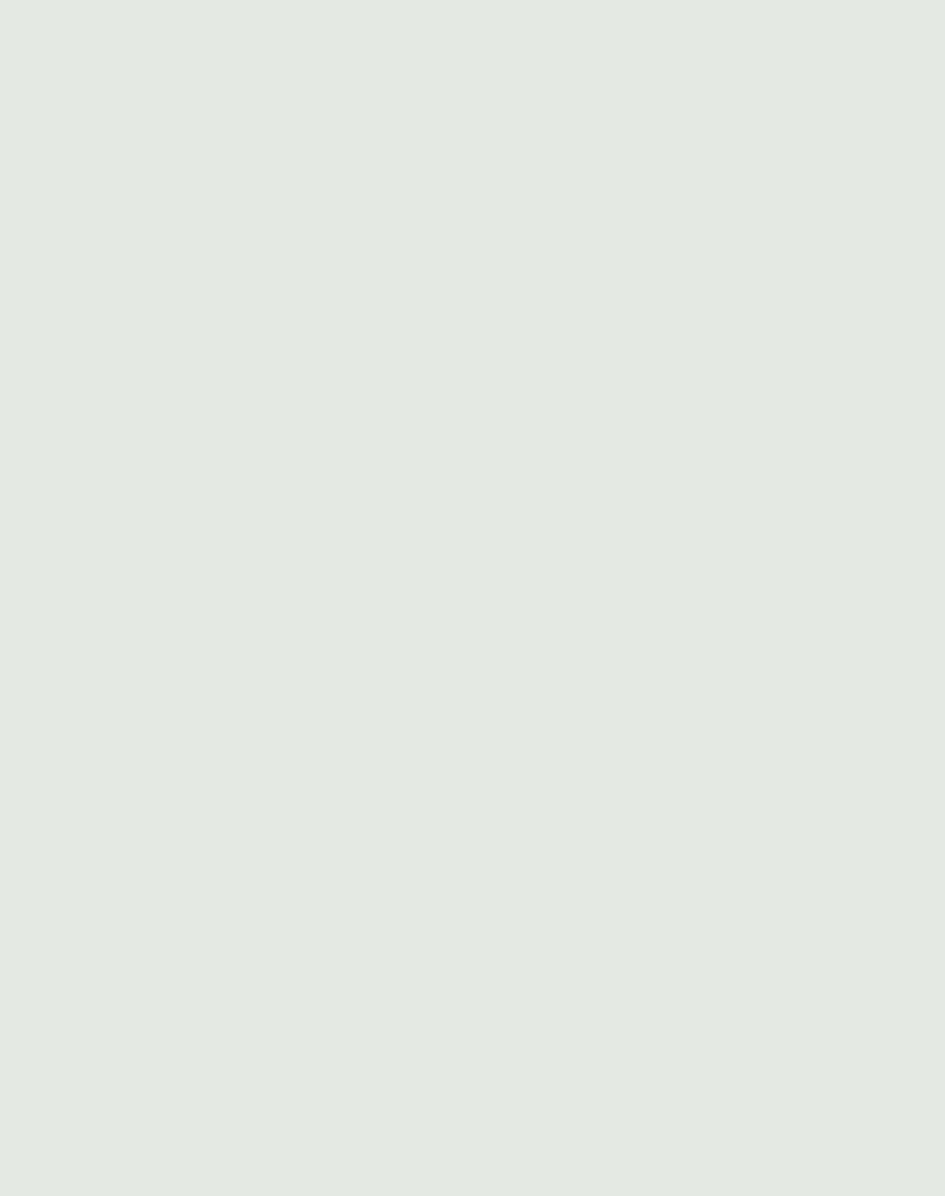


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- 6A General Streetscape Guidelines**
 - 6B Zones**
 - 6C Multimodal Street Sections**
 - 6D Street Network and Hierarchy**
 - 6E Street Crossing Design**
 - 6F Reston Specific Streetscape**
 - 6G Pedestrian Pavement Treatments**
 - 6H Lighting**
 - 6I Furnishings**
 - 6J Urban Street Trees and Plantings**

6

Chapter 6: Streetscape

Reston roadways and the adjacent pedestrian realm are critical components of the public realm and form an important platform for human interaction.

The pedestrian realm is the public space where people move and interact. The streetscape consists of the space within the pedestrian realm between the façade of the building and the curb, which is divided into three separate zones: the building zone, the sidewalk, and the landscape amenity panel.

- The building zone is the privately owned area immediately adjacent to a building where building entrances are located and where activities such as outdoor dining and retail browsing occur.
- The sidewalk is located between the building zone and the landscape amenity panel and is intended primarily for pedestrian circulation. The sidewalk is part of the public realm.
- The landscape amenity panel is the area between the street and the sidewalk in which street trees and ornamental plantings are located, as are other public realm elements such as benches, bike racks, street lights, signage, and transit stops. The landscape amenity panel is also within the public right-of-way.
- Protected bicycle facilities, like cycle tracks, may be integrated into the streetscape either adjacent to the street or sidewalk (with appropriate buffers in between).



Reston Town Center | Reston, VA | Image Credit: Fairfax County

6



Streetscape example with active ground floor uses | Reston, VA



Streetscape with benches and plantings | Washington, DC | Image Credit: Rhodeside & Harwell

The streetscape should be designed to support public activities and interactions by allowing space for casual interaction along the sidewalk, viewing storefronts, or stopping to rest.

The elements of the streetscape should be selected to create a comprehensive, integrated package that is cohesive and contributes to the identity of the project. This chapter provides a ‘family of recommendations’ for achieving the overall vision of the Reston TSAs, while still allowing for variety. Rather than recommending a single style or manufacturer, choices that share a common design style, character, or performance standard are presented.

This chapter focuses on the design character of the zones that comprise the streetscape, as well as the elements located in the streetscape. Recommended street trees, flowering trees, shrubs, perennial grasses and flowers are provided in this chapter to guide plant selection. The recommendations also identify the appropriate location for each plant type, such as plaza, streetscape, or park, to provide a framework for landscape design.

Principles:

- Streets and their adjacent streetscape are vital parts of the public realm.
- Streetscapes should be places for social interaction, economic activity, civic activity, and public gatherings.
- Designing from the perspective of the pedestrian is important for creating great places.
- Landscaped amenity zones and landscape features should be used to buffer the pedestrian from the road, and are opportunities to integrate Reston streetscape character into a more urban setting.
- Low impact development techniques for stormwater management should be incorporated into new and redesigned streets where practical.

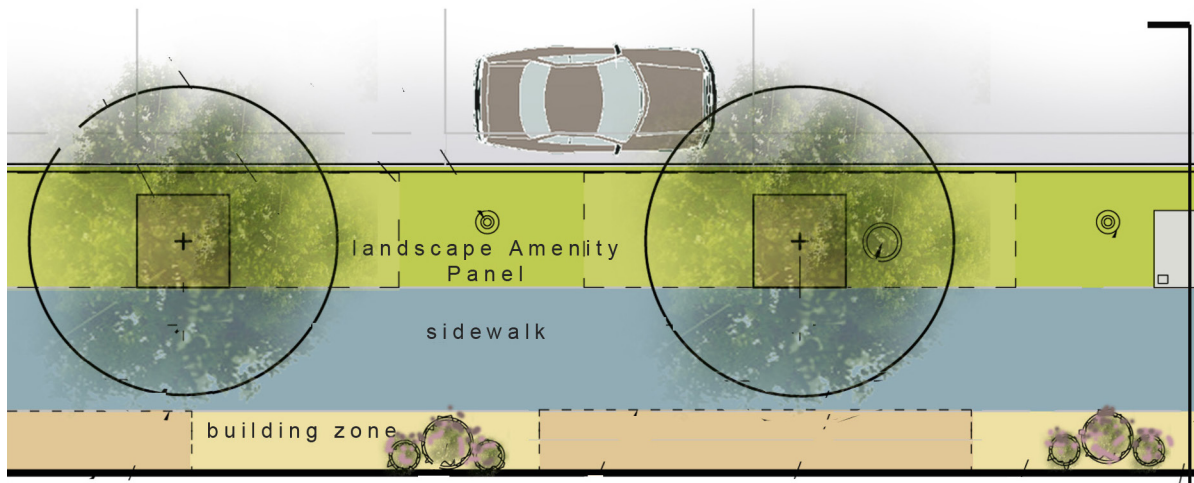
The Comprehensive Plan notes that attractive TSA streetscapes include a well-designed street edge that contributes to area identity and provides a safe, high-quality pedestrian experience. The streetscape design should vary by the type of street and the adjacent land use, and create a unifying theme along each street to visually and physically link development in the area.

6

The purpose of the streetscape elements – sidewalks, street furniture, streetlights, trees and other plantings, paving, crosswalks, bus shelters, bicycle racks, public art, and seating areas – is to enhance the quality of the pedestrian environment. The Plan notes that Metrorail station entrances are key public realm features important to the success of the urban environment. These should be attractive, highly visible, and able to safely accommodate high amounts of pedestrian activity.



Active streetscape | Reston, VA | Image Credit: Fairfax County



Streetscape zones diagram in plan view



Streetscape zones diagram

6A General Streetscape Guidelines



Streetscape adjacent to bike lane | Montreal, Canada | Image Credit: Nelson\Nygaard



Active streetscape | Denver, CO | Image Credit: Design Workshop



Streetscape in Town Center | Reston, VA | Image Credit: Fairfax County

INTENT STATEMENTS

Reston streetscapes emphasize the pedestrian realm with wider sidewalks, street trees, and increased landscaped panels along the road.

Reston TSA development should:

- A. Create consistent and inviting streetscapes along all streets to establish a distinctive visual character for the Reston TSAs.
- B. Promote streetscapes that relate to the levels of pedestrian, vehicular and bicycle use anticipated for the street type.
- C. Follow the recommendations for Multimodal Street Standards found in this chapter for each street type proposed in a development.

DESIGN STRATEGIES

1. Within each block, create a consistent width, location, and design of the sidewalk and landscape amenity panel. Coordinate with adjacent developments to create continuity, particularly along primary pedestrian corridors.
2. Consider both sides of the road in streetscape designs, including the alignment of sidewalks and spacing of street trees.
3. Design primary streetscape elements to the pedestrian scale, including but not limited to, signage, lighting and street furniture.
4. Provide regularly spaced, publicly accessible seating along the streetscape, in either the building zone or the landscape amenity panel. Refer to pages 6-44 to 6-47 for design guidelines related to street furnishings.
5. Design streetscapes that are sensitive to the needs of mobility-impaired users.
6. Ensure that utility access doors are ADA compliant, constructed of slip resistant surfaces that are installed flush with adjacent paving, and attractively incorporated into the design of the pavement.
7. Where appropriate, design streetscapes to incorporate environmentally sensitive design techniques.
8. Provide adequate soil volume in all tree planting spaces to foster healthy root growth for street trees. Innovative use of subgrade structural elements and suspended paving is encouraged to provide sufficient soil volume while accommodating pedestrian traffic. See pages 6-48 to 6-59 for tree planting guidelines.
9. Expand the building zone or the landscape amenity panel to accommodate existing trees as appropriate.
10. Consider public art installations in the building zone or landscape amenity panel.
11. Consider [Crime Prevention Through Environmental Design \(CPTED\)](#) strategies that help increase visibility and safety.



Design streetscapes for multimodal use | Indianapolis, IN | Image Credit: Our Greenway



Successful streetscape example | Washington, DC | Image Credit: Rhodeside & Harwell

6B Zones | Building Zone



Storefront with minimal building zone | Philadelphia, PA | Image Credit: VisitPhilly.com

INTENT STATEMENTS

The building zone is the area immediately adjacent to a building where building entrances are located and where activities such as outdoor dining and retail browsing occur.

Reston TSA building zones should:

- A. Protect pedestrians by accommodating building zone activities without encroaching on the sidewalk.
- B. Reflect the character and use of the adjacent building.
- C. Provide a place for outdoor activity including private outdoor dining and retail browsing.
- D. Allow for direct and efficient, sensitively designed access to underground utilities.

DESIGN STRATEGIES

1. Design building zones of sufficient depth to accommodate door swings, entryways, and residential features such as stoops. Porches and balconies may project into the building zone but not into the sidewalk zone.
2. Size and locate awnings, canopies, porches, and balconies to avoid conflicts with adjacent street trees at a projected 10 year canopy.
3. Provide a wider building zone (8 -12 feet) in residential areas to allow for stoops, porches, other social pockets and outdoor dining.
4. When a wider building zone for outdoor dining is not possible, consider innovative building treatments such as cantilevered upper floors or windows/doors that can be opened to create a unique atmosphere without encroaching upon the sidewalk.
5. Provide an ornamental boundary or edge, with planters or decorative posts and rails, to delineate outdoor dining spaces in the building zone.
6. Carefully locate plants and planters in the building zone so that they do not obstruct doors and retail or commercial windows.



Outdoor dining activates the public realm | Austin, TX | Image Credit: Copley Wolff Design Group



Locate outdoor dining areas within the building zone | Reston, VA | Image Credit: Fairfax County



Heavily vegetated streetscape | Atlanta, GA

6B Zones | Sidewalk



Wide sidewalk on a primary pedestrian route along a building with an active ground floor | Washington, DC



Sidewalk with limited building zone area | Bethesda, MD | Image Credit: Fairfax County



Clear sidewalk with limited building zone area and planters in landscape amenity panel | Oak Park, IL | Image Credit: Fairfax County

INTENT STATEMENTS

The sidewalk is located between the building zone and the landscape amenity panel. The sidewalk is reserved for pedestrian movement and should be clear of any obstructions.

Reston TSA sidewalks should:

- A. Support a connected network for pedestrian movement, leading to other sidewalks, trails or destinations.
- B. Be appropriately sized to support the pedestrian activity of nearby current and planned future uses as well as for pedestrians passing through.

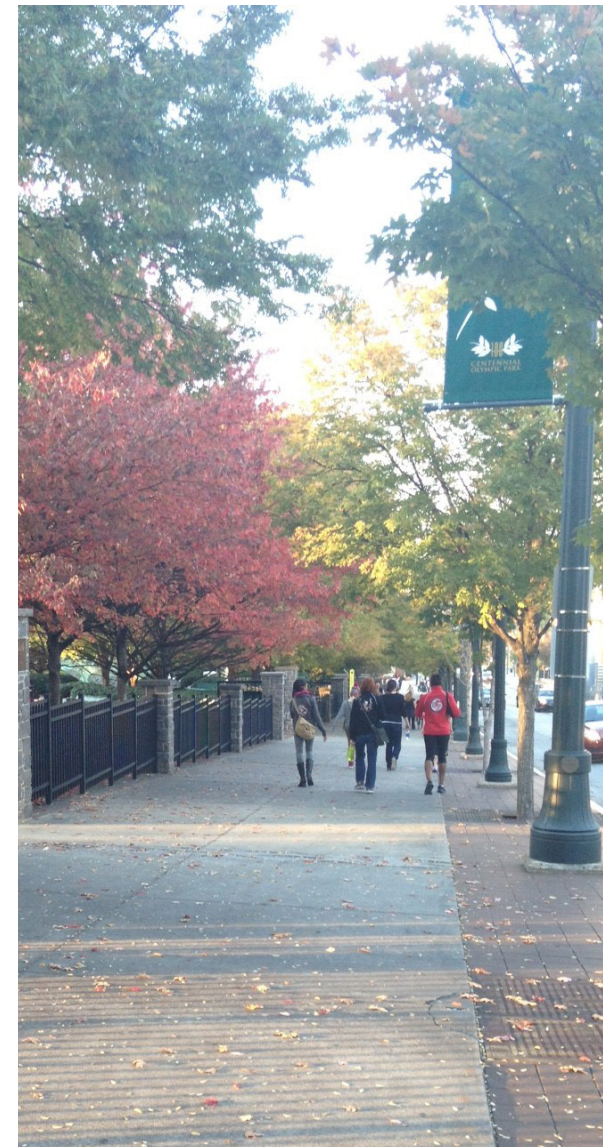
6B

DESIGN STRATEGIES

1. Create continuous sidewalks and walkways throughout the site, on both sides of all streets.
2. Design sidewalks to comfortably accommodate all pedestrians of all ages and abilities.
3. Provide wider sidewalks along primary pedestrian routes and within developments closest to Metrorail.
4. Ensure that sidewalks are clear of all impediments, including utility cabinets, low tree branches, vegetation, and street furniture.
5. Refer to the pavement guidelines on pages 6-40 to 6-41 for recommended sidewalk material.
6. Wherever possible, ensure that driveways are flush with the grade of adjacent sidewalks and that the sidewalk treatment is extended across all driveways/entrances.
7. Do not locate utility access panels in the sidewalk zone. If necessary, ensure that the panel is ADA compliant and attractively integrated into the pavement design.
8. Create a structure-free zone, 3-4 feet in depth, below the pavement to accommodate street tree roots.
9. Locate utilities outside of tree root zones wherever possible.



