

Community Design • Snapshot

Intent

This chapter will help the reader visualize the planning principles appearing throughout this plan, particularly those related to the use of land and function of transportation. Land-use planning and transportation planning are linked not only by location and intensity, but also by form and function. While Chapter 1: Future Land Use, steers growth to areas in which transportation improvements are planned, this chapter demonstrates how roads literally fit together with buildings and communities.

This chapter furthermore guides the scale and character of land development. Citizens who participated in the planning process for this document expressed dissatisfaction with new roads and land developments in part due to size and design details. This chapter addresses the vocabulary of road and building design in Dorchester County and how it will apply to new projects. With this direction, growth can better promote, rather than erode, the quality of life found in Dorchester County's neighborhoods, small towns and rural areas.

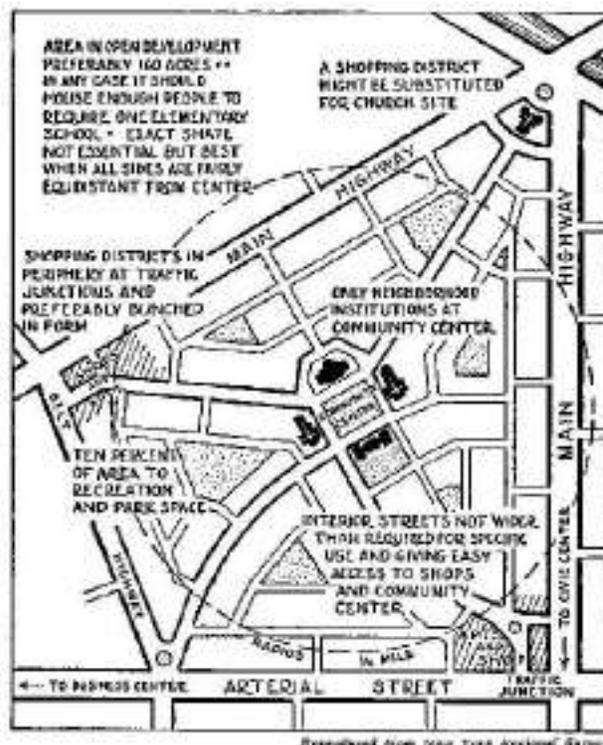


Community design entails more than architecture and landscape architecture. It is the sum of these things with the design of the spaces between the buildings, including those spaces occupied by roads and sidewalks. The objective of this chapter is to weave architecture, landscape architecture, transportation, and land use into cohesive communities.

Background

The urbanized environment of Dorchester County yields three basic development patterns. Two exist in the middle of Summerville, known to locals as “Old Town” and “New Town.” The third, largely manifested in the past four decades, is suburban Summerville and North Charleston.

Old Town is an informally planned area predating 1831. Many of Summerville's historic homes and churches stand within an irregular street network. An interconnected mix of paved and dirt roads weaves between old live oaks, contributing to a pastoral environment tucked into a growing, urban community. Modern travel needs and land values would make constructing a new neighborhood in the image nearly impossible; nevertheless, elements of this area have and should continue to be applied in new neighborhoods to complement the distinctive character of Summerville.



Several prominent city and regional planners formed the Regional Plan Association to prepare *The Regional Plan for New York* in 1929. They referenced the “Neighborhood Unit Concept” (above right) devised by Clarence Perry, published in the *Regional Survey of New York and Its Environs*, as a template for land development patterns outside of New York City (image courtesy of Washington State University, www.wsu.edu, 2005). This vision for new suburban development has been implemented in once outlying areas throughout the country.

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A rigid street grid aligned with the railroad, platted in 1831, is the framework of New Town. The grid is common to many South Carolina towns built alongside the railroad. St. George is similar to New Town Summerville in this respect. Community founders laid out the grid to maximize efficiency of land subdivision and transportation within each town.

The street grid was rarely platted after 1931. In that year, the federal government directed state governments to leave subdivision approval to local governments. The purpose of the directive was to spur housing production. This goal was realized after World War II. Then, local governments were able to respond to requests to subdivide land much more quickly. Developers and homebuilders have since produced shelter at unprecedented rates.

Dorchester County grew very slowly well into the twentieth century, until it came under the influence of metropolitan Charleston. Lands on the periphery of old Summerville were developed as residential areas, transforming the town into something of a bedroom community.

Commercial development followed, providing goods and services to the growing population. This development is laid out much like the residential areas they serve – most buildings are freestanding and deeply set back from roads. Planning of this commercial and residential development occurred not at a town level, but parcel by parcel. Each land development connects to a pre-existing rural road. Some of these roads have been reconstructed as wide highways after the fact to serve greatly increased travel demand.

The illustration on the following page that of a “transect” – a hypothetical cross-section – that represents the evolution of a city, both spatially and over time. Andres Duany, a prominent architect, notes six transect zones represent a range of conditions, from pristine wilderness to an urban core of a large city in this diagram. This analysis is applied to St. George and Summerville in the sidebars. Both communities benefit from balancing urban and rural conditions across the transect.

Virtually all land development occurring in Dorchester County in the latter half of the twentieth century took the form of transect zone 3: Suburban. This is due in part to zoning and covenants that prevent once-expected urbanization over time. Dorchester County’s communities are therefore dispersed, often without centers. Schools and churches have taken this form as well, making each of them one more stop on a highway rather than focal points of new communities.

Few local governments in South Carolina have developed effective templates in which to coordinate private land developments. Substantial revisions to State planning enabling law granted local planning commissions broad powers to develop such a template in 1994. This 2008 Comprehensive Plan is a guidebook for such a template in Dorchester County.

Transect zones 1 through 5 in and around Summerville:



