

Infrastructure Concurrency • Snapshot

Intent

Infrastructure includes buildings and networks that provide public services like education, power, transportation, potable water, sanitary sewerage, communication, recreation, access to information, and protection of public health and safety.

Infrastructure is the most significant artificial condition affecting the natural landscape. The quality and availability of infrastructure shapes the development and use of land it serves. Public systems of infrastructure are therefore the strongest tools at the disposal of Dorchester County to shape its future.

The word “concurrent” means occurring at the same time and place. Infrastructure concurrency refers to the physical availability of public buildings and networks timed with consumer demand for their services. It is also the coordinated arrival of public buildings and networks with one another.

This 2008 Comprehensive Plan guides the use of infrastructure to shape land use, development, and design. This chapter focuses on the concurrency of infrastructure with planned land use. Five particular systems of infrastructure are highlighted: roads, schools, potable water, sanitary sewer, and fire protection. These five systems have the most influence over growth, and in turn, are greatly impacted by growth.

Dorchester County can accomplish infrastructure concurrency first and foremost by ensuring adequate infrastructure where growth is planned, and second, by limiting growth where infrastructure is not planned.

Background

Roads

The road system in Dorchester County, like all growing areas in South Carolina, is maintained both by the State Department of Transportation (SCDOT) and by one or more local governments. Dorchester County, the Town of Summerville, and the City of North Charleston all maintain road networks within county boundaries. Little continuity exists in the locally maintained networks, because local governments generally maintain local roads, while SCDOT maintains collector and arterial roads and highways.

A map of the road network appears in Chapter 3: Transportation. That chapter provides detailed background information about the road network in Dorchester County, its current levels of service, and plans to increase capacity. It also details where Dorchester County will employ its Penny Sales Tax for transportation.

Road Improvement Projects Serving Dorchester County, 2000-Present

Project	Status
Ashley Phosphate Rd. - 5 to 7 lanes	Complete
University Blvd. (Ladson Rd. to Rivers Ave.) - 2 to 5 lanes*	Complete
Ladson Rd. - 2 to 5 lanes	Complete
N. Main St., Summerville (I-26 to BGM Pkwy.) - 7 to 9 lanes	Complete
S. Main St., Summerville (Richardson Ave. to Doty St.) - 4 to 3 lanes	Complete
Patriot Blvd. - new road	Complete
Old Fort Dr. - new road segment to Limehouse Dr.	Construction
Palmetto Commerce Pkwy. - new road segment to Ashley Phosphate Rd.*	Pre-construction
Berlin G. Myers Pkwy. - new road segment to US-17A	Pre-construction
Dorchester Rd. (Trolley Rd. to US-17A) - 2 to 5 lanes	Pre-construction
Bacon’s Bridge Rd. (Trolley Rd. to Ashley Ridge High School) 2 to 5 lanes	Pre-construction

* In Charleston County, serves Dorchester County commuters.

Note: Sidewalks, shoulders, paving, and intersection projects are not included in the table. Refer to Dorchester County Penny Sales Tax Transportation Authority for more information or visit www.dorchesterroads.tax.org.

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Schools

Two school districts operate in Dorchester County. Each has its own governing authority, a school board, and operates almost completely independently of Dorchester County Government. The boundary between the two districts occurs approximately along Captain's Creek, the Great Cypress Swamp, and Four Holes Swamp. Dorchester School District 2 includes areas incorporated by the Town of Summerville and the City of North Charleston. The towns of Ridgeville, Harleyville, St. George, and Reevesville lie in Dorchester School District 4.

Every school operating before 2007 appears on the following map, "Dorchester County Schools, Fire, and EMS." All schools currently in operation are listed in the sidebar.

Three new schools began service during the preparation of this Comprehensive Plan: Eagle Nest Elementary and River Oaks Middle schools on River Oaks Drive in North Charleston and William M. Reeves, Jr. Elementary School on DuBose School Road, near DuBose Middle, northwest of Summerville.

Ashley Ridge High School is under construction on SC Highway 165, southwest of Summerville. It is scheduled to open for the 2008-2009 academic year with a program capacity for 1,450 students. Dorchester School District 2 commissioned a growth study that revealed a need to expand the high school by the year 2011.

The district's consultant also recommended expansion of Fort Dorchester High School and six other schools in the district. The consultant's work, based on growth rates experienced within the school district during 2004 and 2005, projects a need for six new schools – three elementary schools, two middle schools, and a high school – by 2016. Dorchester School District 2 will seek a referendum to raise revenue to fulfill these needs in November 2008.

Alternative financing provided a portion of the revenue used to construct these schools. The South Carolina General Assembly no longer allows school districts to use this tool. Referenda to raise revenue for new school buildings have met with mixed results in this decade.

Dorchester School District 4 reorganized its schools after raising taxes to construct Woodlands High School in the approximate geographic center of the district, near the Byrds and Pregnall communities. District 4's Marty Connelley reports that classrooms are at or below capacity throughout the district and that future capacity can be accommodated on existing school sites. The table "Dorchester County Public Schools" lists District 4's facilities at right.

District 4 serves a small, rural population, and its tax base is small. It is not in position to accommodate large new residential development within its service area.

