Street Standards

Traffic Committee Report to Glenwood Springs City Council

July 7, 2005

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Introduction

"The tendency of many communities to equate wider streets with better streets and to design traffic and parking lanes as if the street were a 'microfreeway' is a highly questionable practice". These words come from not only the "livable cities" movement but also the American Society of Civil Engineers (ASCE), National Association of Home Builders (NAHB), and the Urban Land Institute (ULI). There is a growing consensus that streets, particularly local ones, are over designed, at substantial cost to society.

Narrow streets are on nearly everyone's list of energy and cost-saving ideas. They require less asphalt and energy to begin with, and later have less effect on ambient air temperatures. Narrow street surfaces also save on site development costs, a savings that can be passed on to homebuyers and renters.

Narrow streets calm traffic. Vehicle operating speeds decline somewhat as individual lanes and street sections are narrowed. Beyond lower speeds, drivers seem to behave less aggressively on narrow streets, running fewer traffic signals, for example.

Pedestrians navigate with ease along and across narrow streets. More elderly users, more bicyclists, more people out walking pets, and more pedestrians crossing back and forth all attest to a level of comfort with traffic on narrow streets that is missing on wide ones.

With the above benefits and considerations in mind, the "Traffic Efficiencies and Bike and Pedestrian Utilization Ad Hoc Committee" developed the following basic street standards.

The committee recognizes that the standards outlined in this document serve as a basic framework for the design and construction of street improvements. Further, we understand that these standards will need to be periodically amended to provide additional clarity or to reflect changes in policy or in construction or engineering practice.

We recommend that the Glenwood Springs Traffic Calming Review Committee, which is outlined in the Traffic Calming Policy document, serve as a review committee when such changes are proposed.

Street Design Standards – Goals and Objectives

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GOALS:

The city transportation system should encourage alternate mode use, especially walking and bicycling, by working toward a safe balance of all street users, including autos, trucks, bicycles and pedestrians.

OBJECTIVES:

- ✓ Standards should create safer routes for all modes.
- ✓ Standards should optimize the use of the limited physical capacity of streets and balance street design so it does not favor motorized traffic.
- ✓ Intermodal connections within the transportation system should be created, enhanced and improved.
- ✓ Street design should enhance bicycle safety for its own sake and as a traffic calming measure.
- ✓ Street design should enhance and improve the pedestrian safety and comfort and encourage non-motorized modes of travel.
- ✓ Street design should provide safe, convenient and inviting access for transit users.
- ✓ Standards should balance emergency service needs with other objectives.
- ✓ Residential streets and street networks should be designed to discourage speeds above 25 mph.
- ✓ Street standards should protect the local entity's infrastructure investment by establishing standardized design, materials, construction and repair criteria for all public improvements.
- ✓ Standards should discourage parking on sidewalks.
- ✓ Standards should enhance and beautify the streetscape and pedestrian environment by bringing landscaping closer to the street.
- ✓ Standards should assure that drainage facilities do not create hazards for cyclists and pedestrians.
- ✓ Standards should assure that bicycle, pedestrian and vehicular uses of streets are the primary uses thereof and that the streets are properly maintained during construction and repair work.
- ✓ Standards should have streets designed to not be barriers to personal interaction.
- ✓ Standards should be designed to minimize additional pavement in Glenwood Springs.

Street Design Standards – Description

A description of street design standards for each street classification follows. For an abbreviated presentation of the street right-of-way standards, see Appendix a. All elements listed are required unless specifically noted.

Principal Arterial – Specification Table

Principal Arterials provide for mobility through the City and for connecting the major centers of activity within the City. Although principal arterials may provide access to commercial and residential properties where no other alternative is available, access is a secondary function.

Principal Arterials within Glenwood Springs are under the jurisdiction of the Colorado Department of Transportation. Although CDOT criteria will govern the specifications for principal arterials, the City of Glenwood Springs encourages the following specifications.

