

# FUNCTIONAL CLASSIFICATION

Criteria, Characteristics, and MnDOT Access Guidance



# Regional vision

A prosperous, equitable, and resilient region  
with abundant opportunities for all to  
live, work, play, and thrive.

## Regional core values

Equity | Leadership | Accountability | Stewardship

## Regional goals

### **Our region is equitable and inclusive**

Racial inequities and injustices experienced by historically marginalized communities have been eliminated; and all residents and newcomers feel welcome, included, and empowered.

### **Our communities are healthy and safe**

All our region's residents live healthy, productive, and rewarding lives with a sense of dignity and wellbeing.

### **Our region is dynamic and resilient**

Our region meets the opportunities and challenges faced by our communities and economy including issues of choice, access, and affordability.

### **We lead on addressing climate change**

We have mitigated greenhouse gas emissions and have adapted to ensure our communities and systems are resilient to climate impacts.

### **We protect and restore natural systems**

We protect, integrate, and restore natural systems to protect habitat and ensure a high quality of life for the people of our region.



## Table of Contents

Background.....	4
Summary of Contents .....	4
Functional Classifications .....	6
Principal Arterials .....	6
Minor Arterials .....	6
Collector Roads.....	7
Local Roads .....	7
Functional Classification System Criteria and Characteristics.....	8
Table 1. Functional Classification System Criteria for Principal Arterials .....	8
Table 2. Functional Classification System Typical Characteristics for Principal Arterials .....	9
Table 3. Functional Classification System Criteria for Minor Arterials.....	10
Table 4. Minor Arterial Sub-Designation Characteristics.....	10
Table 5. Functional Classification System Typical Characteristics for Minor Arterials .....	11
Table 6. Functional Classification System Criteria for Collectors and Local Streets .....	12
Table 7. Functional Classification System Typical Characteristics for Collectors and Local Streets ..	13
MnDOT Access Guidance .....	14
Table 8. Summary of MnDOT Public Street Spacing Access Guidelines for Interstate, U.S., and State Highways in the Twin Cities Metropolitan Area .....	14

## Background

Functional classification identifies the role a highway or street plays in the transportation system. Some highways are intended to emphasize mobility for longer distance trips, while other roads are intended to primarily provide access to land. Planners and engineers have developed functional classification categories based on access and mobility, the types and lengths of trips that are accommodated, and surrounding development intensity— rural or urban.

Functional classification informs roadway design decisions that affect the road's function like roadway speed, width, and intersection spacing and control. Functional classification can also be considered when identifying the multimodal role of a road, including truck, bus transit, bicycle, and pedestrian use and accommodation. Highway and street projects should implement designs (including multimodal accommodations) that are compatible with a road's functional classification and surrounding land uses.

The main functional classes used in the metropolitan area are used nationwide and described in the Federal Highway Administration's (FHWA) [Highway Functional Classification Concepts, Criteria and Procedures, 2023 Edition](#). They consist of urban and rural designations for four main classes of roads: principal arterials, minor arterials, collector roads, and local roads. Although the FHWA designations are officially used at the state and federal level, the Met Council also applies sub-designations to minor arterials within the 7-county metropolitan planning area based primarily on land use type. The regionally identified sub-designations for the minor arterial network further refine the role the route makes within the Twin Cities region.

Federal guidance allows use of federal funds on roads classified down to minor collectors in urban areas and major collectors in urban areas, but the region has chosen to use these scarce funds on the most important regional highways which include the principal and minor arterials.

## Summary of Contents

This document identifies criteria and characteristics for use in assigning roadway functional classification. Criteria are the primary tool for identifying roadway function. Characteristics are intended to be guidelines if a roadway does not clearly fall into a single category. They are also useful when plans are being developed for constructing a new roadway or reconstructing a classified route.

Functional classification system criteria are presented in Tables 1, 3, and 6. Functional classification system characteristics are shown in Tables 2, 4, 5, and 7.