Transect Zone 5: Urban Center



Transect Zone 4: General Urban



Transect Zone 3: Suburban



Transect Zone 2: Rural



Transect Zone 1: Natural

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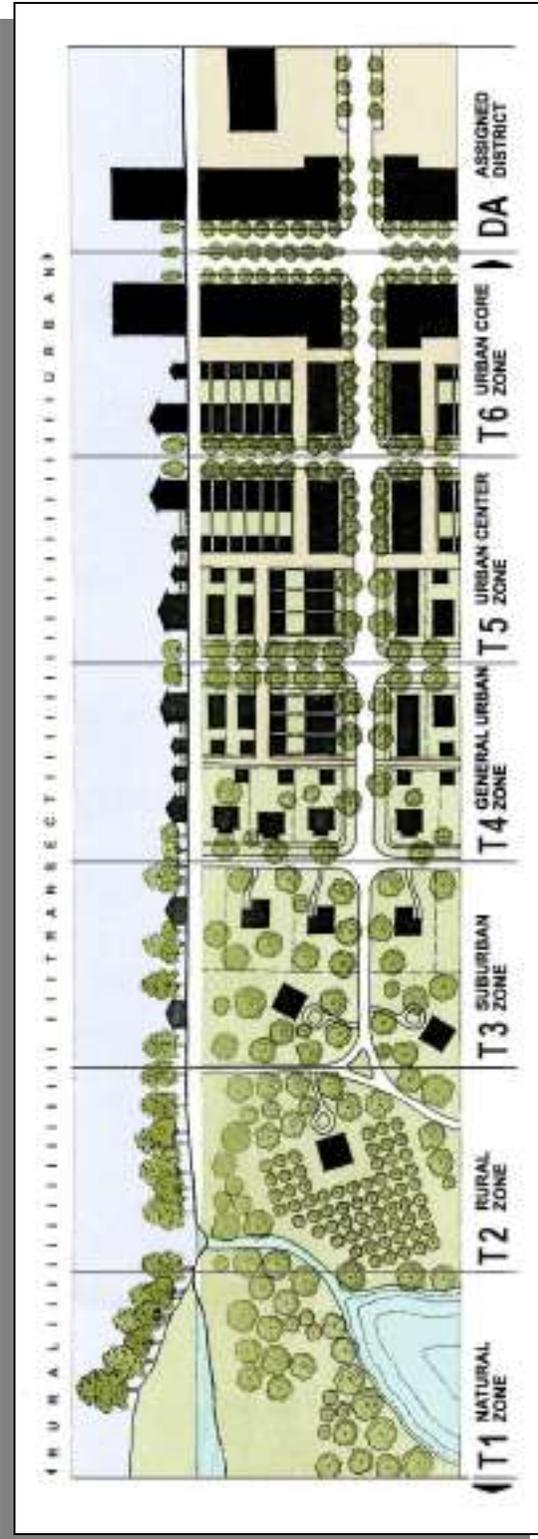


Image courtesy of Duany, Plater-Zyberk and Company, www.dpz.com, 2007

Transect zones 1 through 5 in and around Saint George:



Transect Zone 5: Urban Center



Transect Zone 4: General Urban



Transect Zone 3: Suburban



Transect Zone 2: Rural



Transect Zone 1: Natural

Community Design • Shape

Goal 1

Dorchester County’s transportation network will promote economic development and community development, manage freight traffic and commuter traffic, and balance motor-vehicle traffic and foot traffic through design and coordination with land-use planning. The network optimally serves all users, existing and future, in an efficient and timely manner without unduly financially burdening any one constituency of Dorchester County.

Policy 1.1: Dorchester County will conduct a corridor study of all new roads built and roads to be improved with public funds. The corridor study will result in a plan that addresses these five elements:

1. Existing and future land use in the corridor;
2. The adjacent built environment, including the form of buildings and their relationship to the road;
3. Management of access to the road from private property by automobile, commercial vehicle (such as delivery truck), bicycle, and foot, which improves safety by reducing potential conflict points in the right of way;
4. On-street and off-street parking; and
5. Road design.

The corridor study must result in a road design that best serves existing and future users, both landowners and travelers. The corridor study will ensure compliance of the transportation project with the Comprehensive Plan, or if findings dictate, the County will amend the Comprehensive Plan to reflect the conclusions of the corridor study.

Policy 1.2: Dorchester County will recognize three conceptual road types for projects it funds. While a corridor study is needed to successfully design a road project, these conceptual types and their classification in this Plan will substantially ensure the fulfillment of land-use planning objectives in each road corridor. These three types are the “Avenue,” the “Boulevard,” and the “Thoroughfare.”

These road types are integral components of a fully functioning transportation network that includes a wide range of road types, from alleys to expressways. Other types will continue to be constructed or improved in Dorchester County by private-sector interests or, in the case of an expressway, state and federal funds.

Conceptual Road Types		
Type	Arterial/ Collector	Target Speed
Avenue	Either	20-30 mph
Boulevard	Either	30-35 mph
Thoroughfare	Arterial	40-50 mph

Parler Avenue in St. George is an “Avenue,” as defined in this Plan.



The Town of Summerville recently reduced this two-lane Avenue - Main Street - from four lanes to improve safety and pedestrian accessibility.



Coleman Boulevard between the Cooper River and Shem Creek demonstrates implementation of this Plan’s criteria for a “Boulevard.”



An example of this Plan’s “Thoroughfare” is Summerville’s Berlin G. Myers Parkway.



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The following map, “Dorchester County Road Type Plan, 2008-2030” schedules arterial and collector roads in Managed Growth Areas as one of these three types. Each road type carries implications for land use and design as well as road design criteria. The indication of an existing two-lane road as a Boulevard does not commit the County to immediately adding a median. Rather, adjacent land development will plan around the eventuality. Moreover, a median segment might be added as an operational improvement.

The conceptual road types provided in this Plan do not intend to replace the hierarchical road classifications of transportation planning – local, collector, and arterial. The Thoroughfare is always an arterial road, but Boulevards and Avenues can be arterial or collector roads.

Local, collector, and arterial roads are classified based on a balance of vehicular access and mobility. Although common road labels, “Avenue, Boulevard,” and “Thoroughfare” are capitalized in this Plan as terms of art. These terms are thus specific to the Dorchester County Comprehensive Plan as tools intended to address all types of transportation access as well as adjacent land uses and building forms.

Introduction of Avenues, Boulevards, and Thoroughfares employs the Complete Streets policy of the Charleston Area Transportation Study (CHATS), of which Dorchester County is a member. A high priority of the CHATS Long-Range Transportation Plan (LRTP) is to link transportation planning to land-use planning for better management of both traffic and growth. More information about the design of these roads appears in Chapter Four of the CHATS LRTP.

The Avenue



Axonometric view of 2-lane Avenue with narrow median, parallel parking, bus shelter, and mid-block crosswalk (Image by Kimley-Horn and Associates for the CHATS LRTP).

Elements of successful Avenues may include these examples: a wide, often sheltered sidewalk adjacent to on-street parking, angled in this Summerville example;



On-street parallel parking that the developer may construct during site development (not necessarily part of a County road improvement project), as seen in front of Hanahan City Hall;



Appealing street furniture and landscaping, recently implemented along Montague Avenue on Olde North Charleston;



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Cross-section of two-lane Avenue with left-turn lane and parallel parking on one side

The Avenue serves areas of higher intensity land use in the community, such as Commercial, Civic, and Housing Nodes, with wide sidewalks, on-street parking, and frequent pedestrian crossings. Pedestrian and bicycle traffic and parking motorists are prioritized over heavy truck mobility. Intersections are designed so that trucks crawl around corners to protect pedestrians. The typical curb radius ranges from 15 to 30 feet. The target speed for the road is 20 miles per hour in a central business district, up to 30 miles per hour between Commercial Nodes and/or Housing Nodes.

