

FHWA Guidelines – Functional Classification

Highway Functional Classification Concepts, Criteria and Procedures

Access vs. Mobility :

- Arterials provide mostly mobility; Locals provide mostly land access; and Collectors strike a balance between the two.

Key Factors for Assigning Functional Classification:

- Efficiency of Travel/Access Points/Speed Limit
- Route Spacing
- Usage (AADT/VMT)
- System Continuity
 - All classified routes should begin and end at equal or higher classified routes
 - A higher classified route can “split” its traffic between two lower-level roads with different levels of access and mobility
 - Rare exceptions made for major traffic generators

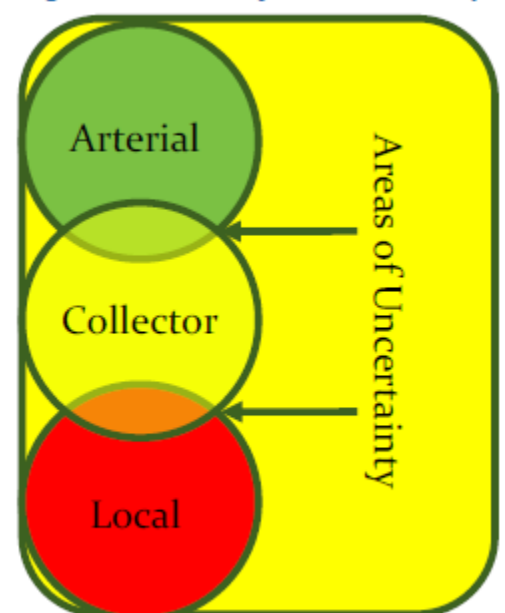
Table 2-1: Relationship between Functional Classification and Travel Characteristics

Functional Classification	Distance Served (and Length of Route)	Access Points	Speed Limit	Distance between Routes	Usage (AADT and DVMT)	Significance	Number of Travel Lanes
Arterial	Longest	Few	Highest	Longest	Highest	Statewide	More
Collector	Medium	Medium	Medium	Medium	Medium	Medium	Medium
Local	Shortest	Many	Lowest	Shortest	Lowest	Local	Fewer

General Tips:

- Avoid, if possible, assigning the same functional classification to parallel routes.
- In most cases, the most direct, most improved, and most heavily traveled route should be chosen for connecting medium and small size traffic generators.
- Choosing between a Major Collector and a Minor Collector:
 - Major Collectors are generally busier, have more signal-controlled intersections, and serve more commercial development.
 - Minor Collectors connect clustered residential areas that have yet to be served by a roadway within higher classification categories
- Ramps and other non-mainline roadways are to be assigned the same functional classification as the highest classified route they serve
- Should reflect how the roadway is functioning in the current year only or if new routes are expected to be under construction within the next 4 years

Figure 3-8: Classification Overlap



Source: FHWA

Table 3-5: VMT and Mileage Guidelines by Functional Classifications - Arterials

	Arterials			
	Interstate	Other Freeways & Expressway	Other Principal Arterial	Minor Arterial
Typical Characteristics				
Lane Width	12 feet	11 - 12 feet	11 - 12 feet	10 feet - 12 feet
Inside Shoulder Width	4 feet - 12 feet	0 feet - 6 feet	0 feet	0 feet
Outside Shoulder Width	10 feet - 12 feet	8 feet - 12 feet	8 feet - 12 feet	4 feet - 8 feet
AADT ¹ (Rural)	12,000 - 34,000	4,000 - 18,500 ²	2,000 - 8,500 ²	1,500 - 6,000
AADT ¹ (Urban)	35,000 - 129,000	13,000 - 55,000 ²	7,000 - 27,000 ²	3,000 - 14,000
Divided/Undivided	Divided	Undivided/Divided	Undivided/Divided	Undivided
Access	Fully Controlled	Partially/Fully Controlled	Partially/Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)¹				
Rural System				
Mileage Extent for Rural States ²	1% - 3%	0% - 2%	2% - 6%	2% - 6%
Mileage Extent for Urban States	1% - 2%	0% - 2%	2% - 5%	3% - 7%
Mileage Extent for All States	1% - 2%	0% - 2%	2% - 6%	3% - 7%
VMT Extent for Rural States ²	18% - 38%	0% - 7%	15% - 31%	9% - 20%
VMT Extent for Urban States	18% - 34%	0% - 8%	12% - 29%	12% - 19%
VMT Extent for All States	20% - 38%	0% - 8%	14% - 30%	11% - 20%
Urban System				
Mileage Extent for Rural States ³	1% - 3%	0% - 2%	4% - 9%	7% - 14%
Mileage Extent for Urban States	1% - 2%	0% - 2%	4% - 5%	7% - 12%
Mileage Extent for All States	1% - 3%	0% - 2%	4% - 5%	7% - 114%
VMT Extent for Rural States ³	17% - 31%	0% - 12%	16% - 33%	14% - 27%
VMT Extent for Urban States	17% - 30%	3% - 18%	17% - 29%	15% - 22%
VMT Extent for All States	17% - 31%	0% - 17%	16% - 31%	14% - 25%
Qualitative Description (Urban)	<ul style="list-style-type: none"> Serve major activity centers, highest traffic volume corridors, and longest trip demands Carry high proportion of total urban travel on minimum of mileage Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area Serve demand for intra-area travel between the central business district and outlying residential areas 			<ul style="list-style-type: none"> Interconnect with and augment the principal arterials Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials Distribute traffic to smaller geographic areas than those served by principal arterials Provide more land access than principal arterials without penetrating identifiable neighborhoods Provide urban connections for rural collectors
Qualitative Description (Rural)	<ul style="list-style-type: none"> Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel Serve all or nearly all urbanized areas and a large majority of urban clusters areas with 25,000 and over population Provide an integrated network of continuous routes without stub connections (dead ends) 			<ul style="list-style-type: none"> Link cities and larger towns (and other major destinations such as resorts capable of attracting travel over long distances) and form an integrated network providing interstate and inter-county service Spaced at intervals, consistent with population density, so that all developed areas within the State are within a reasonable distance of an arterial roadway Provide service to corridors with trip lengths and travel density greater than those served by rural collectors and local roads and with relatively high travel speeds and minimum interference to through movement

