

HIGHWAY FUNCTIONAL CLASSIFICATION

Summary – December 2023

The Federal-Aid Highway Act of 1973 required that roads in the Federal-aid highway system must be functionally classified. Despite changes in the definitions of ‘Federal-aid’ and ‘functional classification’, the legislative requirement to maintain a Functional Classification System of roadways is still in effect today. After each census, KDOT has asked all the counties and urban areas to review and update their functionally classified roads.

Functional classification of the nation’s highway, roads, and streets is used for many transportation planning and public policy purposes within States, MPOs and local communities. It provides important input into the apportionment of federal funds. It should provide a framework for priorities in bridge replacement, surface maintenance, disaster recovery, snow removal and any other program where funds must be allocated. It can also provide a structure for development priorities and community planning.

Functional classification is the process by which streets and highways are grouped into hierarchical classes according to the character of service they are designed to provide. It is important to understand that individual roads and streets do not work independently, but as a network of roads. Functional classification defines the part that any particular road or street should play in serving the flow of trips through a highway network.

An illustration of a functionally classified rural network is shown in Figure 1. Because cities and larger towns generate and attract a large proportion of longer trips, the Arterial highways provide direct service for such travel. The Collectors serve small towns directly, connecting them to the Arterial network, and collecting traffic from the Local roads. The Local roads serve individual farms or country homes / country housing developments and other rural land uses. The same basic concepts apply to urban areas.

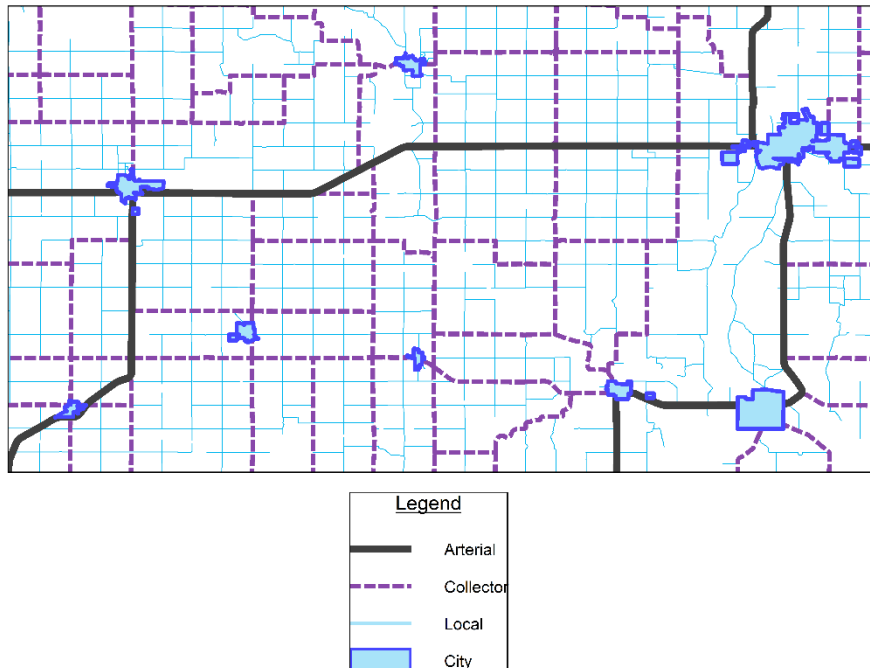


Figure 1: Illustration of a functionally classified rural highway network.

The highway network is a critical medium for the movements of goods and services. The highway network also provides individual travel mobility and access to property. Local facilities reflect land use. Arterials emphasize a high level of mobility for through movement. Collectors offer a compromise between both functions (see Figure 2).