This document also includes a summary of Minnesota Department of Transportation (MnDOT) intersection spacing and control guidelines for federal, state and interstate highways in the metropolitan area. The MnDOT access management guidelines were developed for the entire state; MnDOT's functional classification category for the metropolitan area is summarized in Table 8 and on MnDOT's [Access Management](#) web page.



## Functional Classifications

### Principal Arterials

The emphasis of principal arterials is on moving large volumes of traffic over long distances rather than providing direct access to land. They connect the region with other areas in the state, the nation, and North America. Principal arterials connect regional concentrations destinations and freight terminals within the metropolitan area. Principal arterials should support the longest trips in the region, including intercity bus, express bus, and highway bus rapid transit services.

Principal arterials consist primarily of interstate freeways, other freeways, and highways. Most principal arterials are owned and operated by MnDOT, but some are under the jurisdiction of Anoka, Dakota, Ramsey, and Scott counties or the City of Saint Paul. The Metropolitan Highway System, as defined in the Imagine 2050 Transportation Policy Plan, comprises all principal arterials in Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties.

Principal arterial spacing and access spacing vary based on the density of surrounding development. Table 1 shows principal arterial spacing varies from two to three miles in the most densely developed parts of the region to six to 12 miles in rural areas. Where an urban or suburban level of development is planned, spacing of principal arterials or future principal arterials may be two to three miles. Table 1 also shows access spacing to principal arterials; non-interstate freeways provide land access somewhat more frequently than interstate freeways. Principal arterials primarily connect to other principal and minor arterials. In the future, new connections to principal arterials should be limited to other principal and minor arterials.

Principal arterials are not intended to provide on-road facilities for pedestrian and bicycle travel. However, in cases where principal arterials are built through wide rights-of-way, shared use paths separated from the roadway can be designed to safely accommodate pedestrian/bicycle travel along the principal arterial. Such parallel facilities can provide more efficient connections between major destinations for these modes. Where long, continuous rights-of-way are not available, even short trail segments can help to close system gaps.

Principal arterials often act as barriers to bicycle and pedestrian travel in the centers and neighborhoods through which they pass. For non-freeway principal arterials where bridge or underpass crossings are not feasible, roadway level-at-grade crossings must be carefully designed to safely accommodate pedestrians and bicyclists of all ages and abilities.

~~Principal arterials are not intended to serve pedestrian and bicycle travel and they often act as barriers to bicycle and pedestrian travel in the centers and neighborhoods through which they pass. Adequate pedestrian and bicycle crossings separate from general traffic lanes are an important consideration on principal arterials.~~

### Minor Arterials

The minor arterial system supplements the principal arterial system and provides connections to the principal arterial system. Minor arterials support access to major traffic generators, including regional job concentrations and freight terminals, and between rural centers within and just outside the region. Minor arterials should serve medium-to-short trips, including arterial bus rapid transit, limited-stop bus, and local bus service.

In the urban area the emphasis of minor arterials is on supplementing principal arterial mobility as opposed to providing direct access to land, and only concentrations of commercial, industrial, or

residential land uses should have direct access to them. Minor arterials should connect to principal arterials, other minor arterials and collectors, although connections to some local streets are acceptable.

The spacing of minor arterials and access along them vary based on the density of surrounding development. Table 3 shows minor arterial spacing varies from one-fourth mile to three-fourths mile in the most densely developed parts of the region, to every one to two miles in the emerging suburban areas. Where an urban or suburban level of development is planned, minor arterials should be spaced every one-half mile to two miles. The criteria and characteristics in Table 3 and Table 5 apply to all minor arterials. The minor arterials are further assigned a sub-designation into one of the following four categories – Augmentor, Reliever, Expander, and Connector – and are described in Table 4.

Minor arterials are designed to carry higher volumes of general traffic than other local roads and these design characteristics can create a barrier for bicycle and pedestrian travel. Priority should be placed on addressing these barriers in areas with pedestrian traffic, such as within regional job concentrations, within local centers, and along major transit routes.

