What are Complete Streets?

Complete Streets are streets for everyone.

They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, bicycle to work, take the bus, and drive safely.

Creating Complete Streets means that the Town of Jackson will routinely design and operate the entire street right-of-way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network better and safer for drivers, transit users, pedestrians, and bicyclists. Creating Complete Streets does not mean, however, that every street will be designed to the same standards. Each project will need to carefully consider the network needs of various travel modes and the character of the adjacent neighborhood to determine prudent design and maintenance solutions.

To assist the Town of Jackson in implementing Complete Streets, this document is comprised of five chapters to address the following:

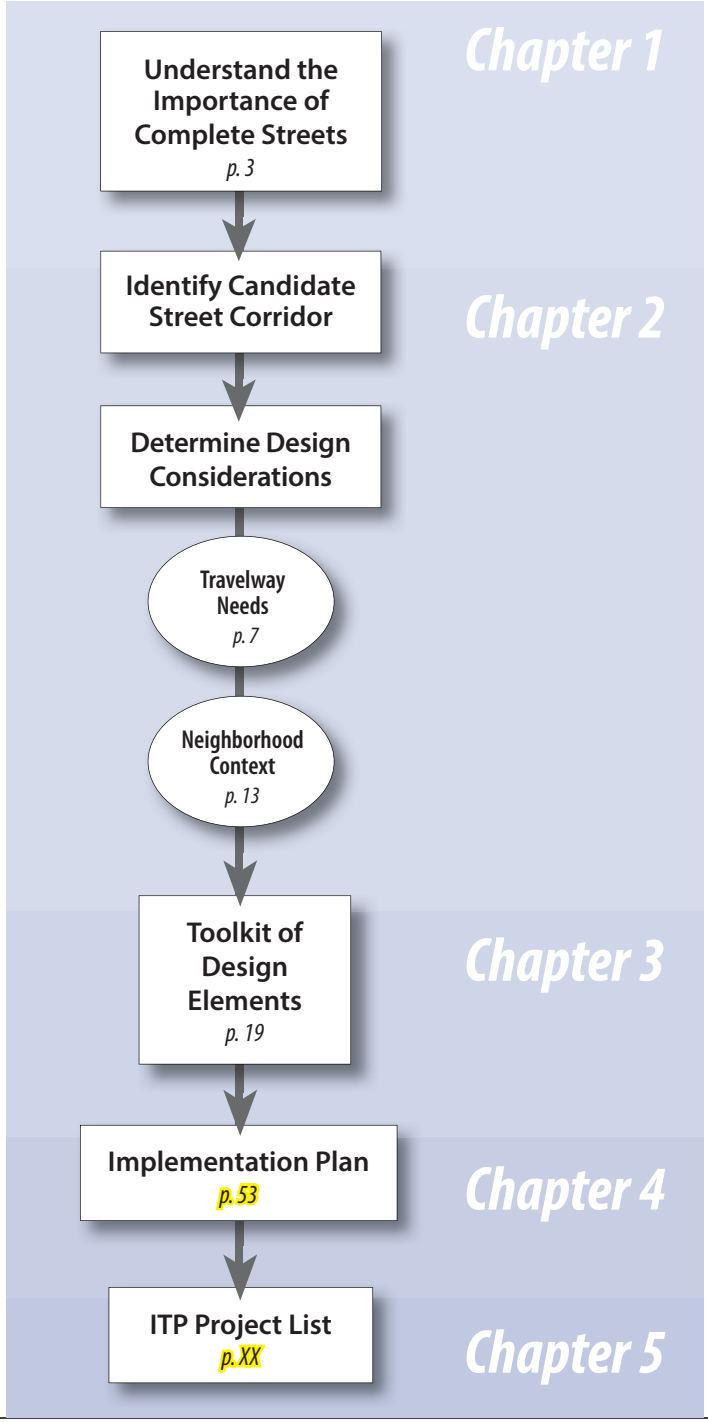
1) Comprehensive Plan Vision and Policy
Outlines the reasons why the Town of Jackson needs Complete Streets, based on the 2012 Comprehensive Plan which established the community's vision to preserve and enhance Jackson as a special place.

2) Modal Systems and Character Districts
Establishes travelway and neighborhood context considerations to be applied to Complete Streets. Geographically illustrates recommended Neighborhood Forms within the Town of Jackson, based upon Character Districts and Subareas. Includes maps of recommended transportation networks for the various modes of travel.

3) Toolkit of Design Solutions
Offers design guidance for a variety of infrastructure treatments that can be used in appropriate locations to improve and enhance travel for cars, trucks, transit, bicyclists, and pedestrians.

4) Implementation Process & **Maintenance** Practices
Addresses procedures for application of Complete Streets policy, project design and review, community input, and facility maintenance.

5) Action Plan
Prioritizes a list of candidate Complete Streets improvements to be incorporated into the Integrated Transportation Plan (ITP) and implemented through the Transportation Improvement Program (TIP).



How to Use This Complete Streets Manual

This manual incorporates national best practices in designing bikeways, pedestrian facilities for accessibility, context-sensitive street design, and multimodal transit accommodation into the existing planning structure of the Town of Jackson, WY. The manual follows the organization of the *2012 Jackson/Teton County Comprehensive Plan* relating to Character Districts and Neighborhood Form, and builds upon the work of the *2007 Pathways Master Plan* and *2012 Bicycle Improvement Plan*.

The Complete Streets Action Plan is intended to guide both the construction of public infrastructure projects and the interface of private development with public street right-of-ways, and shall be coordinated with the current update to the Town of Jackson Land Development Regulations (LDRs).

The flowchart at left illustrates the organization of this Complete Streets manual. Chapters 2 and 3 shall be used in tandem to determine which specific street design elements are appropriate within a given corridor. This is a three-part decision-making process, as follows:

a) Determine ***Travelway Needs*** for accommodating individual modal networks by referencing the table and maps on pages 8-12.

b) Determine the ***Neighborhood Form***, or urban development pattern, desired along a given corridor by referencing the map and table on pages 14-15.

c) Use the travelway and neighborhood context design considerations to select specific treatments presented in the ***Toolkit*** on pages 19-51.

Add text.....
processes for public review, maintenance, and implementation then follow on page XX.....

Chapter 1

Comprehensive Plan Vision and Policy

Background

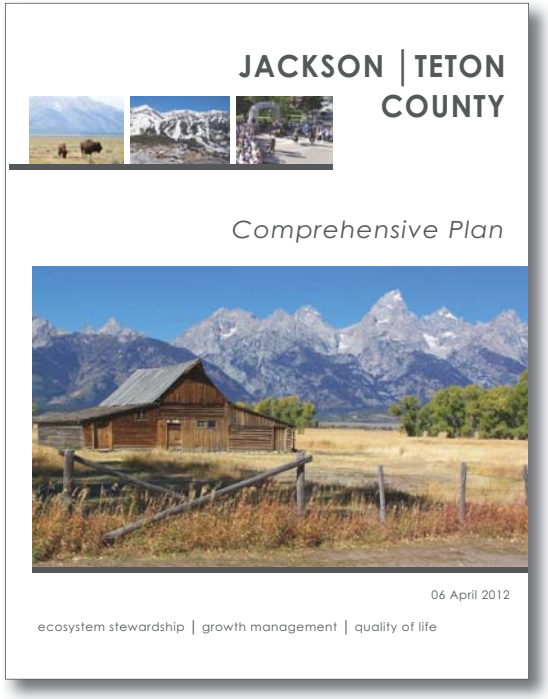
The Jackson/Teton County Comprehensive Plan created a community roadmap for the future of the region through a visionary and comprehensive planning process. The 2012 Comprehensive Plan sets goals for preservation and conservation, as well as the creation of complete neighborhoods that are served by a multimodal transportation system.

This chapter of the Complete Streets Action Plan presents the justification for why Complete Streets are needed in the Town of Jackson, and outlines various strategies to support and implement the Common Values and Principles of the Comprehensive Plan.

As the Town of Jackson begins to implement Complete Streets, it will be important to revisit the Comprehensive Plan principles to help strike a balance between competing space within limited rights-of-way and overall vision for the community.

Some Complete Streets may have striped bicycle lanes; many will not. All streets will be designed to accommodate year-round use by pedestrians – some to higher standards to encourage higher levels of walking; others to meet basic mobility and accessibility needs. Some will be designed for daily use by buses and trucks; but all will allow less frequent use by emergency vehicles, garbage trucks, and other large vehicles. And all Complete Streets must consider how best to maintain and/or create the desired community character within both stable and transitional neighborhoods.

*"A transportation system oriented toward automobiles is inconsistent with our **Common Values** of Ecosystem Stewardship, Growth Management and Quality of Life. The community's transportation vision is to create a **multimodal** transportation system by enhancing the current automobile oriented system to include a network of complete streets, transit, and pathways system. By pursuing this vision, the community will ensure that all users of the public right-of-way, including pedestrians, bicyclists, automobile drivers, trucks and transit riders can do so in a safe and efficient manner."*



Comprehensive Plan Common Values and Principles	Supporting Complete Streets Strategies
Common Value #1: Ecosystem Stewardship	
1) Stewardship of Wildlife, Natural Resources and Scenery • Protect and steward open space (*Principle 1.4*)	• Include wildlife underpasses, overpasses, speed reductions, or other highway crossings where appropriate to address wildlife protection in heavy wildlife-volume crossing areas. • Include streetscape lighting standards based on dark skies best practices. • Provide public recreational opportunities that access wildlife and scenery. Design elements shall address pathway/street crossings and include on-street bicycle facilities to supplement the off-road Pathways System.
2) Climate Sustainability through Energy Conservation • Reduce energy consumption through transportation (*Principle 2.3*)	• Encourage people to make short-distance trips by active, human-powered forms of transportation. • Encourage people to combine biking and walking trips with longer-distance START transit trips and Transportation Demand Management (TDM) strategies. • Encourage sustainable and cost-effective retrofits to existing transportation infrastructure to benefit vehicular and non-motorized travel.
Common Value #2: Growth Management	
3) Responsible Growth Management • Enhance suitable locations as Complete Neighborhoods *(Principle 3.2)*	• Develop a context-sensitive approach to street design, with different treatments implemented in Rural Areas vs. Complete Neighborhoods. • Include multimodal design elements that enhance the quality, desirability, and integrity of Complete Neighborhoods. • Provide public infrastructure that encourages the infill of nonresidential uses within walking/biking distance of residences and lodging. • Create quality public spaces that are that are interesting, memorable, and reinforce a desired sense of neighborhood through the design of sidewalks, pedestrian amenities, landscaping, and public art. • Incorporate mobility opportunities associated with greenways and other natural features within neighborhoods.

Comprehensive Plan Common Values and Principles	Supporting Complete Streets Strategies
4) Town as Heart – The Central Complete Neighborhood • Promote vibrant, walkable mixed use areas *(Principle 4.2)*	• Promote the evolution of the Town of Jackson into a more Complete Neighborhood and make the Town the most desirable and central location for the regional community to live, work and play. • Address the individual identities and character of various subareas by providing street elements appropriate to the intensity of built form and development. • Enhance use of alternative modes of transportation in mixed-use subareas and promote compatible infill and redevelopment to create active ground floor uses, quality walking environments, and year-round pedestrian vitality. • Focus on enhancing pedestrian amenities and connectivity in Downtown Jackson to support a vibrant and walkable downtown core. This includes building designs and uses that engage people along sidewalks and streets, and enhanced public gathering places in both public and private developments.
• Enhance civic spaces, social functions, and environmental amenities to make Town a more desirable Complete Neighborhood (*Principle 4.4*)	• Employ principles to maintain and improve public spaces that support the Town of Jackson as the community's central Complete Neighborhood, a gateway to the nation's parks and forests, and the regional center for tourism, the arts and employment. • Address design elements to strengthen the Town Square as Jackson's major tourism experience and the center of a downtown retail shopping district. • Include unique and interesting gateway enhancements to set the community tone and atmosphere for visitors. Address design of bridges, waterway features, public art, private property aesthetic improvements, and gateway traffic calming measures to announce arrival into the Town of Jackson. • Provide appealing public right-of-way amenities and public art to create unique and visually engaging projects appropriate to the community's various character districts.
Common Value #3: Quality of Life	
5) Local Workforce Housing • Maintain a diverse population by providing workforce housing (*Principle 5.1*)	• Support the primary housing goal of ensuring that at least 65% of the local workforce lives locally instead of commuting in from other counties. • Encourage a more comprehensive way of thinking about the cost of housing and true affordability by considering the combined costs of housing + transportation. Affordable housing generally costs less than 30% of a household budget; affordable living means that housing + transportation costs are less than 45% of a household budget. • Allow people to live in location-efficient neighborhoods (compact, mixed use, with convenient access to jobs, services, transit, and amenities) which result in lower personal transportation costs and increased affordability.

Comprehensive Plan Common Values and Principles	Supporting Complete Streets Strategies
6) A Diverse and Balanced Economy • Promote a stable and diverse economy (*Principle 6.2*)	• Maintain streets and sidewalks to provide a quality visitor experience in all seasons and enhance year-round quality of life for residents, second home owners, and retirees. • Accommodate the freight mobility needs of industry and incorporate the design needs of larger vehicles on designated truck routes.
7) Multimodal Transportation • Meet future transportation demand through the use of alternative modes (*Principle 7.1*)	• Develop Complete Streets implementation policies for the Town of Jackson as a tool to aid in implementation of the Integrated Transportation Plan (ITP). • Prioritize Complete Streets candidate projects – including enhancements that benefit all modes of travel –for placement on the local Transportation Improvement Program (TIP) for streets and highways. • Address the needs of persons of all ages and abilities. This includes ADA accessibility elements, Safe Routes to School, and provisions for residents to age in place with enhanced mobility options.
• Create a safe, efficient, interconnected multimodal transportation network (*Principle 7.2*)	• Consider all users during the maintenance, retrofit, and reconstruction of all streets and roadways. Any exception to applying this policy to a specific roadway project shall require formal approval. • Coordinate modal accommodations along and across Wyoming highways within the Town of Jackson with WYDOT to reflect both motor vehicle travel needs and the character values of the community. • Prioritize projects develop and implement a comprehensive sidewalk improvement program.
• Coordinate land use and transportation planning (*Principle 7.3*)	• Re-evaluate parking standards and other regulations that currently promote travel by single occupancy vehicle. • Include specific provisions for current planning review to require alternative transportation components in new development. • Develop a process for internal review and public involvement to determine priorities and concept design of candidate corridors.
8) Quality Community Service Provision • Maintain current, coordinated service delivery (*Principle 8.1*)	• Incorporate the operational needs of emergency and service vehicles – including fire trucks, garbage trucks, transit buses, snow plows, and other large vehicles. • Include addressing the need for underground and overhead utilities and infrastructure located within the public street right-of-way. • Incorporate stormwater needs by implementing urban street design standards within Complete Neighborhoods.

Chapter 2

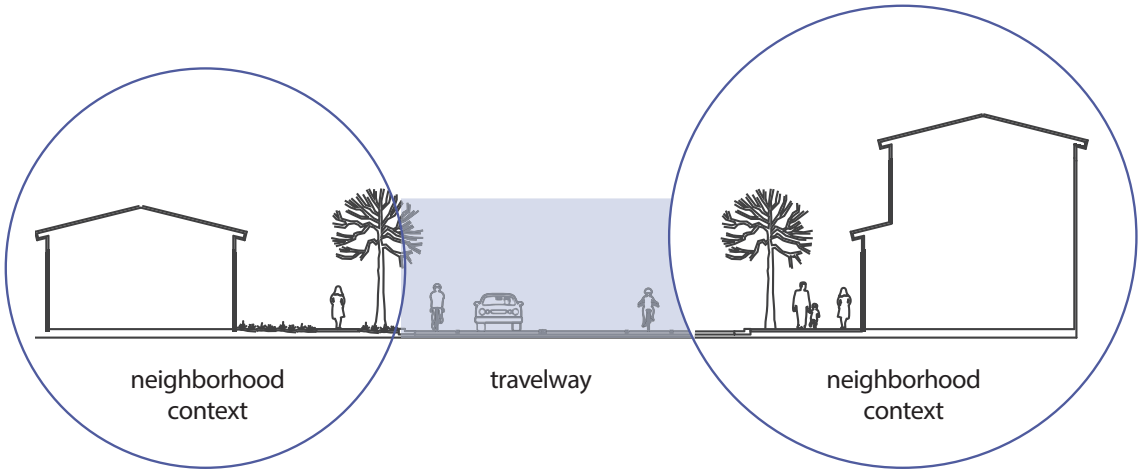
Modal Systems and Character Districts

Complete Streets are created when the needs of multiple travel users are met within a given transportation corridor. Across a community's transportation network, different modes of travel use various streets to differing degrees. Complete Streets policy therefore considers the unique needs of each corridor, both in terms of anticipated users and the surrounding neighborhood character.

The decision on which design elements are needed to create a Complete Street must therefore focus on two distinct, but related, parts of a street corridor – the travelway and the neighborhood context.

1) The ***travelway*** is the portion of the street that accommodates through travel for cars, buses, trucks and bicycles.

2) The ***neighborhood context*** determines the need for on-street parking and the design of sidewalks and other aspects of the pedestrian realm.



1) Travelway Design Considerations

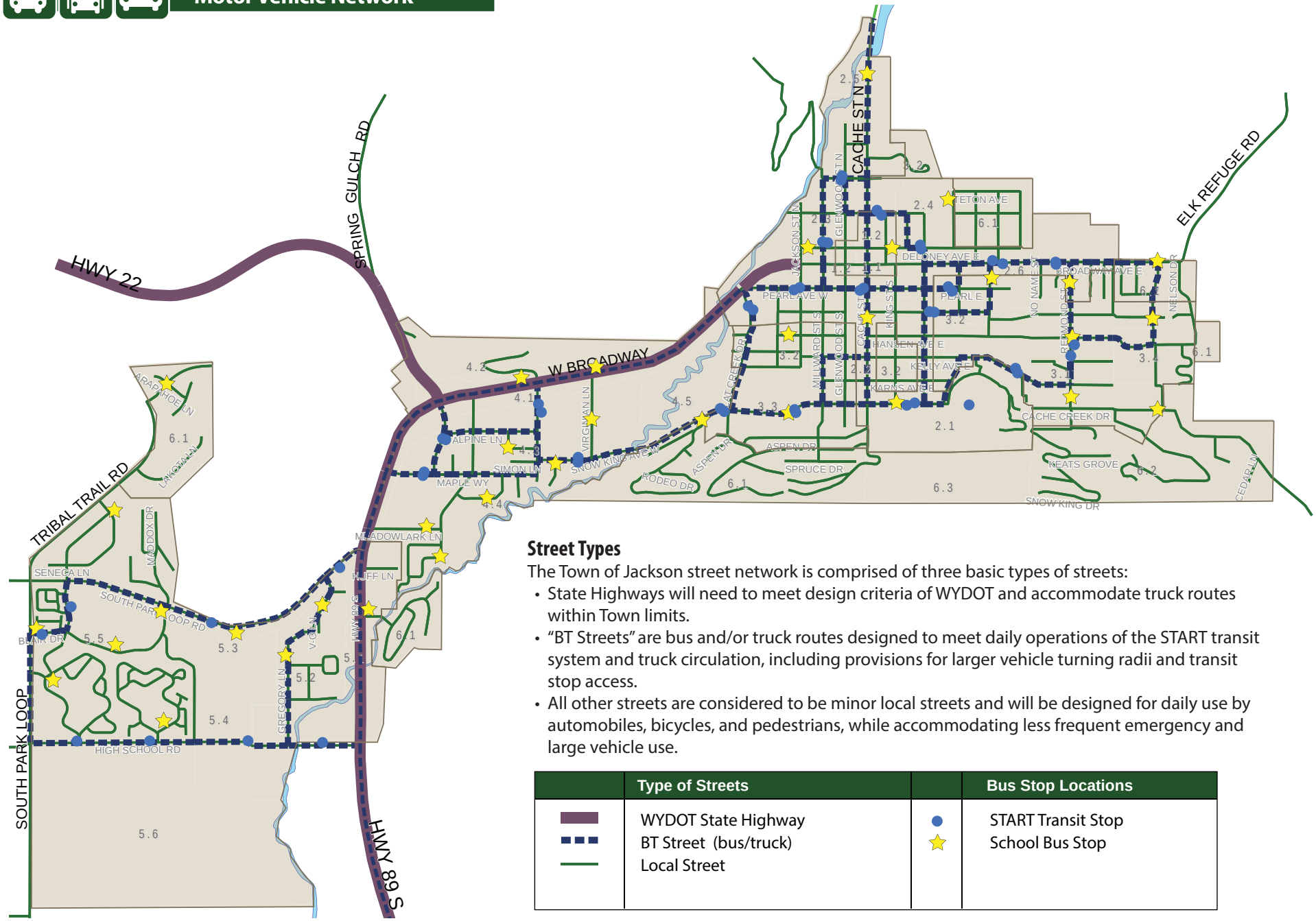
The table on the following pages summarizes travelway considerations and design recommendations for various travel modes. For bicycles and pedestrians, travelway considerations assess the impacts that the volume and speed of vehicular traffic have on non-motorized users of the transportation system. For bus, truck, and auto modes, travelway considerations address design vehicle impacts on the overall size of streets and intersections.

The associated individual modal system plans are presented on pages 10 to 12. How and where the individual modal systems overlap determines which design elements in the Complete Streets toolkit (see Chapter 3) should be applied within a given corridor.

	Bus		Truck			Auto	
	Is the corridor a school bus or START bus route?		Is the corridor important for truck circulation?			Is the corridor used primarily by local traffic only?	
	YES	NO	YES		NO	YES	NO
Considerations			If a WYDOT highway passing through Town of Jackson....	If a local street that provides access to institional uses or through light industrial areas....		If auto volumes and speeds are low (generally <8,000 ADT; <25 mph)	If auto volumes and speeds are moderate (generally >8,000 ADT; <30 mph)
Recommendations	11' min. lane widths and 28' min. turning radii are needed for regular corridor use by larger vehicles	10' lane widths and 15' turning radii are acceptable to accommodate daily auto travel and infrequent use by larger vehicles on local streets	12' min. lane widths and 28' min. turn radii to accommodate truck use	11' min. lane widths and 28' min. turning radii are needed for regular corridor use by larger vehicles	10' lane widths and 15' turning radii are acceptable to accommodate daily auto travel and infrequent use by larger vehicles on local streets	2-lane streets provide acceptable levels of service	provide for left-turn accommodation
Justification	The design of streets and intersections is significantly affected by the type of "design vehicle" - defined as the largest vehicle that must regularly be accommodated on a roadway with no encroachment into other travel lanes. Street design elements impacted by the design vehicle include horizontal and vertical alignments, lane widths, turning radii, intersection sight distance, and storage length of auxiliary lanes. Where large vehicles regularly turn at an intersection with high volumes of opposing traffic, a larger design vehicle must be accommodated. (i.e. - truck and bus routes) However, on streets where large vehicle use is infrequent, such vehicles may encroach into adjacent lanes as needed when making turns. (i.e. - moving trucks, emergency vehicles, etc.) This approach allows for more sustainable transportation infrastructure that accommodates necessary, but occasional large vehicle use while incorporating traffic calming, on-street parking, and facilities for non-motorized users. See page 19.					The Common Values of Community Character established in the Jackson/Teton County Comprehensive Plan guide development of new roadways and management of traffic growth. The creation of multi-modal Complete Streets and implementation of Transportation Demand Management programs are preferred over new street construction that encourages increased levels of automobile travel.	

	Bike				Pedestrian		
	Is the corridor identified as an on-street bike route in the Jackson Pathways Master Plan?				**Does the level of motor vehicle traffic impact pedestrian comfort?**		
	YES			NO	YES		NO
Considerations	If auto volumes and speeds are high (generally >9,000 ADT; ≥30 mph*)	If auto volumes and speeds are moderate (generally 4,000-15,000 ADT; 20-30 mph*)	If auto volumes and speeds are low (generally <8,000 ADT; <25 mph*)		If auto volumes and speeds are moderate (generally >3,000 ADT; <30 mph)	If auto volumes and speeds are low (generally <3,000 ADT; <25 mph)	If auto volumes, speeds, residential densities, and street widths are very low (generally <1,000 ADT; <25mph; <1 d.u./ acre; <20' wide)
Recommendations	a cycletrack may be considered if adequate R.O.W.	stripe on-street bicycle lanes	designate route with signage and sharrow pavement markings	cyclists may use shared roadway with no special bicycle facilities needed	provide detached sidewalks, or buffer attached sidewalks from motor vehicle travel by on-street parking and/or bicycle lanes	detached sidewalks are preferred, but attached sidewalks may be acceptable	sidewalks are recommended, but pedestrians may share street space with infrequent, slow-moving vehicles
Justification	Per Wyoming Statute, every person riding a bicycle has all of the rights and duties applicable to the driver of any vehicle. As vehicles, bicycles may operate on all streets and roadways except where prohibited by law (i.e. - freeways, etc.). When motor vehicles and bicycles travel at similar speeds, the modes can safely and effectively share roadway space. However, in high volume/high speed vehicular corridors, cyclists benefit when physical separation is provided from faster moving vehicles. All street intersections where bicycle lanes and/or cycletracks are present require special design consideration to enhance safety and minimize turning conflicts between modes. *All thresholds based upon recommendations of the 2012 Town of Jackson Bicycle Improvement Plan.				Pedestrian routes must be safe, comfortable, and interesting to encourage people to walk for even the shortest of distances. Pedestrian comfort levels are greatly impacted by the volume and speed of adjacent motor vehicle traffic. In general, greater separation is required with higher levels of traffic. Separation between sidewalk and street may be acheived through a variety of means - including provisions for bicycle lanes, on-street parking, curb extensions, furnishing zones and landscape buffers, as appropriate in the context of the adjacent land use. See Character District Considerations on page 15 to further determine recommended design elements of the pedestrian realm.		