Dorchester County Public Schools			
School	District	Capacity (5/30/08)	Enrollment (9/4/07)
Beech Hill ES	2	900	982
Eagle Nest ES	2	800	758
Flowertown ES	2	950	974
Fort Dorchester ES	2	900	1,034
Knightsville ES	2	875	842
Newington ES	2	825	886
Oakbrook ES	2	785	1,078
Spann ES	2	700	876
Summerville ES	2	675	930
William M. Reeves, Jr. ES	2	800	836
Windsor Hill ES	2	900	890
DuBose MS	2	800	855
Gregg MS	2	1,150	988
Oakbrook MS	2	800	917
River Oaks MS	2	850	718
Rollings MS - Arts	2	475	596
Alston MS	2	825	835
Fort Dorchester HS	2	1,900	2,563
Summerville HS	2	2,750	3,531
Givhans Alternative Program	2	100	159
Harleyville-Ridgeville ES	4		
Williams Memorial ES	4		
Clay Hill MS	4		
St. George MS	4		
Woodland HS	4		
Dorchester Career School	4		

Key: ES = Elementary School, MS = Middle School, HS = High School

Notes: Capacity numbers are program capacities with no mobile units included. Enrollment in excess of capacity is highlighted in red.

Sources: Dorchester School District 2, Dorchester School District 4

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Water and Sewer

Four providers serve Dorchester County residents and businesses with sanitary sewerage: Dorchester County Public Works Department, Summerville Commissioners of Public Works (CPW), and the towns of Harleyville and St. George. The table in the sidebar reports which providers serve each community.

Summerville CPW generally serves customers within the municipal limits of Summerville; however, exceptions do exist. The CPW wastewater treatment plant is located on the Sawmill Branch, a tributary of the Ashley River. The facility currently treats six million gallons per day (MGD). Its wastewater treatment capacity is ten MGD.

Dorchester County’s Public Works Department operates a treatment plant on Coosaw Creek – also an Ashley River tributary – that treats almost eight MGD. This plant is nearly at capacity, according to former department head Doug Tompkins. The County began the process to expand the treatment plant during preparation of this Plan.

St. George’s plant discharges treated water into Polk Swamp, an Edisto River tributary. Its capacity – 800,000 gallons per day – cannot be increased due to the carrying capacity of the swamp. Officials unsuccessfully sought to increase the treatment capacity of the system in 2003-2004 via alternate treatment methods. The plant can accommodate some growth in the town of St. George; however, it is too small to support a diverse economy that would generate jobs and growth in the upper part of Dorchester County.

Harleyville’s plant has been updated since the year 2000 to ensure public health as well as adequate capacity in the town. The treatment capacity increased 30,000 gallons per day, to 0.155 MGD. This plant, too, is environmentally constrained. The Tom and Kate Branch has too little flow to support a significant discharge.

Dorchester County Public Works Department reached an agreement with the Town of Harleyville to extend lines from the town system to Woodland High School on US Highway 78 and to the interchange of Interstate Highway 95 with US-178. The County foresees integrating the Harleyville and St. George systems and adding new treatment capacity to serve industrial users as well as growth that would follow new jobs. Identifying that treatment facility’s point and method of discharge remains a challenge.

The combined available capacity of wastewater treatment in Dorchester County is currently insufficient to accommodate expected growth to 2030, the horizon year for this Plan. Hypothetically, Summerville CPW could handle the residential demand expected from a projected population increase of 41,000 persons (See Chapter 1.), but no margin would remain for commercial, industrial, and other uses.

Water and Sewer Service in Dorchester County Communities		
Community	Water	Sewer
Brownsville	DCWA, SCPW	DCPWD
Harleyville	N/A	HARL
Jedburg	DCWA, SCPW	DCPWD
Knightsville	DCWA, SCPW	DCPWD
North Charleston	DCPWD	DCPWD
Reevesville	REEV	N/A
Ridgeville	RIDG	DCPWD
Rosinville	N/A	DCPWD
St. George	STG	STG
Summerville	SCPW	SCPW

Key: N/A = not available
 DCWA = Dorchester County Water Authority
 DCPWD = Dorchester County Public Works Department
 HARL = Town of Harleyville
 REEV = Town of Reevesville
 RIDG = Town of Ridgeville
 SCPW = Summerville Commissioners of Public Works
 STG = Town of St. George

At the request of the providers, maps of water and sewer lines are not published in the 2008 Comprehensive Plan for security reasons. Each service provider and other parties involved in water quality and commerce maintain records for their needs.

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Emergency Services

A wide range of firefighting companies protect life and property in Dorchester County. The municipalities of Summerville and North Charleston have well-equipped, modern companies. Volunteer fire departments serve much of the unincorporated county outside the arc of the Great Cypress Swamp. Fire station locations are mapped with schools and EMS stations on the previous map, “Dorchester County Schools, Fire, and EMS.”

Insurance Services Office, Inc. (ISO) is the standard by which insurers of property base the rates of their insurance premiums. ISO assesses risk and assigns a rating between 1 and 9 for communities and areas. A lower rating reflects better response times, availability of water to fight fires, equipment with which to fight fires, among other considerations. While the large municipalities often have ISO ratings of 3 or better, outlying service areas typically receive ISO ratings of 9.

Dorchester County is active in extending potable water service, in part to improve firefighting capability. Most recently, the County initiated establishment of a 100,000-gallon elevated tank and water lines in the Shady Grove community, in the extreme northern corner of Dorchester County.