Utility access panel integrated into pavement design | Reston, VA | Image Credit: Fairfax County



Provide wide sidewalks along primary routes | Atlanta, GA

6B Zones | Landscape Amenity Panel



Multi-layer plantings within landscape amenity panel



Public art incorporated into landscape amenity panel | Chicago, IL | Image Credit: Fairfax County



Multi-row landscape amenity panels - buffer between residential and sidewalk/street | Washington, DC

INTENT STATEMENTS

The landscape amenity panel is located next to the curb and may include elements such as trees, lighting, bus stops, benches, bicycle racks, parking meters, and traffic signs.

Reston TSA landscape amenity panels should:

- A. Provide a location for plantings, street furniture and fixtures.
- B. Utilize plantings, public art installations, and low impact design techniques to reinforce the Reston character in the TSAs.
- C. Provide a sense of enclosure for the sidewalk to frame the pedestrians view down the walkway, without blocking views of storefronts from the street.
- D. Provide a buffer from the road for pedestrians.
- E. Reduce imperviousness along streets and, where feasible, support low impact design techniques.

DESIGN STRATEGIES

1. Ensure that no element located in the landscape amenity panel impedes movement on the sidewalk.
2. Open tree planting spaces are encouraged.
3. Prioritize tree root zones in the landscape amenity panel subgrade. Ensure that utility placement does not conflict with tree placement and survivability.
4. Locate bus shelters at appropriate locations within the landscape amenity panel. Consider including bulb outs into parking lanes (if provided), to allow adequate room for transit users.
5. Design landscaping, street furnishings and other features so as to not interfere with sight lines for vehicles.
6. Provide a 2 foot paved step out area (including the curb) in the landscape amenity panel adjacent to on-street parking areas. The 2 foot step out area should be in addition to the minimum required open surface area width for planting spaces.
7. Provide regularly spaced, publicly accessible seating along the streetscape, in either the landscape amenity panel or the building zone.
8. Utilize noninvasive plants, stones, permeable pavement and other elements that support the filtration of stormwater in the landscape amenity panel.
9. Utilize the landscape amenity panel as an opportunity to incorporate public art.
10. Do not place building-serving utility infrastructure or parking structures below the landscape amenity panel on public streets.
11. Consider the sample Reston Specific Streetscapes provided on pages 6-34 to 6-39 for additional details.
12. Do not use turfgrass within the landscape amenity panel.



Landscape amenity panel provides shade and separation of private space | Bethesda, MD | Image Credit: John Carter

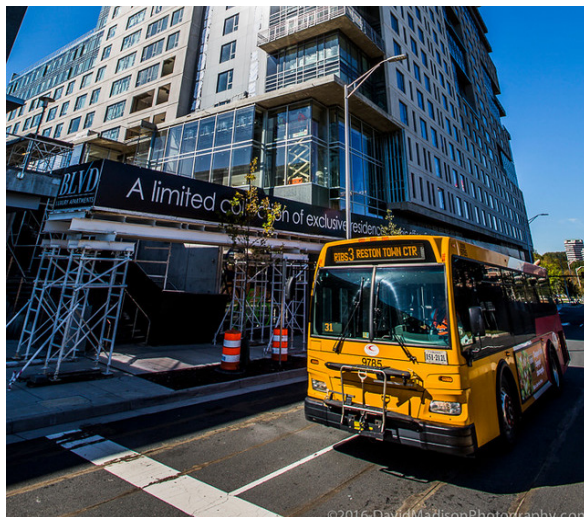


Provide ample seating opportunities along commercial sidewalks | Arlington, VA | Image Credit: Fairfax County

6C Multimodal Street Sections



Multimodal road | Arlington, VA | Image Credit: Bike Arlington



Fairfax County Connector on Reston Station Boulevard | Reston, VA | Image Credit: David Madison Photography

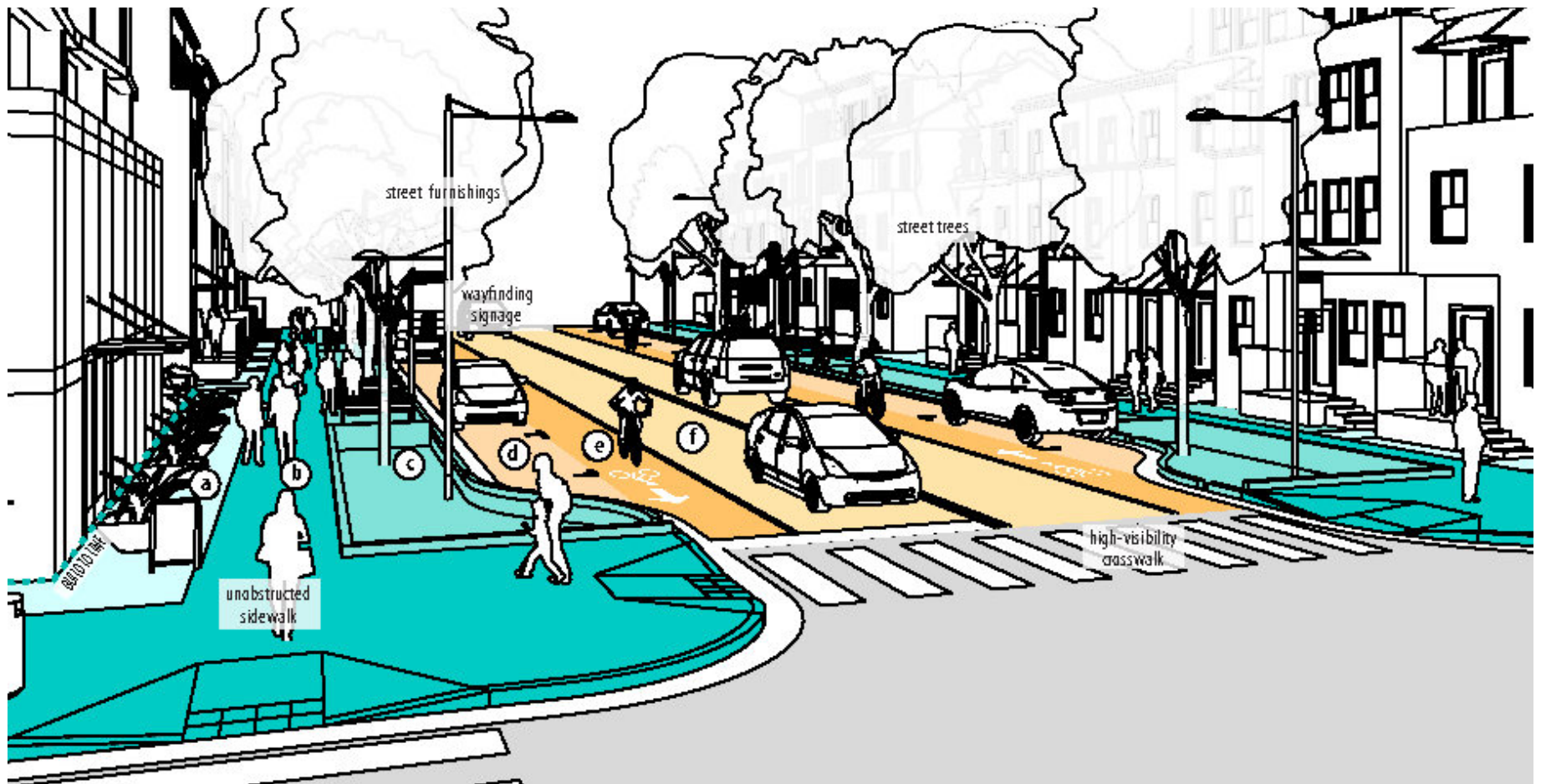
The roadways in the TSAs must balance the need to move vehicular traffic with people walking and biking. They are planned as complete streets incorporating sustainable design practices and providing a framework for new mixed-use development that is strengthened by access to transit. The streetscapes are critical to shaping the character of development in the Reston TSAs.

The Virginia Department of Rail and Public Transportation (DRPT) published the final [“Multimodal System Design Guidelines”](#) (DRPT Guidelines) in October 2013. The DRPT Guidelines establish a basic framework for multimodal planning in Virginia and are intended as a resource for local planners, engineers, designers, and policy and decision makers. The DRPT Guidelines discuss the integration of land use, transportation, and urban design to support multimodal connectivity and mobility in Virginia. In January 2014, VDOT adopted the DRPT Guidelines as its statewide “Multimodal Design Standards for Mixed-use Urban Centers” through the addition of [Appendix B\(2\) to the Road Design Manual](#). In Fairfax County, mixed-use urban centers include the three Reston TSAs.

Following the addition of Appendix B(2) by VDOT, the County then designated the three Reston TSAs as high intensity (P6) and moderate-high intensity (P5) multimodal centers in conformance with the DRPT Guidelines. The County’s Multimodal District Plans, maintained by FCDOT, categorize the streets in the network designated by the Comprehensive Plan into corridor types (from “Through Corridor” to “Local”). The sections that follow show typical conditions for these corridor types. However, FCDOT expects variations based upon the different modal emphasis of each road or segment. In all cases, refer to both VDOT’s Appendix B(2) and the County’s Multimodal District Plans, which outline the anticipated section for roads within the TSAs.

The Comprehensive Plan provides general, but flexible, streetscape design recommendations for Reston Parkway, Sunset Hills Road, and Sunrise Valley Drive, as well as design recommendations for new streets. However, to strengthen the overall development quality and reflect the uniqueness of the landscape design character in Reston, the following guidelines provide specific information for the corridor types identified in the Multimodal District Plans.

COMPLETE STREET EXAMPLE DIAGRAM



- a BUILDING ZONE**
Designated for building-related elements including outdoor dining, awnings, plantings, porches, etc.
- b SIDEWALK**
Reserved exclusively for pedestrian movement without any obstructions
- c LANDSCAPE PANEL & AMENITY ZONE**
Designated for street trees, lighting, seating, bike racks and street furnishings
- d PARKING LANE**
Reserved for vehicular on-street parking
- e BIKE LANE**
Reserved for unobstructed bicycle travel
- f TRAVEL LANE**
Reserved for vehicular travel and turning movements

6C Street Sections | Local

INTENT STATEMENTS

Local streets prioritize pedestrians and are designed for the lowest vehicle speeds. Bicycles can typically share the road with vehicles. On-street parking is encouraged. Medians should be utilized sparingly on local streets and only in areas where additional plantings would enhance the character of the street. The majority of new streets constructed in the TSAs will be local streets. They are typically lined with a mix of uses including residences, offices, and hotels.

In the Reston TSAs, local streets will:

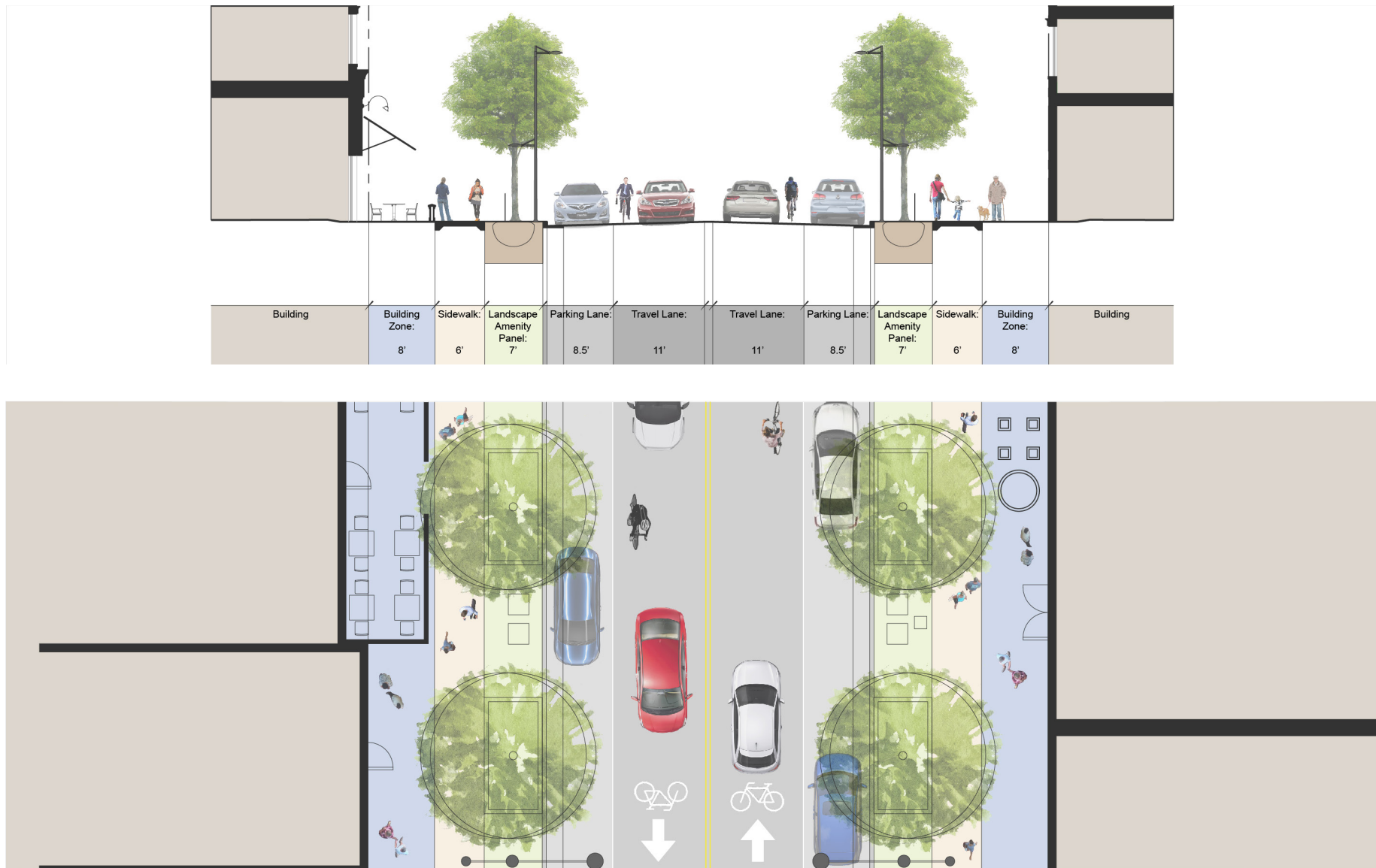
- A. Accommodate bicycle, and pedestrian circulation within the right-of-way.
- B. Provide balanced circulation for people traveling on foot, bicycle and vehicles.
- C. Comfortably support pedestrians.