### **Collector Roads**

Mobility and land access are equally important on the collector road system. The collector system provides connections between neighborhoods and from neighborhoods to regional job concentrations and local centers. Collector roads also provide supplementary connections between major traffic generators within regional job concentrations. Direct land access should primarily be to development concentrations. Connectors typically serve short trips of one to four miles. Collectors connect primarily to minor arterials, other collectors, and local streets.

Major and minor collectors should be identified. Major collectors offer more mobility and minor collectors offer more access. Major collectors serve higher density residential areas (often penetrating residential neighborhoods for significant distances), job and activity centers and freight terminals that are not on the arterial system, and they serve longer local trips, including local bus service. Minor collectors serve shorter local trips and lower density land uses (often penetrating residential neighborhoods only for a short distance). Spacing in regional job concentrations and local centers may vary from one-eighth to one-half mile. In urban and urban edge communities, collectors are generally needed one-fourth to three-fourths a mile apart. In communities with suburban designations, spacing may range from one-half to one mile and may service existing development, but one-fourth to three-fourth mile spacing may be required in the future. Major collectors should be spaced farther apart than minor collectors.

Collector roads can be good candidates for bicycle routes because they serve shorter trips that bicyclists make and generally have more compatible traffic speeds and volumes as compared to arterials. Collectors in the urban area should include pedestrian accommodations and may be candidates for traffic calming, especially where pedestrian traffic is greatest, such as within regional job concentrations and local centers and along transit routes.

### **Local Roads**

Local roads connect blocks and land parcels, and the primary emphasis is on land access. In most cases, local roads connect to other local roads and collectors. In some cases, they connect to minor arterials. Local roads serve short trips at low speeds. In the urban center, local roads could be spaced as close as 300 feet, while in the rural area, one-mile spacing may be adequate.

Local roads also serve travel for pedestrians and bicyclists. Transit is occasionally a consideration for local roads, depending on the surrounding land uses.

