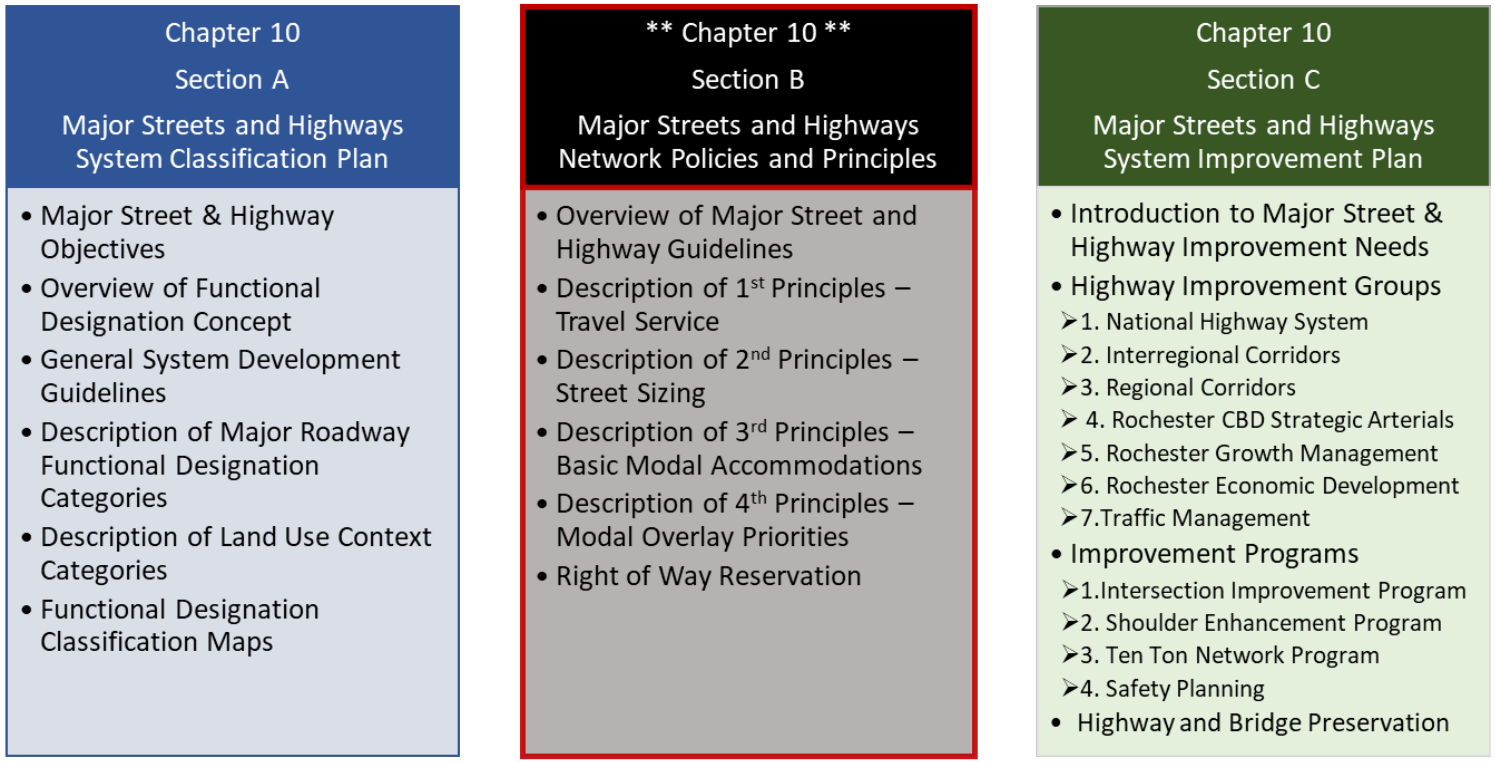
10 • Major Street & Highway System Plan

Chapter 10 presents an overall policy framework for development of the major streets and highway network in the ROCOG planning area. Chapter 10 is divided into 3 sections; Section 10-B (this document) focuses on describing five groups of **Network Development Policies and Principles** as shown in Figure 10-8.

Figure 10-8



Section 10-B: Major Streets & Highways: Network Development Policies

Introduction

Network development policy establishes a framework for blending the functional role of moving vehicles that major roads serve with the desired character of the roadway given the land use setting in which it is located. The roadway designations documented on the Functional Designation Maps in Section 10-A establish the high-level function of major roadways; the policies in Section 10-B will refine the expectations for various roadway in terms of multi-modal and intermodal service and character, reflecting the land use context in which a roadway is located. The guidelines in this section are broken down into four sets of considerations:

- The 1st Principles relate to **Travel Service** and define the primary travel character of a roadway, based on its functional designation and the land use context it is located in. These guidelines identify whether mobility or accessibility will be prioritized, which modes are of primary importance given location, and provide a target travel speed for vehicular traffic.
- The 2nd Principles of **Sizing Factors** establish basic parameters that impact right-of-way needs, such as anticipated number of travel lanes, whether use of a median should be considered, and how other general considerations such as drainage and topography affect right-of-way needs.
- The 3rd Principles discuss **Basic Modal Accommodations**, which identify the basic level of modal improvement to plan for based on potential combinations of roadway designation and land use. Guidelines are provided for the primary modes of vehicular, pedestrian, and bicycle travel.
- The 4th Principles identify **Modal Overlays**, which are mode-specific improvement recommendations found in this Plan or other plans that need to be considered in addition to the basic accommodation needs discussed under the 3rd Principles.

In practice, network development policies can help to resolve issues regarding the function and character of a roadway. Ideally, the network planning considerations laid out in this section will inform decisions at an early alternatives-analysis phase of project development and will be considered in community planning projects addressing matters such as future land use, economic development, and environmental resource management. Consideration of these guidelines will lead to solutions that balance the demand for vehicle throughput with

accommodation for other modes and support for adjacent development.

In planning for major improvements, it is important to think beyond today's needs and consider the potential long-term benefits of a project. While planning timelines are often set at 20-25 years, a project may need to function for 50 years or more. Dedicating space to transit or bike lanes, for example, may garner opposition because traffic models predict increases in auto traffic that pre-empt using space for other needs. However, as areas build out, traffic volumes may actually stabilize or decline slightly over time as land use patterns mature, with a greater mixture of uses or development intensity that supports increased walking, biking, and transit use.

The implications for right-of-way needs suggested by the guidance in this section is likely to be accommodated most easily in rural, suburban, and developing urban areas, where greater opportunity for adjusting right-of-way width still exists. In fully developed or redeveloping areas where right-of-way may be constrained, it may be necessary to compromise on certain features in order to improve the travel service provided. Recognizing this, the plan suggests priorities for constrained roadway corridors in developed areas.