DESIGN STRATEGIES

In addition to addressing the elements outlined in the General Streetscape Section, the following is recommended for local streets:

1. Design all local streets with approximately 11 foot wide travel lanes.
2. Provide sharrows or other on-road markings and signage to indicate that roadways are shared between all modes.
3. Provide a landscape amenity panel at least 8 feet in width. The panel may be widened to accommodate Reston Specific Streetscape treatments (refer to page 6-34 to 6-39), new or existing natural features, public art or clusters of pedestrian oriented street furnishings provided that such enlargements of the panel do not reduce the width of the sidewalk.
4. Provide a sidewalk at least 6 feet in width. In areas closest to Metrorail, or where heavier pedestrian traffic is anticipated, sidewalks should be at least 8 feet wide.
5. Provide a building zone ranging from 4-12 feet in width. Provide a wider building zone, 8 feet minimum in width, in residential areas where units have direct access to the street. To accommodate outdoor dining, provide a building zone of 8-12 feet in width.
6. Encourage on-street parking. Provide parallel spaces, a minimum of 8 ½ feet wide (including the curb and gutter pan).
7. Install pedestrian-scale lighting fixtures to illuminate the sidewalk along the entire length of the local streets. Refer to page 6-42 for lighting details.
8. Consider permeable paving for on-street parking areas on private streets.
9. Consider on-street parking areas on private streets for temporary (“pop-up”) uses such as parklets, special events, or bicycle parking.

TYPICAL LOCAL STREET SECTION (TOP) AND PLAN (BOTTOM)



6C Street Sections | Avenue

INTENT STATEMENTS

Avenues are lower intensity thoroughfares that begin to shift the balance towards an emphasis on the pedestrian while still accommodating vehicular traffic volumes. Destinations such as shops, galleries, restaurants, offices and residential uses lining avenues bring a level of vibrancy to the streetscape. Avenues serve as connectors between the local streets and the major avenues, boulevards, and through corridors. Wide sidewalks maximize walkability and enhance the pedestrian realm. On-street parking, bicycles lanes, and a planted street edge provide a buffer between the roadway and the sidewalks.

In the Reston TSAs, avenues will:

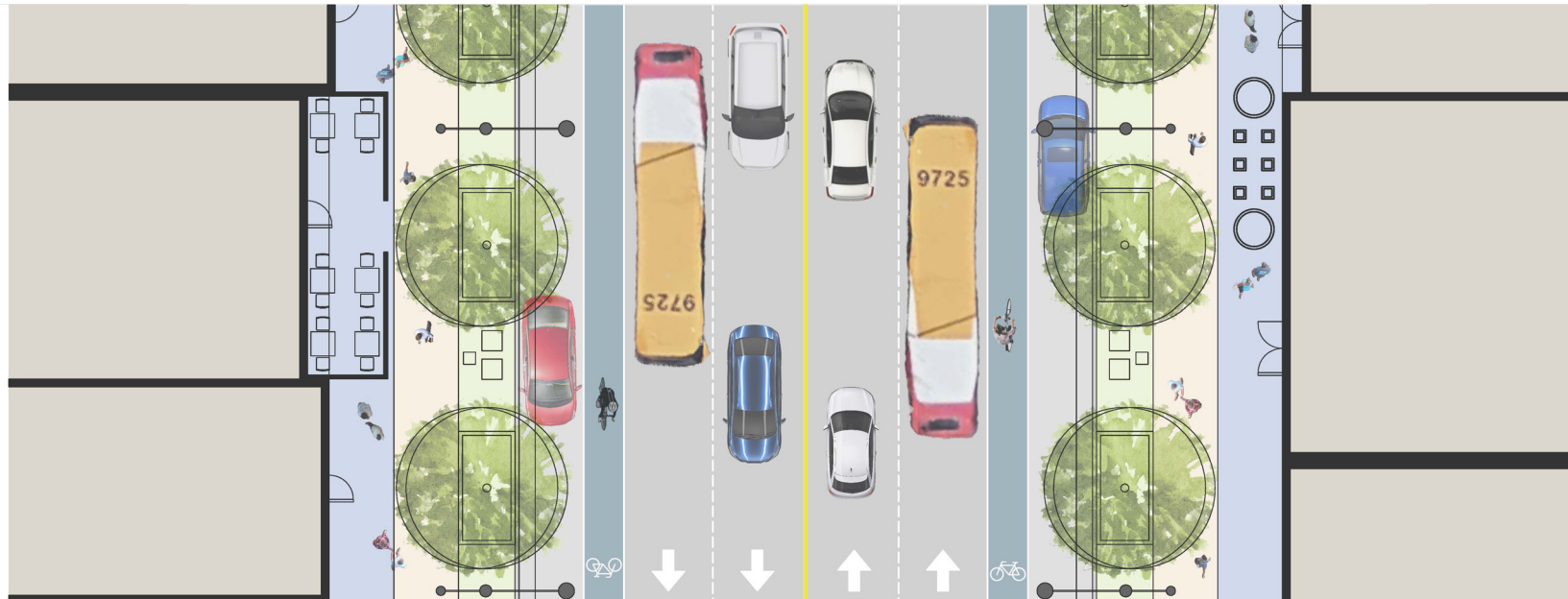
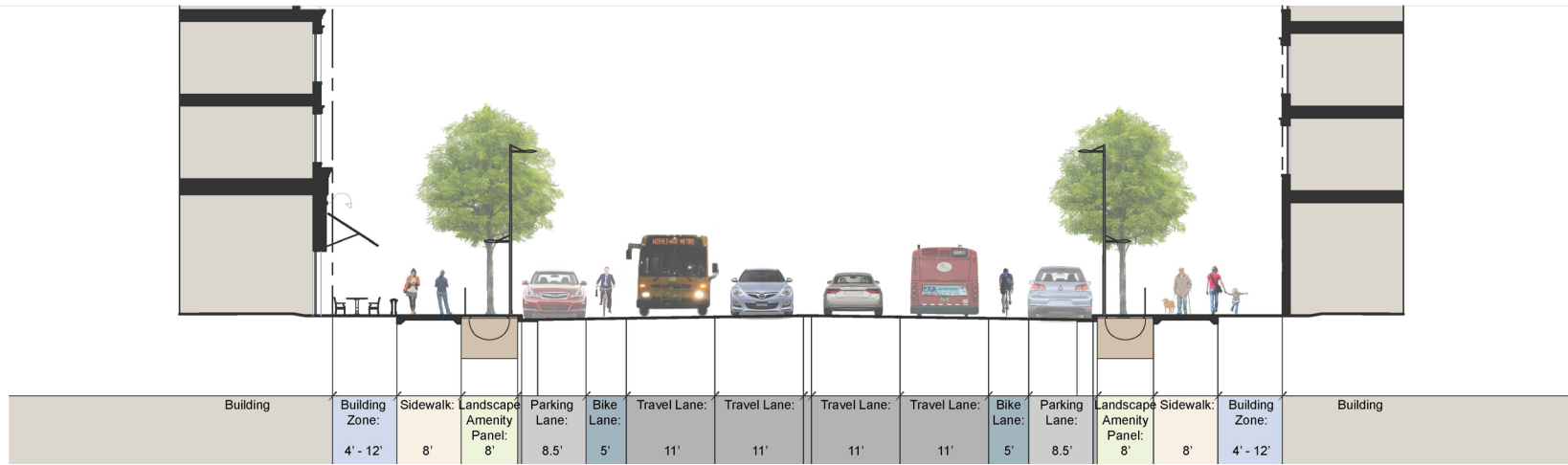
- A. Accommodate bus, bicycle, and pedestrian circulation within the right-of-way.
- B. Provide balanced circulation for people traveling on foot, bicycle and vehicles.
- C. Comfortably support heavy pedestrian use.

DESIGN STRATEGIES

In addition to addressing the elements outlined in the General Streetscape Section, the following is recommended for avenues:

1. Design all avenues with minimum 11 foot wide travel lanes to accommodate buses and passenger vehicles.
2. Where requested by FCDOT for safety and operation of the roadway, provide a median to serve as pedestrian refuges at crosswalks and provide increased opportunities for plantings.
3. Where requested by FCDOT, provide on-road bicycle facilities on both sides of the major avenue.
4. Provide a landscape amenity panel at least 8 feet in width. The panel may be widened to accommodate Reston Specific Streetscape treatments (refer to pages 6-34 to 6-39), new or existing natural features, public art or clusters of pedestrian oriented street furnishings provided that such enlargements of the landscape amenity panel do not reduce the width of the sidewalk.
5. Provide an 8 foot (minimum) landscape panel on Sunrise Valley Drive as anticipated by the Comprehensive Plan.
6. Provide a sidewalk at least 8 feet in width. Sidewalks of less than 8 feet will only be considered in low-volume pedestrian areas.
7. Provide a building zones ranging from 4-12 feet in width. Provide a wider building zone, 8 feet minimum in width, in residential areas where units have direct access to the street. To accommodate outdoor dining, provide a building zone of 8-12 feet in width.
8. Retain existing trees in the building zone, provided that preserving such trees does not impact the width, alignment or location of the sidewalk.
9. Consider bulbouts in roadway design to shorten crossing distances and provide locations for bicycle parking and bus shelters.
10. Consider on-street parking in retail areas and near residential uses. Provide parallel spaces, a minimum of 8 ½ feet in width (including the curb and gutter pan).
11. Install pedestrian-scale lighting fixtures to illuminate the sidewalk along the entire length of the avenue. Refer to page 6-42 for lighting details.

TYPICAL AVENUE STREET SECTION (TOP) AND PLAN (BOTTOM)



6C Street Sections | Major Avenue

INTENT STATEMENTS

Major avenues are intended for intense use from all modes of transportation. Both the roadway and the streetscape must be designed to accommodate pedestrian and bicycle circulation. Typically, there are a number of uses and destinations located along major avenues and the streetscape will include space for outdoor dining, bicycle parking, benches, public art, and other amenities.

In the Reston TSAs, major avenues will:

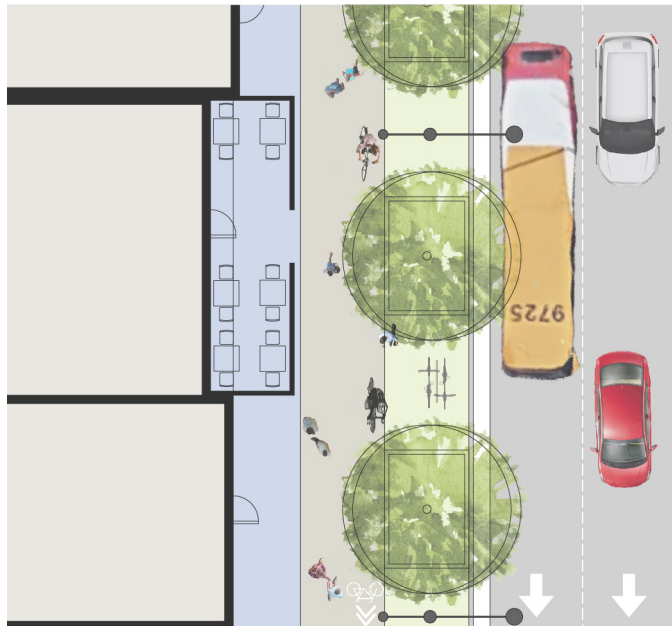
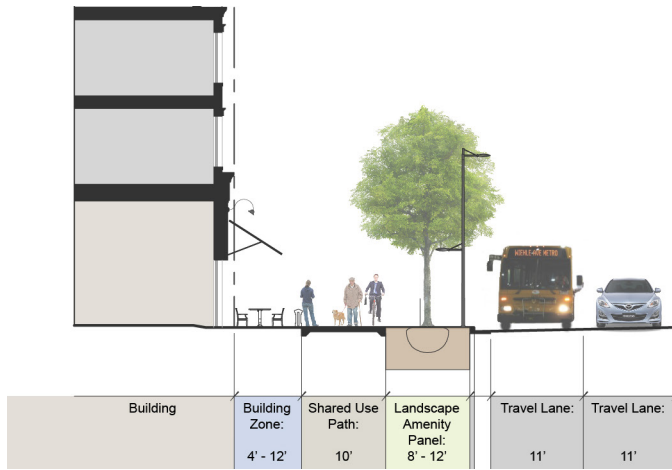
- A. Accommodate bus, bicycle, and pedestrian circulation within the right-of-way.
- B. Carry high volumes of vehicular and pedestrian traffic into and through the TSAs.
- C. Provide amenities for pedestrians and public transit users.
- D. Preserve existing trees along certain major avenues while also accommodating the pedestrian activities generated by adjacent land uses.

DESIGN STRATEGIES

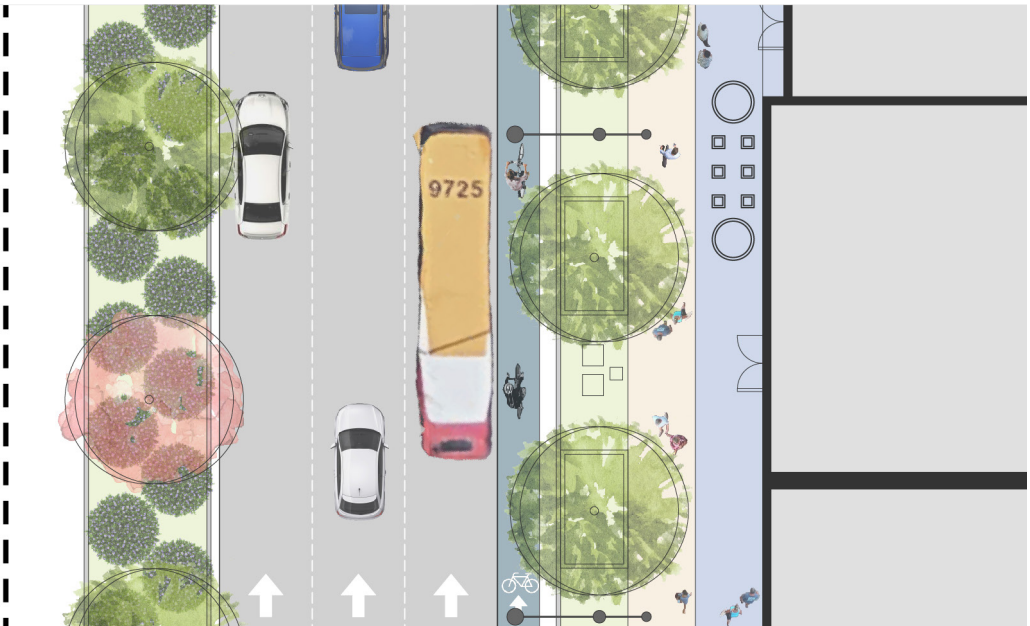
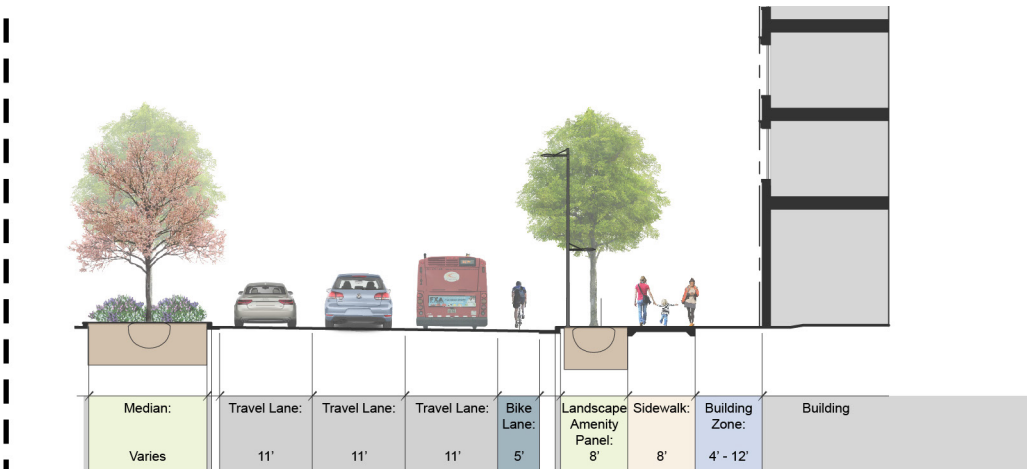
In addition to addressing the elements outlined in the General Streetscape Section, the following is recommended for major avenues:

1. Design all major avenues with minimum 11 foot wide travel lanes to accommodate buses and passenger vehicles.
2. Provide a median, where requested by FCDOT for the safety and operations of the roadway, to serve as pedestrian refuges at crosswalks and provide increased opportunities for plantings.
3. Provide on-road bicycle lanes, approximately 5 feet wide (not including the gutter pan), on both sides of the major avenue.
4. Provide a landscape amenity panel at least 8 feet in width. The panel may be widened to accommodate Reston Specific Streetscape treatments (refer to pages 6-34 to 6-39), new or existing natural features, public art or clusters of pedestrian-oriented street furnishings provided that such enlargements of the landscape panel do not reduce the width of the sidewalk.
5. Provide an 8 foot (minimum) landscape panel along Sunset Hills Road and Wiehle Avenue as anticipated in the Comprehensive Plan. The Plan encourages a panel of 10 feet in width for Reston Parkway south of the Dulles Toll Road, and a combined landscape panel and trail on the east side of Reston Parkway, north of the Dulles Toll Road, to preserve the existing wide landscape area from Sunset Hills Road to Temporary Road.
6. Provide a sidewalk at least 8 feet in width. Where pedestrian traffic is expected to be heavier, consider wider sidewalks.
7. Provide a building zone, ideally between 4 to 12 feet depending upon adjacent uses. The building zone may be widened to accommodate new or existing natural features, public art, or outdoor dining. Where outdoor dining is proposed, the minimum building zone recommended is 8 feet in width.
8. Avoid on-street parking along major avenues.
9. Install pedestrian-scale lighting fixtures to illuminate the sidewalk along the entire length of the major avenue. Refer to page 6-42 for lighting details.

