Land Use and Design

Goals

The City will:

- Foster the development of visually attractive and physically safe residential neighborhoods and business centers.
- Create visually attractive and distinctive gateways into the City on major roadways.
- Create a land use pattern consisting of residential neighborhoods and mixed-use centers of employment and retail uses, all linked together by a multi-modal transportation system, as well as places planned with a sufficient mass of commercial development to achieve economies of scale and a balanced range of centers of various sizes.
- Foster the revitalization, preservation and redevelopment of older neighborhoods and commercial corridors.
- Maintain areas with rural character, natural areas and open spaces to protect quality of life.
- Preserve key portions of the waterfront areas in a natural state while developing other portions for compatible recreational and commercial activities.
- Preserve and maintain the visual quality and ecological functions of the open space system centered on waterways and other important natural resources.

Land Use

Development of the 2026 Land Use Plan

As a part of the overall development of the 2026 Comprehensive Plan, the City of Chesapeake engaged in the development and evaluation of a series of alternative future development scenarios. These scenarios offered consideration for the geophysical characteristics of the City, projected population and employment growth, existing and historical development patterns, and the impact of existing and proposed infrastructure improvements. In order to provide a long term perspective on the impact of these scenarios, and to provide advanced planning for the development of the Master Transportation Plan, the scenarios were developed with a plan horizon of 2050. Three scenarios were developed: compact, dispersed, and nodal.

After careful review and consideration by the public, the Comprehensive Plan Advisory Team, Planning Commission, and City Council, a consensus was reached on a preferred 2050 scenario. The preferred 2050 scenario was a hybrid and contained elements of all three of the previous scenarios and provided the guide for the development of the 2026 Land Use Plan.

Goals (continued)

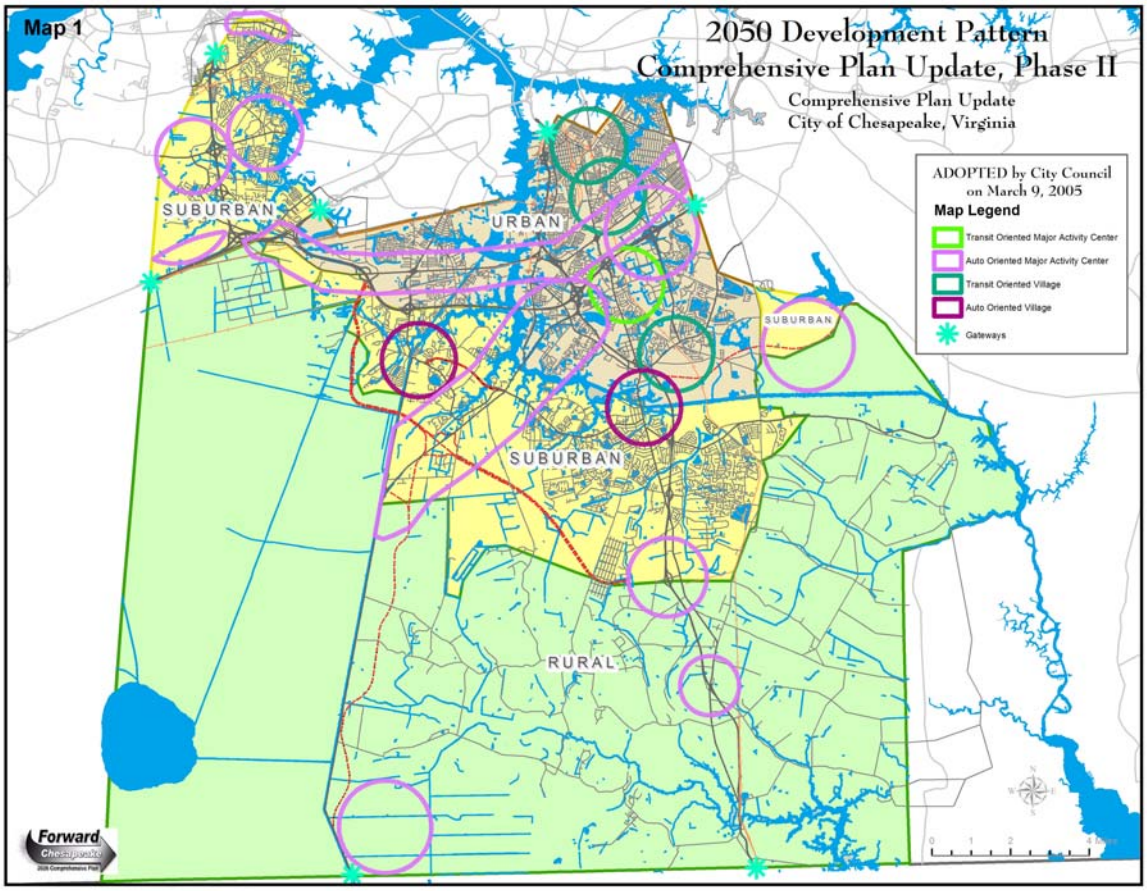
The City will:

- Achieve a pattern of land use and growth that is balanced between open space, housing, public facilities, industrial, agricultural and commercial uses.
- Ensure that all new development will be designed to have a minimum impact on natural areas.
- Integrate natural environmental areas and recreation areas into neighborhoods and mixed-use centers.
- Achieve a land use and development pattern that is economically stable and sustainable over the course of time.
- Coordinate development in the City with neighboring localities in the region through joint planning activities.

Generally speaking, the 2050 Development Pattern map has designated the northern portions of the City including Camelot, South Norfolk, Indian River, Rivercrest, and portions of Greenbrier as compact development. The compact development pattern includes opportunities for infill and redevelopment at increased densities that is compatible with existing development. Western Branch, portions of Deep Creek, portions of Greenbrier, and portions of Great Bridge have been designated as suburban development. The southernmost portions of the City have been designated for rural style development, with the exception of certain specially designated nodes.

The 2050 Development Pattern also includes a series of nodes which are designated as either Major Activity Centers, or Villages. Major Activity Centers are primarily employment-based centers and can be either automobile-oriented or mass transit-oriented. Villages are primarily residential-oriented and can also be either automobile or mass transit-oriented. Gateways have been designated to provide opportunities for land uses and design suitable to greet persons coming into the City. Please refer to Section 3B of this plan which has established "character districts" to define the specific design recommendations for these areas.

The 2050 Development Pattern map was used as guide to develop the 2026 Comprehensive Plan and 2026 Land Use Plan; however, it does not have the same force of effect as those policies contained in this plan for implementation at the 2026 planning horizon. The 2050 Development Pattern map provides insight into how decisions were made regarding the overall development pattern for the City and provides advanced guidance for transportation planning purposes. The Comprehensive Plan will be amended on a periodic basis to reflect changing conditions and circumstances and, therefore, no commitment to achievement of the 2050 development scenario is offered.



Issue One: Land Use Compatibility

As the City develops, the development pattern should be in accordance with the 2026 Land Use Plan. Land uses will generally transition from urban in the northernmost areas of the City to rural in the south. As development moves outward from existing urban and suburban development, it should proceed along planned corridors with adequate infrastructure for development. Urban and suburban densities should not be permitted without public sewer, and septic tanks should be discouraged except where they are essential for bona fide rural dwellings.

The Land Use component of the Comprehensive Plan shall create an orderly arrangement of appropriate land uses in a compatible relationship to one another, so as to establish desirable living, working and leisure environments.

Strategies:

- Each land use should be located only on an appropriate site in terms of size, access, environmental conditions, community facilities, and compatibility with its neighbors.

- Development patterns and trends should exhibit an orderly transition from urban uses in the northern part of the City to rural land uses in the southern part of the City along planned public sewer system and transportation corridors. Specific setback, landscaping and site arrangement requirements should be set out in the zoning and subdivision ordinances to ensure that there is an appropriate spatial

arrangement of buildings and uses, and sufficient buffering between different uses to enhance the compatibility of neighboring uses and improve the relationship between different uses in the community. The City's services and infrastructure should be sufficient to support a proposed development of land.