Principal Arterial Specification Table

Street Function:	Provide mobility for through traffic and connections between major activity centers
Connectivity:	Connects major activity centers and regional transportation nodes
Average Daily Traffic:	> 15,000 motor vehicle trips per day
Managed Speed:	25 mph–35 mph
Motor Vehicle Travel Lanes:	• 10'–11' travel lanes • Number of lanes based on street capacity required
Bike Lanes:	• Preferred on both sides of the street • 6' width is preferred. Lesser widths down to 4' may be acceptable on existing streets with width constraints. • Bike symbol pavement markings preferred • Bike lanes may be omitted if separate, off-street bicycle path is provided in same corridor. Who makes this decision?
Parking:	• On-street parking generally not provided on principal arterials • Parking may be provided as a traffic calming feature and to meet parking demand when principal arterials traverse a neighborhood with existing driveway accesses or commercial properties fronting the street
Curb and Gutter:	6" vertical/barrier curb required. Gutter width as needed for drainage.
Curb-to-Curb Width:	As necessary
Planting Strip:	• 5' landscaped (according to City code) planting strip required between sidewalk and vehicle travel lanes. • If arterial road serves a commercial area with on-street parking, then partially hard-scaped planting strip is acceptable
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street unless alternative bicycle and pedestrian facilities meeting these criteria are provided within the corridor • 8 ft. width in commercial areas • 5 ft width in residential areas. 6 ft. width should be provided in high pedestrian volume areas with frequent two-way foot traffic All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Minimize number of driveways. Use current CDOT or City code criteria
Center Medians	Center medians are encouraged for traffic calming
Min. Right-of-Way Width:	As necessary

