CHAPTER 5.2

# STREETSCAPE DESIGN GUIDE

## WHAT'S INSIDE

### Introduction
The introduction outlines the purpose of the streetscape design guide and when to use this chapter.

### Existing Conditions
This section identifies the existing conditions of streetscapes through the Town and lessons learned from precedent examples.

### Peer Review
This section highlights lessons learned from research of peer community streetscape design guidelines and public art policies.

### Streetscape in Holly Springs
This section introduces the components of a great streetscape.

### Street Typologies
This section explains how streetscapes should fit the contexts of the road classification.

### Streetscape Elements
The content in the section outlines the intent and guidelines for streetscape components, allowing for the thoughtful design of streetscape with a high-level of quality.

### Public Art
This content under this heading details components of public art and how it relates to place making in a street setting.

# Introduction

The importance of streetscape design guidelines can be outlined through the improved safety, visual quality, and community character they will bring the Town of Holly Springs. With a goal of creating a unifying vision for near and long-term streetscape improvements across the Town, a framework has been provided for pedestrians, transit, lighting, furnishings, and community identify elements.

## Purpose

Vision Holly Springs Section 1: Land Use & Character Plan identifies that improvements to the public realm can significantly influence the form and function of Holly Springs' neighborhoods, town and regional centers, and create a sense of place for those who live and work there. The "Public Realm" is the portion of the Town that is shared among all of its residents and visitors. It encompasses all of the streets and public outdoor spaces in Holly Springs, including parks, greens, plazas, public art, street furniture, lighting and public infrastructure. All of the elements described above contribute to the character of a place, and making clear decisions about what happens in the public realm is critical to maintaining and/ or transforming character. The need to create streetscape guidelines is rooted in the desire to improve the quality of public realm with underlying goals of improving pedestrian experiences and developing a cohesive aesthetic.

A significant challenge to improving the public realm is the existing character of the Town's public streets, which are currently designed primarily for moving automobiles quickly. This CTP calls for a number of changes to how the Town designs streets. Through expansion of proposed changes to include the full character of the right-of-ways, a better, more livable set of streets can be achieved.

As part of the streetscape design guidelines, a review of existing conditions, research of peer communities, and the development of a set of guidelines that address the character of the streetscape, medians, plantings, furnishings, etc. was completed. This set of guidelines establishes a framework that allows for flexibility of street type, conditions, and budget.

### Derivative of CTP Recommendations

The CTP has evaluated the community's transportation network, planned for the future, and outlined a series of recommended improvements. This chapter of streetscape design guidelines is one of those recommendations. The goal of these guidelines is to build upon the recommendations of the CTP, and where possible, leverage projects to incorporate new streetscape standards for the comprehensive design of the public realm. A focus on these guidelines is the space within a street right-of-way between a building facade or property limits and the curb. This space may be activated by pedestrians on either side of a street, or it may be limited to pedestrian interaction such as a median. These guidelines are not to interfere with recommendations elsewhere in this CTP that impact travel lanes, intersections or other facilities within the limits of curbs.

### When to use this Chapter

This set of streetscape design guidelines are not regulations that mandate specific forms or improvements. The guidelines contained in this chapter are to illustrate recommendations and principles of good streetscape design that encourage an attractive and successful public realm and should be incorporated into the Unified Development Ordinance or Engineering Design and Construction Standards.

As transportation projects are planned and designed within the public realm or right-of-way, Town staff, consultants, and residents are encouraged to review these guidelines for inspiration, as a problem-solving tool, and most importantly, a checklist for considerations. This chapter should be referenced during the planning and design stages to provide maximum benefits to any project.

## Field Review

Streetscapes in Holly Springs are highlighted by a wide range of design aesthetics, furnishing types, and plant palettes. Additionally, there are several documents that influence how streetscapes are designed throughout the Town. Primary documents include:

- Vision Holly Springs Comprehensive Plan
  - Section 1: Land Use & Character Plan
    - Appendix C: Thoroughfare Planting Plan
    - Appendix D: Town Gateway Map
    - Appendix E: Downtown Area Plan
  - Section 2: Comprehensive Transportation Plan
  - Section 3: Parks, Recreation and Greenways Master Plan
- Unified Development Ordinance
- Engineering Design and Construction Standards
- NCDOT Guidelines for Planting Within Highway Right-of-Way

Though these documents share a common goal of elevating the quality and consistency of streetscape design, they frequently conflict with one another and often result in mismatched guidance in safety, aesthetics, and branding.

Upon review of field conditions of existing streetscape types across Holly Springs, the following key takeaways were identified:

- Inconsistent aesthetics and branding
- Lack of use of durable materials
- Inefficiencies of maintenance
- Lack of consistency in safety requirements
- High ability to maintain quality streetscapes
- Limited use of public art to enhance community character
- Transition from heavily vehicle influenced streetscape scale to pedestrian or complete-street scale
- Emphasis on streetscape as a branding, economic development, and community character defining tool

Not all observations were negative as can be see above. The Town's ability to maintain quality streetscape, use of public art, and noted transition of scale from vehicle dominance to pedestrian is positive. As shown in the following images, a wide range of streetscape types and components can be seen throughout the Town.

Although the Town is able to maintain many of the streetscapes to a high level of quality, there are inefficiencies in how some of the streetscapes are designed which add to the workload of maintenance crews and in some cases, may create unsafe conditions for crews due to a lack of incorporating best practices.

An example is a condition that was found in several streetscapes that consists of narrow strips of grass between planting beds and the curb. The purpose of these grass strips is to prevent mulch runoff into travel lanes and provide a visual barrier between the planting bed and street. These strips of sod are frequently too narrow to mow and require a crew member to walk with a line trimmer along travel lanes to cut grass. In addition, because of the harsh conditions of the streetscape, the grass is frequently thin and dying. An alternative best practice is to maintain a grass strip with a minimum width of 36" which is a common width of a mower's deck. This prevents the added need for a crew member to walk in the street to cut grass and still provides the benefits of containing mulch and providing a visual separation. Another alternative is to simply plant the full width of the bed to the curb and maintain the elevation of mulch below the curb height to prevent washouts.

*Example of median plantings not designed to scale; Pine Grove-Wilbon Road at Brayton Park Place.*

*Example of small roundabout on Earp Street near Holly Springs Police Station.*

*Example of a drought-tolerant median planting along Avent Ferry Road south of US Hwy 55.*

*Example of inappropriate plantings with a 'hollies' theme along Main Street at Holly Springs Road.*

## Field Review

The following list identifies additional observations of existing streetscapes throughout Holly Springs. Notes specific to S. Main Street in the Downtown Village District are shown in the image below.

- Consistent 'holly' plant theme
- Significant visual barriers by median landscape not meeting NCDOT ROW planting requirements or requirements for local roadways
- Opportunities for public art to be incorporated
- High maintenance plant palette and lack of 'right sizing' plant species resulting in need to frequently trim shrubs and limb-up trees
- Lack of visual elements in existing roundabouts
- Existing public art not well sited for visibility
- Medians lack refuge islands for pedestrians
- Existing gateway elements include brick columns and entry signs in opposite corners of intersections
- Inconsistent color palette across gateways features
- Use of mono-textured plant palette around gateway features
- Large areas of exposed mulch
- Some plantings have reached their lifespans for successful growth in medians
- Plant massings do not match design speeds for corridors

### South Main Street - Context Zone Challenges

## Precedents and Lessons Learned

### Methodology

Research was completed by studying regional and national precedents for communicating streetscape and landscape design, establishing public art polices, and implementation of streetscape design standards. A collection of local and national successful examples were reviewed and lessons learned identified. The following information consists of lessons referenced in the development of guidelines for Holly Springs.

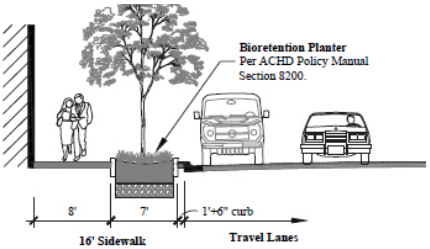

*At right: Example of a streetscape bio-retention planter - Downtown Boise Streetscape Standards and Specifications Manual*

### Streetscape Design

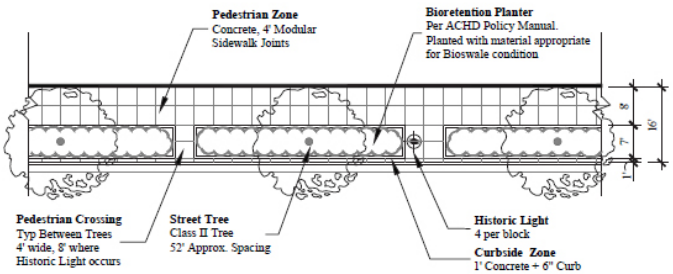
Streetscape design documents establish design vocabulary and streetscape character, as it relates to form and materials. As represented in chosen precedent documents, these design requirements are determined and presented in a variety of ways to serve as a design tool.

The Downtown Boise Streetscape Standards and Specifications Manual and the Hoboken Street Design Guide both begin with a master plan identifying street specific typologies. These documents then describe the characteristics expected for each street type to achieve well rounded streetscapes for pedestrians and vehicles as examples of complete streets.

The Connect Atlanta Plan outlines different design impacts from vehicles, transit, bikes, and pedestrians based upon existing context of the street. Items which influence the streetscape include vehicle access demand, on-site parking, driveway density, vehicle speeds, access demand, building form, and land-use. In contrast, other precedent examples are mostly area plans that establish design standards for specific areas. However, most guidelines can be applied throughout a community.

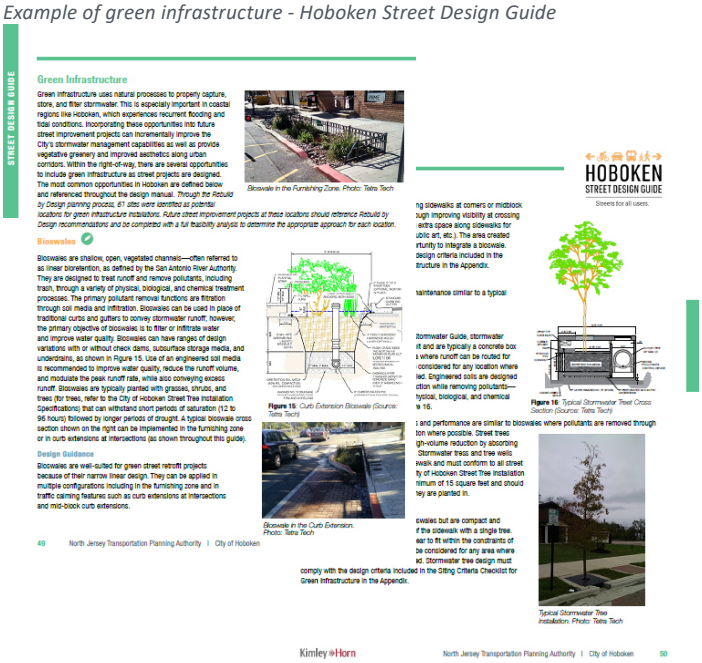



TYPE 7 - FAIRVIEW & MAIN GREEN STREETS STREETSCAPE SECTION



## Precedents and Lessons Learned

*Example of green infrastructure - Hoboken Street Design Guide*




The Downtown Streetscape Improvement Plan of Matthews, NC focuses on improvement of specific sites within the downtown design district related to materials and features of pedestrian zones. The Design Standards & Guidelines for Cherry Creek North Denver outlines value and goals to be supported by each design guideline based upon pedestrian connectivity, paving, scooters and bicycles, streetscape furniture, pedestrian lighting, and, art and garden places.

The Streetscape Design Standards for Nassau Street in Princeton, New Jersey focuses on the design of one specific historic street. This example was relevant to streets within the Downtown Area Plan of Holly Springs. Streetscape design standards established for several different conditions along a street including landscape edges, alley crossings, and plaza edges.

All precedents researched serve as guides to creating safe, aesthetically pleasing, and implementable streetscapes design within communities.

### Public Art

Public art is art installation in the right-of-way or a public easement funded and/or maintained by a public agency. Public art enhances the streetscape environment, offers social and educational opportunities, promotes tourism and community character, and in some cases, can discourage vandalism.

Chapel Hill and Wake Forest have appointed committees that spearhead development of public and cultural arts, and have either a cultural arts division and/or the parks and recreation departments leading efforts to collaboratively work with clubs and associations on public art opportunities. Each community clearly defines what public art is for the purpose of common ground among advocates and developed mission statements for guidance. Both communities have implemented a 'Percent for Public Art' ordinance which allocates 1% of capital construction projects for public art. Chapel Hill's plan further identifies location opportunities for public art.

*Redmond, WA; 'Standing Leaves, Falling Light' by Barbara Gyrgutis; an example of monumental art installations.*

*Chapel Hill, NC 'Treescape' by Arlene Slaven; an example of a bench serving as public art.*

## Landscape

The Town of Cary Community Appearance Manual outlines design standards for landscape, lighting, and architectural compatibility. Within the landscape section, guidelines are determined by variables of spacing and density with species selection being led by a specific approved list. The focus of Cary's landscape design standards is preservation of existing vegetation, use of native species, and density of vegetation in relation to the specific land use of a streetscape area.

*Example of median landscape in Cary, NC (Chapel Hill Rd)*

The Street Trees, Tree Lawns, & Planting Beds Section of the Design Standards & Guidelines for Cherry Creek North (Denver) describes landscape as a tool of design that softens the urban context and introduces natural elements into the street environment. Street tree plantings are to be rhythmic in order and feature ornamental trees at intersections. The Streetscape Design Standards for Nassau Street in Princeton, New Jersey outlines tree grate options for street trees, guidelines for mounted planting baskets on each light pole, and a recommendation to use movable planters as a visual screen or buffer alongside any outdoor dining area.

