



FUNCTIONAL CLASSIFICATION CRITERIA

Wisconsin Department of Transportation

This document is an update to the information provided in the former *Wisconsin Administrative, Code Trans 76*. What is provided within this document clarifies the Wisconsin Department of Transportation's (WisDOT's) functional classification criteria and the methods and process that can be used in its application.

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INTRODUCTION TO FUNCTIONAL CLASSIFICATION

Functional classification is the process by which highways are grouped into classes according to the character of service they are intended to provide, ranging from a high degree of travel mobility to land access functions.

Urban/urbanized and rural areas provide a framework for the placement of routes within Wisconsin. An urban area is defined as any place or cluster of places within a designated urban boundary that has a population between 5,000 and 49,999. An urbanized area is defined as a cluster of places within a designated urbanized boundary, with a population of 50,000 or greater. Streets and highways within urban and urbanized areas are classified under the urban functional classification system.

Rural areas are the places in the state located outside of urban and urbanized areas. Roads and highways in these places are classified under the rural functional classification system.

NOTE: The criteria contained in this document are intended for use in classifying streets and highways as to how they currently function. Some leeway is allowed in defining “current”, in that known changes (bypasses, relocations or new roads) that will occur in the next 3-5 years can be included. Some new facilities, like bypasses or relocations, replace existing routes. In such cases the “old” route and the “new” route should have the same functional classification until the “new” route is open to traffic. Once the “new” route is open to traffic, the classification of the “old” route should be reclassified to reflect the new travel patterns brought about by the newly constructed facility.

In the case of new routes needed to simply to serve new development, the new route should be classified under the criteria. This assumes that the new facility will not cause any significant change in travel on any existing routes, and thereby how they function.

RURAL FUNCTIONAL CLASSIFICATION

Rural highways are classified into the following functional types:

Rural Principal Arterials: Principal arterials serve corridor movements having trip length and travel density characteristics of an interstate or interregional nature. These routes generally serve urbanized (populations 50,000 and over) and urban (populations 5,000 to 49,999) areas.

Rural Minor Arterials: Minor arterials, in conjunction with principal arterials, serve moderate to large-sized places (cities, villages, towns, and clusters of communities), and other traffic generators providing intra-regional and inter-area traffic movements. These routes generally serve places with populations of 1,000 and over.

Rural Major Collectors: Major collectors provide service to smaller-to-moderate sized places and other intra-area traffic generators, and link those generators to nearby larger population centers (cities, villages, and towns) or higher function routes. These routes generally serve places with populations of 100 and over.

Rural Minor Collectors: Minor collectors provide service to all remaining smaller places, link the locally important traffic generators with their rural hinterland, and are spaced consistent with population density so as to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. These routes generally serve places with populations of 50 and over.

Rural Local Roads: Local roads provide access to adjacent land and provide for travel over relatively short distances on an inter-township or intra-township basis. All rural roads not classified as arterials or collectors will be local function roads.

To gain a basic understanding of functional classification, especially in rural areas, see Figures 1-A and 1-B. The relationship between types of desired trips and the resulting functional classification of the highways is shown by a representation of the size of the place (city, village, town) or cluster of places and the routes that connect them. Because of their interstate and interregional nature, the principal arterial and minor arterial systems must be developed on a statewide basis. Similarly, because of their inter-county and intra-county nature, the major collector and minor collector systems must be developed on a countywide basis.

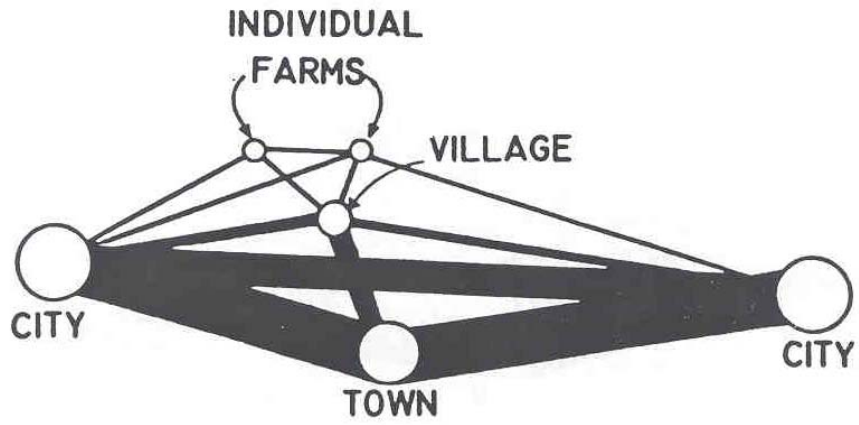


Figure 1-A: Desired Lines of Travel

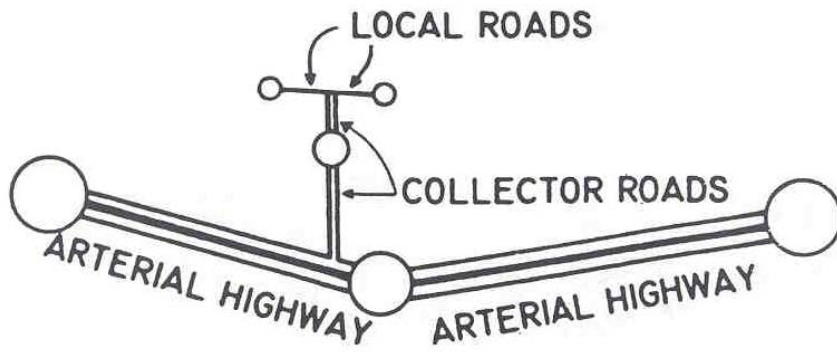


Figure 1-B: Road Network Provided

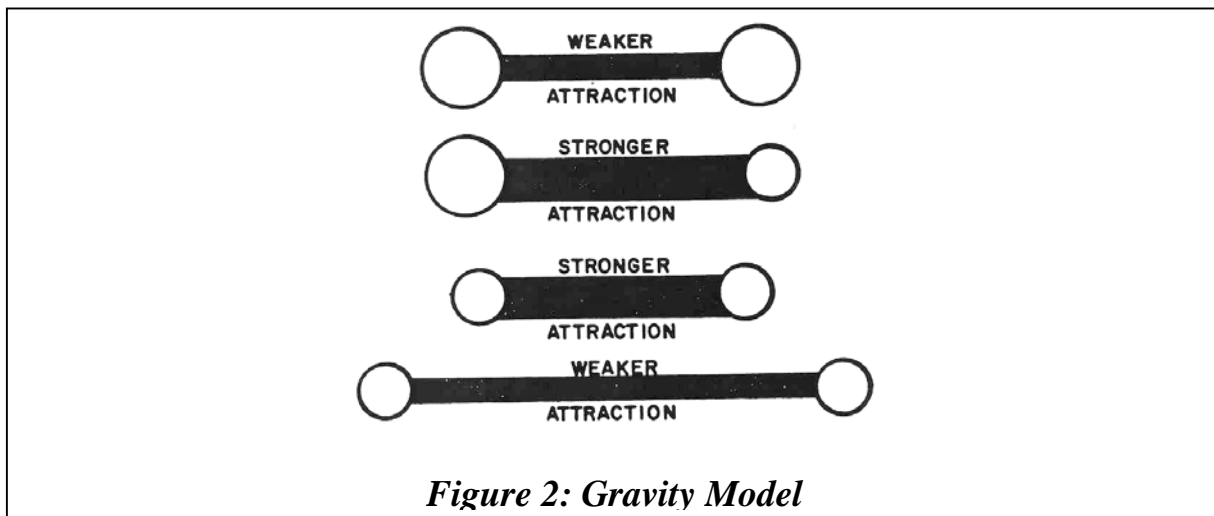
RURAL CRITERIA

The criteria to be used in developing the rural functional systems are divided into two classes – **basic** and **supplemental**. The basic criteria provide an initial system and are to be refined by the supplemental criteria to achieve a system within the guidelines of system mileage.

Basic Rural Criteria

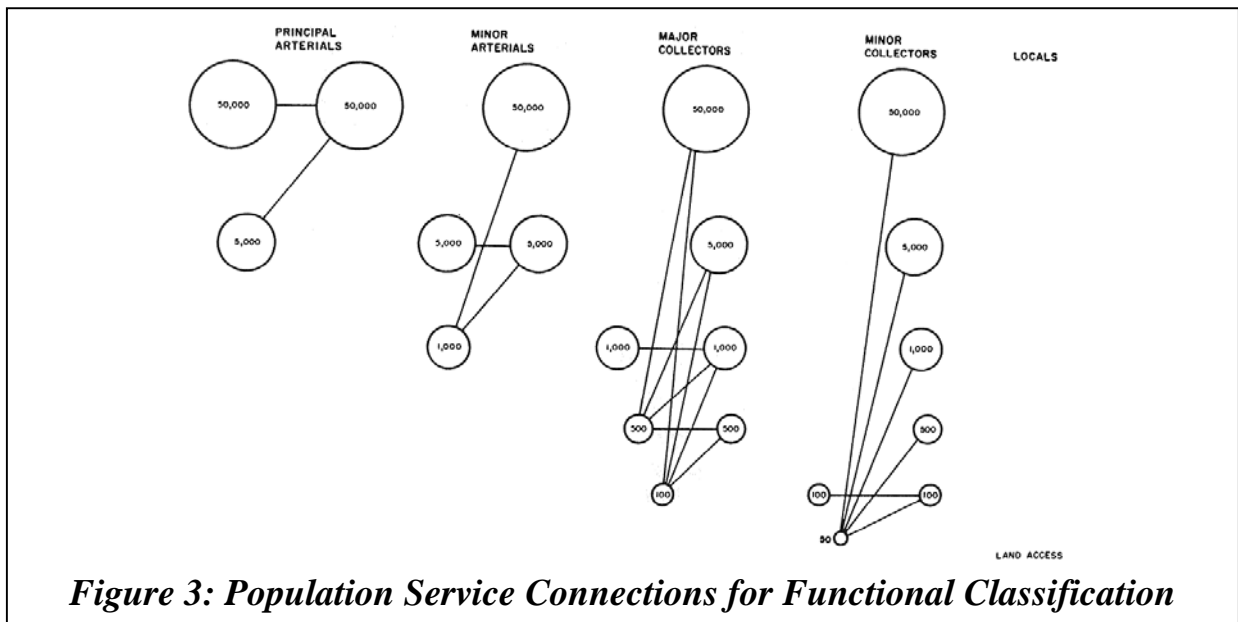
As shown in charts A, B-1, and B-2 (pages 23–25), there are four basic determinants of rural functional classification – population service, land use service, spacing, and average daily traffic (ADT) volume. For a route segment to be justified as a particular functional classification under the basic criteria, it must meet any two (2) of the four (4) basic criteria.