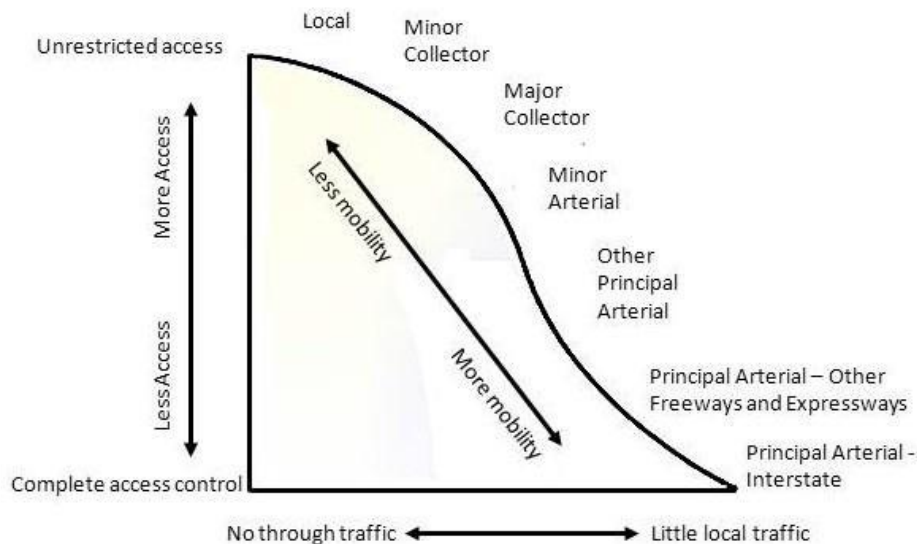


Figure 2: Relationship of Functionally Classified Systems in Serving Traffic Mobility and Land Access

The broad definition of functional classification has not changed since the origin in 1973. The functional classification codes are:

Code	Functional Classification	Fund Eligibility – Rural	Fund Eligibility - Urban
1	Interstate	FHWA	FHWA
2	Other Freeways and Expressways	FHWA	FHWA
3	Other Principal Arterials	FHWA	FHWA
4	Minor Arterials	FHWA	FHWA
5	Major Collectors	FHWA	FHWA
6	Minor Collectors	(FEMA)	FHWA
7	Local	(FEMA)	(FEMA)

Table 1: Current Functional Classification codes and fund eligibility

One of the outcomes of functional classification is eligibility for Federal funds. Roads that are classified Major Collector or higher are eligible for Federal funding through the Federal Highway Administration (FHWA). Minor Collectors in the Urban Areas are still eligible for FHWA funding. The other road classifications are not eligible for FHWA funds, which can leave them eligible for funding from other federal programs. Only those roads classified as Minor Collectors in Rural Areas and Local Roads are eligible for Federal Emergency Management Agency (FEMA) funds after a declared emergency, while roads of higher functional classification would have to be repaired using highway funds.

In general, the following measures or attributes related to the development of the basic framework of a roadway network can aid in identifying and assigning facilities to predefined functional classes. Even though the distinction between rural and urban codes has been eliminated, the characteristics which define the classification of the roadways still reflect differences between Rural and Urban road usage. Some of these measures are more applicable to the urban areas than to rural areas.

- Service to Activity Centers
- System Continuity
- Land Use Considerations
- Spacing between Routes
- Average Trip Length
- Traffic volume
- Access control

Some other attributes are commonly mis-used to make Functional Classification determinations. Road naming is not important; the functional classification follows from trip characteristics rather than the road name of adjacent network links. Economic importance of the surrounding businesses should not inflate the network importance of high-access/low-speed roads through a Central Business District. Funding eligibility may be a consideration, but it cannot be used to distinguish identical network links. Development can get away from design; current and future trip characteristics should take precedence over historical intent for deciding functional classification of a route.

When reviewing your county's Functional Classification network, keep in mind the following:

- Functional Classification represents a network view of the next 5-10 years.
- Review the existing system to see if there is mileage that should be designated at a lower functional classification. Historically, roads have been promoted when usage increases but never demoted for reduced usage or when compared against similarly-classified roads; this leads to the current situation where most counties have much more Major Collector mileage than Minor, Major Collectors that serve only land-access (Local) trips, and an unbalanced functional classification network.
- There are Kansas Statutes that govern road authority; the Federal functional classification is not a perfect match for Kansas' designations but the criteria are very similar. The "county major collector road system" designated in the Kansas Statutes includes the Federal Major Collectors and inter-urban county roads with a Federal functional classification of Minor Arterial. Major Collectors cannot be under township authority. In township-unit counties, both "county minor collector roads" and "township minor collector roads" have a Federal classification of Minor Collector. These and all Local roads are under township authority.
- Functionally classified routes above Local should terminate at a roadway with an equal or higher functional classification. Stubs are only acceptable for Collectors where the termination is at a traffic generator or attractor.
- Roadway classifications may cross city, county, tribal or state lines. In these situations, changes require the agreement of all involved governments.
- Roads along the North and West county lines belong to your county and roads along the South and East county lines belong to the neighboring county by default. A formal maintenance agreement may define responsibility differently. The road maintainer should be the lead agency in proposing changes to the road designation.
- Please provide justification for any proposed change, ideally related to the measures listed above.
- FHWA has the final approval authority for all changes.