Section 10-B concludes with a discussion of strategies that can be used to ensure future system development is not foreclosed by actions of others that may impact needed improvements. Strategies related to corridor preservation and an opportunity-based approach to ensuring adequate right-of-way will be available are discussed. The use of official right-of-way maps, special setback requirements, advanced acquisition programs, and corridor level access management plans are among the tools to be considered as part of a corridor preservation program.

The guidelines herein are designed to meet the need for flexibility by generally avoiding the use of numerical values in order to allow project designers to balance the needs of multiple modes, utilities, environmental mitigation, and community space needs. This flexibility is intended to encourage consideration of how individual elements work together rather than how well they meet a set of minimum dimensions.

An important concept conveyed in these policies is **modal emphasis**. Modal emphasis is the identification of which travel modes should be emphasized in the design of the cross-section for a roadway. It is important to note that modal emphasis does not mean that other travel modes are excluded; these secondary modes will be accommodated to provide a minimum level of acceptable service while primary modes are accommodated at a higher level of service. While there may occasionally be cases where some modes are excluded (such as on a freeway), the basic principle advocated in this Plan is to assume there is at least a minimum level of accommodation made for all travel

modes within a travel corridor, recognizing that some of those accommodations may need to be on a parallel, nearby corridor.

1st Principles: Travel Service

In a regional travel network, different roadways will serve different primary functions. Certain roadways will function to move traffic reliably through an area or deliver significant volumes of traffic to major destinations such as central city areas, while other roadways emphasize convenience of access between destinations within an area or district while serving as "last mile" connectors from mobility corridors to final destinations. A travel network can best achieve the goals of safely and efficiently moving people and goods and support other community goals when the functions of mobility and accessibility area appropriately balanced on various classes of roads for all modes.

Achieving balance in the system requires consideration of roadway design factors affecting walking, bicycling, transit, and freight service with equal levels of rigor as for general traffic. For example, instead of focusing solely on vehicle Level of Service (LOS), designing for all users means looking at levels of delay, capacity, and comfort for transit and non-motorized users as well as vehicle traffic. In addition to adequate capacity and safe design for expected vehicle volumes, the need for transit infrastructure, walkways and bikeways, along with the use of community space in the right-of-way, needs to be considered in the context of different land uses environments found in fully urbanized, urbanizing, suburban, and rural land use environments.

The following paragraphs discuss three "First Principles" of travel service that will help to define the character of major roads within the planning area. These First Principles include:

- Mobility/Accessibility
- Modal emphasis
- Target speed

Table 10-6 describes the range of character ratings assigned to each principle, while Tables 10-7 through 10-9 identify for each combination of Functional Designation and Land Use Context expectations for these three travel service factors.

Mobility/Accessibility

Mobility is how far you can go in a given amount of time. **Accessibility** is how much you can get to in that time.

A key characteristic that helps to shape the design of the traveled way is how the balance between mobility and accessibility is addressed. The relative emphasis given to these two factors will reflect consideration of the expected mix of modes, the volume of people movement,

and the general lengths of trips handled by a corridor, which in turn is impacted by factors such as land use.

In areas where there typically interaction between people occurring on a frequent basis with lots of origins and destinations within a relatively small area, accessibility will be a prime consideration, with the ability to move about safely and reliably by various modes in a district or neighborhood an important consideration. Mobility takes precedence where travel distances are greater and non-vehicle activity is lower, leading to the objective of minimizing the amount of unproductive time needed to traverse greater distances for work, shopping, recreation, and other trip purposes. A well-designed multimodal system will strive to balance mobility and accessibility across different corridors to reliably support a variety of different trip types.

Modal Emphasis

The second travel service principle is designing roadways around modal emphasis. Modal emphasis refers to giving greater consideration in design of a facility to those modes which are frequently used within a corridor or district. It is important to highlight that modal emphasis does not imply certain travel modes are excluded – the goal is to accommodate all modes to the degree possible along a travel corridor – but not all modes are necessarily emphasized to the same degree. In certain cases, modes may need to be excluded (such as pedestrian or bicycle travel on a freeway), but in doing so, accommodation of those modes should be considered during development of other transportation projects in the larger traveshed that serves similar travel origins and destinations.

The modes of travel considered in terms of modal emphasis are:

- General vehicle travel
- Pedestrian
- Transit
- Low speed personal mobility (bicycles/scooters)
- Commercial truck traffic

Target Speed

The final travel service principle considered is target speed. Target speed is considered to be the speed range at which vehicles should operate on a roadway in a specific context, compatible with adjacent land use and the level of multimodal travel activity in an area. It may be the most influential design control and the control that provides the most flexibility, particularly in urban areas.

Motorists make decisions on how fast to drive based partially on posted speed limit signs and partially on physical cues in the environment (e.g., trees, parked cars, etc.). If higher speeds feel natural and instinctive, people are likely to drive at higher speeds due to the intuitive cues provided by design of the roadway.

Using street design for communicating desired operating speed means designing to a target speed, or the speed at which the community desires motorists to travel. Incorporation of appropriate design features can help achieve a successful design where design speed, target speed, and the speed limit begin to converge.

Among the types of features that can help achieve an appropriate target speed are:

- Physical measures such as curb extensions and medians to narrow the traveled way;
- Setting signal timing for moderate progressive speeds from intersection to intersection;
- Using narrower travel lanes that cause motorists to naturally slow; or
- Using design elements such as on-street parking to create side friction.

Travel Service Rating Guidelines

Tables 10-7 through 10-9 identify basic street character priorities for the factors of mobility vs accessibility, modal priority, and target speed. Each factor is rated on a continuum from low to high; the significance of the ratings as applied to early project planning is as described in Table 10-6.

Table 10-1: Description of Street Character Guideline Ratings

Characteristic	Low	Moderate	High
Mobility	Modal ease of movement is limited either by design or level of travel to support economic activity or quality of life goals with connectivity to an area	Expect to see ease of movement on a travel corridor periodically interrupted by activity level in area or convergence of moderate to high travel demand	Ability to travel relatively freely along a travel corridor so as to be able to minimize travel time or maximize reliability of travel through the corridor
Accessibility	Generally, will see less than 5 modal access connections per mile on each side of roadway	Generally, will see from 5 to 15 modal access connections per mile on each side of roadway	Generally, will see more than 15 modal access connections per mile on each side of roadway
Modal Significance	For a given mode expect to see limited use with relatively few origins/destinations generating travel in the area	Expect to see moderate levels of modal travel but roadway is not critical for meeting mobility or access function	Roadway is important for mobility or access for a given mode with normal to high use expected
Target Speed	Typical Operating speed below 35 MPH	Typical Operating Speed is between 35 and 45 MPH	Typical operating speed is above 50MPH