Dorchester County is investing in the improvement of emergency medical service stations throughout the County in the next five years:

- EMS Headquarters in Summerville,
- EMS Medic 1 in Summerville,
- Medic 2 on Trolley Road
- Medic 6 on Dorchester Road,
- EMS Harleyville Station
- EMS Ravenel Station, and
- EMS Ridgeville Station 2.

The County is also improving service in St. George, where it will build a joint EMS/Fire station next to the new courthouse planned on Jim Bilton Boulevard. In addition, Dorchester County has partnered with Greenwood Development Corporation to provide an EMS/Fire/Sheriff station in The Ponds community, at the end of Dorchester Road.

These improvements are detailed in the Dorchester County Capital Improvements Program (CIP). More information is available from Dorchester County.



Small firehouses staffed by volunteers, like this one near the town of Ridgeville, often serve rural areas.

Infrastructure Concurrency • Shape

Goal 1

Dorchester County's communities will be well served by an adequate transportation network that improves in step with growing demand for this valuable public service. Travelers will reach their destinations safely, conveniently, and promptly whether by car, bus, train, bike, or foot.

Policy 1.1: Dorchester County will manage expansion of its transportation system to provide users with multiple route choices to reach their destination. The County will further this policy by requiring connectivity within the road network within its authority to review land developments. This policy, along with Policy 1.2 and 1.4, is detailed in Chapter 7: Community Design.

Policy 1.2: Dorchester County will manage growth of the transportation system to ensure that users have mode choice. This means that users will have safe and convenient routes for walking and bicycling short trips, in addition to driving.

Policy 1.3: Dorchester County will bring mass transit to its communities to reduce demand upon its roadways. These transit services are commuter rail, express bus service (CARTA), and rural bus service (Tri-County Link). This policy is detailed in Chapter 3: Transportation.

Policy 1.4: Dorchester County will plan and manage development patterns that encourage – and do not inhibit – route choice, mode choice, and transit use.

Policy 1.5: Dorchester County will prepare access management standards for roads proposed for new construction or improvements. Access management ensures that the frequency of driveways and intersections along the road are commensurate with the type of road and the level of development planned through its corridor. This policy is also detailed in Chapter 7.

Policy 1.6: Dorchester County will update its official zoning map to direct new communities to locations where public facilities have the capacity to accommodate new development or where facilities are planned and funded for capacity increases. Conversely, the official zoning map will constrain or restrict new communities in locations where public facilities are not adequate to accommodate significant increase in demand for public service. The official zoning map will follow planned future land use, per Chapter 1. Up-zonings will not occur unless adequate public facilities are in place, planned, or proposed within a Development Agreement by the applicant.

Transportation facilities should provide a basic level of service for everyone's needs.



Dorchester County cannot build its way out of congestion merely by widening roads. A comprehensive set of policies is needed to manage and expand the transportation network. Policies 1.1 through 1.6 cover land-use planning and design strategies that yield a more efficient transportation system. In summary, the best transportation planning is good land-use planning.

The County's three primary tools to secure public facilities during private land development are its Zoning and Land Development Ordinance, a Planned Development District, and a Development Agreement.

The Zoning and Land Development Ordinance (formerly known as "subdivision regulations") requires construction or enhancement of public facilities on or adjacent to the site as well as land dedication for public buildings that serve a broader area. A Planned Development District achieves the same goal, through negotiation with the developer.

A Development Agreement provides for construction of major capital improvements, such as arterial road widening, school construction, or public sewage treatment facilities. The developer and the local government typically share the burdens.

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Policy 1.7: Traffic studies will accompany land development applications and planned development district proposals to Dorchester County. A traffic study will assess expected demand generated by a proposal, evaluate the capacity and functionality of the transportation system to accommodate the proposal, recommend operational improvements to offset negative impacts to the system, and identify shortfalls in system capacity to serve the proposed development. Conditions of land development approval will include operational improvements recommended in the study.

Policy 1.8: Dorchester County will not approve a Planned Development District or other rezoning application that erodes the functionality of the transportation system unless it determines that the proposal achieves other goals of the Comprehensive Plan that outweigh costs to the transportation system, such as job creation. The County will consider achievement of service level targets (table at right) and proposed mitigation strategies during its review of Planned Development District and other rezoning applications. A developer will not be required to increase infrastructure to a greater level of service than existed prior to the proposed development, but mitigation of impacts to infrastructure will be required regardless of whether level of service ratings reflect the impacts of the development or improvements made by the developer.

Policy 1.9: Dorchester County will amend the County's CIP to include all new roads the County expects to fund in the following five to ten years. The CIP will identify funding sources and timelines for improvements. (See Chapter 6: Priority Investment Areas.)

Policy 1.10: Dorchester County will enact transportation impact fees to raise funds from new users for capital improvements of the transportation network. Fee amounts will be proportionate to expected demand from new users and fund improvements that will be impacted by that expected demand. Impact fees will be collected by zone, relating location to the need for improvements, below Four Holes Swamp. Impact fees will be identified as a funding source in the CIP.

Policy 1.11: A developer applying for a planned development district or other rezoning will have the option to make capital improvements to the system to expand capacity in lieu of paying impact fees. If the development gains approval, the County will ensure completion of such capital improvements via Development Agreement and enter the improvements into its CIP with a timeline for completion. The land development will then be phased in step with the programmed capital improvements.