1- Ranges in this table are derived from 2011 HPMS data.

2- For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban centers.

Table 3-6: VMT and Mileage Guidelines by Functional Classifications – Collectors and Locals

	Collectors		Local
	Major Collector ²	Minor Collector ²	
Typical Characteristics			
Lane Width	10 feet - 12 feet	10 - 11 feet	8 feet - 10 feet
Inside Shoulder Width	0 feet	0 feet	0 feet
Outside Shoulder Width	1 feet - 6 feet	1 feet - 4 feet	0 feet - 2 feet
AADT ¹ (Rural)	300 - 2,600	150 - 1,110	15 - 400
AADT ¹ (Urban)	1,100 - 6,300 ²		80 - 700
Divided/Undivided	Undivided	Undivided	Undivided
Access	Uncontrolled	Uncontrolled	Uncontrolled
Mileage/VMT Extent (Percentage Ranges)¹			
Rural System			
Mileage Extent for Rural States ³	8% - 19%	3% - 15%	62% - 74%
Mileage Extent for Urban States	10% - 17%	5% - 13%	66% - 74%
Mileage Extent for All States	9% - 19%	4% - 15%	64% - 75%
VMT Extent for Rural States ³	10% - 23%	1% - 8%	8% - 23%
VMT Extent for Urban States	12% - 24%	3% - 10%	7% - 20%
VMT Extent for All States	12% - 23%	2% - 9%	8% - 23%
Urban System			
Mileage Extent for Rural States ³	3% - 16%	3% - 16% ²	62% - 74%
Mileage Extent for Urban States	7% - 13%	7% - 13% ²	67% - 76%
Mileage Extent for All States	7% - 15%	7% - 15% ²	63% - 75%
VMT Extent for Rural States ³	2% - 13%	2% - 12% ²	9% - 25%
VMT Extent for Urban States	7% - 13%	7% - 13% ²	6% - 24%
VMT Extent for All States	5% - 13%	5% - 13% ²	6% - 25%
Qualitative Description (Urban)	<ul style="list-style-type: none"> Serve both land access and traffic circulation in higher density residential, and commercial/industrial areas Penetrate residential neighborhoods, often for significant distances Distribute and channel trips between local streets and arterials, usually over a distance of greater than three-quarters of a mile 	<ul style="list-style-type: none"> Serve both land access and traffic circulation in lower density residential, and commercial/industrial areas Penetrate residential neighborhoods, often only for a short distance Distribute and channel trips between local streets and arterials, usually over a distance of less than three-quarters of a mile 	<ul style="list-style-type: none"> Provide direct access to adjacent land Provide access to higher systems Carry no through traffic movement
Qualitative Description (Rural)	<ul style="list-style-type: none"> Provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance such as consolidated schools, shipping points, county parks, important mining and agricultural areas Link these places with nearby larger towns and cities or with arterial routes Serve the most important intra-county travel corridors 	<ul style="list-style-type: none"> Be spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within reasonable distance of a minor collector Provide service to smaller communities not served by a higher class facility Link locally important traffic generators with their rural hinterlands 	<ul style="list-style-type: none"> Serve primarily to provide access to adjacent land Provide service to travel over short distances as compared to higher classification categories Constitute the mileage not classified as part of the arterial and collectors systems

1- Ranges in this table are derived from 2011 HPMS data.

2- Information for Urban Major and Minor Collectors is approximate, based on a small number of States reporting.

3- For this table, Rural States are defined as those with a maximum of 75 percent of their population in urban centers.