Motor Vehicle Network



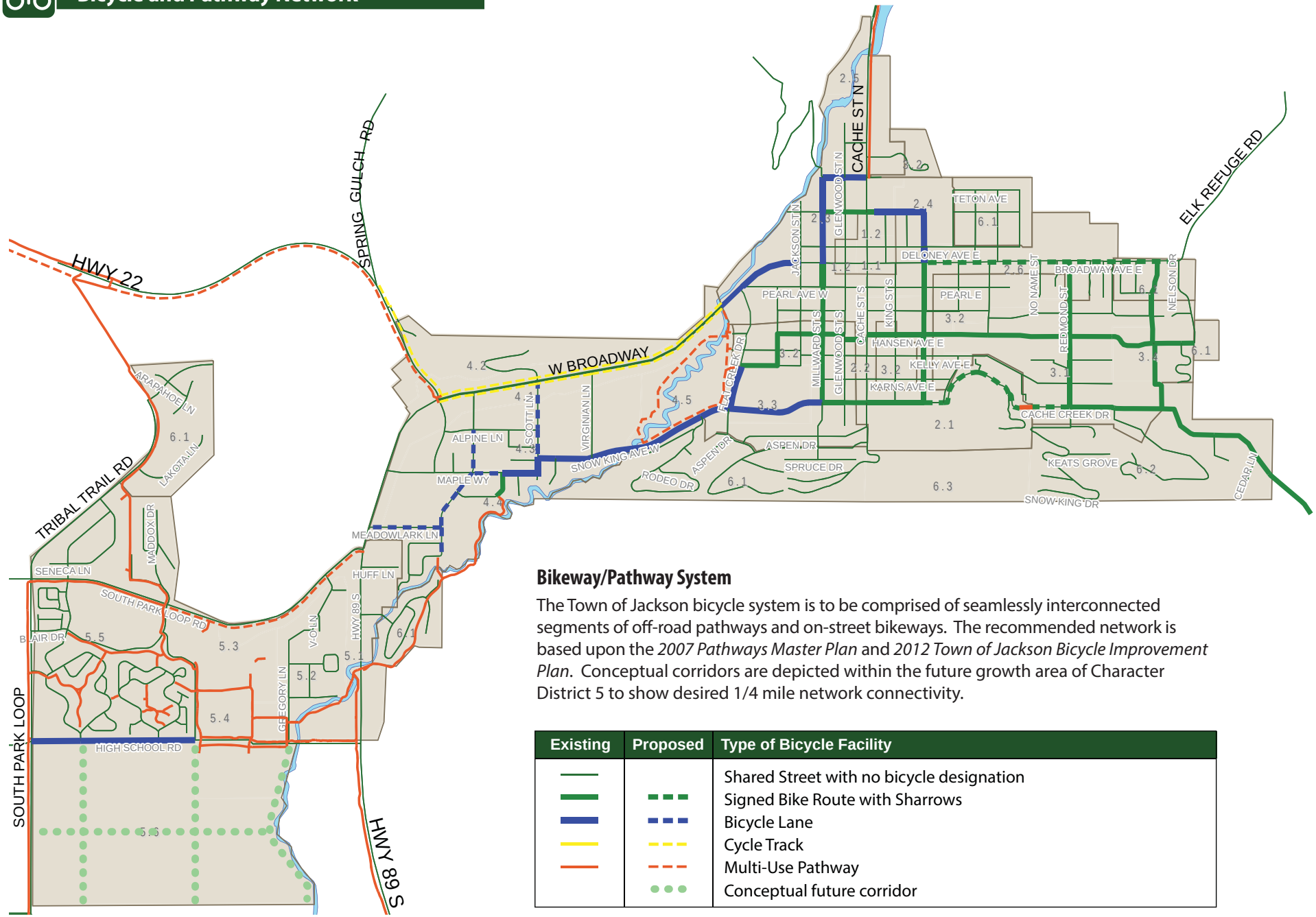
Street Types

The Town of Jackson street network is comprised of three basic types of streets:

- State Highways will need to meet design criteria of WYDOT and accommodate truck routes within Town limits.
- "BT Streets" are bus and/or truck routes designed to meet daily operations of the START transit system and truck circulation, including provisions for larger vehicle turning radii and transit stop access.
- All other streets are considered to be minor local streets and will be designed for daily use by automobiles, bicycles, and pedestrians, while accommodating less frequent emergency and large vehicle use.

	Type of Streets		Bus Stop Locations
	WYDOT State Highway	●	START Transit Stop
▬ ▬ ▬	BT Street (bus/truck)	★	School Bus Stop
—	Local Street		

Bicycle and Pathway Network

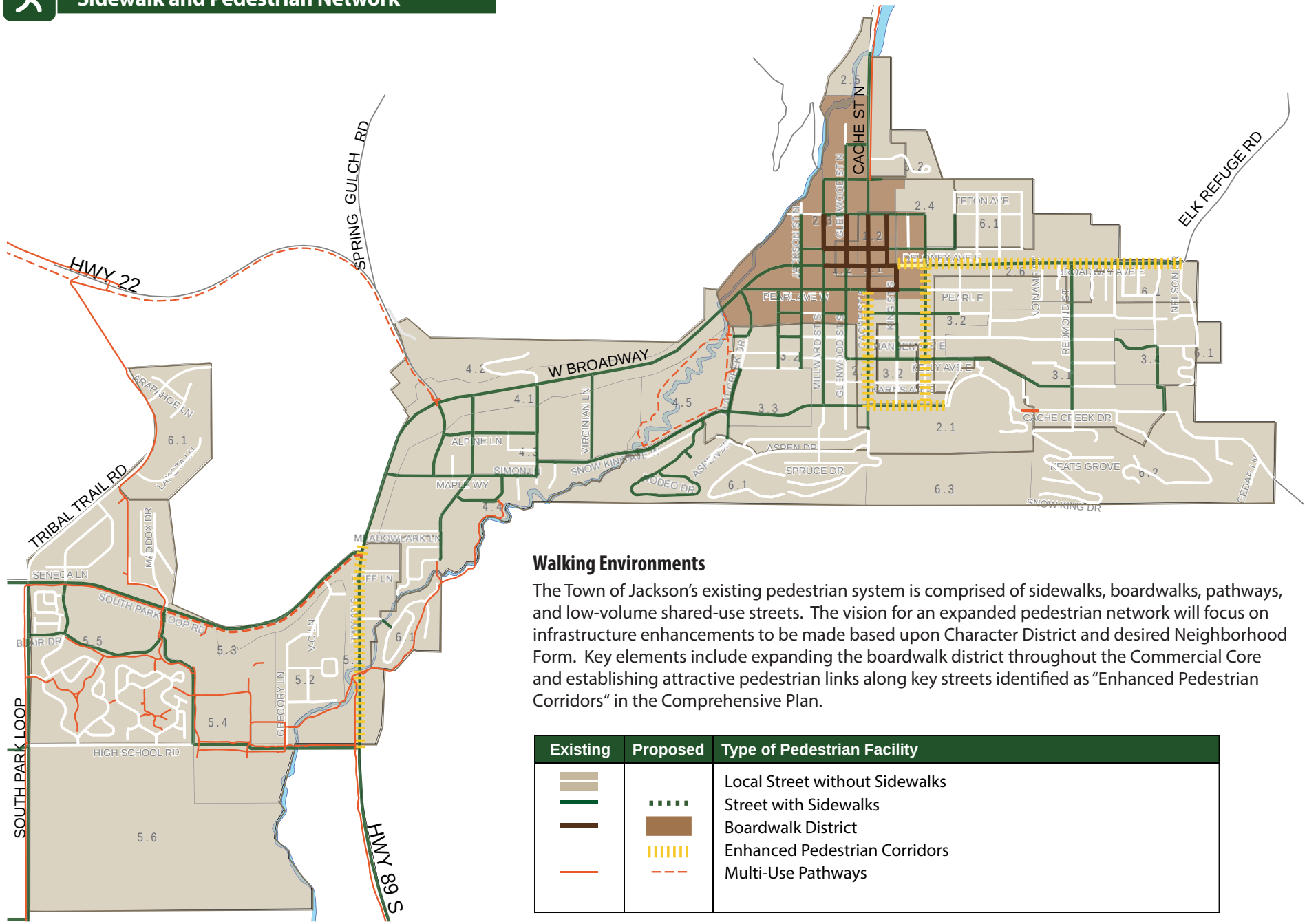


Bikeway/Pathway System

The Town of Jackson bicycle system is to be comprised of seamlessly interconnected segments of off-road pathways and on-street bikeways. The recommended network is based upon the *2007 Pathways Master Plan* and *2012 Town of Jackson Bicycle Improvement Plan*. Conceptual corridors are depicted within the future growth area of Character District 5 to show desired 1/4 mile network connectivity.

Existing	Proposed	Type of Bicycle Facility
		Shared Street with no bicycle designation
		Signed Bike Route with Sharrows
		Bicycle Lane
		Cycle Track
		Multi-Use Pathway
		Conceptual future corridor

Sidewalk and Pedestrian Network



Walking Environments

The Town of Jackson's existing pedestrian system is comprised of sidewalks, boardwalks, pathways, and low-volume shared-use streets. The vision for an expanded pedestrian network will focus on infrastructure enhancements to be made based upon Character District and desired Neighborhood Form. Key elements include expanding the boardwalk district throughout the Commercial Core and establishing attractive pedestrian links along key streets identified as "Enhanced Pedestrian Corridors" in the Comprehensive Plan.

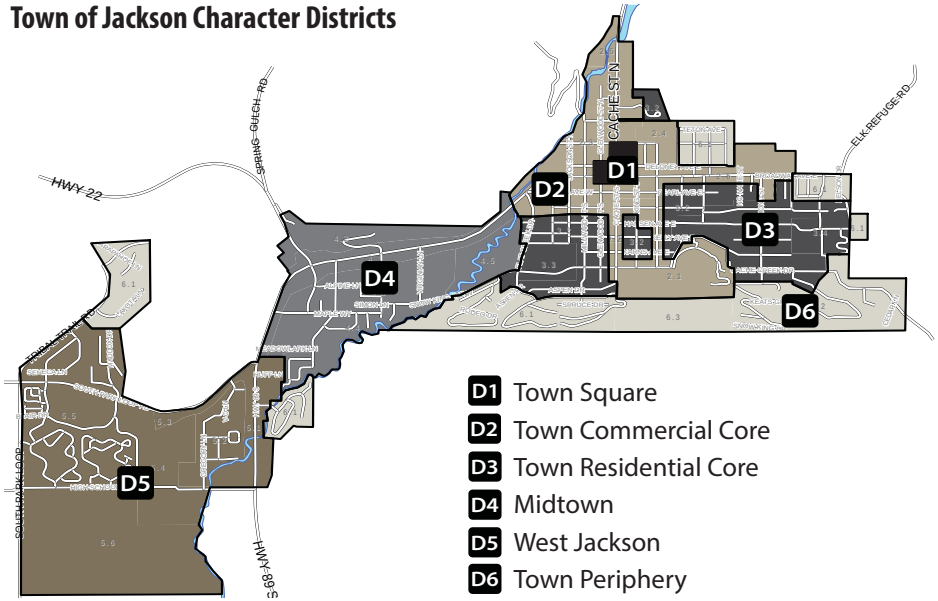
Existing	Proposed	Type of Pedestrian Facility
		Local Street without Sidewalks
		Street with Sidewalks
		Boardwalk District
		Enhanced Pedestrian Corridors
		Multi-Use Pathways

2) Neighborhood Context Design Considerations

The Jackson/Teton County Comprehensive Plan establishes a Vision for the future of the region that focuses on maintaining high quality neighborhoods surrounded by scenic rural open spaces. The following vocabulary of planning terms was created as part of the Comprehensive Plan effort to help frame and illustrate the community vision, and carries over into the Complete Streets Action Plan:

- ***Character Districts*** – Fifteen high-level planning areas within Teton County that share similar characteristics such as common natural, visual, cultural and physical attributes, shared values, and social interaction. The Town of Jackson includes Character Districts #1-6, as depicted below.
- ***Rural Areas*** – A general classification for those Character Districts that focus on stewardship of the region's ecosystem.
- ***Complete Neighborhoods*** – A second general classification of Character Districts, with a focus on enhancing quality of life. Districts #1-6 within the Town of Jackson are all either existing Complete Neighborhoods or are located in close proximity to neighborhood services and amenities.
- ***Subareas*** – Each Character District is further divided geographically into planning subareas. These vary in terms of being Stable or Transitional Subareas – which represent the most suitable places for people to live, work and play; or Preservation and Conservation Subareas – which focus on ecosystem stewardship.
- ***Character Defining Features*** – Conceptual descriptions of the existing and desired character of each district and subarea. These include common defining characteristics such building height and proximity to the street, housing types, architectural style, corridor preservation and enhancement elements, and pedestrian amenities.
- ***Neighborhood Forms*** – An identification of the general pattern and intensity of development that is representative of a certain character. Ten Neighborhood Forms represent a continuum of development patterns that increase along a rural-to-urban transect to better define relationships between various land uses and intensities throughout the region.

Town of Jackson Character Districts



Application to Complete Streets

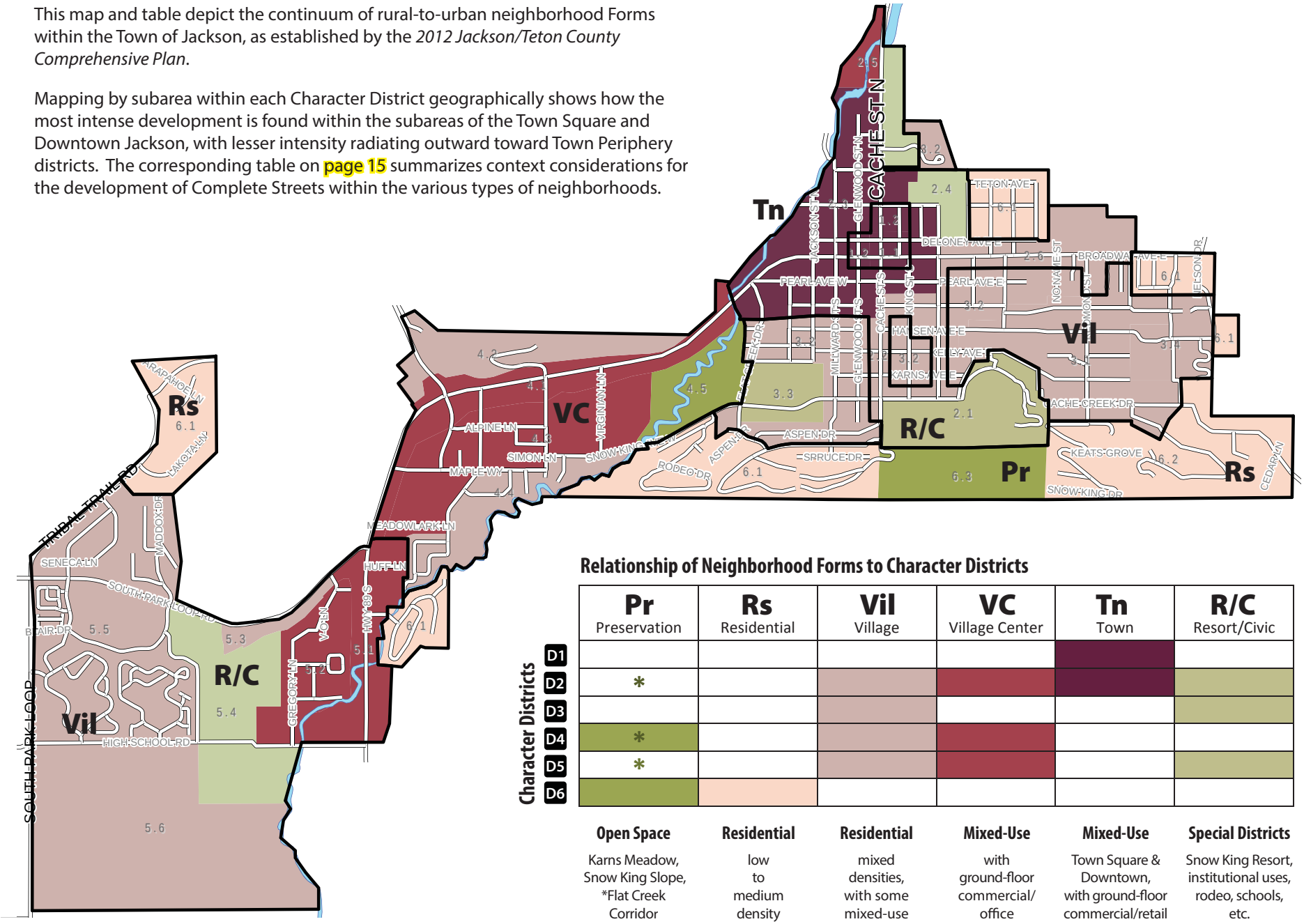
The Comprehensive Plan divides each of the six Character Districts into multiple subareas, and assigns each subarea an appropriate Neighborhood Form to guide development patterns according to common values. For the purposes of planning for Complete Streets, ***Neighborhood Form*** shall be the primary factor used to determine how the adjacent land use affects modal considerations within a transportation corridor.

Neighborhood Forms are representative of a certain character found along a rural-to-urban continuum. These range from preserved areas of open space and wildlife habitat to more intensely developed walkable, urban blocks. The types of transportation infrastructure to be provided within a given neighborhood will vary by the adjacent neighborhood context and characteristics, as described on the following pages.

Mapped Neighborhood Forms

This map and table depict the continuum of rural-to-urban neighborhood Forms within the Town of Jackson, as established by the *2012 Jackson/Teton County Comprehensive Plan*.

Mapping by subarea within each Character District geographically shows how the most intense development is found within the subareas of the Town Square and Downtown Jackson, with lesser intensity radiating outward toward Town Periphery districts. The corresponding table on page 15 summarizes context considerations for the development of Complete Streets within the various types of neighborhoods.



Relationship of Neighborhood Forms to Character Districts

Character Districts	Pr Preservation	Rs Residential	Vil Village	VC Village Center	Tn Town	R/C Resort/Civic
D1						
D2	*					
D3						
D4	*					
D5	*					
D6						
	Open Space Karns Meadow, Snow King Slope, *Flat Creek Corridor	**Residential** low to medium density	**Residential** mixed densities, with some mixed-use	**Mixed-Use** with ground-floor commercial/ office	**Mixed-Use** Town Square & Downtown, with ground-floor commercial/retail	**Special Districts** Snow King Resort, institutional uses, rodeo, schools, etc.

Recommendations for parking shall be determined by the desired Neighborhood Form; the furnishings zone treatment by ground-floor building uses; and design treatments for the pedestrian travelway, storm water conveyance, and snow removal shall be determined by a combination of Character District and Neighborhood Form, as follows:

Neighborhood Form	Pr Preservation	Rs Residential	Vil Village	VC Village Center	Tn Town	R/C Resort/Civic
Character Districts	D4 D6	D6	D2 D3 D4 D5	D2 D4 D5	D1 D2	D2 D3 D5
Pedestrian Travelway	Provide multi-use pathways that are shared with bicyclists	Town intent is that all residential areas shall have sidewalks provided on both sides of every street. Sidewalks on one side may be allowed in low density areas and by exception where R.O.W. is constrained.				5' min. detached sidewalks required along both sides of Town streets Use internal pathways to create smaller block sizes and shorter trip distances within resort and civic areas.
		D6 – 5' min. detached sidewalks recommended on both sides where residential densities are >1 dwelling unit/acre; required on at least one side if <1 d.u./acre or if constrained R.O.W.	**ALL –** 5' min. detached sidewalks recommended on both sides **D3, D4, D5 –** 5' min. detached sidewalks required on at least one side where R.O.W. is constrained	**D2, D4, D5 –** within mixed-use areas, 5'- 8' detached sidewalks required on both sides of every street	**D1, D2 –** 8' min. sidewalks or covered boardwalks required throughout Downtown on both sides of every street	
Furnishings Zone	N/A	6' min. landscape furnishing zone to correspond with residential context; may be a cobble swale if LID street	6' min. landscape furnishing zone to correspond with ground-floor residential uses	5' min. hardscape furnishing zone to correspond with ground-floor commercial/office uses	5' min. hardscape furnishing zone to correspond with ground-floor retail district	6' min. landscape furnishing zone to correspond with resort/civic character
Parking Accommodation	Parking lots provided at designated trail heads to supplement available on-street parking.	On-street parking allowed and encouraged where adequate R.O.W. exists. Parking supply minimums per LDRs must be met off-street in driveways and garages. On-street restrictions apply from 3am to 7am during Winter.	On-street parking allowed and encouraged where adequate R.O.W. exists. Parking supply minimums per LDRs must be met off-street in parking lots and garages. Off-street surface parking lots in new construction must be located at back of parcels, not between buildings and the street or between buildings fronting on the street. On-street parking restrictions apply from 3am to 7am during Winter.			On-street parking allowed where adequate R.O.W. exists. Parking supply minimums per LDRs must be met off-street in parking lots and garages. Off-street surface parking lots in new construction must be located at back of parcels, not between buildings and the street or between buildings fronting on the street. On-street parking restrictions apply from 3am to 7am during Winter.
Storm Drainage	N/A	curb-and-gutter or LID local streets with swales	**D2, D3, D4 –** curb-and-gutter **D5 –** curb-and-gutter or swales	**D2, D4, D5 –** curb-and-gutter	**D1, D2 –** curb-and-gutter	curb-and-gutter
Snow Removal Policies -?? confirm all	Parks & Recreation to plow pathways.	Public Works to plow streets; Private entities to remove snow and ice from sidewalks.	**D2, D3, D4, D5 –** Public Works to plow streets; Private entities to remove snow and ice from sidewalks. Exceptions are that Parks & Recreation will remove snow from sidewalks along Redmond Street, S. Cache, and Snow King		**D1, D2 –** Public Works to remove snow from streets; Parks & Recreation to remove snow from sidewalks.	Public Works to remove snow from Town streets; Private entities to remove snow and ice from sidewalks and internal streets.

Chapter 3

Toolkit of Design Solutions

The toolkit that comprises Chapter 3 presents detailed design guidance for implementing various elements that shall combine to create Complete Streets.

The tables and maps in Chapter 2 shall be used to determine the appropriate types of design treatments for a given corridor based upon travelway and neighborhood context considerations. Chapter 3 then details specific design treatments for the following elements, noting which requirements are universal and apply to all Character Districts, as well as which treatments are unique to a specific Neighborhood Forms.

Complete Streets Elements	
Part 1 – Designing for Vehicles	**p. 19**
Street Cross-Sections	*p. 20*
Curb Radii & Curb Extensions	*p. 22*
Bus Stops	*p. 25*
Storm Drainage	*p. 26*
Part 2 – Designing for Pedestrians	***p. 27***
The Pedestrian Realm	*p. 28*
Furnishings Zone	*p. 30*
Pedestrian Travelway	*p. 32*
Covered Boardwalks	*p. 33*
Attached Sidewalks	*p. 34*
Frontage Zone	*p. 36*
Transit Access & Amenities	*p. 37*
Curb Ramps	*p. 40*
Pedestrian Crosswalks	*p. 43*
Part 3 – Designing for Bicyclists	***p. 45***
Shared Streets as Bike Routes	*p. 46*
Bicycle Lanes	*p. 47*
Colored Bike Facilities	*p. 48*
Cycle Tracks	*p. 49*
Shared-Use Paths	*p. 50*
Bicycle Parking	*p. 51*

National Best Practices

The design guidance and standards presented in this toolkit are based upon the national state-of-the-art for planning and designing Complete Streets. Key travelway and streetscape elements that build upon existing local planning efforts and relate to the context of high-quality Complete Neighborhoods within the Town of Jackson are addressed in detail in the toolkit. Additional design guidance may be referenced in the following publications:

A Policy on Geometric Design of Highways and Streets *– 2011, American Association of State Highway and Transportation Officials (AASHTO)*

Commonly referred to as "the Green Book," this manual contains the current design research and practices for highway and street geometric design.

Complete Streets Local Policy Workbook *– 2013, Smart Growth America and the National Complete Streets Coalition*

This workbook address changing transportation planning, design, maintenance, and funding decisions through policy to result in physical changes to a community's streets.

Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities *– 2005, Institute of Transportation Engineers (ITE)*

This ITE publication was developed through a partnership with the Congress for New Urbanism (CNU) and advances use of context sensitive solutions in the planning and design of roadway improvement projects to create walkable communities. It is applicable to arterial and collectors streets in places where community objectives support compact development, mixed land uses, and support for pedestrians and bicyclists.

Guide for Geometric Design of Transit Facilities on Highways and Streets *– 2014, American Association of State Highway and Transportation Officials (AASHTO)*

This guide outlines current practice relating to buses operating in mixed traffic and designated lanes, and associated guidance for the geometric design of streets, bus stops, pedestrian amenities, and bicycle accommodation.

Guide for the Development of Bicycle Facilities *– Fourth Edition, 2012, American Association of State Highway and Transportation Officials (AASHTO)*

This guide is the go-to manual for state and local transportation planners and designers to address the increased use of bicycling for transportation. The AASHTO guide clarifies elements needed to make bicycling a more safe, comfortable, and convenient mode of transportation by addressing on-road facilities, shared-use paths, and bicycle parking.

Guide for the Planning, Design, and Operation of Pedestrian Facilities *– 2004, American Association of State Highway and Transportation Officials (AASHTO)*

The purpose of this guide is to identify effective measures for accommodating pedestrians on public rights-of-way. It details appropriate methods for accommodating pedestrians along streets and highways and recognizes the effect that land use planning and site design have on pedestrian mobility.

Manual on Uniform Traffic Control Devices (MUTCD) *– 2009 Edition, Federal Highway Administration (FHWA)*

This manual of the U.S. Department of Transportation provides the standards to promote highway safety and efficiency by providing for the orderly movement of all road users throughout the nation. Uniform traffic control devices, including signs and pavement markings, shall be used to regulate, warn, and guide traffic on streets, highways, pedestrian facilities, and bikeways.

Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) *– 2011 draft, Federal Highway Administration (FHWA) and United States Access Board*

Forthcoming detailed guidance on how to apply the provisions of the Americans with Disabilities Act (ADA) to pedestrian facilities in the public right-of-way (PROW). Draft information is currently available through training course materials on "Designing Pedestrian Facilities for Accessibility."

Urban Bikeway Design Guide *– Second Edition, 2012, National Association of City Transportation Officials (NACTO)*

The purpose of the NACTO bikeway guide is to provide cities with state-of-the-practice solutions for protected bicycle lanes, colored markings through intersections, cycle tracks and other innovations to help create complete streets that are safe and enjoyable for bicyclists.