Table 10-2: Street Character Guidelines for Rural and Suburban Areas

RURAL/REGIONAL AREA		Rural	Rural Town	Suburban
National Highway System Non-Freeway	Mobility/Accessibility	MOB: High / ACC: Low	MOB: High / ACC: Mod	MOB: High / ACC: Low
	Modal Significance	High: Veh/Trk Low: Ped/Bike	High: Veh/Trk Mod/Low: Ped Bike	High: Veh/Trk Mod/Low: Ped Bike
	Target Speed	High	Moderate	Mod-High
Strategic Arterials	Mobility/Accessibility	MOB: High / ACC: Low	MOB - High / ACC-Mod	MOB - High / ACC-Low
	Modal Significance	High: Veh/Trk Low: Ped/Bike	High: Veh/Trk Mod/Low: Ped Bike	High: Veh/Trk Mod/Low: Ped Bike
	Target Speed	High	Moderate	Mod-High
Major Arterials	Mobility/Accessibility	MOB: High / ACC: Mod	MOB - Mod / ACC-Mod	MOB - High / ACC-Mod
	Modal Significance	High: Veh/Trk Low: Ped/Bike	High: Veh/Trk Mod/Low: Ped Bike	High: Veh/Trk Mod/Low: Ped Bike
	Target Speed	High	Moderate	Mod-High
Secondary Arterials	Mobility/Accessibility	MOB: High-Mod / ACC:Mod	MOB - Mod / ACC-Mod	MOB - Mod / ACC-Mod
	Modal Significance	High: Veh Moderate:Trk Low: Ped/Bike	High: Veh Mod:Trk Ped Low: Bike	High: Veh Moderate: Trk Ped Bike
	Target Speed	High	Moderate	Mod-High
Primary Collectors	Mobility/Accessibility	MOB: Mod / ACC:Mod	MOB - Mod / ACC-High	MOB - Mod / ACC-Mod
	Modal Significance	High: Veh Moderate:Trk Low: Ped/Bike	High: Veh Mod:Trk Ped Low: Bike	High: Veh Moderate: Trk Ped Bike
	Target Speed	Mod-High	Moderate	Moderate

Table 10-3: Street Character Guidelines for Small City Areas

SMALL CITIES		Small City Core Area	Small City Urban Area	Small City Edge Area
National Highway System Non-Freeway	Mobility/Accessibility	MOB: Mod / ACC:Mod	MOB - Mod-High / ACC-Mod	MOB: High / ACC-Mod-Low
	Modal Significance	High: Ped Veh Trk Low: Bike	High: Veh Trk Mod: Ped Bike	High: Veh Trk Mod-Low: Ped Bike
	Target Speed	Low	Moderate	High
Strategic Arterials	Mobility/Accessibility		MOB: Mod-High / ACC-Mod	MOB: High / ACC-Mod
	Modal Significance	Not Applicable	High: Veh Trk Mod: Ped Bike	High: Veh Trk Mod-Low: Ped Bike
	Target Speed		Mod-High	High
Major Arterials	Mobility/Accessibility	MOB: Mod-Low / ACC-Mod	MOB-Mod / ACC Mod	MOB: Mod-High /Acc Mod
	Modal Significance	High: Ped Veh Trk Mod: Bike	High: Ped Veh Trk Mod: Bike	High: Veh Trk Mod-Low: Ped Bike
	Target Speed	Low	Mod	Mod-High
Secondary Arterials	Mobility/Accessibility		MOB-Mod / ACC Mod-High	MOB: Mod /Acc Mod
	Modal Significance	Not Applicable	High: Ped Veh Trk Mod: Bike	High Veh Moderate Ped Bike Trk
	Target Speed		Mod	Mod-High
Primary Collectors	Mobility/Accessibility	MOB: Low / ACC-High	MOB-Mod / ACC Mod-High	MOB: Mod /Acc Mod
	Modal Significance	High Ped Veh Moderate Bike Trk	High Ped Veh Moderate Bike Trk	High Veh Moderate Ped Bike Trk
	Target Speed	Low	Mod	Mod-High

Table 10-4: Street Character Guidelines in Rochester Urban Area

ROCHESTER URBAN AREA		Rochester CBD	Rochester Core	Rochester Urban	Rochester Edge
National Highway System Non-Freeway	Mobility/Accessibility				Mob: High / Acc: Mod
	Modal Significance	Not Applicable	Not Applicable	Not Applicable	High:Veh/Trk Mod: Bike / Low:Ped
	Target Speed				Mod-High
Strategic Arterials	Mobility/Accessibility	Mob: Mod-Low / Acc: Mod	Mob: Mod / Acc: Mod	Mob: Mod-High / Acc: Mod-Low	Mob: High / Acc: Low-Mod
	Modal Significance	High: Transit - Ped - Veh Mod: Trk Low:Bike	High: Transit - Ped - Veh Mod: Bike - Trk	High: Veh Trk Mod: Transit Bike Ped	High: Veh Trk Mod: Bike / Low:Ped
	Target Speed	Low-Mod	Low-Mod	Moderate	Mod-High
Major Arterials	Mobility/Accessibility	Mob: Mod-Low / Acc: Mod-High	Mob: Mod / Acc: Mod-High	Mob: Mod-High / Acc: Mod	Mob: High / Acc: Low
	Modal Significance	High: Veh-Ped - Transit Mod-Low: Trk -Bike	High: Veh-Ped Mod: Transit Bike Trk	High: Veh Ped Mod: Trk Bike Trnst	High: Veh - Trk Mod: Bike / Low:Ped
	Target Speed	Low	Low	Moderate	Mod-High
Secondary Arterials	Mobility/Accessibility	Mob - Low / Acc Mod-High	Mob: Low-Mod / Acc: Mod-High	Mod: Mod / Acc : Mod	Mob: Mod-Low/ Acc: Mod
	Modal Significance	High: Ped Bike / Mod: Veh Low: Transit-Trk	High: Ped Bike / Mod: Veh Low: Transit-Trk	High: Veh Ped Bike Mod: Transit / Low: Trk	High: Veh Mod-Low: Bike-Ped
	Target Speed	Low	Low	Moderate-Low	Moderate
Primary Collectors	Mobility/Accessibility	Mob: Low / Acc - High	Mob: Low / Acc - High	Mob: Mod / Acc: High	Mob: Mod / Acc Mod
	Modal Significance	High: Ped - Bike / Mod: Veh Low: Transit - Trk	High: Ped Bike / Mod: Veh Low: Transit-Trk	High: Veh Ped Bike Mod: Transit / Low: Trk	High: Veh Mod-Low: Bike-Ped
	Target Speed	Low	Low	Moderate -Low	Moderate-Low

2nd Principles: Sizing Factors

The second set of street planning principles relates to issues that establish the basic right-of-way needs for roadways. The amount of right-of-way available or which needs to be acquired has implications for the ability to provide for multiple modes of travel as well as meeting other community priorities such landscaping or other amenities. Generally, right-of-way will be easier to establish in newly developing or redeveloping urban areas, suburban areas, and rural areas; in fully

developed urban areas, the challenge of accommodating various corridor uses will be greater. The discussion in this section highlights the key factors that influence right-of-way needs in general, and also provides guidance on how to balance or prioritize needs in areas where available right-of-way is limited.