## Functional Classification System Criteria and Characteristics

Table 1. Functional Classification System Criteria for Principal Arterials

Criterion	Interstate		Other Freeways & Expressways		Other Principal Arterials	
	Urban Area	Rural	Urban Area	Rural	Urban Area	Rural
<b>Place Connections</b>	Connect regional job concentrations, freight terminals, and other major activity centers within the urban area. Serve demand for intra-area travel between the central business district and outlying residential areas.	Connect the urban area with urban areas and major cities in Minnesota and other states. Serve a large percentage of travel between cities and other activity centers.	Connect regional job concentrations, freight terminals, and other major activity centers within the urban area. Serve demand for intra-area travel between the central business district and outlying residential areas.	Connect the urban area with urban areas and major cities in Minnesota and other states. Serve a large percentage of travel between cities and other activity centers.	Connect regional job concentrations, freight terminals, and other major activity centers within the urban area. Serve demand for intra-area travel between the central business district and outlying residential areas.	Connect the urban area with urban areas and major cities in Minnesota and other states. Serve a large percentage of travel between cities and other activity centers.
<b>Spacing</b>	Within urban community designations: 2-3 miles. Within suburban community designations: Spacing should vary in relation to development density of land uses served, 2-6 miles.	6-12 miles. Closer spacing may be required to connect portions of the urban area to each other or to Rural Centers.	Within urban community designations: 2-3 miles. Within suburban community designations: Spacing should vary in relation to development density of land uses served, 2-6 miles.	6-12 miles. Closer spacing may be required to connect portions of the urban area to each other or to Rural Centers.	Urban community designations: 2-3 miles. Suburban community designations: Spacing should vary in relation to development density of land uses served, 2-6 miles.	6-12 miles. Closer spacing may be required to connect portions of Rural community designations to each other or to Rural Centers.
<b>Operations</b>	Higher posted speed limits (45 miles per hour or more)	Higher posted speed limits (45 miles per hour or more)	Higher posted speed limits (45 miles per hour or more)	Higher posted speed limits (45 miles per hour or more)	Higher posted speed limits (45 miles per hour or more)	Higher posted speed limits (45 miles per hour or more)
<b>System Connections and Access Spacing</b>	Connect to other Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area. Connections between principal arterials should be of a design type that does not require vehicles to stop. Interchanges at distances of 1-2 miles.	Connect to other Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Provide an integrated network of continuous routes without stub connections (dead ends). Interchanges at distances of 2-6 miles or more.	Connect to Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area. Connections between principal arterials should be of a design type that does not require vehicles to stop. Interchanges at distances of 1-2 miles.	Connect to Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Provide an integrated network of continuous routes without stub connections (dead ends). Interchanges at distances of 2-6 miles or more.	Connect to Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban area and movements through the urban area. Connections between principal arterials should be of a design type that does not require vehicles to stop. Access should be limited to 1-2 miles.	Connect to Interstates, other freeways & expressways, other principal arterials, and selected minor arterials. Provide an integrated network of continuous routes without stub connections (dead ends). Access should be limited to 2 miles or more.
<b>Trip-Making Service</b>	Carry high proportion of total urban travel on minimum of mileage. Longest trip demands (trips greater than 8 miles with at least 5 continuous miles on principal arterials). Express and highway bus rapid transit trips.	Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.	Carry high proportion of total urban travel on minimum of mileage. Longest trip demands (trips greater than 8 miles with at least 5 continuous miles on principal arterials). Express and highway bus rapid transit trips.	Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.	Carry high proportion of total urban travel on minimum of mileage. Longest trip demands (trips greater than 8 miles with at least 5 continuous miles on principal arterials). Express and highway bus rapid transit trips.	Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel.
<b>Mobility vs. Land Access</b>	Emphasis is on mobility for longer trips rather than direct land access. No direct land access should be allowed. Full access control.	Emphasis is on mobility for longer trips rather than direct land access. No direct land access should be allowed. Full access control.	Emphasis is on mobility for longer trips rather than direct land access. No direct land access should be allowed. Access via on- and off-ramp locations or limited number of at-grade intersections.	Emphasis is on mobility for longer trips rather than direct land access. No direct land access should be allowed. Access via on- and off-ramp locations or limited number of at-grade intersections.	Emphasis is on mobility for longer trips rather than direct land access. Little or no direct land access. Access can include driveways to specific parcels and at-grade intersections with other roadways.	Emphasis is on mobility for longer trips rather than direct land access. Little or no direct land access. Access can include driveways to specific parcels and at-grade intersections with other roadways.