Urban Street Design Guide *– 2013, National Association of City Transportation Officials (NACTO)*

This guide presents a new set of standards for city streets. It gives an overview of the principles that cities are using to make their streets safe and inviting for people walking, shopping, parking, and driving in an urban context. The NACTO guide is based on an innovative body of practice and expertise in designing city streets and complex urban public space.

Wyoming Bicycle and Pedestrian Transportation Plan *– 2002, Wyoming Department of Transportation (WYDOT)*

WYDOT has adopted the AASHTO highway, bicycle, and pedestrian design standards. This plan provides supplemental guidance on planning, funding, design, maintenance, and relevant WYDOT operating policies.

Toolkit Part 1 – Designing for Vehicles

Street design is governed by fundamental design controls, including types of vehicles and desired travel speeds, which guide the selection of appropriate elements to include within a right-of-way. Within communities and neighborhoods, streets should be designed for the most vunerable street user rather the largest possible vehicle. While designs must account for the challenges that larger vehicles may face, these infrequent challenges must not dominate the safety or comfort of a corridor for the majority of daily users - whether in cars or on foot.

Design Vehicle

The concept of a "design vehicle" is used in transportation planning as the vehicle that must be regularly accommodated in street design without encroachment into the opposing traffic lanes. The design vehicle plays an important role in the selection of certain design criteria – such as lane width and curb return radii. It is not always practical or desirable to choose the largest design vehicle that might occasionally use a street because of the impacts to pedestrian crossing distances, speed of turning vehicles, and impacts within limited right-of-way for multi-modal accommodation. In contrast, selection of too small of a design vehicle will impact regular use of a given street by larger vehicles including truck deliveries and transit service.

For purposes of this Complete Streets policy, the Town has three types of streets: State Highways, Local Streets, and designated Bus and Truck Streets (BT Streets – see map on p.10). State highway design parameters will be determined by WYDOT standards and practices, with consideration given to local community character and community values. BT Streets shall have minimum 11' travel lanes and 28' minimum curb return radii to accommodate vehicles with 40- and 45-foot wheelbases. Local Streets shall have minimum 10' travel lanes and 15' curb return radii. Longer vehicles that may occasionally use Local Streets will be expected to operate at speeds suitable for the context and may need to safely encroach into adjacent travel lanes when making right turns.

Larger vehicles that may infrequently use local streets will be required to travel slower and/or may encroach into adjacent travel lanes when making right-hand turns. NACTO recommends that fire trucks and other infrequent large vehicles be allowed to use the whole intersection (moving slightly left and using the lane adjacent to the right lane on the receiving side). This allows for design of a more compact intersection, and reduces turning speeds to 12-15mph for regular vehicles. All street cross-sections must also meet the International Fire Code requirement of a minimum 20' clear, unobstructed width for fire truck access.

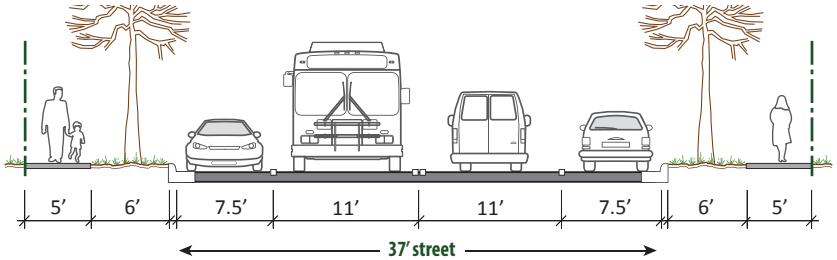
Design Speed

Design Speed is a tool used to determine geometric features of a new or reconstructed street. For a given street, the Design Speed is not necessarily its maximum safe speed or its posted speed. Design Speed for State Highways will be determined by WYDOT standards and practices, with consideration given to local community character and community values. Design Speed for all other streets in the Town of Jackson shall be no more than 25 mph (miles per hour). The Town may apply 15 mph or 20 mph Design Speeds to streets where rights of way are narrow or where other special considerations are present (e.g., school zones, etc.).

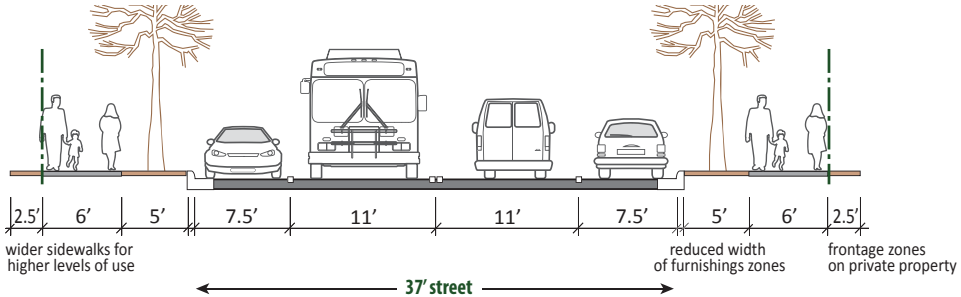
Motorists traveling at slower speeds have more time to perceive and react to conflicts. Design of Town of Jackson streets will therefore incorporate physical measures such as curb extensions, narrower travel lanes, on-street parking, and other measures that cause motorists to naturally drive slower within Complete Neighborhood settings. Such design elements shall combine to create Complete Streets which have right-of-way cross-sections that benefit multiple users, as depicted on the following pages.

STREET CROSS-SECTIONS

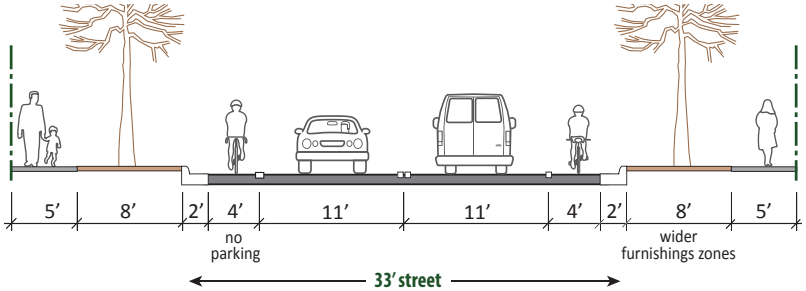
60′ R.O.W.
Residential Districts
Local Street or Bus Route



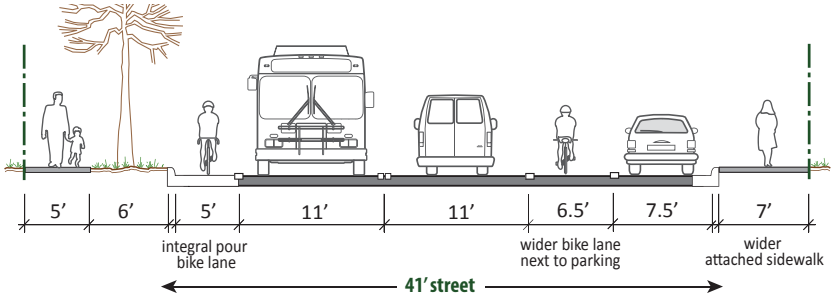
60′ R.O.W.
Mixed-Use Districts
Local Street or Bus Route



60′ R.O.W.
Bike Lanes with No Parking
Local Street or Bus Route



60′ R.O.W.
Bus Route
with Bike Lanes



Street right-of-ways within the Town of Jackson are typically 60′ or 50′ in width. To reallocate horizontal space within existing R.O.W. dimensions, cross-sections for new construction and reconstruction projects shall include both street width (measured curb face to curb face) and the pedestrian realm (back of curb to R.O.W. line).

The following elements shall be combined to create a variety of Complete Street corridors. Details of each street element are further defined on the toolkit pages that follow.

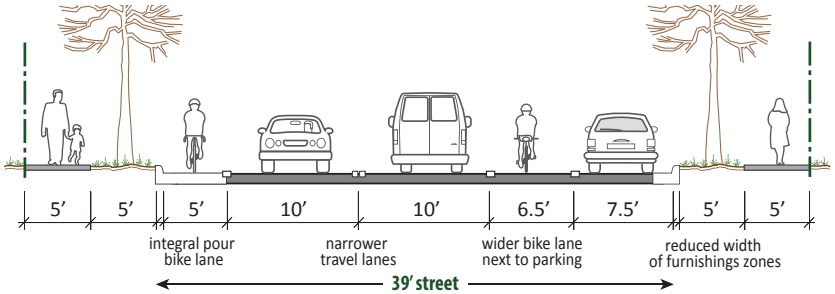
- ***Detached Sidewalks*** – 5′ min. sidewalk widths
- ***Furnishings Zones*** – 5′ min./6′ encouraged to provide adequate space for healthy street trees and to accommodate 1:12 slope for ADA pedestrian curb ramps (6′ length)
- ***Curb-and-Gutter*** – 6″ curb with 18″ gutter pan
- ***On-Street Parking Lanes*** – 7.5′ min. inclusive of gutter pan
- ***Travel Lanes*** – 11′ wide to accommodate emergency vehicle access, school bus and START transit service, and other larger vehicles.
- ***Frontage Zones*** – To be accommodated within private property setbacks. Minimum clearance distances from edge of sidewalk: 0′ along lawn and groundcover; 1′ along low walls, fences, and hedges; 1.5′ along facades, tall walls, and fences.

To create an active streetscape and provide enhanced pedestrian environments within mixed-use corridors with ground-floor retail, office, or commercial uses:

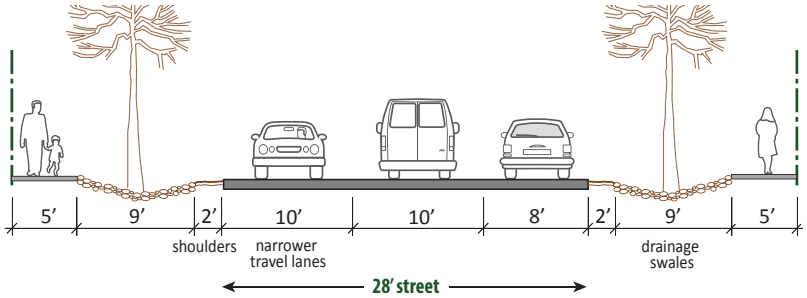
- ***Frontage Zones*** – Increase to 2.5′ min. to accommodate window shopping activities and/or doors that may open onto the sidewalk space. To be provided within private property setbacks.
- ***Pedestrian Travelway*** – Increase to 6′ min. (8′ min. within Town Center) with paved/hardscape furnishings and frontage zones to provide additional sidewalk width.
- ***Furnishings Zones*** – May reduce to 5′ min.

CROSS-SECTIONS, cont.

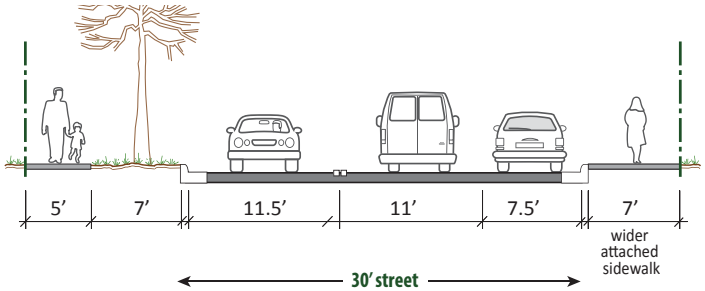
60′ R.O.W.
Local Street
with Bike Lanes



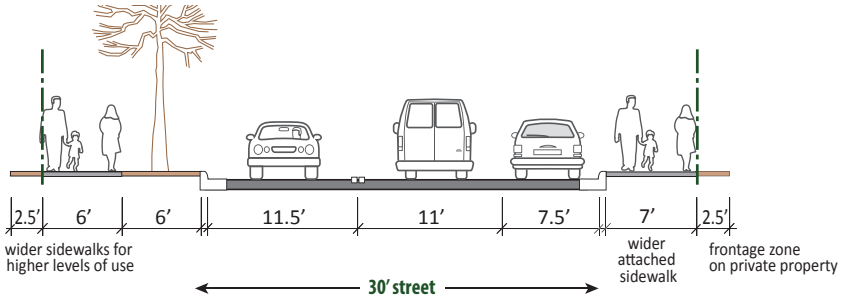
60′ R.O.W.
Low Impact Development
(LID) Local Street



50′ R.O.W.
Residential Districts
Local Street or Bus Route



50′ R.O.W.
Mixed-Use Districts
Local Street or Bus Route



Several alternatives exist where it is desired to stripe on-street bicycle lanes as part of the Jackson Hole Pathways System:

- ***On-Street Parking*** – Restrict parking as needed to provide bicycle lanes.
- ***Bicycle Lane Widths*** – 5′ min. typical, or 6.5 min. where adjacent to on-street parking. In constrained corridors when providing a bicycle lane next to a curb, construct a 5′ integral gutter pour to eliminate the lateral gutter pan seam; otherwise 4′ min. excluding gutter pan width.
- ***Travel Lane Widths*** – On local streets with no bus service, may decrease lane widths to 10′ to accommodate bike lanes. On bus routes, will need to maintain 11′ lanes and eliminate the furnishings zone on one side of street. This should be implemented on the side where on-street parking helps to buffer pedestrians from adjacent travel lanes.
- ***Attached Sidewalks*** – Increase to 7′ wide to provide additional clearance next to curb.
- ***Furnishings Zones*** – On local streets with detached sidewalks, may reduce to 5′ min. width in constrained R.O.W.

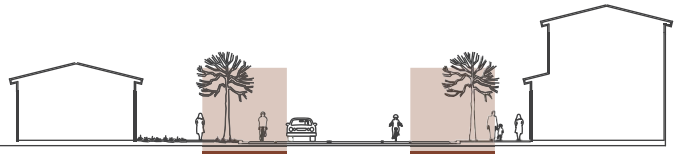
Where Low Impact Development (LID) infrastructure is desired to be used for stormwater management:

- ***Pavement Width*** – 20′ min. clear traveled way required. An additional 8′ of pavement width may be added for parking.
- ***Shoulders*** – Provide 2′ graded shoulders on both sides of street.
- ***Furnishings Zones*** – Increase to 9′ wide and treat as a cobble swale to provide stormwater drainage.
- ***Detached Sidewalks*** – 5′ min., provided at edge of R.O.W.

In corridors where existing or proposed street right-of-way is only 50′ wide:

- ***On-Street Parking*** – Limit to one side of street.
- ***Sidewalks*** – Provide typical detached sidewalks on side of street with no parking; provide wider, attached sidewalks on side of street with on-street parking.

CURB RADII & CURB EXTENSIONS

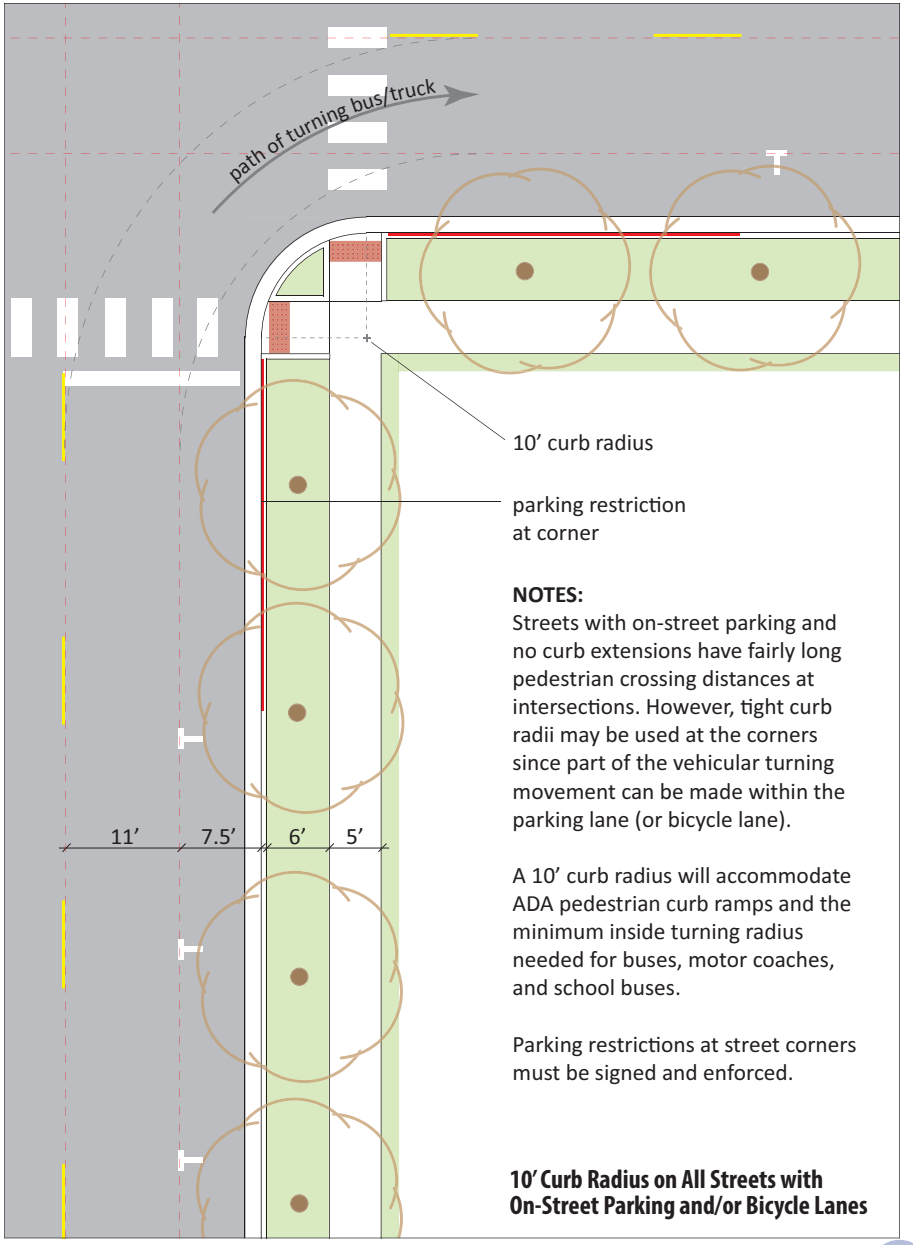


Intersections inherently create numerous conflicts between vehicles, bicyclists, and pedestrians. Within urban contexts, intersections shall be designed as compact as possible to minimize pedestrian crossing distance, crossing time, exposure to traffic, and increase safety. Key to accomplishing this is providing turning radii that adequately accommodate design vehicles without creating overly large intersections.

Curb radii shall be designed to guide vehicles in turning and to separate vehicular traffic from pedestrian areas at intersection corners. The selection of an appropriate curb return radius shall consider the largest vehicle type that will frequently turn the corner, combined with the presence or absence of bicycle lanes and/or on-street parking. The existence of parking and bicycle lanes creates an "effective" turning radius that is greater than the curb return radius. When present, these street elements allow effective wheel tracking of the design vehicle with very tight curb radii, as depicted at right.

All Character Districts

- ***Radius Size*** – When on-street parking lanes or bike lanes are not present, curb radius shall increase since buses and trucks cannot encroach into such lanes when making right turns. Intersection design shall use a typical 15' curb automobile return radius, increasing to a 28' radius at corners where buses and trucks frequently make right-hand turns.
- Curb return radii of different lengths may be used on different corners of the same intersection to match the design vehicle turning at a given corner. Larger radii will increase overall intersection size, shift crosswalk location, and lengthen pedestrian crossing distance, as depicted opposite.
- ***Curb Extensions*** – Where on-street parking is present, curb extensions shall be considered to reduce pedestrian crossing distance and exposure to traffic, improve driver and pedestrian sight distances and visibility at intersections, restrict parking near corners, visually and physically narrow the traveled way, and provide wider space for streetscape elements, and ADA curb ramp and landing requirements.
- Curb extensions may be used at intersections within any Character District, but shall be emphasized within Town (Tn), Village (Vil), and Village Center (VC) neighborhood forms where highest levels of pedestrian activity are desired.
- The design of curb extensions shall consider the design vehicle, with larger curb return radii used on BT Streets. See page 24.
- All curb extensions should extend the full width of the parking lane, but not encroach into bicycle lanes when present.



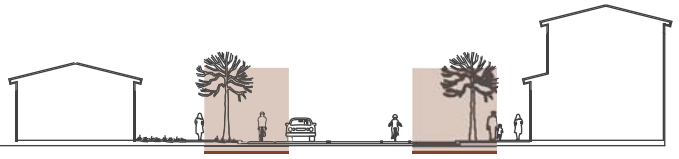
NOTES:
Streets with on-street parking and no curb extensions have fairly long pedestrian crossing distances at intersections. However, tight curb radii may be used at the corners since part of the vehicular turning movement can be made within the parking lane (or bicycle lane).

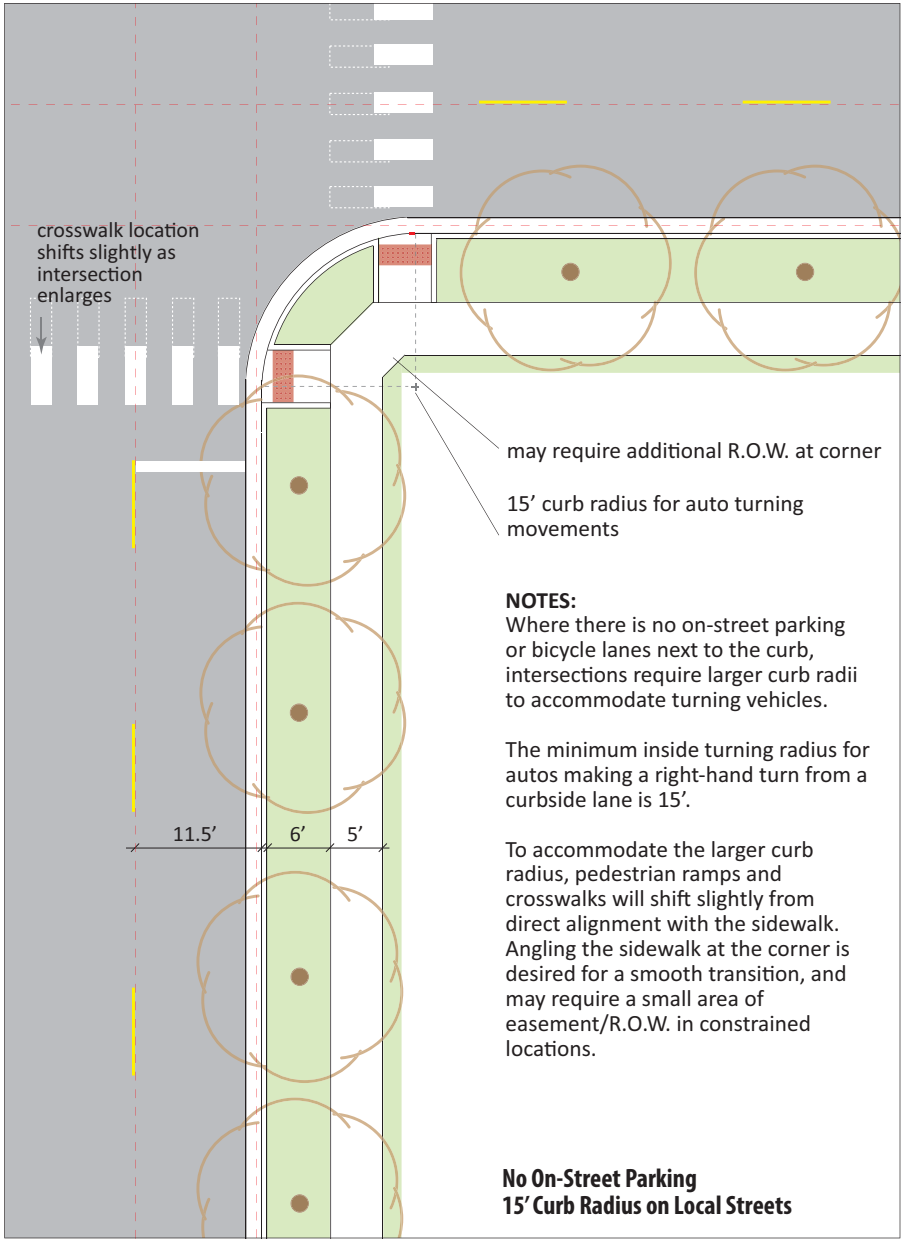
A 10' curb radius will accommodate ADA pedestrian curb ramps and the minimum inside turning radius needed for buses, motor coaches, and school buses.

Parking restrictions at street corners must be signed and enforced.

10' Curb Radius on All Streets with On-Street Parking and/or Bicycle Lanes

CURB RADII, cont.



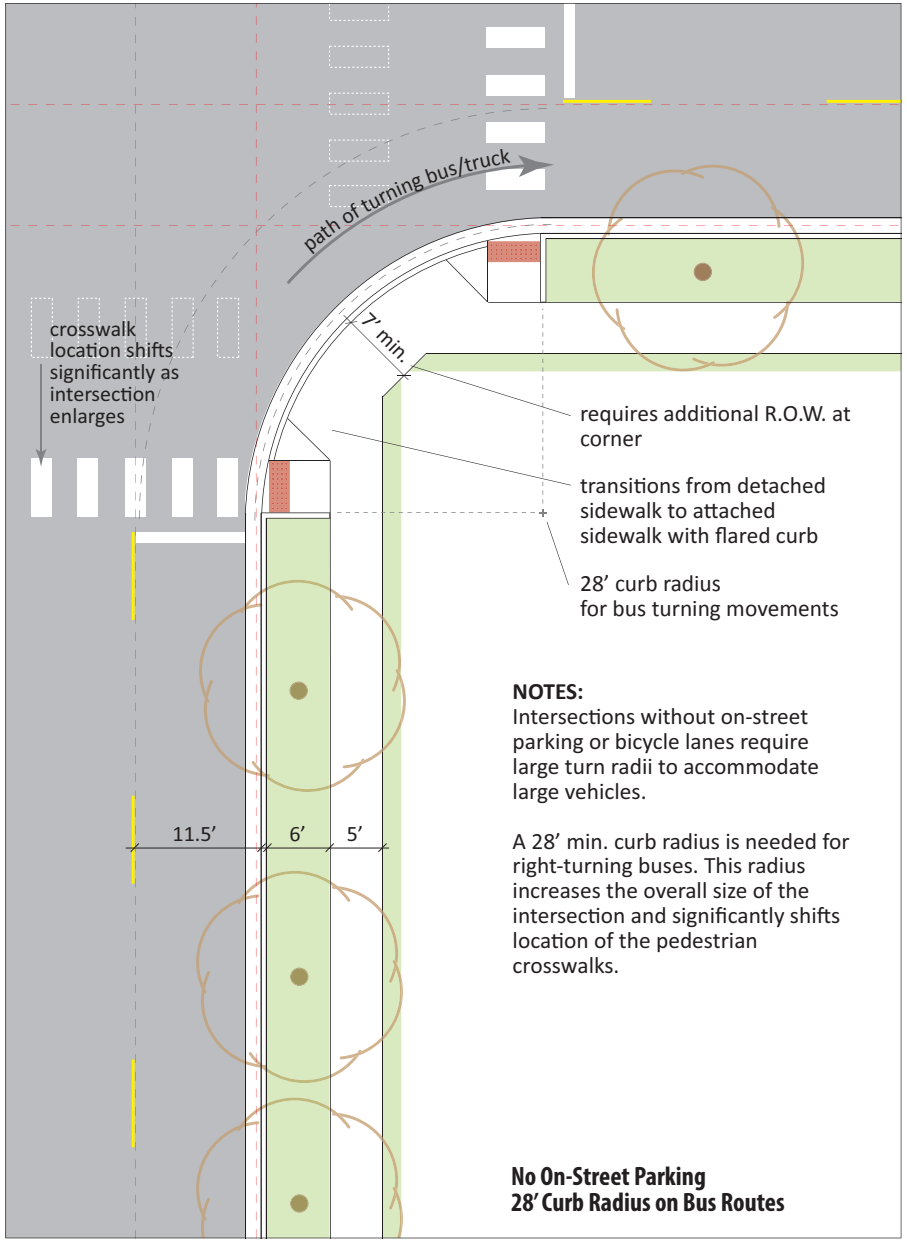


NOTES:
Where there is no on-street parking or bicycle lanes next to the curb, intersections require larger curb radii to accommodate turning vehicles.