TYPICAL TWO LANE MAJOR AVENUE STREET SECTION (TOP) AND PLAN (BOTTOM)



TYPICAL THREE LANE MAJOR AVENUE STREET SECTION (TOP) AND PLAN (BOTTOM)



6C Street Sections | Boulevard

INTENT STATEMENTS

Boulevards accommodate higher traffic volumes while featuring landscaped medians, larger sidewalks and the opportunity for larger landscape amenity panels with an emphasis on tree-lined streets. The road design will also include bicycle lanes. Retaining large existing stands of trees along the boulevards is encouraged to create unique design features. Major art installations and other monumental architectural elements may also be found in the boulevard streetscape.

In the Reston TSAs, boulevards will:

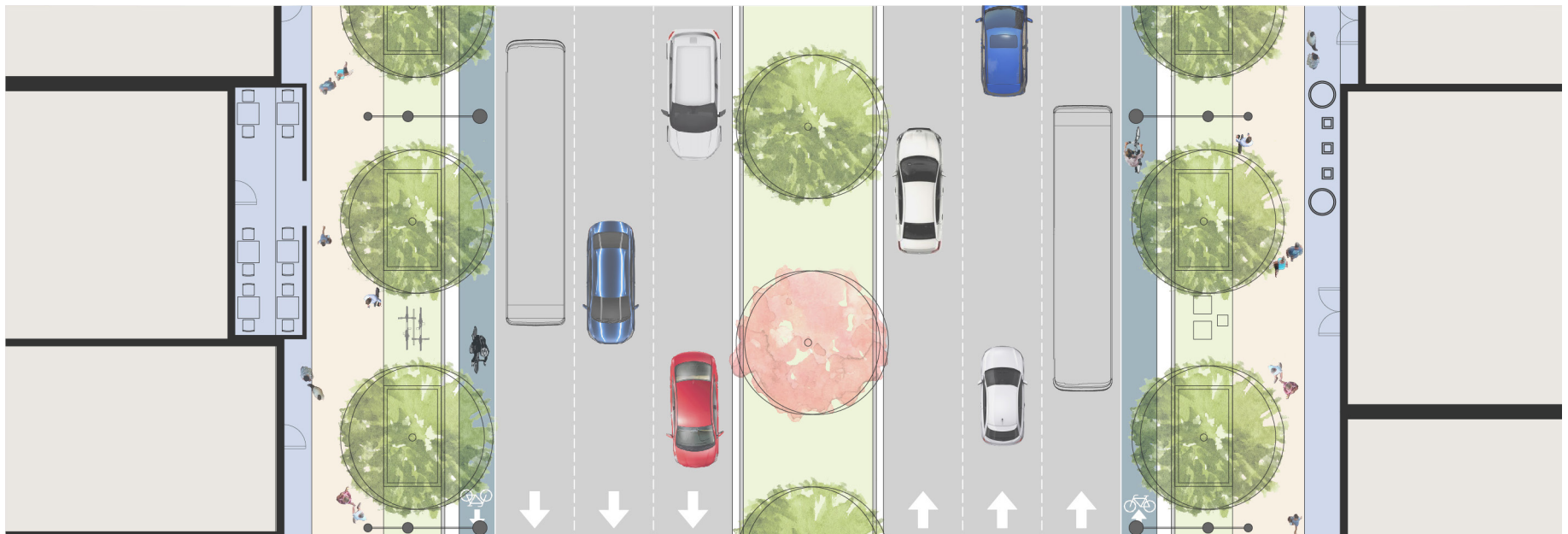
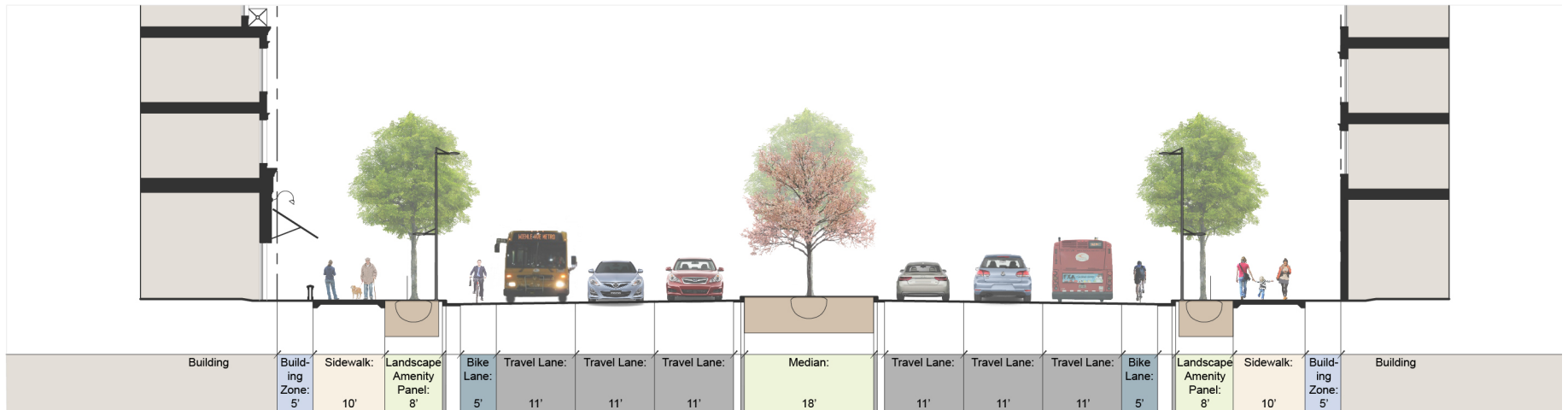
- A. Provide accommodation for all travel modes.
- B. Serve as primary routes for vehicular traffic into and through the TSAs.
- C. Provide amenities for pedestrians and public transit users.

DESIGN STRATEGIES

In addition to addressing the elements outlined in the General Streetscape Section, the following is recommended for boulevards:

1. Design all boulevards with minimum 11 foot wide travel lanes to accommodate buses and passenger vehicles.
2. Provide a median to serve as pedestrian refuges at crosswalks and provide increased opportunities for plantings. Plant medians with street and understory trees; consider plantings which create natural thickets of trees consistent with the existing character of Reston.
3. Provide on-road bicycle facilities, on both sides of the boulevard.
4. Emphasize the anticipated landscaped character of a boulevard by providing, at minimum, an 8 foot wide landscape amenity panel with understory trees, shrubs, and ground cover in addition to street trees.
5. Provide a minimum 10 foot wide sidewalk.
6. Provide a minimum building zone width along a boulevard of 5 feet. The building zone may be widened to accommodate new or existing natural features, public art, or outdoor dining. Where outdoor dining is proposed, the minimum building zone recommended is 8 feet in width.
7. Install pedestrian-scale lighting fixtures to illuminate the sidewalk along the entire length of the boulevard. Refer to page 6-42 for lighting details.
8. Avoid on-street parking along boulevards.

TYPICAL BOULEVARD STREET SECTION (TOP) AND PLAN (BOTTOM)



6C Street Sections | Through Corridor

INTENT STATEMENTS

A through corridor is a high speed thoroughfare intended for longer distances that connect multiple activity centers, with limited at-grade intersections.

In the Reston TSAs, through corridors will:

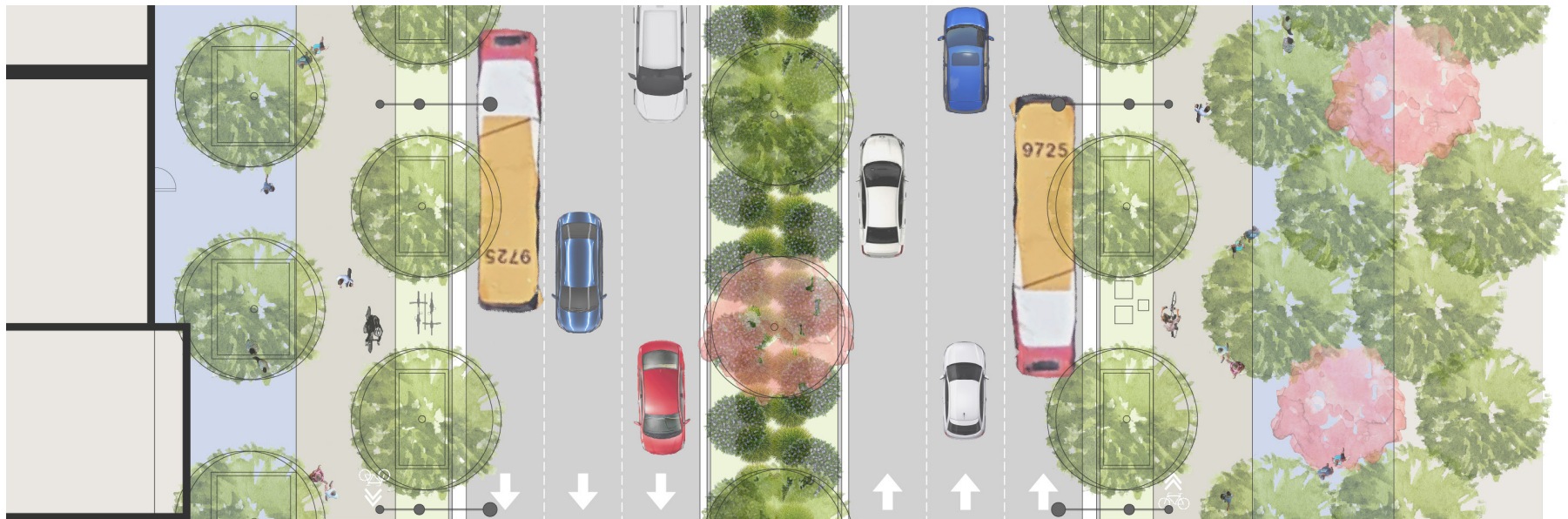
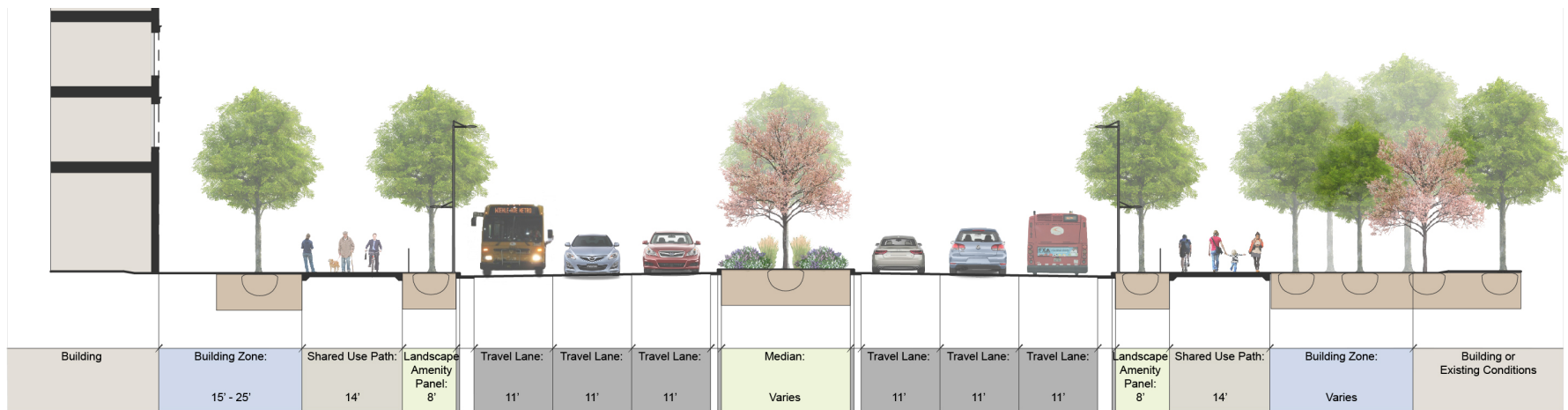
- A. Protect pedestrians and people on bicycles from higher speed vehicular traffic.
- B. Create scaled streetscapes designed for occupants of vehicles traveling at higher speeds but that also provide safe and comfortable pedestrian connections.

DESIGN STRATEGIES

In addition to addressing the elements outlined in the General Streetscape Section of this chapter, the following is recommended for through corridors:

1. Design all through corridors with minimum 11 foot wide travel lanes to accommodate buses and passenger vehicles.
2. Where requested by FCDOT for safety and operation of the roadway, provide a median to serve as pedestrian refuges at crosswalks and provide increased opportunities for plantings.
3. Provide a landscape amenity panel that is at least 8 feet wide.
4. Provide a shared use path at least 14 feet wide.
5. Provide a building zone approximately 15-25 feet wide. Consider providing a wider planting area within the building zone to incorporate existing or proposed trees.
6. Plant major trees (Category III or IV) in a manner to ensure that they have building and vehicular clearance at their mature size. See tree planting details provided in Section 6J.
7. Include pedestrian-scale lighting fixtures to illuminate the pathways along the entire length of the through corridor. Refer to page 6-42 for lighting details.
8. Avoid on-street parking along through corridors.

TYPICAL THROUGH CORRIDOR STREET SECTION (TOP) AND PLAN (BOTTOM)



6C Street Sections | Alley/Service

INTENT STATEMENTS

Service streets provide access to parking, loading areas, waste management, utilities and other “back-of house” operations. While service streets are not primarily designed to serve pedestrians, they should be accessible and safe. Bicycles can typically share the road with vehicles. On-street parking is allowed where it will not conflict with the necessary service functions of the street.