1. Population Service: Place classification, using population, is one of the basic techniques in determining the function of highways. The attraction between places and the traffic linkages between places is directly proportional to the size or ranking of places and inversely proportional to the distance between them. In addition, a smaller place is more dependent on a larger place than two larger places are on each other, given equal distances between them. Figure 2 graphically portrays a population gravity model.



Using population gravity models, together with the basic premise that higher ranked places are served by higher function routes, provide the basis for establishing the functional systems from the place classification. The relationship between population and functional classification adheres to the concepts of connecting the highest ranked places first with the highest function routes (see Figure 3).

Only those routes actually serving the major traffic interchange between communities should be considered under the basic population service criteria. Remote arterial connections or arterial connections that are obviously made by another, more direct arterial should not be made under the basic population service criteria.



In some instances, several routes provide the major connection between two population centers. One route can usually be identified as the most important connection and classified under the basic population service criteria. The other connections between the same two communities are considered alternate population connections. One alternate connection shorter than the main connection, may be classified one function lower than the population connection would require, provided it meets the current ADT volume criteria for the lower function. An alternate population connection also meets one supplemental criterion.

2. Land Use Service: In many instances, important traffic generators are found outside established population centers. In order to provide service to these generators, a second basic criterion, land use service, is employed. The land use service criterion is divided into two areas. One specifically provides for arterial service to important traffic generating activities. The second aspect of the land use service criterion involves collector service to significant recreational, commercial-industrial, and institutional land uses, as well as small or seasonal population concentrations. Each land use facility is assigned a point value as shown in Table 1. The sum of the land use point values along a route segment is called the “land use service index,” which is used for the classification of major and minor collectors, as shown on charts B-1 and B-2. The accumulation of land use points is restricted to counting the occurrence of particular facility type only once within a half (½) mile, regardless of the actual number of the same facility type within a half (½) mile segment. In using the land use service index, any land use facility within a half (½) mile of an arterial or collector is considered served by that arterial or collector.

Map 1 shows the 2000 rural population density for each county in Wisconsin. Due to differences in rural population densities of counties, two levels of point values of the land use service index are used in justifying arterials or collectors. For example, as shown on charts B-1 and B-2, for those counties with a rural population density of 43 or more persons per square mile, one point total is used. For those counties with rural population densities less than 43 persons per square mile, a different point total is use

Table 1: Land Use Point Values

POINTS	LAND USES	POINTS	LAND USES
	SMALL POPULATION CONCENTRATIONS	6	Gambling facilities (Less Than 300,000 Annual Visitation)
2	Places with Populations 25-49	3	Campground
	SEASONAL POPULATION CONCENTRATIONS	3	Boat Landing
6	Places with Populations Equal to or Greater than 200	3	Sportsmen's Club
4	Places with Populations 100–199	2	Bicycle Trail Head
2	Places with Populations 50–99	2	Community/Regional Park
	COMMERCIAL-INDUSTRIAL FACILITIES (ACTIVE)	2	Official Historical Site
3	Grocery	2	Commercial Horse Stable
3	Gas Station/Convenience Store	1	Other Public Lands (Hunting and Fishing Grounds)
4	Restaurant, Café, or Tavern	1	Snowmobile Trail Head
3	Landfill Site	1	Canoe Trail Head
3	Lumber Mill	1	Sporting Field (Baseball, Football, Soccer, etc.)
3	Extraction Pit, Quarry, or Mine	1	School Playground
3	Utility Power Plant		INSTITUTIONAL FACILITIES
3	Industrial/Business Site or Park	5	State or County Institution
3	Salvage yard	**	Airport
4	Agri-Business Facilities Such As: Dairy, Cheese Factory, Grain Elevator, Feed Mill, Stockyard	5	Transportation Terminal Not Served by a Higher Function Route (Except an Airport)
3	Commercial/Industrial/Corporate Forestland	3	Elementary or Intermediate School
	RECREATIONAL FACILITIES	4	Middle Or Junior High School
*	State Park (Less than 300,000 Annual Visitation)	5	High School
6	Ski Resort	*	State or Federal Headquarters
5	Golf Course	4	Medical Facility
5	Marina	5	Church
*	County Park (Less than 300,000 Annual Visitation)	3	Community or Civic Center

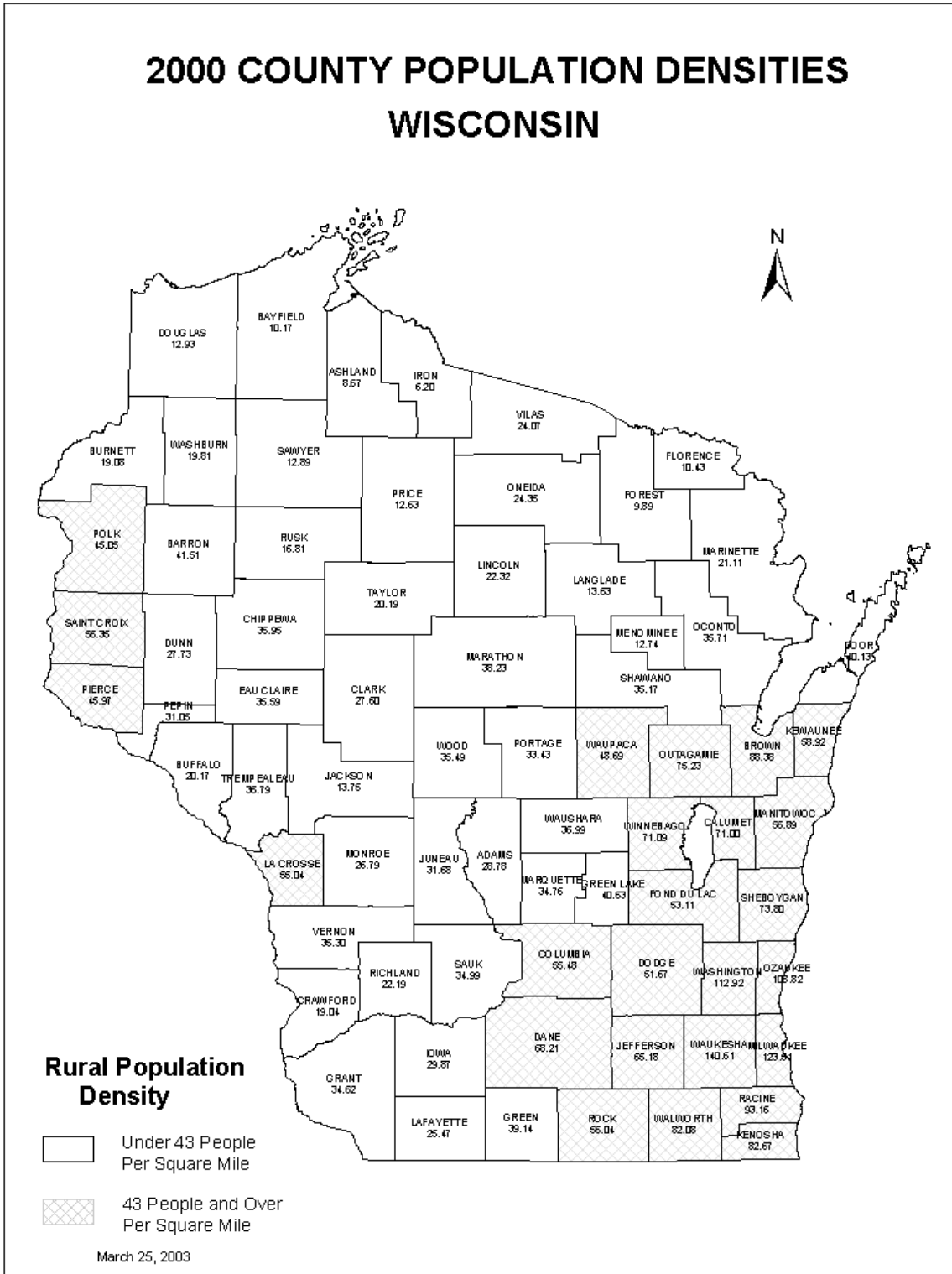
* Because of their larger service area, land use facilities under the jurisdiction of federal state, or county government are considered to meet the land use service index for a collector. The functional classification will depend on the current ADT volume on the road servicing the facility and/or meeting other criteria. The criteria classifies stub collectors under 5 miles as Minor Collectors only.

**The following classification of airports is based on the classification terminology developed for the Wisconsin State Airport System Plan 2020:

- Air Carrier/Cargo Type 1
- Transport/Corporate Airport Type 2
- General Utility Airport Type 3
- Basic Utility-B Airport Type 4
- Basic Utility-A Airport Type 5

All airports classified as basic utility airports or higher, as identified under the *existing* Wisconsin state classification system, are considered to meet the land use service criterion for a collector.