- The 2026 Land Use Plan shall provide a guide to the desired future land use pattern for the City. Land use frequently becomes a focal point for comprehensive plans and is frequently the issue with which most people identify.

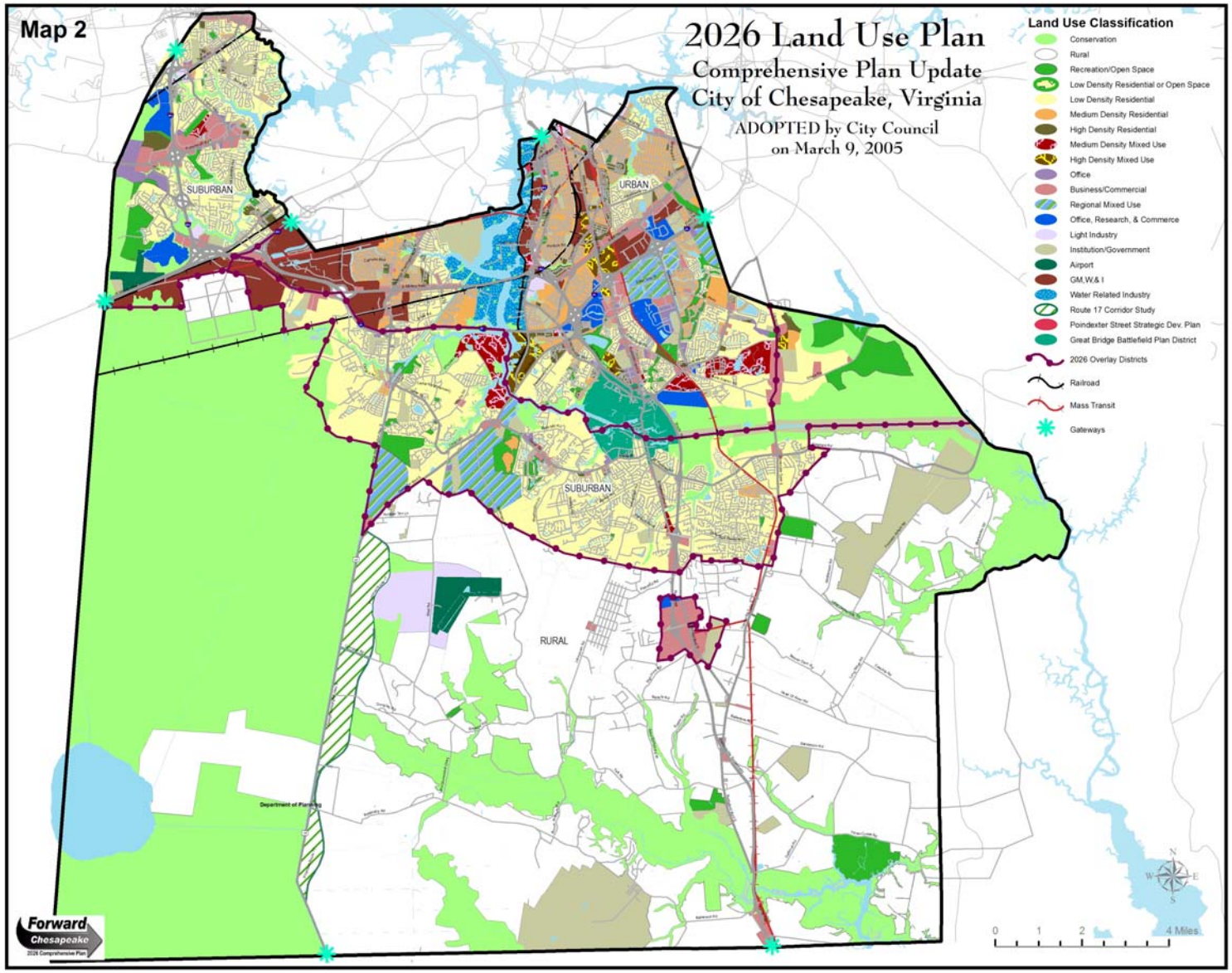
  It can become convenient to rely exclusively upon the Land Use Plan element of the Comprehensive Plan because of the ease of reading a map for a recommendation; however, the Land Use Plan should not be used without consulting the policies of the Comprehensive Plan for any mitigating conditions. The Land Use Plan should be considered a general guide for land use decisions. It is not a binding commitment on the part of the City to guarantee that changes of zoning classification will be granted or denied on the sole basis of the Land Use Plan.