An Avenue may have two or four travel lanes. Outer lanes are designed as shared travel lanes for bicyclists, typically 15 feet wide. The typical inside travel lane is eleven feet wide. Sidewalk width ranges from eight feet and wider. Pedestrian crossings occur at intersections and mid-block crosswalks, separated by no more than 1/8 mile.

The Avenue is best suited with a narrow median, about six feet across, to serve as a refuge for crossing pedestrians. The median also helps control access to arterial Avenues; left-turns are allowed at intersections only, not driveways. Collector Avenues may have two-way-left-turn lanes.

On-street parking is essential in Commercial Nodes along the Avenue, and should be angled or parallel to the travel lane, not perpendicular. Landowners will have the option to install on-street parallel parking between Nodes. The incentive to do so is a reduction in on-site parking required for the land use.

Additional parking may be included along alleys that run parallel to the Avenue, behind the buildings that front the sidewalk. Parking lots may be located on the side of a building and directly access a collector Avenue, but not an arterial Avenue, in which case alleys will access parking areas. Utility lines are located under the sidewalk or along alleys.

And clearly marked pedestrian crossings at intersections, for which a landscaped median may provide a refuge for those crossing, also in Olde North Charleston.



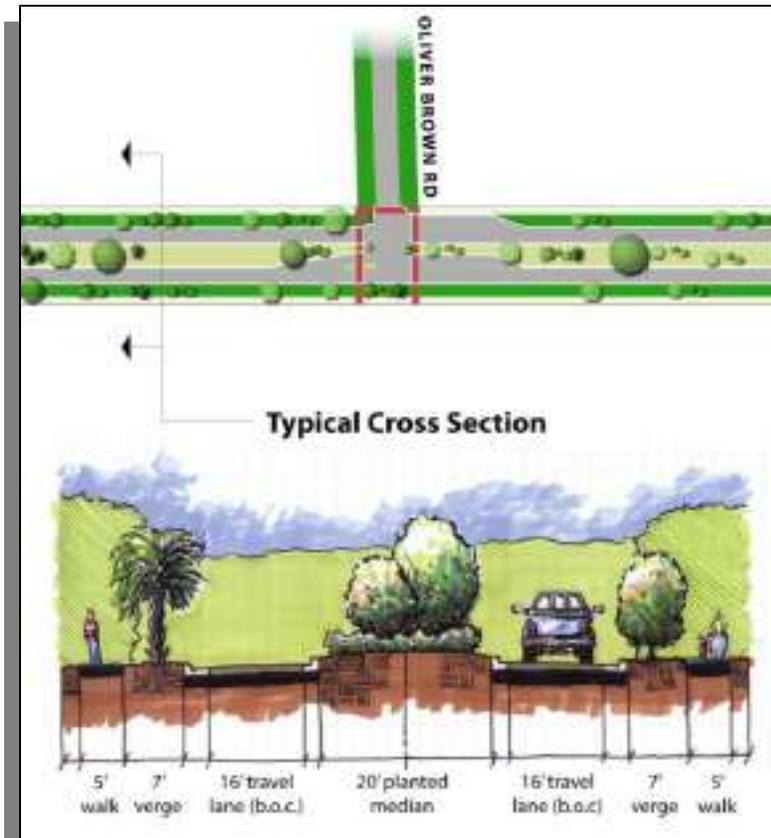
Buildings along Montague Avenue's sidewalk frame the corridor of the Avenue (above). This is called the "street wall," which begins to define an "outdoor room." The most public part of a building fronts the Avenue. Automobile service areas stand behind this Charleston gas station's convenience mart (below). Mature tree canopy overhead creates a ceiling to the room, while benches underneath are its furniture (at bottom, Main Street Greenville).



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A land development in a Commercial or Housing Node will place buildings no more than 15 feet from the Avenue's sidewalk, with a primary entrance onto the sidewalk, and on-site parking to the rear.

The Boulevard



This example of a two-lane Boulevard includes left- and right-turn lanes, a wide planted median and street trees. (Its travel lanes are slightly narrow.)

The Boulevard typically serves areas of lower intensity land use in Managed Growth Areas, identified on the *Future Land Use Map* in Chapter 1. The Boulevard balances mobility for all travel modes, including heavy truck traffic. Traffic moves freely through intersections, but channelized (or “protected”) right-turn lanes and double right-turn lanes are undesirable, because they unduly impede bicycle and pedestrian traffic. Roundabouts and traffic circles are suitable alternatives to four-way intersections.

A Boulevard may also have two or four travel lanes. The outer lanes may be designed as shared travel lanes for bicyclists, typically 15 feet wide; however, separated bike lanes may be desirable, especially if the target speed is 35, rather than 30, miles per hour. The typical travel lane is eleven feet wide, and bike lanes typically range five to six feet in width.

The purpose of a sidewalk is to enable the pedestrian to walk door to door, NOT on the street (second photograph).



While automobile circulation areas are undesirable between the sidewalk and the building, the community might choose to buffer the pedestrian along a Boulevard.



The landscaped median is the Boulevard's defining characteristic. Mature trees dramatically recast this collector Boulevard.



Street trees in the verge shield pedestrians and contribute to a lush parkway.



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Sidewalk width is at least five feet, separated by five to ten feet from the curb by a “verge.” Trees and shrubs are planted in the verge to shield pedestrians from motor vehicle traffic. Utility lines in the right-of-way are under the verge.

The Boulevard is characterized by a landscaped median, typically 15 to 20 feet wide. A wider median may be desirable to preserve mature trees. The median helps manage access and breaks for left-turn lanes at intersections.

Within Commercial or Housing Nodes, land development is coordinated to ensure adequate pedestrian access and mobility. Commercial buildings and housing units are typically oriented to a perpendicular road that intersects the Boulevard. Between Nodes, the Boulevard is more of a parkway. Land development design along the parkway is addressed in more detail later in this chapter; however, on-site parking between the road and the primary building is minimized, and pedestrian access to the primary entrance must be protected.

On-street parallel parking is optional on Boulevards; angled parking is inappropriate. Avenues should regularly intersect a Boulevard, providing on-street parking and access to Commercial Nodes.

The Thoroughfare

The Thoroughfare is a route between communities or a bypass for a community. This road allows limited access to private property and prioritizes mobility. Only perpendicular streets (Avenues, Boulevards, or narrower collector streets) intersect the Thoroughfare, not driveways. The intersection of the Thoroughfare by a quiet, slow local street is undesirable. The target speed is typically 40 to 50 miles per hour. A rural section might have 55-mph target speed.