The minimum inside turning radius for autos making a right-hand turn from a curbside lane is 15'.

To accommodate the larger curb radius, pedestrian ramps and crosswalks will shift slightly from direct alignment with the sidewalk. Angling the sidewalk at the corner is desired for a smooth transition, and may require a small area of easement/R.O.W. in constrained locations.

No On-Street Parking
15' Curb Radius on Local Streets

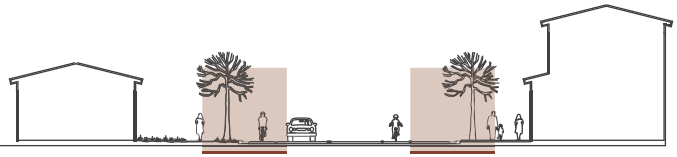


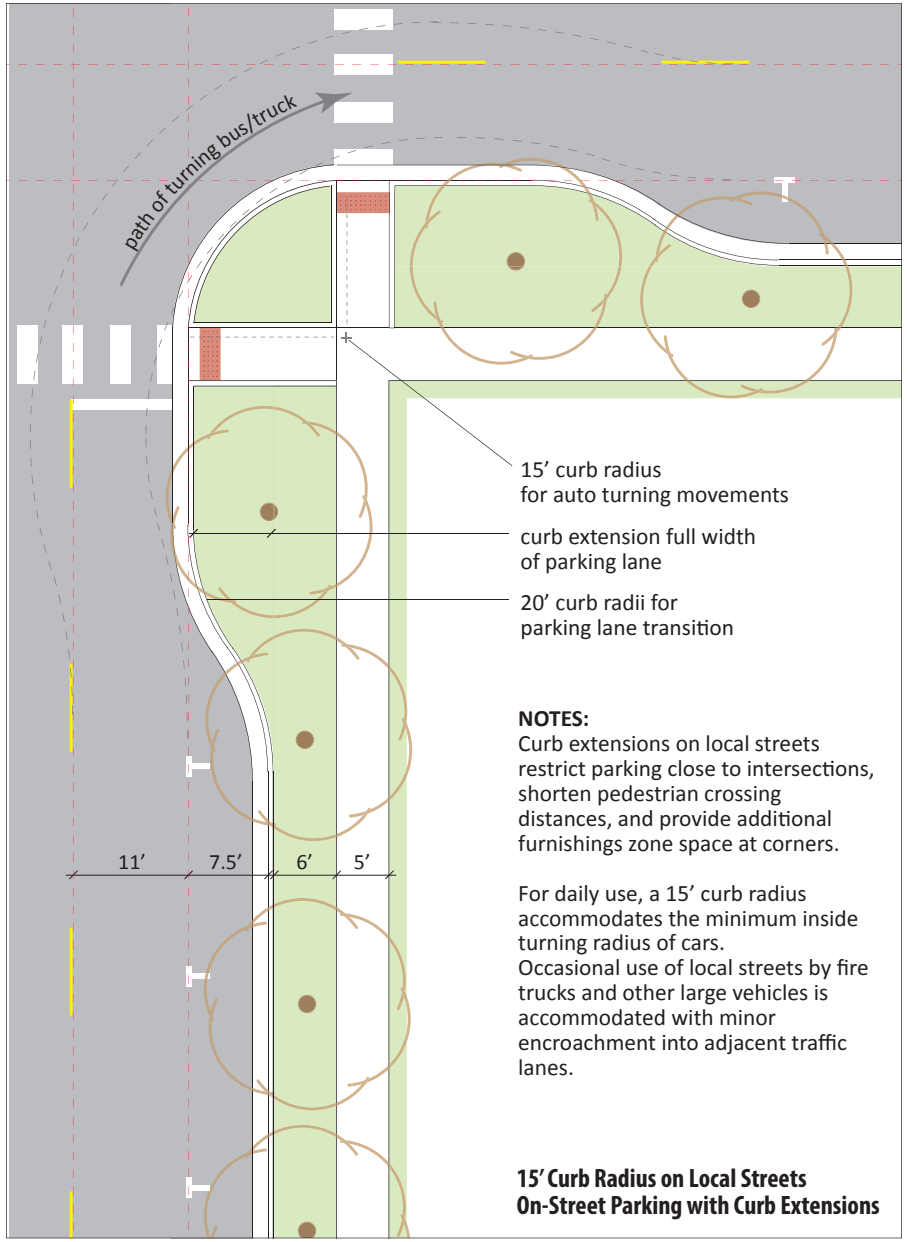
NOTES:
Intersections without on-street parking or bicycle lanes require large turn radii to accommodate large vehicles.

A 28' min. curb radius is needed for right-turning buses. This radius increases the overall size of the intersection and significantly shifts location of the pedestrian crosswalks.

No On-Street Parking
28' Curb Radius on Bus Routes

CURB EXTENSIONS, cont.

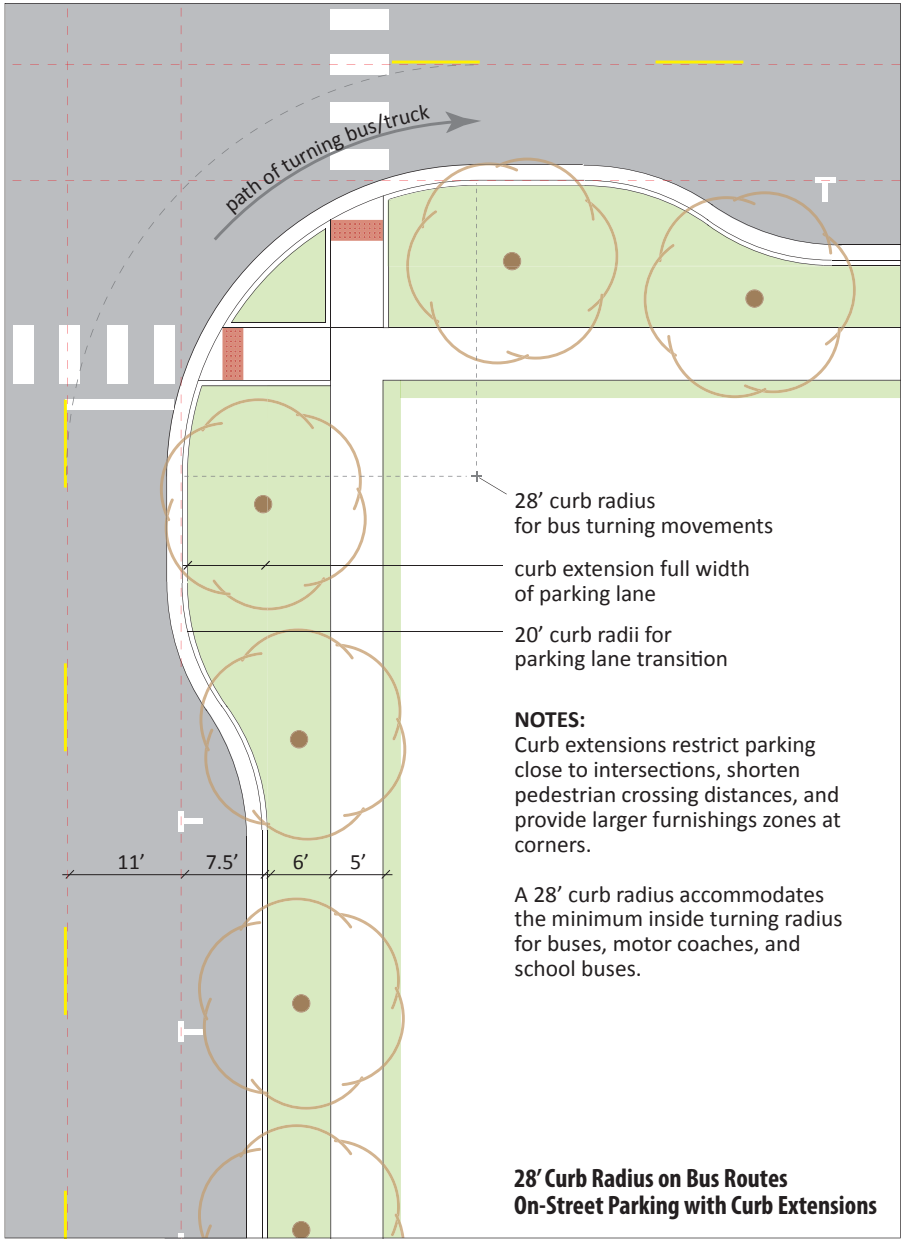




NOTES:
Curb extensions on local streets restrict parking close to intersections, shorten pedestrian crossing distances, and provide additional furnishings zone space at corners.

For daily use, a 15′ curb radius accommodates the minimum inside turning radius of cars.
Occasional use of local streets by fire trucks and other large vehicles is accommodated with minor encroachment into adjacent traffic lanes.

15′ Curb Radius on Local Streets
On-Street Parking with Curb Extensions

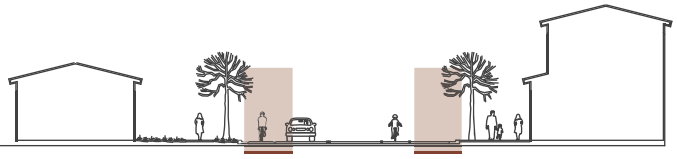


NOTES:
Curb extensions restrict parking close to intersections, shorten pedestrian crossing distances, and provide larger furnishings zones at corners.

A 28′ curb radius accommodates the minimum inside turning radius for buses, motor coaches, and school buses.

28′ Curb Radius on Bus Routes
On-Street Parking with Curb Extensions

BUS STOPS



The design and location of all bus stops within the Town of Jackson shall strive to enhance the pedestrian environment while promoting efficient transit operations. Stops shall be located in proximity to activity generators and shall include sidewalks, marked crosswalks, curb ramps, and other elements that meet ADA requirements and provide enhanced pedestrian access and amenities, as detailed in the pedestrian toolkit on page 37.

For transit operations, the following design provisions shall apply. All bus stops shall be well-defined and clearly marked. Bus stops located on the far-side of intersections are preferred. Concrete bus pads are required in all locations.

All Character Districts

Farside Stops – Allow a bus to pass through the intersection before stopping, which increases safety for pedestrians and convenience for passing vehicles.

- Shall be located at least 50' downstream from the edge of the pedestrian crosswalk so that stopped buses do not block the crosswalk.
- Are the preferred design treatment in most locations.

Nearside Stops – Require a bus to stop in advance of an intersection.

- Shall be located in advance of the crosswalk.
- May be appropriate based upon local design considerations.

Curbside Bus Stops – Locations where buses stop along a street's existing curb alignment, without provision of a bus turnout or bus bulb.

- Shall be marked with signage and curb striping to indicate no parking. All locations shall provide concrete bus pads.

Bus Turnouts – Dedicated curb stopping areas where buses leave the travel lane to stop and safely load and unload passengers. Turnouts may be used primarily on streets with higher traffic speeds.

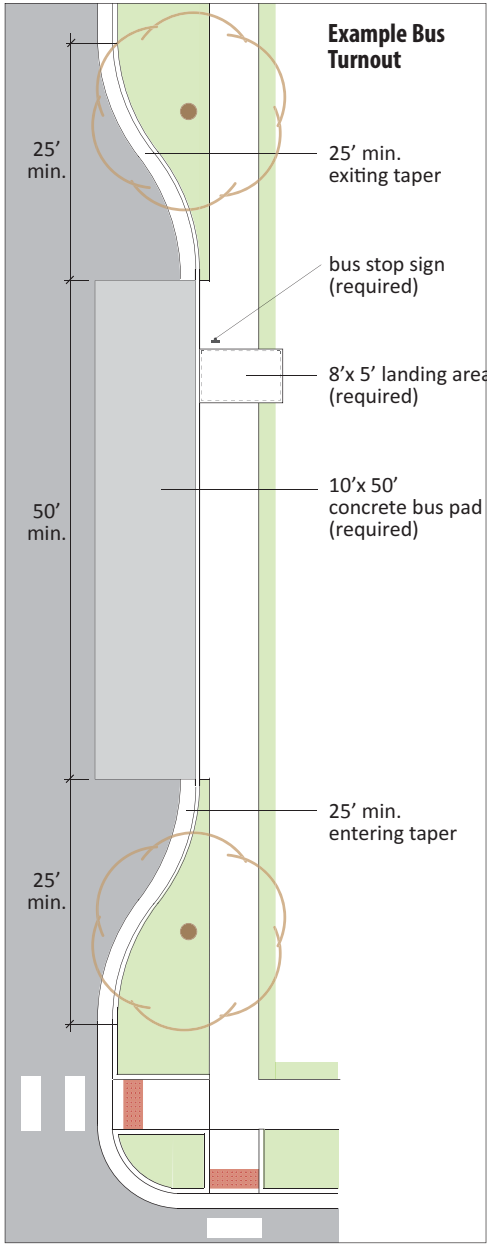
- Shall provide 50' min. of curbside stopping space per bus, constructed with a concrete pad for durability.
- Shall provide tapers, a min. of 25' in length vs. 4:1??, to permit buses to enter and exit the traffic stream.
- Shall be marked with signage and curb striping to indicate no parking.

Bus Bulbs – A type of curb extension (see page 24) that widens the sidewalk, shortens pedestrian crossing distances, and provides space for enhanced transit access and amenities. Bus bulbs allow buses to stop in the traffic lane to pick up and discharge passengers, thereby eliminating lateral movement needed to leave and re-enter the traffic stream.

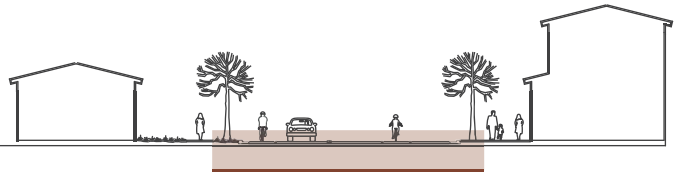
- Appropriate along streets with on-street parking, with low traffic speeds and volumes, and high levels of pedestrian activity. Bus bulbs are not recommended where traffic uses curb lanes along high-speed or high-volume streets.
- May be used in far-side, near-side, and mid-block bus stop locations.
- Shall extend the full width of the on-street parking lane.
- Must be lengthened to provide 50' min. of curbside bus stopping space, and shall provide a 10'x 50' concrete bus pad within the travel lane.

Concrete Bus Pads – Shall be provided at bus stops to improve long-term durability and maintenance of a street in locations where heavy transit vehicles regularly start and stop. Over time, asphalt pavement will shift and fail under the buses' weight at transit stop locations.

- A full-pavement depth, reinforced concrete bus pad, 10'x 50' in size, shall be constructed curbside at all bus stop locations.
- Where stops serve multiple bus routes and there is potential for more than one bus to be present, bus stop shall be long enough to accommodate more than one bus.



STORM DRAINAGE



Stormwater conveyance is an important function of Town streets. The Town will apply design principles that manage stormwater flows safely and that preserve and improve the water quality of surface waters (streams, wetlands, ponds, etc.) in Jackson Hole. The Town is developing a Stormwater Master Plan that will guide investments in drainage and conveyance facilities.

As a future objective, the collection and conveyance of rain and snowmelt waters in Jackson will be accomplished primarily with urban-style drainage designs – vertical curbs, gutters, inlets and buried stormwater conduits, which provide improved safety and water quality. Urban-style drainage ultimately will be used on all Downtown area streets. However, Low Impact Development (LID) streets may be constructed within Character Districts #5-6.

LID Design Principles – Where appropriate, the Town may allow or require use of LID principles in the design of streets that will not have urban-style drainage. LID stormwater design uses surface conveyance of stormwater in ditches, swales, rain gardens and similar facilities to increase percolation of rainwater and snowmelt, replenish ground waters, and reduce the volume of stormwater delivered by conduit to surface waters. LID stormwater design includes facilities and management practices that prevent or reduce the delivery of pollutants in surface flows.

In proposing the application of LID design concepts to new or reconstructed streets, evidence must be provided that the resulting street and stormwater networks have been planned to respect the existing hydrologic functions of the land using the following principles:

- preserve wetlands, buffers, and permeable soils;
- minimize the amount of impervious area;
- minimize the volume of delivery of stormwater flows into surface waters; and,
- provide for safe and sustainable vegetative cover.

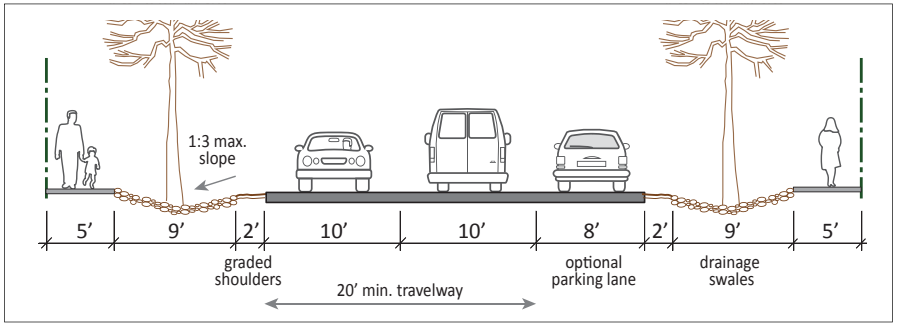
All Character Districts

- ***State Highways*** – Stormwater design will be guided by WYDOT standards, practices and policies. It is anticipated and expected that state highways within the Town shall have urban-style stormwater design (curb, gutter, inlet and conduit).
- ***BT Streets*** – New and reconstructed Bus and Truck Streets shall be provided with urban-style stormwater designs, except as provided below.
- ***Local Streets*** – New and reconstructed Local Streets shall be provided with urban-style stormwater designs, except as provided below.

Character Districts #5 & 6

- ***Local and BT Streets*** – The Town's intent is that most streets will ultimately be served with urban-style stormwater design.
- ***New Construction*** – Where the neighborhood form context is Preservation (Pr), Residential (Rs) or Resort/Civic (R/C), LID design shall be allowed in new construction, provided that the above LID design principles are applied.
- ***Reconstruction*** – Where the neighborhood form context is Village (Vil) and Village Center (VC), LID design shall be allowed only by exception and only in reconstruction projects.

- ***LID Facility Design*** – LID facilities and features must be designed to meet traffic safety requirements.
- All open channels (ditches and swales) must separated from the paved edge of the street by a minimum 2' stabilized and graded shoulder.
- Foreslope grades steeper than 1:3 (vertical to horizontal) shall not be allowed without provision of a barrier.
- In general, the guidance of the AASHTO (American Association of State Highway and Transportation Officials) Policy on Geometric Design of Highways and Streets, 6th Edition, shall be observed in design of open street-side stormwater channels.
- ***Relationship to On-Street Parking and Travel Lanes*** – LID stormwater design concepts shall be allowed only where the street cross section will provide a minimum 20' travel way for emergency vehicle access.
- Parking lanes may be provided on LID streets but may not be counted towards the 20' minimum.
- ***Relationship to Pedestrian Facilities*** – Where sidewalks are provided on streets with LID stormwater management (open channels), such sidewalks shall meet the minimum width requirements of this policy and shall be located next to the adjacent property, across the open channel from the street.
- Care shall be taken in design to protect pedestrians and bicyclists from entering open channels accidentally.
- Where LID drainage measures, on-street parking, and sidewalks are all present, lateral pedestrian access across the open channel shall be provided at least every 50'. (Driveways may be used to meet this requirement.



Alternative LID Street Design with Surface Stormwater Runoff

Toolkit Part 2 – Designing for Pedestrians

Pedestrian facilities must be usable by people of all ages and various visual and mobility capabilities. Integrating pedestrian accessibility into community transportation plans makes public spaces better for everyone. Year-round walkable neighborhoods and public spaces benefit residents, visitors, transit users, school children, the work force, and the elderly.

The Town of Jackson Complete Streets policy is focusing on enhancing pedestrian infrastructure to improve walking comfort, safety, and convenience. Part of this means meeting basic accessibility needs established by the Americans with Disabilities Act (ADA). In most cases, the national ADA guidance referenced below represents the minimum acceptable standard to accommodate pedestrians, including persons with vision impairments and assisted mobility needs. Local jurisdictions are encouraged to design and set codes beyond these minimum standards to facilitate access for a wider spectrum of people.

The regulatory framework for the ADA is complex and evolving, and includes the following:

- *Revised Draft Guidelines for Accessible Public Rights-of-Way* (11/23/2005) - see *Chapter R3: Technical Provisions*
- *ADA Standards for Transportation Facilities* (11/29/2006)
- *ADA Standards for Accessible Design* (9/15/2010)
- *Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way* (7/26/2011)
- *Proposed Supplements to Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way; Shared Use Paths* (2/13/2013)

Americans with Disabilities Act (ADA)

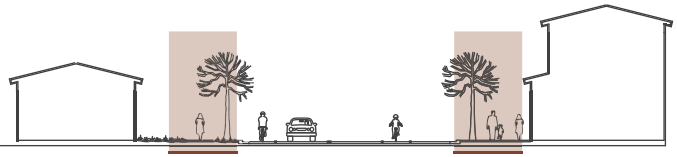
The 1990 Americans with Disabilities Act is a civil rights law that outlines minimum accessibility standards to be applied to all public environments, with Title II addressing access by public entities and public transportation providers. The *2010 ADA Standards for Accessible Design* are the foundation for designing all pedestrian environments. Additional, specific requirements for public rights-of-way are currently in draft form. Rather than a standard for dimensions, the ADA accessibility guidelines should be considered as minimum criteria.

Public Rights-of-Way Accessibility Guidelines (PROWAG)

The U.S. Access Board is developing additional guidance for pedestrian accommodation for numerous elements not covered in the 2010 ADA update. The 2011 PROWAG guidance has not yet been adopted by the U.S. Department of Justice, but public entities should be prepared to develop and/or update transition plans for facilities to secure future funding for transportation projects. The PROWAG guidelines would not require that alterations be made to existing public rights-of-way, but would apply to the design, construction, additions to, and alterations of facilities within the public right-of-way to the maximum extent feasible.

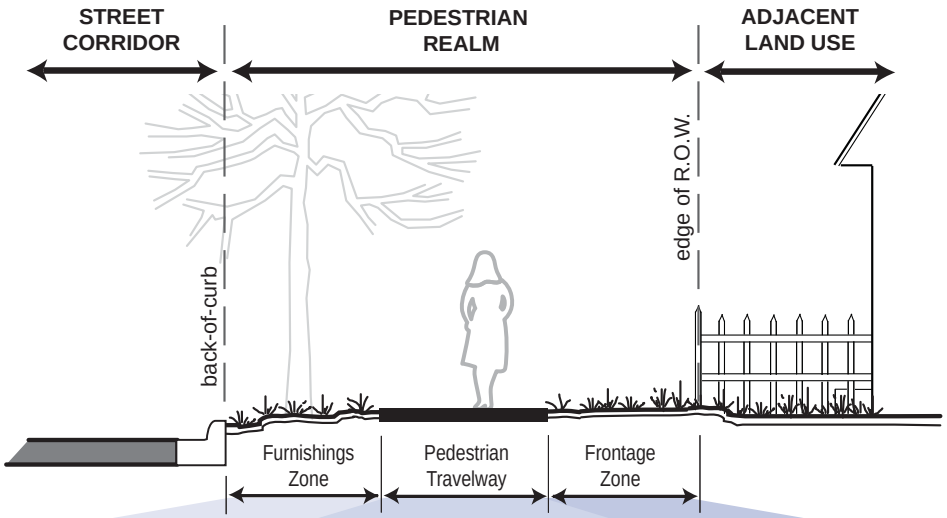
Materials reflecting the draft 2011 guidance have been used in developing the Town of Jackson Complete Streets toolkit. More detailed PROWAG information is available at http://www.access-board.gov and through courses taught by the Federal Highway Administration (FHWA) and the Rocky Mountain ADA Center.

THE PEDESTRIAN REALM



The pedestrian realm includes the public space located between back-of-curb and edge of right-of-way. It is comprised of three distinct zones, with recommended design treatments varying by neighborhood context and ground-floor building uses.

In all neighborhood contexts within the Town of Jackson, the following basic elements of accessible sidewalk design must be met within the pedestrian realm. In most locations, these minimum ADA requirements shall be exceeded.



In all instances, a Pedestrian Access Route (PAR) – defined as the continuous and unobstructed walkway that provides accessibility – shall be provided.

The ADA PAR shall be connected to street crossings by curb ramps or blended transitions, and includes walkways, sidewalks, crosswalks, and accessible ramps and other structures within the public right-of-way. The PAR must provide at least 4' width of unobstructed travelway access.