  The implementation of these general land uses strategies will require some actions in addition to the adoption of the 2026 Land Use Plan. It is recommended that the following steps be taken:

  - The City's Zoning Ordinance should be reviewed for necessary amendments. For example, the provisions for Planned Unit Developments (PUD's) may require revision to reflect changes in the distribution of uses within mixed use designated areas. Also, correlating passages to the Overlay Districts should be synchronized.

  - The City's Subdivision Ordinance should be reviewed for potential inconsistencies with the provisions of this Plan.

  - All other City ordinances and policies should be reviewed for potential amendment to reflect the intentions and policies of this Plan. Such ordinances and policies should include but not be limited to the City's Landscape Ordinance, Sign Ordinance, and Public Facilities Manual.


Map 2
2026 Land Use Plan
Comprehensive Plan Update
City of Chesapeake, Virginia
ADOPTED by City Council
on March 9, 2005
Land Use Classification
Conservation
Rural
Recreation/Open Space
Low Density Residential or Open Space
Low Density Residential
Medium Density Residential
High Density Residential
Medium Density Mixed Use
High Density Mixed Use
Office
Business/Commercial
Regional Mixed Use
Office, Research, & Commerce
Light Industry
Institution/Government
Airport
GM,W,& I
Water Related Industry
Route 17 Corridor Study
Poindexter Street Strategic Dev. Plan
Great Bridge Battlefield Plan District
2026 Overlay Districts
Railroad
Mass Transit
Gateways
SUBURBAN
URBAN
SUBURBAN
RURAL
Department of Planning
Forward Chesapeake
0 1 2 4 Miles

Land Use Plan Designations

Land Use Plan Designation	Description
Conservation	Environmentally sensitive areas. These areas have been planned for conservation due to highly sensitive conditions. Areas delineated by identifying those areas that have at least 2 of the following criteria: -100 year flood plain (Source: FEMA Flood Plain Maps) -Highly erodible soils (Source: Chesapeake Soil Survey) -Designation as a wetland by the National Wetlands Inventory (Source: U.S. Fish and Wildlife Service)
Recreation/Open Space	Active and passive recreational areas, parks, trails, recreation centers
Rural	Rural / agriculture based land use pattern. Permits farming and livestock operations, aquaculture, silviculture. Supporting commercial (i.e. businesses whose primary purpose is to provide support to the farming community such as feed and seed stores, farm machinery sales and repair)
Low Density Residential	Single family residential (<= 4 DU/AC)
Medium Density Residential	Single family detached and attached (5 - 16 DU/AC)
High Density Residential	Single family attached and multi-family residential (16-24 or 30 DU/AC)
Office	Professional offices, banks, senior assisted living facilities and group housing for the elderly
Business/ Commercial	General Commercial, Neighborhood Commercial, Retail
Medium Density Mixed Use	Predominately commercial with medium density residential.
High Density Mixed Use	Predominately commercial with higher density residential.
Regional Mixed Use	Regional context commercial activities including malls, power centers, office complexes, commerce centers, corporate headquarters, light industrial uses, and residential.
Office, Research, Commerce	Larger scale office, research and commerce uses, primarily located in parks.
Institution/ Government	Government, Hospitals, Military, and Institutional uses, could include housing for the elderly/ assisted living facilities
Light Industry	Light Industrial uses, warehousing
Airport	Airport and supporting functions
General Manufacturing Warehousing and Industry (GMWHI)	General Manufacturing / Warehousing / Industrial
Water Related Industry	Water related industrial uses such as ports, cargo terminals, and container storage yards
Poindexter Corridor Strategic Development Plan	Defer to Poindexter Corridor Strategic Development Plan
Great Bridge Battlefield District	Defer to Great Bridge Battlefield District