*Example of roundabout landscape in Cary, NC (W. Chatham Street)*

*Example of streetscape in Cary, NC (South Harrison Ave.)*

## Implementation

The Downtown Boise Streetscape Standards and Specifications Manual outlines implementation strategies and includes details for construction coordination. The manual includes information for schedule, relevant contact information, guidelines for management of traffic during construction, expected construction schedule, contractor's responsibilities, and conditions of grant payment.

In 2014, Cary adopted a policy for median plantings. The purpose of the policy is to outline a criteria to ensure median plantings are completed in a priority manner. The following information makes up the criteria which may be relevant to Holly Springs as not all medians may be planted at the time of construction.

## Precedents and Lessons Learned

**Rank 1:** High Traffic- Based upon average daily traffic (ADT) figures, a weighted assignment of points based on the following scale: 1 pt. for ADTs less than or equal to 10,000; 9 pts. for ADTs greater than 10,000 and less than or equal to 20,000; and 29 pts. for ADTs greater than 20,000.

**Rank 2:** Age- based upon age of median (not road), a weighted assignment of points based on the following scale: 1 pt. less than 10-years old; 6 pts. for greater than 10 and less than or equal to 20-years olds; 26 pts. for greater than 20-years old.

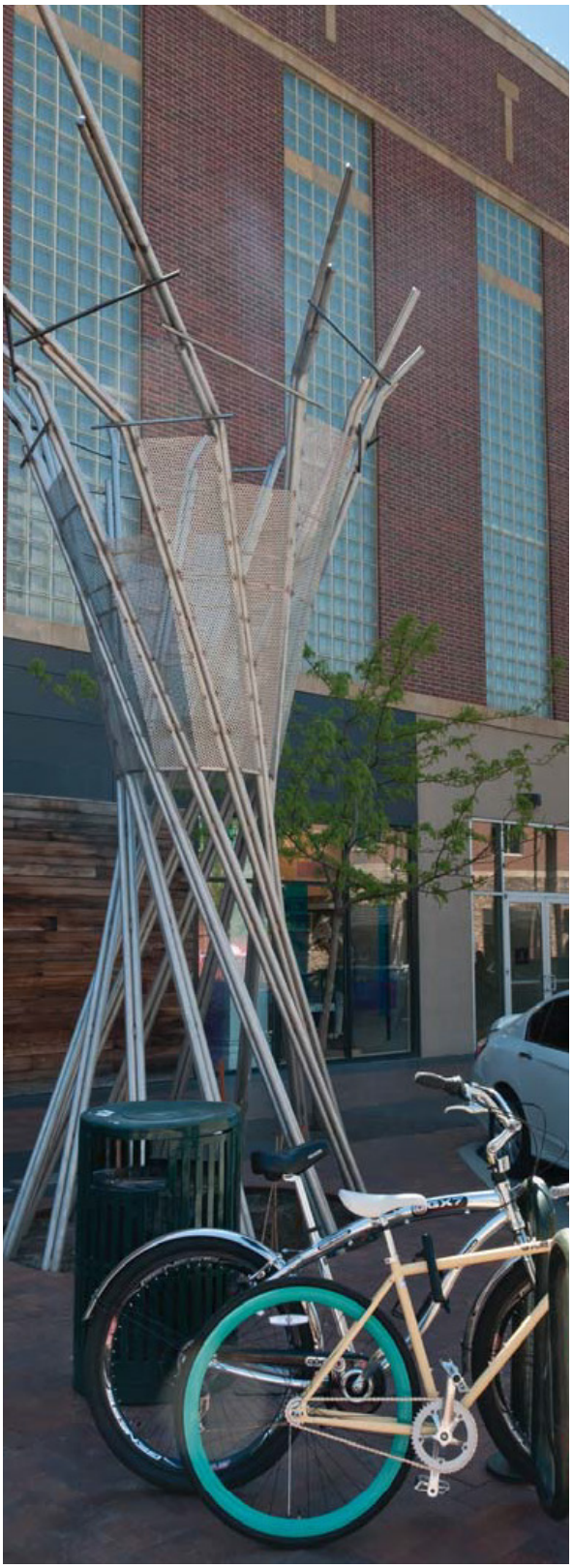
**Rank 3:** Contiguous - 17 pts. for segments of a median corridor that are planted although the entire corridor is not.

**Rank 4:** Citizen Input - 11 pts. for any citizen requests or inquiry to median status or condition.

The town also utilizes NCDOT guidelines for estimating construction costs annually for priority plantings. The town routinely divides median planting projects into smaller segments based upon annual funding capabilities.

Similarly, the Town of Wake Forest Public Art Vision Plan outlines implementation guidelines for the following items and can serve as point of reference for Holly Springs:

- Liaison and consultation with municipal agencies and departments
- Commissioning original works of art
- RFQ/RFP processes
- Peer Panel reviews
- Acquisition of public art
- Documentation of art (complete records)
- Technical feasibility (site selection, budget, durability, safety, quality, maintenance, diversity and credentials of art)
- Ownership of public art
- Deaccession of public art
- Siting public art
- Artist engagement
- Incentives
- Easements
- Maintenance and conservation
- Conflict of interests



*Example of streetscape public art as a focal point. Downtown Boise Streetscape Standards and Specifications Manual.*

# Streetscape in Holly Springs

## Goals

The underlying goal of the Holly Springs Streetscape Design Guide is to improve the quality of the streetscapes throughout the Town. As part of this goal, the experiences of the public realm by pedestrian, cyclists, transit users, and vehicles will be improved.

Application of these design guidelines are intended to have a framing role in the design of streetscapes throughout Holly Springs. There are numerous factors which may require deviation from these guidelines to a degree. These include: impacts by horizontal metrics such as right-of-way or lane widths, utility conflicts, type of street, budget, and future actions by the Town which may build upon or modify these guidelines.

These guidelines are provided as a supplement to the CTP and other Town guiding documents. The following components of a typical streetscape are included in the guidelines:

- Sidewalk character
- Median, verge, and island plantings
- Hardscape medians
- Roundabouts
- Hardscapes
- Furnishings
- Green infrastructure
- Transit stops
- Lighting
- Gateways
- Public art

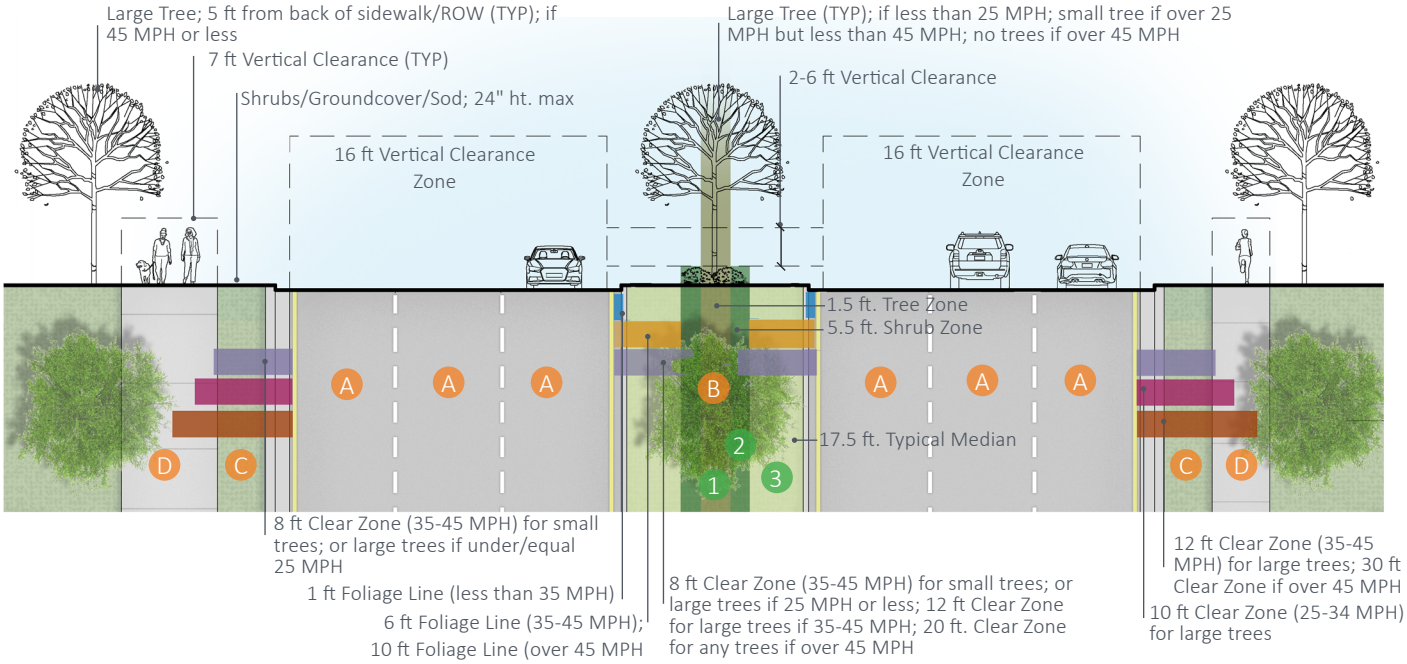
## Street Classifications

Streetscapes, much like the entirety of the street, must be responsive to the unique context and user needs. Earlier in this chapter, a proposed street typology hierarchy was created and considered both NCDOT classification and local priorities to bridge the gap between them. These design guidelines are responsive to the three primary typologies identified in this CTP (but concepts could be applied to other typologies):