Minimum ADA Requirements

Furnishings Zone

- Keeps the pedestrian travelway free of obstacles by providing space for street furniture (signs, benches, trees, fire hydrants).
- Buffers pedestrians from traffic and parked cars.
- Makes it easier to provide accessible ramps and driveways.
- No objects allowed to protrude into PAR.
- All tree grates should be placed within the furniture zone, outside of the pedestrian travelway.

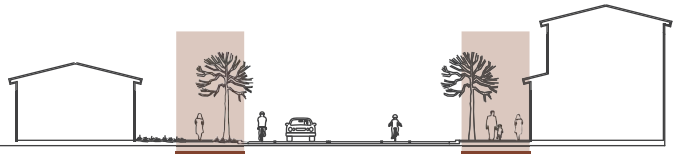
Pedestrian Travelway

- Area reserved for pedestrian travel - includes ADA PAR.
- Must maintain 4' min. free of obstacles and protruding objects, exclusive of the width of the curb.
- Per ADA, if <5' in clear width, must provide passing spaces 5' x 5' in size, at intervals of 200' max.
- Walkway cross slope shall be 2% max.
- Grade of walkway and crosswalk (street crown) 5% max. or follow general parallel roadway grade.
- On steep or long grades, provide rest areas at reasonable intervals.
- Walkway surfaces must be firm, stable, and slip resistant.
- Vertical surface discontinuities shall not exceed ½" max.
- Vertical lips between ¼" and ½" shall be beveled with a slope not steeper than 50%.
- Openings in walkway grates and joints shall not permit passage of a sphere more than ½" in diameter. Elongated openings shall be placed with the long dimension perpendicular to the dominant direction of travel.

Frontage Zone

- Provides room for doors, planter boxes, fences, signs on buildings, etc.
- Must be free of any obstacles that overhang or protrude into the PAR.

PEDESTRIAN REALM, cont.

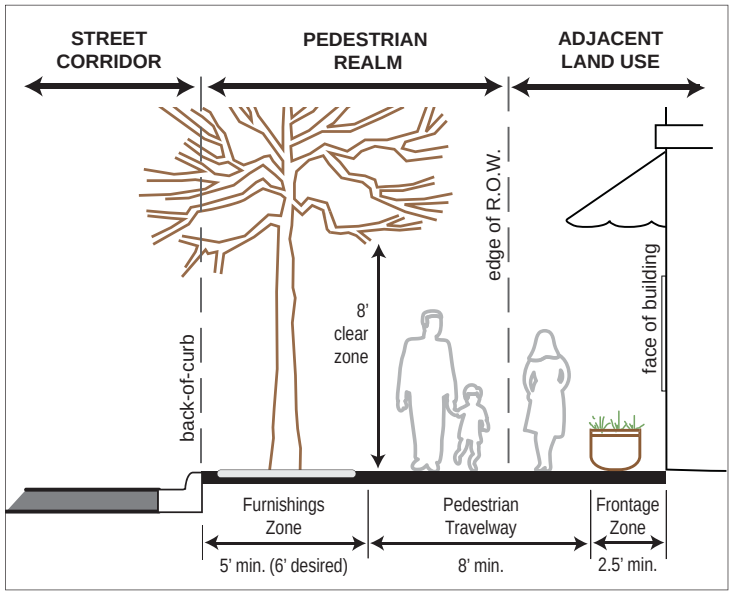


The pedestrian realm will need to be developed to higher standards than national ADA minimums to create high-quality walking environments that encourage daily utilitarian use and foster social activities such as walking for fitness or strolling and lingering along store fronts.

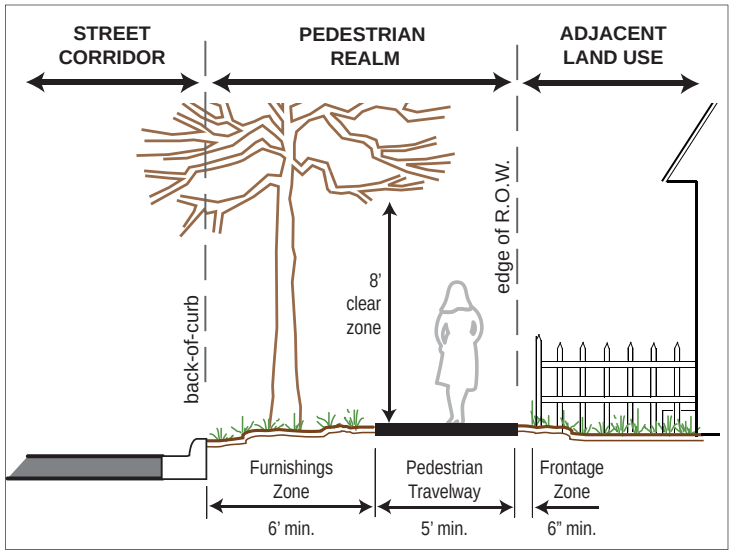
Applying design considerations discussed on page 15, pedestrian infrastructure elements are largely determined by the adjacent neighborhood context. Two general pedestrian realm configurations shall be used depending on the type of ground-floor uses that abut the sidewalk.

Minimums depicted at right shall be used within mixed-use areas where a vibrant streetscape is desired within Character Districts #1 & 2. To accomplish this cross-section, part of the pedestrian travelway and frontage zones will likely need to be accommodated outside of the street right-of-way as part of private building frontages and setbacks. This shall be necessary to provide adequate pedestrian travelway width to accommodate high levels of pedestrian activity.

Travelway characteristics are a second consideration in the design of the pedestrian realm. Wherever possible, sidewalks are desired to be detached, or separated from the street corridor by a furnishings zone. This separation is especially needed on streets with moderate to high traffic volumes and speeds. On-street parking and/or on-street bicycle lanes may serve as the desired buffer from traffic where limited right-of-way space necessitates the construction of attached sidewalks.



Commercial Pedestrian Realm



Residential Pedestrian Realm

Mixed-Use Context

Applicable in mixed-use Character Districts #1, 2, 4, & 5 where ground-floor commercial, office and/or retail are present or desired:

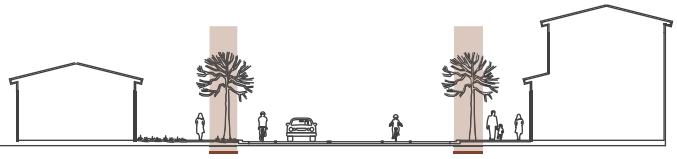
- Furnishings zones shall be paved; use of colored, textured surfacing or boardwalks is recommended.
- 3" min. caliper street trees shall be planted in 5'x5' min. tree wells.
- Travelway/clear zone width of 8' min. is required within the Town (Tn) neighborhood form to allow two pair of pedestrians to meet and pass. A 6' min. width shall be permitted in Village Center (VC) forms where necessary due to R.O.W. constraints.
- Frontage zone widths shall be 2.5' min. to allow for window shopping, planters, door openings, etc.
- All street furniture, public art, utility poles, outdoor dining, etc. shall be located outside of the 8' pedestrian travelway.

Residential Context

Applicable in Character Districts #3, 4, 5, & 6 where ground-floor residential is present or desired:

- Furnishings zone shall be a 6' min. landscape buffer planted with street trees.
- Travelway/clear zone width shall be 5' min. to meet ADA requirements and facilitate snow removal.
- In areas with higher residential densities, a 6'-7' wide travelway is preferred where R.O.W. allows.
- Residential frontage zones should range in width from 6" along lawns to 1.5' for clearance from walls, fences, and hedges.

FURNISHINGS ZONE



The furnishings zone is the area of the street right-of-way that provides a buffer between pedestrians and vehicles. It is created by constructing detached sidewalks, with the space in between the curb and sidewalk designated for landscaping, public street furniture, public signage, utilities, lighting, public art, bike racks, transit stops, shelters, and other streetscape elements. The intent is to ensure that the pedestrian travelway is free of ALL obstacles.

In addition to providing space to keep streetscape furnishings from becoming obstructions in the pedestrian travelway, this zone makes it easier to accommodate accessible pedestrian ramps and driveways. The preferred designs for both treatments are depicted at right. Provision of a furnishings zone allows the sidewalk to remain level while accommodating driveway aprons, and positions the sidewalk to transition into a perpendicular pedestrian curb ramp aligned with crosswalks at intersections. The furnishings zone also provides a place in winter for snow to be stored off of both street and sidewalk. Key design details include:

- Shall be 5′ min. in width, with 6′ preferred to better accommodate ADA pedestrian ramps at a 1:12 slope and provide more space for healthier street tree growth.
- Shall be hardscape within commercial corridors, and a landscape buffer within residential neighborhoods.

Where R.O.W. is constrained, attached sidewalks may be provided on local streets, but will require approval as an exception by the Planning Director. If existing private development encroaches into the right-of-way, sidewalks may be attached where needed, but shall be discouraged for construction along the entire length of a corridor. See pages 36-37.

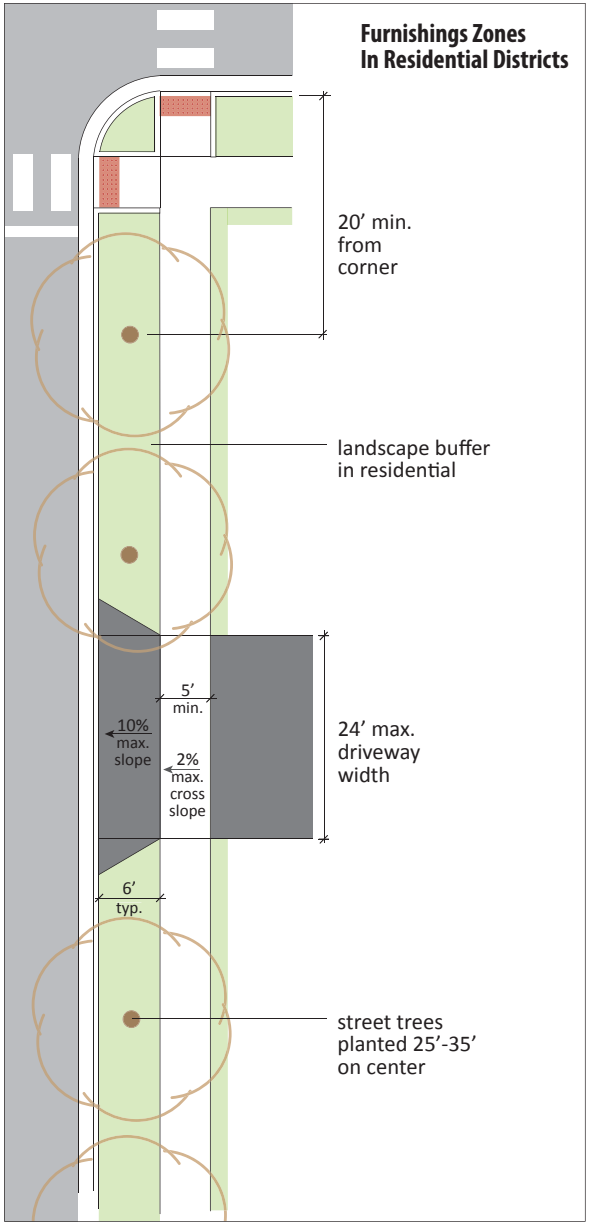
All Character Districts

Design considerations for various elements to be provided within furnishings zones within all character districts include the following:

- ***Street Trees*** – Avoid planting anything smaller than 3″ caliper trees. Space trees 25′- 35′ on center to provide a street canopy of shade over the sidewalk.
- Trees shall not be planted closer than 20′ of any street corner, measured from the point of nearest intersecting curb or curb line. Trees shall not be planted closer than 10′ of any fireplug.
- No street trees other than those described as small may be planted under or within 10 lateral feet of any overhead utility or over or within 5 lateral feet of any underground water line, sewer line transmission line or other utility.
- All street trees shall be irrigated and maintained to a minimum height of 12′ above the street and 10′ above the sidewalk.

- ***Driveway Crossings*** – Driveway widths should not exceed 24′ in width for two-way travel; 14′ preferred if for one-way travel. **check withLDRs
- A 5′ min. width pedestrian travelway shall be maintained across the entire driveway.
- Per ADA, the sidewalk cross slope shall not exceed 2% and sidewalk users shall not be forced to travel over driveway apron flares. This results in rapid changes in cross slope, which comprises balance and stability for elderly and wheelchair users.
- (See page 34 for additional driveway considerations when detached sidewalks are not provided.)

- ***Signs, Signals, Utilities, and Street Lighting*** – All utilitarian streetscape elements shall be located within the furnishings zone.
- All elements must maintain a 1.5′ lateral clearance from curb.



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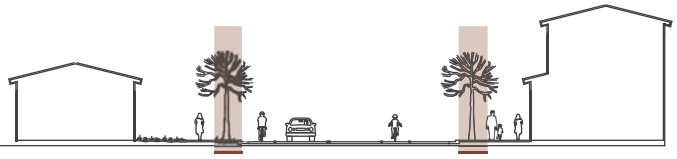
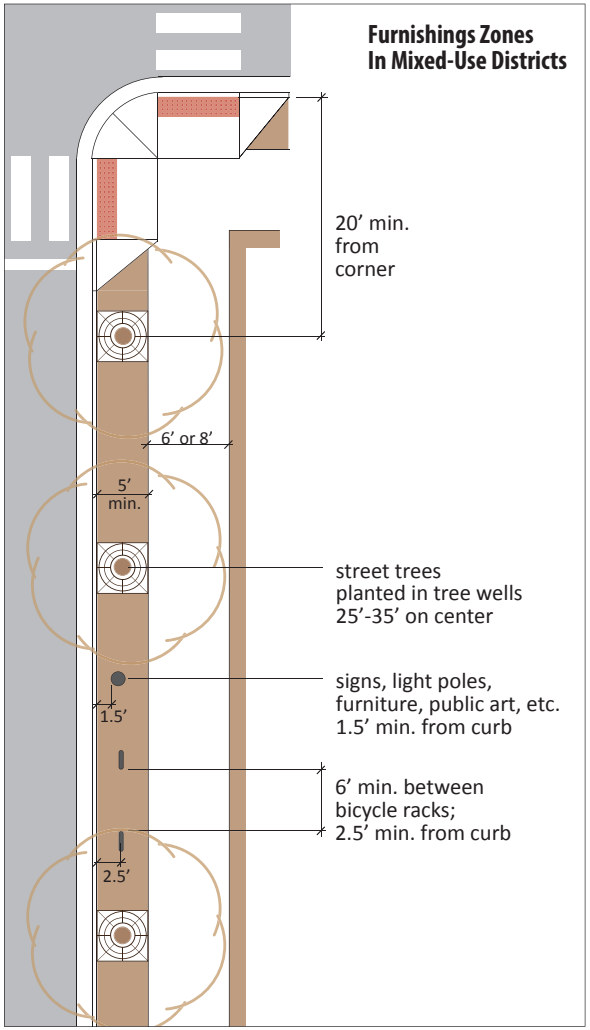


- ***Protruding Objects*** – Obstacles placed within the furnishings zone may not protrude into the minimum clear zone of the pedestrian travelway.
- Pedestrians with vision impairments can usually detect obstacles on the sidewalk below a height of 80". However, objects that protrude into the sidewalk space between 27"- 80" and do not extend to the ground shall be avoided.
- ***Transit Stops and Amenities*** – Transit shelters, bicycle parking, and furniture groupings are often located within the furnishings zone. See page 38 for details.

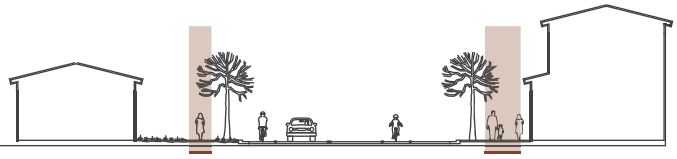
Mixed-Use Context

In Character Districts #1, 2, 4, and 5 where Town (Tn) and Village Center (VC) neighborhood forms are desired, the following additional guidelines shall apply. These guidelines shall also apply to enhanced pedestrian corridors in Transitional subareas of Character District #2. These mixed-use corridors include East Broadway, South Willow Street, Snow King Avenue, and South Cache Street.

- ***Street Trees*** – Since furnishing zones within mixed-use neighborhoods are to be paved or boardwalks, landscape treatments shall include street trees planted in tree wells with ADA compliant tree grates.
- Minimum tree well size shall be 4'x 4' but 5'x 5' or a larger area of permeable surface is preferred, as trees tend to spread shallow roots outward when they do not get enough water, which can break up the surface of the sidewalk.
- ***Landscaping*** – Other landscaping within mixed-use areas shall be provided in pots, planters, raised beds, or hanging baskets, as long as neither structure nor vegetation protrude into the pedestrian travelway.
- Landscape buffers are not appropriate in areas with ground-floor commercial use.
- ***Street Furniture*** – Benches, trash receptacles, pedestrian signage, fountains, bicycle parking, and other elements that help to activate streets as public space shall be located within furnishings zones in mixed-use areas, with all elements located 1.5' min. from curb.
- Inverted-U bicycle racks shall be positioned 2.5' from curb, with a 6' min. spacing from each other and other street furniture.
- ***Public Art*** – Art in public spaces shall be encouraged and provided per the *Town of Jackson Public Art Guidelines*. To enhance pedestrian spaces in mixed-use areas, public art may be free-standing within the furnishings zone, suspended from light poles, integrated into the design of furniture groups, bicycle parking, and/or transit shelters, and incorporated into paved surfaces.
- The scale and intensity of the art should vary according to the intensit and character of the surrounding neighborhood context. Interactive public art is appropriate within the pedestrian realm where strolling and lingering activities are desired and to be encouraged. In contrast, monuments are appropriate along major streets and especially within designated gateways where they can figure promeniently into the public image of the community and help to serve a traffic calming function.
- All art installments must meet requirements for an 8' min. clear zone above the sidewalk, with no protrusions allowed into the pedestrian travelway.
- Public art shall strive to give identity to unique districts and add character to complete neighborhoods and complete streets. The Public Art Overlay Map, once developed, shall be used to guide appropriate art locations within the public right-of-way and as part of new private development projects.
- Placement of public art and monuments shall not obstruct drivers' views of traffic control devices, be a distraction, or be located in a manner that could create a roadside hazard to motorists or pedestrians.



PEDESTRIAN TRAVELWAY



The area of the sidewalk corridor reserved for pedestrian travel shall be free of all obstacles, protruding objects, and vertical obstructions.

It is the Town of Jackson intent that all new and reconstructed pedestrian travelways be built as detached sidewalks, per the following guidance:

All Character Districts

- ***Sidewalk Width*** – Per ADA, the pedestrian travelway must never be less than 4′ wide, which is the minimum width required for people using a guide dog, crutches, or walkers. Wheelchair users need 5′ of sidewalk space to turn around, and 6′ to pass other users.
- Town of Jackson sidewalk widths shall be 5′ min. for detached sidewalks (recommended in all locations), and 6′ min. when attached to the street curb (allowed by exception only).
- ***Surface Treatments*** – Sidewalks shall be constructed of stable, firm, and slip resistant materials. Pedestrian travelway surfaces shall be smooth and continuous. Decorative paving treatments shall be reserved for use within the furnishings and frontage zones.
- If the pedestrian travelway is a boardwalk, maintenance shall ensure that no decking boards or protruding screws create tripping hazards.
- Drainage grates, utility covers, tree grates, etc. should be placed outside of the pedestrian travelway. However, when present within the walking surface, all grates and utility coverings shall be mounted flush and level with the surrounding sidewalk surface.
- Walkway joints and grate openings shall not allow passage of a 1/2″ sphere, with elongated openings placed perpendicular to the dominant direction of sidewalk travel.
- ***Obstacles and Protruding Objects*** – Pedestrians with vision impairments often travel using the edge of the building line. Protruding obstacles that do not extend to the ground are thus difficult to detect and avoid.
- Wall-mounted objects shall not protrude more than 4″ from a wall into the travelway when located between 27″ and 80″ above the sidewalk.
- Post-mounted objects shall not overhang more than 4″ per side of post when located between 27″ and 80″ above the sidewalk.

Town Center (Tn)

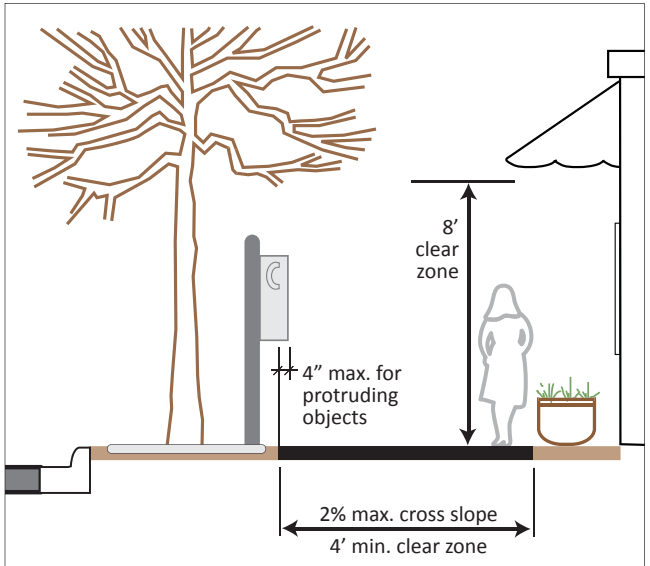
Within Character Districts #1 & 2, the following is required:

- ***Sidewalk Width*** – The pedestrian travelway shall be 8′ min. in width to encourage and accommodate highest levels of pedestrian use. This sidewalk width, plus additional furnishings zone and frontage zone widths, allows for strolling, lingering, window shopping, and identity of Downtown Jackson as a pedestrian destination.

Village Centers (VC)

Within Character Districts #2, 4, & 5, where ground-floor commercial, office and retail is present, the following additional guidelines shall apply:

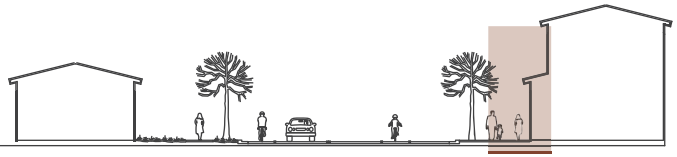
- ***Sidewalk Width*** – The pedestrian travelway is recommended to be 8′ wide to encourage and accommodate high levels of pedestrian use. This will allow for pedestrians to walk side-by-side, or for people walking in opposite directions to pass each other.
- In constrained mixed-use corridors, the pedestrian travelway may be narrowed to a 6′ min. width as an exception.



Recommended Sidewalk Widths
Where detached: 5′ min.
In mixed-use areas: 6′ min. / 8′ encouraged
Where attached to curb: 6′ min. / 7′ encouraged

The Pedestrian Travelway needs to be designed *and maintained* to be free of obstacles for a 5′ minimum width in all locations.

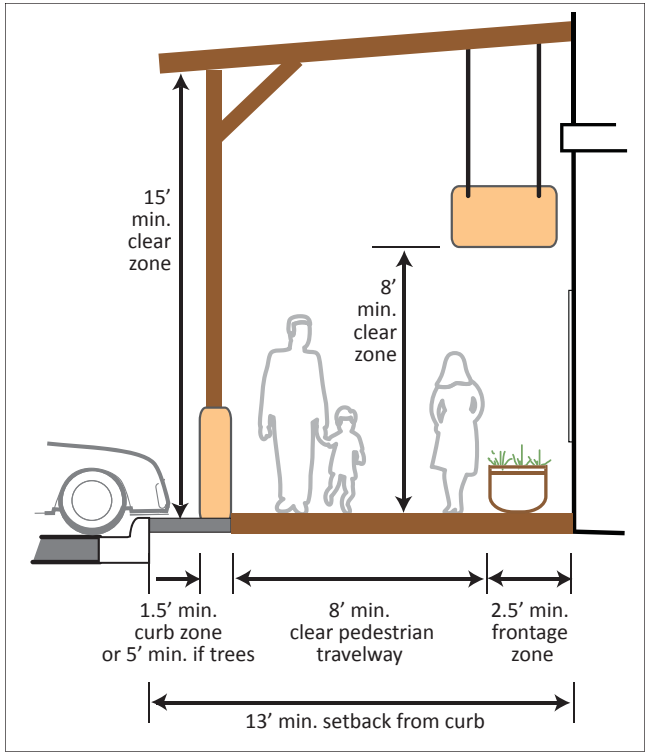
COVERED BOARDWALKS



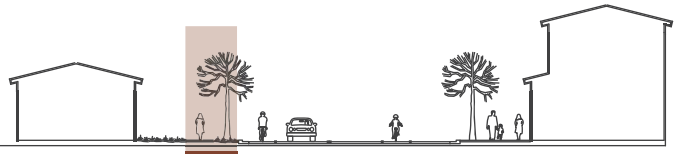
Town Center (Tn)

Within Character Districts #1 & 2, the following guidelines shall apply to the pedestrian realm to retain and replicate the western character of the historic center of Jackson Hole. A unique pedestrian experience shall be provided through consistent use of covered walkways within the downtown boardwalk district, as follows:

- ***Architecture*** – A variety of 2-3 story mixed-use structures shall create an active and engaging pedestrian experience by providing retail, dining, and commercial uses on ground floor, with office, residential, and/or lodging located on upper floors.
- All structures shall have a Western architectural style and approach that includes covered wooden boardwalks.
- ***Boardwalks*** – All boardwalks shall meet criteria for providing an unobstructed pedestrian travelway that meets ADA criteria.
- Roof support posts and a building frontage zone shall be provided outside of the pedestrian travelway.
- Boardwalk surfaces shall be 2"x 6" decking without gaps, maintained to be free of protruding screws and/or warped boards.
- A 15' min. roof clearance from street grade shall be provided to avoid conflict with equipment used to clear the street gutter of ice in the winter.
- ***Pedestrian Travelway*** – The pedestrian travelway on boardwalks within commercial areas shall provide 8' of clear width to allow two pair of pedestrians to meet and pass.
- Within Character Districts #1 & 2, part of the pedestrian travelway on the boardwalk may need to be accommodated on private property if within constrained R.O.W.
- Outside of the downtown district, boardwalks may be constructed in other mixed-use areas as desired. These may be covered or uncovered boardwalks, and may be reduced to 6' clear width where needed within constrained R.O.W.
- ***Frontage Zone*** – A min. 2.5' buffer zone of additional boardwalk width shall be provided on private property to accommodate door openings, window shopping, and merchandise displays.
- Where outdoor dining is desired, the frontage zone shall be increased to accommodate the boardwalk use without encroachment into the 8' pedestrian travelway.
- ***Setbacks*** – *NOTE: The minimum setback from back-of-curb to face-of-building is 10' per existing LDRs for Town Square, Urban Commercial and Lodging Overlay zones.* Within the Town (Tn) and Village Center (VC) neighborhood forms, this distance shall be increased to 13' min. where a covered boardwalk is provided, and 16' min. where a furnishings zone is provided (see page 36).
- ***Furnishings Zone*** – The space between curb and covered boardwalk support posts shall be 1.5' min. to accommodate an edge or curb zone. This is needed to permit the opening of parked vehicle doors and/or prevent vehicle bumpers from hitting vertical support structures.
- Where street trees are desired, the furnishings zone width shall be increased to the standard 5' minimum, with 6' preferred.
- ***Street Corners*** – At street corners with covered boardwalks and small turning radii, a blended transition curb ramp may be provided.
- Detectable warning strips, contrasting surface materials, barrier posts, and/or raised planters are encouraged to help convey the transition between street and sidewalk. See page xx.