**Table 2. Functional Classification System Typical Characteristics for Principal Arterials**

Characteristic	Interstate		Other Freeways & Expressways		Other Principal Arterials	
	Urban Area	Rural	Urban Area	Rural	Urban Area	Rural
<b>System Mileage</b>	FHWA suggests statewide mileage for Interstates at 1-3% of system.	FHWA suggests statewide mileage for Interstates at 1-3% of system.	FHWA suggests statewide mileage for Other Freeways & Expressways at 0-2% of system.	FHWA suggests statewide mileage for Other Freeways & Expressways at 0-2% of system.	FHWA suggests statewide mileage for other principal arterials at 4-9% of system.	FHWA suggests statewide mileage for other principal arterials at 2-6% of system.
<b>Percent of Vehicle Miles Traveled</b>	FHWA suggests 17-31% of statewide VMT.	FHWA suggests 18-38% of statewide VMT.	FHWA suggests 0-12% of statewide VMT.	FHWA suggests 0-7% of statewide VMT.	FHWA suggests 16-33% of statewide VMT.	FHWA suggests 15-31% of statewide VMT.
<b>Intersections</b>	Grade separated	Grade separated	Limited number of at-grade intersections.	Limited number of at-grade intersections.	Grade separated desirable where appropriate. At a minimum, high-capacity controlled at-grade intersections.	High-capacity controlled at-grade intersections
<b>Parking</b>	None	None	None	None	None	None
<b>Large Trucks</b>	No restrictions. Route of choice for intercity trucks.	No restrictions. Route of choice for intercity trucks.	No restrictions. Route of choice for intercity trucks.	No restrictions. Route of choice for intercity trucks.	No restrictions. Route of choice for intercity trucks.	No restrictions. Route of choice for intercity trucks.
<b>Management Tools</b>	Ramp metering, preferential treatment for transit, interchange spacing.	Interchange spacing	Ramp metering, preferential treatment for transit, interchange spacing.	Interchange spacing	Ramp metering, preferential treatment for transit, access control, median barriers, traffic signal progression, staging of reconstruction, intersection spacing, driveway consolidation.	Access control, intersection spacing, driveway consolidation.
<b>Typical Average Daily Traffic Volumes</b>	25,000-185,000+	40,000-75,000+	15,000-125,000+	15,000-125,000+	5,000-60,000+	5,000 - 45,000+
<b>Posted Speed Limit</b>	45-70 mph	55-70 mph	45-70 mph	55-70 mph	40-65 mph	Legal limit
<b>Right-of-Way (ROW) and Roadway Footprint</b>	ROW: 300 ft Lane Width: 12 ft Inside Shoulder Width: 4-12 ft Outside Shoulder Width: 10-12 ft	ROW: 300 ft Lane Width: 12 ft Inside Shoulder Width: 4-12 ft Outside Shoulder Width: 10-12 ft	ROW: 300 ft Lane Width: 11-12 ft Inside Shoulder Width: 0-6 ft Outside Shoulder Width: 8-12 ft	ROW: 300 ft Lane Width: 11-12 ft Inside Shoulder Width: 0-6 ft Outside Shoulder Width: 8-12 ft	ROW: 100-300 ft Lane Width: 11-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 8-12 ft	ROW: 100-300 ft Lane Width: 11-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 8-12 ft
<b>Transit Accommodations</b>	Transit advantages that provide priority access and reliable movement for transit in peak periods where needed.	Route of choice for intercity buses.	Transit advantages that provide priority access and reliable movement for transit in peak periods where needed.	Route of choice for intercity buses.	Transit advantages that provide priority access and reliable movement for transit in peak periods where possible and needed.	Route of choice for intercity buses.
<b>Bicycle and Pedestrian Accommodations</b>	On facilities that cross or are parallel to the principal arterial, with greater emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On facilities that cross or are parallel to the principal arterial.	On facilities that cross or are parallel to the principal arterial, with greater emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On facilities that cross or are parallel to the principal arterial.	On facilities that cross or are parallel to the principal arterial, with greater emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On facilities that cross or are parallel to the principal arterial.

**Table 3. Functional Classification System Criteria for Minor Arterials**

Criterion	Urban	Rural
<b>Place Connections</b>	Provide connections between regional job, educational, manufacturing, and industrial concentrations and local centers within the urban area. Distribute traffic to smaller geographic areas than those served by principal arterials.	Connect the urban area with cities and towns in Minnesota outside the Twin Cities region. Connect rural growth centers inside the Twin Cities region and comparable places near the Twin Cities region.
<b>Spacing</b>	Spaced at intervals consistent with population density, so that all developed areas are within a reasonable distance of an arterial roadway. Regional job concentrations: 1/4-3/4 mile Urban community designations: 1/2-1 mile Suburban community designations: 1-2 miles	Spaced at intervals consistent with population density, so that all developed areas are within a reasonable distance of an arterial roadway. As needed, in conjunction with the major collectors, provide adequate interconnection of places identified in "Place Connections" criterion.
<b>System Connections</b>	Connect to Interstates, other freeways & expressways, other principal arterials, other minor arterials, collectors, and some local streets.	Connect to Interstates, other freeways & expressways, other principal arterials, other minor arterials, collectors, and some local streets.
<b>Trip-Making Service</b>	Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials. Medium-to-short trips (2-6 miles depending on development density) at moderate speeds. Longer trips accessing the principal arterial network. Local, limited-stop, and arterial bus rapid transit trips.	Serve trips of moderate length at a somewhat lower level of travel mobility than principal arterials. Medium-to-short trips (2-6 miles depending on development density) at moderate speeds. Longer trips accessing the principal arterial network.
<b>Operations</b>	Lower posted speed limits than principal arterials (less than 45 mph).	Lower posted speed limits than principal arterials (45-55 mph).
<b>Mobility vs. Land Access</b>	Emphasis on mobility for longer trips rather than on direct land access. Provide more land access than principal arterials without penetrating identifiable neighborhoods. Direct land access limited to concentrations of activity including regional job concentrations, local centers, freight terminals, and neighborhoods.	Emphasis on mobility for longer trips rather than on direct land access. Provide more land access than principal arterials without penetrating identifiable neighborhoods.