- Thoroughfares
- Collectors
- Local/Neighborhood Connectors

## Thoroughfares

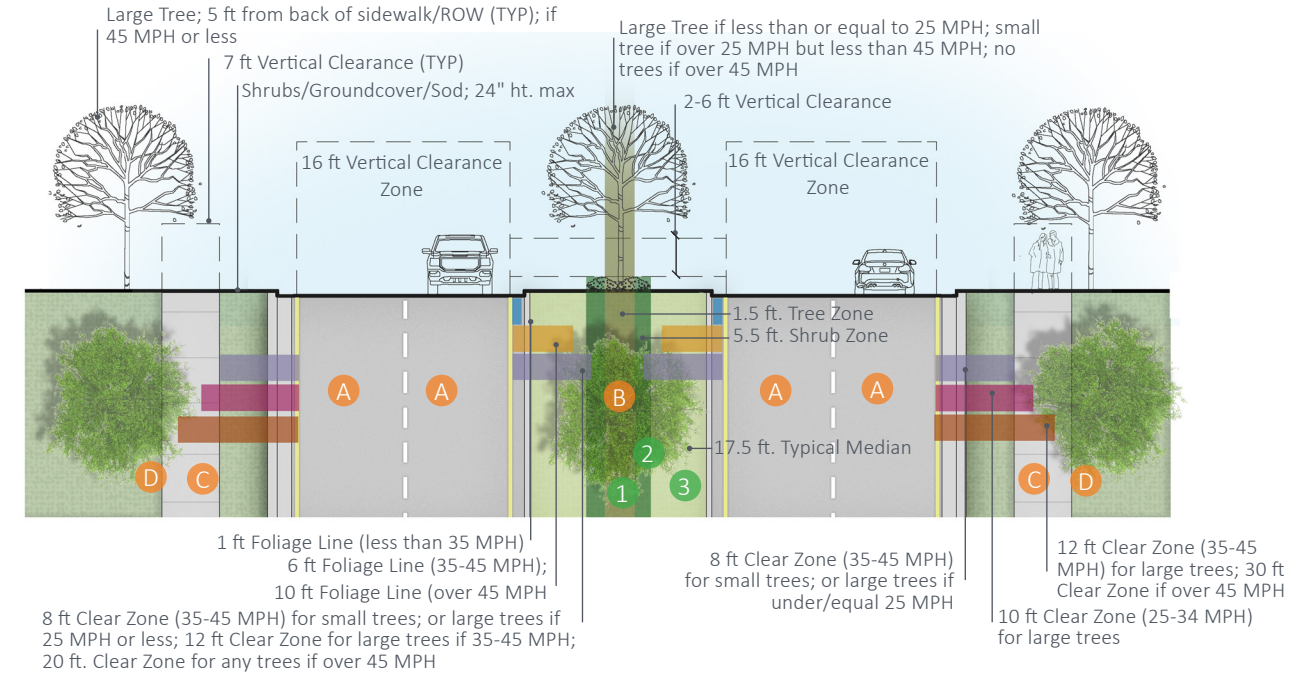
***Major Thoroughfare T-6A Alt. 1***




Legend

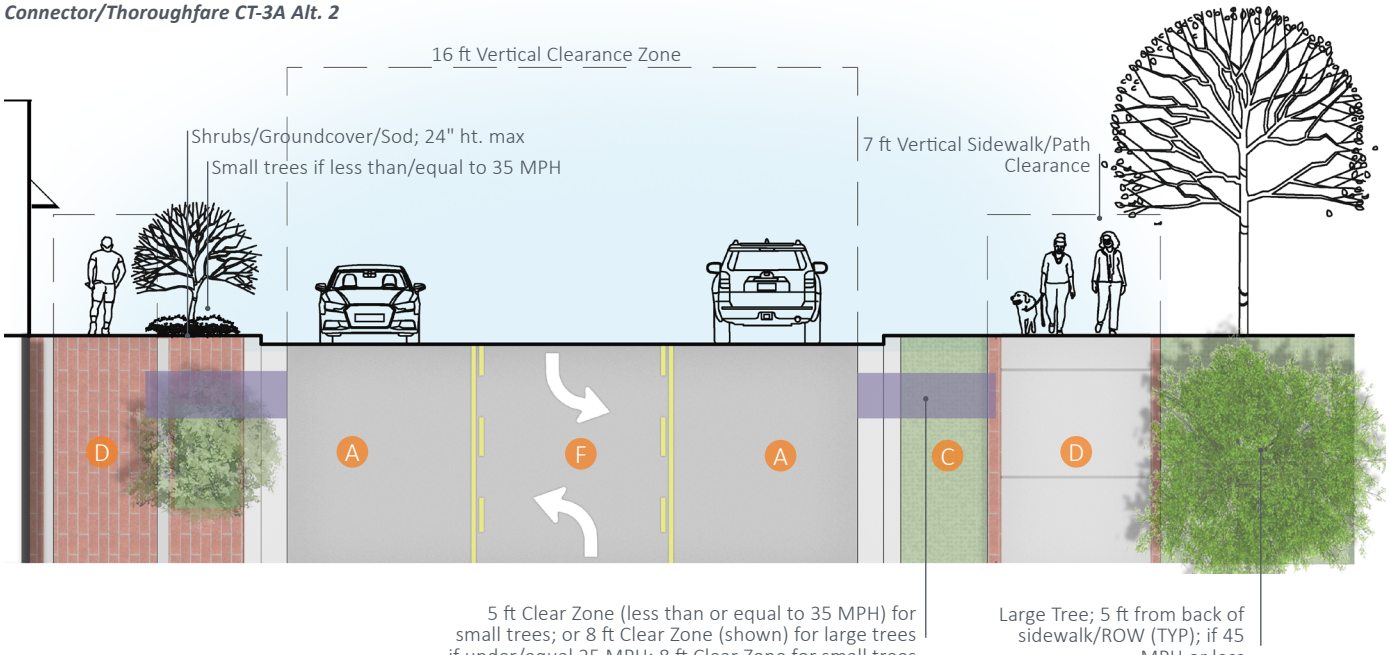
- A Travel Lane
- B Median
- C Verge/Tree lawn
- D Sidewalk/Side Path
- 1 Tree Zone; centerline of truck; 1.5 ft. width
- 2 Shrub Zone; 24" ht. max within site distances
- 3 Groundcover/Sod Zone; 12" ht. max; min. width of 3 ft of sod from back of curb

***Thoroughfare T-4B Minimum***



# Collectors

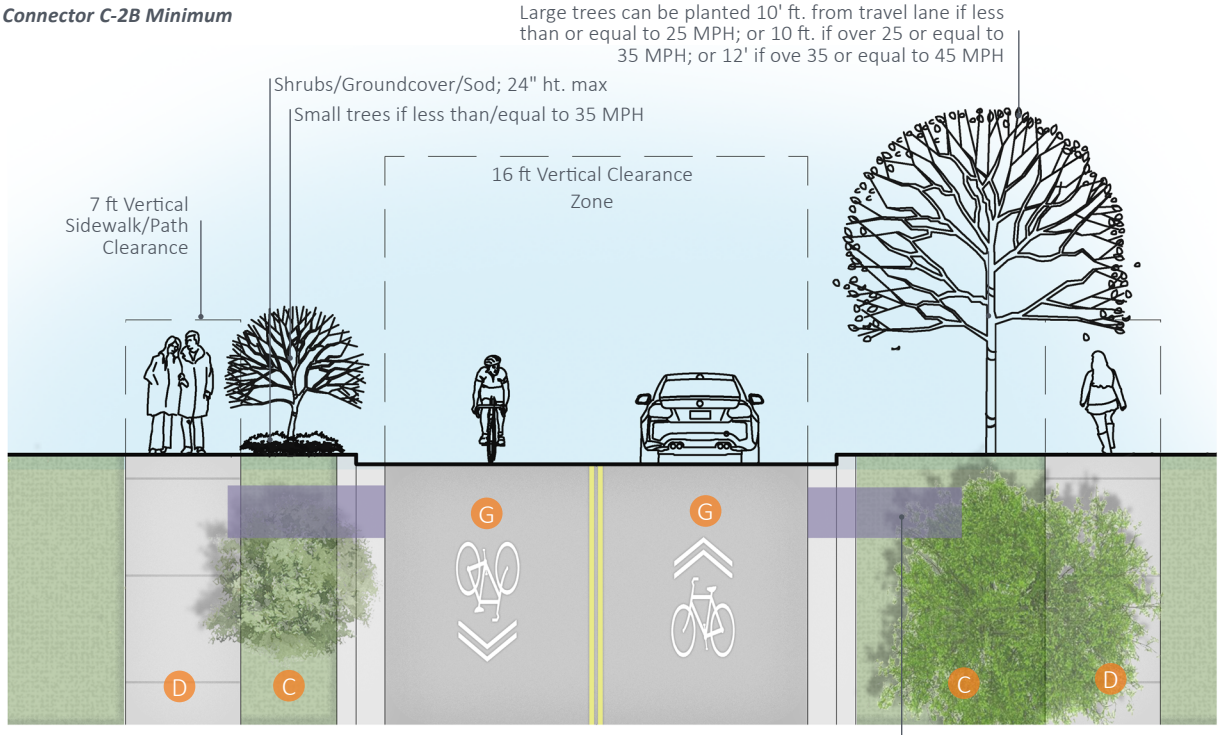
***Connector/Thoroughfare CT-3A Alt. 2***



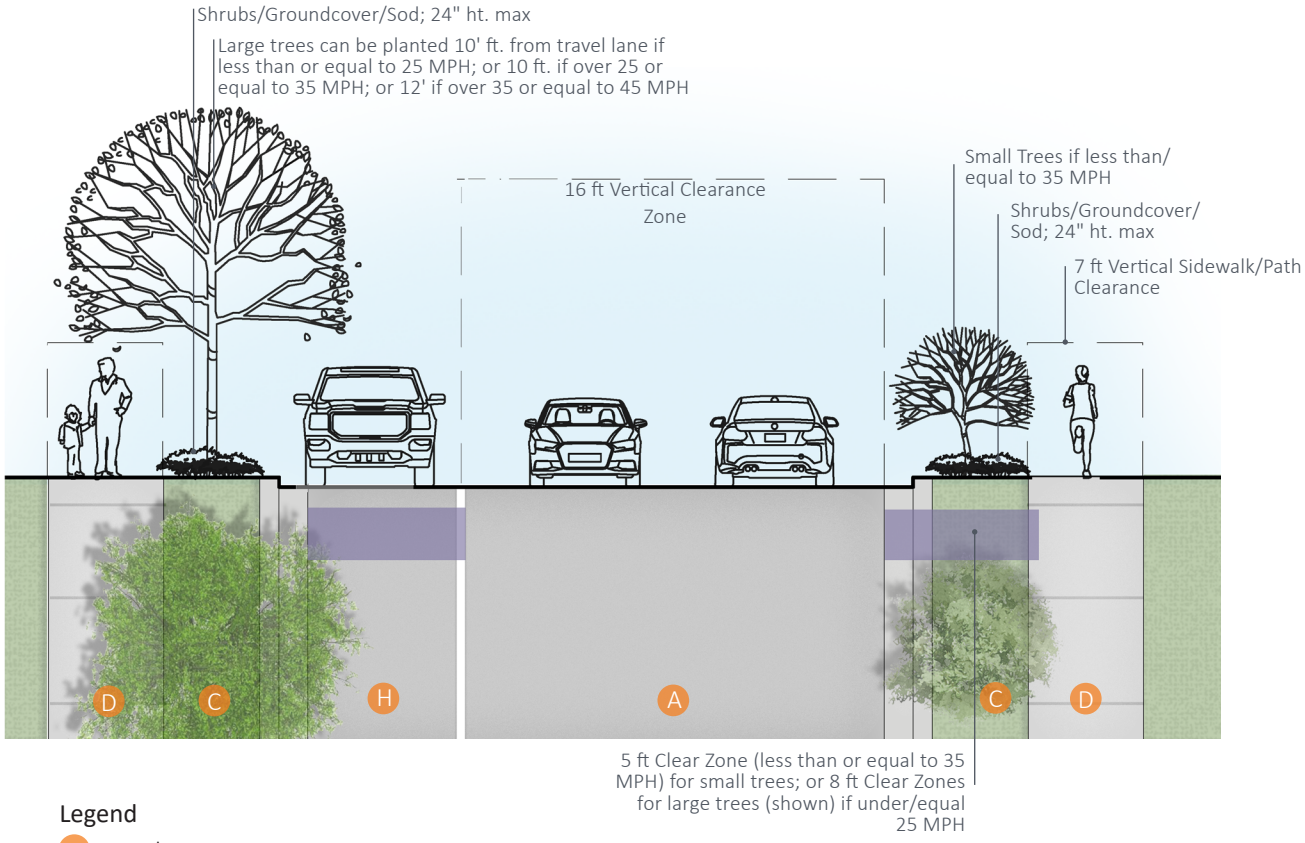

Legend

- A Travel Lane
- C Verge/Tree lawn
- D Sidewalk/Sidepath
- F Turn Lane
- G Sharrow

***Connector C-2B Minimum***



*Connector C-1A Minimum*




Legend

- A Travel Lane
- C Verge/Tree lawn
- D Sidewalk/Side Path
- H On-Street Parking

## Technology Spotlight

First launched in 2014, smart benches such as Soofa Benches, developed by the Massachusetts Institute of Technology (MIT) Media Lab, offer a comfortable place to sit and recharge your electric devices while enjoy a free wi-fi hot spot. Other smart benches will even count pedestrians on sidewalks or trail users.

Typical Notes for all Sections:

1. Setbacks shown assume curb and gutter for all street sections. If curb and gutters are not being provided, clear zone distances will be greater. NCDOT Guidelines for Planting Within Highway Right-of-Way should be referenced.
2. Horizontal spacing recomendations for street trees and plantings are noted within the 'Median, Verge and Island Planting' section.
3. Selection of plant species for any streetscape should consider the typical mature size of the plant to ensure vertical clearances, horizontial setbacks and root clearances are achievable at the plant's mature size.
4. Trees and shrubs that produce fruit or nuts should be considered for areas with little or no pedestrian access such as medians. Fruit and nuts, though positives for wildlife, can pose a hazard to pedestrian and stain sidewalks.
5. If overhead power lines are present; trees/shrubs are limited to 15 ft. max vertical height within ROW for distribution lines; or 7 ft max. vertical height within wire zone and 15 ft max. vertical height in border zones for transmission lines.
6. Buried power lines should be considered to promote an improved visual aesthetics for streetscapes and allow for additional use of large canopy trees, placement of signage/wayfinding, and promote a more resilient infrastructure.
7. Tree roots and underground power lines often co-exist without problems. However, trees planted near underground lines could have their roots damaged if the lines need to be dug up for repairs. The biggest danger to underground lines occurs during planting. Similar to overhead power lines, trees should be planted with a setback from the buried power line. The distance a tree should be planted from the buried power line varies however. A setback equal to the mature spread of the tree or shrub should serve as the distance it should be planted from the marked buried power line. An example is if an oak tree has a typical mature spread of 30 feet, than the tree should be planted 30 ft from the buried line to encourage minimum future root damage should the power line need to be serviced. This is a general guideline and not a standard minimum requirement.
8. If underground utilities, i.e. water, sewer, stormwater, etc. are present in the Right-of-Way and/or verge/tree lawn, consideration should be given to the impact tree roots may have on the utility. In many cases, a setback, similar to that used for underground power lines should be utilized. Trees should not be planted directly above an underground utility pipe or line. Trees should be generally planted outside any permanent utility easement and/or a distance equal to the root spread or canopy spread of the tree, which ever is greatest.

# Streetscape Elements

## Streetscape Components

A streetscape consists of a variety of components, that when combined properly create a dynamic and engaging space. Understanding and providing space for various components is essential in creating a successful streetscape. These components consist of the pedestrian realm along the sidewalk, providing space for walking, talking and dining, as well as furnishings, lighting, landscape and street trees. On-street parking, bicycle lanes, travel lanes, bus loading and unloading zones, all make-up the vehicular realm of the street. These two areas consisting of the pedestrian realm and vehicular realm, and their associated materials and finishes, should seamlessly fuse to create a thriving public space through the following:

- Providing orientation to its users.
- Balancing the competing needs of the street.
- Meeting the of a variety of interesting activities and uses that create a varied streetscape.
- Relating well to its bordering uses- allows for continuous activity.
- Encouraging human contact and social activities.
- Employing hardscape and/or landscape to great effect.
- Promoting safety of pedestrians and vehicles and promotes use.
- Promoting sustainability.
- Is well maintained, and capable of being maintained without excessive costs.
- Providing a memorable character.

*Diagram: Typical Streetscape Components*


- A Street Trees
- B Lighting
- C Furnishings
- D Materials and Finishes
- E Landscape Beds
- F Walkway
- G On-Street Parking/Loading Zone
- H Wayfinding
- I Travel Lanes
- J Dining Zone
- K Street Presence from Buildings

## Sidewalk Character

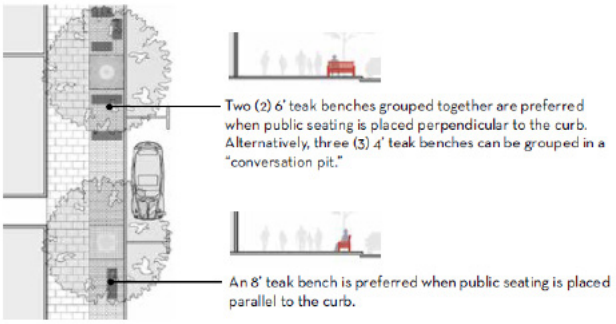
Spatial configurations need to be considered to provide for a comfortable and accessible pedestrian realm. These configurations can vary from dining and walking areas, to the proper location of benches along a street. The diagrams to the right identify minimum space needed for various street furnishing scenarios, and should be used as a guideline for creation of these spaces.