ATTACHED SIDEWALKS



It is the Town of Jackson intent that all new and reconstructed pedestrian travelways be constructed as detached sidewalks. In select locations where there is inadequate right-of-way space to construct detached sidewalks and provide a furnishings zone, attached sidewalks may be constructed. An exception to Complete Streets Policy shall be filed and will require approval by xyz entity.

Guidelines provided on page 32 for detached sidewalks shall also apply unless otherwise noted. Additional design guidance to provide basic levels of pedestrian accommodation when constructing attached sidewalks include:

- ***Sidewalk Width*** – Attached sidewalks shall be a minimum of 6' wide (vs. 5' min. for detached sidewalks). 7' width is encouraged.
- ***Curb Buffer Zone*** – The first 1'-2' of sidewalk immediately adjacent to the street curb may be differentiated with colored and/or textured pavement to visually create a buffer zone between pedestrian and motor vehicle travel.
- ***Street Trees*** – Trees shall be planted along the back-of-sidewalk/edge of R.O.W. at 25'- 35' on center to provide a canopy of shade over the sidewalk.
- ***On-Street Parking*** – In corridors with on-street parking, attached sidewalks shall be located on the side of the street adjacent to the parking lane whenever possible to provide an alternative buffer between the pedestrian travelway and vehicular travel lanes.
- ***Pedestrian Curb Ramps*** – Attached sidewalks create additional challenges to providing ADA curb ramps and level landings at street corners. (See detailed ramp discussions on pages 40-42.)

Solutions for attached sidewalks typically must involve indirect paths of pedestrian travel and/or frequent sidewalk grade changes. Design solutions may include:

- Two ***parallel curb ramps*** shall be used at intersections with attached sidewalks and wide turning radii, even though they force users who are continuing on the pedestrian travelway to negotiate two ramp grade changes, as illustrated opposite.
- A pair of ***perpendicular curb ramps*** with a shared level landing area shall be used at street corners with small turning radii, as depicted on page 22. As the attached sidewalk approaches the intersection, the alignment of the pedestrian travelway shall gradually shift location from back-of-curb to a detached sidewalk position to align with the curb ramp and crosswalk.
- In difficult locations, ***combination curb ramps*** may be required. Such ramps require site-specific design to combine elements of parallel and perpendicular curb ramps. Level landings, 4'x 4' min. in size, are required and Public Rights-of-Way Accessibility Guidelines (PROWAG) shall be referenced for additional guidance.
- A single ***diagonal curb ramp*** shall not be used for reasons presented on page 42.

- ***Driveway Crossings*** – Driveway crossings often create frequent grade changes along a sidewalk, often with steep cross slopes that create difficulties for pedestrians using wheelchairs and walkers. Driveway crossings must therefore be level and not force sidewalk users to travel over flared sides of driveway ramps. The following guidance applies:
  - Driveway widths shall be limited to xx' of pavement, per LDRs...
  - A required 5' min. width pedestrian travelway, with a 2% max. cross slope, shall be maintained across all driveways.
  - Two options are available to accommodate driveway crossings of sidewalks, as depicted opposite page. The first acceptable design is to shift the sidewalk alignment to skirt the driveway apron and provide a level landing away from the street.
  - An alternative design is to cross the driveway at street grade using parallel pedestrian ramps to lower the sidewalk to street/driveway grade, avoiding any potential drainage problems. A detectable edge or lip shall be provided for pedestrians with visual impairments to distinguish the sidewalk and street boundary at the base of the driveway.
- ***Mature Vegetation*** – Where it is desirable to preserve mature trees that are located within or immediately adjacent to the pedestrian realm, consider using a mid-block curb extension to route a continuous sidewalk around the tree or other obstacle.
  - Curb extensions shall be constructed the full width of the parking lane.
  - Sidewalk segments along back-of-curb shall be widened and may use colored and/or textured pavements to delineate a buffer zone..
- ***Encroachments*** – Locations where existing development on private property encroaches into the right-of-way may mandate retrofit construction that includes attached sidewalks.
  - Such treatment shall be implemented through the constrained area, returning to construction of detached sidewalks once past the encroachment.
  - Construction of attached sidewalks along an entire corridor shall be discouraged.

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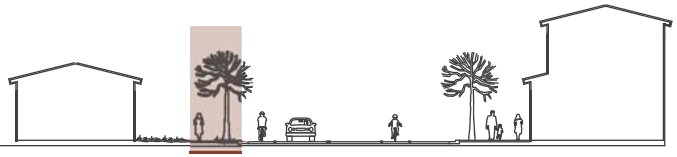
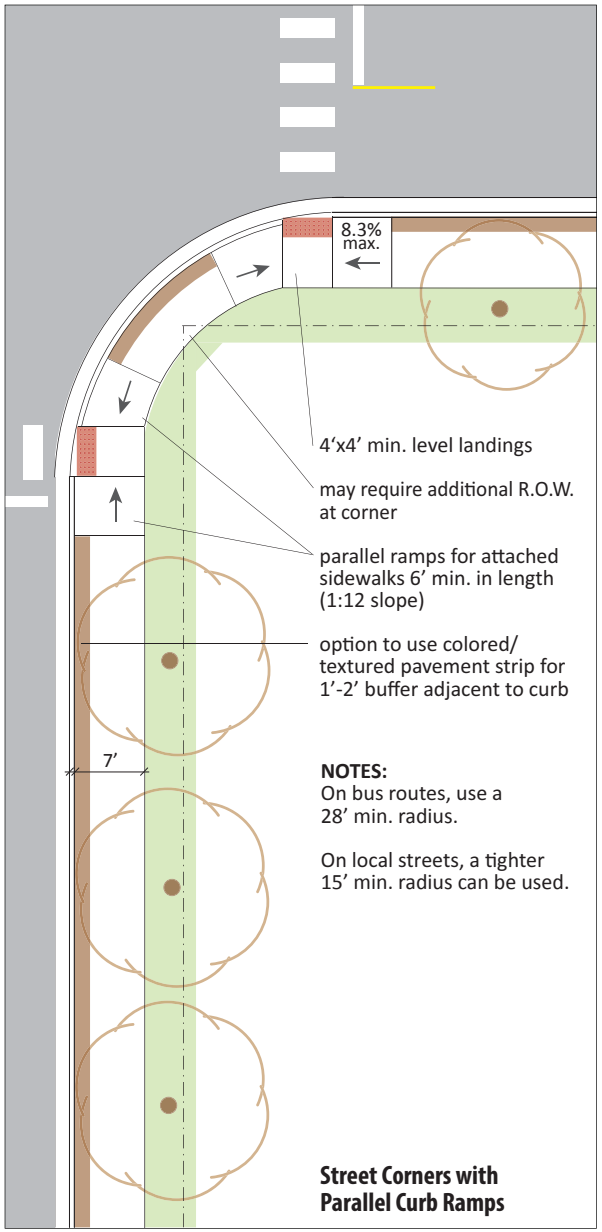
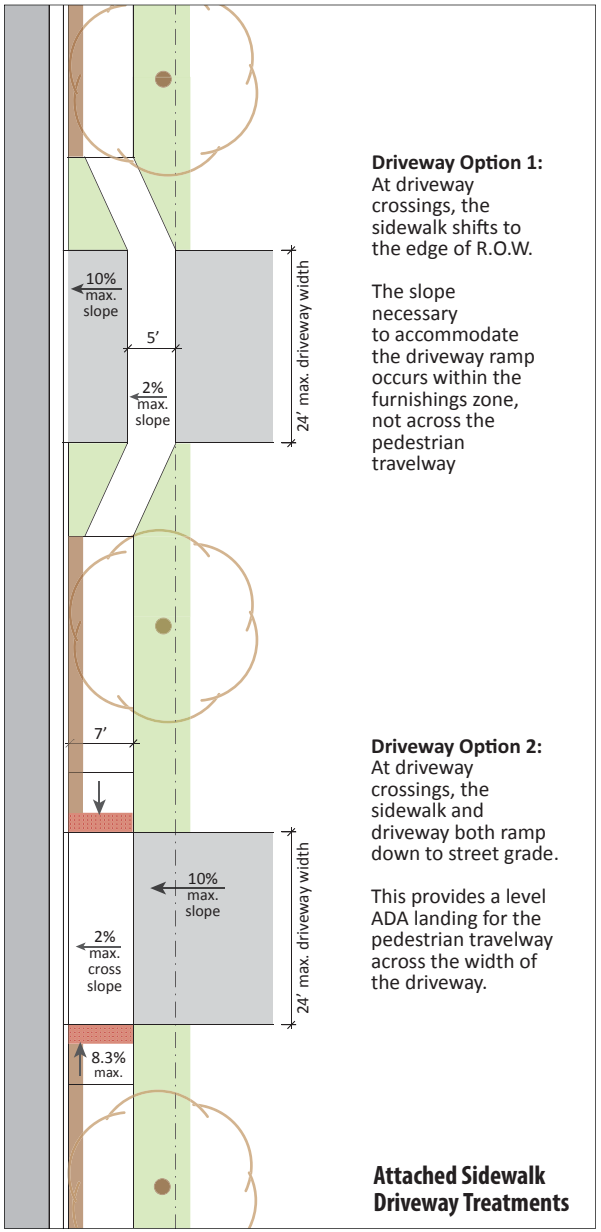




Street Corners with Parallel Curb Ramps



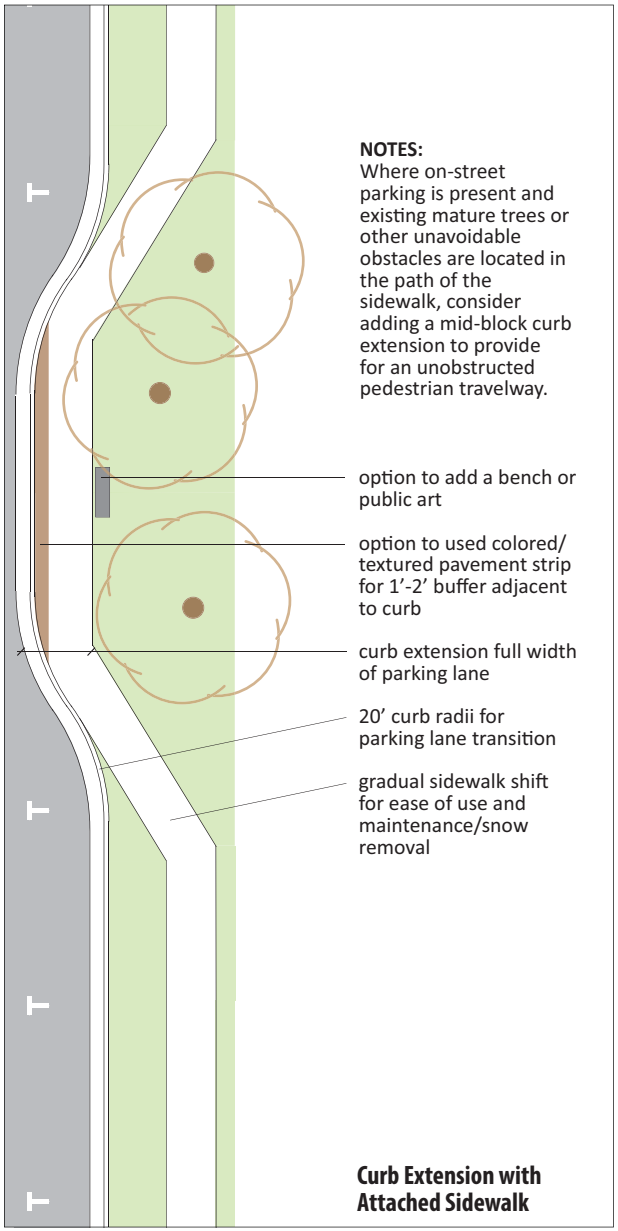
Driveway Option 1:
At driveway crossings, the sidewalk shifts to the edge of R.O.W.

The slope necessary to accommodate the driveway ramp occurs within the furnishings zone, not across the pedestrian travelway

Driveway Option 2:
At driveway crossings, the sidewalk and driveway both ramp down to street grade.

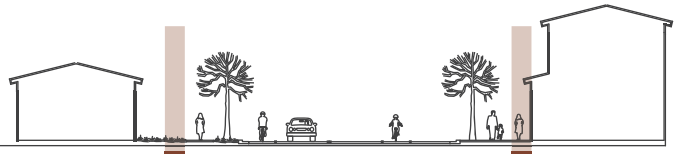
This provides a level ADA landing for the pedestrian travelway across the width of the driveway.

Attached Sidewalk Driveway Treatments



Curb Extension with Attached Sidewalk

FRONTAGE ZONE



The frontage zone is comprised of the distance between the edge of sidewalk and the building front or private property line that is used to buffer pedestrians from window shoppers, appurtenances, doorways, fences, landscaping, etc. Also called the "shy" zone, it may contain private street furniture, private signage, merchandise displays, street cafes, and other amenities that add to the vibrancy of public space along Complete Streets.

Successfully designed frontage zones are social spaces where pedestrians can safely participate in public life. In mixed-use business districts and downtowns, sidewalks need to be designed to accommodate larger volumes of pedestrian traffic than in residential areas. Streetscapes in these areas often require increased frontage width that is physically separated from the adjacent pedestrian travelway. Likewise, the frontage zone may need to accommodate part of the pedestrian travelway in areas where right-of-way is insufficient to provide all of the desired pedestrian realm activities. (See page 29.)

NOTE: Guidelines for mixed-use frontage zones will need to be coordinated with the Town of Jackson Land Development Regulations (LDRs), which currently specify a 10' min. setback from back-of-curb to face-of-building in Town Square, Urban Commercial, and Lodging Overlay zones. This distance is inadequate to accommodate a desired 5'-6' furnishings zone, an 8' pedestrian travelway, and a 2.5' frontage zone. Thus, the updated LDRs shall specify a minimum 16' building setback from back-of-curb in mixed-use contexts.

Amenities within frontage zones shall be provided by the developer/tenant and may include additional sidewalk or boardwalk space, benches, bike racks, merchandise displays, potted plantings, signage, etc.

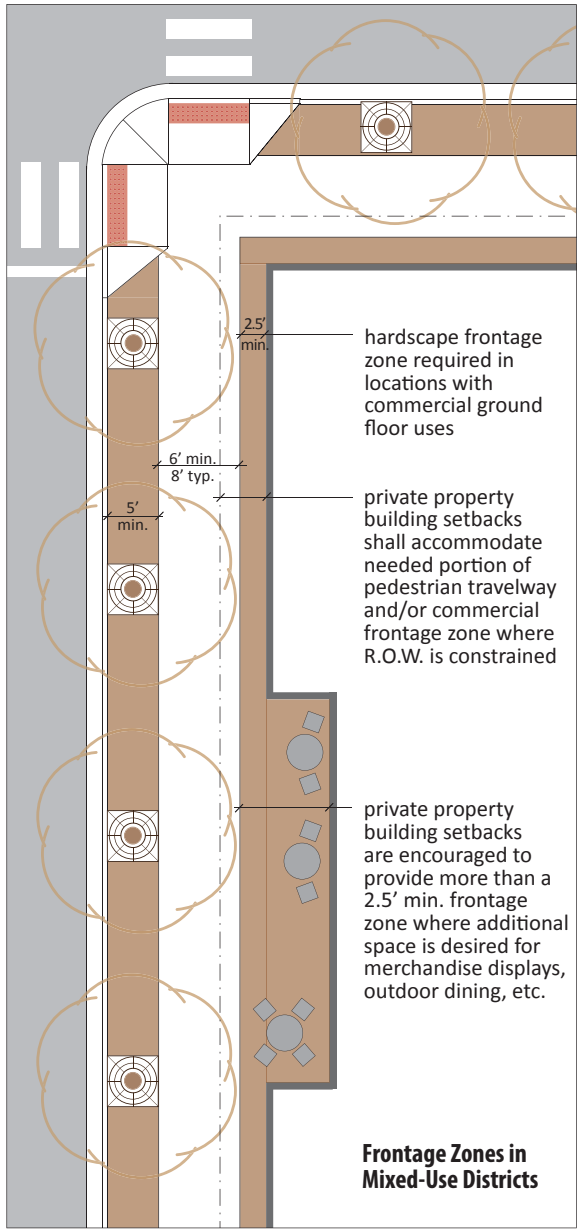
Mixed-Use Context

Applicable in mixed-use Character Districts #1, 2, 4, & 5 where ground-floor commercial, office and/or retail are present or desired:

- Pedestrians generally do not feel comfortable walking directly adjacent to a building wall or fence. At minimum, they prefer to keep at least 2' of shy distance away from a building edge.
- Frontage zone width next to a building face shall be 2.5' min. to accommodate space for opening doors.
- Frontage zone widths may and shall varying along the building facade to accommodate additional space for site-specific sidewalk uses, and shall be included as part of the covered boardwalk space, where applicable.
- Where outdoor dining is desired within a limited-access enclosed area, an additional 6' min. of sidewalk width shall be provided to allow space for 3' tables serviced by a 3' wait staff aisle. This area must be provided outside of the pedestrian travelway clear zone.
- Commercial frontage zones shall be hardscape and will typically be accommodated within the building setback on private property due to R.O.W. constraints.

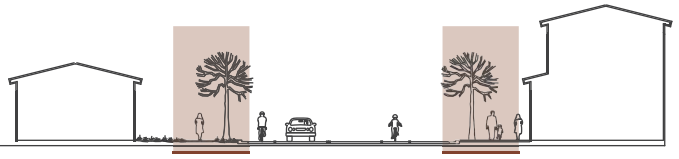
Residential Context

- In residential areas and along properties with parking lot screening, the frontage zone shall serve primarily to keep vegetation from encroaching upon the sidewalk.
- Recommended frontage zone widths are:
  - 0' along lawn and groundcover
  - 1' along low walls, fences and hedges
  - 1.5' along facades, tall walls and fences
- Residential frontage zones will typically be lawn or landscape and be accommodated on private property.



Frontage Zones in Mixed-Use Districts

TRANSIT ACCESS & AMENITIES



Addressing needs of "the first and last mile" of public transportation is a major requirement for increasing transit ridership. The Town of Jackson intends to use its Complete Streets Policy to systematically improve and enhance the overall pedestrian environment to provide convenient access to START transit stops.

This policy includes meeting ADA requirements to provide a continuous pedestrian access route to a paved landing area at all bus stops within the Town of Jackson. In addition, comfort amenities for waiting passengers will be strongly encouraged, and often shall be required, based upon the neighborhood context, as follows.

All Character Districts

The following minimum design details shall apply in all locations:

Pedestrian Access Route (PAR) –

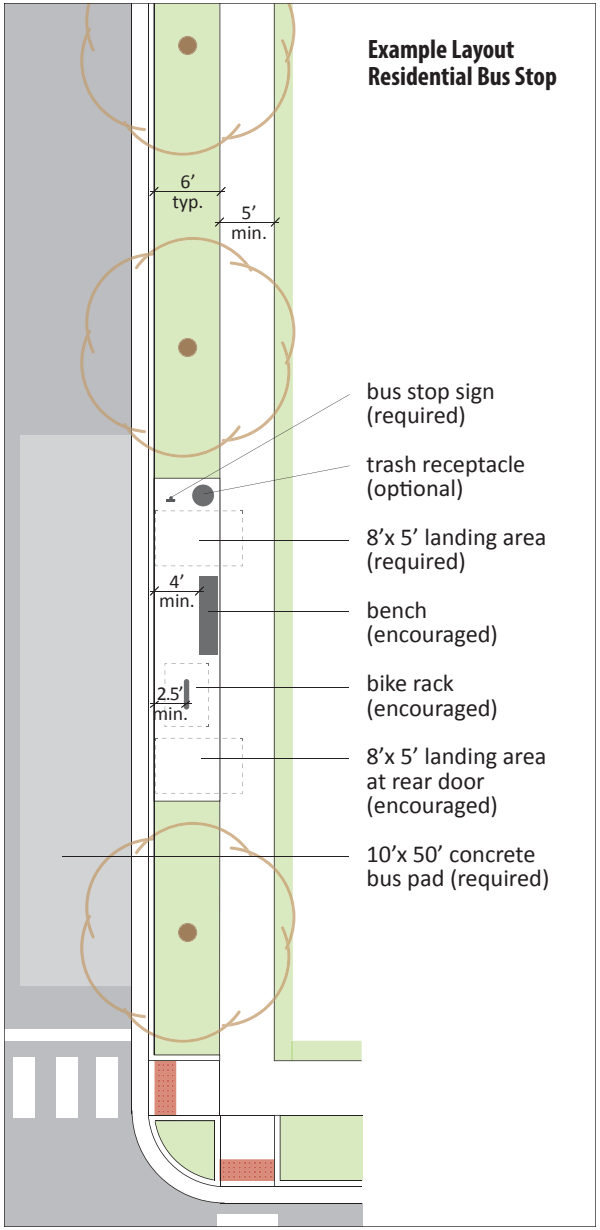
- In all locations, bus stops shall maintain a 4' min. pedestrian travelway width free of obstacles and protruding objects.
- This shall also include 4' min. of space in front of shelters, benches, and other waiting amenities.
- The PAR surface shall be stable, firm and slip resistant (paved) with a 2% max. cross slope.

Passenger Landing Areas –

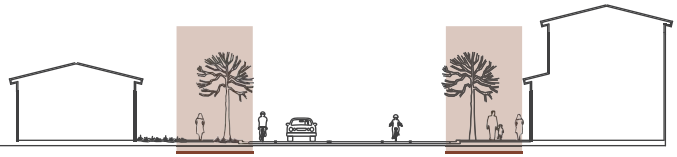
- Shall be provided at all bus stop locations to facilitate boarding and alighting of wheelchair passengers on transit vehicles using lifts or ramps.
- Shall provide a minimum clear length of 8' (measured from the curb or roadway edge) and minimum clear width of 5' (measured parallel to the roadway).
- Shall be paved, contiguous to the sidewalk, and have a maximum 2% cross slope.
- The 8' landing area length may extend into and overlap the unobstructed PAR.
- The landing area shall not be obstructed by any physical features such as bus stop sign poles, utility poles, shelters, or bus stop amenities.

Bus Stop Sign –

- Shall be installed in all locations to identify the bus stop.
- Poles shall be placed 2.5' from the curb.
- Should be located adjacent to the passenger landing area so that passengers know where to board and that all bus drivers know exactly where to stop.



TRANSIT ACCESS, cont.



Residential Context

Bus stops that serve residential areas on local streets with low ridership and less frequent transit service shall provide the following:

- A furniture grouping comprised of a bench, trash receptacle, and bike rack is recommended.
- Bus loading pads shall be provided within the furnishings zone, connecting sidewalk to curb.
- Transit amenities shall be provided on an area of additional paved surface. This may be either located within the furnishings zone, or on the back side of the sidewalk (which will be outside of the public R.O.W. and will require an easement).

Benches –

- Are encouraged at all stops.
- May not compromise pedestrian accessibility by partially blocking the sidewalk or extending onto the passenger loading pad.
- Shall be oriented either towards the street or the direction of the approaching bus.
- May vary in length and style. Size shall reflect levels of demand at the bus stop. Style shall reflect neighborhood character and may incorporate public art.
- Shall meet ADA specifications for bench accessibility:
  - Seat dimensions: 20"- 24" in depth and a min. of 42" in length
  - Back support: a min. of 18" high, positioned a max. of 2" above seat, and a min. of 42" in length
  - Seat height: 17"- 19" inches above ground
  - must leave 36 min. sidewalk clearance
- All benches shall be installed on a concrete pad. (Pads 9'x 3' in size shall be provided to accommodate a typical bench; additional waiting space will be required at stops with higher ridership.)
- Shall maintain at least 4' between the bench and the back-of-curb.
- Must be located outside of the PAR and the passenger landing area.

Trash Receptacles –

- Are optional and shall be located at stops with high ridership, a demonstrated need, and a commitment to trash collection.
- Must be located outside of the PAR and the passenger landing area.

Bike Racks –

- Are encouraged at all bus stops.
- Style of bicycle rack shall be an inverted-U.
- At least one inverted-U shall be provided and shall be installed in the center of a 4'x 6' concrete pad to provide space to secure two bicycles.
- Must be located outside of the PAR and the passenger landing area.
- See page 51 for additional bicycle parking guidelines.

Shelters –

- Shelters are encouraged, but not required within Village (Vil) and Residential (RS) neighborhood forms.
- Where provided, shelters shall be located and designed according to the guidelines following.

Mixed-Use Context

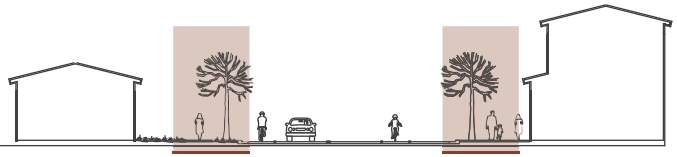
Bus stops that serve commercial, resort, and downtown areas that generate high ridership and receive frequent transit service shall provide the following additional amenities:

- Transit shelters are encouraged within all areas of the Village Center (VC) neighborhood form.
- Transit shelters shall be required within the neighborhood forms of Town (TN) and Resort/ Commercial (R/C).
- Within the central boardwalk district of the Town (Tn) form, covered boardwalks shall provide shelter in place of free-standing transit structures.
- All locations shall provide a furniture grouping comprised of a bench, trash receptacle, and at least one inverted-U bicycle parking rack.
- Passenger landing areas shall be provided within the furnishings zone, connecting sidewalk to curb.
- Transit shelters shall be provided within the frontage zone, or on an area of additional paved surface located on the back side of the sidewalk (which may be outside of the public R.O.W. and require an easement).
- Transit waiting amenities shall be located either within the furnishings zone, or on the back side of the sidewalk.
- Where stops serve multiple bus routes and passenger boarding volumes are high, rear landing areas, additional waiting space, and larger seating areas should be included.