In the Reston TSAs, service streets will:

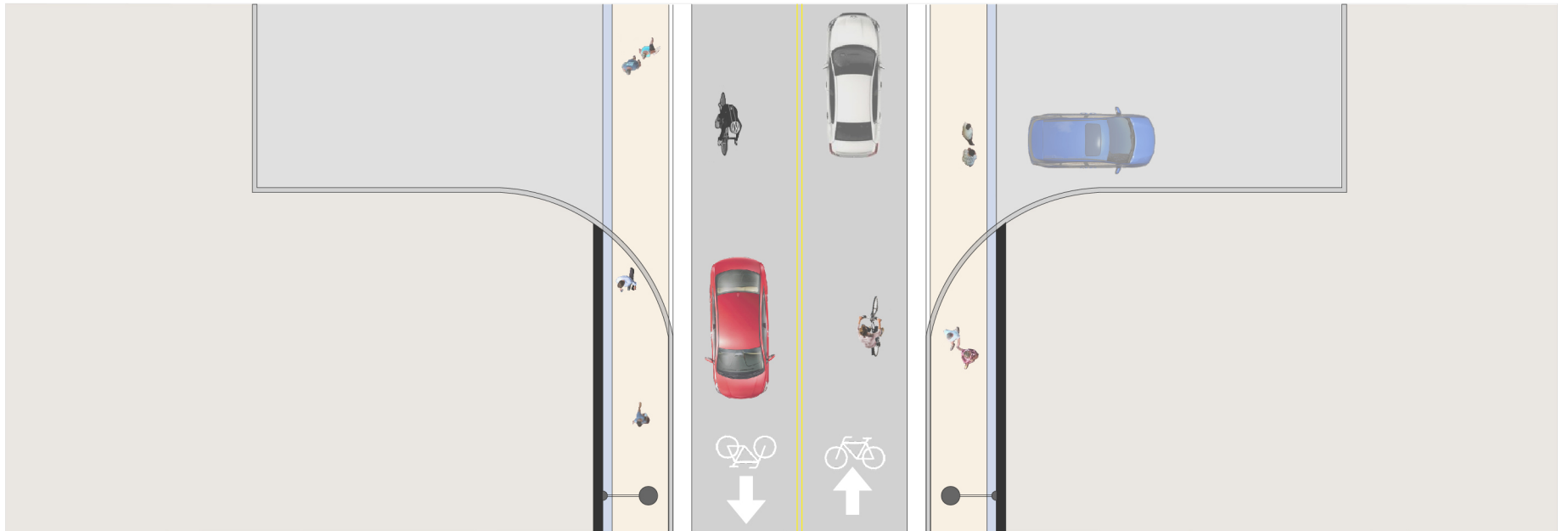
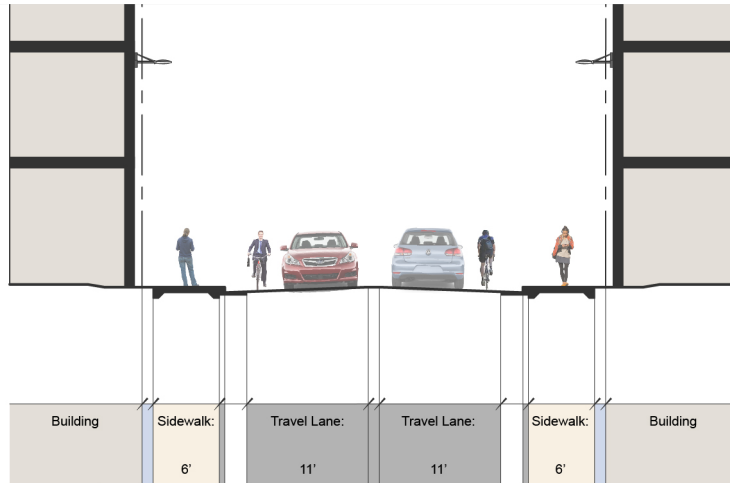
- A. Carry traffic from service vehicles.
- B. Serve as access points to parking, loading and service areas.
- C. Allow safe access for people walking and on bicycles.

DESIGN STRATEGIES

In addition to addressing the elements outlined in the General Streetscape Section, the following is recommended for service streets:

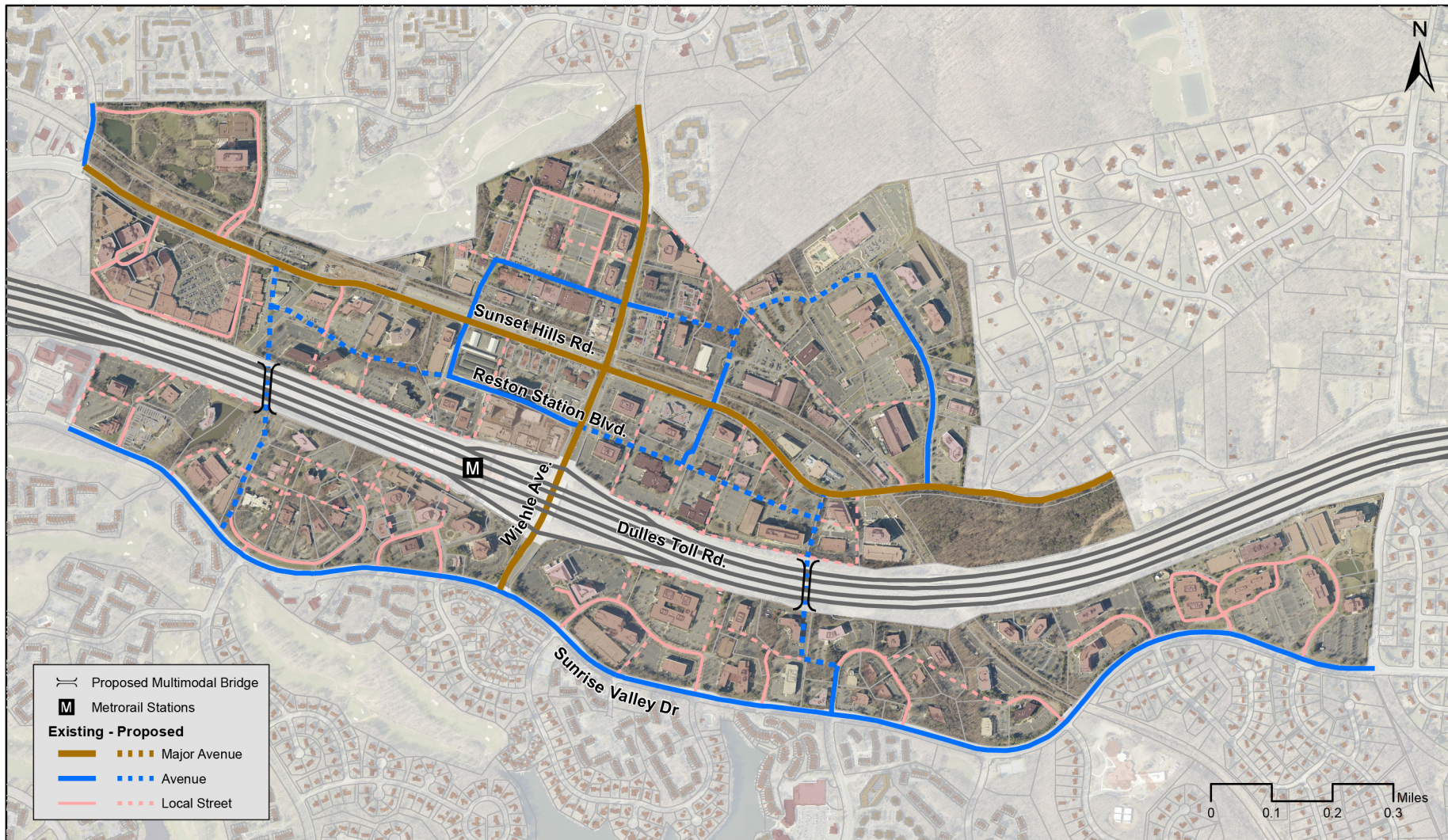
1. Design all service streets with minimum 11 foot wide travel lanes. Only one lane in each direction is anticipated in the ultimate section. Keep pavement widths to a minimum on service streets.
2. Where appropriate, provide on-street parallel parking spaces a minimum of 8 ½ feet in width (including the gutter pan).
3. Provide a sidewalk along the service street a minimum of 5 feet in width. Keep all poles, utilities, and other appurtenances outside of the sidewalk clear area.
4. Where space allows, consider plantings such as smaller trees, flowering plants, grasses, and shrubs to help screen parking garages, loading areas, and utility equipment.
5. Consider a 1-2 feet minimum building zone to allow for separation between pedestrians and utility boxes, lights, and service doors.
6. Consider permeable pavement in the roadway or the sidewalk on service streets.
7. Install pedestrian-scale lighting fixtures to illuminate the sidewalk along the entire length of the service street. Refer to page 6-42 for lighting details.

TYPICAL ALLEY/SERVICE STREET SECTION (TOP) AND PLAN (BOTTOM)



6D Street Network and Hierarchy | Wiehle-Reston East TSA

WIEHLE-RESTON EAST TSA STREET NETWORK AND CLASSIFICATION MAP



Note: The above map reflects roads within the TSA. In all cases, refer to the Comprehensive Plan and the Multimodal District Plans. There should be reasonable flexibility in the final location and configuration of new street connections so as to accommodate property specific land planning that otherwise implements and reflects the collective goals and objectives of the Plan. For Reston Town Center TSA Street Network and Hierarchy, see page 6-28, Herndon TSA Street Network and Hierarchy see page 6-30.

COMPREHENSIVE PLAN GUIDANCE

The Multimodal Street Network is designed to increase vehicular, pedestrian and bicycle connections, improve circulation and establish smaller development blocks within the TSA. The streetscape design responds to the size and character of the street. The related street sections are found in the previous section.

1. A grid of streets should be developed to connect Reston Station Boulevard to the Metrorail station and Sunset Hills Road.
2. Reston Station Boulevard should serve as the “main street” for the TSA connecting the Sunset Hills district to the Reston East district.
3. Soapstone Drive is planned to connect across the Dulles Toll Road from Sunset Hills Road in the Wiehle North Sub-district to the existing Soapstone Drive in the Wiehle South Sub-district, providing additional links in the vehicular, pedestrian and bicycle networks.
4. South Lakes Drive is planned to connect across the Dulles Toll Road from Sunset Hills Road to an extension of Preston White Drive.

STREET CLASSIFICATIONS

The following list covers the classification of the existing streets within Wiehle-Reston East TSA. In all cases, refer to the Fairfax County Transit Station Area Multimodal District Plans for Reston for final classifications. The proposed streets and local roads are not included in this list, but are included on the map on page 6-26.

Major Avenue

- Sunset Hills Road
- Wiehle Avenue

Avenue

- Reston Station Boulevard
- Sunrise Valley Drive
- Business Center Drive
- Old Reston Avenue
- Issac Newton Square
- Issac Newton Square South
- Metro Center Drive
- Michael Faraday Court
- Michael Faraday Drive
- Roger Bacon Drive



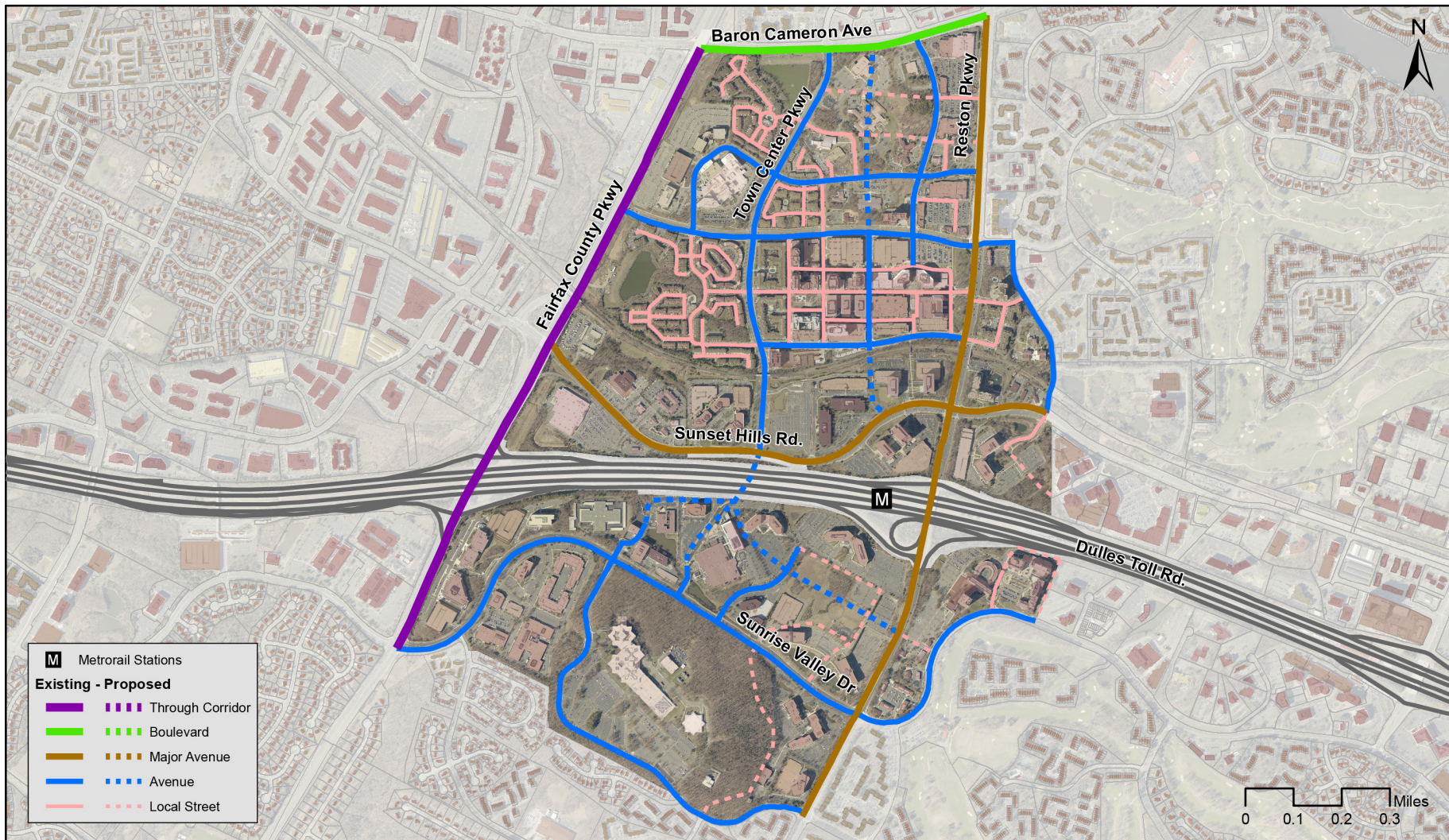
Reston Station Boulevard Perspective | Reston, VA | Image Credit: Midline CDP/FDP



Soapstone Drive | Reston, VA | Image Credit: Fairfax County

6D Street Network and Hierarchy | Reston Town Center TSA

RESTON TOWN CENTER TSA STREET NETWORK AND CLASSIFICATION MAP



Note: The above map reflects roads within the TSA. In all cases, refer to the Comprehensive Plan and the Multimodal District Plans. There should be reasonable flexibility in the final location and configuration of new street connections so as to accommodate property specific land planning that otherwise implements and reflects the collective goals and objectives of the Plan. For Wiehle-Reston East TSA Street Network and Hierarchy, see page 6-26, Herndon TSA Street Network and Hierarchy see page 6-30.

COMPREHENSIVE PLAN GUIDANCE

The Multimodal Street Network is designed to increase vehicular, pedestrian and bicycle connections, improve circulation and establish smaller development blocks within the TSA. The streetscape design responds to the size and character of the street. The related street sections are found in the previous section.

1. Town Center Parkway is planned to extend beneath the Dulles Toll Road and connect to Sunrise Valley Drive.
2. A number of new streets are planned within the south Sub-district of Reston Town Center station to better connect destinations with the Town Center Metrorail station and the rest of Town Center to the north.
3. Library Street is planned to extend north and south, providing pedestrians and cyclists a pleasant, low-speed and low-volume street for travel from the Metrorail station to the new civic and other uses planned for Town Center North.

STREET CLASSIFICATIONS

The following list covers the classification of the existing streets within Reston Town Center TSA. In all cases, refer to the Fairfax County Transit Station Area Multimodal District Plans for Reston for final classifications. The proposed streets and local roads are not included in this list, but are included on the map on page 6-28.