Where these dimensions are not attainable, the Town and property owner(s) should work together to provide an additional sidewalk easement. Outdoor dining areas should have a minimum 5 ft clear zone for walking with a 6 ft clear zone preferred. Tree grates may be used in order to obtain the desired dimensions.

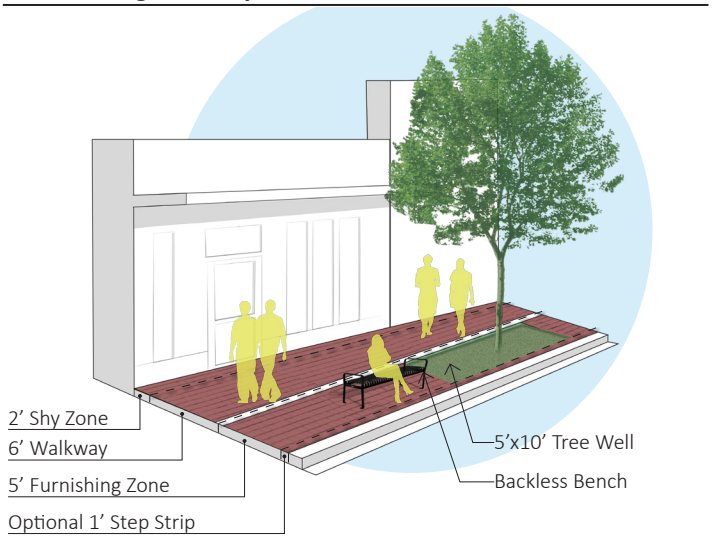
*Note: All dimensions are minimum standards for treatment.*
**Step Strip and Shy Zone areas may vary depending upon available right of way widths.*

*Example of conversation style streetscape seating (Princeton, NJ)*

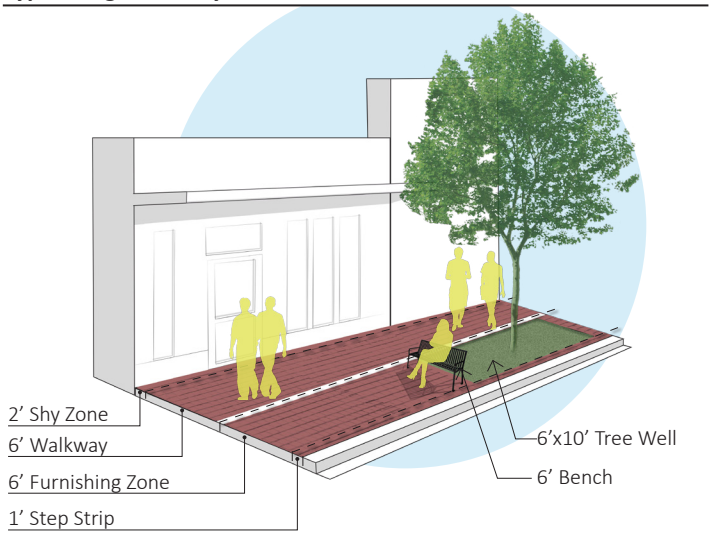
Public seating creates a comfortable, usable, and active environment where people can socialize.



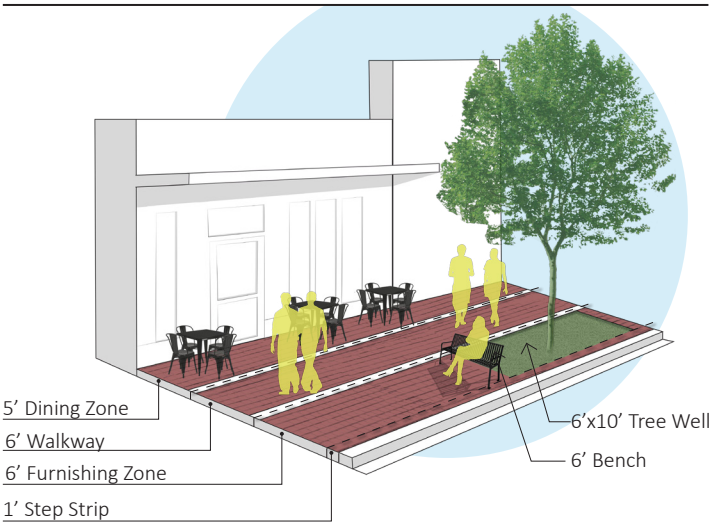

**Minimum Right-of-Way**




**Typical Right-of-Way**




**Ideal Sidewalk**



## Median, Verge and Island Plantings

Plantings used throughout the public realm in Holly Springs should seek to enhance the native landscape, minimize water consumption, and reduce maintenance needs by 'right sizing' the plant to needs based upon mature growth conditions.

In order to ensure appropriate plants are selected, the following table provides suggested species categorized by planting zone. This information is intended to serve as a guide. Suggested species emphasize drought-tolerant plants and do not typically include hybrids, varieties, or cultivars. Instead, use can be based upon when performance may be significantly better than the primary species.

It is expected that this table is reviewed annually and updated to remove any species that have come be known for problems or develop a history of not preforming well in Holly Springs.

Use of mono-species planting schemes are not promoted within the public realm in Holly Springs. Planting palettes should follow the 10/20/30 guideline. The 10/20/30 guideline is intended to reduce risk of catastrophic plant loss due to pests. It suggests use of street trees, planting beds, or massing of shrubs should be no more than 10% of any one species, 20% of any one genus, or 30% of any family.

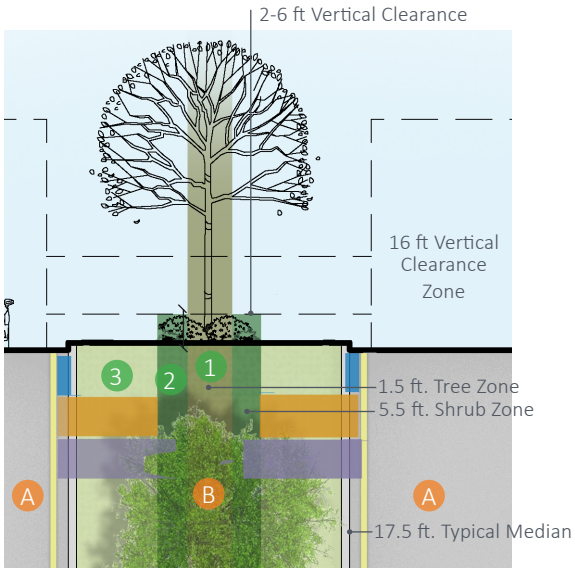
Use of multiple species has several additional benefits to the Town on top of healthier plantings. Some species can be emphasized for providing food for wildlife, while others can be used for their radiant fall color. Other species can provide faster growth rates or have the ability to adapt to extreme soil or moisture conditions.

Use of trees, primarily as street trees, is to serve as a framing element. A 1:2 or 1:1 ratio is ideal where the mature height of the street tree equals or half the width of the street. This ratio is a pleasing experience for all modes of travel from vehicles to pedestrians.

Streets trees should be planted at a spacing and massings scale reflective of the design speed of the roadway. In the Downtown Village District, street tree spacing should generally be 30 ft. where posted speeds are 25 MPH of less. 50 ft spacing is approriate Town-wide for streets with posted speeds of 26-35 MPH, while spacing between 50-100 ft is appropriate for streets with speeds above 35 MPH. The spacing of trees creates a rhythmic ordering along the street and encloses the street space by defining edges.  As

Species are categorized into three types in the table; trees, shrubs (and grasses), and groundcovers. The intent is to align plant type by reference number. Trees represent Zone 1, shrubs and grasses represent Zone 2, and groundcovers represent Zone 3. Zone 3 also includes sod. Within the tree and shrub categories, there are evergreen and deciduous subtypes. Trees are also divided into large and small or ornamental types. Height (H) and spread (S) figures for all plants are shown in feet.

### Diagram: Typical Median Planting Scheme




Note: Refer to Street Typologies Sections for information regarding setbacks shown in this diagram.

1. Tree Zone; centerline of truck; 1.5 ft. width
2. Shrub Zone; 24" ht. max within site triangles
3. Groundcover/Sod Zone; 12" ht. max; min. width of 3 ft of sod from back of curb

| 1 Large Trees Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Acer floridanum (Southern Sugar Maple) | 30-40/20-25 | High |
| Acer rubrum (Red Maple) | 35-60/20-50 | Medium |
| Betula nigra (River Birch) | 40-80/30-60 | Medium |
| Carya ovata (Shagbark Hickory) | 60-80/35-50 | High |
| Celtis occidentalis (Common Hackberry) | 40-60/40-60 | High |
| Celtis laevigata (Southern Hackberry) | 60-80/50-60 | High |
| Cladrastis lutea (American Yellowwood) | 30-50/40-50 | Medium |
| Fagus grandifolia (American Beech) | 60-80/40-60 | Medium |
| Fraxinus americana (White Ash) | 50-100/40-80 | Medium |
| Fraxinus pennsylvanica (Green Ash) | 50-60/30-40 | High |
| Gleditsia triacanthos inermis (Honey Locust- Thornless) | 60-70/60-70 | High |
| Magnolia acuminata (Cucumber Magnolia) | 50-70/30-50 | Medium |
| Nyssa sylvatica (Black Gum) | 30-50/20-30 | High |
| Platanus x acerfolia (London Planetree) | 50-60/40-50 | Medium |
| Quercus alba (White Oak) | 70-75/40-50 | High |
| Quercus bicolor (Swamp White Oak) | 50-60/50-60 | High |
| Quercus falcata (Southern Red Oak) | 79-80/30-40 | High |
| Quercus imbricaria (Shingle Oak) | 50-60/40-50 | High |
| Quercus laurifolia (Swamp Laurel Oak) | 40-60/30-40 | High |
| Quercus lyrata (Overcup Oak) | 40-60/40-60 | High |
| Quercus muehlenbergii (Chinkapin Oak) | 50-60/50-60 | High |
| Quercus nigra (Water Oak) | 50-80/40/60 | High |
| Quercus phellos (Willow Oak) | 40-80/30-60 | High |
| Quercus prinus (Chestnut Oak) | 60-70/60-70 | High |
| Quercus shumardii (Shumard Oak) | 70-75/40-50 | High |

| 1 Large Trees Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Quercus rubra (Northern Red Oak) | 50-60/50-60 | High |
| Quercus velutina (Black Oak) | 50-60/50-60 | High |
| Taxodium distichum (Bald Cypress) | 50-80/30-50 | High |
| Tilia tomentosa (Silver Linden) | 30-40/30-40 | High |
| Ulmus x (Princeton Thriumph or Pioneer Elm) | 40-50/30-40 | High |
| Ulmus parvifolia (Lacebark Elm) | 50-70/40-50 | High |

| 1 Large Trees Species (Evergreen) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Chamaecyparis thyoides (Atlantic Whitecedar) | 40-50/10-20 | Medium |
| Ilex opeca (American Holly) | 30-70/15-20 | Medium |
| Juniperus virginiana (Eastern Red Cedar) | 40-50/8-20 | High |
| Magnolia grandiflora (Southern Magnolia) | 50-80/40-60 | Medium |
| Quercus hemisphaerica (Darlington Oak) | 40-60/30-40 | High |
| Quercus virginiana (Live Oak) | 40-80/40-100 | High |

| 1 Small/Ornamental Trees Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Acer leucoderme (Chalkbark Maple) | 25-30 /15-20 | High |
| Amelanchier arborea (Downy Serviceberry) | 15-25/15-20 | Medium |
| Amelanchier canadensis (Shadblow Serviceberry) | 6-20/10-15 | High |
| Amelanchier laevis (Allegheny Serviceberry) | 20-25 /25-35 | Medium |
| Carpinus caroliniana (American Hornbeam) | 20-30 /20-30 | High |
| Cercis canadensis (Eastern Redbud) | 20-30 /20-30 | Medium |
| Chionanthus virginicus (White Fringetree) | 10-25 /10-20 | Medium |
| Cornus florida (Flowering Dogwood) | 15-30 /10-25 | Medium |
| Crataegus crusgalli (Cockspur Hawthorn) | 20-30 /20-35 | High |

1

| Small/Ornamental Trees Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Crataegus phaenopyrum (Washington Hawthorn) | 20-30 /20-25 | High |
| Halesia carolina (Carolina Silverbell) | 20-30 /15-20 | High |
| Hamamelis viginiana (Common Witchhazel) | 20-30 /20-25 | Medium |
| Ilex decidua (Possum haw) | 20-30 /15-20 | High |
| Lagerstroemia indica (Crape Myrtle) | 10-30/10-20 | Medium |
| Magnolia virginiana (Sweetbay Magnolia) | 10-25 /10-20 | Medium |
| Ostrya virginiana (American Hophornbeam) | 25-40 /16-25 | High |
| Oxydendrum arboreum (Sourwood) | 25-30 /20-25 | Medium |

1

| Small/Ornamental Trees Species (Evergreen) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Ilex cassine (Dahoon) | 20-30-8-15 | High |
| Ilex vomitoria (Yaupon Holly) | 10-20 /8-15 | High |
| Prunus caroliniana (Carolina Laurel Cherry) | 20-30 /15-20 | High |