Rear Landing Area –

- A second passenger landing area shall be encouraged to provide access to/from the rear door of the bus.
- Rear landing areas shall be 8' long x 5' wide.
- Must be accompanied by a front-door landing area in all locations.

TRANSIT ACCESS, cont.

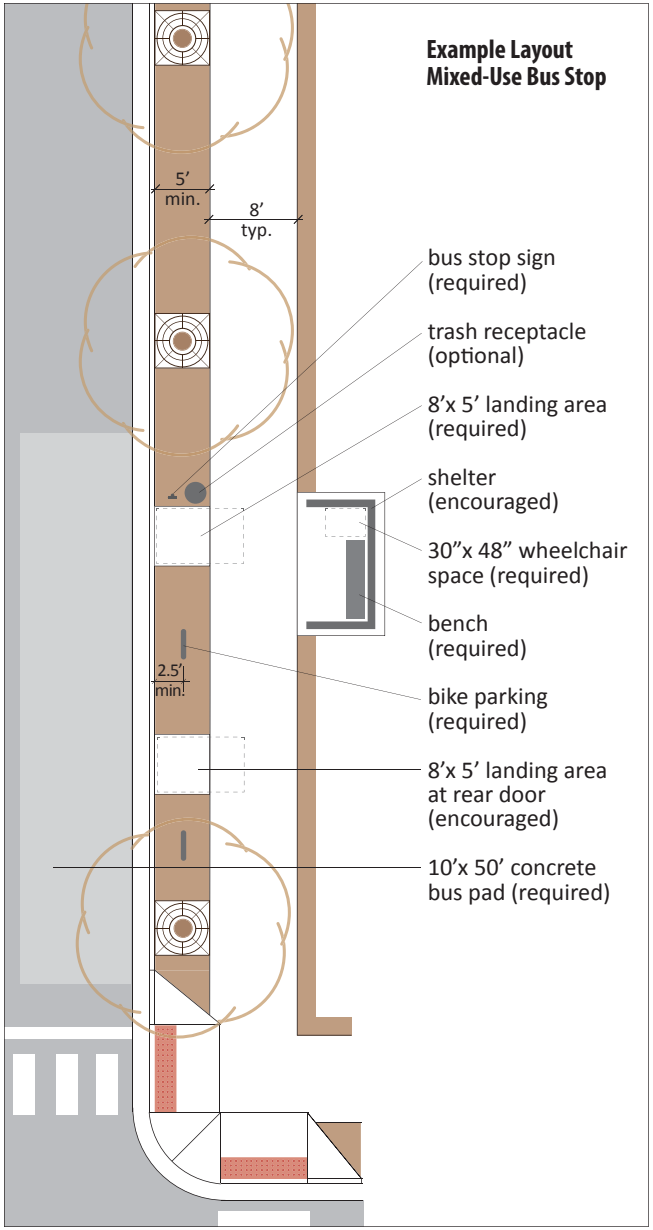


Benches, Trash Receptacles, and Bike Racks –

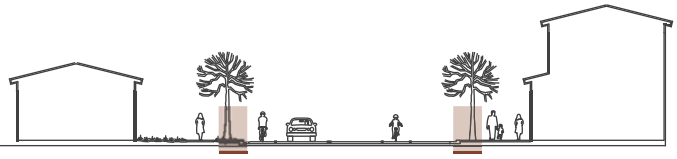
- Shall be located and designed according to the guidelines specified previously.

Shelters –

- Location may not compromise pedestrian accessibility by partially blocking the sidewalk or extending onto the passenger landing area.
- Design shall be pedestrian accessible and must include the following:
  - an opening of a least 36" for wheelchair access
  - a minimum 30"x 48" of clear floor space located entirely within the shelter
  - an 8'x 5' concrete passenger landing area connecting to the curb
  - an accessible route to the landing area
  - 3' min. clearance must be maintained around the shelter
  - 4' min. clearance must be maintained between the shelter and the back-of-curb
- Shelters may vary in size and style.
  - Size shall reflect levels of ridership demand at the bus stop. (A typical transit shelter dimension is 6'x 11' installed on an 8'x 13' pad.)
  - Style shall reflect the neighborhood character and is encouraged to incorporate public art.
- Shall be installed on concrete surfaces.
- Shall not be located within 15 feet of any fire hydrant or handicapped parking space.
- Transparent sides are encouraged for greater visibility.
- Seating shall be incorporated within the shelter whenever possible, providing for minimum ADA clear space to access the PAR.



CURB RAMPS



Curb ramps and blended transitions provide access between the sidewalk and street for people using wheelchairs or walkers, pushing baby strollers, towing luggage, etc.

All ADA curb ramps shall be constructed according to the latest PROWAG design guidance, as depicted below and summarized following.

Notable features of ADA curb ramp design include two distinct facility types per PROWAG. These are based upon slope – curb ramps are cut through the street curb at a 1:12 (8.3%) max. slope; while blended transitions provide a more gentle grade connection at a 1:20 (5%) max. slope. Curb ramps may be perpendicular, parallel, or a combination of both. Ramp sides shall be flared when adjacent to hardscape; return curbs shall be used when adjacent to grass or landscape areas.

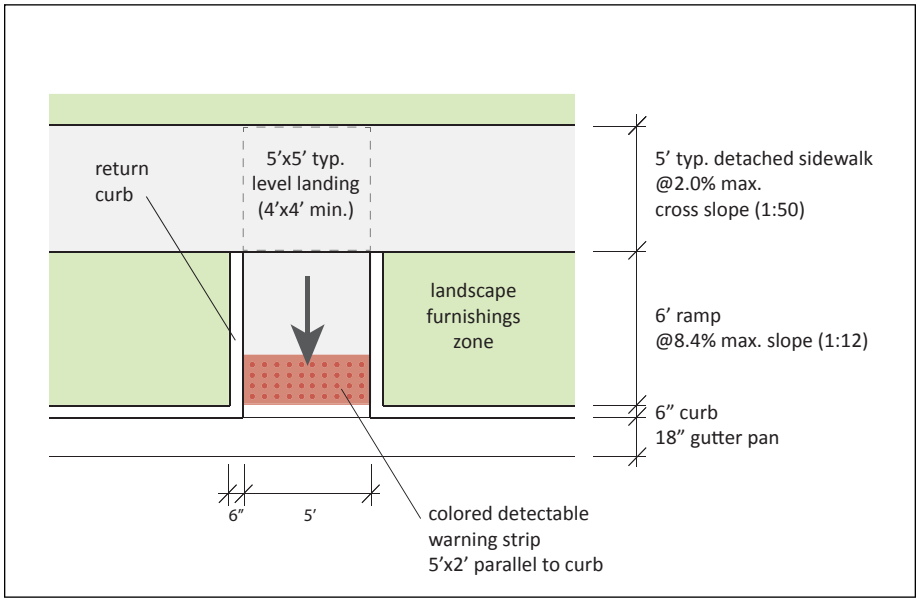
Perpendicular Curb Ramps – A pair of ramps with running slopes that are generally perpendicular to the centerline of the roadways, cutting through the curb and meeting the gutter break at right angles.

- A turning space in the form of a 4'x 4' min. level landing shall be provided at the top of perpendicular ramps. This may be a shared landing space for both ramps.
- Running slope shall be 1:20 min. (5%) and 1:12 max. (8.3%), with ramp lengths limited to 15'.
- In most locations Town of Jackson curbs are 6" in height. A furnishings zone 6' in width is encouraged to accommodate a perpendicular curb ramp 6' in length at a 1:12 (8.3%) ADA ramp slope.

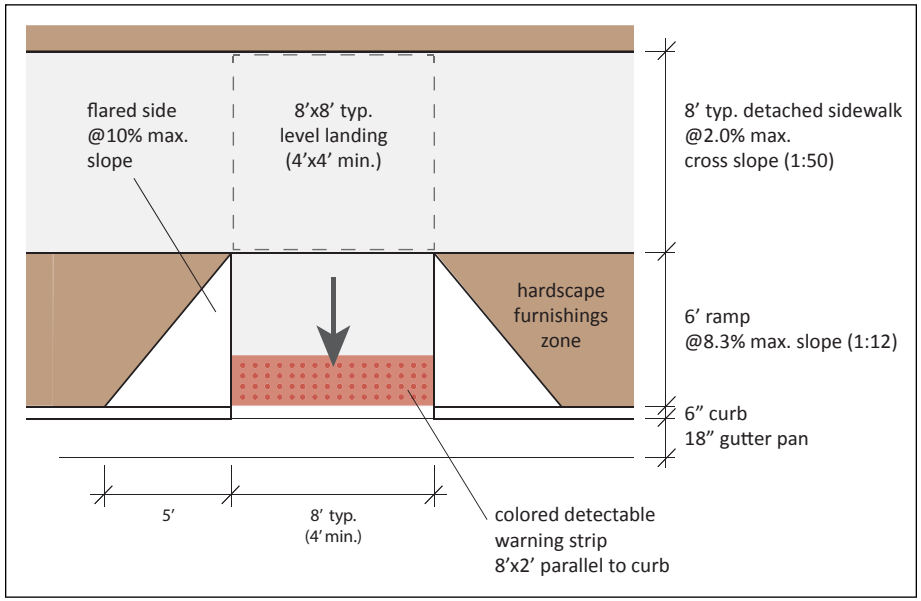
Parallel Curb Ramps – A condition where the sidewalk has two ramps leading to a center level landing at the bottom, where a turn can be then made to enter the crosswalk.

- A 4'x 4' min. level landing shall be provided for turning space at the bottom of the two parallel ramps.
- Ramp running slopes shall be in line with the direction of sidewalk travel, at 1:20 min. (5%) and 1:12 max. (8.3%). Ramp lengths shall be limited to 15'.
- A curb at the rear of the landing may be provided to retain soil and provide an edge for pedestrians with visual impairments.

Diagonal Curb Ramp – A single pedestrian curb ramp, typically 4' wide, that is located at the apex of a street



Perpendicular Curb Ramps in Residential Districts



Perpendicular Curb Ramps in Mixed-Use Districts

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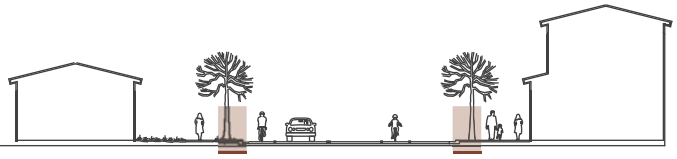


corner on a 45º alignment. Diagonal curb ramps shall be avoided whenever possible since they direct users into the center of the intersection, rather than the crosswalk.

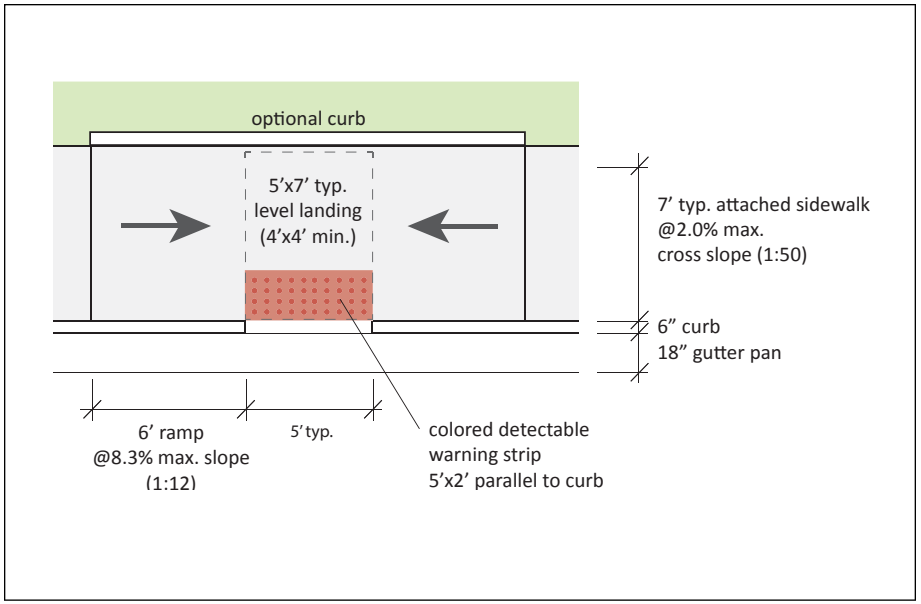
- Diagonal curb ramps shall not be used within Town of Jackson.

Blended Transitions (or Depressed Corners) – A transition to the street that has a grade less than 1:20 (5%).

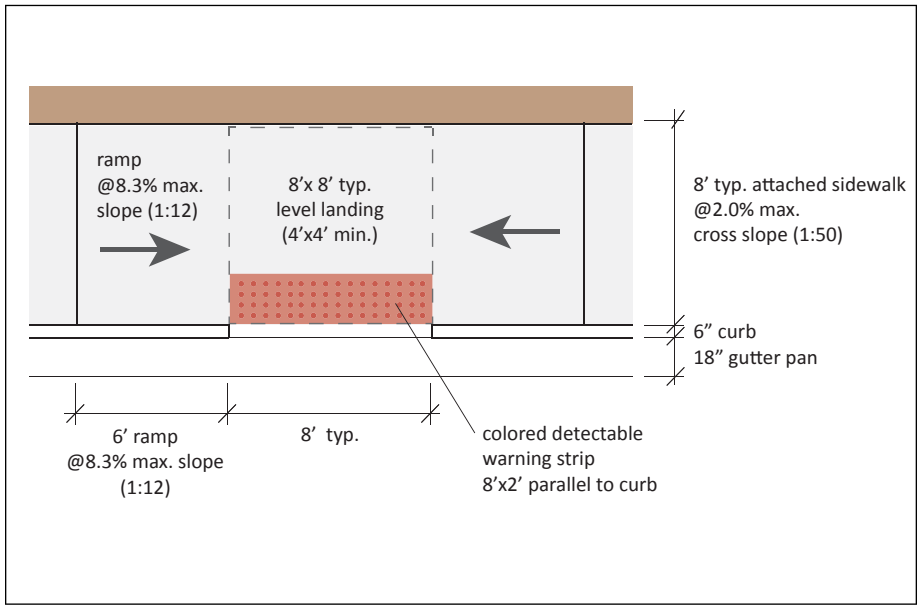
- Blended transitions differ from curb ramps in that they do not require a landing at the top.
- Unlike diagonal ramps, depressed corners allow users to be positioned within crosswalks.
- Keeping ramp and running slopes below 5% simplifies design, makes the final product more user friendly, and is appropriate where the R.O.W. at the corner is very limited, including:
  - Where there is not enough space to construct two individual ramps (<5.5' separation between ramps).
  - In locations when a dedicated landing cannot be provided.
  - Where there is a barrier, such as a building, located immediately at back of the sidewalk.
  - Where accessible pedestrian signals are present to aid visually impaired users in continuing in the desired direction of travel.
- Benefits of blended transitions include allowing pedestrians to continue their straight path of travel when crossing the street, and providing ease of winter maintenance.
- Disadvantages include limited directionality for visually impaired users and potential for sidewalk encroachment by turning vehicles.
- Storm drainage and ponding water must be addressed in the design of depressed corners.
- Bollards or planter boxes may be used to channelize pedestrians to crosswalks at depressed corners.

Flared Sides vs. Return Curbs – The sides of pedestrian ramps shall include either a flare or a return curb depending on neighborhood context, as follows:

- Flared sides shall be installed on ramps when the surface adjacent to the sides of the pedestrian ramp is a paved area where pedestrians are likely to walk (i.e. – within a mixed-use context).
- The maximum slope for ramp flares shall be 1:10 (10%) with corresponding 1:10 transitions on the curb cut openings.
- Return curbs shall take the place of curb ramp flares when the sides of the ramp are adjacent to turf or other landscaped surface where

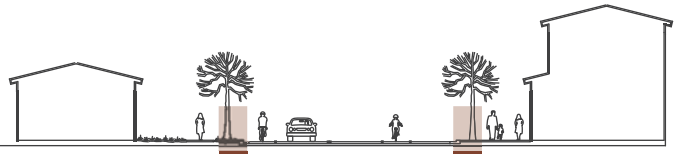


Parallel Curb Ramps in Residential Districts



Parallel Curb Ramps in Mixed-Use Districts

CURB RAMPS, cont.



pedestrians are unlikely to walk. (i.e. – within a residential context)

Level Landings – A flat, 4'x 4' min. wheelchair turning space dimension, which is permitted to overlap other turning spaces and clear spaces.

- 2% max. cross slope in all directions shall be provided wherever the pedestrian travelway changes direction so that wheelchair users maintain stability while turning.
- 4'x 4' min. level landings shall be provided at the top of perpendicular ramps and at the bottom of parallel ramps.

Cross Slope – The slant or slope of a sidewalk or landing measured perpendicular to the direction of travel.

- Steep cross slopes shall not be allowed as they increase potential for wheeled users to tip sideways and greatly increase the physical effort required by manual wheelchair users to maintain a direct route.
- Cross slopes on sidewalks and level landings shall be limited to a maximum of 2% in all locations.

Gutter Counter Slope – Excessive slope differences where a gutter and a curb ramp meet can cause wheelchairs to flip over backward or tip forward into the street.

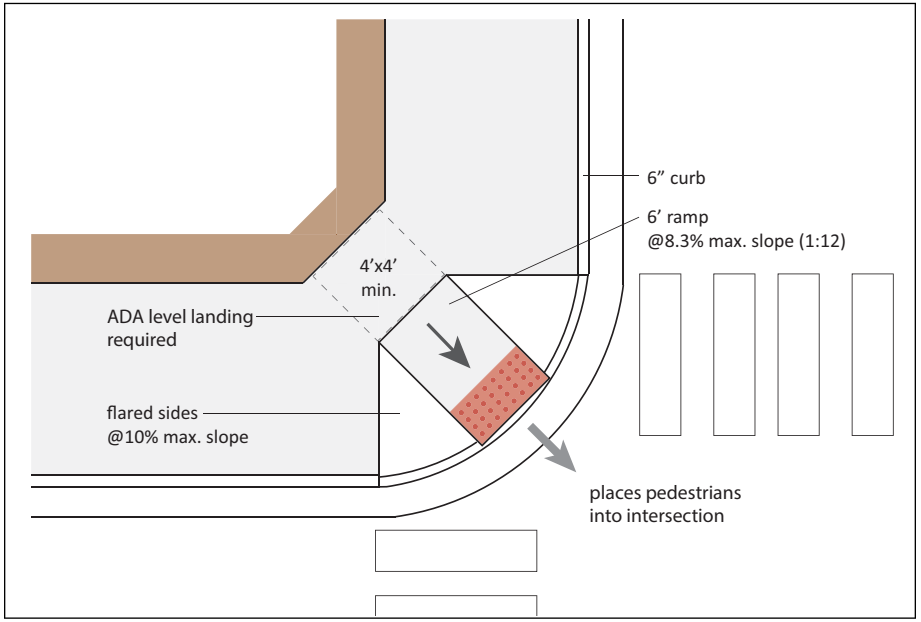
- The counter slope of the street gutter to a curb ramp shall not exceed 5%.

Curb Cut Width –

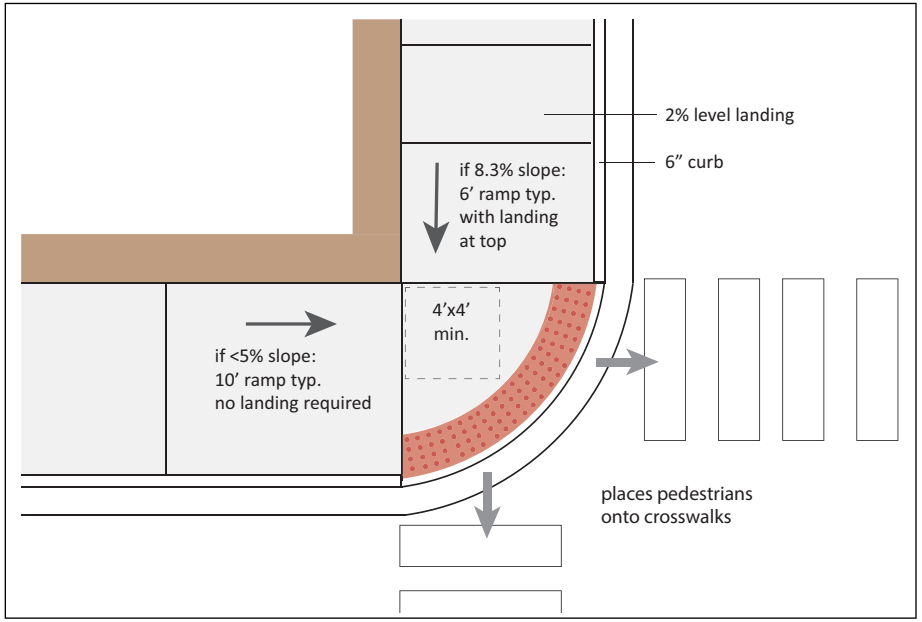
- Whenever possible, the pedestrian ramp width, exclusive of flares, shall match the sidewalk width to facilitate convenient travel.
- In all locations, 4' shall be the minimum ramp and curb cut width allowed by ADA.

Detectable Warning Surfaces (or Truncated Domes) – A system of textured ground surface indicators to assist pedestrians who are blind or visually impaired.

- Surface features shall be built in or applied to the walking surface to indicate an upcoming change from pedestrian to vehicular travelway.
- Truncated domes shall be aligned in a square or radial grid pattern, and must contrast visually with the adjacent gutter, street, or sidewalk surface (either light-on-dark or dark-on-light).
- At curb ramps, the detectable warning surfaces shall extend for a continuous 24" depth across the full width of the crossing and be placed perpendicular to the ramp running slope.
- At blended transitions, detectable warnings shall extend for a 24" depth across the full width of the depressed corner, beginning within 3" of back of curb.



Diagonal Curb Ramps – NOT RECOMMENDED



Blended Transitions – preferred design

CROSSWALKS

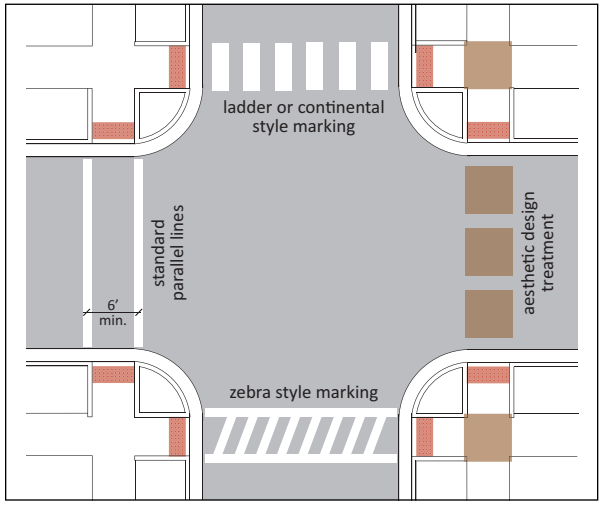
At intersections, turning vehicles and the speeds at which they travel, pose the greatest threat to pedestrians. Street intersections within the Town of Jackson shall be designed to reduce travel speeds and clearly define potential conflict points for all users. Use of narrow travel lanes, tight turning radii, curb extensions, and marked crosswalks are Complete Streets elements designed to assist pedestrians in safely crossing streets.

Crosswalk Markings – painted pedestrian crossings that specify proper locations for pedestrians to cross the street.

- Can encourage pedestrians to walk at preferred crossing locations.
- Help to alert drivers of a designated pedestrian crossing point.
- At non-intersection locations, crosswalk markings legally establish the crosswalk.
- Crosswalks are appropriate in the following locations:
  - At signalized intersections
  - At key crossings along designated school walking routes
  - At certain types of uncontrolled crossings to indicate a preferred pedestrian crossing location
  - To alert drivers to an often-used pedestrian crossing
  - In all locations where the Jackson Community Pathways system crosses streets at-grade.
- Are not appropriate in the following locations unless located at a signal:
  - On roadways where the speed limit >40 mph
  - On streets with four or more lanes of travel carrying >12,000 ADT without a raised median or pedestrian refuge island
  - On streets with four or more lanes of travel carrying >15,000 ADT with a raised median or pedestrian refuge island.

MUTCD requirements – The Manual on Uniform Traffic Control Devices shall be followed when marking crosswalks:

- Markings shall be placed so that approaching curb ramps are located within the crosswalk.
- Shall extend across the full width of street pavement or to the edge of the intersecting crosswalk to discourage diagonal walking between crosswalks.
- Shall be marked perpendicular to the travel lanes or as close to a 90º crossing as possible to minimize pedestrian crossing distance.
- Minimum crosswalk width shall be 6' or the same width as the approaching sidewalk, pathway and/or pedestrian curb ramp.
- Shall be marked in paint or a longer-lasting, high-visibility plastic or epoxy material embedded with reflective glass beads.
- Per the MUTCD, designs shall be either:
  - traditional parallel lines
  - a high-visibility crosswalk pattern, such as a ladder, continental design, or diagonal marking.



- When traditional parallel lines are used, they shall consist of solid white lines that mark the crosswalk. Lines shall be 6"- 24" in width.
- Ladder crossings are encouraged in locations where added visibility is desired.
- When ladder crossings are used, lines shall be 12"- 24" wide and separated by gaps of 12"- 60". The design of the lines and gaps should avoid vehicular wheel paths if possible. The gap between lines shall not exceed 2.5 times the width of the longitudinal lines.

Aesthetic treatments – Colored and textured pavement treatments may be used to delineate crosswalks within special pedestrian districts. These include the following locations:

- Within the neighborhood forms of Town (Tn) and Village Center (VC).
- Along mixed-use corridors designated to become enhanced pedestrian corridors per the Comprehensive Plan. These include East Broadway, South Willow Street, Snow King Avenue, and South Cache Street.