- **Overlay Districts**
  As elements of the Land Use Plan are three distinct overlay districts: the Urban Overlay District, the Suburban Overlay District, and the Rural Overlay District. These districts correlate to those areas designated as compact, dispersed, and rural, respectively from the 2050 Development Scenario map. The purpose of the districts is to provide an orderly transition from the urban areas of the City to the suburban areas, to the rural areas and to allow for the grouping of land uses that are of compatible density and intensity.

  - **Urban Overlay**
    The purpose of the Urban Overlay District is to provide opportunities for infill development in areas of established infrastructure. It is advantagous to promote this type of development as it tends to reduce the propensity for inefficient, sprawling development patterns.

    In order to promote infill development, it is recommended that opportunities for increased density be created in this overlay. The current zoning ordinance contains a maximum of 24 units to the acre for the R-MF2 zoning district. It is recommended throught this plan that this maximum be increased to 30 units to the acre as an incentive to the redevelopment and revitalization of certain areas and as an incentive to increase housing affordability. Densities at the higher end of the range may be appropriate in designated village and major activity centers (see Design element of this Plan) in order to help solidify a sense of place. Special attention will be given to ensuring the compatibility of adjacent uses and for the provision of adequate buffering between uses in order to mitigate any potential negative impacts associated with increased densities.

    It is anticipated that the transformation into an urban landscape will be gradual, over time and will not be fully realized within the 20 year window of this Plan. As the urban fabric of this overlay develops, special consideration will be given to enhancing pedestrian and mass transit opportunities as an increase in the urban development pattern should correlate with a decreased reliance on the personal automobile.

    Development in this overlay should be consistent with the design guidelines of the Urban Character District (see the Design element of this Plan).

  - **Suburban Overlay**
    The purpose of the Suburban Overlay is to provide a transition area between the urban areas of the City and the outer lying rural area. This overlay provides some opporunity for diversity for persons not desiring either an urban or rural lifestyle.

    Typical densities for Suburban Overlay zoning are 4 units to an acre for single family detached, 10 units per acre for single family attached, and 16 units per acre for multi-family. Densities less than or greater than these may be considered on an individual basis. Densities at the higher end of the range may be appropriate in designated village and major centers in order to help solidify a sense of place (see Design element of this Plan).