Among the key factors that come into play when assessing right-of-way needs include:

- The number of needed vehicular travel lanes
- Space for auxiliary travel lanes such as turn lanes
- Support space for vehicular travel, typically taking the form of shoulders in rural areas or space for functions such as loading/unloading, transit boarding, and on-street parking in urban areas, as well as the use of medians where appropriate
- Space for active transportation users including pedestrians and bicyclists
- Space for amenity or environmental functions such as landscaping or drainage

This multiplicity of demands demonstrates the importance of having sufficient right-of-way for responding to various travel and community needs, and the factors that may need to be compromised when right-of-way is largely fixed by existing development patterns.

Travel Lanes

The size of a roadway is strongly influenced by the intensity and type of anticipated travel demand expected in the corridor. It is common practice to size roadways to accommodate the travel demand that is anticipated to occur up to 20-25 years from the time it is constructed. The selection of this time period represents a balance between achieving the greatest benefit from a projects service life within reasonable planning limits, since making frequent incremental changes to a roadway design over a period of years is likely to be prohibitively expensive. Since it is generally most cost-effective to provide roadway capacity in large increments, a longer time horizon is desirable when planning for road construction.

The land use that occurs along a roadway corridor, while not generally responsible for the majority of travel on the roadway, will affect vehicular traffic capacity, travel by pedestrians and bicyclists, and need for on-street parking. The amount of traffic that can be managed on a roadway is dependent upon factors such as the presence of parking, frequency of driveways and intersections, intersection traffic control, and roadway alignment. The data in Table 10-10 presents the approximate Annual Average Daily Traffic volumes that can be accommodated by non-freeway roadways.

The differences between the two columns in Table 10-10 reflect that the traffic a road can accommodate varies

and is a function of not only physical features such as intersection frequency and parking, but also operational elements including the level of access management, operating speeds, the relative levels of through traffic and access traffic, and the level of traffic management implemented such as signal coordination and signal timing.

Table 10-5: Approximate Volumes for Planning Future Roadway Improvements

Road Type	Standard Management	Enhanced Management*
Two-Lane Road	Up to 12,000 VPD	Up to 15,000 VPD
Three-Lane Road	Up to 18,000 VPD	Up to 22,500 VPD
Four-Lane Road	Up to 24,000 VPD	Up to 30,000 VPD
Five-Lane Road	Up to 35,000 VPD	Up to 43,500 VPD

*Volumes that can be achieved with adequate road design, access control and other capacity enhancing measures.

VPD – Vehicles Per Day

In addition to vehicle travel, it is important to consider right-of-way needs for other types of travel as well. Answering the following questions can help ascertain what accommodations will or should be made for various other modes of travel.

- **Land uses:** What pedestrian, bicycle, or transit generators are located along the roadway? Are there large shopping destinations? Large employers? Public facilities? Are there visitor destinations? How might existing land use patterns change based on approved or planned development? Is there a redevelopment plan for the area? What land use changes are planned or anticipated to occur?
- **Travel patterns:** What percentage of the expected vehicular trips are local? Are there unique travel patterns or modes served by the corridor? Will new or emerging transportation services or technologies influence trip-making?
- **Safety data:** How many and what types of crashes are occurring along the roadway?
- **Types of pedestrians:** Are there generators or attractors that would suggest that younger or older pedestrians or other special user groups will be using the roadway (e.g., schools, elderly care facilities, assisted living centers)?
- **Types of bicyclists:** Is the roadway a critical link for the local or regional bicycle network? Does the roadway connect to or cross trails or bicycle facilities? Are bicyclists using the roadway to access shopping, employment, or recreational destinations?
- **Transit:** What type of transit service exists or is planned for the area? Where are transit stops located? Can pedestrians reach these stops from either side of the street without significant diversion of their trip? Are transit stops accessible using the network of existing bicycle and pedestrian facilities?

- **Freight:** What is the percentage and volume of heavy trucks using the roadway? Are there destinations that require regular access by heavy trucks or other large vehicles? Is the roadway part of a designated freight corridor? Where does loading and unloading occur along the roadway?

Medians

Medians are another element of roadway design that need to be considered when assessing the need for right-of-way. Medians are the center portion of a roadway that separates opposing directions of travel. Medians vary in width and purpose and can be raised with curbs or painted and flush with the pavement. Medians are used to achieve a range of objectives when designing a street, including:

- Reducing traffic conflict at intersections or access connections
- Separating opposing traffic flows for increased safety
- Storing left turning and U-turning vehicles at intersections
- Providing a pedestrian refuge area to improve crossing safety
- Creating a focal point or identifiable gateway into a community, neighborhood, or district by means such as creating tree canopies over travel lanes, providing space for attractive landscaping or space for lighting and urban design features

Raised medians should be considered during the construction, reconstruction, and improvement of all multi-lane strategic arterials and major arterials where posted speeds equal or exceed 40 mph. More specifically, medians should be considered where:

- Forecasted average daily traffic is anticipated to be 28,000 vehicles per day during the 20-year planning period; **or**
- The annual vehicular accident rate is greater than the statewide annual average accident rate for similar roadways; **or**
- Pedestrians are unable to safely cross the roadway, as demonstrated by an accident rate that is greater than the statewide annual average accident rate for similar roadways; **and/or**
- Topography and horizontal or vertical roadway alignment result in inadequate left-turn intersection sight distance and it is impractical to relocate or reconstruct the connecting approach road or impractical to reconstruct the highway in order to provide adequate sight distance.

Depressed medians are preferred in rural areas and on urban corridors where speed limits will exceed 45 MPH. Medians can serve as an integral part of an access

management strategy for a roadway to improve safety and multimodal operational efficiency.

Road Improvements in Developed Corridors

Proposed work on major roadways in areas that are fully developed frequently raise concerns from citizens about potential design changes to the street on which they live, own a business, or frequently travel. The types of changes or decisions that are made regarding arterial and collector streets range from regulation of access to improvements that will enhance different modes of travel or expand the number of lanes on the facility.

In developed areas, substandard right-of-way is a significant concern that may preclude the minimum desired design. When this occurs, it is necessary to prioritize which design elements should be provided for within the limited right-of-way available. Table 10-11 provides a summary of the suggested priorities that should be given to different kinds of improvements on existing roadway corridors in developed areas with substandard right-of-way.