Where adequate space permits, a Thoroughfare will have heavy buffering. Smaller commercial establishments that abut the road will rely on alleys and shared access easements, not curb cuts, for access.

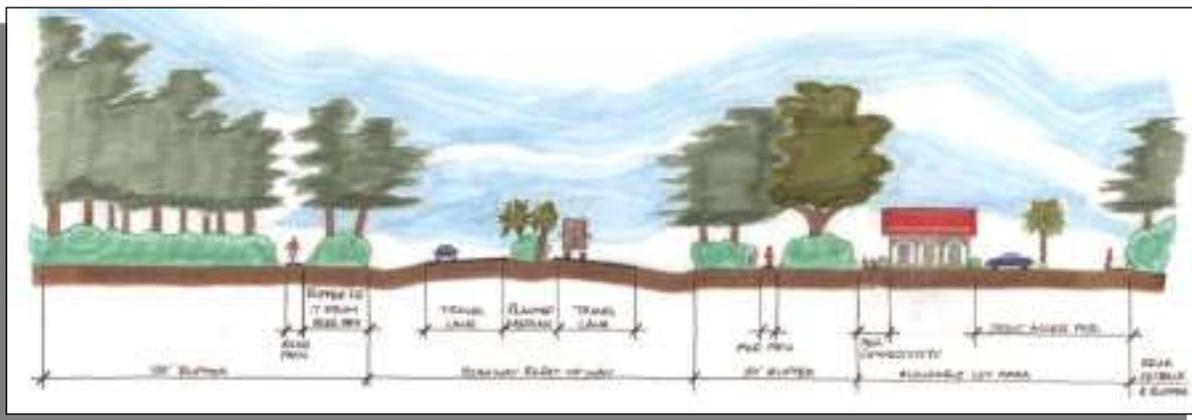
A roundabout provides an opportunity to continue the landscaping of the median through an intersection.



A traffic circle - a large roundabout - carries heavier volumes and is more appropriate for an arterial Boulevard than a collector, but pedestrian accessibility is hindered. (Photo of Hilton Head Island traffic circle courtesy of Alternate Street Design, PA, www.roundabouts.net)



This neighborhood service is a land use well suited to a Boulevard. The building's orientation to the road and the mature trees on site enhance the corridor.



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A Thoroughfare may have two or four travel lanes, typically twelve feet wide. Service for pedestrians might not be desirable if facilities on lower speed roads are nearby. Otherwise, multi-use trails serve bicyclists and pedestrians, separated from parallel travel lanes by at least ten feet (25 feet or more in the absence of a curb).

The multi-use trail is eight to 14 feet wide for one-way facilities and up to 20 feet for two-ways. Trees and shrubs in the verge screen non-motorized travelers from high-speed automobile traffic. Utility lines in the right-of-way are under the verge.

The Thoroughfare may be divided by a median, a swale, or even a barrier where right-of-way width is constrained. A continuous two-way left-turn lane is undesirable because it leaves open the possibility of future driveway encroachments on the road and because it collects debris.

Land development in the Thoroughfare corridor is oriented to perpendicular streets. Parking areas are screened from the Thoroughfare travel lanes. Direct access to the Thoroughfare should be condemned, usually during right-of-way acquisition. Condemning access is often difficult and may be expensive; if Dorchester County finds it impractical, a Boulevard should be planned for the corridor instead of a Thoroughfare.

Goal 2

New neighborhoods and communities planned and designed as natural extensions of existing communities or seamless parts of new communities in Dorchester County.

The Modified Street Grid

Policy 2.1: Dorchester County will improve connectivity of proposed local road networks, both within the neighborhood and to adjacent neighborhoods.

To achieve Policy 2.1, the County will promote two basic templates for new neighborhoods and communities: (1) the modified street grid and (2) the neighborhood unit.

A street grid is a development pattern common to most towns founded in the eighteenth and nineteenth centuries. It involves two series of regularly occurring streets that run perpendicular to each other, resulting in rectangular blocks of private property for development. Older portions of St. George and Summerville both show this pattern.

A new rural road might be constructed and designated a Thoroughfare with deep buffers on both sides to ensure preservation of the tree canopy.



Betsy Kerrison Parkway on Johns Island approximates a Thoroughfare. Mature trees were preserved in a wide median, which aids access management.



Adjacent land uses are screened from the Thoroughfare and accessed by a perpendicular street or parallel alley.



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Over time, at least one axis of the street grid became the commercial corridor, often the “Main Street.” This street was typically tied into a highway (in the days of horse-drawn carriages) that connected towns. Main Street typically exudes the characteristics of an Avenue, as defined in this Plan. Such is the case with Parler Avenue in St. George.

To a lesser extent, Memorial Boulevard has evolved similarly. If this road had a planted median and better managed access from private property, it would make a good “Boulevard” defined in this Plan. St. George is therefore the case example, albeit imperfect, in this Plan.



The Town Hall and firehouse is centrally located in street grid of St. George, while schools are off the main axes, in neighborhoods.

A modern street grid will not achieve such rectangular rigidity, in part due to wetlands. The development pattern of a modern community will more sensitively reflect the natural landscape by building around wetlands and utilizing topography. The result – a Modified Street Grid – offers more visual interest through increased variation. A Boulevard and an Avenue remain well suited as the cross axes of a modern street grid.

The Modified Street Grid is appropriate for Managed Growth Areas with higher population density, especially Housing Nodes and pedestrian-oriented Commercial Nodes. Gateway Districts must be built around a Modified Street Grid to ensure adequate access and traffic congestion management.

Modern neighborhoods, like White Gables, more frequently incorporate the street grid...



...as do modern shopping areas, like the Mt. Pleasant “Towne Center.”



There are few examples, however, of a recently constructed street grid that successfully blends the two. This image from St. George shows that buildings should get smaller and land uses less intense the farther they are from the axes of the grid. Improved local government planning and road design can solve this.



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The Neighborhood Unit

Clarence Perry devised the “Neighborhood Unit Concept” based on Raymond Unwin’s planning principles in 1929. He envisioned this development pattern replacing the street grid as the preferred framework for new communities. Perry and his peers envisioned new communities with lower densities, with more open space and less congestion than cities of the time.



The neighborhoods that comprise North Charleston’s Park Circle area are based on the neighborhood unit. Each quadrant is about one-half mile wide. Schools, churches, and parks are centrally located and within easy walking distance of homes. Retail and attached housing is established on four-lane through streets, like Mixson, Montague, and Rhett. Employment opportunities are nearby

The Neighborhood Unit is appropriate for lower density portions of Managed Growth Areas identified on the *Future Land Use Map*. Avenues and Boulevards will define Dorchester County’s Neighborhood Units. Avenues will parallel one another and intersect Boulevards to bound each unit. A Housing Node or a Commercial Node occupies each of the unit’s four corners. Collector roads access the Civic Node in the middle of the Neighborhood Unit.