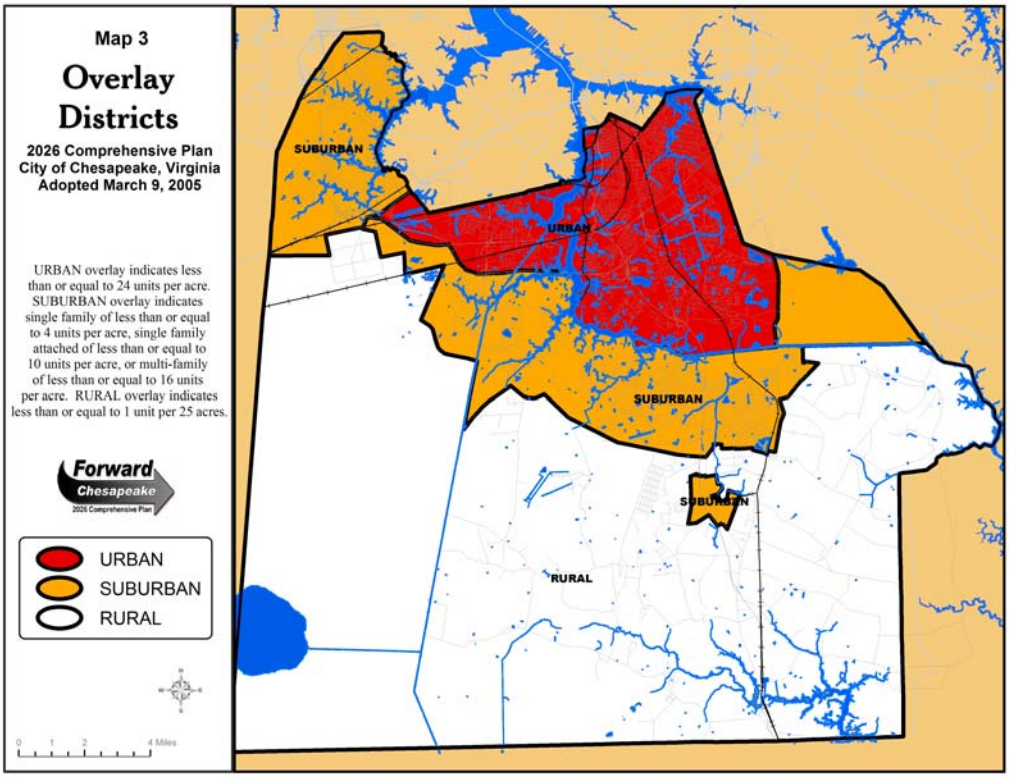
    Development in this overlay should be consistent with the design guidelines of the Suburban Character District (see the Design element of this Plan).

- **Rural Overlay**
  The purpose of the Rural Overlay District is to preserve and protect the rural character of the southern portion of the City. The current Zoning Ordinance provides for densities no greater that one unit per three acres. Development in this overlay should be consistent with the design guidelines of the Rural Character District (see the Design element of this Plan).

  The City has advanced efforts in rural preservation such as the creation of the Open Space and Agriculture Preservation Program (OSAP), which is a development rights purchase program, and the creation of a clustering ordinance that may be used to minimize development impacts on the rural landscape. Other conflicting regulations and policies, however, have resulted in a gradual erosion of the rural character of the area. For example, subdivision regulations encourage the "stripping" of rural roadways which not only destroys the rural landscape, but creates land use compatibility problems with the adjacent agricultural uses and promotes and inefficient consumption of land resources.

  As a follow upon to this Plan, a comprehensive strategy will be developed and implemented to sychronize the City's rural preservation efforts. This strategy must address the coordination of the following ordinances, policies, and programs into a cohesive rural preservation strategy:

  - Rural Design Guidelines
  - Public Facilities Manual
  - Open Space and Agriculture Preservation Program
  - Subdivision Ordinance
  - Zoning Ordinance
  - Cluster Ordinance



Issue Two: Timing of the Land Use Plan

The 2026 Comprehensive Plan is a 20 year Plan for the City. A variety of factors will affect the timing of the implementation of the Land Use Plan element. Market conditions, demographic changes, technological changes, federal and state legislation, and City policies have an impact on the potential pace at which the Plan will develop.

The land uses depicted on the Land Use Plan should be considered a build out scenario for this planning window. It is not realistic, or expected, that the 2026 Plan will immediately be developed upon Plan adoption and it is presumed that the Plan will be amended over time and adjustments made as necessary to reflect changing circumstances and conditions. Timing strategies are contained in the Growth Management element of this Plan that are linked to public facility levels of service, infrastructure expansion and phasing, desired rates of growth, and funding availability. All of these considerations will be made prior to the approval of new development.

Land use decisions will not be made solely upon consistency with the Land Use Plan map but will also include consideration for timing and other policies of the Comprehensive Plan.

Strategies:

- The implementation of the Land Use Plan will be linked to, and integrated with, the growth management strategies, and other policies of the Comprehensive Plan.