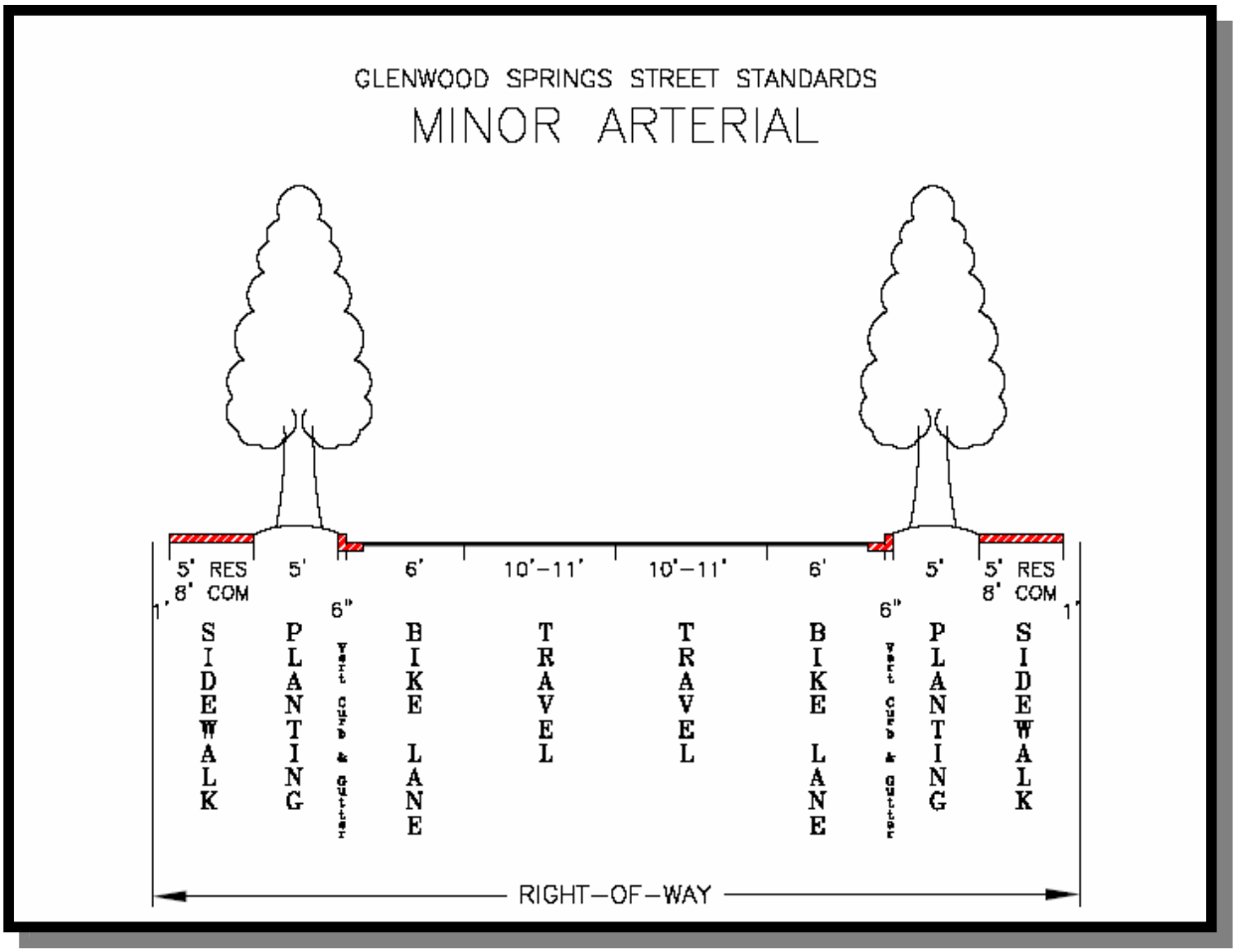
Minor Arterial – Specification Table

Minor Arterials augment the principal arterial system. They provide for mobility through the City and for connecting destinations on opposite sides of the City. Minor arterials may also provide access to properties, although the number of access points should be limited.

Minor Arterial Specification Table

Street Function:	Provide mobility for through traffic, access to significant destinations and, to a lesser extent, provide access to individual properties
Connectivity:	Collects traffic from collector streets and supplements the principal arterial system
Average Daily Traffic:	5,000 to 20,000 motor vehicle trips per day
Managed Speed:	25 mph–35 mph
Motor Vehicle Travel Lanes:	• 10'–11' travel lanes • Number of lanes based on street capacity required
Bike Lanes:	• To be provided on both sides of the street • 6' width is preferred. Lesser widths down to 4' may be acceptable on existing streets with width constraints. • Bike symbol pavement markings required • Bike lanes may be omitted if separate, off-street bicycle path is provided in same corridor. Who makes this decision?
Parking:	• On-street parking generally not provided on minor arterials • Parking may be provided as a traffic calming feature and to meet parking demand when minor arterials traverse a neighborhood with existing driveway accesses or commercial properties fronting the street
Curb and Gutter:	6" vertical/barrier curb required. Gutter width as needed for drainage.
Curb-to-Curb Width:	• 32'–34' • Additional width to be provided to accommodate parking if necessary • Additional width may be provided in gutter if necessary for drainage • Narrower width may be provided for existing constrained streets where no bike path can be provided or where a separate parallel bike path exists
Planting Strip:	• 5' landscaped (according to City code) planting strip mandatory between sidewalk and vehicle travel lanes. • If arterial road serves a commercial area with on-street parking, then partially hard-scaped planting strip is permitted
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street unless alternative bicycle and pedestrian facilities meeting these criteria are provided within the corridor • 8 ft. width in commercial areas • 5 ft width in residential areas. 6 ft. width should be provided in high pedestrian volume areas with frequent two-way foot traffic All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways:	Minimize number of driveways. Use current code criteria
Center Median	A landscaped center median is to be provided where feasible for traffic calming and access control
Min. Right-of-Way Width:	• 55'–57' • Wider right-of-way required to accommodate parking • Wider right-of-way required to accommodate commercial sidewalk widths