Functional Classification Characteristics for Rural Areas

In rural areas (outside of areas with a population of over 5,000 or more than 2000 dwelling units) only the classifications of Major Collector, Minor Collector and Local Roads are used for roads off the State Highway System. In rare cases, a Minor Arterial classification may be used if justified by traffic and truck travel.

The **Principal Arterial System** contains Interstate, Other Freeways and Expressways and Other Principal Arterial sub-categories and consists of rural routes which:

- serve corridor movements having long trip lengths and high travel density characteristics, typical of statewide or interstate travel; and
- provide an integrated network without stub connections.

The **Minor Arterial System** consists of rural routes which:

- connect cities, larger towns, and other long-distance trip generators and form an integrated network providing **intercounty** and **intrastate** service;
- provide access to the Principal Arterial system; and
- permit relatively high overall travel speeds, with minimum impedance to through movement.

The **Collector Road System** is subdivided into Major and Minor Collectors which are rural routes serving intracounty travel purposes. Each mile of Collector should service at least 3 miles of Local route.

Major Collector Roads

- provide service to:
 - any county seat not on an arterial route;
 - larger population centers not directly served by the higher functional classification categories; and
 - other major traffic generators.
- connect with nearby larger population centers, cities, and routes of higher classification; and
- serve intracounty travel corridors.

Minor Collector Roads

- provide service to the remaining smaller communities;
- connect the locally important traffic generators with their rural areas; and
- collect traffic from local roads and bring traffic from all developed areas (within reasonable distances) to Major Collectors.

The **Local Road System** consists of rural routes which:

- provide access to adjacent land;
- connect to Collectors for longer trips; and
- serve short trips with little through travel

Functional Classification Characteristics for Urban Areas

The **Principal Arterial System** is subdivided into Interstate, Other Freeways and Expressways, and Other Principal Arterials and consists of urban routes which:

- serve the major portion of trips entering and leaving the urban area, longer intra-city trips, as well as the majority of trips bypassing the central city;
- provide continuity for Arterials which intercept the urban area boundary.

The spacing of routes contained by the Principal Arterial System is related to the travel density of particular sections within the urban area. Almost all routes in this system have full or partial access control, but access control is not a criterion for designating routes as Other Principal Arterial.

All roads and streets classified as Principal Arterial routes, regardless of jurisdiction, were automatically added to the National Highway System (NHS) on October 1, 2012.

With the NHS designation on Principal Arterial come some data reporting and financial requirements for the cities:

- Data Reporting Requirements for both pavement (HPMS) and bridges (NBI); example: more expensive element-level inspection and reporting will be required for all NHS bridges instead of the less expensive routine inspections required for bridges on non-NHS routes.
- Asset Management Requirements. Minimum condition or performance targets for pavement and bridge condition will be established that will need to be met on all NHS facilities. Development of a management plan is required.
- Outdoor Advertising Regulations apply to NHS routes.
- Requirement to use AASHTO Design Criteria and Standards for projects on these routes. This requirement applies to all major projects on NHS routes, regardless of funding source.

The **Minor Arterial System** consists of routes which:

- interconnect and augment with the higher-level Arterial system; and
- serve intracity trips of moderate length;

Spacing of Minor Arterial streets may vary from 0.125 - 0.5 mile in the central business district to 2 - 3 miles in the suburban fringes, but should normally be not more than 1 mile in fully developed areas.

The **Collector Road System** is subdivided into Major and Minor Collectors which are urban routes serving area travel purposes.

Major Collector Street System consists of routes which:

- Serve both land access and traffic circulation in higher density residential and commercial/industrial areas;
- Distribute and channel trips between Local Roads and Arterials, usually over a distance of greater than three-quarters of a mile

Minor Collector Street System consists of routes which:

- Serve both land access and traffic circulation in lower density residential and commercial/industrial areas;
- Distribute and channel trips between Local Roads and Arterials, usually over a distance of less than three-quarters of a mile

Urban Local Street System consists of routes which:

- provide direct access to adjacent land;
- connect to higher functional classes;
- serve short travel; and
- carries no through travel.