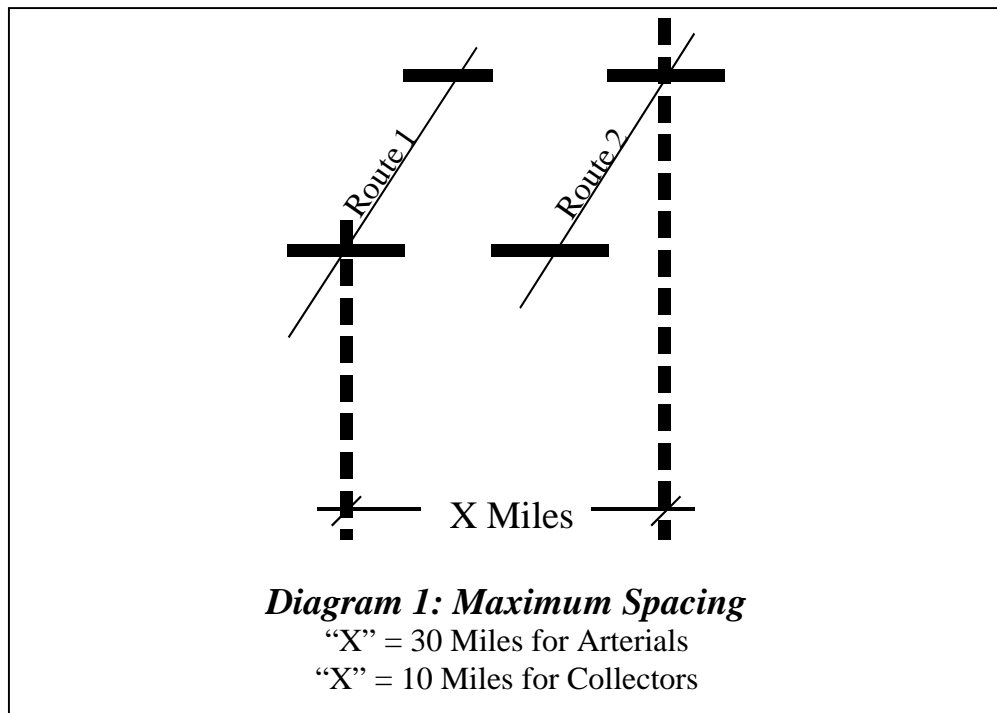
2000 COUNTY POPULATION DENSITIES WISCONSIN



Map 1

3. **Spacing:** Maximum spacing criterion is shown in Chart A for arterials. Both principal and minor arterials are considered together for the spacing criterion. If the distance between two arterials exceeds 30 miles an intermediate segment meets one basic criterion.

Charts B-1 and B-2 show the maximum spacing for rural collectors. An intermediate route segment meets one basic criterion for a collector, if the distance between two collectors, an arterial, and a collector, or two arterials exceeds 10 miles (as shown in Diagram 1). The distance is computed on the basis of the maximum separation between the routes.



4. **Current ADT Volume:** Current ADT volume provides a measure of the importance of the travel interchange between population centers or the importance of traffic generation of various land use facilities served by a route. For route segments to qualify as a particular functional classification, the route segments should meet the traffic volume requirements listed on charts A, B-1, and B-2, which are based on the current ADT volumes over the length-of-the-route segments. As with the land use service criterion, the current ADT volume criterion has been stratified by population density, with those counties with a rural population density of 43 or more person per square mile, requiring the higher current ADT volumes.

Route segments may also be justified solely on traffic volume. The parenthetical values on charts A, B-1, and B-2 show the current ADT volumes that must be met to qualify route segments for particular functional classifications based on current ADT volume alone.

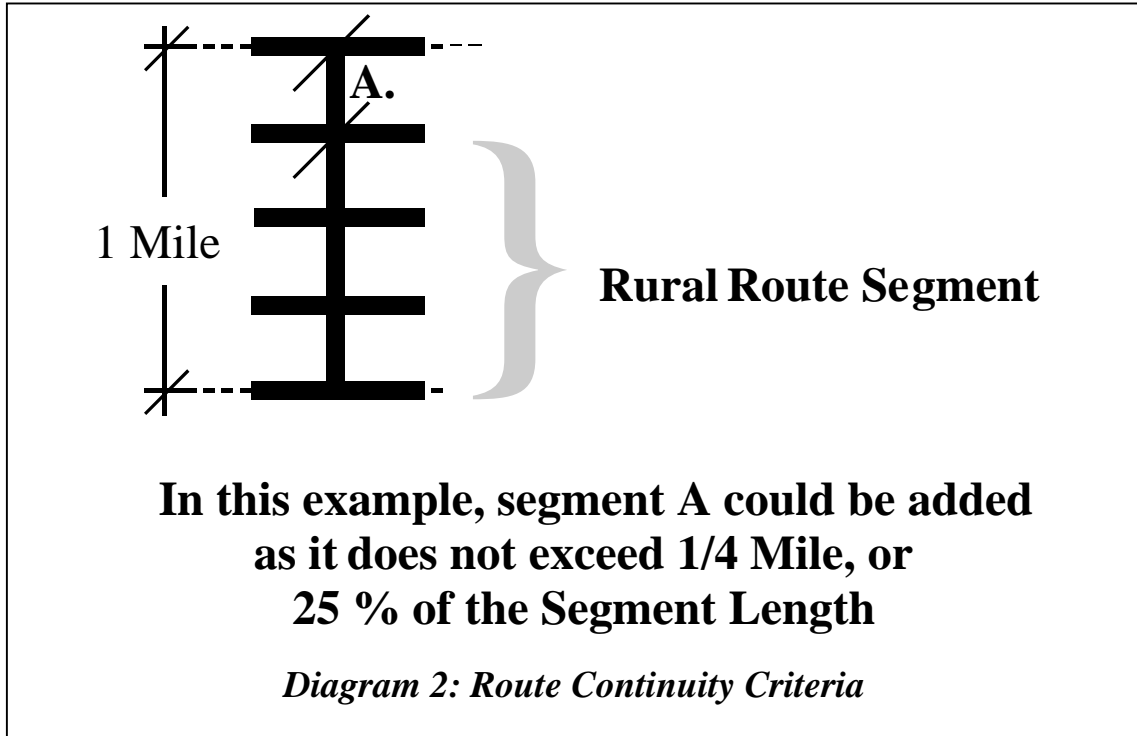
Supplemental Rural Criteria

The initial functional system refined by the supplemental criteria achieves a system within the system mileage percentages. Two of the following supplemental criteria, plus 90% of the appropriate current ADT volume criteria, shall be met to justify a minor arterial or collector route segment. The current ADT volume will determine the appropriate collector classification when the supplemental criteria are met.

1. Alternate Population Connection: In many instances, several routes provide important connections between the same two population centers. One route can usually be identified as the most important connection and classified under the basic criteria. However, the alternate connections should be considered under the supplemental criteria. An alternate population connection meets one supplemental criterion for a minor arterial or collector.
2. Major River Crossing or Restrictive Topography: A river crossing that avoids a travel indirection of 10 miles or greater, or a route that avoids a travel indirection of 10 miles or greater due to a topographic barrier meets one supplemental criterion for a minor arterial or a collector. For a minor arterial, when both a major river crossing and a restrictive topographic barrier are present, they in combination shall meet only one criterion. The bridge providing the crossing shall have a design rating of standard sufficiency listed in WisDOT's Bridge Manual and may not be posted for weight restrictions.
3. Route Parallels a Principal Arterial: A route that closely parallels a principal arterial often times keeps the shorter trips off the principal arterial. As such, a route paralleling a principal arterial meets one supplemental criterion for a collector.
4. Route Interchanges with a Freeway: A route that presently interchanges with a freeway meets one supplemental criterion for a collector.

Route Continuity Criteria

Short route segments (no more than 25% of a longer, continuous route) may be functionally classified the same as a longer route (as shown in Diagram 2).



System Mileage Percentage Criteria

1. The arterial percentage is compared to the guideline percentage on a statewide basis because of the interstate and interregional nature of arterials. Total principal arterial mileage should fall within 2.0 to 4.0% of the statewide total rural base of public roads. The total minor arterial mileage should fall within 4.0 to 8.0% of the total statewide rural base.
2. The collector and local percentage guidelines shown on charts B-1 and B-2 (pages 24 and 25) are calculated on a countywide basis. The major collector mileage should fall within 5.0 and 18.0% of the total rural base for each county, with most counties falling within the 7.0 to 14.0% range. Minor collector mileage should fall within 5.0 to 10.0% of the total rural base for each county.
3. The local mileage shall fall within 65.0 to 75.0% of the total rural county base miles. Most counties should fall within the 68.0 to 72.0% range.
4. In order not to penalize a county with a high percentage of arterials, the total arterial and collector systems may exceed 35.0% for that county by the amount the arterial system exceed 12.0% in that county.

Rural Principal Arterials (RPA)

Principal arterials provide interstate and interregional traffic mobility. They should form a continuous system within the state and, where feasible, connect with similar function routes in adjacent states. Principal arterials shall not stub-end, except for unusual geographic conditions or for irreconcilable differences at state lines.

1. Under the basic population service criteria shown on Chart A (page 23), principal arterials should make any of the following population connections:

Places Greater than or Equal to 50,000 to Other Places Greater than or Equal to 50,000

Places 5,000 to 49,999 to Places Greater than or Equal to 50,000

A place is considered served by a principal arterial, if the principal arterial either penetrates its boundary or comes within 10 miles of the center of the place and a penetrating service is provided by a minor arterial to the center.

2. Under the basic land use service criteria shown on Chart A, principal arterials should provide area access to all recreational areas of national or interstate significance, specifically:

- Apostle Islands National Lakeshore
- Wisconsin Dells Area
- Baraboo-Devils Lake Area
- Oneida County and Vilas County Lakes Area
- Hayward Area
- Door County
- Horicon Marsh Area
- Lake Geneva Area
- North Kettle Moraine Area
- South Kettle Moraine-Old World Wisconsin Area
- Iron Mountain (MI) Area

3. Under the basic spacing criteria shown on Chart A, the distance between principal arterials should not exceed 30 miles.
4. Under the basic current ADT volume criteria shown on Chart A, principal arterials in counties of rural population density of 43 or more persons per square mile should have current ADT volumes greater than or equal to 6,000. Principal arterials in counties of rural population density less than 43 persons per square mile should have current ADT volumes greater than or equal to 2,000.