Minor Arterial – Graphical Display



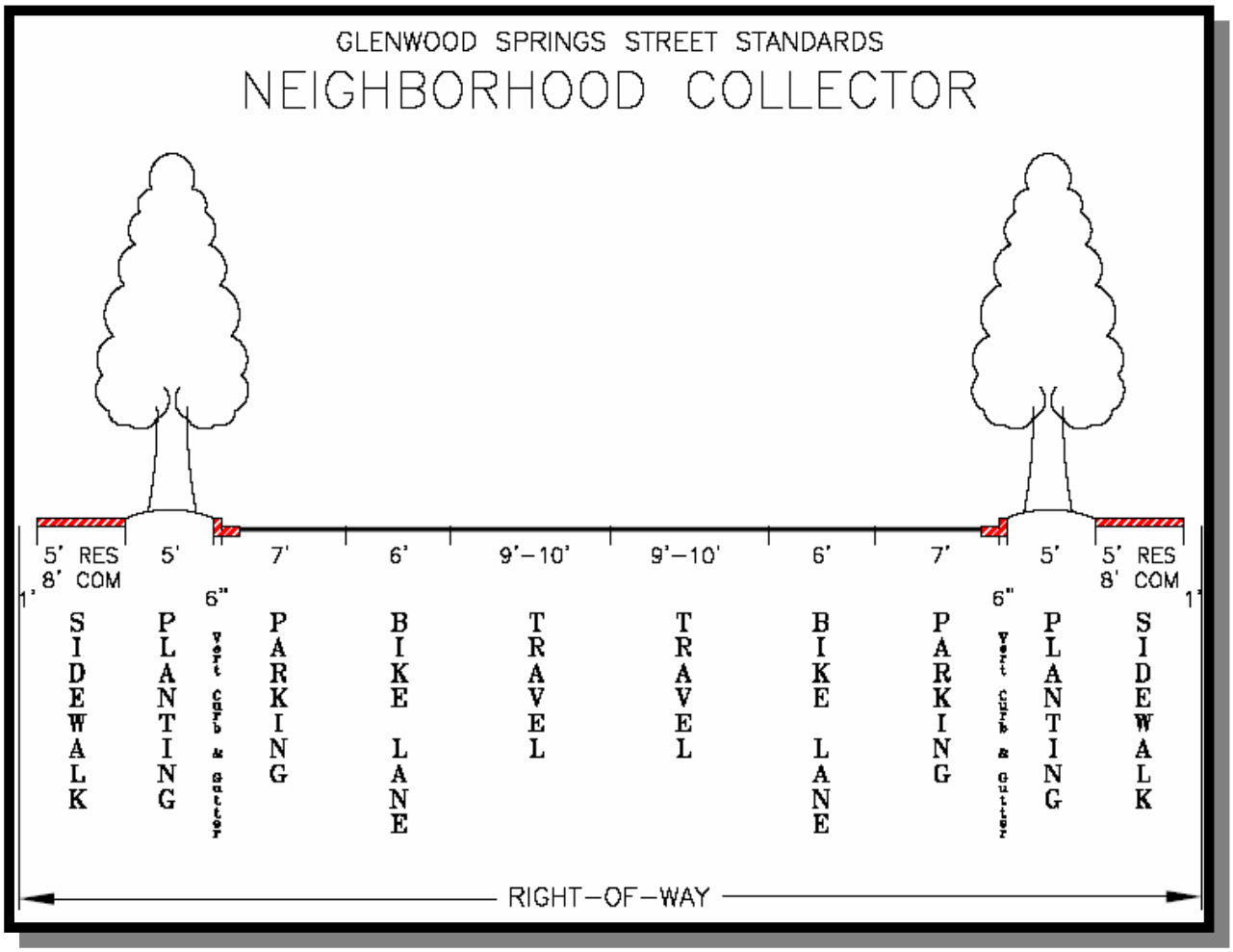
Neighborhood Collector – Specification Table

Neighborhood Collectors provide access to neighborhood cores and gather traffic from various parts of the neighborhood and distribute it to the major street system. Different configurations with several on-street parking options are provided for residential and commercial areas.