**Table 4. Minor Arterial Sub-Designation Characteristics**

Characteristic	Relievers	Augmentors	Expanders	Connectors
<b>Purpose</b>	Provide supplementary capacity for congested, parallel principal arterials.	Supplement the principal arterial system in more densely developed or redeveloping areas.	Supplement the principal arterial system in less densely developed or redeveloping areas.	Provide safe, direct connections between rural centers and to principal arterials in rural areas without adding continuous general purpose lane capacity.
<b>Location in Met Council Community designations</b>	Urban area: Consists of urban, urban edge, suburban, and suburban edge e community designations as defined in Imagine 2050.	Urban and urban edge community designations.	Urban edge, suburban, and suburban edge, community designations.	Rural community designations. One end may be outside the seven-county area or may be in the urban area.
<b>Existing System Mileage</b>	754 Miles	394 miles	1,026 miles	722 miles

**Table 5. Functional Classification System Typical Characteristics for Minor Arterials**

<b>Characteristic</b>	<b>Urban Area</b>	<b>Rural</b>
<b>System Mileage</b>	FHWA suggests statewide mileage for minor arterials in urbanized areas at 7-14% of system.	FHWA suggests statewide mileage for minor arterials in rural areas at 2-6% of system.
<b>Percent of Vehicle Miles Traveled</b>	FHWA suggests 14-27% of statewide VMT.	FHWA suggests 9-20% of statewide VMT.
<b>Intersections</b>	Traffic signals, roundabouts, and cross-street stops	Roundabouts and cross-street stops
<b>Parking</b>	Restricted as necessary.	Restricted as necessary.
<b>Large Trucks</b>	Candidates for local truck network, large trucks restricted as necessary.	Candidates for local truck network, large trucks restricted as necessary.
<b>Management Tools</b>	Traffic signal progression and spacing, land access management/control, preferential treatment for transit.	Land access management/control
<b>Typical Average Daily Traffic Volumes</b>	100-60,000+	500-25,000+
<b>Posted Speed Limit</b>	30-45 mph	Legal limit
<b>Right-of-Way and Roadway Footprint</b>	ROW: 60-150 ft Lane Width: 10-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 4-8 ft	ROW: 60-150 ft Lane Width: 10-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 4-8 ft
<b>Transit Accommodations</b>	Transit advantages for reliable movement where needed.	
<b>Bicycle and Pedestrian Accommodations</b>	On, along, or parallel to the minor arterial, with greater emphasis in activity centers. Special emphasis on improving safety of crossings at intersections and along bikeways. Crossings should be spaced to allow for adequate crossing opportunities.	On facilities that cross the minor arterial.