5. Using the route continuity criteria, additional route segments may be classified as principal arterials (see page 14).
6. Under the mileage percent of system criteria, principal arterials should comprise 2.0 to 4.0% of the total certified rural mileage on a statewide basis.

Rural Minor Arterials (RMA)

Minor arterials provide intra-regional and inter-area traffic mobility. Together with the principal arterials, they should form a continuous system and connect with similar function routes in adjacent states. Minor arterials shall not stub-end except for unusual geographic conditions or for irreconcilable differences at state lines.

1. Under the basic population service criteria shown on Chart A (page 23), minor arterials should make any of the following population connections:

Places 5,000 to 49,999 to Other Places 5,000 to 49,999

Places 1,000 to 4,999 to Places Greater than or Equal to 5,000

In addition, minor arterials can connect places with populations of 1,000 to 49,999 to principal arterials.

A place is considered served by a minor arterial, if the minor arterial either penetrates its boundary or comes within two miles of the center of the place and a major collector provides penetrating service to the center.

2. Under basic land use service criteria shown on Chart A, minor arterials shall serve all traffic generating activities with an annual visitation greater than or equal to 300,000. A traffic generating activity is considered served by a minor arterial, if the main entrance is within two miles of the minor arterial.
3. Under the basic spacing criteria shown on Chart A, the distance between arterials should not exceed 30 miles.
4. Under the basic current ADT volume criteria shown on Chart A, minor arterials in counties with rural population density of 43 or more persons per square mile should have current ADT volumes greater than or equal to 2,000. Minor arterials in counties of rural population density less than 43 persons per square mile should have current ADT volumes greater than or equal to 1,000.
5. Additional minor arterials may be classified, if justified under the supplemental criteria and 90% of the appropriate current ADT volume shown on Chart A.
6. Using the route continuity criteria, additional route segments may be classified as minor arterials (see page 14).
7. Under the mileage percent of system criteria, minor arterials should comprise 4.0 to 8.0% of the total certified rural mileage on a statewide basis.

Rural Major Collectors (RMAC)

Major collectors provide intra-area travel mobility and land access within localized areas. Major collectors are also feeders to the arterial system from places with populations of 100 and over. Major collectors may be stub-ended but not isolated from the rest of the system.

1. Under the basic population service criteria shown on Chart B-1 (page 24), major collectors should make any of the following population connections:

Places 1,000 – 4,999 to Other Places 1,000 – 4,999

Places 500 - 999 to Places Greater than or Equal to 500

Places 100 - 499 to Places Greater than or Equal to 500

In addition, major collectors can connect places with populations of 100 to 4,999 to higher function routes.

A place is considered served by a major collector, if the major collector comes within one-half (½) mile of the center of the place.

2. Under the basic land use service criteria shown on Chart B-1, a route segment may be classified as a major collector in counties of rural population density of 43 or more persons per square mile, if it serves concentrations or strip development of facilities along the route segment having a cumulative point value equal to 16 or more. Similarly, a route segment may be classified a major collector in counties of rural population densities less than 43 persons per square mile, if it serves concentrations or strip development of facilities along the route segment having a cumulative point value equal to 12 or more.
3. Under the basic spacing criteria shown on Chart B-1, an intermediate route segment meets the spacing criterion, if the distance between two major collectors, a major collector and an arterial, or two arterials exceeds 10 miles.
4. Under the basic current ADT volume criteria shown on Chart B-1, major collectors in counties with rural population density of 43 or more persons per square mile should have current ADT volumes greater than or equal to 1,000 vehicles. Similarly, major collectors in counties of rural population density less than 43 persons per square mile should have a current ADT volume greater than or equal to 400 vehicles.
5. Using the current ADT volumes shown in parentheses on Chart B-1 as the sole justification, a route segment may be classified a major collector in counties with rural population density of 43 or more persons per square mile, if the current ADT volume is greater than or equal to 4,000 vehicles. Similarly, a route segment maybe classified a major collector in counties of rural population density less than 43 persons per square mile, if the current ADT volume is greater than or equal to 1,600 vehicles.

6. Additional route segments may be classified major collectors, if justified under two of the supplemental criteria and 90% of the appropriate current ADT volume shown on Chart B-1.
7. Using the route continuity criteria, additional route segments may be classified major collectors (see page 14).
8. Loop routes and stub-ended routes less than five miles long and meeting the criteria for a major collector shall be limited to a minor collector classification because of the trip characteristics normally associated with these routes.
9. Under the mileage percent of system criteria, major collectors should comprise 5.0 to 18.0% of the total certified rural mileage on a countywide basis, with most counties falling in the 7.0 to 14.0% range.

Rural Minor Collectors (RMIC)

Minor collectors provide intra-area travel and mobility within a localized area but with more emphasis on land access. A minor collector may be stub-ended but not isolated from the rest of the system.

1. Under the basic population service criteria shown on Chart B-2 (page 25), minor collectors should make the following population place connections:

Places 100 – 999 to Other Places 100 – 999

Places 50 – 99 to Places Greater than or Equal to 100

In addition, minor collectors can connect places with populations of 50 to 999 to higher function routes.

A place is considered served by a minor collector, if the minor collector comes within one-half ($\frac{1}{2}$) mile of the center of the place.

2. Under the basic land use service criteria shown on Chart B-2, a route segment may be classified as a minor collector in counties with rural population density of 43 or more persons per square mile, if it serves concentrations or strip development of facilities along the route segment having a cumulative point value equal to eight or more. Similarly, a route segment may be classified a minor collector in counties of rural population density less than 43 persons per square mile, if it serves concentrations or strip development of facilities along the route segment having a cumulative point value equal to five or more.
3. Under the basic spacing criteria shown on Chart B-2, an intermediate route meets the spacing criterion for a minor collector, if the distance between two collectors, two arterials, or an arterial and collector exceeds 10 miles.
4. Under the basis current ADT volume criteria shown on Chart B-2, minor collectors in counties with rural population density of 43 or more persons per square mile should have a current ADT volume greater than or equal to 400 vehicles. Similarly, minor collectors in counties of rural population density less than 43 persons per square mile should have a current ADT volume greater than or equal to 200 vehicles.
5. Using the current ADT volume shown in parentheses on Chart B-2 as the sole justification, a route segment may be classified a minor collector in counties with rural population density of 43 or more persons per square mile, if the current ADT volume is greater than or equal to 1,600 vehicles. Similarly, a route segment may be classified a minor collector in counties of rural population less than 43 persons per square mile, if the current ADT volume is greater than or equal to 800 vehicles.
6. Additional route segments may be classified minor collectors, if justified under two of the supplemental criteria and 90% of the appropriate current ADT volume shown on Chart B-2.

7. Using the route continuity criteria, additional route segments may be classified minor collectors.
8. Under the mileage percent of system criteria, the minor collectors should comprise 5.0 to 10.0% of the total certified rural mileage on a countywide basis.

Rural Local Roads (RLOC)

Local road routes provide land access. They may be stub-ended but not isolated from the rest of the system. Rural public roads not classified as arterials or collectors are rural local function roads.

1. Under the mileage percent of system criteria, local function roads shall comprise 65.0 to 75.0% of the total rural mileage on a countywide basis. Most counties should fall within the 68.0 to 72.0% range.
2. To ensure that each county does not exceed the maximum percentage of system for local function roads, those route that segments that come the closest to meeting the major collector or minor collector criteria shall be added, as appropriate, to fall within the individual collector percents of system ranges.
3. Conversely, to ensure that each county has at least the minimum percentage of local function roads, those collector route segments that are the least supportable under the criteria shall be removed, as appropriate, to fall within the local mileage percentage. Generally, route segments meeting the supplemental criteria are considered less supportable than route segments meeting the basic criteria.

Chart A – Rural Arterials

Rural Principal Arterials (RPA)						
Includes Interstate (RPAI) and Other (ROPA)						
County Population Density (Rural)	Basic Criteria				Supplemental Criteria	Desirable Mileage Percent of System Range
	Must meet any 2 of the below:				or must meet both of the below plus 90% of Current ADT Volume	
	Population Service*	Land Use Service	Spacing	Current ADT		
≥43	Connect places: ≥50,000 to ≥50,000 5,000 – 49,999 to ≥50,000.	Provide access to major recreation areas of the state (see text).	Maximum 30 miles between Principal Arterials	≥6,000	None	2.0-4.0% statewide
<43				≥2,000		
Rural Minor Arterials (RMA)						
≥43	Connect places: 1,000 – 4,999 to ≥50,000 5,000 – 49,999 to 5,000 – 49,999	Serve all traffic generating activities with an annual visitation of ≥300,000, if not served by a principal arterial.	Maximum 30 miles between Arterials	≥2,000	1. Alternate population connection 2. Major river crossing/restrictive topography	4.0-8.0% statewide
<43	1,000 – 4,999 to ≥50,000 1,000 – 4,999 to 5,000 – 49,999 or to principal arterials			≥1,000		

* A place is considered served by a principal arterial, if the principal arterial either penetrates its boundary or comes within 10 miles of the center of the place and penetrating service is provided by a minor arterial. A place is considered served by a minor arterial, if the minor arterial either penetrates its boundary or comes within two miles of the center of the place and a major collector provides penetrating service.