Montague Avenue is one of the defining arterial roads of the four quadrants of Park Circle - four neighborhood units.



North Charleston Elementary School (in an image courtesy of the Noisette Company, www.noisette.com, 2007) stands on Durant Street in the northeast quadrant of Park Circle.



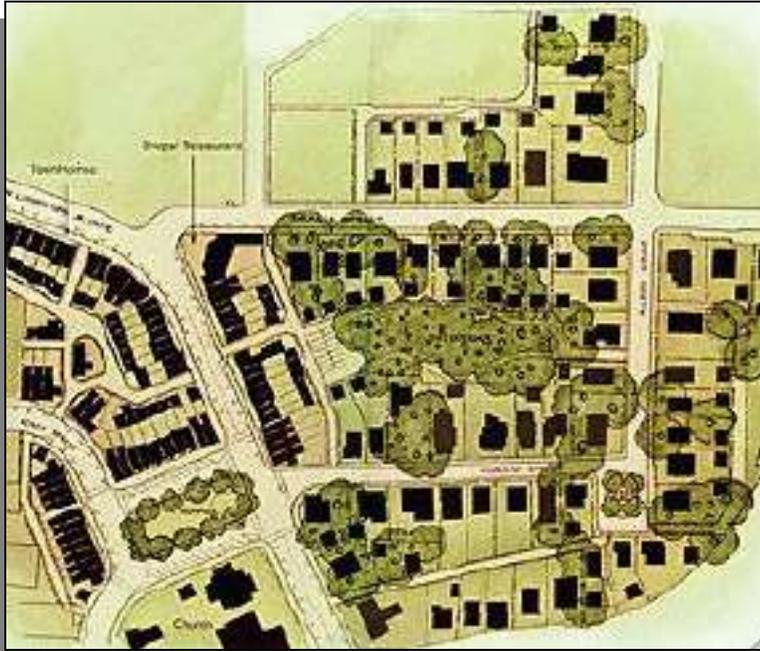
These mixed-use, central neighborhoods are well suited to the four corners of the Neighborhood Unit envisioned by Clarence Perry. A similar project is planned at the south end of Mixson Avenue in the Park Circle area.



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Housing Node - Central Neighborhood Design

Policy 2.2: New multi-family residential developments will fit into the Modified Street Grid or the Neighborhood Unit at a planned Housing Node. These proposed land developments will demonstrate integration into the transportation network and the community fabric.



This image for Greensboro, NC, (Duany, Plater-Zyberk and Company, www.cnu.org, 2007) illustrates how different land uses can be woven into a cohesive neighborhood.

The Arbor Oaks neighborhood in Summerville illustrates that attached housing does not have to feel crowded or dreary. An additional benefit, water quality impacts can be better managed in common areas than on private lots.



Entrance



Homes with on-street parking



Apartments and townhomes would fit into the transportation network better if its roads were accepted into the public system. This divided Avenue would seem appropriate as a public street.



Publicly maintained alleys must be an option to ensure proper management of parking impacts.



Alleys for the garages of single-family houses can be gravel. It is less expensive and better for water quality.



Public streets are becoming more common in front of new townhouses.



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Commercial Node - Activity Center Design

Policy 2.3: An outdoor shopping area anchored by a supermarket is a “neighborhood shopping center,” according to the terminology of the real estate industry. These shopping centers will therefore fit into the Neighborhood Unit or the Modified Street Grid at a planned Commercial Node of the *Future Land Use Map*. This will allow access by foot and bike to the shopping center as well as by car. Customers from within the adjoining neighborhood will be able to drive to the shopping center without entering the arterial road on which it is located to avoid further congesting traffic.



This drawing by Seamon Whiteside Associates, provided by the City of Charleston, illustrates how a neighborhood shopping center orients to an Avenue that intersects a Boulevard. The first three of the following four photographs are courtesy of the City of Charleston Planning Division, 2007.



A grocer anchors the center; ancillary retail fronts the Avenue.



Public sidewalks and mid-block crosswalks provide access.

Mt. Pleasant Square, a neighborhood shopping center anchored by Bi-Lo, was expanded recently, including improvements to this public street adjacent to the site.



Alternatively, the grocer may front the Avenue, as in the next two examples. The parking lot is across the street and screened from the Boulevard or cross street (images courtesy of NC Division of Community Assistance, 2001).



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The developer of a neighborhood shopping center will orient the center to an Avenue that adjoins or bisects the property. Ancillary retail in the center will front the Avenue and benefit from its on-street parking and utilize its sidewalks. If no Avenue is available, the developer will construct it or upgrade an existing lesser road to an Avenue.

A plaza is a welcome intervention in a shopping center. Storefronts might orient to a plaza, alternative to an Avenue. A plaza is an outdoor public space bounded by building facades, featuring landscaping and outdoor furniture. Outdoor dining and outdoor art are options beneficial to the use of the space. Tenants, charitable organizations, or temporary or mobile vendors might also use the plaza for sales, displays, or collections.

South Windermere Shopping Center, illustrated and photographed on the previous page, is South Carolina’s oldest shopping center. Windermere Boulevard bisects the shopping center, leads to attached residences, and terminates at St. Andrew’s Elementary School. The City of Charleston recently improved Windermere Boulevard with safer parking, crosswalk on speed tables, a median, and a turnaround. This layout fits well into the Neighborhood Unit.

Neighborhood and regional shopping center site planning “DOs” and “DON’Ts:”



DO arrange buildings within a shopping center to define space.
DO clearly delineate pedestrian circulation (above right photo courtesy of NC DCA, 2001).



DON'T let buildings “float” in the site plan; the façade of each will adjoin an Avenue, internal street, or plaza. **DON'T** pave uniformly.

Policy 2.4: Regional shopping centers will be located in a Commercial Node at the intersection of two four-lane roads or within one mile of an interstate expressway on a four-lane road. A two-lane rural road is inadequate to support the traffic generated by a regional shopping center.

A neighborhood shopping center located at the intersection of a Thoroughfare and an Avenue will buffer against the Thoroughfare. A plaza enlivens the pedestrian and retail environments.



Ancillary retail can mark the entrance of a shopping center (photo courtesy of NC DCA, 2001). (Foreground street is publicly maintained.)



Forcing ancillary retail to an exterior road for which on-street parking is not an option is unlikely to generate a successful pedestrian environment.