2

| Shrub Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Ceanothus americanus (New Jersey Tea) | 3-4 | High |
| Deutzia gracilis (Slender Deutzia) | 2-4 | High |
| Diervilla sessilifolia (Southern Bush-honeysuckle) | 3-5 | High |
| Hydrangea arborescens (Smooth Hydrangea) | 3-5 | Medium |
| Hypericum 'Hidcote' (Hidcote St. Johnswort) | 3-4 | High |
| Hypericum prolificum (Shrubby St. Johnswort) | 1-4 | High |
| Itea virginica (Virginia Sweetspire) | 3-5 | High |
| Rhus aromatica (Fragrant Sumac) | 2-6 | High |
| Rosa carolina (Carolina Rose) | 3-6 | High |
| Spiraea x bumalda (Bumald Spirea) | 2-3 | High |

2

| Shrub Species (Deciduous) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Spiraea nipponica 'Snowmound' (Snowmound Spirea) | 3-5 | High |
| Spiraea thunbergii (Thunberg Spirea) | 3-4 | High |
| Viburnum acerifolium (Mapleleaf Viburnum) | 4-6 | High |
| Viburnum carlesii (Korean Spice Viburnum) | 4-5 | Medium |

2

| Shrub Species (Evergreen) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Abelia x grandiflora (Glossy Abelia) | 3-4 | High |
| Aucuba japonica (Dwarf Acucuba) | 3-8 | High |
| Berberis julianae (Wintergreen Barberry) | 5-6 | High |
| Berberis thunbergii (Japanese Barberry) | 3-5 | Medium |
| Buxus microphylla var. japonica (Japanese Boxwood) | 3-4 | High |
| Buxus sempervirens (Common Boxwood) | 5-8 | High |
| Cryptomeria japonica 'Globosa Nana' (Dwarf Japanese Cryptomeria) | 2-3 | Medium |
| Gardenia jasminoides 'Radicans' (Creeping Gardenia) | 2-4 | Medium |
| Ilex cornuta 'Carissa' (Carissa Chinese Holly) | 3-4 | High |
| Ilex cornuta 'Rotunda' 'Rotunda' (Dwarf Chinese Holly) | 3-4 | High |
| Ilex crenata 'Compacta' (Compact Japanese Holly) | 3-4 | Medium |
| Ilex crenata 'Green Lustre' (Green Lustre Japanese Holly) | 3-5 | High |
| Ilex crenata 'Helleri' (Helleri Japanese Holly) | 2-3 | Medium |
| Ilex crenata 'Hetzii' (Hetz Japanese Holly) | 2-3 | Medium |
| Ilex vomitoria 'Nana' (Dwarf Yaupon Holly) | 3-4 | High |
| Jasminum floridum (Showy Jasmine) | 3-5 | High |

| 2 Shrub Species (Evergreen) | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Jasminum nudiflorum (Winter Jasmine) | 3-4 | High |
| Juniperus davurica 'Expansa' (Parson's Juniper) | 2 | High |
| Kerria japonica (Japanese Kerria) | 3-5 | High |
| Pittosporum tobira 'Nana' (Dwarf Japanese pittosporum) | 3-4 | Medium |
| Pyracantha koidzumii 'Santa Cruz' (Formosa Firethorn) | 2-3 | High |
| Rhaphiolepis umbellata (R. indica) (Indian Hawthorne) | 2-4 | High |
| Gaylussacia brachycera (Box Huckleberry) | 6-18 " | High |
| Juniperus procumbens (Japanese Garden Juniper) | 8-12 " | High |
| Juniperus squamata (Singleseed Juniper) | 6-12 " | High |
| Liriope muscari (Liriope, Lilyturf) | 8-15 " | High |
| Liriope spicatum (Spreading Liriope, Spreading Lilyturf) | 8-15 " | High |
| Phlox subulata (Moss Phlox) | 3-4 " | Medium |
| Vinca minor (Common Periwinkle) | 5-6 " | High |

| 2 Ornamental Grasses Species | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Andropogon glomeratus (Bushy Bluestem) | 3-6/2-3 | High |
| Andropogon virginicus (Broom Sedge) | 2-4 | High |
| Carex morrowii (Japanese Sedge Grass) | 1/1 | High |
| Chasmanthium latifolium (Northern Sea Oats) | 3/2 | High |
| Elymus hystrix var. hystrix (Bottlebrush Grass) | 2-5 | High |
| Muhlenbergia capillaris (Hairawn Muhly) | 3/3 | High |
| Panicum virgatum (Switchgrass) | 3-5/2-3 | High |
| Pennisetum alopecuroides (Fountain Grass) | 3/2 | High |
| Pennisetum villosum (Feathertop Grass) | 3/2 | High |
| Schizachyrium scoparium (Little Bluestem) | 2/1 | High |
| Sorghastrum nutans (Indian Grass) | 3/3 | High |

| 3 Ground Cover Species | Mature Size (H/S) | Drought Tolerance |
|---|---|---|
| Euonymus fortunei var. coloratus (Wintercreeper) | 6-18"/40-70 | High |
| Hedera helix (English Ivy) | 6-12 " | High |

*Example of street trees*

## Hardscape Medians

Medians typically provide opportunities to provide an attractive element such as landscaping or public art. In some cases, safety requirements, width, or surrounding conditions do not allow for optimal median aesthetics. In these cases, concrete medians are frequently installed. For the Town of Holly Springs, these opportunities can be enhanced through creative applications of hardscapes for medians such as color and/or textured concrete, pavers, or natural materials such as pebbles or boulders.

Guidelines for hardscape include:

- Where conditions or restrictions do not allow for optimal conditions for landscaping, low maintenance hardscapes should be utilized.
- Hardscape medians should be visually distinct from surrounding roadway.
- Paver hardscape medians should be utilized within the Downtown Village District, while stamped concrete utilized Town-wide.

*Example of existing roundabout hardscape apron at Earp Rd. Utilize for Town-wide*

*Example of paver hardscape median with running bond pattern and single soldier course border for use within Downtown Village District. Pavers should match sidewalk pavers.*

## Roundabouts

Besides enhanced safety, landscaping is one of the distinguishing features that gives roundabouts an aesthetic advantage over traditional intersections. Landscaping in the central island, in splitter islands (where appropriate), and along the approaches can benefit both public safety and community enhancement.

The landscaping of roundabouts and approaches throughout Holly Springs should:

- Make the central island more conspicuous.
- Improve the aesthetics of the area while complementing surrounding streetscapes as much as possible.
- Minimize introducing hazards to the intersection, such as trees, poles, walls, guide rail, statues, or large rocks.
- Avoid obscuring the form of the roundabout or the signing to the driver.
- Maintain adequate sight distances.
- Should not exceed a 6:1 slope within the central island per the requirements of the AASHTO Roadside Design Guide (9).
- Clearly indicate to the driver that they cannot pass straight through the intersection.
- Discourage pedestrian traffic through the central island.
- Avoid items in the central island that might tempt people to take a closer look.
- Help blind and visually impaired pedestrians locate sidewalks and crosswalks.

The central island landscaping can enhance the safety of the intersection by making the intersection a focal point and by lowering speeds. Plant material should be selected so that sight distance is maintained, including consideration of future maintenance requirements to ensure adequate sight distance for the life of the project. Large, fixed landscaping (trees, rocks, etc.) should be avoided in areas vulnerable to vehicle runoff or impacts.

Where hardscape aprons are required, the material should be different than the material used for sidewalks so that pedestrians are not encouraged to cross the circulatory roadway. Street furnishings that may attract pedestrians to the central island, such as benches or monuments with small text, should be avoided. If fountains or public art are considered for the central island, they must be designed in a way that will enable proper viewing from the perimeter of the roundabout. In addition, they must be located and designed to minimize the possibility of impact from vehicles.

Landscaping on the approaches to the roundabout can enhance safety by making the intersection a focal point and by reducing the perception of a high-speed through traffic movement. Plant material in the splitter islands (where appropriate) and on the right and left side of the approaches can help to create a funneling effect and induce a decrease in speeds approaching the roundabout. Landscaping in the corner radii helps to channelize pedestrians to the crosswalk areas and discourages pedestrians from crossing to the central island.

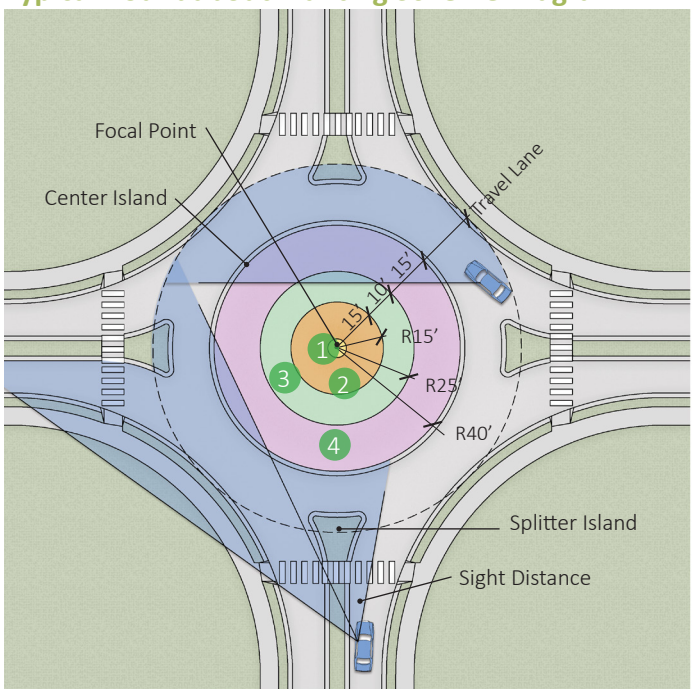
Legend

1. Focal Point
2. Shrub Zone; 24" ht. max
3. Groundcover/Sod Zone; 12" ht. max; min. width of 3 ft of sod from back of curb
4. Hardscape apron; pavers, brick, mural stamped/colored concrete

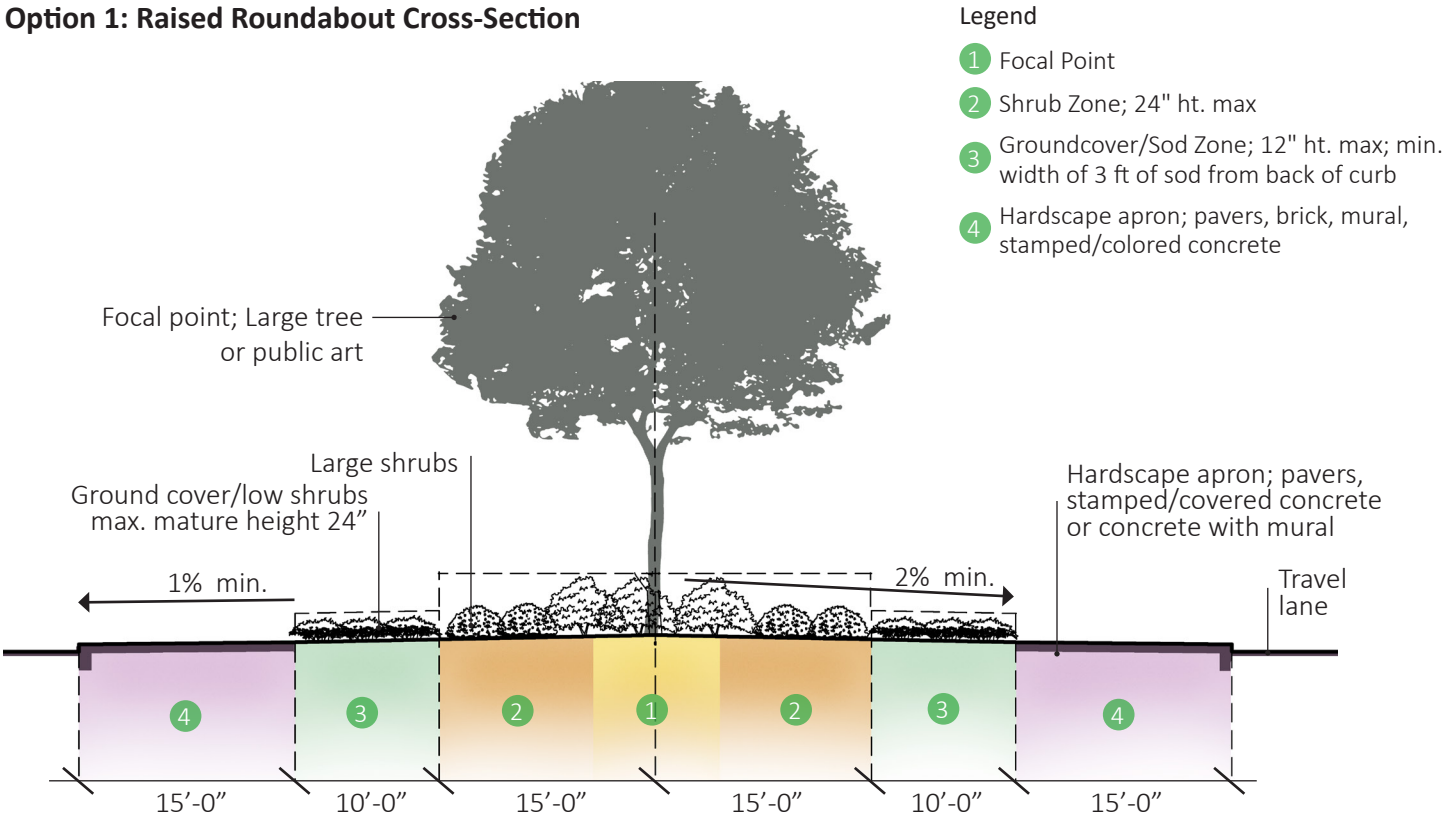
*Aerial view of typical two-lane roundabout with focal point feature. Image by Brian McGuckin*