Chart B-1 - Rural Major Collectors

Rural Major Collector (RMAC)*						
County Population Density (Rural)	Basic Criteria				Supplemental Criteria	Desirable Mileage Percent of System Range
	Must meet any 2 of the below or the Parenthetical Current ADT Volume Alone				or must meet 2 of the below plus 90% of Current ADT Volume	
	Population Service**	Land Use Service (served if within a ½ mile of place)	Spacing	Current ADT		
≥ 43	Connect places: 1,000 – 4,999 to 1,000 – 4,999 500 – 999 to $\geq 50,000$ 500 – 999 to 5,000 – 49,999 500 – 999 to 1,000 – 4,999	Land Use Service Index ≥ 16 .	Maximum 10 miles between Major Collectors or Higher Function Routes	$\geq 1,000$ ($\geq 4,000$)***	1. Alternate population connection 2. Major river crossing 3. Restrictive topography 4. Interchanges with a freeway 5. Parallel to a principal arterial.	5.0-18.0% countywide Most counties should be at 7.0 - 14.0%
< 43	500 - 999 to 500 - 999 100 – 499 to $\geq 50,000$ 100 – 499 to 5,000 – 49,999 100 – 499 to 1,000 – 4,999 100 - 499 to 500 – 999 or to higher function routes	Land Use Service Index ≥ 12 .		≥ 400 ($\geq 1,600$)***		

* Loop routes and stub ended routes less than 5 miles long and meeting the basic criteria for a major collector should be limited to a minor collector classification.

** A place is considered served by a major collector, if the major collector comes within a ½ mile of the center of the place.

*** The highway segment must be a minimum of a ½ mile long.

Chart B-2 - Rural Minor Collectors and Local Roads

Rural Minor Collectors (RMIC)						
County Population Density (Rural)	Basic Criteria				Supplemental Criteria	Desirable Mileage Percent of System Range
	Must meet any 2 of the below or the Parenthetical Current ADT Volume Alone				or must meet 2 of the below plus 90% of Current ADT volume	
	Population Service*	Land Use Service (served if within 1/2 mile of place)	Spacing	Current ADT		
≥ 43	Connect places: 100 – 999 to 100 – 999 50 – 99 to $\geq 50,000$ 50 – 99 to 5,000 - 49,999	Land Use Service Index ≥ 8 .	Maximum 10 miles between Minor Collectors or Higher Function Routes	≥ 400 ($\geq 1,600$)**	<ol style="list-style-type: none"> 1. Alternate population connection. 2. Major river crossing. 3. Restrictive topography. 4. Interchange with freeway. 5. Parallel to a principal arterial. 	5.0-10.0% countywide
< 43	50 – 99 to 1,000 – 4,999 50 – 99 to 500 – 999 50 – 99 to 100 - 499 or to higher function routes	Land Use Service Index ≥ 5 .		≥ 200 (≥ 800)**		
Rural Local Roads (RLOC)						
All public roads not classified as arterials or collectors.						65.0 – 75.0% countywide Most counties should be at 68.0 – 72.0%

*A place is considered served by a minor collector, if the minor collector comes within a 1/2 mile of the center of the place.

** The highway segment must be a minimum of a 1/2 mile long.

Rural Incorporated Places Under 5,000

Chart C (page 27) provides criteria to classify minor collectors in incorporated communities with populations under 5,000. Routes within some communities have more importance within these communities than local streets and may be classified as minor collectors, if the route meets the criteria. The three basic criteria are land use service, CBD (central business district) circulation, and current ADT volume. To be classified a minor collector; a route segment must meet current ADT volume and either the land use service or the rural-urban interface criteria.

1. Land Use Service Criteria: If the main access point is within one-eighth mile of an arterial or collector, the following land uses are considered served:
 - Type 1, 2, 3, 4, or 5 airport
 - Regional, community, or neighborhood shopping center
 - College, high school, middle school, intermediate school, or elementary school
 - Community/regional, sub-community, or neighborhood park
 - Industrial plant
 - Office buildings
 - Hospital or clinic
 - Golf course
 - Warehouse
 - Marina
 - Arena or stadium
 - Gambling facilities
2. CBD Circulation Criteria: A route segment should form part of the logical street system for traffic circulation in the CBD.
3. Current ADT Criteria: To be eligible for minor collector classification, a route segment should have a current ADT volume greater than or equal to 450 vehicles. Using the current ADT volume shown in parentheses on Chart C as the sole justification, a route segment may be classified a minor collector, if its current ADT volume is greater than or equal to 1,750 vehicles.

Note: The mileage of the minor collectors in rural communities (“Chart C”) should be included as part of the total rural minor collector mileage for a county.

Chart C - Rural Incorporated Places under 5,000

Minor Collectors in Communities under 5,000 (RMIC)			
Must meet one of the below plus Current ADT Volume or the Parenthetical Current ADT Volume Alone:		Current ADT	System Mileage Percentage
Land Use Service	CBD Circulation		
<p>The following land uses should be within 1/8 mile:</p> <ul style="list-style-type: none"> a. Type 1,2,3,4, or 5 airport. b. Regional, community, or neighborhood shopping center c. College and school (high, middle, intermediate, or elementary) d. Community/regional, sub-community, or neighborhood park e. Industrial plant f. Office buildings g. Hospital or clinic h. Golf course i. Warehouse j. Marina k. Arena or stadium l. Gambling facilities 	<p>Should include the logical street system for circulation in the CBD.</p>	<p>≥450 (≥1,750)</p>	<p>Minor collectors in “Chart C” communities should be included as part of the total rural minor collector mileage for a county.</p>

URBAN FUNCTIONAL CLASSIFICATION

The functional classification process of urban streets and highways organizes routes according to the character of service provided, ranging from travel mobility to land access. The functional class system also sub-classifies routes by facility type and by their rural relationship (connecting links of the rural functional class system). Urban functions are as follows:

Principal Arterials: Principal arterials serve major economic activity centers of an urban area, the highest ADT corridors, and regional and intra-urban trip length desires. In every urban area, the longest trip lengths and highest ADT volumes are characteristic of the main entrance and exit routes. Because they have the longest trip lengths, highest volumes, and are generally extensions of the highest rural functional routes, such routes should be principal arterials. Principal arterial trip lengths are indicative of the rural-oriented traffic entering and exiting the urban area on the rural arterial system, as well as the longest trans-urban area travel demands.

Minor Arterials: Urban minor arterials serve important economic activity centers, have moderate ADT volumes, and serve intercommunity trip length desires interconnecting and augmenting the principal arterial system. Trip lengths are characteristic of the rural-oriented traffic entering and exiting the urban area on the rural collector system. In conjunction with principal arterials, minor arterials should provide an urban extension of the rural collector system to the urban area CBD and connect satellite community CBD's with the main CBD.

Although the predominant function of minor arterials is traffic mobility, minor arterials serve some local traffic while providing greater land access than principal arterials. As such, minor arterials may be stub-ended at major traffic generators.

Collectors: Collectors provide direct access to residential neighborhoods, commercial, and industrial areas, and serve moderate to low ADT volumes and inter-neighborhood trips. As the name implies, these routes collect and distribute traffic between local streets and arterials. In the CBD and areas of similar development and traffic density, the collector system may include the street grid, which forms the logical entity for traffic circulation.

Collectors may stub-end in penetrating residential neighborhood and serving isolated traffic generators, but should be linked to other collectors and arterials for traffic circulation.

Generally, the travel mobility and land access functions of collectors are equal.

Local Streets: Urban local streets predominantly serve to access adjacent land uses. They serve the ends of most trips. All streets not classified as arterials or collectors are local function streets.

URBAN CRITERIA

The goal of functional classification is to determine the relationship between mobility and land access on a given facility. With the exception of urban principal arterials, the criteria for determining the appropriate functional class of an urban street or highway, like rural routes, are divided into **basic** and **supplemental** classes. The basic criterion provides an initial system to be refined by supplemental criteria. It then achieves a system within system mileage percentages.

Basic Urban Criteria

Urban areas are stratified to provide three population groupings. The population categories are:

- 5,000-24,999
- 25,000-49,999
- 50,000 and over.

As shown in charts D, E, and F (pages 42-44), there are four basic determinants of functional classification: rural-urban interface, land use service, spacing, and current ADT volume. To be justified as an arterial route, for example the route must meet the appropriate current ADT volume criterion and the land use service, or spacing criteria. This criterion is similar for a collector route to be justified.

1. Rural-Urban Interface: Rural-urban interface ensures the connectivity of routes between rural and urban areas. In every urban area, the longest trip lengths and highest ADT volumes are the major entrance and exit routes of the urban area, and are generally extensions of the rural arterials. Because arterials have the longest trip lengths, highest volumes, and are extensions of the highest rural functional routes, these routes shall be classified as principal arterials in accordance with the criteria set forth on Chart D.

The next longest trip lengths and the next lowest ADT volumes are characteristic of the urban extensions of the rural collectors. These extensions, justified as minor arterials in accordance with Chart E integrate the urban and rural systems into one continuous system.

2. Land Use Service Criteria: The functional classification of a street or highway is highly dependent on the surrounding land uses served by that street or highway. The urban land use service criterion is predicated on the following ground rules:
 - Every principal arterial land use is considered served, if the main access point to that land use is within one (1) mile of a principal arterial.
 - Every minor arterial land use is considered served, if the main access point to that land use is within a half (½) mile of a minor arterial.

- Every collector land use is considered served if the main access point to the land use is within one-quarter (¼) mile of a collector.
- All distances are “over-the-road” distances.