Neighborhood Collector Specification Table

Street Function:	Provide access in and out of the neighborhood
Connectivity:	Collects traffic from within residential areas and connects these areas with the major street network.
Average Daily Traffic:	1,500 to 5,000 motor vehicle trips per day
Managed Speed:	20 mph–25 mph
Motor Vehicle Travel Lanes:	• Two 9'–10' travel lanes • Two 11' travel lanes may be provided if no bike lanes are provided (for existing streets with constrained width or with separate parallel detached bike path)
Bike Lanes:	• To be provided on both sides of the street • 6' width is preferred. Lesser widths down to 4' may be acceptable on existing streets with width constraints. • Bike symbol pavement markings required
Parking:	• One 7' lane for Parking One Side • Two 7' lanes for Parking Both Sides. • Parking may be provided in 7' wide bays rather than a continuous on-street parking lane.
Curb and Gutter:	6" vertical/barrier curb required. Gutter width as needed for drainage.
Curb-to-Curb Width:	• 30' for No Parking • 37' for Parking One Side • 44' for Parking Both Sides • Additional width may be provided in gutter if necessary for drainage • Narrower width may be provided for existing constrained streets where no bike path can be provided or where a separate parallel bike path exists
Planting Strip:	• 5' landscaped (according to City code) planting strip mandatory between sidewalk and vehicle travel lanes. • If collector road serves a commercial area with on-street parking, then partially hard-scaped planting strip is permitted
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street • 8 ft. width in commercial areas • 5 ft width in residential areas. 6 ft. width should be provided in high pedestrian volume areas with frequent two-way foot traffic All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveway	Use current code criteria
Center Median	A landscaped center median is to be provided where feasible for traffic calming
Min. Right-of-Way Width:	• 52' for no on-street parking • 59' for parking one side • 66' for parking both sides • Wider right-of-way required to accommodate commercial sidewalk widths and center medians