*Example of aerial art within roundabout*

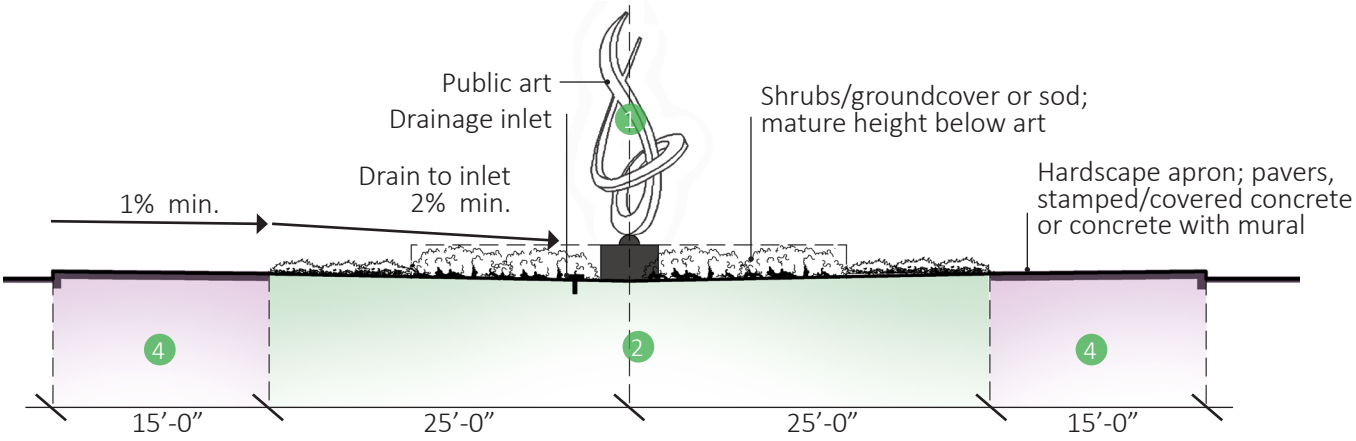
## Typical Roundabout Planting Scheme Diagram



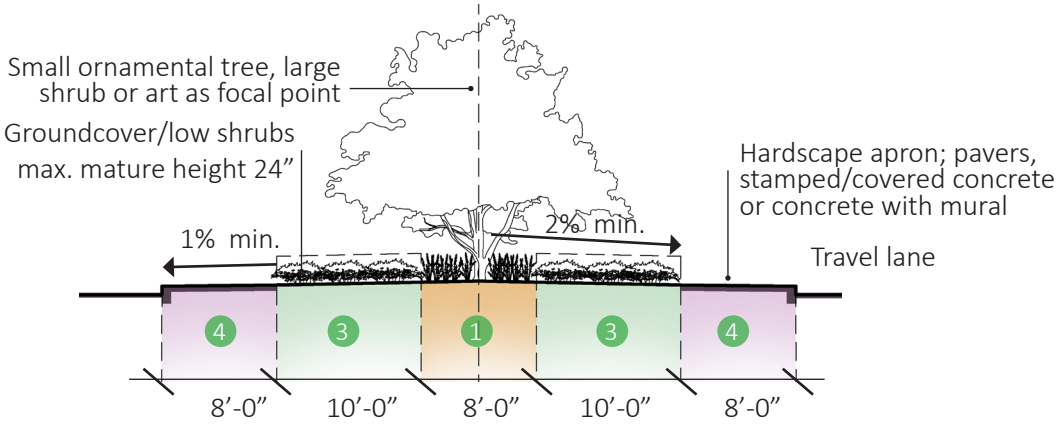
## Option 1: Raised Roundabout Cross-Section




## Option 2: Retention Roundabout Cross-Section




## Option 3: Mini Roundabout Cross-Section



## Hardscapes

The surface of pedestrian and multi-use paths are important, not just for aesthetics, but for safety. Consistency in surface materials, reduced number of transitions, and use of visually different materials to highlight important decision-making zones is critical. The hardscape used in Holly Springs has two distinct areas, town-wide and Downtown Village District, which differ in scale, materials, and aesthetics, but materials used in both should be durable.

In general, concrete should be used for most sidewalks and side paths within the streetscape outside of the Downtown Village District. The concrete should be heavy broom finished in perpendicular pattern. For sidewalks, a tooled joint scoring perpendicular to the flow of traffic should be provided, while a saw cut joint should be used on paths where cyclists or other wheeled devices may be present.

The following images highlight additional hardscape details:

*Typical concrete sidewalk with single brick soldier course border; Downtown Village District Area use only. No brick solider course border for town-wide use.*

*Typical permeable brick paver in herringbone pattern and single soldier edge course in furnishing zone of streetscape; Downtown Village District Area use only.*

*Typical brick paver in herringbone pattern in throughway/walking zone of streetscape; Downtown Village District Area use only.*

*Crosswalks: Typical stamped and surface coat treatmented asphalt. Surface color applied with Endurablend or equal product. For use town-wide and Downtown Village District*

*Typical stamped and colored concrete median hardscape. Brick pattern should be herringbone. For use Town-wide.*


*Typical custom manhole cover within sidewalk; Downtown Village District use only. Non-custom covers for town-wide use.*

## Furnishings

Furnishings are an integral element of defining the identity and character of a streetscape. Benches, bike racks, trash/recycling receptacles, tree grates, pay stations, bollards, and pet waste stations, all have to work with the rhythm of street trees, lighting, signage and wayfinding, and the surrounding environment of building facades to create a holistic palette that is welcoming and comfortable.

The general intent of streetscape furnishings are:

- To unify the public right-of-way with a unique character.
- To provide necessary items for pedestrian comfort and convenience.
- To ensure the public realm is clean, orderly, and presents an attractive appearance to visitors and users.
- To encourage use of the public realm, therefore, contributing to the economic vitality of the Town.

Design guidelines for streetscape furnishings include:

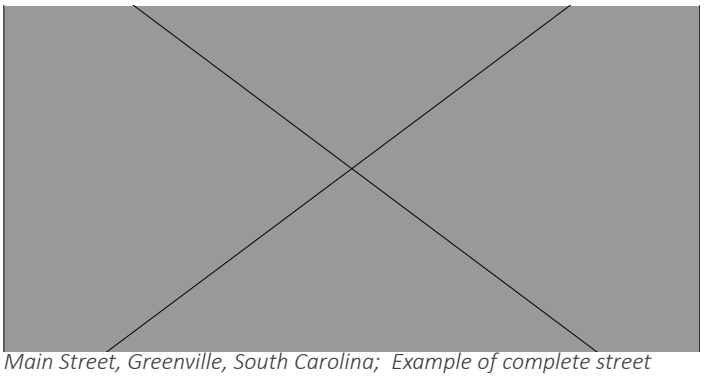
- Streetscape furnishings placement is encouraged in high-traffic corridors, mainly the Downtown Village District. Placement should be coordinated with businesses or other private property owners to ensure conflicts are avoided.
- Placement, quantity, and style of furnishings should consider the overall street context, existing elements of nearby buildings, and intended use.
- Consideration of functional needs for pedestrians, cyclists, and vehicles should be incorporated into the placement, dimensions, and quantity of furnishings.

The Downtown Area Plan includes standards for furnishings which should be applied town-wide to promote consistency in appearance and reduce maintenance challenges. These include:

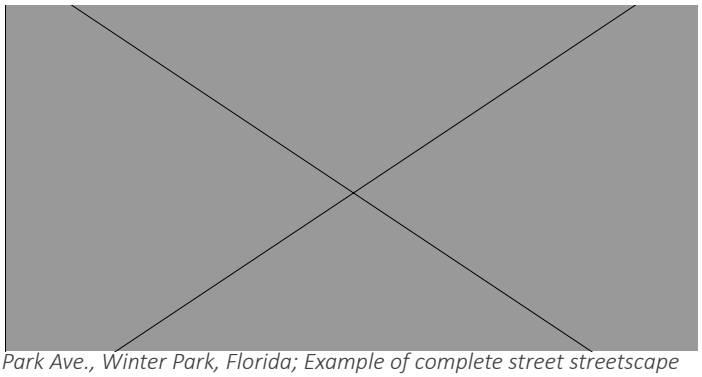
- Bench- Classic styled 4 ft or 6 ft lenght. Contoured bench with scrolled vertical steel slats in black finish. Where appropriate, a backless bench may be used in narrow furnishing zones. Placement of benches should be in conversational layouts to promote social spaces within the streetscape.
- Litter Receptacle- 36 gallon side opening litter receptacle with dome lid and black plastic liner in black finish. Recycle receptable should be provided a seperate receptable and be provided in a blue finish.
- Planter- 18 gallon planter with black plastic liner in black finish.
- Bike Rack- Tubular steel single in black finish, in-ground mount.
- Tree Grates - 48” square grate and 36”x60” grate when additional sidewalk width is required).
- Root Barrier - Deep Root barrier should be used where necessary.
- Pet Waste Station- Poly trash receptacle, green fiberglass telescoping post, aluminum reflective pet sign and all necessary mounting.

Additional notes:

- A durable substitution for tree grates is belgian blocks. Use of belgian blocks reduces installation time, reduces material costs, is extremely durable, and can be easily removed to allow for healthy tree growth. Belgian blocks can also be used within the furnishing zone as a means to visually separate the space from the throughway/ walking zone, for the step strip.
- Bike repair stations should be considered in high traffic corridors where either bike lanes or shared-use paths are located.
- Bike corrals should be considered in high traffic areas or near primary destinations. Corrals are located within the street in place of on-street parking.
- Consideration should be given for any urban streetscape within the Town for the placement of pay stations for on-street parking needs.
- Placement of benches along sidewalks outside of the Downtown Village District, should be set back from the sidewalk by at least two (2) feet to allow for users to comfortably be seated outside of the walkway.
- Placement of furnishings should be balanced with incorporation of green infrastructure systems such as stormwater planters/ bioswales.
- Consideration should be given to use of DeepRoot Silva Cells (or equal) where soils are compacted or additional paved spaces for furnishings is needed. A suspended paver system will allow for a continuous volume which promotes the greatest level of stormwater management and healthy trees.



*Main Street, Greenville, South Carolina; Example of complete street streetscape*



*Park Ave., Winter Park, Florida; Example of complete street streetscape*


*Example of existing litter receptacles along S. Main Street, Holly Springs. Receptacles should be mounted on concrete pads as shown.*

*Example of existing bench and tree grate along S. Main Street, Holly Springs. Benches should be mounted on concrete pads as shown.*

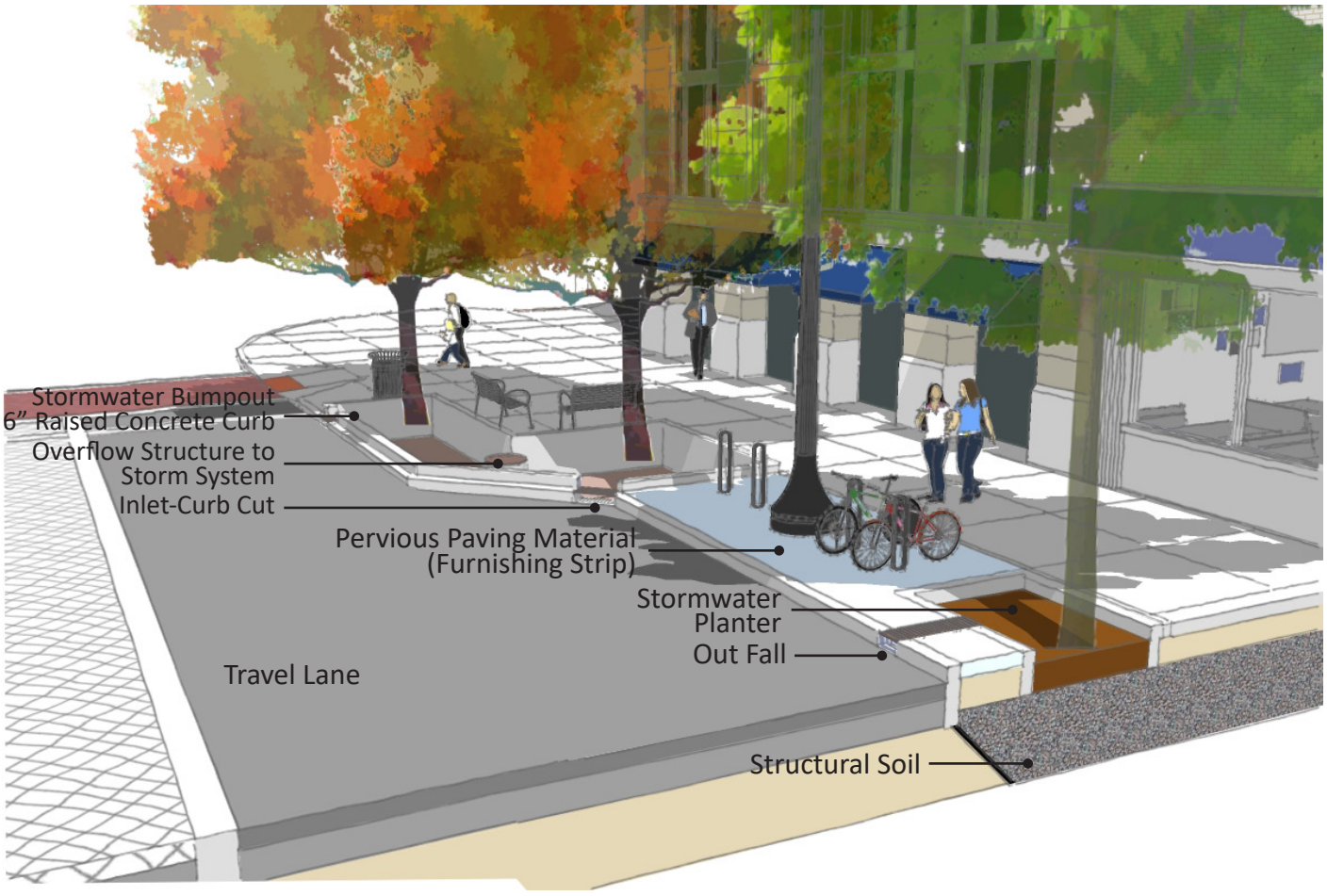
## Green Infrastructure

Green infrastructure uses natural processes to properly capture, store, and filter stormwater. Within the right-of-way, there are several opportunities to include green infrastructure as street projects are designed. Examples of green streetscape infrastructure include:

- Stormwater Planters/Bioswales
- Stormwater Bumpouts
- Stormwater Trees
- Green Gutters

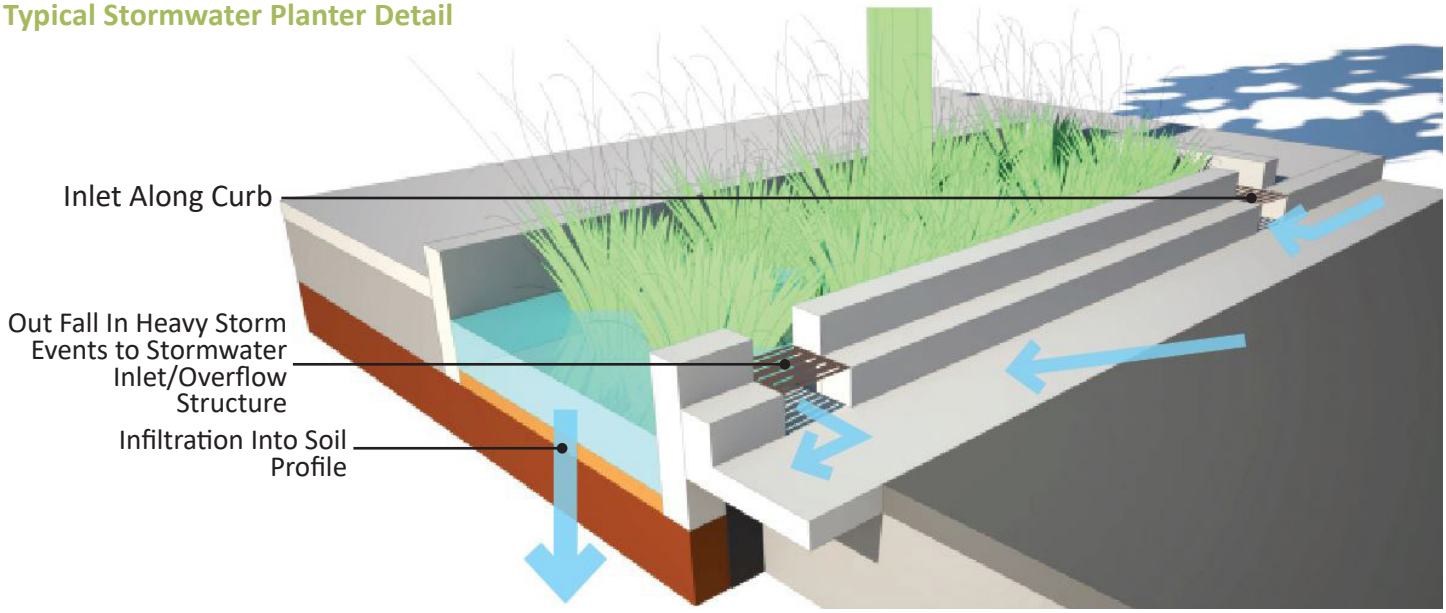
### Stormwater Planters

This green infrastructure treatment is appropriate for less intense street types such as collectors or local/neighborhood connectors. Stormwater planters are landscaped reservoirs used to collect, filter, and infiltrate stormwater run-off from the street. This system allows pollutants to settle and filter out as the water percolates through the planter soil and infiltrates into the ground.




**Comprehensive Green Infrastructure Options**

## Typical Stormwater Planter Detail




While stormwater planters help to achieve sustainability goals, they simultaneously serve as a visual amenity within the streetscape. Stormwater planters may be approximately 20 to 30 feet in length. Approximately 4- 6 linear feet shall be provided between stormwater planters to allow for pedestrian passage between the sidewalk and the curb zone alongside on-street parking spaces. Drought-tolerant, native ground cover and shrubs should be provided within stormwater planters. Plant materials should be chosen for seasonal color variety as well as texture and visual interest.

Stormwater planters collect and treat stormwater using bio-retention. These systems collect and filter stormwater through layers of mulch, soil, aggregate, and plant root systems, where pollutants such as bacteria, nitrogen, phosphorous, heavy metals, oil and grease are retained, degraded and absorbed. Treated stormwater is then infiltrated into the ground as groundwater (infiltration planter) or, if infiltration is not appropriate, discharged into a traditional stormwater system (flow-through planter). Stormwater planters do not require a large amount of space and can add aesthetic appeal and wildlife habitat to streetscapes.

## Stormwater Bump-outs

A stormwater bump-out is a landscaped curb extension that extends the existing curb line into the roadway. It is designed to manage stormwater runoff by setting the top of the planting media in the bump-out lower than the street's gutter elevation and connecting the bump-out to one or more inlets (types vary), which allows stormwater runoff from the street to flow into the bump-outs. Runoff from the adjacent sidewalk can flow directly into the stormwater bump-out from the surface.


*Example of stormwater bump-out. Source: Philadelphia Green Streets Design Manual*

*Source: Charles River Watershed Association-Low Impact Best management Practice Information Sheet, City of Portland (OR) Environmental Services-Green Streets Stormwater Management for Clean Rivers.*

## Green Infrastructure

Stormwater bump-outs are designed to capture, slow, and infiltrate stormwater within a planted area or subsurface stone bed. Landscape plantings within the curb extension effectively take up some of the stormwater through their root systems. The remaining stormwater is temporarily stored within the curb extension until it either infiltrates or drains back to the sewer. In mid-block bump-outs, overflow exits through an opening on the downstream side, and flows into a nearby storm drain inlet.

**Benefits**

- Water filters through the planting soil, improving water quality.
- Provides a physical buffer between pedestrians and the street.
- Does not require encroachment into sidewalk area.
- Encourages slower vehicle speeds by physically and visually narrowing the street.
- Reduces pedestrian crossing distances when used at intersections.
- Provides an area within the right-of-way for smaller plantings in addition to street trees.

**Potential Constraints and Considerations**

- Must consider existing on-street parking conditions, street width, and vehicle turning radii.
- Alteration of existing curb line will directly impact existing street drainage patterns and bump-out design must ensure existing street drainage is not negatively impacted.
- Vegetation must accommodate adequate sight distances at intersections

### Stormwater Trees

A stormwater tree is a street tree planted in a specialized tree pit installed in the sidewalk area. It is designed to manage stormwater runoff by placing the top of the planting media in the tree pit lower than the street's gutter elevation and connecting the tree pit to an inlet (types vary), which allows stormwater runoff from the street into the tree pit.

Runoff from the adjacent sidewalk can flow directly into the tree pit from the sidewalk surface. Multiple tree pits can be designed in a series to maximize the potential for stormwater capture and treatment. Stormwater will either infiltrate or drain to a connection to the storm sewer network. If the stormwater tree is at capacity, runoff can bypass the stormwater tree inlet and enter other downstream storm drains.


*Example of stormwater tree. Source: Philadelphia Green Streets Design Manual*

**Benefits**

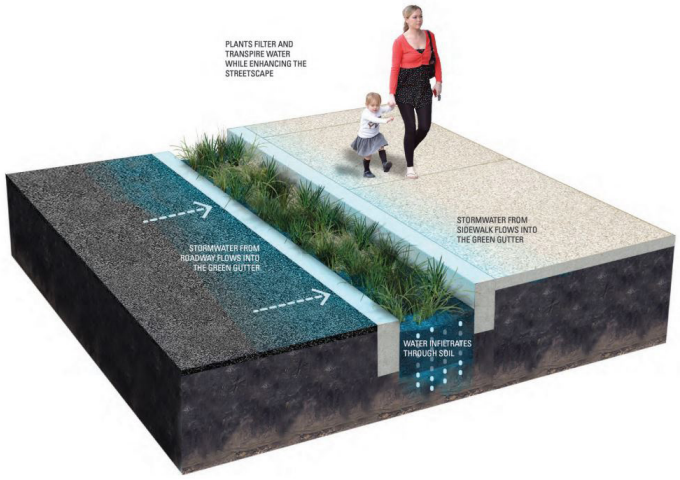
- Adds street trees to the streetscape.
- Requires only a small footprint and can therefore fit within a constrained site.
- Can accommodate steep topographic changes.
- Can fit between existing street furnishings such as signs, benches, hydrants and lights.

**Potential Constraints and Considerations**

- Limited stormwater management capacity.
- Recessed elevation of tree pit requires consideration for protecting pedestrians from step down to surface of planting media.

## Green Gutter

A green gutter is a narrow and shallow landscaped strip along a street's curb line. It is designed to manage stormwater runoff by placing the top of the planting media in the green gutter lower than the street's gutter elevation allowing stormwater runoff from both the street and sidewalk to flow directly into the green gutter. An elevated curb can be used along the street side of the green gutter with openings along its length to allow runoff to flow into the green gutter.




*Example of a green gutter. Source: Philadelphia Green Streets Design Manual*

Green gutters can be designed to infiltrate and/or flow to the existing storm sewer. The system attenuates stormwater flows, provides storage and, in some cases, infiltration and evapotranspiration. In flow through green gutters, overflow runoff can be conveyed to the existing storm drain system, either through an underdrain tied to the existing storm drain system, or as shallow concentrated flow that is conveyed downstream to an existing inlet.

**Benefits**

- Provides a physical buffer between pedestrians and the street when an elevated street side curb is used.
- Does not require encroachment into sidewalk area.
- Provides an area within the right-of-way for smaller plantings.

**Potential Constraints and Considerations**

- Must consider existing on-street parking conditions and street width.
- Landscape materials must accommodate direct impact of gutter flow velocity.


*Example of stormwater bio-swale.*

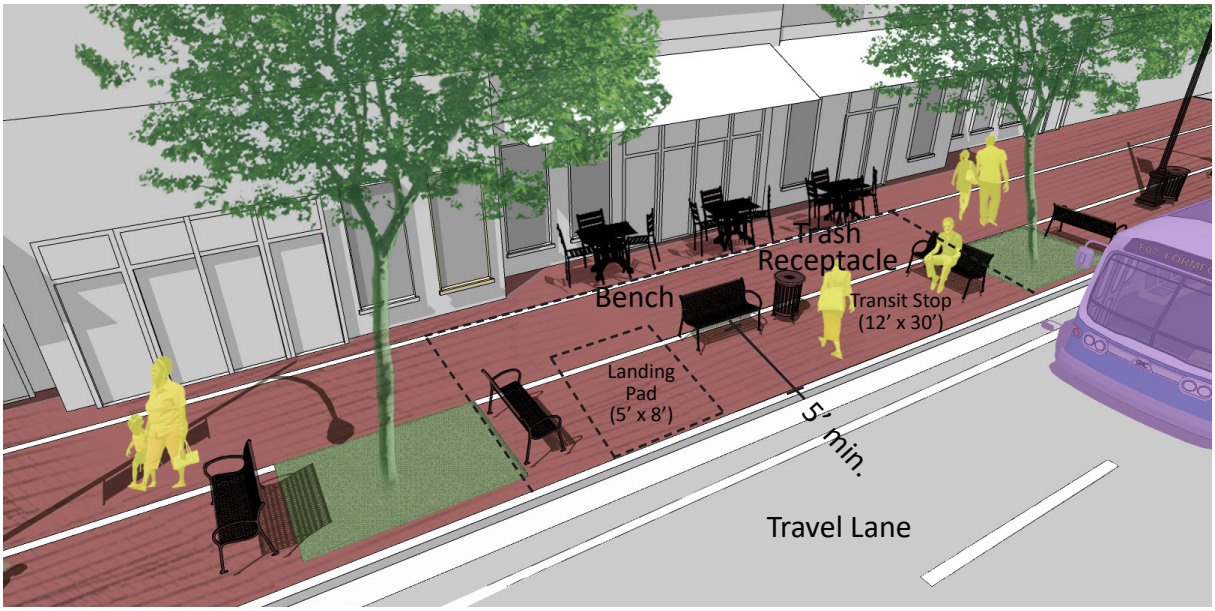
*Source: Philadelphia Green Streets Design Manual*