Table 10-6: Improvement Priorities in Corridors with Substandard Right-of-way Width

Priority for Improvement in Existing Substandard Corridors

Land Use Overlay Zone	Upgrading to Current Design Standards	Adding Turn Lane Capacity	Providing Adequate # of Travel Lanes	Retaining On-Street Parking	Installing Median on Undivided Roads	Adding Sidewalks or Paths	Controlling Access
Planned Freeways							
Urban	High	N/A	High	N/A	N/A	N/A	Very High
Rural	High	N/A	High	N/A	N/A	N/A	Very High
Expressways							
CBD/Core	High	Very High	Medium	Low	Medium	High	Very High
Urban	High	Very High	High	Low	High	High	Very High
Rural	High	Very High	Medium	N/A	Medium	N/A	Very High
Other Strategic & Major Arterials							
CBD/Core	High	Very High	Medium	Low	Medium	High	High
Urban	Medium	Very High	Medium	Low	Low	HIgh	High
Rural	Medium	High	Low	N/A	Low	N/A	High
Secondary Arterial and Primary Collectors							
CBD/Core	Medium	High	Low	Medium	N/A	High	Medium
Urban	Medium	High	Low	Medium	N/A	Medium	Low
Rural	Medium	Medium	Low	N/A	N/A	N/A	Low

3rd Principles: Basic Modal Accommodations

The principle of **basic modal accommodation** provides a flexible framework to inform community planning and project development processes, taking into account land use context, road functions, and user needs. The guidance provided in Tables 10-12 through 10-14 provides information to inform planning of a roadway's basic design by helping to define the role of the roadway within the local, city, and regional transportation network as it relates to the needs of various roadway user groups and their expected use of a corridor.

Roadway planning requires an understanding of the function of a roadway within its current and expected future context and the needs of the potential roadway users. The Basic Modal Accommodation Matrix presented in Tables 10-12 through 10-14 assists by identifying a recommended baseline level of improvement for different users considering roadway function and land use context. These recommendations are a starting point to assist in identifying basic travel needs and allocating space to different users on a given roadway. This process can assist in providing input to the purpose and need of a project which will assist in establishing the conceptual framework of a project. Specific needs of individual user groups may be subject to further refinement by modal overlays as discussed later in this section. Modal overlays refer to plans that have been developed specific to a mode (such as a bicycle master plan) or specific to an area (such as a downtown master plan).

Balancing modal needs is a central element of planning for future travel demand. It is understood that there is the possibility that desired facilities may not be able to be provided for all every on every roadway. There will be instances where the mobility needs for some groups require adjustments and/or consideration of alternative routes as well as possible revisions to modal overlay plans. On high-speed, high volume arterials, for example, bicycles and pedestrians may need to be accommodated on a parallel roadway with lower speeds or volumes where the proper designs could be attained to accommodate their mobility needs. Likewise, a corridor with limited right-of-way providing important connectivity for bicycle mobility may require the presence of bicycle facilities that would lower speeds and possible reductions in space devoted to vehicle travel and storage.

Guidance in the Basic Modal Accommodation Matrix is organized by functional designation and land use context. Tables 10-12 through 10-14 establishes baseline parameters for vehicular, pedestrian, and bikeway needs to ensure that projects are consistently planned with all users in mind.

Consideration of multiple modes of transportation (vehicles, pedestrians, bicyclists, transit vehicles and users, and local delivery needs) in the planning and

Table 10-7: Basic Modal Accommodation in Rural/Suburban Areas

RURAL/REGIONAL AREA		Rural	Rural Town	Suburban
National Highway System Non-Freeway	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Shared Shoulder	Shared Shoulder	Shared Shoulder
	Medium/High Ped Volume	N.A.	N.A.	N.A.
	Skilled/Confident Cyclists	Shared Shoulder	Shared Lane/Shoulder	Shared Shoulder
	All Age/All Ability Cyclists	Trail/Path Only	Shared Shoulder/Path	Trail/Path Only
Strategic Arterials	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Shared Shoulder	Shared Shoulder	Shared Shoulder
	Medium/High Ped Volume	N.A.	N.A.	N.A.
	Skilled/Confident Cyclists	Shared Shoulder	Shared Lane/Shoulder	Shared Shoulder
	All Age/All Ability Cyclists	Trail/Path Only	Shared Shoulder/Path	Trail/Path Only
Major Arterials	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Shared Shoulder	Shared Shoulder	Shared Shoulder
	Medium/High Ped Volume	N.A.	N.A.	N.A.
	Skilled/Confident Cyclists	Shared Shoulder	Shared Lane/Shoulder	Shared Shoulder
	All Age/All Ability Cyclists	Trail/Path Only	Shared Shoulder/Path	Trail/Path Only
Secondary Arterials	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Shared Shoulder	Shared Shoulder	Shared Shoulder
	Medium/High Ped Volume	N.A.	N.A.	N.A.
	Skilled/Confident Cyclists	Shared Lane/Shoulder	Shared Lane/Shoulder	Shared Lane/Shoulder
	All Age/All Ability Cyclists	Trail/Path Only	Shared Shoulder/Path	Trail/Path Only
Primary Collectors	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Shared Shoulder	Shared Shoulder	Shared Shoulder
	Medium/High Ped Volume	N.A.	N.A.	N.A.
	Skilled/Confident Cyclists	Shared Lane/Shoulder	Shared Lane/Shoulder	Shared Lane/Shoulder
	All Age/All Ability Cyclists	Shared Shoulder/Path	Shared Shoulder/Path	Shared Shoulder/Path

Table 10-8: Basic Modal Accommodation in Small City Areas

SMALL CITIES		Small City Core Area	Small City Urban Area	Small City Edge Area
National Highway System Non-Freeway	Vehicular Thru Lanes	2-4 Lanes	2-4 Lanes	2-4 Lanes
	Rare/Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Shoulder/Walk
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Standard Walk/Path
	Skilled/Confident Cyclists	Bike Lane	Wide Outside Lane (WOL)	WOL or Shoulder
	All Age/All Ability Cyclists	Shared Path or Trail	Shared Path or Trail	Shared Path or Trail
Strategic Arterials	Vehicular Thru Lanes	Not Applicable	2 Lanes	2 Lanes
	Rare/Low Ped Volumes		Standard Walk/Path	Standard Shoulder/Walk
	Medium/High Ped Volume		Standard Walk/Path	N.A.
	Skilled/Confident Cyclists		Shared Shoulder	Shared Shoulder
	All Age/All Ability Cyclists		Shared Path or Trail	Shared Path or Trail
Major Arterials	Vehicular Thru Lanes	2-4 Lanes	2-3 Lanes	2 Lanes
	Rare/Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Shoulder/Walk
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Standard Walk/Path
	Skilled/Confident Cyclists	Bike Lane	Wide Outside Lane (WOL)	WOL or Shoulder
	All Age/All Ability Cyclists	Shared Path or Trail	Shared Path or Trail	Shared Path or Trail
Secondary Arterials	Vehicular Thru Lanes	Not Applicable	2 lanes	2 lanes
	Rare/Low Ped Volumes		Standard Sidewalk	Standard Shoulder/Walk
	Medium/High Ped Volume		Wide Sidewalk	Standard Walk/Path
	Skilled/Confident Cyclists		Shared Travel Lane	Wide Outside Lane
	All Age/All Ability Cyclists		Shared Path or Trail	Shared Path or Trail
Primary Collectors	Vehicular Thru Lanes	2 lanes	2 lanes	2 lanes
	Rare/Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Shoulder/Walk
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Standard Walk/Path
	Skilled/Confident Cyclists	Wide Outside Lane	Shared Travel Lane	Shared Travel Lane
	All Age/All Ability Cyclists	Shared Path or Trail	Shared Path or Trail	Shared Path or Trail