Neighborhood Collector – Graphical Display



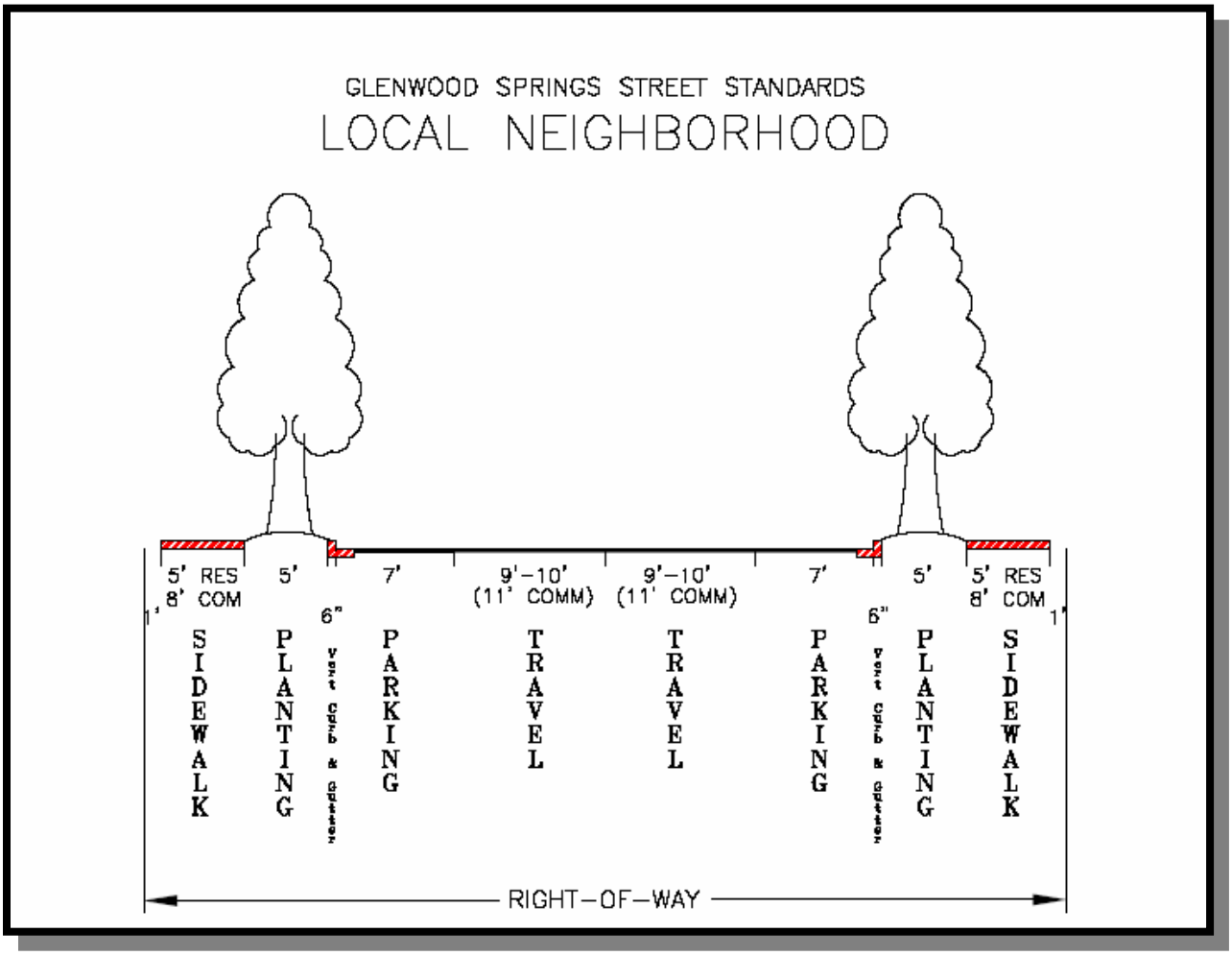
Local Neighborhood Road – Specification Table

Local Neighborhood Roads provide access to individual residential units and neighborhood commercial areas. Different configurations with several on-street parking options are provided for residential and commercial areas.