Minimum Service Level Targets for Roads

Growth Area	LOS	Special Area @ Peak Hour	LOS
Employment	E	Employment Node (in any Growth Area)	E
Managed	D		
Constrained	C	Gateway District	E
Restricted	C		

LOS - levels of service - utilizes an academic scale (A-F), which is detailed in Chapter 3: Transportation.



A turning lane into a new neighborhood is an operational improvement often recommended in a traffic study. Other solutions include a roundabout or a traffic signal.

A transportation impact fee is a one-time user fee paid by the developer for each home or other traffic-generating unit for admittance into the transportation system. The fee offsets costs incurred by the County for capital transportation improvements that serve the development. An impact fee program is an effective growth management tool when they are low in highly accessible areas, where growth is desired, and high in areas with poor accessibility or capacity, where significant growth is less desirable.

A Development Agreement is a contract between a developer and a local government stating, among other things, a timeline for completion of capital improvements and naming of the party responsible for completing the improvements. It addresses capital projects beyond those required by the Zoning and Land Development Ordinance and, therefore, applies to large, multi-year projects in which capital improvements must be phased. A Planned Development District or up-zoning of a large tract of land might trigger need for such capital improvements.

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Policy 1.12: Dorchester County will partner with private landowners to provide transportation infrastructure where needed to improve access to and within Employment Growth Areas. At a minimum, the County will reimburse any transportation impact fees otherwise applicable to economic development projects in these areas. Where feasible and appropriate to spur development in rural or low- to moderate-income areas, the County will establish a Tax-Increment Financing District to fund a portion of road construction.

Goal 2

Dorchester County's schools will accommodate all students with permanent classrooms on sites that are convenient and accessible to students and employees by car, bike, and foot.

Policy 2.1: Dorchester County will seek a cooperative relationship with the two school districts to increase understanding of the needs and demands each entity faces. This cooperation should result in a lower bottom line for the Dorchester County taxpayer. Intergovernmental coordination is detailed in Chapter 6: Priority Investment Areas.

Policy 2.2: Dorchester County will partner with Dorchester School District 2 and Dorchester School District 4 to maintain or achieve recommended levels of service. (See table at right.) Furthermore, the partners will strive to provide permanent classrooms for all pupils and teachers at target ratios by implementing the policies under this Goal.

Policy 2.3: Dorchester County's school districts should not need to purchase land for schools in growing areas. The County will require land development proposals to include sites for civic uses, including schools, in accordance with the *Future Land Use Map*. These new sites will be in locations where infrastructure is available to serve them and where growth is planned.

Policy 2.4: Dorchester County will assist the two school districts with funding capital improvements within the bounds of State law. The County will partner with a school district planning a new facility on land secured by the County for such purpose. The County and the school district will then assess the school district's needs for auditoriums, libraries, gymnasiums and other athletic facilities, playgrounds, and parking lots, all of which are eligible for County funding provided they are jointly operated and open to use by all County residents. If an agreement for joint use can be reached with the school district, the County will establish Tax-Increment Financing Districts in redeveloping or rural areas to raise funds to construct these joint-use facilities.

**Service Level Targets for
Dorchester County Schools**

Grade Level	Pupil:Teacher Ratio
Child Development	20:1
Kindergarten	24:1
First grade	18:1
Grades 2-3	20:1
Grades 4-5	24:1
Grades 6-12	25:1

School service level targets are neither minimum standards nor limits of school capacity, which must be determined by the school district. The targets in the table above are current pupil-to-teacher ratios at Dorchester School District 2, one of South Carolina's best school districts. Maintaining this standard is a top priority for Dorchester County.

Tax-Increment Financing (TIF) is a well-recognized tool for revitalizing lower income areas. New public infrastructure, such as investment in the education system, can spur private investment. A TIF District is established through a Redevelopment Plan that explains the criteria for inclusion, the infrastructure to be funded, and expected results. The project must be programmed in the CIP.



The South Carolina Local Government Development Agreement Act enables Policy 2.7, but it has yet to be implemented in South Carolina. County leaders must work with SC Department of Education to pave the way for acceptance of a privately constructed school into a public system.

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Policy 2.5: Dorchester County will urge the school districts to work with municipalities to establish Municipal Improvement Districts, especially in prosperous, growing areas, to fund joint-use facilities. The County will also work with developers to establish “Residential Improvement Districts” to raise revenue for school classroom construction. The County shall utilize all available tools to help fund school construction.

Policy 2.6: Dorchester County will require a statement indicating the availability of school capacity with an application for residential land development or planned development district. The statement should indicate, if available, the capacity of existing schools that serve the area and the number of students the development proposal would generate, and what measures the applicant might take to mitigate impacts on the school system.

Policy 2.7: If school capacity is unavailable to serve a proposed Planned Development District (PDD) or other area subject to rezoning, the County will deny the application unless the applicant pursues Policy 2.8, below. A developer will not be required to increase infrastructure to a greater level of service than existed prior to the proposed development, but mitigation of impacts to infrastructure will be required regardless of whether level of service ratings reflect the impacts of the development or improvements made by the developer.