**Table 6. Functional Classification System Criteria for Collectors and Local Streets**

Criterion	Major Collectors		Minor Collectors		Local	
	Urban Area	Rural	Urban Area	Rural	Urban Area	Rural
<b>Place Connections</b>	Connect neighborhoods and centers within the urban area. Provide supplementary connections of major traffic generators within job and activity centers. Penetrate residential neighborhoods, often for significant distances.	Provide supplementary connection between rural centers inside the Twin Cities region and comparable places near the Twin Cities region. Provide 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.	Connect neighborhoods and centers within the urban area. Penetrate residential neighborhoods, often only for a short distance.	Provide supplementary connection between rural centers inside the Twin Cities region and comparable places near the Twin Cities region. Provide service to smaller communities not served by a higher class facility. Link locally important traffic generators with their rural hinterlands.	Connect blocks and land parcels within neighborhoods and within commercial or industrial developments.	Serve primarily to provide access to adjacent land.
<b>Spacing</b>	Job concentrations: 1/8-1/2 mile Urban community designations: 1/4-3/4 mile Suburban community designations: 1/2-1 mile Spaced at greater intervals than a minor collector.	As needed in conjunction with minor arterials, to provide adequate connections for places identified in "Place Connections" criterion. Spaced at greater intervals than a minor collector.	Job concentrations: 1/8-1/2 mile Urban community designations: 1/4-3/4 mile Suburban community designations: 1/2-1 mile Minor collectors should be spaced more closely than major collectors.	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. As needed in conjunction with minor arterials, to provide adequate connections for places identified in "Place Connections" criterion. Minor collectors should be spaced more closely than major collectors (average spacing of not less than 4 miles).	As needed to access land uses.	As needed to access land uses.
<b>System Connections</b>	Connect to minor arterials, other collectors, and local streets. Major collectors may connect to principal arterials under exceptional circumstances.	Connect to minor arterials, other collectors, and local streets. Serve the most important intra-county travel corridors.	Connect to minor arterials, other collectors, and local streets.	Connect to minor arterials, other collectors, and local streets.	Provide access to higher systems. Connect to collectors, other local streets, and a few minor arterials.	Provide access to higher systems. Connect to collectors, other local streets, and a few minor arterials.
<b>Trip-Making Service</b>	Distribute and channel short trips between local streets and arterials (1-4 miles depending on development density) at low-to-moderate speeds. Major collectors may support longer trips accessing the arterial network including local bus transit and bicycle trips.	Distribute and channel short trips between local streets and arterials at low-to-moderate speeds.	Distribute and channel short trips between local streets and arterials (usually over a distance of less than three-quarters of a mile) at low-to-moderate speeds.	Distribute and channel short trips between local streets and arterials at low-to-moderate speeds.	Short trips compared to higher classification categories (under 2 miles) at low speeds, including bicycle and pedestrian trips. Longer trips accessing the collector or collector and arterial network. Carry no through traffic movement.	Short trips compared to higher classification categories at low speeds. Longer trips accessing the collector or collector and arterial network.
<b>Mobility vs. Land Access</b>	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations. Serve both land access and traffic circulation in higher density residential and commercial/industrial areas	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations.	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations. Serve both land access and traffic circulation in higher density residential and commercial/industrial areas	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations.	Emphasis on land access, not on mobility. Direct land access predominantly to residential land uses.	Emphasis on land access, not on mobility. Direct land access predominantly to agricultural land uses.