Urban Land Use Definitions

The following land uses define the varied urban land use services:

Airports:

The following classification of airports is based on the classification terminology developed for the Wisconsin State Airport System Plan 2020:

- | | |
|-------------------------------|--------|
| • Air Carrier/Cargo Airport | Type 1 |
| • Transport/Corporate Airport | Type 2 |
| • General Utility Airport | Type 3 |
| • Basic Utility-B Airport | Type 4 |
| • Basic Utility-A Airport | Type 5 |

Retail/Commercial:

- “Main Urban Area CBD” is the primary Central Business District, of the urban area. It is where the predominant land use consists of intense business and governmental activity.
- “Satellite Community CBD” is the Central Business District of each satellite municipality (city or village) within the urban area.
- “Regional Shopping Center” is a retail complex of two or more department stores with a number of specialty stores. It typically has more than 40 stores, totaling 500,000 or more square feet of gross floor area, and employs 500 or more people. It serves a market area of 100,000 or more people.
- “Community Shopping Center” is a retail complex generally with one department store and several specialty shops generally between 100,000 and 499,999 square feet of gross floor area, and employing between 100 and 499 people. It serves a multi-neighborhood market area of 10,000 or more people.
- “Neighborhood Shopping Center” is a retail complex servicing one or two residential neighborhoods. It provides neighborhood services including supermarket, bakery, drugstore, cleaners, video store and liquor store. This type of complex is generally less than 100,000 square feet of gross floor area.

Industrial/Warehousing:

- “Industrial Park” is any area specifically designated and containing a number of industrial and related facilities.
- “Large Industrial Plant” is any single facility of 500,000 or more square feet of gross floor area, generally employing 500 or more people.
- “Small Industrial Plant” is any single facility of less than 500,000 square feet of gross floor area, generally employing less than 500 people.
- “Large Warehousing” is any facility used primarily for the storage of goods that contains 100,000 or more square feet of gross floor area and employs 500 or more people.
- “Small Warehousing” is any facility used for the storage of goods that contains less than 100,000 square feet of gross floor area and employs less than 500 people.

Recreational:

- “Community/Regional Park” is a park serving the entire urban area and/or the surrounding vicinity. A park qualifies if it contains either zoological or botanical gardens, or if it provides facilities for at least six (6) of the following activities:
 - Track and field
 - Major organized field sports (football, softball, baseball, soccer, rugby, etc.)
 - Special court sports (handball, racquetball, squash, indoor tennis, etc)
 - Skiing (cross county or downhill)
 - Archery
 - Bicycling
 - Curling
 - Model airplane flying
 - Horseback riding
 - Dog Walking (specific designated facilities)
 - Camping
 - Major outdoor stage shows
 - Special historic or environmental attractions
- “Sub-Community Park” is a park serving an area encompassing three or more residential neighborhoods, usually within a radius of 2½ miles. The park should provide facilities for at least six (6) of the following activities:
 - Organized field sports (football, baseball, softball, soccer, rugby, etc.)
 - Swimming
 - Boating, canoeing
 - Fishing

- Group picnicking
 - Par 3 golf
 - Minor outdoor stage shows
 - Ice hockey or skating
 - Tobogganing
 - Frisbee golf
 - Any activities listed under the Community/Regional Park
- “Neighborhood Park” is a park serving an area encompassing one or two residential neighborhoods, usually within a radius of one-half (½) mile. The park should provide facilities for at least six (6) of the following activities:
 - Playground activities
 - Baseball/softball
 - Basketball
 - Tennis (outdoor courts)
 - Picnicking
 - Sheltered picnicking
 - Ice hockey/ice skating
 - Sledding
 - Table games, crafts, etc.
 - Non-organized field sports
- “Marina” means any boat-berthing facility containing at least 100 berths or a comparable size parking lot.
- “Golf Course” means any private or public nine-hole or more golf course with at least nine (9) holes.
- “Gambling facilities” means large gambling halls, bingo parlors, riverboat casinos, and casino’s containing electronic or manually controlled slot machines. “Theatre complex” means movie theatres consisting of audience seating, multiple screens, auditoriums, a lobby, and a refreshment stand. “Civic center” means a building including a stage, a backstage area, dressing rooms, seats for the audience, and a lobby area.

Institutional:

- “Primary Medical Center” means any hospital complex of regional or statewide significance.
- “Community Hospital” means any institution for medical or surgical care primarily serving the urban areas and the nearby surrounding vicinity.
- “Clinic” means any facility that provides diagnoses and outpatient care but does not provide inpatient medical or surgical services.

Office:

- “Large Office Building (s)” means any building(s) used primarily for the conduction of business or activities that employs 500 or more people. These include office parks. The total gross floor area is generally 300,000 or more square feet.
- “Small Office Building” means any building used primarily for the conduction of business or professional activities that employs less than 500 people. The total gross floor area is generally less than 300,000 square feet.

3. Spacing Criteria: Chart D shows maximum spacing criteria for principal arterials. When the distance between two principal arterials exceeds one (1) mile in the CBD or three (3) miles outside the CBD [five (5) miles for Milwaukee], a segment meets one basic criterion.

Chart E shows maximum spacing criteria for minor arterials. If the distance between two minor arterials, or a combination with principal arterials, exceeds a half (½) mile in the CBD or two (2) miles outside the CBD an intermediate route segment meets one basic criterion.

Maximum spacing criteria for collectors are shown on Chart F. If the distance between two collectors, or a combination with arterials, exceeds a quarter (¼) mile in the CBD, or one (1) mile outside the CBD, an intermediate route segment meets one basic criterion.

4. Current ADT Volume: **In urban areas, current ADT volume is a required condition.** The ADT volumes in urban areas will be current weekday ADT volumes. For route segments to qualify as particular functional classes under the basic criterion of ADT volume, the route segments should meet the volume requirements listed on Charts D, E, and F; based on an average ADT volume over the length of the route.

Route segments classified solely on current ADT volume must meet the parenthetical value requirements shown on charts D, E, and F.

Because of the differences in current ADT volumes among the various sized urban areas in Wisconsin, the current ADT volume criteria have been stratified by urban area population size. This criteria is divided into the following (as shown on charts D, E, and F):

- 5,000 - 24,999
- 25,000 - 49,999
- 50,000 and over.

For minor arterials and collectors within satellite municipalities having a smaller population grouping than the greater population grouping (nearer to the CBD, for example), the lower population criterion is used.

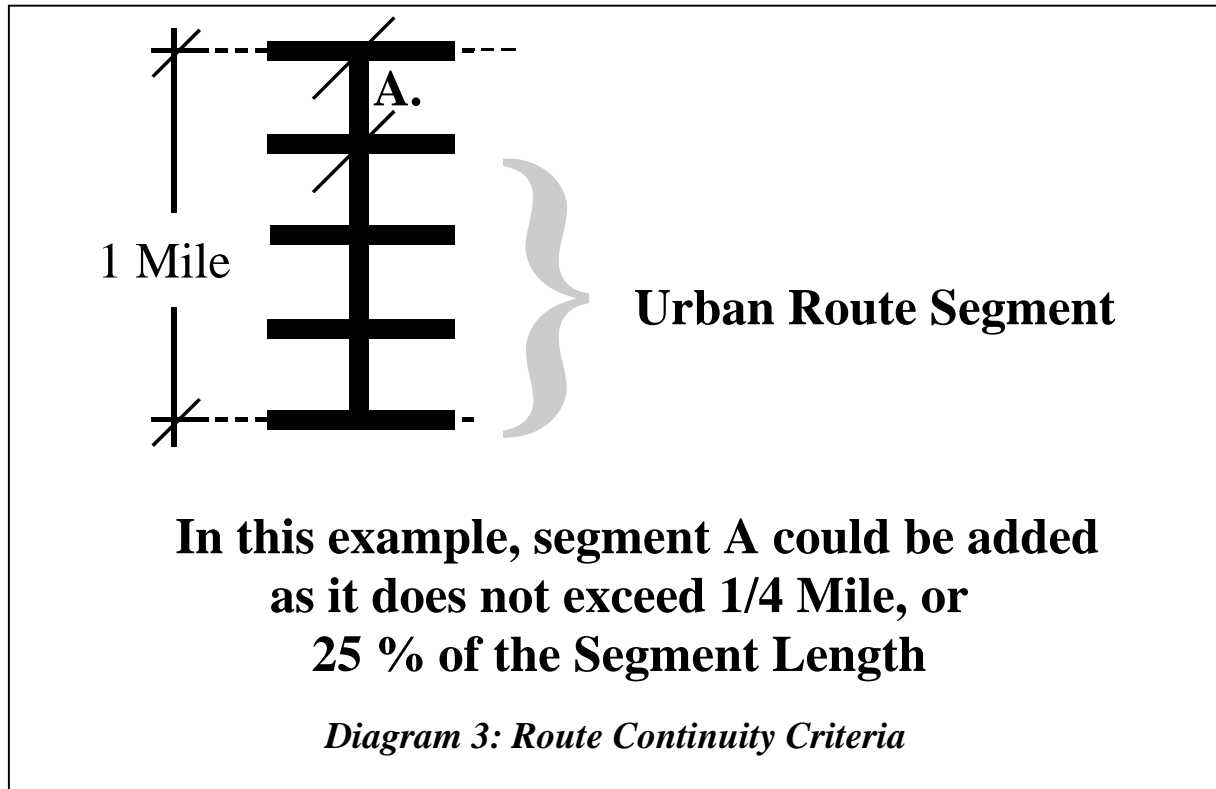
Supplemental Urban Criteria

Supplemental criteria may be used to classify minor arterials or collectors to yield a functional system in the appropriate percent of system ranges. Two of the following supplemental criteria, plus 90% of the current ADT volume, must be met to justify a route. The current ADT volume will determine the appropriate arterial or collector class when two supplemental criteria are met.

1. Bus Route: A route segment, which is part of an official urban transit system routing, meets one supplemental criterion.
2. Truck Route: A route segment, which is part of an officially designated and signed truck route, meets one supplemental criterion. In those areas where no specific truck routes are designated, but trucks are specifically prohibited on certain signed routes, a route segment that is not specifically signed as prohibiting trucks meets one supplemental criterion. Cities, which neither sign truck routes nor prohibit trucks on certain routes, have no routes that meet this criterion.
3. Signalization: A route segment, which is signalized at either end, meets one supplemental criterion.
4. Interchange with a Freeway: A route that interchanges with a freeway meets one supplemental criterion.
5. Major River Crossing or Restrictive Topography: A river crossing or a route that avoids travel indirection due to a natural or constructed topographic barrier meets one supplemental criterion. When both a major river crossing and a restrictive topographic barrier are present, they in combination shall meet only one criterion. The bridge providing the crossing shall have a design rating of standard sufficiency listed in WisDOT's Bridge Manual and may not be posted for weight restrictions.