Policy 2.8: To ensure future school capacity in existing underserved areas, a landowner may partner with the County and the applicable school district via Development Agreement to construct one or more schools. The County will review the Development Agreement concurrently with a landowner’s application for PDD or other rezoning. A Development Agreement must be submitted to the respective school district prior to the County approval and a recommendation from the school district regarding the proposed agreement must be considered in approval of the Development Agreement. The agreement will establish a timeline that ensures completion of the school concurrent with demand generated within the development.

A town within Dorchester County may establish a Municipal Improvement District (MID) in a particular area expected to benefit from planned capital improvements. These might include school athletic facilities and playgrounds.

The South Carolina General Assembly created a new tool for local government revenue generation in 2008 called a “Residential Improvement District” (RID). This tool allows Dorchester County to create special tax districts to raise capital for school construction. This tool differs from other special tax districts in that its revenue can be used to build classrooms. Because a Residential Improvement District would raise taxes on a landowner, the County cannot impose the district without the landowner’s consent. A RID is therefore best implemented on large parcels expected to accommodate new residential development. The decision to establish a RID would be coupled with an upzoning or creation of a planned development district. Two or more parcels may be entered into one RID, even if they are not adjacent, to raise revenue for a new school serving the homes proposed for all the parcels.

The Office of Research and Statistics at the South Carolina Budget and Control Board projects a population of about 160,000 in Dorchester County by 2030, up from about 119,000 in 2006. The County’s plan to expand capacity of its treatment plant is an important step toward ensuring service to growth in Employment Growth Areas and Managed Growth Areas identified on the *Future Land Use Map*.



Like most real estate investors, large employers seek certainty in infrastructure and service provision in their search for suitable locations.

Goal 3

Sanitary sewer service is not only as a public health service in Dorchester County, but also as an economic development tool that must be provided concurrently with other public services, most importantly transportation, education, and emergency response in our communities.

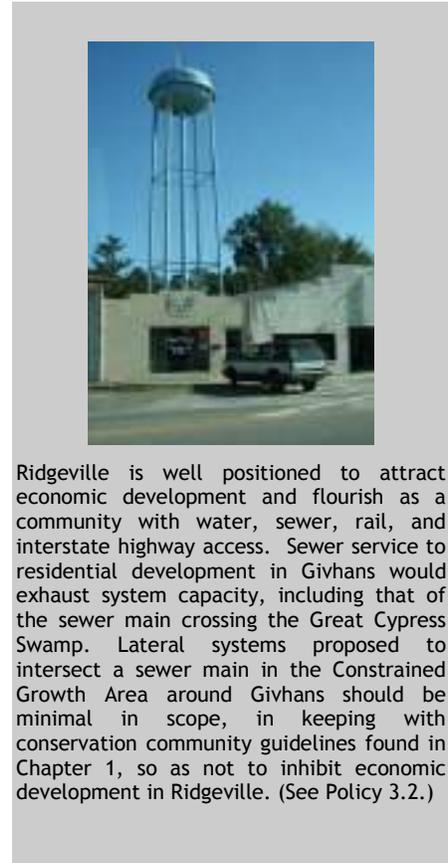
Policy 3.1: Dorchester County will provide sanitary sewerage to areas where the County plans to grow. The *Future Land Use Map* (FLUM), in Chapter 1, indicates “Employment Growth” and “Managed Growth Areas.” Sewer lines should infrequently run beyond these areas. Where they do, access to them will be limited to existing residents along the line. Laterals to new development out of step with the FLUM will be prohibited.

Economic development is a high priority in Dorchester County. Dorchester County will serve Employment Growth Areas with sanitary sewerage first. Managed Growth Areas will be served second. Ample land is available to accommodate forecasted growth in these two types of areas delineated on the FLUM. Confining sewer system improvements to these areas is more efficient, reduces system maintenance costs, and facilitates growth management.

Pre-existing property owners alongside sewer lines in Restricted and Constrained Growth Areas will be provided access upon request; however, new residential subdivisions will be allowed only after economic development has gained a foothold nearby. Even then, a proportion of sewer treatment capacity will be reserved for ongoing economic development. These provisions will be ordained by County Council.

Policy 3.2: Dorchester County will restrict access to its sanitary sewerage system in areas where operational constraints limit capacity. The County will not serve proposed new communities that would generate flow at a level above capacity found in downstream sewer mains and pump stations. The applicant may have the option to assist the County with capacity upgrades via Development Agreement if the proposal complies with a County Sewer Master Plan (See Policy 3.6.) and the FLUM.

Policy 3.3: A developer of property the County does not serve with sanitary sewer may seek to construct a community sewer system utilizing land application treatment to serve development. The development must be in compliance with the FLUM, gain approval from the Planning Commission and County Council, reach a Development Agreement with Dorchester County, and be acceptable to County Council for ownership and operation by the Dorchester County Public Works Department.



Ridgeville is well positioned to attract economic development and flourish as a community with water, sewer, rail, and interstate highway access. Sewer service to residential development in Givhans would exhaust system capacity, including that of the sewer main crossing the Great Cypress Swamp. Lateral systems proposed to intersect a sewer main in the Constrained Growth Area around Givhans should be minimal in scope, in keeping with conservation community guidelines found in Chapter 1, so as not to inhibit economic development in Ridgeville. (See Policy 3.2.)