Through Corridor

- Fairfax County Parkway

Boulevard

- Baron Cameron Avenue

Major Avenue

- Reston Parkway
- Sunset Hills Road

Avenue

- Bluemont Way
- Bowman Towne Drive
- Edmund Halley Drive
- portions of Fountain Drive
- New Dominion Parkway
- Old Reston Avenue
- South Lake Drive
- Sunrise Valley Drive
- Temporary Road
- Town Center Drive
- Town Center Parkway
- USGS Drive



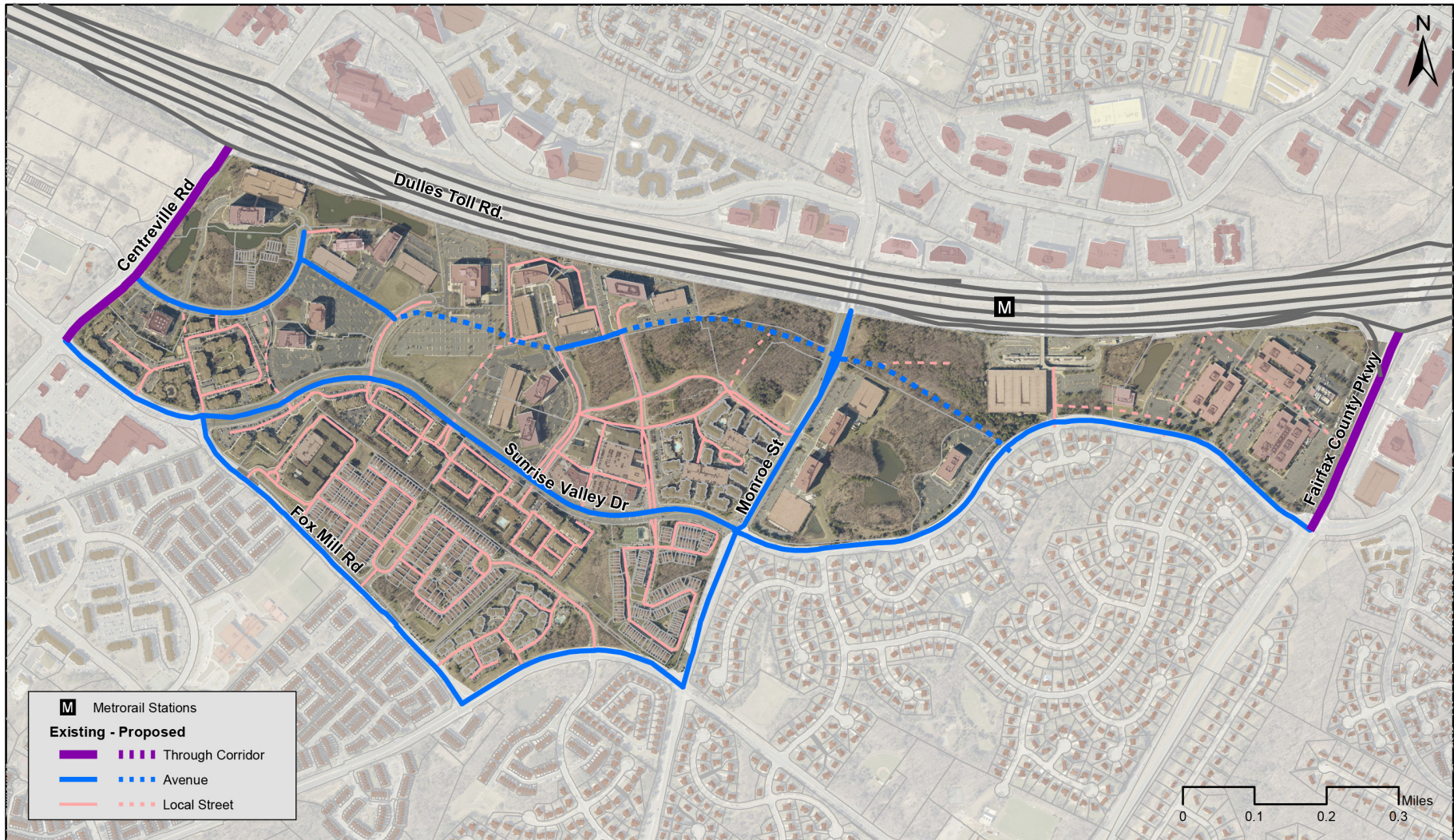
Existing streetscape in Reston Town Center | Reston, VA | Image Credit: Fairfax County



Bluemont Way Existing Character | Reston, VA | Image Credit: Fairfax County

6D Street Network and Hierarchy | Herndon TSA

HERNDON TSA STREET NETWORK AND CLASSIFICATION MAP



Note: The above map reflects roads within the TSA. In all cases, refer to the Comprehensive Plan and the Multimodal District Plans. There should be reasonable flexibility in the final location and configuration of new street connections so as to accommodate property specific land planning that otherwise implements and reflects the collective goals and objectives of the Plan. For Wiehle-Reston East TSA Street Network and Hierarchy, see page 6-26, Reston Town Center TSA Street Network and Hierarchy see page 6-28.

COMPREHENSIVE PLAN GUIDANCE

The Multimodal Street Network is designed to increase vehicular, pedestrian and bicycle connections, improve circulation and establish smaller development blocks within the TSA. The streetscape design responds to the size and character of the street. The related street sections are found in the previous section.

1. A number of new streets are planned that will assemble the collection of existing parking lot service lanes into a network of local streets.
2. All local streets should have sidewalks. Streets in higher density areas should have sidewalks that are at least 8 feet wide, while those in lower density areas should be no less than 6 feet in width.

STREET CLASSIFICATIONS

The following list covers the classification of the existing streets within Herndon TSA. In all cases, refer to the Fairfax County Transit Station Area Multimodal District Plans for Reston for final classifications. The proposed streets and local roads are not included in this list, but are included on the map on page 6-30.

Through Corridor

- Centreville Road
- Fairfax County Parkway

Avenue

- Fox Mill Road
- Frying Pan Road
- Monroe Street
- Sunrise Valley Drive



Existing Conditions on Fox Mill Road | Herndon, VA | Image Credit: Fairfax County



Existing conditions including dense vegetation along Sunrise Valley Drive | Herndon, VA | Image Credit: Fairfax County

6E Street Crossing Design



High-visibility crosswalk with a pedestrian refuge | Arlington, VA | Image Credit: NACTO



Graphics incorporated into crosswalk



Graphics incorporated into crosswalk | Indianapolis, IN

INTENT STATEMENTS

Marked crosswalks enhance safety at intersections and mid-block crossings by increasing the visibility of crossing locations and designating fixed locations for pedestrians to cross the roadway. In select locations, marked crosswalks can also add aesthetic value to public spaces.

All crosswalk and intersection treatments on public streets are subject to review and approval by VDOT.

Reston TSA crosswalks should:

- A. Provide safe crossings for pedestrians and bicyclists at preferred locations and help raise motorist's awareness of the need to yield to pedestrians.
- B. Minimize vehicle conflicts with people walking and riding bicycles.
- C. Highlight important links in the pedestrian network.

DESIGN STRATEGIES

1. Design high-visibility crosswalks in compliance with VDOT guidance.
2. Provide marked crosswalks on all legs of an intersection.
3. Provide pedestrian ramps at all corners of an intersection.
4. Consider high-visibility pavement treatments where trails cross roads.
5. Consider pedestrian tables (crosswalks at-grade with the adjacent sidewalk) at low-speed/low-traffic intersections with high pedestrian activity.
6. Consider pedestrian refuge islands and active traffic control devices to improve pedestrian safety, especially at crossings with high turning vehicle volumes or long pedestrian crossing distances.
7. Use specialty pavements, such as stamped or colored asphalt, only on low-speed/low-traffic intersections with high pedestrian activity.
8. Consider using mid-block crossings subject to review and approval by FCDOT and VDOT, to reduce walking distances on long blocks and at primary pedestrian crossings.
9. Enhance any mid-block crossings with additional signage and markings and visibility improvements.
10. To improve pedestrian visibility and safety, incorporate curb extensions (ie: “bulb-outs”) into the parking lane (where applicable) at corners and any mid-block crossings.



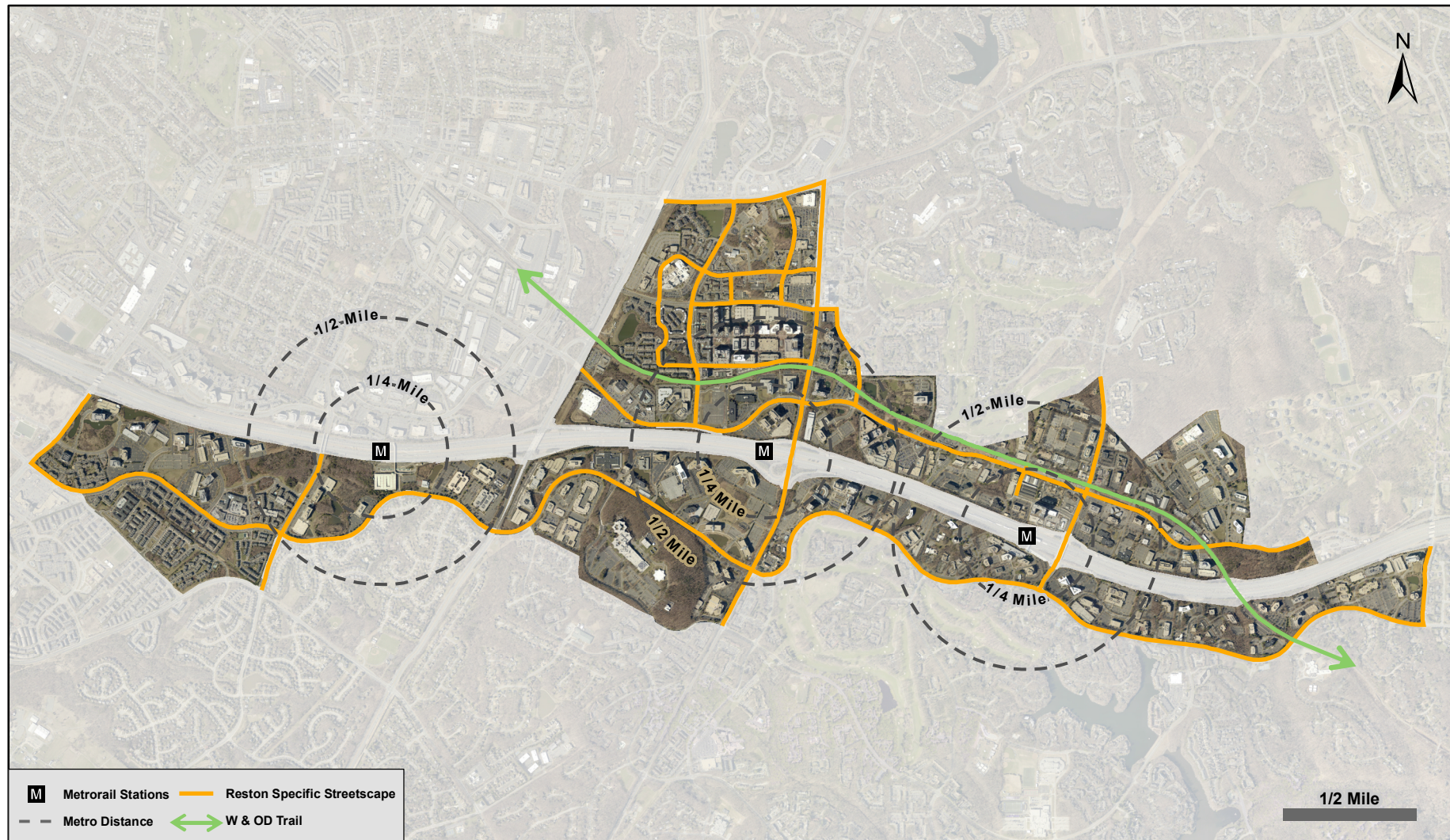
Bulb-out with dual pedestrian ramps | Arlington, VA | Image Credit: Fairfax County



Landscaped pedestrian refuge | Arlington, VA | Image Credit: NACTO

6F Reston Specific Streetscape

RESTON SPECIFIC STREETScape LOCATIONS



INTENT STATEMENTS

Reston Specific streets are intended to implement the Plan guidance for “Reston Specific Streetscapes.” These streets provide an opportunity to implement the Plan vision for sustainable environments and embrace the emphasis on landscape plantings within the public realm. The recommended locations for Reston Specific Streetscape can be found on the Reston Specific Streetscape map (6-34). These streets are located where they can provide key connections between the metro stations, landmarks, parks and open spaces, and the trail network, and where they can support recreational use.

Reston TSA development along Reston Specific Streetscape locations, should:

- A. Use visually distinct paving to reinforce the connection to the existing trail network from the Reston neighborhoods into the TSAs.
- B. Provide enhanced sidewalks and prioritize bicycle facilities in or along the streetscape.
- C. Introduce larger planting areas and enhanced vegetation between the sidewalk and the building or between the sidewalk and the road.
- D. Encourage stormwater infiltration and management as part of the streetscape design.

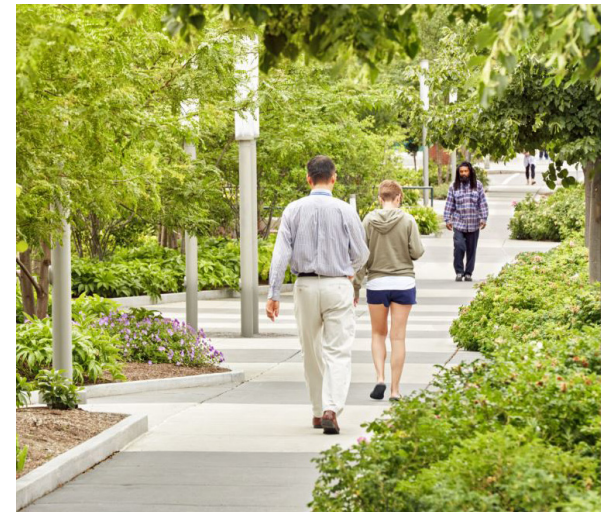
RECOMMENDED LOCATIONS

Reston Specific Streetscapes are appropriate for parts of or the entire length of the following streets within the Reston TSAs:

- Hunter Mill Road
- Sunrise Valley Drive
- Sunset Hills Road
- Wiehle Avenue
- Reston Parkway
- Metro Center Drive
- Old Reston Avenue
- Fountain Drive
- Explorer Street
- Temporary Road
- Town Center Parkway
- Crescent Park Drive
- Baron Cameron Avenue
- New Dominion Parkway
- Bowman Towne Drive
- Town Center Drive
- Bluemont Way
- Monroe Street
- Centreville Road



Lush landscaping and distinct paving treatment creates a pleasant pedestrian experience | Chicago, IL | Image Credit: Fairfax County



Randomized plantings along both sides of a sidewalk | Buffalo, NY | Image Credit: Ty Cole Studio

6F



Embrace the existing Reston character which emphasizes small thickets of trees | Reston, VA | Image Credit: Fairfax County



Permeable pavement, option for private streets

OVERVIEW

Three streetscape expressions are presented to reflect differing levels of development focus in proximity to the Metrorail stations.

The “**standard expression**” of the Reston Specific Streetscape (page 6-37) should include the most densely planted landscape panels of the TSA with a mix of understory and street trees, shrubs, ground cover, and seating areas. The standard expression should resemble existing thickets of trees found in Reston (see photo, top left).

In certain areas, variations on the standard expression may be appropriate:

- A. A “**transitional expression**” of the Reston Specific Streetscape (page 6-38) is most appropriate for areas between $\frac{1}{4}$ mile and $\frac{1}{2}$ mile of each station and should offer a transition between the most urban areas where less plantings are anticipated and the areas furthest from Metrorail stations where increased plantings are anticipated.
- B. An “**urban expression**” of the Reston Specific Streetscape (page 6-39) is only appropriate for projects within the $\frac{1}{4}$ mile radius of the three Metrorail stations and should provide the most urban streetscape with an emphasis on innovation and public space more so than dense plantings.

DESIGN STRATEGIES

1. Utilize the Reston Specific Streetscape locations shown on the map on page 6-34 as a guide, noting that alternative streets may be considered for implementation of such streetscapes. In limited circumstances, projects may not have a dedicated “Reston Specific Streetscape” location – this should be discussed with staff as a part of the entitlement process.
2. Provide a wider landscape amenity panel at least 12 feet in width for areas designated as Reston Specific Streetscape. Building zone and sidewalk widths will vary.
3. Continue the location of Reston Specific Streetscape treatments between adjacent developments.
4. Consider using permeable paving or stormwater management planting features in the landscape amenity panel, especially within the urban expression Reston Specific Streetscapes.
5. Where appropriate, integrate plantings with the paving along the sidewalks to create extensions of the open space and trail networks into the TSAs.
6. Tree spacing may be adjusted for sight line, visibility, signage and storefront visibility.