Table 10-9: Basic Modal Accommodation in Rochester Urban Area

ROCHESTER URBAN AREA		Rochester CBD	Rochester Core	Rochester Urban	Rochester Edge
National Highway System Non-Freeway	Vehicular Thru Lanes	Not Applicable	Not Applicable	Not Applicable	2-4 Lanes
	Rare / Low Ped Volumes				Standard Shoulder/Walk
	Medium/High Ped Volume				Standard Walk/Path
	Skilled/Confident Cyclists				Shared Shoulder
	All Age/All Ability Cyclists				Shared Path or Trail
Strategic Arterials	Vehicular Thru Lanes	4-6 Lanes	4-6 Lane	2-4 Lane	2-4 Lanes
	Rare / Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Walk or Path	Standard Walk or Path
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Wide Walk or Path	Wide Walk or Path
	Skilled/Confident Cyclists	Bike Lane	Bike Lane	Shared Shoulder	Shared Shoulder
	All Age/All Ability Cyclists	Protected Lane or Path	Protected Lane or Path	Path or Trail	Path or Trail
Major Arterials	Vehicular Thru Lanes	2-4 Lanes	2-4 Lane	2-4 lane	2-3 Lane
	Rare / Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Walk or Path	Standard Walk or Path
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Wide Walk or Path	Wide Walk or Path
	Skilled/Confident Cyclists	Bike Lane	Bike Lane	Bike Lane	Shared Shoulder
	All Age/All Ability Cyclists	Protected Lane or Path	Protected Lane or Path	Protected Lane or Path	Path or Trail
Secondary Arterials	Vehicular Thru Lanes	2-4 Lanes	2-3 Lane	2-3 Lane	2 Lane
	Rare / Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Walk or Path	Standard Walk or Path
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Wide Walk or Path	Wide Walk or Path
	Skilled/Confident Cyclists	Bike Lane	Bike Lane	Bike Lane	Wide Outside Lane
	All Age/All Ability Cyclists	Protected Lane or Path	Protected Lane or Path	Protected Lane or Path	Path or Trail
Primary Collectors	Vehicular Thru Lanes	2 Lanes	2 Lanes	2 Lanes	2 Lanes
	Rare / Low Ped Volumes	Standard Sidewalk	Standard Sidewalk	Standard Walk or Path	Standard Walk or Path
	Medium/High Ped Volume	Wide(M) to Enhanced (H)	Wide Sidewalk	Wide Walk or Path	Wide Walk or Path
	Skilled/Confident Cyclists	Bike Lane	Bike Lane	Wide Outside Lane	Shared Lane
	All Age/All Ability Cyclists	Protected Lane or Path	Protected Lane or Path	Protected Lane or Path	Path or Trail

design of all modes of transportation has been part of federal, state and local policy and practice for decades, although with mixed success. There has been increasing interest in building better approaches, including policy, planning and design processes to assist in "Completing our Streets." The guidance in the Basic Modal

Accommodation Matrix is intended to be used along with the information found in other sections in this chapter on travel service, sizing and modal overlays to provide comprehensive input to the early phases of project development. Doing so will help to define a balanced range of potential design alternatives for consideration during the early conceptual stage of the design process.

The following section provides a separate discussion of freeways, which are handled as a standalone subset of the larger roadway network given the stricter control of design parameters applied to the freeway design and development process.

Freeways

Freeways are a very specific type of travel facility that provide the highest level of mobility, providing regional connectivity serving interstate and interregional travel at high speeds with access to adjacent land areas generally provided by interchanges. The use of freeway design is normally limited to cases where the unique nature of a freeway is warranted, such as the Interstate Highway System, or where a significant level of through traffic occurs in conjunction with traffic volumes exceeding 25-30,000 in a rural area or 40-45,000 in an urban area.

Planning a freeway project will in most cases involve a federalized development process with in-depth environmental review. The street planning guidance in this chapter is intended for lower class facilities.

However, as there are a limited number of corridors (specifically TH 63 south of TH 52 and TH 14 west of TH 52) envisioned to be upgraded to freeways in the future, general street planning principles are provided here for these existing and future freeway corridors:

- High mobility – low accessibility
- Primary modal emphasis: vehicular traffic
- Secondary modal emphasis: transit
- Target speed: Above 60 mph
- Travel lanes: travel lane capacity is approximately 15,000-20,000 AADT per lane
- Median is required
- No pedestrian or bicycle travel
- Accommodation for maximum size freight vehicles required

4th Principles: Modal Overlays

In addition to the basic objectives for modal accommodation on various classes of roadways as laid out in the previous section, consideration also needs to be given to various mode or area specific plans that provide additional detail regarding goals for the accommodation of specific modes in specific corridors. This plan uses the term **modal overlays** to identify these mode or area specific resources that should be

consulted for additional guidance on modal development in particular travel corridors or community subareas.

The modal overlays complement the basic guidance on modal accommodation found in this chapter. Where a roadway has been identified in one of the modal overlay resource documents listed in Table 10-15, consideration should be given to the service level or design guidance found in that document as part of the early project development process. Modal overlays generally will supersede the basic modal accommodation guidance provided in the previous section of this chapter.

The modal overlays that are identified for the purposes of the ROCOG Street Design Guidance are identified in Table 10-15.

Table 10-10: ROCOG Modal Overlays

Overlay	Source
Pedestrian Priority	ROCOG 2045 Long Range Plan Chapter 13, Figure 13-16 Primary Transit Network Pedestrian Infrastructure Priorities
Pedestrian Priority	Rochester 2018 Comprehensive Plan Section 2, Figure 2-34 Pedestrian Priority Map
Transit Priority	ROCOG 2045 Long Range Plan Chapter 12, Figure 12-2 Downtown Rapid Transit Corridor Also see New Rapid Transit for a Growing, Equitable Rochester – Transit Oriented Planning Study – August 2020
Transit Priority	Rochester 2018 Comprehensive Plan Section 2, Figure 2-14 Primary Transit Network
Transit Priority	2017 Transit Development Plan Figure 9-2 High Frequency Network
Bicycle Priority	ROCOG 2045 Long Range Plan Chapter 13, Figure 13-12 Active Transportation System Plan – Rochester Area Chapter 13, Figure 13-14 Regional Active Transportation Plan

Overlay	Source
Bicycle Priority	Rochester Area Bicycle Master Plan (2020 Update in Progress)
Bicycle Priority	Rochester 2018 Comprehensive Plan Section 2, Figure 2-40 Priority Bike Network
Freight Priority	Rochester Truck Route Network Rochester 2018 Comprehensive Plan Section 2, Figure 2-45
DMC District	Destination Medical Center Transportation & Infrastructure Program – Integrated Transit Studies – Executive Summary https://www.rochestermn.gov/home/showdocument?id=21067 Figure 8: DMC Street Typology Figure 10: City Loop (Ped/Bicycle Priority) Figure 11: Bicycle Network (Bicycle Priority)

The following paragraphs on pedestrian priority, bicycle priority and transit priority discuss how the incorporation of modal enhancement should be reflected in project development and how it may vary along subsegments of a corridor. For example, a roadway may be designated for transit emphasis. In some segments of the corridor, that may require that a travel lane be designated exclusively for transit use. In other segments, transit emphasis can be achieved through modest changes to signal operations or intersection design.