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Policy 3.4: Dorchester County will expedite sanitary sewerage to planned Employment Growth Areas, especially near the junction of Interstate highways 26 and 95. The County and the towns of St. George and Harleyville must reach mutually beneficial agreements for County ownership and operation of these systems. The County is better positioned to invest in sewer systems. Dorchester County will then expand treatment capacity of these systems, preferably by land application of discharge. The County will continue to seek financial assistance from the State in this regard to bring jobs to the economically depressed Interstate 95 corridor.

Policy 3.5: Dorchester County will expand capacity of its lower county sewage treatment plant. Plans to do so are underway during the update of the Comprehensive Plan. The Dorchester County Public Works Department plant, located on the Ashley River, currently treats eight million gallons per day. Capacity will expand from eight million to twelve million gallons per day. The increase provides additional capacity to serve a portion of projected growth in lower Dorchester County.

Policy 3.6: Dorchester County will prepare and regularly update a sanitary sewer service master plan that will evaluate its water and sewer system, identify service capacity to communities (Ridgeville, North Charleston, Knightsville, etc.) and industrial areas, and project operational shortfalls (i.e., bottlenecks) based on the FLUM. It will also identify and assign costs for needed upgrades of pump stations and sewer mains to serve future development and identify revenue sources to fund needed improvements.

Goal 4

Emergency response services – fire and police protection and emergency medical service – will provide quick response and high levels of service in areas planned for growth in Dorchester County’s communities. These public services will support the County’s land-use plan and vision for growth.

Policy 4.1: Dorchester County will consider achievement of level of service targets for first response times for firefighting and emergency medical service (inset at right) in its review of land development and rezoning applications. Furthermore, Dorchester County will not actively promote or approve urban residential growth in areas served only by volunteer fire departments or where quick response to emergencies is unlikely and no improvements are expected.

Policy 4.2: Dorchester County will secure sites for firehouses, EMS, and sheriff substations in growing areas via land dedication in larger new developments that generate demand for these services. Sites will be highly accessible with multiple routes into the surrounding community to minimize response times.

Service Level Targets for Fire and EMS First Responders

Growth Area	Response Time	Distance to Station
Employment	4 minutes	1.5 miles
Managed	5 minutes	2 miles
Constrained	7 minutes	3 miles
Restricted	10 minutes	5 miles

Emergency service level targets are not minimum standards. Several factors must be considered for thorough planning and provision of emergency services.

Emergency medical service response of eight minutes is good in most locations. Quicker EMS response is advantageous.



A ladder truck like this one is needed to serve buildings with large footprints and buildings taller than two stories. (Photo courtesy of Mt. Pleasant Fire Department, www.mpfd.com, 2007.)

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Policy 4.3: Where a proposed major land development would generate demand for a fully staffed facility in currently underserved areas, Dorchester County will require a Development Agreement in which the applicant partners with the County to construct a firehouse, emergency medical service (EMS) station, and/or sheriff substation that can accommodate permanent staff and equipment necessary to support the proposed development.

Policy 4.4: Dorchester County will work with local fire departments to ensure that equipment at each firehouse can capably serve the height and intensity of planned development, per the *Future Land Use Map* in Chapter 1.

Infrastructure Concurrency • Build

Transportation

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
1.1: Street connectivity	DCPC, neighboring planning commissions	Zoning and Land Development Ordinance (ZLDO), Official Map	Operating budget	MEDIUM	2-5 years
1.2: Travel mode choice	DCPC, DCTA, BCDCOG, SC Department of Transportation	ZLDO, road corridor plans	Operating budget, Penny Sales Tax for Transportation, CHATS "Complete Streets" funding, SCDOT "Safe Routes to School" funding	MEDIUM	0-5 years
1.3: Mass transit	BCDCOG, CARTA, BCD LINKS, County Council, DCPC, DCTA	CHATS Commuter Rail Study, BCDCOG and CARTA ongoing planning	To be identified, a combination of federal, state, and local sources	MEDIUM	10-20 yrs. for rail, 0-2 years for bus
1.4: Improve development patterns thru ongoing land development review	DCPC	Comprehensive Plan, ZLDO	Operating budget	HIGH	0-2 years
1.5: Access management	DCPC, DCTA, BCDCOG, SCDOT	ZLDO, road corridor plans	Operating budget, Penny Sales Tax for transportation	HIGH	0-5 years
1.6: Implement future land-use planning	DCPC	ZLDO	Operating budget	HIGH	1-4 years
1.7: Operational improvements to transportation facilities	Real estate development industry, DCPC, SCDOT	ZLDO, Traffic Impact Analysis, Encroachment Permits	Analysis and operational improvement costs to real estate development	MEDIUM	0-2 years
1.8: Adherence to road service level targets	DCPC, County Council	Traffic Impact Analysis, zoning	Cost of analysis to real estate development industry	HIGH	ongoing
1.9: Capital improvements programming	DCPC, DCTA, County Council	CIP (Capital improvements program)	Operating budget for Planning Department or Transportation Authority	HIGH	0-1 year
1.10: Transportation impact fees	DCPC, DCTA	CIP, impact fee analysis, housing affordability impact analysis	Cost of analyses to be rolled into impact fees	HIGH	1-4 years
1.11: Private-sector capital improvements	Real estate development industry, DCPC, County Council	Traffic Impact Analysis, zoning, Development Agreement	Cost of improvements to real estate development industry	HIGH	ongoing
1.12: Roads to spur economic development	DCPC, DCTA, County Economic Development Board, land-owners/employers	TIF District, Official Map	Tax-Increment Financing	MEDIUM	1-10 years

Plan Foundation 2: Infrastructure Concurrency

Implementation Strategies Notes

Policies 1.1, 1.4, and 1.5 – street connectivity, improved development patterns, and access management – ensure that Dorchester County’s transportation network will function more efficiently for a longer period of time. The Planning Commission must strengthen its Zoning and Land Development Ordinances with these tools.