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For the purpose of this Plan, regional shopping centers include a “power center” anchored by a large discount retailer, an enclosed shopping mall like Northwoods Mall, an open-air shopping mall like the Tanger Outlet Mall, or a freestanding “big box” retailer – a store with 70,000 or more square feet of retail floor area.

The developer of a regional shopping center will propose one entrance road perpendicular to each Boulevard or Thoroughfare to provide access to the center. At least one of these entrance roads will be an Avenue fronted by ancillary retail, where proposed, with on-street parking. The second entrance road may be designated a service road for delivery trucks. The length of the entrance road will be recommended in the traffic study required for the land development application made to the Planning Commission.

Gateway Districts

Policy 2.5: The purpose of each Gateway District is to serve as the “town center” of the surrounding area. The Gateway Districts will complement – not compete with – Downtown Summerville. Each will offer retail, restaurants, and local services to residents in the vicinity that will reduce their dependence on Downtown Summerville and the commercial district on 17-A near I-26. This will reduce local traffic congestion by reducing errand trip lengths, build the identity of each community around the Gateway District, and establish attractive points of entry into greater Summerville. Each Gateway District is positioned on or near transportation routes expecting new capacity, either through rail service or improved roads. Each Gateway District is therefore a Priority Investment Area – an area expecting significant public investment in infrastructure.

Gateway Districts are also well positioned to become future white-collar employment centers. In its recruitment of white-collar employers, Dorchester County will assist with land acquisition in Gateway Districts. An office building will infuse economic activity into areas where the County is already planning significant investment.

The six Gateway Districts labeled and indicated on the *Future Land Use Map* as pedestrian-oriented activity centers are (1) North Main Gateway District at US-17A and US-78, (2) Brownsville Gateway District at US-78 and SC-165, (3) Jedburg Gateway District on Mallard Road, (4) Limehouse Crossroads Gateway District at SC-165 and SC-642, (5) Ridgeville Gateway District on SC-27 near US-78, and (6) Rosom Hill Gateway District near Sland’s Bridge along US-17A. General conditions for each Gateway District are introduced herein.

Blackbaud, Inc., has economically infused Daniel Island (photo courtesy of Charleston Regional Development Alliance, www.crda.org).



A “lifestyle center” is an outdoor regional shopping mall that combines destination retail with convenient storefront parking. More recently, lifestyle centers have incorporated apartments, like The Village at Sandhill, near Columbia (photo by Matt Tischler, www.freewebs.com/waccamat/).



A 4-lane street bisects Clay Terrace in Carmel, IN, showing how a lifestyle center might act as a Gateway District. New development, like a traditional downtown, can surround a major, but still pedestrian-friendly intersection (photos from Lauth Property Group, www.lauth.com).



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The County will undertake a future, detailed study, perhaps in partnership with developers, to clarify a vision for each area. Each study will include a design *charrette* for citizen involvement and input into the planned activity center for their community. Such a study might also result in the preparation of form-based codes for the Gateway District. Form-based codes typically replace zoning standards in the subject area.

The 1st Gateway District, on North Main Street, builds on the activity generated by the County Services Building at 500 North Main Street. This Gateway District will include regulatory changes and infrastructure improvements to increase the value of private property. Among these are height increases and an improved Fifth North Street. Two potential commuter rail stations are on the edge of the Gateway District. The Summerville Comprehensive Traffic Study identifies Fifth Street North (US-78) for widening from two to four lanes. This improvement will be coupled with on-street parking, wide sidewalks, and street trees to create an Avenue. Tax-Increment Financing will fund these improvements; reinvestment in adjacent private property will generate the new revenue, which will be leveraged with other sources. This Avenue will be the spine of the North Main Gateway District.

The 2nd Gateway District, in Brownsville, is planned around the possibility that Mead-Westvaco will cease operations at its facility by 2030, the horizon year for this Plan. Should that occur, the property would be an excellent opportunity for a commuter rail station and transit-oriented development. If the planned Exit 197 on Interstate Highway 26 is realized, the Brownsville Gateway District will have convenient access to the highway. It is also near a current, growing economic development district, affording future residents of the Gateway District short, in-town commutes. The Brownsville Gateway District also enjoys proximity and good access to Downtown Summerville. Future development will expand the street grid system to which it is adjacent. The investment attracted by the Gateway District would seek to replace the unfortunate loss of the Mead-Westvaco facility, and could invigorate smaller scale investment in the surrounding area by offering goods, services, and transportation choices.

The 3rd Gateway District, in Jedburg, is similar to the Brownsville Gateway District in that it, too, is close to a possible commuter rail station location, enjoys direct access to I-26, and is very near McQueen and Eastport Commerce parks. The Jedburg Gateway District; however, is largely undeveloped. It offers the County and landowners the opportunity for substantial investment and well managed growth with mixed land uses near employment with several routes to surrounding communities. Expansion of the transportation network during land development will mitigate increased traffic here. Additionally, developers must improve the streetscape and add on-street parking on Mallard Road with the County's support.



A view heading into Clay Terrace during the holidays (photo by American Structurepoint, Inc., www.structurepoint.com).



Stakeholders in the Limehouse Crossroads area expressed concern over reconstructing the crossroads as a highway interchange (image of I-526 over US-17 in Charleston). A “one-way couplet,” like the example under construction depicted below, is an alternative (www.oregon.gov, 2006). More information about one-way couplets appears later in this document.

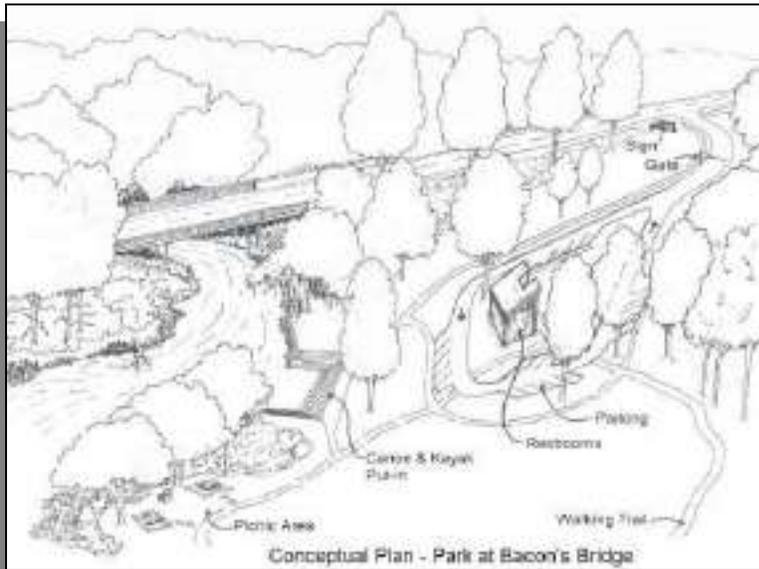


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The 4th Gateway District, at Limehouse Crossroads, occupies the intersection of two arterial roads scheduled for improvements: Dorchester Road and Bacon's Bridge Road. This intersection will experience the most investment of any area within Dorchester County in the near future, making it a "Priority Investment Area" of this Plan.