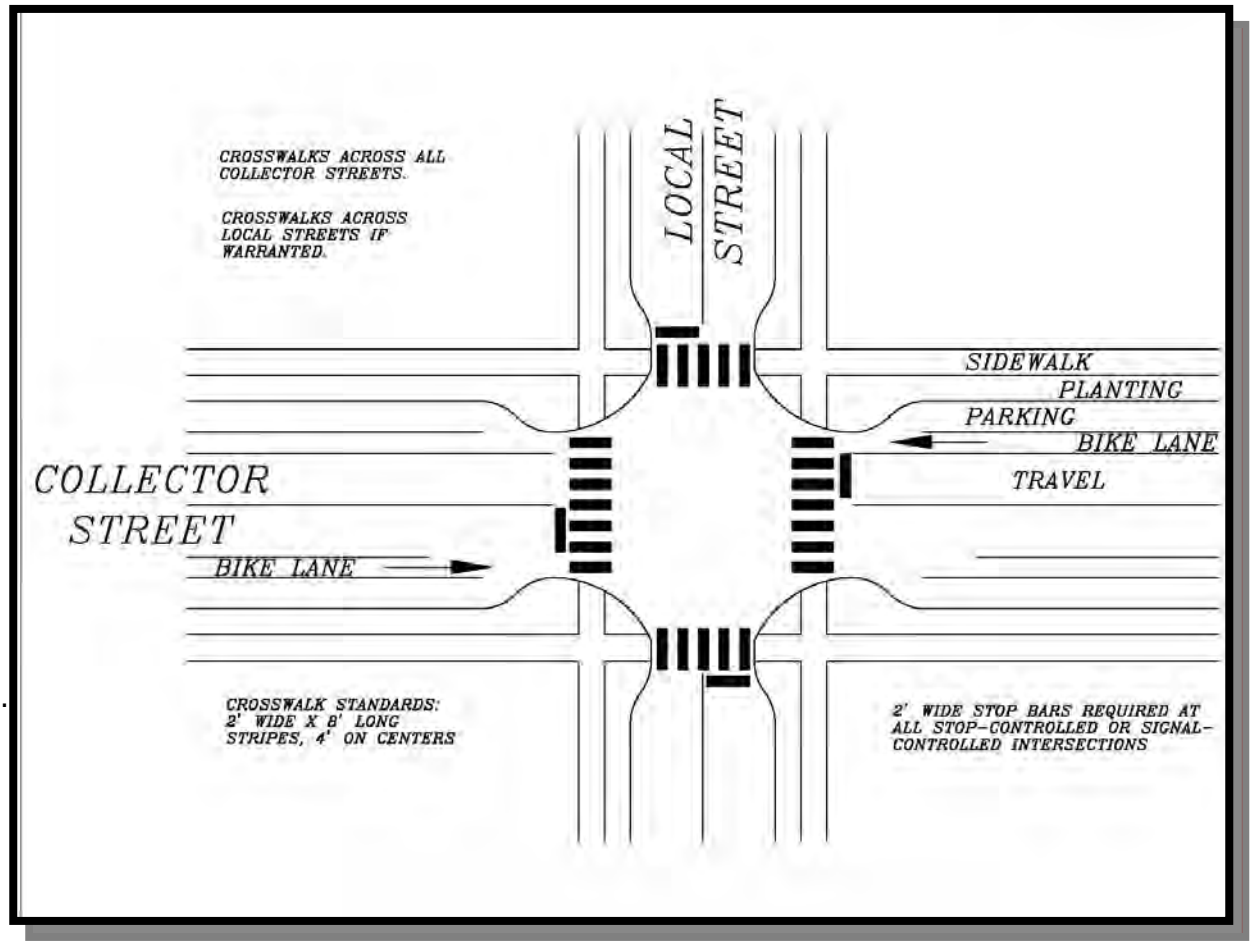
Local Neighborhood Road Specification Table

Street Function:	Provide access to individual residential units and commercial areas.
Connectivity:	Connects to higher order streets
Average Daily Traffic:	1,500 or less motor vehicle trips per day
Managed Speed:	10 mph–25 mph
Motor Vehicle Travel Lanes:	• Residential lane widths: 9 or 10 ft. • Commercial lane widths: 11ft.
Bike Lanes:	Generally not needed on low volume/low travel speed streets
Parking:	• For existing streets, the density surrounding the neighborhood should determine whether parking on one side, both sides or not at all is permitted. • One 7’ lane for parking one side • Two 7’ lanes for parking both sides. • Parking may be provided in 7’ wide bays rather than a continuous on-street parking lane.
Curb and Gutter	If curb and gutter is used, it shall be 6” vertical/barrier curb.
Curb-to-Curb Width:	• 18’–20’ for no parking • 25’–27’ for parking one side • 32’–34’ for parking both sides • 2’ wider for commercial areas • Additional width may be provided in gutter if necessary for drainage
Planting Strip:	• 5’ landscaped (according to City code) planting strip mandatory between sidewalk and vehicle travel lanes. • If neighborhood road serves a commercial area, then partially hard-scaped planting strip is permitted
Sidewalks and Min. Sidewalk Widths:	Sidewalks required on both sides of street • 8 ft. width in commercial areas • 5 ft width in residential areas All sidewalks and intersections with vehicle lanes should meet ADA specifications.
Driveways	Use current code criteria
Min. Right-of-Way Width:	• 50’ for Parking One Side • 57’ for Parking Both Sides.

