and other heavy vehicles is important in their design.

Rural Agricultural Access Roads

Certain roads in rural areas serve primarily to provide access to fields and farming operations. Vehicle types that use such roads include combines, tractors, trucks that haul agricultural products, and other large and slow-moving vehicles with unique operating road and its characteristics. **Such roads are often unpaved.**

Consideration of the unique vehicle types that use agricultural access roads is important in their design. For purposes of these guidelines, **rural agricultural access roads consist of roads that are used regularly or seasonally for access to farms by agricultural equipment, such as combines, that are wider than a typical 2.6-m [8.5-ft] truck.** Roads that provide frequent access to farms for conventional trucks, but not for wider equipment, should be treated as rural commercial/industrial access roads. **Roads that provide access to farms but are used only occasionally by conventional trucks and are not used by wider equipment, should be treated as either rural major access or rural minor access roads depending upon the function and characteristics of the road.**

Rural Recreational and Scenic Roads

Recreational and scenic roads serve specialized land uses, including parks, tourist attractions, and recreation facilities, such as campsite or boat-launch ramps, and are found primarily in rural areas. Traffic is open to the general public, and their users are more likely those users of other functional subclasses of local roads to consist of unfamiliar drivers. Recreational and scenic roads do not generally carry significant volumes of truck traffic, but do serve recreational vehicles including motor homes, campers, and passenger cars pulling boats and other trailers. **In many cases, these roads may carry highly seasonal traffic volumes.** Recreational and scenic roads may accommodate a wide range in speeds and trip lengths may be fairly long. Such roads can be either paved or unpaved.