Pedestrian Priority Corridors

Pedestrian priority corridors are areas where land use, built environment, and demographic factors contribute to high levels of pedestrian activity. In such areas, the community may expect that street design or operations varies from basic design standards to serve the increased level of pedestrian activity.

At a minimum, more width probably will need to be allocated to the amenity zone, sidewalk zone, or building frontage zone of the right-of-way, and streets operations should enhance pedestrian convenience (such as shorter cycle lengths at traffic signals). Other streetscape design features—such as pedestrian-scale street lighting, space for outdoor activity and wayfinding—are also typical priorities in these areas. Where trade-offs are needed, actions such as removal of on-street parking or providing greater building setbacks may be needed.

Bicycle Priority Corridors

Bicycle priority corridors will generally be locations designated on the Active Transportation Network Plan of Chapter 12 as regional or major city bikeway corridors. In these locations, accommodation of bikeways for riders of all ages and all skill levels generally is the goal.

Bicyclists, by nature, are much more affected by poor facility design, construction, and maintenance practices than motor vehicle drivers. Bicyclists lack the protection from the elements and roadway hazards provided by an

automobile's structure and safety features. By understanding the unique characteristics and needs of bicyclists, a facility designer can provide quality facilities and minimize user risk. Bicycle infrastructure should accommodate as many user types as possible, with decisions for separate or parallel facilities based on providing a comfortable experience for the greatest number of people.

Bikeway designs will generally reflect a street's motor vehicle volumes and speeds, as well as factors such as traffic mix, grades, and access/parking conditions. Sometimes, building bikeways will require trade-offs to be made for the safety for people using all modes of transportation. In such instances, it may be appropriate to consider parallel streets as the location for a bicycle priority facility when a similar level of service can be provided, or to consider narrowing of vehicle travel lanes or removal of on-street parking in order to build comfortable and convenient bikeways.

Intersection Design should also be a consideration in bicycle priority corridors. People biking are most vulnerable at intersections. Where space allows, protected intersections or adequate street buffers should be accommodated.

Transit Priority Corridors

Transit priority corridors highlight those corridors where capital investment in transit infrastructure will support high capacity or high frequency service providing an enhanced level of reliability and comfort with sufficient frequency to help make transit a convenient travel choice.

The transit capital investment corridors identified in the Plan are those where there is an expectation that bus rapid transit (BRT) or rapid bus service will be developed. These include the Downtown Rapid Transit BRT System, the Primary Transit Network (PTN) BRT system, and potential rapid bus service extensions off the PTN serving future high capacity park and ride sites. These corridors will benefit from investments like transit-priority signals, queue jumps/bypass lanes and transit lanes at key locations, along with space for transit stop amenities and enhanced station area infrastructure for pedestrians. Where design and operations trade-offs are needed, transit reliability and access should be given priority on these transit capital investment corridors. The following factors should be considered in deciding when and where to make these types of investments.

- **Bus Volume:** Transit-only or BRT lanes are typically more useful when there are higher volumes of buses using the dedicated lanes.
- **Speed:** The transit-only or BRT lane provides an increase in transit operating speed (for the distance of the lane or in the corridor) or improves service reliability.

Freight Priority Corridors

As the ROCOG region continues to grow and consumer choices continue to evolve, the demand for the movement and delivery of goods will also grow. The growth of e-commerce (purchases made online and delivered to homes and businesses) will continue to play an important role in the growing demands of goods movement. Nationally, package volume handled by the United States Postal Service has more than doubled in the past decade from 3.1 billion in 2010 to 6.2 billion in 2018.

The increased demand for goods will also increase demands on our city streets. As the volume of freight moving through and to the Rochester area grows, there is a need mitigate potential impacts to safety, congestion, and the environment as a result of this increased traffic.

MnDOT, Olmsted County, and local municipalities all undertake planning to manage the impact of heavy vehicle traffic on their respective roadway networks. Rochester has an adopted truck route network, while Olmsted County and MnDOT both have made extensive investments in the upgrading of a network of corridors to serve 10-ton traffic. Chapter 3 of this plan identifies existing truck routes on the highway network, and Chapter 10 includes recommendations for the upgrading of corridors not currently rated for 10-ton traffic to 10-ton status.

In addition, accessibility to freight origins and destinations should also be considered, with first, last and transfer mile routes evaluated as needed particularly in areas of non-residential land use generating significant freight traffic. When considering initiation of a project development process, references identifying freight priority corridors and last mile access should be consulted to identify the need for appropriate design standards for heavy commercial vehicle traffic.

Right-of-Way Reservation

Right-of-way, as defined for the purposes of this Plan, is a strip of land used or intended to be used for roads, walkways, bikeways, boulevards, utilities, transit accommodations or other transportation uses benefiting the public at large. Guidelines on minimum right-of-way (ROW) widths for major roadway design classes are identified in Table 10-16.

Table 10-16 serves as a starting point for the determination of right-of-way needs, and for many lower volume or lower classification roads will likely provide adequate guidance for planning purposes. For freeways higher classification roads such as strategic arterials and roads carrying volumes > 30,000 AADT, additional consideration should be given to the travel service, sizing, and modal accommodation principles found in this

Table 10-11: Minimum Right-Of-Way Widths

				MIDBLOCK RIGHT OF WAY (1)			
				Swale/Ditch Drainage		Curb & Gutter Drainage	
Design Class	Projected Volumes	Lanes Needed	Type of Median	Flat Terrain	Steep Terrain	Flat Terrain	Steep Terrain
Freeway	<70,000	4		200	225	160	180
	<135,000	6		220	240	200	220
Limited Access Expressway							
	2-10,000	2		100	120	*NA*	*NA*
	20-40,000	4+LTL	Undivided	120	140	*NA*	*NA*
			Raised	140	160	130	150
			Landscaped	180	200	*NA*	*NA*
	Over 40,000	6+LTL	Raised	180	200	150	175
			Landscaped	200	220	*NA*	*NA*
Other Roads and Streets (2)							
	2-10,000	2		100	120	75	90
	10-20,000	2+LTL		110	130	90	110
	20-30,000	4+LTL	Undivided	120	140	100	120
			Raised	140	160	120	140
	30-40,000	5		140	160	130	150
	Over 40,000	6+LTL	Undivided	160	180		
			Raised	175	200		

Footnotes
(1) Add 10 feet for each Non-Motorized Path
(2) If On-Street Parking is to be permitted, add 6 feet for Parallel Parking Lanes and 12 feet for Angled Parking lanes

section before a final determination on right-of-way width is made. The reservation of right-of-way for the ultimate width of roadways should be based on long-term needs defined by objectives for mobility, accessibility and community character.