6F Reston Specific Streetscape | Standard Expression

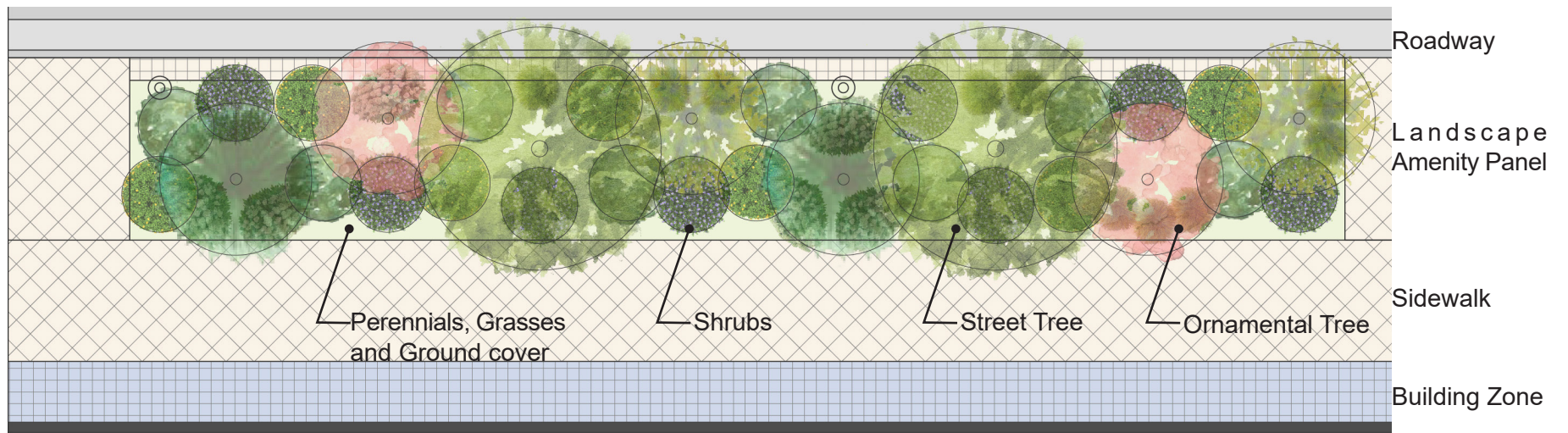
DESIGN STRATEGIES

For all areas outside of the 1/2 mile of Metrorail stations, utilize the standard expression of the Reston Specific Streetscape.

1. Include dense plantings which embrace the existing Reston character.
2. Randomly space street and understory trees.
3. Locate street trees 30-40 feet apart, and understory trees 10-15 feet apart.
4. Include ground cover, shrubs, grasses and perennials.



Existing pockets of randomly spaced trees along Sunrise Valley Drive | Reston, VA | Image Credit: Fairfax County



RESTON SPECIFIC STREETScape PLAN - STANDARD EXPRESSION

6F Reston Specific Streetscape | Transitional Expression

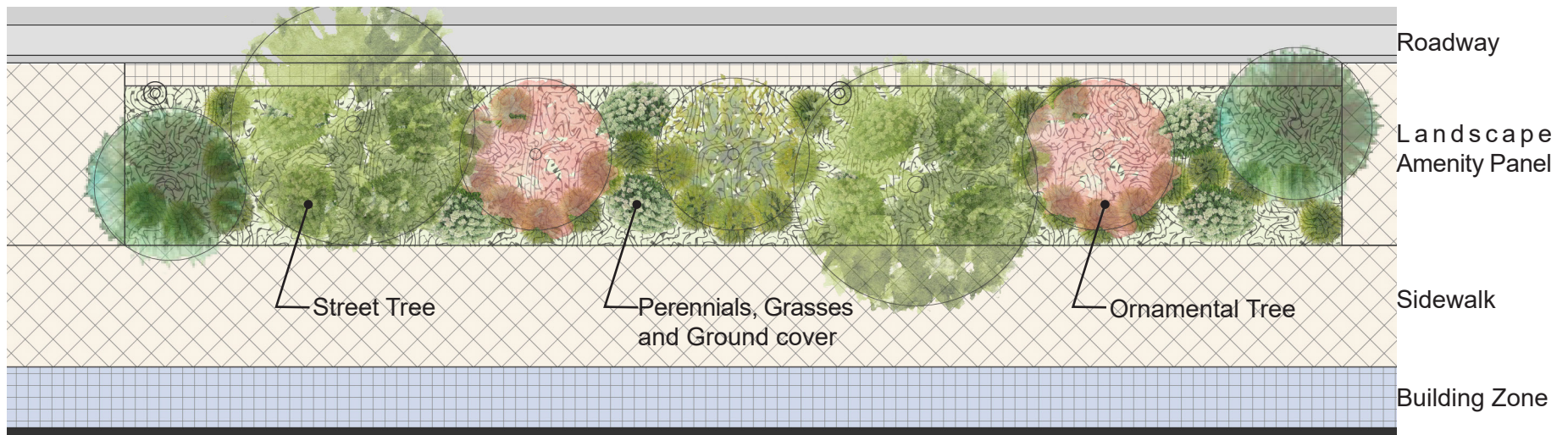


Sample Reston Specific Streetscape | Image Credit: LandDesign

DESIGN STRATEGIES

Consider the transitional expression of the Reston Specific Streetscape for areas within the 1/2 mile of Metrorail stations.

1. Incorporate understory trees in addition to randomly spaced street trees while retaining the urban character of the area.
2. Space street and understory trees randomly.
3. Locate street trees 30-40 feet apart, and understory trees 10-15 feet apart.
4. Include ground cover, grasses and perennials.
5. Provide street furnishings to encourage social interaction.



RESTON SPECIFIC STREETScape PLAN - TRANSITIONAL EXPRESSION

6F Reston Specific Streetscape | Urban Expression

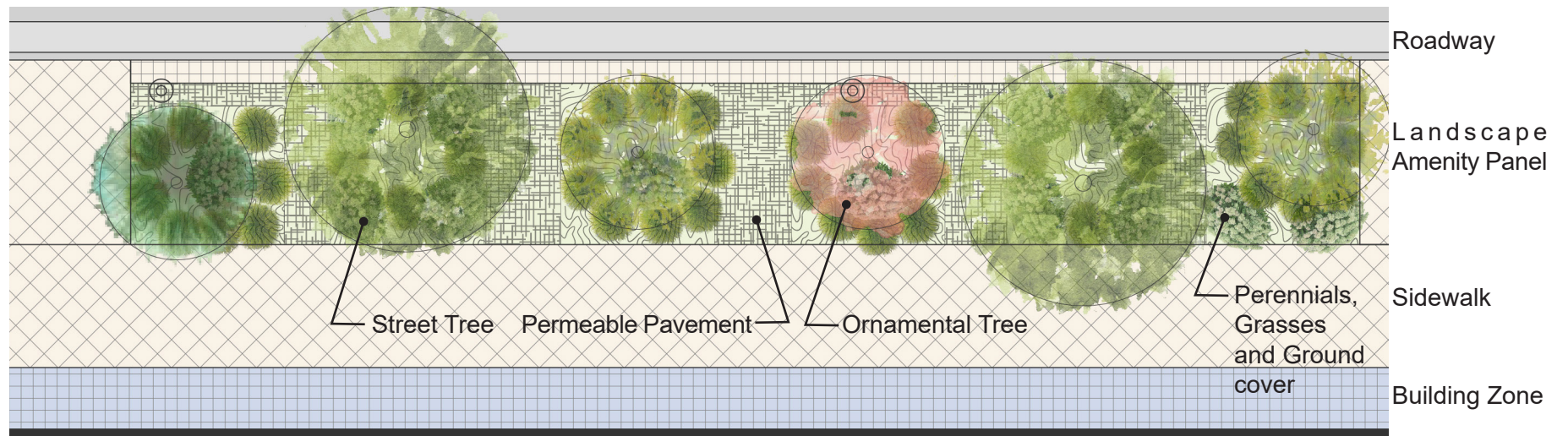
DESIGN STRATEGIES

Areas closest to the Metrorail stations can consider an urban expression of the Reston Specific Streetscape.

1. Incorporate innovative hardscape elements and stormwater management features.
2. Provide ample areas for seating along the streetscape.
3. Consider the incorporation of rain gardens within the landscape panel.
4. Space street trees randomly within the panel, 30-40 feet apart, and understory trees 10-15 feet apart.
5. Maintain a 2 foot pedestrian step-out adjacent to on-street parking.



Incorporate permeable pavement and seating areas in the urban expression | Barcelona, Spain | Image Credit: Adria Goula



RESTON SPECIFIC STREETScape PLAN - URBAN EXPRESSION

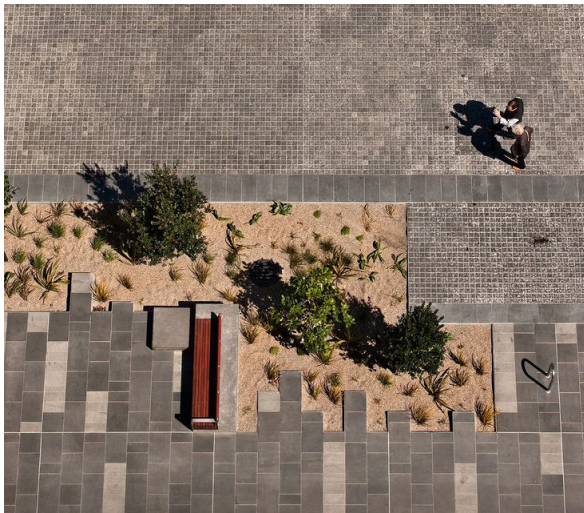
6G Pedestrian Pavement Treatments



Scored concrete with pavers within the landscape amenity panel | Arlington, VA | Image Credit: Fairfax County



Grey paver pattern option with banding between uses | Indianapolis, IN



Pavement treatment - mix of grey pavers used throughout Silo Park | Auckland, New Zealand



Permeable pavers

INTENT STATEMENTS

In Reston, materials and design have traditionally been used that complement and protect the environment, and contribute to an overall high quality of development.

Reston TSA development should:

- A. Create safe, attractive streetscapes that are visually interesting.
- B. Create visual unity through consistent use of materials.
- C. When feasible, use paving materials such as permeable pavement, which allow stormwater through to improved site drainage and stormwater management.
- D. Increase the amount of pervious surface as redevelopment occurs.
- E. Use variations in paving material, color, pattern and texture to convey a hierarchy of pedestrian spaces and highlight important site features.

DESIGN STRATEGIES

1. Ensure pedestrian treatments are consistent within a project. Also coordinate treatments within a district. Use consistent paving materials, along each block face and on both sides of the street.
2. Minimize the appearance of the service entrances in the sidewalk by using the same paving at driveway and services entrances that is used along the streetscape.
3. Utilize pavers with a simple geometric pattern or poured in place concrete as the primary material for sidewalks.
4. Special treatments may be considered to highlight locations such as major building entrances, mid-block plazas and prominent building features, using variations in color, texture, finishes, and joints. Pre-cast materials may also be considered.
5. Consider permeable pavement over tree planting spaces in high pedestrian traffic areas with appropriate structural supports.
6. To ensure the safety of pedestrian walkways year-round, provide sufficient lighting and treatments to reduce slipping.
7. Use distinctive paving to signal a dramatic change along a street with a different character such as a “festival street” or woonerf.
8. Paving outside of the right-of-way can vary from that used in the public streetscape. Take advantage of this flexibility to create imaginative hardscapes that can be appreciated from ground level as well as from upper stories of nearby buildings.

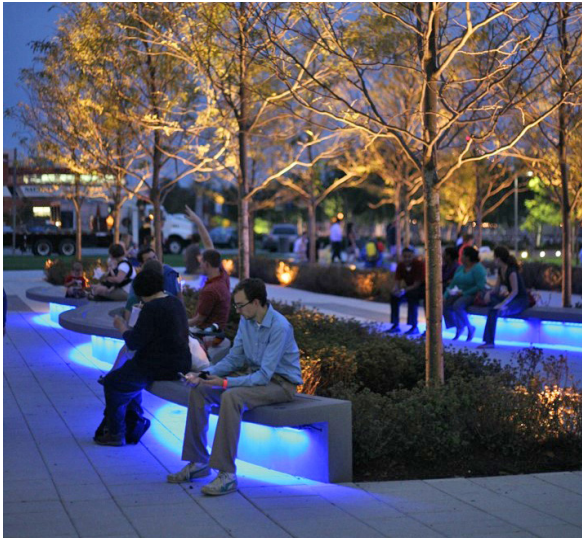


Pavers used in streetscape | Reston, VA | Image Credit: Fairfax County



Pavers used in a public plaza | Montreal, Canada | Image Credit: Fairfax County

6H Lighting



Effective site lighting encourages use of parks and plazas at night | Washington, DC | Image Credit: David Whyte



Pedestrian scaled lighting along a path in a Millennium Park | Chicago, IL | Image Credit: LandscapeForms



Vehicular scale lighting option | New York, NY



Pedestrian scaled lighting | South Bend, IN | Image Credit: The Troyer Group

INTENT STATEMENTS

Lighting is both functional and a design element. Appropriate lighting supports active lifestyles by safely encouraging pedestrian activity after dark.

Reston TSA development should:

- A. Use lighting as a design element to help make spaces feel inviting and enhance the architecture of the place.
- B. Use outdoor lighting to illuminate pedestrian sidewalks, trails, paths, streets, entrances, service areas, signage, landscaping and other appropriate elements. Create a safe environment by providing adequate lighting throughout pedestrian areas.
- C. Utilize best practice sustainable and energy efficient lighting techniques.
- D. Provide appropriate illumination levels and minimize glare and spillover to adjacent properties.
- E. Utilize fixtures and poles that are appropriate for either pedestrian or vehicular scale lighting, depending on the context.
- F. Ensure the design and character of light fixtures and poles are compatible with streetscape furniture and the intended character of the TSA.

DESIGN STRATEGIES

1. Avoid excessive and inappropriate lighting; use full cut-off fixtures. Use shielding when necessary to control glare and spillover.
2. Where feasible, employ solar powered lights, LED fixtures, photocells and other energy efficient technologies to reduce energy consumption.
3. Utilize neutral-warm color temperature luminaries (2500-3000 kelvin).
4. Ensure all fixtures utilize colors and finishes that match their poles.
5. Utilize lighting fixtures which complement the architectural style of surrounding buildings and complement the urban character of the neighborhood.
6. Install streetscape lighting fixtures approximately 60 feet on center to illuminate both the sidewalk and roadway.
7. Space street lights evenly along a block.
8. Utilize pedestrian lighting no taller than 20 feet.
9. Utilize pedestrian scale lighting to supplement street lighting where trees may block the light.
10. Emphasize gateways and prominent corners through special lighting designs. Lighting should particularly highlight gateway signage and public art in these locations.
11. Locate fixtures to illuminate entrances, doorways, porticoes, alleys, and service streets.
12. Utilize lighting to highlight architectural features and landscaping and create visual interest.
13. Provide internal and external storefront illumination to create an inviting pedestrian environment. Highlight architectural features such as overhangs and canopies.
14. Incorporate lighting into hardscape elements such as steps, railings, and in the pavement to illuminate the pedestrian realm.
15. Integrate all signage lighting elements into a Comprehensive Sign Plan.
16. Implement bird-friendly site and building lighting strategies, such as a “lights out” policy during bird migrations.



Pedestrian scale lighting option | Washington, DC



Reston Town Center light fixture with banner and planter | Reston, VA | Image Credit: Fairfax County

61 Furnishings



Bus shelter



Vertical bike storage | Montreal, Canada | Image Credit: Fairfax County



Table and umbrella



Trash and recycling receptacles | Victor Stanley

INTENT STATEMENTS

Site furnishings serve a practical purpose and provide an opportunity to reinforce the design character of a site.