**Table 7. Functional Classification System Typical Characteristics for Collectors and Local Streets**

Characteristic	Major Collectors		Minor Collectors		Local	
	Urban Area	Rural	Urban Area	Rural	Urban Area	Rural
<b>System Mileage</b>	FHWA suggests statewide mileage for major collectors at 3-16% of system.	FHWA suggests statewide mileage for major collectors at 8-19% of system.	FHWA suggests statewide mileage for minor collectors at 3-16% of system.	FHWA suggests statewide mileage for minor collectors at 3-15% of system.	FHWA suggests statewide mileage for local roads at 62-74% of system.	FHWA suggests statewide mileage for local roads at 62-74% of system.
<b>Percent of Vehicle Miles Traveled</b>	FHWA suggests 2-13% of statewide VMT.	FHWA suggests 10-23% of statewide VMT.	FHWA suggests 2-12% of statewide VMT.	FHWA suggests 1-8% of statewide VMT.	FHWA suggests 9-25% of statewide VMT.	FHWA suggests 8-23% of statewide VMT.
<b>Intersections</b>	Four-way stops and some traffic signals.	Local street traffic should be required to stop.	Four-way stops and some traffic signals.	Local street traffic should be required to stop.	As required.	As required.
<b>Parking</b>	Restricted as necessary	Unrestricted	Restricted as necessary	Unrestricted	Permitted as necessary.	Permitted as necessary.
<b>Large Trucks</b>	May be candidates for local truck network, large trucks restricted as necessary.	May be candidates for local truck network, large trucks restricted as necessary.	May be candidates for local truck network, large trucks restricted as necessary.	May be candidates for local truck network, large trucks restricted as necessary.	Permitted as necessary.	Permitted as necessary.
<b>Management Tools</b>	Number of lanes, traffic signal timing, land access management. May have more signalized intersections than minor collectors.	Land access management	Number of lanes, traffic signal timing, land access management. May have fewer signalized intersections than major collectors.	Land access management	Intersection control, cul-de-sacs, diverters.	
<b>Typical Average Daily Traffic Volumes</b>	200-20,000+ Higher annual average traffic volumes than minor collectors.	100-5,000+ Higher annual average traffic volumes than minor collectors.	50-10,000+ Lower annual average traffic volumes than major collectors.	10-3,000+ Lower annual average traffic volumes than major collectors.	Less than 1,000	Less than 1,000
<b>Posted Speed Limit</b>	30-40 mph May have higher operating speeds than minor collectors.	35-45 mph	30-40 mph May have lower operating speeds than major collectors.	35-45 mph	Maximum 30 mph	Maximum 30 mph
<b>Right-of-Way and Roadway Footprint</b>	ROW: 60-100 ft Lane Width: 10-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 1-6 ft	ROW: 60-100 ft Lane Width: 10-12 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 1-6 ft	ROW: 60-100 ft Lane Width: 10-11 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 1-4 ft	ROW: 60-100 ft Lane Width: 10-11 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 1-4 ft	ROW: 50-80 ft Lane Width: 8-10 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 0-2 ft	ROW: 50-80 ft Lane Width: 8-10 ft Inside Shoulder Width: 0 ft Outside Shoulder Width: 0-2 ft
<b>Transit Accommodations</b>	Cross-sections and geometrics designed for use by regular-route buses, transit advantages for reliable movement, where needed.	None	Cross-sections and geometrics designed for use by regular-route buses, transit advantages for reliable movement, where needed.	None	Normally used as bus routes only in nonresidential areas.	None
<b>Bicycle and Pedestrian Accommodations</b>	On, along, or crossing the collector with higher emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On, along, or crossing the collector.	On, along, or crossing the collector with higher emphasis along transit routes and in activity centers. Crossings should be spaced to allow for adequate crossing opportunities.	On, along, or crossing the collector.	On, along, or crossing the local road.	On, along, or crossing the local road.

## MnDOT Access Guidance

Table 8. Summary of MnDOT Public Street Spacing Access Guidelines for Interstate, U.S., and State Highways in the Twin Cities Metropolitan Area

Functional Classification	Facility Type or Community Designation	Primary Full- Movement Intersection	Secondary Intersection	Signal Spacing
<b>Principal Arterial</b>	Interstate Freeway	Interchange Access Only	None	
	Non-Interstate Freeway	Interchange Access Only	None	
	Rural	1 mile	1/2 mile	Only at Primary Intersections
	Suburban	1/2 mile	1/4 mile	Only at Primary Intersections
	Urban	300-600 feet, dependent on block length	1/4 mile	
<b>Minor Arterial</b>	Rural	1/2 mile	1/4 mile	Only at Primary Intersections
	Suburban	1/4 mile	1/8 mile	Only at Primary Intersections
	Urban	300-600 feet, dependent on block length		
<b>Collector</b>	Rural	1/2 mile	1/4 mile	Only at Primary Intersections
	Suburban	1/8 mile	Not Applicable	1/4 mile
	Urban	300-600 feet, dependent on block length	1/8 mile	

This table summarizes characteristics for existing roadways to be used in evaluating functional classification and should not be used as design guidelines. This table summarizes MnDOT Access Guidance for the Metropolitan Area and does not reflect all MnDOT guidance. Agencies should work with MnDOT, the appropriate county highway authority, and the local land use authority when planning new or modified access. Community Designations are from Imagine 2050; they are not MnDOT designations.

## Functional Classification Contact

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