- Desired land uses should be accommodated generally in accordance with anticipated market demands for each use; undesirable and incompatible land uses, or speculative development in excess of anticipated market demand should be discouraged. Even where market conditions may support the intensive location of certain similar uses which are economic competitors in a particular area, the saturation of an area with such uses may cause an overall deterioration in the quality of the environment, and in particular may have an adverse impact on the City's economic development goals. Such uses may also have cumulative negative impacts on the character of the commercial area and neighboring residential communities. As a result, the placement of certain commercial or industrial activities should not only be a factor of market conditions, but should also consider particular land use impacts on surrounding properties.

Issue Three: Plan Adaptability

The Comprehensive Plan should be considered to be a living document and not static. As circumstances change, the Plan should be reviewed for its continued relevance and applicability. Virginia State Code requires a minimal review of at least every 5 years, although reviews and amendments may occur on a more frequent basis if needed.

Chesapeake will monitor changes in circumstance that will result in the need for a review of the Comprehensive Plan and subsequent Plan amendments if necessary.

Strategies:

- Military installations such as Fentress Airfield and St. Juliens Creek Naval Facility occupy important land resources for the City. In the event these facilities were to be

closed and converted to public use, they would provide significant opportunities which would require special study.

Should changes in circumstances provide an opportunity to acquire the St. Juliens Naval Facility, a study has been prepared that provides guidance for potential uses for the facility. This study is included as Appendix L of this Plan.

- The comprehensive planning process has attempted to accommodate the probable timing of major infrastructure improvements; however, time schedules are often accelerated or decelerated depending upon funding availability and other factors. Significant changes in the anticipated timing for public infrastructure improvements and their impact on development patterns and timing may create a need for special study and subsequent Plan amendments.

- Intermediate reviews of the Comprehensive Plan will be conducted prior to the Virginia Code required 5 year review period.

- City Council may direct a plan review when it is believed that circumstances warrant such an action.

Issue Four: Planning for Special Areas

The City of Chesapeake is composed of a wide array of unique communities and landscapes. Chesapeake has in the past and will continue in the future to provide detailed area specific plans and policies. The Comprehensive Plan includes many smaller area plans and efforts which were intended to be adopted as components of the Plan. The following provides and overview of those special elements while the appropriate elements from these plans are contained in the appendices of this document. These plans should be considered components of the Comprehensive Plan and consulted for specific proposals in the affected areas.

Chesapeake will continue to provide for the special needs and considerations of unique areas and circumstances through the development of special area plans.

Strategies:

- **Western Branch Land Study Area**
  The purpose of the Western Branch Land Study was to develop a land use, infrastructure, and economic development plan for the western portion of the Western Branch borough of the City. The area comprises an approximately 6.6 square mile area bounded to the north by Pughsville Road, to the east by Interstate 664, to the south by Military Highway and to the west by the City of Suffolk. The plan recommends a mixture of land uses capitalizing on their proximity to the interstate, existing neighborhoods, public services and commercial areas. The 2026 Land Use Plan incorporates a combination of Alternatives D and E. The summary of the Study is included as an Appendix to this document.

  The Western Branch Land Study was completed in April 2001 prior the development of this Comprehensive Plan. As a result, the study team working on the Western Branch Land Study did not have the same land use pallet that is incorporated into this Plan. It has been suggested that the use of the mixed use designations would have possibly been considered for this area if the option had been made available.

For this reason, it is recommended that the Western Branch Land Study be reviewed for possible opportunities to incorporate mixed land use designations into the land use plan for that area.

- **Poindexter Corridor Strategic Development Plan**
  The Poindexter Street Strategic Development Plan creates a new identity for South Norfolk and the Poindexter commercial corridor building on the historic character, strong neighborhood identity, underutilized waterfront, interstate access, and close proximity to other urban activity centers in surrounding localities. The study recommends site specific design criteria for the following areas:

  - Waterfront (north of the Jordan Bridge)
  - I-464 interchange (interchange between I-464 and Poindexter Street)
  - Village center (Located at Poindexter, Liberty and 22nd Street)
  - Poindexter Street corridor; and
  - Liberty Street corridor.