Policies 1.2 and 1.3 – travel mode choice and mass transit – ensure transportation options for the non-motoring public as well as those who may choose not to drive to some or all of their destinations. This reduces traffic demand.

The implementation of future land-use planning (Policy 1.6), detailed in Chapter 6, is critical to Dorchester County’s effective management of its transportation network. The County must be able to regulate access to its system to plan for and manage it effectively. This regulation is needed to secure private-sector investments in capital improvements via Development Agreements.

Policy 1.7 identifies a “Traffic Impact Analysis,” standards for which must be explicitly stated in the Land Development Ordinance, as a tool to determine what operational improvements are necessary. ITE publishes Transportation Impact Analysis for Site Development to aid developers and planning commissions with this tool.

Set by Policy 1.8, transportation level-of-service targets constitute a benchmark for a *Future Land Use Map* (FLUM) amendment, which should precede major land developments in unexpected locations.

The Capital Improvements Program (Policy 1.9) is required for assessment of impact fees (Policy 1.10). Impact fees can and should be collected at a higher rate in areas in greater need of improvements to ensure adequate capacity in the road network. Revenue will grow with demand for service, enabling concurrency between road improvements and travel demand. Once adopted, impact fees will be programmed into the CIP.

In the event the County chooses to amend its FLUM and allow a land development to proceed, it will seek a Development Agreement to ensure that capital improvements needed to serve the development are phased with that development. Per Policy 1.11, the Development Agreement may specify full responsibility lies with the developer or that the County may share the burden. In the latter case, the County will establish a Tax-Increment Financing District to fund its share of the improvements. A Tax-Increment Financing (TIF) district may overlap a “Municipal Improvement District” (MID), providing two revenue sources, if State enabling legislation is amended to provide the County with this tool. Because TIF Districts expire after 15 years, coupling it with a longer lasting MID ensures adequate revenue for particularly large projects, such as the establishment of a new town.

Economic development districts require a stronger financial commitment from Dorchester County than other areas. Special tax districts are less effective because incentives to attract large employers typically include property tax reductions or one-time fees in lieu of the first several tax bills. A TIF District may yet be effective if it begins generating revenue to pay down County-issued bonds used to build the initial infrastructure.

Schools

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
2.1: Coordination with school districts	County Council, District 2 School Board, District 4 School Board	Increased information sharing	Operating budget	HIGH	Ongoing
2.2: Adherence to level-of-service targets	DCPC, DSD2, DSD4	Land-use planning and zoning, special tax districts	Property taxes, special tax district revenue	HIGH	Ongoing
2.3: School site dedications	DCPC, DSD2, DSD4, landowners	Zoning and Land Development Ordinance, Planned Development District	Land to be provided by owner as condition of land development approval	MEDIUM	0-4 years

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Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
2.4: Shared funding and facilities in rural or lower income areas	<u>County Council</u> , DSD2, DSD4	TIF District	Tax-Increment Financing	LOW	5-10 years
2.5: Shared funding and facilities in growing areas	<u>DCPC</u> , DSD2	MID (pending enabling legislation)	Municipal Improvement District revenue	LOW	5-10 years
2.6: School Impact Statement	<u>DCPC</u> , DSD2, DSD4	Zoning and Land Development Ordinance	Operating budget	HIGH	0-2 years
2.7: School capacity related to zoning	<u>DCPC</u> , County Council	School Impact Statement, zoning	Operating budget	HIGH	1-4 years
2.8: Private construction and dedication of new school	<u>Real estate development industry</u> , DCPC, County Council, DSD2, DSD4	School Impact Statement, Development Agreement	Cost of analysis and improvements to real estate development industry	HIGH	3-10 years

Implementation Strategies Notes

Coordination between Dorchester County government and its school districts (Policy 2.1) is critical to achieving infrastructure concurrency. Dorchester School District 2 might benefit from a professional planner to coordinate with County planners and aid with implementation of the strategies above.

The County and its school districts are charged with keeping pace with growth. While tax revenue is an important factor, the County must also direct growth to areas where the school districts plan new facilities. The County must implement its *Future Land Use Map* (FLUM) in order to guide growth to achieve targeted levels of service for schools. New school site dedications (Policy 2.3) in areas planned for growth, notably in Civic Nodes, will facilitate implementation of Policy 2.2.

By pooling resources, the County and its school districts can better keep pace with growth. Special tax districts, specified in Policy 2.4 and Policy 2.5, can ensure that revenue correlates with growth. The County might need to initiate a recreation or other community resources department to assist with management of joint-use facilities.