Aesthetic crosswalk treatments may be implemented as part of Public Art or Public Works projects and shall follow design and safety guidance outlined in the MUTCD. Additional considerations include:

- The pedestrian travelway portion of the crosswalk shall be a firm, smooth, and stable surface.
- Edges of the crosswalk may be differentiated with textured pavement treatments. Textured treatment may also be used within the overall intersection, but shall be restricted from the crosswalk travelway.
- Paving materials and colors shall be selected for low maintenance and high visibility/contrast against the street pavement.
- Textured pavements shall consider durability in winter snow plowing, maintenance, and replacement costs.

Toolkit Part 3 – Designing for Bicyclists

The Town of Jackson is expanding its pathway planning to focus on creating a more comprehensive bicycle system. Key to accomplishing this task is recognizing that people use trails and bicycle facilities for different purposes, and have varying comfort levels and expectations for their riding experiences. In general, this plan uses the nationally recognized "design bicyclist" concept in which the planning and design of facilities considers the needs of three distinct classifications of users:

Type A: Advanced Bicyclists

These are experienced riders who can operate under most traffic conditions. They include road cyclists comfortable riding in traffic, who will ride with or without bicycle facilities present, often ride long distances, and prefer direct, safe routes for utilitarian trips and/or long-distance loops for recreational outings. Type A bicyclists comprise the majority of the current users of arterial streets and are best served by the following:

- Direct access to destinations usually via the existing street and highway system.
- The opportunity to operate at maximum speed with minimum delays.
- Sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motorist to change position when passing.

Type B: Basic Bicyclists

These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. They are intimidated by motor vehicles, tend to make short trips close to home, and prefer designated bicycle facilities. Some will develop greater skills and progress to the advanced level, but there will always be many millions of basic bicyclists. They prefer:

- Comfortable access to destinations, preferably by a direct route, using either streets with slow speeds and low traffic volumes and/or designated bicycle facilities.
- Well-defined separation from motor vehicles by providing space for bicycle lanes or developing separate bike paths.

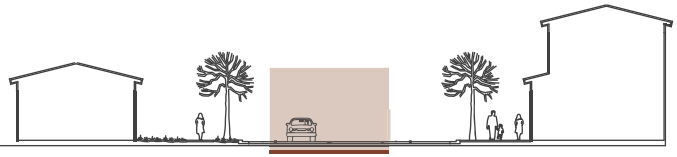
Type C: Child Bicyclists

These are pre-teen riders whose roadway use is initially monitored by parents. Eventually they are accorded independent access to the bicycle system and will begin to ride farther from home. They and their parents prefer the following:

- Access to destinations surrounding residential areas (schools, recreation facilities, shopping, etc.).
- Residential streets with low motor vehicle speed limits and volumes.
- Well-defined separation from motor vehicles on bicycle lanes or paths.

Most bikeway and pathway planning initiatives combine Type B/C riders into a single user group that prefers access to off-road paths, a network of lightly traveled neighborhood streets, and bicycle lanes on streets with moderate traffic volumes and speeds. In contrast, Type A cyclists are generally best served by designing all streets and roadways to accommodate shared use by bicycles and motor vehicles. Both groups ride for recreational and utilitarian pursuits, and benefit greatly from connected networks. Thus, the definition of pathways within the Town of Jackson is expanding to included bicycle facilities as part of Complete Streets to provide transportation alternatives and enhance pathway system connectivity.

SHARED STREETS AS BIKE ROUTES



The majority of Jackson's shared streets are low-volume, low-speed local streets that require no special accomodation for bicyclists and motorists to share travel lanes. However, all streets, roads, and highways, except those where bicyclists are legally prohibited, should be designed, constructed, and maintained under the assumption that they will be used by bicyclists. This means that all streets shall be constructed and maintained to be free from hazards to bicycle travel, including utility covers and bicycle-safe drainage grates that are flush with the surface of the pavement, and the routine removal of snow, sand, and debris.

If providing a desired connection between other designated bikeway facilities, shared streets may be signed as bicycle routes.

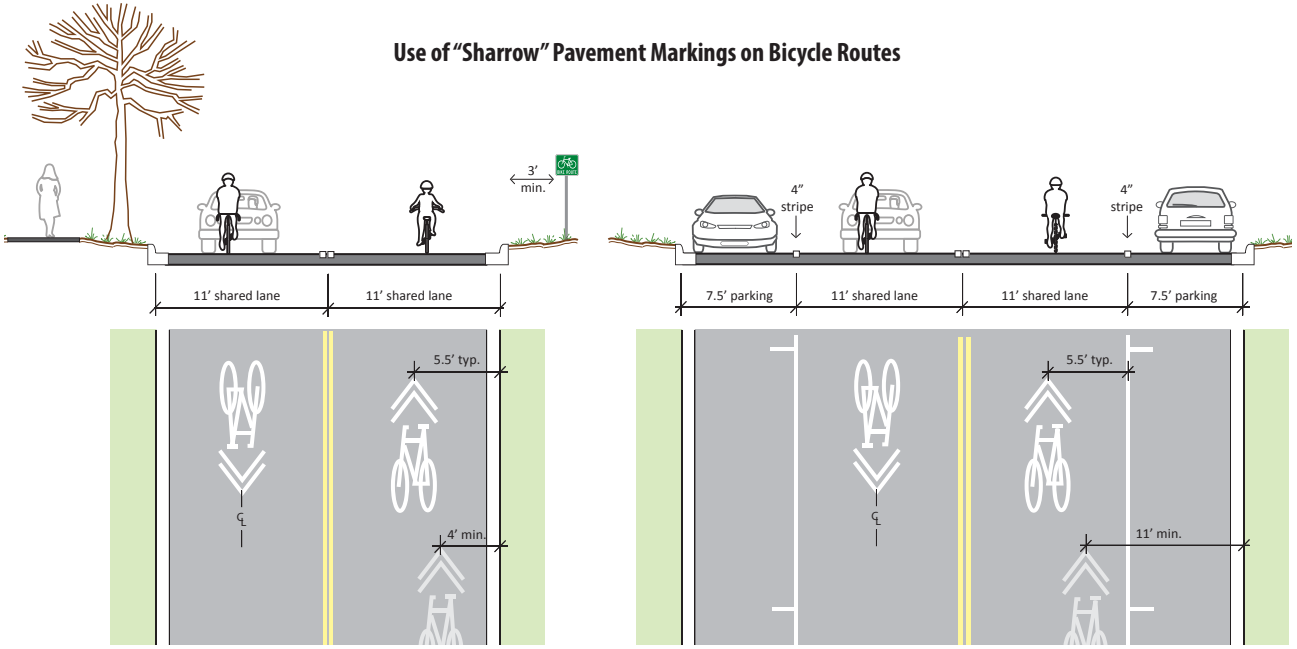
Green MUTCD "Bike Route" signs are typically used, often in conjunction with directional arrows and supplemental destination identification. The *2012 Town of Jackson Bicycle Improvement Plan* created a customized logo for use on bike route signs as part of the Jackson Hole Community Pathways System. Use of the bicycle route designation is appropriate on local streets with light traffic and 25mph speed limits, as dicussed under travelway considerations on page 9.

It is important to note, however, that signing shared streets as bicycle routes does not create designated space for bicyclist use. Therefore, striping bicycle lanes is the preferred treatment on busier streets to create cross-town bicycling corridors that will benefit all types of cyclists.

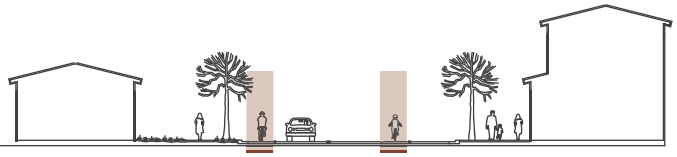
In addition to signing, shared roadway pavement markings, often called "sharrows," are currently being used to delineate bike routes within the Town of Jackson, create awareness by motorists, and provide directional assistance at bike route intersections. Correct placement of stencils can also aid cyclists in proper lane positioning when riding in a shared lane.

- The preferred location is in the center of the shared travel lane to prevent motorists from trying to pass cyclists where there is inadequate space.
- Markings shall be located no closer than 4' min. from curb face, or 11' min. with on-street parking.
- Size of the sharrow pavement stencil shall be 9.25' long by 3.25' wide.
- Sharrows should be placed immediately after an intersection and spaced at intervals not greater than 250' thereafter.

Use of "Sharrow" Pavement Markings on Bicycle Routes



BICYCLE LANES



Bicycle lanes are designated street space for exclusive use by bicyclists. They differ from shared streets in that a separate lane is striped and signed on each side of the street, allowing motorists to easily pass cyclists. Bike lanes require wider street space to implement, and are most needed on streets where traffic volumes exceed 6,000 vehicles per day.

The *2012 Town of Jackson Bicycle Improvement Plan* identified several streets where striped, on-street bicycle lanes are appropriate based on the combination of street width and traffic volumes.

Many of these striping projects have been recently ++implemented on Jackson's existing 33' and 39' street cross-sections, as depicted below.

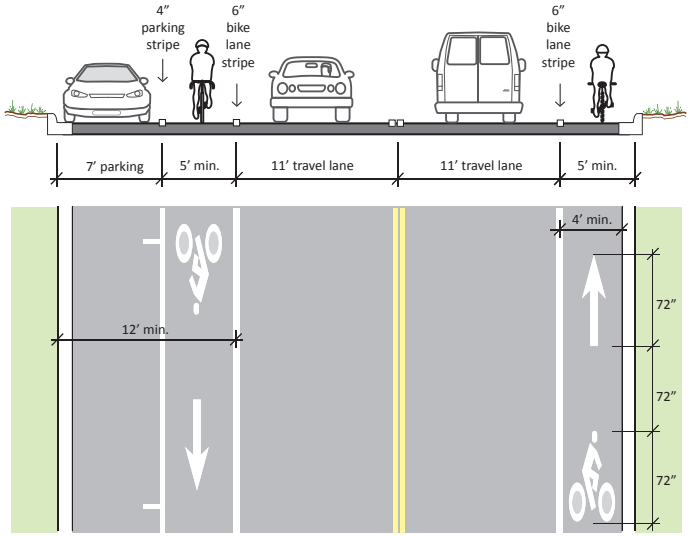
Key design considerations to note are:

- Minimum bike lane widths shall be 4' measured from gutter pan seam, or 5' measured from curb face.
- On streets with high bicycle use, on-street parking, or heavy auto traffic, a 6' min. bike lane width is encouraged.
- The combined width of parking and bike lanes shall be no less than 12'.

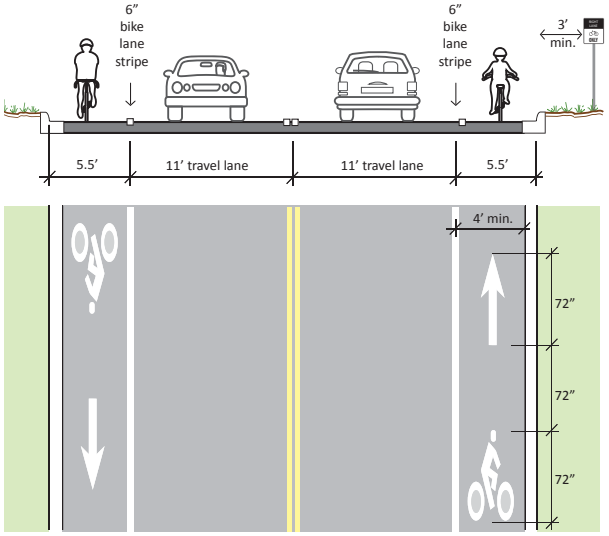
Bike lanes require special intersection design consideration. Detailed guidance for numerous configurations are provided in the *AASHTO* and *MUTCD* manuals. In summary:

- Bike lanes shall be positioned within the intersection to minimize turning conflicts with vehicles.
- Striping shall be dashed or colored pavements used across areas where motorists and cyclists merge and change roadway position.

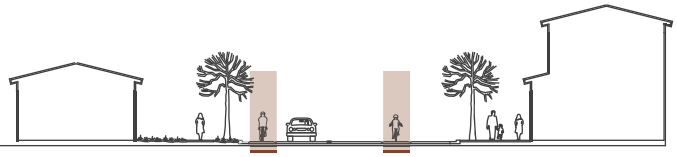
Existing 39' Street
Restriped with Bicycle Lanes
On-Street Parking Limited to One Side Only



Existing 33' Street
Restriped with Bicycle Lanes
No On-Street Parking



COLORED BIKE FACILITIES



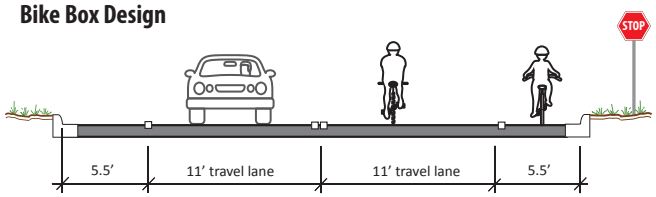
The optional use of green colored pavement in marked bicycle lanes and in extensions of bike lanes and cycle tracks through intersections and other traffic conflict areas has been approved by the National Association of City Transportation Officials (NACTO) and the Federal Highway Administration (FHWA). Such areas of colored pavement increase the visibility of the facility, identify potential areas of conflict, and reinforce priority use by bicyclists.

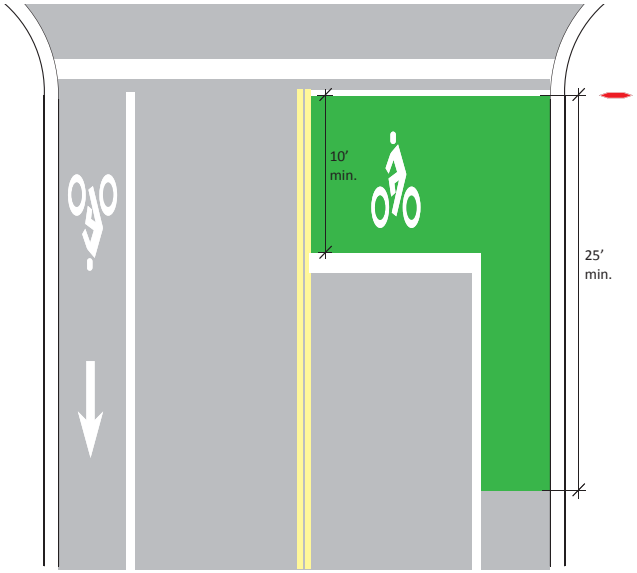
The Town of Jackson is currently using green colored pavements as spot improvements to assist with wayfinding through intersections where bike lanes change direction, across driveways that intersect with cycle tracks, and within bicycle lanes at approaches to stop signs.

The latter approach works well to increase awareness at stop-controlled intersections – if cyclists are proceeding straight. However the design should be modified where bicyclists frequently make left turn movements (i.e. – transitioning from the Snow King Avenue bicycle lanes onto the Flat Creek Drive bike route). In such locations, the bike lane striping should become dashed prior to the intersection to indicate that turning cyclists should merge to the left. An alternative "bike box" treatment may also be used.

Bike boxes are designated areas at the head of a traffic lane that provide bicyclists with a safe and visible way to get ahead of queuing traffic, usually at signalized intersections. The same principle can be applied to a modified green pavement area at select stop-controlled locations with left-turning bicycle movements. This will help to educate bicycle users to move into the proper lane position when turning to minimize conflicts with through and/or right-turning vehicles.

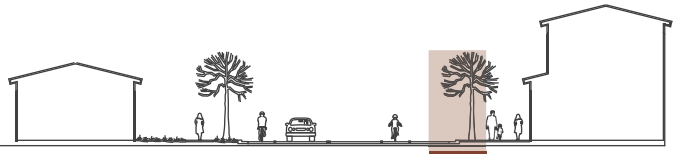
Bike Box Design





Left Turn Movements from Improper Lane Position

CYCLE TRACKS



A cycle track is an exclusive bicycle facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane by being physically separated from motor vehicle traffic and distinct from the sidewalk.

Cycle tracks may be one-way or two-way, and may be at street level, at sidewalk level, or at an intermediate level. Cycle tracks are a common infrastructure element in European communities. Several cities have recently been pioneering their use in the USA, with NACTO taking the lead in developing national cycle track design guidance and standards.

Often called protected bike lanes when at street level, a wide variety of methods can be used to physically separate cycle tracks from passing traffic – raised medians, on-street parking, bollards, and/or painted buffer striping. In contrast, raised cycle tracks are at sidewalk level and separated from motor vehicle traffic by a raised curb. They are often paired with a furnishing zone between the cycle track and motor vehicle travel lane and/or pedestrian area. At intersections, raised cycle tracks can be dropped and merged onto the street, or maintained at sidewalk level, where bicyclists cross with pedestrians.

Jackson Hole Community Pathways is planning to implement raised cycle tracks along West Broadway and the east side of WY22. The one-way facilities are proposed to be located at top of back-of-curb and separated from the adjacent sidewalk by a 3'-4' buffer, planted with street trees wherever possible. The design includes use of green pavement to call attention to street and driveway crossings where the raised cycle track ramp will ramp down to street level.

Since cycle tracks represent innovative ways to retrofit urban conditions to provide greater levels of bicycle accommodation, designs are complicated and numerous details need to be addressed. The *NACTO Urban Bikeway Design Guide* shall be referenced for site-specific corridor guidance, but key design considerations include the following:

- ***Facility width*** – Provide 5' min. width for one-way cycle tracks at street level; 6.5' min. width for raised cycle tracks; 12' desired for a two-way cycle track, with 8' min. in constrained locations.
- ***Transitions between facility types*** – Consider use of NACTO intersection crossing markings to delinate path of travel between facilities (i.e. the two-way multi-use path along WY22 to the one-way cycle track on West Broadway).
- ***Pedestrian needs*** – Ensure that the pedestrian travelway is clearly identified across cycle tracks to provide ADA access to intersecting crosswalks (i.e. Scott Lane crossing of Broadway).
- ***Intersection design*** – Design cycle track approaches to all intersections to reduce turning conflicts between bicyclists and motorists. This may be accomplished in a variety of ways, but shall include clearly delineating merging areas and maintaining adequate sight triangles.

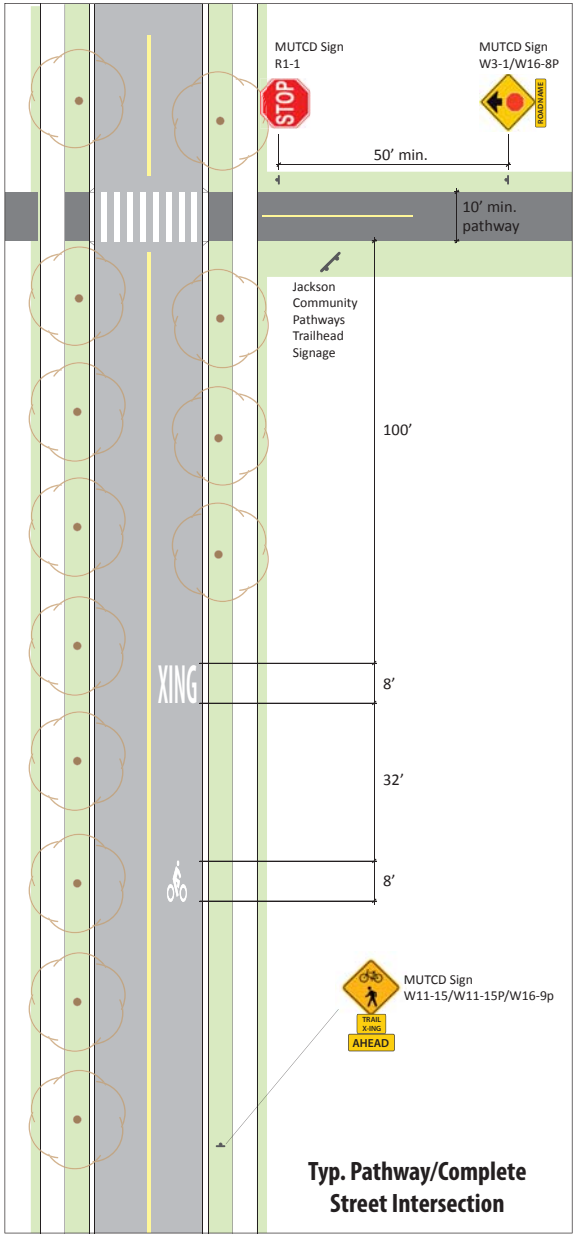
Proposed West Broadway Raised Cycle Track – *illustrations by Hershberger Design, February 2013*

SHARED-USE PATHS

The Jackson Hole Community Pathways System is comprised of over 25 miles of paved shared-use paths. These pathways are being linked together by improved sidewalks and on-street bicycle facilities. The complete system will be 75-80 miles long, and will include segments of Complete Streets as part of public capital improvement projects and new private development. *-confirm with Brian*

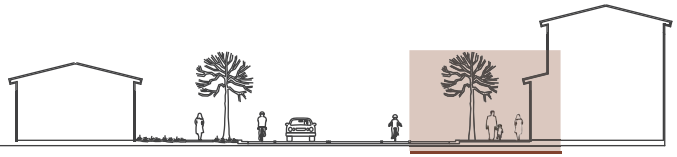
Critical to the safety of the shared-use pathway network will be design treatments for at-grade intersections with streets and roadways, including:

- All regulatory signs (those designed to enforce traffic laws) shall comply with AASHTO and MUTCD for uniformity in style and location per national standards, as depicted at right. Jackson Hole Bike Route signs may be used to provide supplemental wayfinding assistance.
- In most locations, trail crossings will be unsignalized and users will be required to stop and yield to vehicle traffic.
- Curb ramps at crossings shall extend the full width of the shared-use path.
- High-visibility ladder style crosswalks, also extending the full width of the path, shall be used to mark all trail crossings.
- Sidewalks shall extend across the approaching path to indicate priority for pedestrian travel.
- Sight triangles at intersections shall provide an unobstructed view of the entire intersection using roadway design speed and approach speed for an adult bicyclist. The sight triangle must be kept free from vegetation, fencing, and other obstructions.
- Motor vehicle use of pathways is typically not a problem, and routine use of bollards and other similar barriers to restrict vehicular entrance is not recommended. Bollards create obstacles and safety hazards to pathway users and slow access for emergency responders. If used, bollards shall be set back a min. of 30' from the street and marked with a retroreflectorized material to minimize potential collisions with the post obstruction.



Typ. Pathway/Complete Street Intersection

BICYCLE PARKING



Secure and convenient bicycle parking must be provided throughout the Town of Jackson to allow and encourage people to ride bicycles for daily trips.

Bicycle parking shall be integrated within the updated Land Development Regulations (LDRs) as a requirement of private development site plans. Applicants shall provide short-term bike parking for commercial and retail uses, and long-term bicycle parking for employees and residential units. In addition, short-term parking racks shall be provided by the Town of Jackson within public rights-of-way.

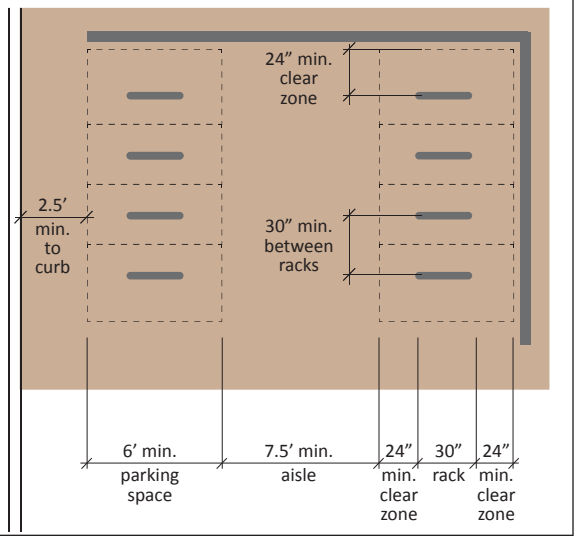
Short-Term Parking – for customers, visitors, or guests who are parking for a few hours or less

- Racks shall accommodate conventional, upright, single-rider bicycles that will be desired to be secured with a solid, U-shaped lock or cable lock.
- All rack elements shall:
  - Support the bicycle upright by its frame in two places
  - Enable the frame and one or both wheels to be secured
- Inverted-U racks or similar styles shall be used within the public R.O.W. at transit stops and within furnishing zones.
- Wheel-bending racks that provide no support for the bicycle frame (i.e. - comb, toast, schoolyard styles, etc.) shall not be used.
- Combination racks (i.e. - wave, ribbon, etc.) are not recommended as they are generally less effective than multiple single-U racks.
- The best location for a rack area is immediately adjacent to the entrance it serves. The rack area shall be as close or closer to the front entrance than the nearest car parking space, shall be visible from the front entrance, and shall not inhibit pedestrian flow. At least two bicycle parking spaces shall be provided.

Placement within the Sidewalk Furnishings Zone –

- Racks shall be positioned so that parked bicycles do not encroach upon the pedestrian travelway.
- In furnishings zones that are 5'-6' wide – inverted-U racks shall be installed parallel to the curb and sidewalk, located 2.5' min. from back-of-curb. 6' shall be provided between individual U's to facilitate loading and unloading of bicycles. (See pages 31 and 37.)
- On curb extensions and in areas with an unobstructed width of at least 8' – inverted-U racks may be positioned perpendicular to the sidewalk.
- Layout of individual racks shall be spaced 30" min. apart, with 7.5' provided between rows. (See below)
- All installations shall provide a 24" clear zone to walls and other objects (including applications within a corral structure).
- All bike racks shall be installed on paved surfaces.

Inverted-U Bicycle Rack Parking Area Dimensions



Bike Corrals – designate a portion of the on-street parking lane for bicycle parking (See above)

- Are a temporary installment that is removed during winter snow season.
- Consist of a row of inverted-U racks installed with flexible delineator posts and parking wheelstops to define the bike corral space.
- Businesses may request installation of a bike corral from the Pathways Coordinator.
- Construction of a concrete pad with embedded anchors shall be considered at locations requesting repeat installations to provide a more permanent, low maintenance solution.

Long-Term Parking – for employees/residents parking for more than a few hours – i.e. all-day or overnight

- Racks or lockers shall be provided within a secure, well-lit, covered area with that will protect bikes from rain, snow and other elements and deter bike theft.
- The area does not have to be immediately adjacent to the access door for the business or residence, but shall be located in a secure or monitored location, or in a locked enclosure.
- At least one long-term parking space shall be provided for each residential unit and commercial unit.
- Wall racks or bike lockers are appropriate.