Reston TSA development should:

- A. Enhance the pedestrian environment and encourage walking by providing opportunities for rest and gathering, where appropriate.
- B. Support pedestrian activity by providing appropriate amenities like water fountains or refilling stations, trash cans, shelters and tables.
- C. Provide a cohesive design language throughout the TSA by using similar materials, finishes and forms in site furniture and fixtures.

DESIGN STRATEGIES

1. Locate furnishings outside of VDOT clear zones and required sight-line distances.
2. Furniture and fixtures such as benches, bicycle racks and trash receptacles may vary in their shape and design, but should reflect a similar design aesthetic to promote coherency in the district.
3. Utilize furniture which highlights and complements the building architecture and urban character of the surrounding development.
4. Consider furniture and fixtures in neutral metal with a matte or brushed finish. A combination of metal and wood, or accents of wood may be used.
5. Provide sufficient pedestrian amenities such as benches, planters, ornamental lighting, drinking fountains and sculptural elements, especially within close proximity of the metro station.
6. Beyond the immediate metro station area, locate benches and drinking fountains at intervals close enough to provide adequate seating and pedestrian respite, especially along primary pedestrian routes.
7. Ensure that all furnishings are durable to withstand urban environments. Consider materials made of stone, wood, metal, terra cotta, resin or fiberglass. Do not use thin plastic pots for plantings within the streetscape.
8. Design all seating areas, including bus shelters, for ADA compliance.
9. Design bus shelters with wind screens.
10. Select well-designed, appropriately sized trash and recycling receptacles. Place these elements in convenient, conspicuous places to make it easy for people to use them.
11. Provide wayfinding signage to help people get to Metrorail stations and other important locations within the TSAs.
12. In parks and plazas, consider street furnishings that also satisfy active recreational needs such as climbable benches/seat walls and interactive art.
13. Consider the use of technology such as electronic display boards, internet stations, and phone charging stations to improve the user experience.

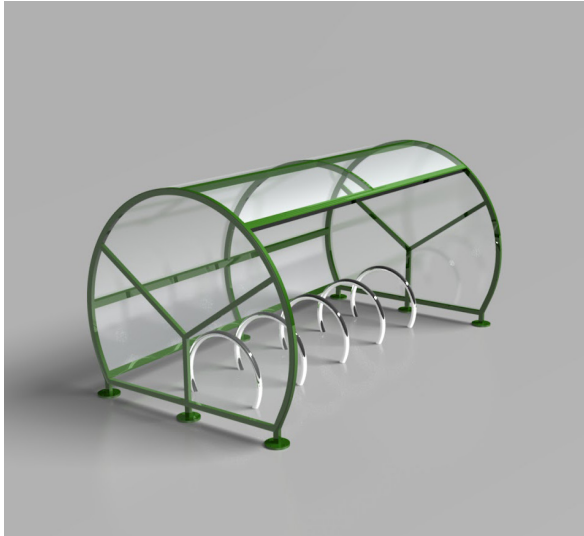


Water fountain with bottle and dog features



Bench with gentle curves

61 Furnishings | Additional Examples



Bicycle Shelter | Versa UK



Bicycle rack



Example of acceptable water fountain | Santa Cole



Bench combined with planter box



Fairfax County Bus Shelter



Metal bench | BMW



Trash receptacle | Reston, VA | Image Credit: Fairfax County



Plantable bollard | Slick Rock



Bus shelter | BMW



Trash receptacle | Reston, VA | Image Credit: Fairfax County

6J Urban Street Trees and Plantings | General



Planting within the public realm | National Harbor, MD



Planting within a plaza | New York, NY

INTENT STATEMENTS

Plants and trees provide environmental benefits, reflect a site's character and design, and contribute to a pleasant pedestrian ambiance. Development in the TSAs should reflect the urban character of the transit areas while retaining the uniquely Reston character.

Reston TSA development should:

- A. Utilize strategies that prioritize the health and maintenance of trees and plants
- B. Increase the tree canopy to improve the overall character and pedestrian experience in the area.
- C. Protect significant trees and tree stands.
- D. Differentiate planting designs to highlight distinctions between street types.
- E. Utilize trees and plantings that correspond with their expected level of maintenance to increase their survivability.

DESIGN STRATEGIES

1. Plant street trees within the landscape amenity panel. Where space allows, trees can also be planted in the building zone.
2. Plant trees at regular intervals along the block. On streets designated for the Reston Specific Streetscape treatment, utilize irregular tree placement to increase the number of trees and allow for clustering.
3. Reston Specific Streetscape locations should have larger, more extensive landscaped amenity panels and may also include enhanced building zones or adjacent parklets or plazas.
4. Ensure that the height of understory plants do not block visibility of storefronts or compromise safety.
5. Consider water conservation in plant selection, irrigation system design, and identification of planting locations. Ensure an adjustable watering system.
6. Irrigation systems should utilize captured rain water or gray water to conserve water and promote the health of the trees.
7. Where possible, cluster trees and provide contiguous planting beds. Avoid isolation in tree space design.

6J Urban Street Trees and Plantings | Street Trees

DESIGN STRATEGIES

1. Select street trees for their shade qualities, drought resistance, and resistance to diseases and pests.
2. Preserve existing healthy trees to the greatest extent practicable; considering long-term viability and the quality of the existing tree space.
3. Ensure that tree selection reflects the size and character of the street and that species can withstand urban environments.
4. Include a variety of tree species of similar heights and canopy. Multiple species may be used within the same block. Native species are preferred within parks. Consult the Appendix 7B of this document for suggested resources such as [Plant NOVA Natives](#).
5. Refer to the tree list on the following pages for recommended species; other species of similar size and character may be considered in consultation with staff.
6. Plant street trees in a bed with a minimum soil volume of 700 cubic feet per tree; in limited circumstances less soil volume may be acceptable, but not less than 400 cubic feet per tree. Where soil volume per tree is reduced, tree planting spaces should be connected to allow multiple trees to share the space. Refer to Appendix 7D for tree planting details.
7. Plant street trees at 30-40 feet on center, adjusting the distance for a more random planting scheme within Reston Specific Streetscapes.
8. An appropriate street tree (Category III or IV) size is 2.5-3.5 inches in caliper at planting.
9. An appropriate ornamental tree (Category II) size is 2-2.5 inches in caliper at planting. Ornamental tree spacing should be wide enough to accommodate crown spread to avoid conflicts with pedestrian and vehicular traffic.
10. All tree planting plans should take into account the presence of overhead utilities to limit the need for pruning as the tree grows.
11. Soil in planting areas may be compacted, depleted, or are otherwise adversely impacted prior to development or as a result of construction activities. Prior to planting, restore soils as needed to provide an aerated, well-drained, fertile soil in which trees and other plants will readily establish and thrive.



Ginkgo



Willow Oak

6J Urban Street Trees and Plantings | Alternative Planting Strategies



Alternative Strategy 1: Minimum Soil Volume



Alternative Strategy 2: Structural Cell Supporting Sidewalk

INTENT STATEMENTS

When street trees are planted in a restricted space with limited soil volume, there is an increased likelihood of stress and greater susceptibility to pest damage and disease. This reduces a trees' full growth and survival potential, lessening the benefits the trees would typically provide. Chapter 12 of the PFM provides guidelines for the planting of landscape and street trees to limit these problems. The guidance in the PFM should be used as a starting place for creating high-quality planting conditions, and adapted if necessary.

In Reston TSAs developments should consider the following:

A. The PFM has two specific requirements for tree space dimensions for Category III and IV street trees - a minimum of 130 square feet of open soil area per tree should be provided, and no barrier restricting lateral root growth such as curb or pavement should be located within 4 feet of the centerline of the tree trunk (for a total minimum planting width of 8 feet). However, this may not be feasible to implement in urban environments or where these Guidelines recommend a landscape panel less than an 8 feet wide.

- B. To address this, the Alternative Design Strategies and the diagrams, found in Appendix 7D, may be considered as an alternative to the PFM that can be utilized depending on available space, specific streetscape conditions, and desired character, if warranted by the site-specific conditions.
- C. In addition, there is flexibility for innovative planting techniques that can achieve better environments for trees beyond the alternatives contained in this document.
- D. Final design and appropriate tree planting methods should be determined in consultation with a certified arborist or landscape architect with experience in urban planting design, and based on review comments and recommendations provided by the County's Urban Forestry Management Division.

DESIGN STRATEGIES

Alternative Strategy 1: Minimum Soil Volume:

- Soil volume should be a minimum of 700-cubic feet per tree for single trees.
- For two trees planted in a contiguous planting area, a total soil volume of at least 1,200-cubic feet should be provided. A contiguous area is defined as any area with a soil depth of 4 feet and where lateral root growth is unrestricted.
- For three or more trees planted in a contiguous area, the soil volume should be at least 500-cubic feet per tree.

These soil volumes are typically met by providing trees within planting strips. Planting strips are long sections of non-compacted soil without pavement on top that provide more soil volume for more than one tree. Sidewalks that bisect the strips may be necessary to keep pedestrian traffic off of the open soil around the trees. These walkways can bridge the planting strips between the curb and sidewalk, or be supported by structural cells to provide a contiguous planting area. Planting perennials, ornamental grasses, and shrubs between trees within the planting strip can help reduce foot traffic and soil compaction, thereby creating a more favorable condition for tree roots.

Alternative Strategy 2: Structural Cell Supporting Sidewalk:

- Structural cell systems typically consist of a framework of fiberglass/polypropylene modular units configured based on site conditions. This framework supports paving above un-compacted planting soil contained within the open space of the cells. This framework is constructed around the planting site and tree roots can spread through the soil within the cells without interrupting the hardscape. This allows the planting area to be filled with well-aerated, quality topsoil giving roots proper space in which to grow.



Alternative Strategy 1: Minimum Soil Volume with sidewalk floating over planting space

Alternative Strategy 3: Cantilevered Sidewalk:

- Sidewalks may also be cantilevered over the tree space as long as there is a minimum of two feet of space for basal area expansion between the tree trunk and the edge of pavement; and the tree open surface soil area has a minimum width of six feet.



Alternative Strategy 2: Structural Cell Supporting Sidewalk

6J Urban Street Trees and Plantings | Street Trees and Ornamental Trees

Common Name	Botanical Name	Use: Plazas	Use: Streets	Use: Parks	Use on Reston Specific Streets
Category IV (Street)					
American Beech	<i>Fagus grandifolia</i>	No	No	Yes	No
American Elm	<i>Ulmus americana</i>	No	Yes	Yes	Yes
Ginkgo	<i>Ginkgo biloba</i>	Yes	Yes	No	Yes
London Planetree	<i>Platanus acerfolia</i>	Yes	Yes	No	Yes
Red Maple	<i>Acer rubrum</i>	No	Yes	Yes	Yes
White Oak	<i>Quercus alba</i>	No	No	Yes	No
Willow Oak	<i>Quercus phellos</i>	No	No	Yes	No
Japanese Zelkova	<i>Zelkova serrata</i>	Yes	Yes	No	No
Category III (Street)					
Black Gum	<i>Nyssa sylvatica</i>	No	Yes	Yes	Yes
Katsura tree	<i>Cercidiphyllum japonicum</i>	Yes	No	Yes	Yes
River Birch	<i>Betula nigra</i>	Yes	No	Yes	No
Yellowwood	<i>Cladrastis kentuckea</i>	Yes	Yes	Yes	Yes
Yoshino Cherry	<i>Prunus yedoensis</i>	Yes	Yes	Yes	No
Category II (Ornamental)					
American Hornbeam	<i>Carpinus caroliniana</i>	No	No	Yes	Yes
Eastern Redbud	<i>Cercis canadensis</i>	Yes	No	Yes	Yes
Flowering Dogwood	<i>Cornus florida</i>	No	No	Yes	Yes
Japanese Snowbell	<i>Styrax japonica</i>	Yes	No	Yes	Yes
Serviceberry	<i>Amelachier arborea</i>	Yes	No	Yes	Yes
Saucer Magnolia	<i>Magnolia soulangiana</i>	Yes	No	Yes	No
Star Magnolia	<i>Magnolia stellata</i>	Yes	No	Yes	Yes
Sweetbay Magnolia	<i>Magnolia virginiana</i>	No	No	Yes	No

This is not an exhaustive list. Consult with the Urban Forest Management for alternative plantings.

IMAGES FOR STREET TREES AND ORNAMENTAL TREES



American Elm



London Planetree



Japanese Zelkova



Serviceberry



River Birch



American Hornbeam



Flowering Dogwood



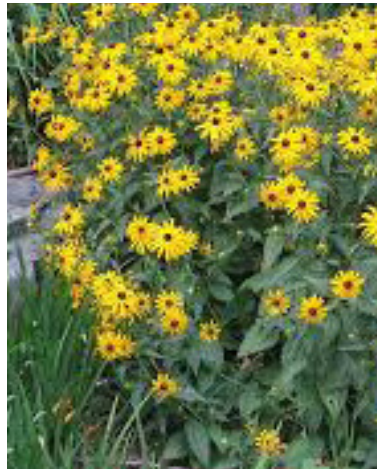
River Birch - Bark detail

6J Urban Street Trees and Plantings | Landscape Plantings

DESIGN STRATEGIES

1. Design landscape plantings that include a mix of multiple plant varieties, organized in an informal, layered manner, with an emphasis on native plants.
2. Create a distinct canopy, understory, and ground level by using plants of varied heights.
3. Refer to the plant list on the following pages for recommended species; other species of similar size and character may be considered in consultation with staff.

IMAGES OF SHRUBS, GRASSES AND PERENNIALS



Black Eyed Susan



Ninebark



Common Winterberry



Virginia Bluebell



Indian Grass



Cardinal Flower



White Wood Aster

Common Name	Botanical Name	Use: Plazas	Use: Streets	Use: Parks	Use on Reston Specific Streets
Shrubs:					
Witch Hazel	<i>Hamamelis virginiana</i>	No	No	Yes	Yes
Common Winterberry	<i>Ilex verticillata</i>	No	Yes	Yes	Yes
Common Ninebark	<i>Physocarpus opulifolius</i>	No	Yes	Yes	Yes
Summersweet	<i>Clethra alnifolia</i>	Yes	Yes	Yes	Yes
Sweetshrub	<i>Calycanthus floridus</i>	Yes	No	Yes	Yes
St. John's Wort	<i>Hypericum calycinum</i>	Yes	Yes	Yes	Yes
Arrowwood Viburnum	<i>Viburnum dentatum</i>	No	No	Yes	Yes
Grasses:					
Big Bluestem	<i>Andropogon gerardii</i>	Yes	Yes	Yes	Yes
Indian Grass	<i>Sorghastrum nutans</i>	Yes	Yes	No	Yes
Switchgrass	<i>Panicum virgatum</i>	Yes	Yes	Yes	Yes
Little Bluestem	<i>Schizachyrium scoparium</i>	Yes	No	Yes	Yes
Perennials:					
Swamp Milkweed	<i>Asclepias incarnata</i>	Yes	Yes	Yes	Yes
White Wood Aster	<i>Eurybia divaricata</i>	Yes	Yes	Yes	Yes
Cardinal Flower	<i>Lobelia cardinalis</i>	Yes	Yes	Yes	Yes
Virginia Bluebell	<i>Mertensia virginica</i>	Yes	Yes	Yes	Yes
Black Eyed Susan	<i>Rudbeckia hirta</i>	Yes	Yes	Yes	Yes
Goldenrod	<i>Solidago spp.</i>	Yes	Yes	Yes	Yes
New England Aster	<i>Symphotrichum novae-angliae</i>	Yes	Yes	Yes	Yes
Bell Flower	<i>Campanula sp.</i>	Yes	Yes	Yes	Yes
Siberian Iris		No	No	Yes	Yes



Witch Hazel



Switch Grass

This is not an exhaustive list. Consult with the Urban Forest Management for alternative plantings.