This intersection is aesthetically and functionally one of the most important areas of lower Dorchester County. Coupled with the Ashley River, it is the transition between Summerville and the historic plantation district. The Limehouse Crossroads Gateway District must be a distinct community that reflects the heritage of the Lowcountry, since numerous visitors and locals alike will experience it.

One step toward establishing the Limehouse Crossroads Gateway District is to provide pedestrian access to the banks of the Ashley River. Many of the Lowcountry's most scenic, enduring, and popular communities enjoy access to the area's beautiful creeks and rivers. The following image is the surrounding community's vision for such access, expressed in the Ashley Scenic River Management Plan. Replacement of Bacon's Bridge is the ideal time to bring this vision to reality. Moreover, increased access to Dorchester County's waterways is an economic development policy in Chapter 4 of this Plan.



This drawing by Bob Bainbridge is reproduced from the *Ashley Scenic River Management Plan*, prepared by the Ashley Scenic River Advisory Council with SC DNR Land, Water, & Conservation Division, edited by Bill Marshall, and published January 2003.

Bacon's Bridge must be constructed as part of an Avenue, with wide sidewalks and slow-moving traffic, to deliver pedestrians from the center of the Gateway District to scenic views of the river from its bridge as well as its banks. Sidebar images depict the Gervais Street Bridge in Columbia – a similar, albeit more urban, application.

Columbia's Gervais Street Bridge is a local landmark, connecting Columbia to West Columbia as well as city parks on both sides that comprise the Three Rivers Greenway. These amenities should provide guidance to Dorchester County as it replaces Bacon's Bridge.



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Dorchester Road crosses Bacon's Bridge Road to establish Limehouse Crossroads. This Plan includes current Dorchester County policy to add capacity to both roads. Prior to the preparation of this Plan, the County has considered changing Dorchester Road from a two-lane road to a five-lane highway.

The Comprehensive Plan Task Force Committee received professional advice from Davis and Floyd, Inc., its ongoing consultants for traffic engineering, that five lanes would not likely serve the County's long-term transportation needs. A seven-lane Dorchester Road crossing Bacon's Bridge Road with an overpass was discussed.

The cost of constructing such an overpass is prohibitive to its implementation in Dorchester County. Expanding Dorchester Road to a one-way couplet, with two at-grade intersections of Bacon's Bridge Road, must be studied as an alternative. The couplet would begin at Old Orangeburg Road and proceed just southeast of Bacon's Bridge Road.

Proponents of one-way couplets suggest that a four-lane couplet (two lanes in each direction) can provide as much capacity as one seven-lane road (Micheal Cunneen and Randal O'Toole, "One-way Streets Are Better than Two-way," Independence Institute, Golden, CO, February 2005). If this is the case at Limehouse Crossroads, Dorchester Road's existing right-of-way will be sufficient for one-way traffic. A second, parallel right-of-way would nevertheless be difficult to obtain.

Combined with Bacon's Bridge *Avenue*, the crossroads would more successfully serve as a gateway between Summerville and the historic plantation district. Moreover, the Gateway District promotes much greater commercial opportunity, thus yielding Dorchester County a much higher return on its investment in infrastructure, via commercial property tax revenue.

Finally, the Gateway District would contribute to a slow-paced, relaxed lifestyle that many citizens who participated in the comprehensive planning process desire. Residents could enjoy a stroll to the Ashley River along tree-lined roads with slow-moving traffic.

The 5th Gateway District is planned in central Ridgeville, between the town's main commercial street and an Employment Growth Area planned along SC Highway 27. The town of Ridgeville, like others in Dorchester County, originally grew around a railroad station. Ridgeville is on the threshold of growth from metropolitan Charleston reaching westward along Interstate Highway 26. This Gateway District is therefore worthy of consideration for a commuter rail station. If implemented, commuter rail in Ridgeville would attract investment in the town, rather than its rural periphery, and pre-empt congestion on I-26.

Balancing demands of through traffic with those of local traffic, non-motorized traffic, and access to private property is more challenging where fewer routes are available to travelers. One of many possible solutions is a one-way couplet. This is essentially a Boulevard with a median the width of a city block. Dorchester Road could be improved to a one-way couplet through the Limehouse Crossroads Gateway District.



The above photos depict the approach through a one-way couplet into Sebastopol, CA (courtesy of AARoads, www.westcoastroads.com, 2006). Oncoming traffic is visible only in the first image, where the couplet splits.

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The 6th Gateway District sits upon Rosom Hill. This geographic feature is unusual in that it offers high ground not yet developed so close to the Ashley River. Its proximity to US Highway 17A, a planned Employment Growth Area, and the new Ashley Ridge High School make it a logical location around which to focus a new community. Rosom Hill is within the bounds of the East Edisto planning area, within the land holdings of MeadWestvaco. Should the paper company proceed with its plans to develop its timberland in southern Dorchester County, it should orient its commercial and residential communities toward Rosom Hill. New Boulevards and Avenues connecting highways 17A and 165 should facilitate this new activity center and Gateway District.

Architecture and Landscape Architecture

Policy 2.6: The design of buildings, outdoor spaces, and landscapes will complement communities, historic places, and natural areas. Architecture and landscape architecture will furthermore support, not conflict with, land-use planning and public facility design in Dorchester County.

Both architecture and landscape architecture are directly mentioned or covered by implication throughout the Future Land Use chapter and this Community Design chapter. The following considerations are planned in addition.

- New construction will include design elements, cladding materials, windows, and entrances that respect and complement the surrounding community and the natural environment. Each building will be planned, designed, and built as part of the community. Basic design and site planning standards, appropriate to land use and context, will facilitate achievement of this policy.
- Architectural elements that implement this policy include galleries and awnings over sidewalks, active windows (not faux or blank windows), and segmented facades (versus uninterrupted walls). Optimal cladding and roofing materials for highly visible buildings include wood, brick, stone, stucco, and standing seam metal.

This new building includes design elements reflective of Georgian architecture, a style prevalent in historic Lowcountry towns.



More importantly, these two modest buildings show a “public face,” with their main entrances and generous windows, toward the street rather than a blank wall.



This promotes a safe, inviting environment for pedestrians along an Avenue.