Route Continuity Criteria

Short route segments (no more than 25% of a longer, continuous route) may be functionally classified the same as the longer route (as shown in Diagram 3).



System Mileage Percentage Criteria

1. The principal arterial mileage percent of system should fall between 5.0 and 10.0% of the total certified mileage within each urban area.
2. The minor arterial mileage percent of system should fall between 10.0 and 15.0% of the total certified mileage within each urban area.
3. The collector mileage percent of system should fall between 5.0 and 10.0% of the total certified mileage within each urban area.
4. With only one exception, the local mileage percent of system shall fall between 65.0 and 80.0% of the total certified mileage. Most urban areas falling between 68.0 and 73.0%. The exception allows for the total of arterials and collectors for a particular urban area to exceed 35.0% by the amount the rural-dependent arterials exceed 25.0% for that urban area. These routes are determined by looking at routes justified under the rural-urban interface criteria.

Urban Principal Arterials (UPA)

1. One of the most important aspects of rural-urban interface is integration of the rural and urban functional systems. Most principal arterials carry the major portion of trips entering and exiting the urban area, as well as those wishing to bypass the central city, similar to the rural arterials. Therefore, urban extensions of the rural arterials shall be classified as urban principal arterials in accordance with the criteria set forth on Chart D (page 42). These routes should connect the rural system together serving those trips destined for the CBD, as well as those desiring to pass entirely through the urban area.

Under the basic land use service criteria shown on Chart D, the following land uses should be served by a principal arterial:

- Main CBD of the Urban Area
- Intermodal Terminals such as Types 1 and 2 Airports (existing system classification)*, Rail Passenger Stations, etc.
- Regional Shopping Centers
- Major Colleges and Universities
- Regional/Community Parks
- Industrial Parks
- Large Stadia, Arenas, or Convention Centers
- Primary Medical Centers
- Gambling facilities

*Airport Classes: The following classification of airports is based on the classification terminology developed for the Wisconsin State Airport System Plan 2020:

- | | |
|-------------------------------|--------|
| ▪ Air Carrier/Cargo Airport | Type 1 |
| ▪ Transport/Corporate Airport | Type 2 |
| ▪ General Utility Airport | Type 3 |
| ▪ Basic Utility-B Airport | Type 4 |
| ▪ Basic Utility-A Airport | Type 5 |

Urban areas in the 5,000 to 24,999-population category usually have most principal arterial land uses located in the CBD or within one mile of an urban extension of a rural arterial. Therefore, those routes that connect the rural arterials to the CBD or through the urban area are generally the only principal arterials necessary in the smaller urban areas. However, as the urban approaches the 25,000-population size, disbursement of economic activity may cause additional principal arterials to develop that are wholly internal to the urban area. To ensure that the principal arterial land uses are within the defined service distance (one mile), principal arterials, in addition to those serving as urban extensions of the rural arterials, may be necessary. Rural-urban interface also requires that principal arterials be integrated into a logical and continuous systems. Principal arterials are generally not stub-ended, except at modal terminals, such as ferries and types 1 and 2 airports.

To be considered served by a principal arterial, the particular land use must be accessible within one mile of the principal arterial. In addition, the route serving the land use must be

linked to other similarly classified routes to provide service in a reasonable manner in all direction for which the appropriate travel demand exists.

2. Under the basic spacing criteria, the distance between principal arterials should not exceed one (1) mile in the CBD, or three (3) miles outside the CBD (five miles for Milwaukee).
3. While principal arterials carry the highest volumes of traffic in any particular urban area, the actual magnitude of volume can vary considerably from one urban area to another. Therefore, current ADT volume criteria have been established for the three population categories. As indicated on Chart D, the minimum current ADT volumes for principal arterials meeting the land use or spacing criteria range from 3,750 to 9,000 ADT.

The values in parentheses on Chart D indicate minimum current ADT volumes sufficient to justify a principal arterial solely on the basis of traffic volume. The route must be at least one (1) mile long. The minimum values range from 15,000 to 30,000 ADT, depending on the population size of the urban area.

To meet any of the traffic volume warrants for principal arterials, the volumes should be combined on one-way streets acting as pairs.

4. Using the route continuity criteria, additional route segments may be classified as principal arterials (see page 35).
5. Freeway-Expressway Identification (see Appendix A):

Under the national functional classification system, principal arterials are split into sub-classes of Interstate, Other Freeways and Expressways, and Other Principal Arterials. The Interstate sub-class identifies all urban routes officially included in the National System of Interstate and Defense Highways. Since these routes are easily discernible by their highway number and are of the same facility type, Wisconsin has chosen to combine them with the Other Freeways and Expressways. The definition of an “Expressway” under the criteria is the national definition which equates to a freeway.

6. Connecting Link Identification (see Appendix A):

Under the functional classification system any principal arterial that serves as an urban extension of a rural arterial shall be identified as a “connecting link of rural principal arterial” or a “connecting link of a rural minor arterial.” All other principal arterials are important primarily for internal movements within the urban area and are identified as non-connecting links. Minor arterials and collectors are similarly identified as to connecting link information.

Urban Minor Arterials (UMA)

1. Minor arterial rural-urban interface involves integrating the urban extension of the rural collector systems. Urban extensions should serve to connect the rural routes to the CBD of the urban area in the most direct manner representative of traffic movements. In many instances, connecting the urban extensions of the rural collectors to an urban principal arterial can provide the CBD connection. One alternate connection of rural principal arterial to the CBD may be classified an urban minor arterial, provided it meets the current ADT volume criteria. This route must be shorter than the main connection. In smaller urban areas (5,000-24,999 population category), most minor arterial land uses will generally be in the CBD or within one-half (½) mile of a principal arterial, or an urban extension of a rural collector. However, some urban areas (in the 5,000-24,999 range) may require other minor arterials in addition to the urban extensions of the rural collectors to ensure all minor arterial land uses are within the defined service distance ½ mile. The area disbursement of minor arterial land uses in urban areas with populations of 25,000 and over will usually require additional minor arterials over and above those providing the urban extensions of the rural collectors.
2. Under the basic land use service criteria shown on Chart E (page 43), the following land uses should be served by a minor arterial, if not already served by a principal arterial:

- CBD's of all satellite communities in the urban area
- Types 3, 4, and 5 airports (existing system classification)*
- Community shopping centers
- Junior or community colleges
- Large individual industrial plants
- High schools
- Large office Building(s)
- Community hospitals
- Clinics
- Sub-community parks
- Golf courses
- Fire stations
- Theatre Complexes
- Civic Centers

*Airport Classes: The following classification of airports is based on the classification terminology developed for the Wisconsin State Airport System Plan 2020:

▪ Air Carrier/Cargo Airport	Type 1
▪ Transport/Corporate Airport	Type 2
▪ General Utility Airport	Type 3
▪ Basic Utility-B Airport	Type 4
▪ Basic Utility-A Airport	Type 5

A particular land use is considered served by a minor arterial, if that land use is accessible within a half (½) mile of the minor arterial. Further, the route serving the land use must be linked to other minor arterials or principal arterials to provide service in a reasonable manner

in all directions for which the appropriate travel demand exists. In addition, all non-principal arterial streets with continuous commercial retail strip development over a quarter (¼) mile in length shall be classified as minor arterials. Furthermore, routes connecting a main urban area CBD with a satellite community CBD shall be classified as minor arterials.

3. Under the basic spacing criteria shown on Chart E, the distance between minor arterials, or a combination with principal arterials, should not exceed a half (½) mile in the CBD, or two (2) miles outside the CBD.
4. As with principal arterials, the actual magnitude of current ADT volumes on minor arterials can vary considerably. Therefore, this criterion has been stratified by population of the urban area. As indicated on Chart E, the current ADT volumes for minor arterials meeting the land use or spacing criteria range from 1,500 to 4,500 ADT.

The values in parentheses on Chart E indicate minimum current ADT volumes sufficient to justify a minor arterial solely on the basis of ADT alone. The route must be a least one-half (1/2) mile long. These minimum values range from 6,000 to 15,000 ADT, depending on population.

To meet any of the ADT warrants for minor arterials, the volumes should be combined on one-way streets acting as pairs.

5. Additional minor arterials may be classified if justified through two supplemental criteria plus 90% of the current ADT volume, shown on Chart E.
6. Under the mileage percent of system criteria, minor arterials should comprise 10.0 to 15.0% of the total certified mileage in each urban area.

Urban Collectors (UCOL)

1. Collectors may penetrate each neighborhood to distribute and collect traffic between local streets and arterials. Collectors should be integrated with urban arterials. Stub-ended collectors are permissible to the extent needed to penetrate every neighborhood and direct traffic to the arterial system for the longer through trips. In densely developed areas, the collector system should include those streets not classified as arterials that are necessary for logical traffic circulation.
2. Under the basic land use service criteria shown on Chart F (page 44), the following land use types should be served by an urban collector:
 - Elementary or Intermediate Schools
 - Small, Freestanding Industries
 - Large Warehouse Facilities
 - Neighborhood Shopping Centers
 - Small Office Buildings
 - Neighborhood Parks
 - Marinas
 - Municipal Administration Buildings

A collector land use is considered served, if that land use is accessible within a quarter ($\frac{1}{4}$) mile of a collector, minor arterial, or principal arterial.

3. Under the basic spacing criteria shown on Chart F, the distance between collectors or a combination with arterials should not exceed a quarter ($\frac{1}{4}$) mile in the CBD, or one (1) mile outside the CBD.
4. As with the urban arterials, the collector current ADT volume criterion has been stratified by population size category of the urban area. Chart F shows the minimum values for routes meeting the rural-urban interface, land use, or spacing criteria. These values range from 750 to 2,250 vehicle per weekday.