Right-of-way widths will vary depending on the type of stormwater management utilized and values in Table 10-16 are representative of mid-block conditions on relatively flat terrain with two 5' walkways and, for divided facilities, a 20' raised or 30' depressed medians on expressways or a 10' raised or 20' depressed median on other roadways.

Additional right-of-way width is recommended where conditions dictate the need for additional area. Common situations where additional right-of-way should be secured include:

- **Steep Terrain:** Where topographic conditions such as steep terrain are present, additional right-of-way shall be provided in order to provide an adequate clear zone with safe slope gradients and backslopes constructed at grades that will provide for stability of the slope and ease of maintenance. The width required to provide adequate recovery area and slope stability is related to the design speed of the roadway and the severity of natural slope conditions. Additional right-of-way needed to address terrain factors will range from 10 to 50 feet on one or both sides of the roadway corridor.
- **Non-Motorized Paths:** Where jurisdictional bikeway or walkway plans indicate development of a separated path in lieu of a sidewalk for pedestrian and bicycle use, an additional 5 to 15 feet of right-of-way or easement (depending on jurisdictional policy) may be needed to accommodate each path facility.
- **Turn Lanes:** On major streets and roads additional width should be acquired for turn lane development in the vicinity of intersections.

Right-of-Way in Urban Core Areas

Expressways and arterial roads in fully developed Central Business District (CBD) and Urban Core land use context zones have historically been developed on rights-of-way narrower than those dictated by current needs, often flanked by buildings with minimal setbacks and a mix of land uses. In such cases, roadway improvements are likely to consist primarily of retrofit measures that result in a reallocation of the existing roadway space, with only very limited widening. Because of the economic impact that would be experienced in attempting to secure additional right-of-way width throughout the length of a fully developed non-freeway corridor in CBD or Core Areas, plans for improvement projects generally minimize the need for additional right-of-way along the length of the corridor, though widening for turn lane improvements may be needed at intersections or major driveways.

When considering land development proposals along fully developed corridors, the mid-block ROW requirements in Table 10-16 generally are not relevant to the consideration of whether additional right-of-way is needed. The most pressing right-of-way need in such corridors may be the ability to acquire an additional 10-12 feet in the proximity of intersections to permit the introduction of turn lanes where none currently exist. Development proposals on properties located at or near higher volume intersections should be reviewed, keeping in mind there may be a need to introduce turn lane improvements if none exists; a site layout, therefore, should be designed to accommodate an area for such improvement in the future.

Rural & Suburban Roadway Reservation Corridor

In rural and suburban areas, a number of county and state roadways are constructed on 66’ rights-of-way, which initially provided adequate width for the limited function these roadways served in the early years after construction. Travel volume increases due to regional growth, along with increased truck volumes, has led to evolving road designs that require additional right-of-way for shoulders, drainage and recovery areas. There is a need to plan for future upgrading of these corridors to improve safety, even though funding constraints make the timing for improvement to be when a road needs to be rebuilt for structural reasons, typically 50 to 70 years after its initial construction.

We can anticipate that in the intervening years prior to reconstruction, development activity in rural and suburban areas will continue, involving the construction of new agricultural buildings, renovations of existing buildings, or construction of new homes on larger acreages. To minimize future disruption to any new development that occurs, it would be prudent for zoning authorities to establish setback guidelines that reflect right-of-way needs based on current design standards. In

order to achieve this, the Plan recommends a minimum **roadway reservation corridor** be established along all county and state highways in rural and suburban areas with substandard rights-of-way for the purpose of establishing an interim boundary, measured from the centerline of the existing roadway, from which all future building setbacks would be measured. Table 10-17 establishes recommended guidelines for the width of the roadway reservation corridor related to the classification of the roadway. These setbacks will minimize future impacts to private property as a result of road reconstruction, permit adequate width drainage facilities to be constructed, and provide an increased level of public safety by introducing greater separation between roadways and structures consistent with modern clear zone and recovery area design requirements.

Table 10-12: Rural and Suburban Roadway Reservation Corridors for Substandard Roads

Roadway Classification	Expressway		Super 2	Other Arterials & Collectors		Local County & State Roads
	<10,000 ADT	>10,000 ADT	All	< 10,000 ADT	>10,000 ADT	All
Roadway Reservation Corridor Width	50'	60'	55'	50'	55'	50'

Right-of-Way Implementation Strategies

- **Strategy 1:** ROCOG will encourage its partner agencies to use the Long Range Transportation Plan to provide guidance to landowners, developers, local jurisdictions and public agencies on the expected design characteristics of major roadways throughout the ROCOG planning area.
- **Strategy 2:** ROCOG partner jurisdictions will consult guidelines on recommended right-of-way width for each road classification and apply these as a base for estimating right-of-way needs on new corridors or existing corridors proposed for major upgrade.
- **Strategy 3:** ROCOG partner jurisdictions will consult the guidelines to guide future right-of-way acquisition along existing corridors where adjacent land uses are established but existing right-of-way is substandard. The focus in such cases should be on the need to acquire the minimum right-of-way necessary to meet the functional service needs of the roadway, such as

the addition of turn lanes or raised medians in order to provide additional traffic capacity at intersections or improve safety in the corridor.

- **Strategy 4:** When developing major street projects, ROCOG partner agencies should consult the street planning guidance of this chapter and, to the extent possible, incorporate features recommended such as travel lanes, medians, modal accommodation and modal networks, respecting the land use land use context within which a corridor is located.
- **Strategy 5:** ROCOG partner jurisdictions should coordinate with landowners to reserve right-of-way for major street corridors through site planning or general development planning processes. Right-of-way dedication requirements and land acquisition policies should be adopted in land development regulations of local jurisdictions.
- **Strategy 6:** ROCOG partner jurisdictions should consult building setback requirements for major rural or suburban roadways designed to preserve sufficient setback for new structures under a building permit and/or zoning certificate process when no associated subdivision activity is occurring.
- **Strategy 7:** ROCOG will work with partner jurisdictions to identify corridors that would benefit from right-of-way protection activities, such as official mapping, where needed to preserve right-of-way corridors for future transportation system projects.

Factors to consider in determining which corridors should be a priority for corridor management are:

- Has the need to improve the corridor been identified as a priority by the local community or by MnDOT or Olmsted County?
- How important is the corridor to the local and regional transportation system (i.e., truck route, commuter route, economic development, etc.)?
- What is the immediacy of land development in the corridor?
- Are there other opportunities to prevent development on land that would be needed for future right-of-way?
- What is the risk of foreclosing location options entirely?
- What is the level of support for the project?