A developer will document the number of primary and secondary school students a new residential

project can be expected to generate. The school district should in turn indicate schools' capacity to accommodate these students within the limitations of the state's Department of Education. The Planning Commission must specify "School Impact Statement" requirements in the Zoning and Land Development Ordinance (Policy 2.6). The Planning Commission needs school capacity information in order to make educated recommendations to County Council regarding FLUM amendments and similar applications for development (Policy 2.7).

In the event the County chooses to amend its FLUM and allow a land development to proceed, it will seek a Development Agreement to ensure that capital improvements needed to serve the development are phased with that development. Per Policy 2.8, the Development Agreement may specify full responsibility lies with the developer or that the County may share the burden. In the latter case, the County will establish a special tax district to fund a share of the improvements. A Tax-Increment Financing (TIF) district may overlap a Municipal Improvement District (MID), providing two revenue sources. Because a TIF District typically expires after 15 years, coupling it with a longer lasting MID ensures adequate revenue for particularly large projects, such as the establishment of a new town.

Plan Foundation 2: Infrastructure Concurrency

Sanitary Sewer

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
3.1: Sewer service to follow land-use planning	DCPC, County Council, DCPWD	Zoning and Land Development Ordinance, sewer system administration	Operating budget	HIGH	1-4 years
3.2: Sewer service extensions to be limited by capacity	DCPC, DCPWD	Sewer system administration	Operating budget	HIGH	0-2 years
3.3: New treatment facilities	Real estate development industry, DCPC, DCPWD, SCDHEC	Development Agreement, land application system for sewage disposal, TIF District	Costs to real estate development industry, Tax-Increment Financing	LOW	3-10 years
3.4: Sewer to spur economic development	County Council, DCPC, County Economic Development Board, DCPWD	TIF District	Sewer revenue (rates, tap fees and impact fees), Tax-Increment Financing, state economic assistance, community development block grants	HIGH	0-10 years
3.5: Sewer treatment expansion	DCPWD, DCPC, County Council, BCDCOG, SCDHEC	County sewage treatment facility on Ashley River	Sewer revenue (rates, tap fees and impact fees)	HIGH	Ongoing
3.6: Sewer master plan	DCPWD, DCPC		Operating budget	MEDIUM	1-3 years

Implementation Strategies Notes

The *Future Land Use Map* (FLUM) directs growth to areas where adequate public facilities exist and where improvements are planned. Extension of sewer in conflict with the FLUM will strain other public facilities. County zoning must reflect the FLUM to strengthen ongoing sewer system planning at the County Public Works Department (Policy 3.1 and Policy 3.2).

The County must therefore prepare a long-range master plan for its water and sewer systems that parallels the FLUM (Policy 3.6). This master plan should map existing and planned mains and pump stations and identify the total and available capacity at these key junctures. Meanwhile, the County will develop and distribute educational materials to landowners with on-site disposal systems with the help of SC Department of Health and Environmental Control to encourage maintenance that will pre-empt public health emergencies resulting in sewer extensions.

Per Policy 3.4, extending sewer to expressway interchanges is vital to attracting economic development. The County will continue to appeal to the state Department of Commerce (SCDOC) for assistance. Local commitment strengthens the County's position with SCDOC. The County will extend sewer to the edges of planned Employment Growth Areas so it can act quickly when a prospect seeks to create jobs there.

Dorchester County will take a multi-faceted approach to ensure adequate sewage treatment capacity. Multiple treatment sites bolster the County's adherence to the FLUM. Areas served by each facility will be more compact, and each system will be under less strain due to undersized lines. All systems will be publicly owned and operated to ensure proper management and to safeguard public health.

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Emergency Services

Policy	Lead, Partners	Implementation			
		Tools	Funding	Priority	Timeline
4.1: Adherence to level-of-service targets	DCPC, emergency service providers	Land-use planning, Zoning and Land Development Ordinance (ZLDO)	Operating budget	MEDIUM	1-4 years
4.2: Site dedications	DCPC, County Council, emergency service providers	ZLDO, Planned Development District	Operating budget	MEDIUM	0-2 years
4.3: Private construction and dedication of new facilities	Real estate development industry, County Council, emergency service providers	Development Agreement, TIF District	Cost of improvements to real estate development industry, Tax-Increment Financing	MEDIUM	3-10 years
4.4: Adequate emergency response equipment	County Council, emergency service providers		Operating budget, FEMA grants	MEDIUM	Ongoing

Implementation Strategies Notes

Once again, the best tool to ensure infrastructure concurrency and adequacy is adherence by each service provider to the *Future Land Use Map*. Emergency response is greatly facilitated by more organized, compact development patterns. Procuring centrally located, highly accessible sites for emergency service providers will greatly improve response times (Policy 4.1 and Policy 4.2).

A landowner planning significant new development in underserved areas must partner with the County to ensure the safety and well being of new residents and employees. Even if the developer is entirely responsible for station construction, the County must commit to

emergency response vehicles as well as staff and other equipment for the station (Policy 4.3 and Policy 4.4).

Alternative or supplemental to Policy 4.3, Dorchester County will study the use of impact fees or Tax-Increment Financing (TIF) Districts for emergency service station construction or expansion. These monies could fund a partnership with the developer to build the station. They are not ideal revenue sources for firefighting vehicles, despite their significant expense, since vehicles represent recurring costs. Impact fees and TIF revenue are useful for one-time investments in structures.