A segmented façade resembles traditionally scaled commercial development of a community Main Street and promotes reuse of a large space. If a “big box” tenant like Wal-mart vacates its building, a segmented façade promotes subdivision of the space for smaller shops (image: Cyburbia.org, 2005).



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Policy 2.7: The development of land will safeguard natural features and environmental resources to the extent practical. While environmental protections will not prevent development, the goals of such protections will be achieved either on-site or through off-site mitigation.

Wetland buffering is one component of “Low-Impact Development.” Low-Impact Development (LID) maintains hydrologic functions of the site to reduce the need for stormwater detention capacity and to improve water quality. This strategy is particularly relevant in the South Carolina Lowcountry, in which the natural landscape has great capacity to absorb stormwater, but is slow to shed stormwater toward swamps and rivers.

Dorchester County will promote LID as an alternative to common “BMPs,” or Best Management Practices. BMPs seek to drain and detain stormwater and may require more extensive site manipulation, incurring higher costs. LID will be implemented where advantageous to all parties involved.

Common LID techniques include pervious parking areas, already found in historic communities or properties; bioretention cells, which do not require the expensive clean-out like detention ponds; vegetated swales, which reduce peak stormwater flows and avoid the cost of pipes; and wetland buffers, which conserve the land’s natural ability to manage stormwater.

Policy 2.8: Dorchester County will establish a “Tree Bank” to further environmental protection. The Tree Bank will work in concert with on-site tree protection standards to ensure conservation of canopy appropriate to the development type and pre-existing condition of the land developed. The developer will pay into the Tree Bank an amount of money commensurate with the trees removed that cannot be replaced due to site constraints.

The County will utilize these funds to implement a tree-planting plan, to be prepared subsequent to this Plan. A tree-planting plan will include installation of street trees and procurement of important tree stands as conservation areas or passive parks.

Conservation of trees in environmentally sensitive areas is a higher priority than in upland areas, where removal can be more effectively mitigated. Mature trees will promote water quality and wildlife viewsheds of surface water and wetlands. A wetland buffer need not be a solid wall of vegetation. Low shrubs and grasses coupled with pruned canopy trees are an effective, landscape-enhancing solution.

Mature tree preservation improves the appearance of most any commercial property, cools its surroundings, and aids stormwater absorption into the ground.



Passive trails through a buffer are attractive community amenities.



Pervious parking area is a money-saving, environmentally friendly site planning solution.



Natural vegetation might manage stormwater more effectively than common detention ponds.



Community Design • Build

Road Planning and Design

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
1.1: Corridor planning	DCPC, DCTA, BCDCOG, adjacent landowners	Future Land Use chapter, Zoning and Land Development Ordinance	Operating budget, CHATS	HIGH	0-1 year
1.2: Implement road designs	DCTA, DCPC, BCDCOG, SCDOT	Community Design chapter, AASHTO Green Book, ITE Context-Sensitive Solutions	Penny Sales Tax, CHATS, transportation impact fees, Tax-Increment Financing	HIGH	1-5 years

Implementation Strategies Notes

This Comprehensive Plan provides the information the Planning Commission needs to initiate a corridor plan (Policy 1.1) for a road proposed for improvements. The Commission will enlist BCDCOG staff or other professional planners to execute a charrette or other public input mechanism targeting adjacent landowners and the surrounding community for more detail. The exercise will better inform transportation needs in precise locations along the corridor.

One important tool will be access management, which must be codified into the Zoning Ordinance upon completion of the corridor study. Access management regulates the frequency of driveways and creates mechanisms to allow shared driveways between joint properties and multiple users. The distance between driveways will vary greatly with conditions in the corridor and the target speed of the road, but as a rule of thumb, they should encroach Avenues no more often than once per 200 feet. That interval is 300 feet for Boulevards.

A manual of the Institute of Transportation Engineers, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice will facilitate implementation of Policy 1.2. This manual provides standards for community-oriented application of road design, which should be compared with the recommended practices of the American Association of State Highway and Transportation Officials' "Green Book." The Green Book is transportation engineering's most recognized guidebook. Design and engineering

solutions best suited for all users can be derived from these sources.

Policies 2.1 through 2.8, in the table below, are all implemented through development review, at least in part. This chapter will aid Dorchester County's review of development proposals.

Updates to the County Zoning and Land Development Ordinance will strengthen the Planning Commission and its staff in this role. Key additions are a formula for street interconnectivity and language to support it; urban public street design standards that allow for on-street parking, alleys, and other features common to commercial and attached housing development; and Low-Impact Development techniques, some of which are mentioned in the previous section.

Architectural guidelines (Policy 2.6) are necessary to ensure the objectives of an adopted road corridor plan are achieved. The County does not foresee a design review board, so the Planning Commission will review the placement and form of buildings in development proposals it reviews. Otherwise, County planning staff will ensure compliance.

Because they are proposed as new centers of town, Gateway Districts will need further input and design direction. Two of these are in the town limits of Summerville, while two are in unincorporated areas. Once significant improvements are in place – a widened road or a commuter rail station – the appropriate planning commission will prepare a Gateway District Plan. This task may be delegated to the private sector if a developer comes forward with a concept to establish the Gateway District.

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Land Planning and Development Design

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
2.1: Local streets and circulation	<u>Real estate development industry</u> , DCPC	Community Design chapter, Zoning & Land Development Ordinance (ZLDO)	Operating budget, development review fees	MEDIUM	0-4 years
2.2: Central neighborhoods	<u>Real estate development industry</u> , DCPC, DCPWD	Community Design chapter, ZLDO, County engineering requirements	Operating budget, development review fees	MEDIUM	1-5 years
2.3: Neighborhood shopping centers	<u>Real estate development industry</u> , DCPC, DCPWD	Community Design chapter, ZLDO, County engineering requirements	Operating budget, development review fees	MEDIUM	1-5 years
2.4: Regional shopping centers	<u>Real estate development industry</u> , DCPC, DCPWD	Community Design chapter, ZLDO, County engineering requirements	Operating budget, development review fees	MEDIUM	1-5 years
2.5: Gateway Districts	DCPC, real estate development industry, DCTA	Community Design chapter, road corridor plan, ZLDO, form-based codes, County engineering requirements	Operating budget, Penny Sales Tax, development review fees	MEDIUM	4-10 years
2.6: Architectural guidelines	DCPC, real estate development industry	ZLDO	Operating budget, development review fees	LOW	1-4 years
2.7: Low-Impact Development guidelines	DCPC, real estate development industry	ZLDO, SCDHEC-OCRM	Operating budget, development review fees	LOW	1-5 years
2.8: Tree Bank	DCPC, real estate development industry	ZLDO, tree planting plan	Operating budget, Tree Bank revenue	LOW	1-5 years