Local Neighborhood Road – Graphical Display



Collector and Local Street Intersection – Graphical Display



Appendix a – City of Glenwood Springs Street Standards

Type of Street	ADT	Minimum R.O.W. width	Curb-to-curb pavement width	Motor vehicle travel lanes	Median and/or center turn lane	Bike lanes on both sides	Parking	Curb on both sides	Planting strip on both sides	Side-walks on both sides
2-lane Arterial	5,000 to	55'–67'	32'–34'	10'–11'	None	2 at 6'	None	6"	5'[1]	5'–10'[2]
3-lane Arterial	30,000	67'–79'	44'–47'	10'–11'	12'	2 at 6'	in 8'	6"	5'	5'–10'
5-lane Arterial	ADT	78'–90'	66'–68'	10'–11'	12'	2 at 6'	in 8'	6"	5'	5'–10'
Neighborhood Collector, Residential					11'–14' Queuing/median					
No parking	1,500 to	52'	30'	9'–10'		2 at 6'	None	6"	5'	5'–6'
Parking one side		59'	37'	9'–10'		2 at 6'	One 7'	6"	5'	5'–6'
Parking both sides	5,000	66'	44'	9'–10'		2 at 6'	Two 7'	6"	5'	5'–6'
Diagonal parking one side[3]		80'	58'	9'–10'		2 at 6'	7'&21'	6"	5'	5'–6'
Diagonal parking both sides	ADT	94'	72'	9'–10'		2 at 6'	21'&21'	6"	5'	5'–6'
Neighborhood Collector, Commercial										
Parallel parking one side		58'	28'	9'–10'		2 at 6'	One 7'	6"	5'	8'
Parallel parking both sides		65'	36'	9'–10'		2 at 6	Two 7'	6"	5'	8'
Diagonal parking one side		79'	51'	9'–10'		2 at 6'	7'&21'	6"	5'	8'
Diagonal parking both sides		84'	64'	9'–10'		2 at 6''	21'&21'	6"	5'	8'
Local Neighborhood, Residential										
No parking	Less than	43'	18'–20'	9'–10'	11'–14' Queuing/median	NA[4]	None	6"	5'	5'–6'
Parking, one side	1,500	50'	25'–27'	9'–10'			One 7'	6"	5'	5'–6'
Parking both sides	ADT	57'	32'–34'	9'–10'			Two 7'	6"	5'	5'–6'
Diagonal parking one side		71'	46'–48'	9'–10'			7'&21'	6"	5'	5'–6'
Diagonal parking both sides		85'	60'–62'	9'–10'			21'&21'	6"	5'	5'–6'
Multi-use path	NA	10'–18'	6'–10' paved width, 2'–4' strips on both sides	NA	NA	NA	None	None	None	None

[1] Hard scape planting rows with tree wells shall be used in commercial areas

[2] Minimum 5' sidewalk shall be installed in residential areas, 6' sidewalk if higher pedestrian volume is anticipated, 8'-10' sidewalk shall be installed in commercial areas

[3] 60 degree angle, 21.0' length

[4] Bike lanes are generally not needed on low volume (less than 3,000 ADT) and/or low travel speed (less than 25mph) streets

Acknowledgements

Thanks to all who contributed to this work, including Larry Thompson, Sabrina Harris and others of the city staff who provided observations, ideas and thoughtful suggestions to the Ad Hoc committee for consideration in preparation of this report.

The chair wishes to especially thank the committee members who volunteered talent and time to create and improve this document over the past few months. They are Shelley Kaup, Nancy Reinisch, Cathy Tuttle, Jeff Fegan, Marianne Virgili, Tom McRaith, Lee Barger, Howard Raley, Jeremy Heiman, John Traul, Joyce Wirth and Bob Andre.

Sincerely,

Larry Heinrichs
Ad Hoc Committee Chair