## Transit Stops

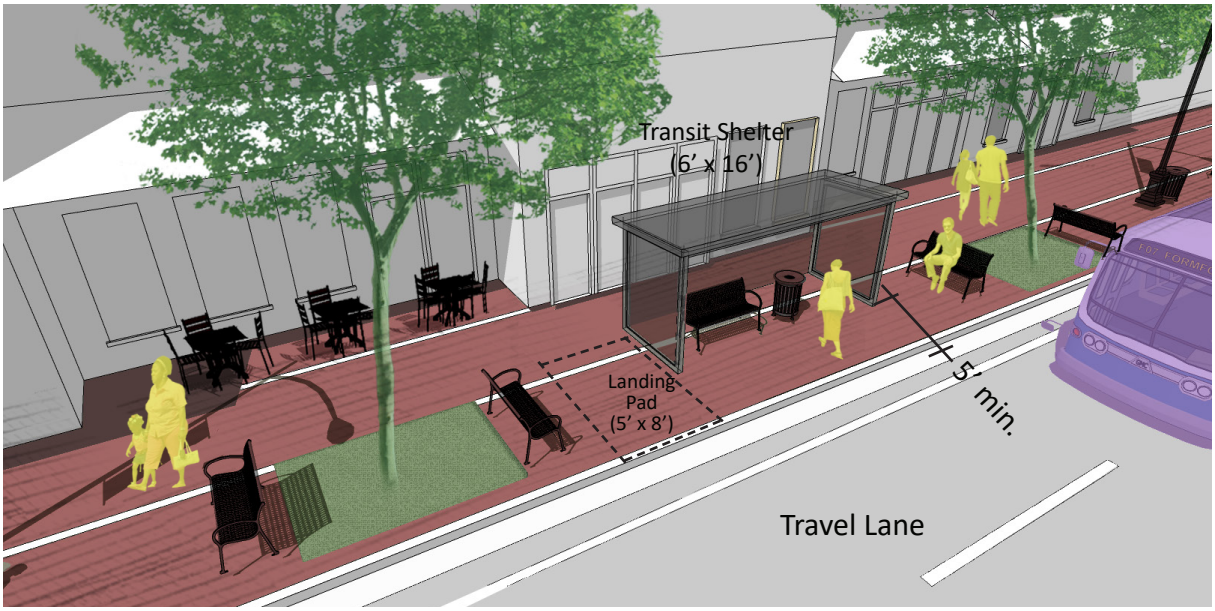
All transit or shuttle stops should be laid out in accordance with required dimensions for clear-zones, landing pads, shelters, benches, bike racks, and trash receptacles.

Transit shelters within the Downtown Village District should be black and match streetscape lighting and wayfinding style. Town-wide, shelters should incorporate town branding where possible.

### Curbside in-line transit/shuttle stop




### Curbside in-line transit/shuttle stop with shelter



## Lighting

Street lighting has an important role in creating atmosphere, promoting safety, and branding for a community. Scale, style, lighting effect, and maintenance affect fixture requirements. Custom light poles, standard poles, specialty light fixtures, and pedestrian lighting all help to create a unified identity and consistent lighting level environment for the pubic right-of-way.

The intent of lighting should include the following:

- To provide a safety environment for pedestrians and vehicles that is pleasing to the eye and encourages activity.
- To provide aesthetic scale and framing of the streetscape during the day, creating a sense of place.

Guidelines for lighting include:

- Pedestrian lighting should be included within the Downtown Village District, consistent with prior adopted guidelines.
- Roadway lighting should be coordinated with NCDOT where applicable and utilize a consistent style.
- Spacing: Approximately 56’- 64’ spacing in same alignment as street trees. Lights should be centered between trees. Conflicts with trees should be avoided.
- Duplex outlets should be provided for tree pits within the Downtown Village District Area to allow for low-voltage seasonal lighting of trees. Outlets should be located on low profile posts with lockable covers.
- Pedestrian and street light poles within the Downtown Village District Area should include duplex outlets located near the fixtures adjacent to brackets or banner bars to allow for the mounting of seasonal lighting to the pole with power source located near the mounting.
- WIthin the Downtown Village District Area duplex outlets should be located within adjacent landscape beds or tree pits, or located within ground vaullts adjacent to loading areas or paraelle parking areas that will be perimited for food truck use to allow for electrical connection upon permitted authorization.

*Examples of street and pedestrian lighting. Left, typical Duke Energy smooth fiberglass pole and LED Roadway fixture, to be used town-wide. Right, typical pedestrian and street light for Downtown Village District; pedestrian light is the Mitchell LED Top Hat with ribs, bands, and medallions with 16 ft mounting; post is a Decorative Aluminum Style VI; street light is a Teardrop LED on a Decorative Tapered Metal pole in black.*

## Gateways & Wayfinding

Gateway elements enhance community branding and serve as welcome features for the Town. The Town has recently implemented new standards that combine wayfinding and gateway elements. Further implementation should be continued by identifying major intersections, major thoroughfares, and districts within the Town.
The intent of gateways should include the following:

- To provide a form of wayfinding that combines Town branding and character.
- To provide aesthetic scale and framing of major streetscapes and intersections.

Guidelines for gateways include:

- Gateway elements should be continued across the Town to include major points of interest.
- Gateway elements should incorporate public art where possible.

See *Vision Holly Springs Section 1: Land Use & Character Plan* Appendix D: Town Gateway Map for additional information.

*Example of new Town gateway elements (Sunset Lakes Rd. at Holly Springs Rd.)*


*Example of a gateway framing element.*

Wayfinding signage within the Downtown Village District and thoroughfares should include a decorative post, black framing for street sign banner, and a black finish to the back of traffic signs. When possible signage should be grouped onto single poles to reduce signage clutter. Traffic signals poles and master arms should have a black finish with mounted street name banners and decorative poles.

Town-wide signage should following Manual of Uniform Traffic Control Devices or (MUTCD) and NCDOT guidelines. Traffic signs do not need to have black finishes, nor decorative poles, however, consolidation of signage where possible should be considered. Traffic signal poles and master arms outside the Downtown Village District and on corridor other than thoroughfares should be aluminum and mounted street name banners.

*Example of wayfinding signage style within Downtown Village District.*

# Public Art

## Aesthetics of the Street

Art in the public realm is an important part of the culture of a diverse community such as Holly Springs. While not only aesthetically pleasing, public art provides opportunities for local artists to contribute to the image and economics of the Town, and exposes residents and visitors to the diversity and culture that makes Holly Springs unique. The following are key goals that the Town has for managing public art along streetscapes:

- Provide diversity in public art. Different styles and mediums used to produce and display public art.
- Integrate of Art into the Community's Public Realm. Explore streetscapes, gateways, and intersections that would be ideal locations for public art installations, and other opportunities that may exist in conjunction with future projects.
- Establish a dedicated funding source for a Public Art Program.
- Commission distinctive works of art reflecting the character of the Town at priority locations.
- Enhance community participation in the public art process through engagement of the public.
- Create gateways to enhance community identity.
- Celebrate the Town's unique character, history and diversity through a broad range of public art projects.
- Enhancing the Town's urban design objectives by using public art to animate and activate streetscapes and public spaces.
- Promote the economic vitality of the Town by using public art to brand Holly Springs as a vibrant arts and cultural destination.

### Why Public Art?

Many may see the definition of public art as "permanent art installed in public spaces," but the definition and impact of public art on a community is much broader. Public art is a community investment in creativity that shapes, enhances, and activates public spaces. In its best realization, public art has the power to transform communities, invigorate and energize their populations, inspire passion and enthusiasm about the built environment, and engender ownership in artworks and the neighborhood at large. Public art has turned communities from anonymous series of spaces into rich landscapes reflecting history, embracing and honoring cultural differences, and teaching social values. Public art moves beyond improving aesthetic quality within neighborhoods and communities, by reinforcing social connections, and fostering improved health outcomes.

*Example of crosswalk public art.*

*Example of large focal point public art as a gateway feature.*

## Diversity of Public Art

Public Art can take many forms and exists in a wide variety of public spaces. Common types of public art generally fall within one of the following categories:

- Sculpture
- Architecture
- Murals / Paintings
- Earthworks
- Memorials
- Signage
- Installation Art
- Interactive Art

Public art captures and reinforces the unique character of a place. The setting for public art should be considered as part of the experience of the art itself. The impact of the place, whether the comfort, noise, views, etc. all have a hand in the experience of art. Together the setting and the art create a memorable experience.

*Example of intersection treatment as public art.*

The intent of any public art should include the following:

- To enrich the experience of the Town of Holly Springs whether it is a moment of visual pleasure while stopped at a traffic signal or by creating a space along a streetscape for pedestrians to site, relax, and linger.

To contribute to the Town's sense of place by enhancing connections between people and the environment through art and distinctive landscape.

Guidelines for public art include:

- Materials: Public art should consist of durable materials and where possible natural such as stone, wood, or metal should be used.
- Siting: Public art should be sited to complement the surrounding environment. Art should not be a distraction to drivers or pedestrians or negatively impact the safety of the public. The scale of the art should be appropriate to the site. Consideration to art that serves as a terminus or focal point as space defining elements.
- Within the Downtown Village District, refer to Figure 13: Focal Point Locations map of the Downtown Area Plan for potential location for public art. Street furnishings such as benches or tree grates can integrate public art, as well as murals on building facades.
- Landscape: Landscape should complement the art installation or serve as an extension or part of the art. Consideration to the mature size of landscape, maintenance requirements, and lifespan should be provided.
- Playful: Public art should be approachable and challenging. It can incorporate seating, opportunities for children to play, water, or light.

## Public Art Recommendations

**1. Establishing an Identity:**

- 1.1 - Commission distinctive works of art reflecting the character of Holly Springs.
- 1.2 - Concentrate public art projects at major thoroughfares, at major intersections, and at gateways.
- 1.3 - Involve the public to provide input for the art program.

**2. Funding Public Art:**

- 2.1 - Establish a dedicated funding source for Public Art. The following are examples of common funding programs from around the country:
  - Percent for art: More than 600 municipalities have enacted percent for art ordinances that allocate between 1/2% and 2% of capital improvement budgets for the arts. In 2002, Chapel Hill Town Council established the Town's Percent for Art Ordinance. This Ordinance allocates 1% of selected capital projects for the creation, fabrication/construction, installation, and maintenance of permanent works of public art. Funding for Percent for Art projects comes from each project's construction budget, which can include Federal, State, County, Town, and private support.
  - General Fund Allocation: This is the most common arts funding, particularly in small and mid-sized communities.
  - Dedicated Property Tax Allocation: St. Louis levies $28 per $1,000 real estate valuation dedicated to arts funding. It produces $70 million annually.
  - Hotel/Motel Tax: The Buncombe County Tourism Development Authority contributed a $600,000 lead grant from the county's hotel/motel tax toward the construction costs for Asheville's Moogseum.
  - United Arts Fund: Charlotte, NC has a `United Way'-style arts fund-raising program that produces $11.2 million for arts grants in programming.
  - Grant Funding: the National Endowment for the Arts (NEA), most state arts agencies, and many private and community foundations support arts programming and public art, although most require matching funding from the Town.
- 2.2 - Where not prohibited by funding source restrictions applicable to grants, bonds, loans or enterprise funds, monies appropriated for public arts should be pooled and expended on any public art project in the Town.
- 2.3 - Ensure proposed private donations of public art follow the same rigorous review process as other public art projects.
- 2.4 - Require a maintenance endowment for privately donated public art projects to ensure the long-term maintenance of the artwork.

*Example of small roundabout public art using natural materials.*

**3. Administrating a Public Art Program:**

- 3.1 - Consider contracting with the United Arts Council of Raleigh and Wake County.
- 3.2 - Alternatively, the Town could administer the program internally by creating an arts division in an appropriate Department, such as Parks and Recreation or Public Works.
- 3.3 - Create a Public Art Advisory Commission to review proposed public art projects and recommend them to Town Council for approval.
- 3.4 - Develop a Public Art Work Plan developed by the Public Art Advisory Commission.
- 3.5 - For capital projects, ensure early selection of the project artist so the artist can serve as part of the design team.
- 3.6 - Set aside 20% of the public art budgets in a segregated account for program administration, artist selection, community engagement and other related activities.
- 3.7 - Develop policies and guidelines relating to preserving artist freedom of expression and balancing artists' first amendment, moral and intellectual property rights with the rights of the Town to control its public spaces for future use and reuse; and limiting contractual waivers of artists' rights under the federal Visual Artists Rights Act and the federal Copyright Act.
- 3.8 - To the extent permitted by law, reserve an amount equal to 10% of the project budgets in separate account for collections management and conservation and maintenance of the public art collection
- 3.9 - Conduct a maintenance and curatorial survey of the entire public art collection at least once every five years.
- 3.10 - The public art program should include temporary public art projects, designed to introduce the program to the public.

*Example of wall mural as public art, Vail, CO.*

*Example of streetscape furnishings (bike racks) as public art; Duncan McDaniel, Nashville, TN*

*Example of streetscape furnishings (benches) as public art.*

*Example of incorporating public art into street furnishings.*


*Example of temporary public art murals on plastic jersey barriers.*

# THE HOLLY SPRINGS COMPREHENSIVE TRANSPORTATION PLAN


## *Conclusion*

The Holly Springs CTP revealed a shared understanding throughout the Town that an unwavering focus on balanced mobility solutions is critical to achieve the Town's vision and goals. The competition for limited resources makes transformative change of the Town's transportation network more challenging and even more important. No single department or agency in the Town can bear full responsibility for addressing the many actions necessary to address these challenges. Across all departments, measurable success will require the ability to see the connection between transportation and local challenges, a willingness to adapt to changing circumstances, an appetite for partnership building with regional and state agencies, and the readiness to act.

HOLLY SPRINGS

COMPREHENSIVE TRANSPORTATION PLAN

HOLLY SPRINGS

North Carolina