The values in parentheses indicate the minimum current ADT values that justify a collector solely based on ADT volumes. The route must be a least one-quarter ($\frac{1}{4}$) mile long. These values range from 3,000 to 9,000 ADT, depending on the population of the urban area.

To meet any of the ADT warrants for collectors, the volumes should be combined on one-way streets acting as pairs.

5. Additional collectors may be classified, if justified by two of the supplemental criteria plus 90% of the current ADT volume, as shown on Chart F.
6. Under the mileage percent of system criteria, collectors should comprise 5.0 to 10.0% of the total certified mileage in each urban area.

Urban Local Streets (ULOC)

1. Under the mileage percent of system, local streets shall comprise 65.0 to 80.0% of the total certified mileage in each urban area. Most urban areas fall within the 68.0 to 73.0% range.
2. To ensure that each urban area does not exceed the maximum for local streets (80.0%), those routes that come the closest to meeting the minor arterial or collector criteria shall be added, as appropriate, to fall within the minor arterial and collector percents of system ranges.

Conversely, to ensure that each urban area has the minimum percentage of local streets, those route segments that are the least supportable as collectors under the criteria shall be removed, as appropriate, to fall within the local mileage percentage. It is possible to have less than 65% classified as urban local roads because the total for arterials and collectors can fluctuate depending on rural-dependant arterials. Generally, route segments meeting the supplemental criteria are considered less supportable than route segments meeting the basic criteria.

Chart D - Urban Principal Arterials

<p align="center">Urban Principal Arterials (UPA) <i>Includes Interstate (UIPA), Other Freeway (UFPA), High Level Expressway (UXPA) and Other (UOPA)</i></p>						
Urban Area Population	First apply <u>Rural – Urban Interface</u> then apply <u>Basic Criteria</u>					Desirable Mileage Percent of System
	<u>Rural – Urban Interface</u>		<u>Basic Criteria</u>			
	An RPA becomes an UPA. An RMA or UMA changes to an UPA when it meets one of the following:		Must meet either Land Use Service or Spacing plus Current ADT OR Parenthetical ADT Alone			
	Parenthetical ADT Alone	Intersects with an UPA or UMA PLUS Current ADT of: (OR-the intersection is on the urban boundary and intersects a RPA or RMA)	Land Use Service A UPA should be within one (1) mile of the following Land Uses:	Spacing	Current ADT	
5,000 to 24,999	(≥6,000)	≥3,750	a. Main CBD of urban area b. Intermodal terminal (airport, rail passenger, etc). c. Regional shopping center d. Major college/ university e. Regional/Community park f. Industrial park g. Large stadium, arena, or convention center h. Primary Medical Center i. Gambling facilities	<u>Maximum</u> CBD = 1 mile Other = 3 miles Milwaukee County = 5 miles	≥3,750 (≥15,000)*	5.0% to 10.0%
25,000 to 49,999	(≥10,500)	≥6,000			≥6,000 (≥22,500)*	
50,000 +	(≥15,000)	≥9,000			≥9,000 (≥30,000)*	

* The highway segment must be a minimum of a mile long.

Chart E - Urban Minor Arterials

<p align="center">Urban Minor Arterials (UMA) <i>Includes Other Freeway (UFMA), and High Level Expressway (UXMA) and Other (UOMA)</i></p>							
Urban Area Population	First apply <u>Rural – Urban Interface</u> then apply <u>Basic Criteria</u>					<u>Supplemental Criteria</u> Must meet two (2) below PLUS 90% of Current ADT	Desirable Mileage Percent of System
	<u>Rural – Urban Interface</u>		<u>Basic Criteria</u>				
	An RMA becomes a UMA until it meets UPA criteria. An RMAC or RMIC changes to an UMA when it meets one of the following:		Must meet either Land Use Service or Spacing plus Current ADT OR Parenthetical ADT Alone				
	Parenthetical ADT Alone	Intersects with an UCOL, UMA or UPA PLUS ADT of:	Land Use Service A UMA should be within a ½ mile of the following Land Uses:	Spacing	Current ADT		
5,000 to 24,999	(≥3,000)	≥1,500	a. CBD of each satellite community b. Type 3, 4, & 5 airport c. Community shopping center d. Junior or community college e. Large industrial plant f. High school	Maximum CBD = ½ mile Other = 2 miles	≥1,500 (≥6,000)*	1. Bus Route 2. Truck route	
25,000 to 49,999	(≥6,000)	≥3,000	g. Large office building(s) h. Community hospital i. Clinic j. Sub-community park k. Golf course l. Theatre Complex m. Civic Center		≥3,000 (≥10,500)*	3. Signalization 4. Interchanges with a freeway	
50,000 +	(≥9,000)	≥4,500	All commercial retail strip development over ¼ mile in length not on a UPA. Interconnection of main CBD with satellite community CBD's.		≥4,500 (≥15,000)*	5. Major river crossing or restrictive topography	

* The highway or roadway segment must be a minimum of a ½ mile long.

Chart F – Urban Collectors and Local Streets

<p align="center">Urban Collectors (UCOL) <i>Includes High Level Expressway (UXCOL) and Other (UOCOL)</i></p>							
<p align="center">Urban Area Population</p>	<p align="center">First apply <u>Rural – Urban Interface</u> then apply <u>Basic Criteria</u></p>					<p align="center"><u>Supplemental Criteria</u> Must meet two (2) below PLUS 90% of Current ADT</p>	<p align="center">Desirable Mileage Percent of System</p>
	<p align="center"><u>Rural-Urban Interface</u> An RMAC or a RMIC becomes a UCOL until it meets UMA criteria.</p>	<p align="center"><u>Basic Criteria</u> Must Meet either Land Use Service or Spacing plus Current ADT OR Parenthetical ADT Alone</p>			<p align="center">Current ADT</p>		
		<p align="center">Land Use Service A collector should be within a ¼ mile of the following Land Uses:</p>	<p align="center">Spacing</p>				
5,000 to 24,999	a. Elementary, intermediate, or middle school b. Small industrial plant c. Large warehousing d. Neighborhood shopping center e. Small office building f. Neighborhood park g. Marina May penetrate each residential neighborhood and connect to nearby UMA. May include the logical street system for traffic circulation in the CBD (relative to land use service).	<p align="center"><u>Maximum</u></p> CBD = ¼ mile Other = 1 mile	<p align="center">≥750</p>	1. Bus route 2. Truck route 3. Signalization 4. Interchanges with a freeway 5. Major river crossing or restrictive topography	5.0% to 10.0%		
25,000 to 49,999			<p align="center">≥3,000)*</p>				
50,000 +			<p align="center">≥1,500</p> <p align="center">≥6,000)*</p> <p align="center">≥2,250</p> <p align="center">≥9,000)*</p>				
<p align="center">Urban Local Streets (ULOC)</p>							
<p align="center">All public streets not classified as UPA, UMA or UCOL.</p>						<p align="center">65.0 - 80.0%</p>	

* The highway or roadway segment must be a minimum of a ¼ mile long.

APPENDIX A: FUNCTIONAL CODES

with Additional Connecting Link and Highway Type Information

Rural

- 09 PA-Interstate
- 15 PA-Other Freeway
- 14 PA-High Level Expressway
- 10 PA-Other

- 25 MA-Other Freeway
- 24 MA-High Level Expressway
- 20 MA-Other

- 34 MAC-High Level Expressway
- 30 MAC-Other

- 40 MIC-Other
- 41 MIC-Other (Chart "C")

- 45 Local
- 46 Local-Single Purpose

Appendix A, Functional Codes, *Continued*

Urban

- 49 PA-Interstate
- 50 PA-Other Freeway: Connecting Link of Rural PA
- 51 PA-Other Freeway: Connecting Link of Rural MA
- 52 PA-Other Freeway: Non-connecting Link

- 53 PA-High Level Expressway: Connecting Link of Rural PA
- 54 PA-High Level Expressway: Connecting Link of Rural MA
- 55 PA-High Level Expressway: Non-connecting Link

- 60 PA-Other: Connecting Link of Rural PA
- 61 PA-Other: Connecting Link of Rural MA
- 62 PA-Other: Non-connecting Link

- 80 MA-Other Freeway: Connecting Link of Rural MA
- 81 MA-Other Freeway: Connecting Link of Rural MAC
- 82 MA-Other Freeway: Connecting Link of Rural MIC
- 83 MA-Other Freeway: Non-connecting Link

- 75 MA-High Level Expressway: Connecting Link of Rural MA
- 76 MA-High Level Expressway: Connecting Link of Rural MAC
- 77 MA-High Level Expressway: Connecting Link of Rural MIC
- 78 MA-High Level Expressway: Non-connecting Link

- 70 MA-Other: Connecting Link of Rural MA
- 71 MA-Other: Connecting Link of Rural MAC
- 72 MA-Other: Connecting Link of Rural MIC
- 73 MA-Other: Non-connecting Link

- 93 Collector-High Level Expressway: Connecting Link of Rural MAC
- 94 Collector-High Level Expressway: Connecting Link of Rural MIC
- 95 Collector-High Level Expressway: Non-connecting Link

- 90 Collector-Other: Connecting Link of Rural MAC
- 91 Collector-Other: Connecting Link of Rural MIC
- 92 Collector-Other: Non-connecting Link

- 97 Local

APPENDIX B: LOCAL AGREEMENT

WisDOT determines changes to the functional classification system in cooperation with appropriate local or MPO officials.

When a change is to occur on any non-state jurisdiction route, correspondence recommending the updates is required. Correspondence can be a letter from an elected local or MPO official (e.g. mayor, council president, MPO policy committee chairman), or it can be an indication that an elected body has taken action (e.g. resolution, minutes of a meeting).