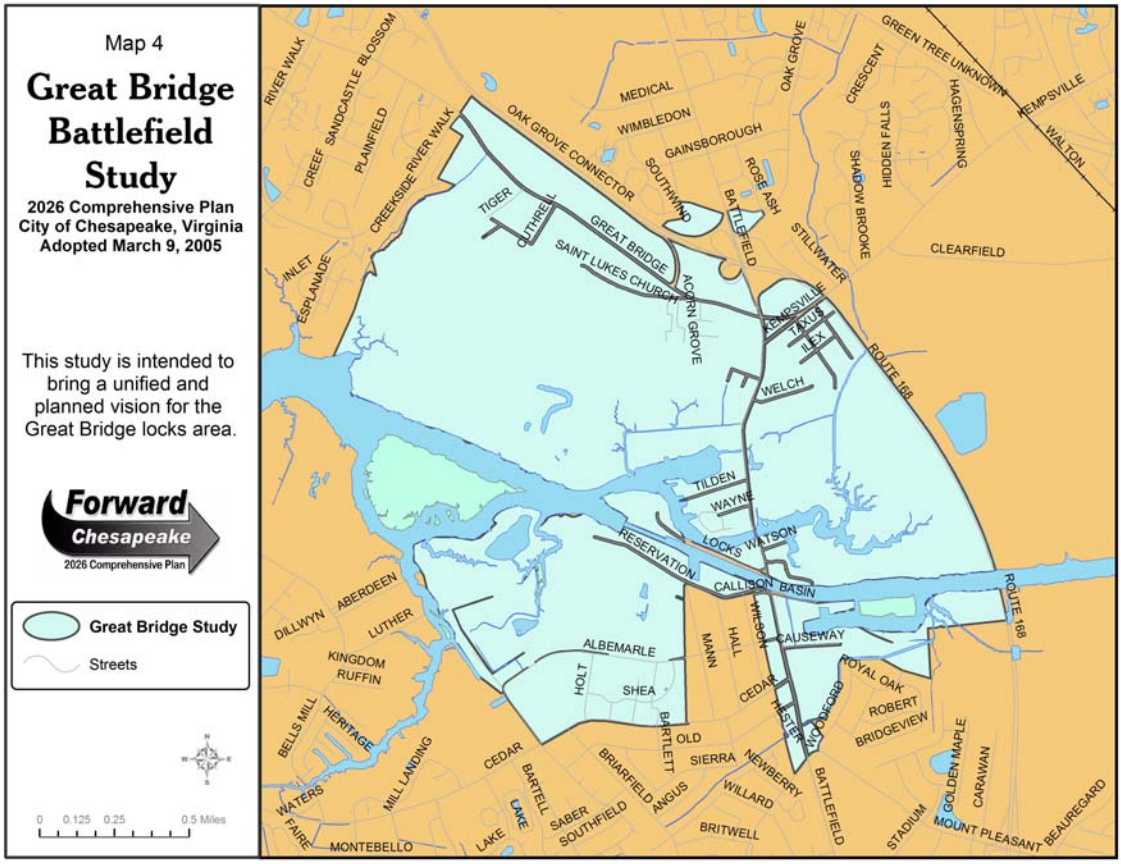
  The design standards cover critical community character-building details, such as building heights and setbacks, land use mixes, parking lots, parking garages, trails and sidewalks, focal points and viewsheds, among others.

  - The Poindexter Corridor Strategic Development Plan will be the guiding document for future public and private investment and projects in the area and has been included as an appendix to this Comprehensive Plan.

- **Great Bridge Battlefield Plan District**
  The Great Bridge Corridor Study area generally surrounds the intersection of Battlefield Boulevard and the Intracoastal Waterway. More specifically, it is the area bounded to the north and east by the Oak Grove Connector, to the south by Cedar Road, and loosely to the west by Oscar Smith High School and the Bells Mill Park site. The goal of the study was to develop a land use plan to enhance the economic vitality of the area by creating a waterfront destination for tourists and residents alike by establishing development design standards to protect the aesthetic and visual character of the approaches by land and water to the Great Bridge Battlefield, the village of Great Bridge and its natural environment.

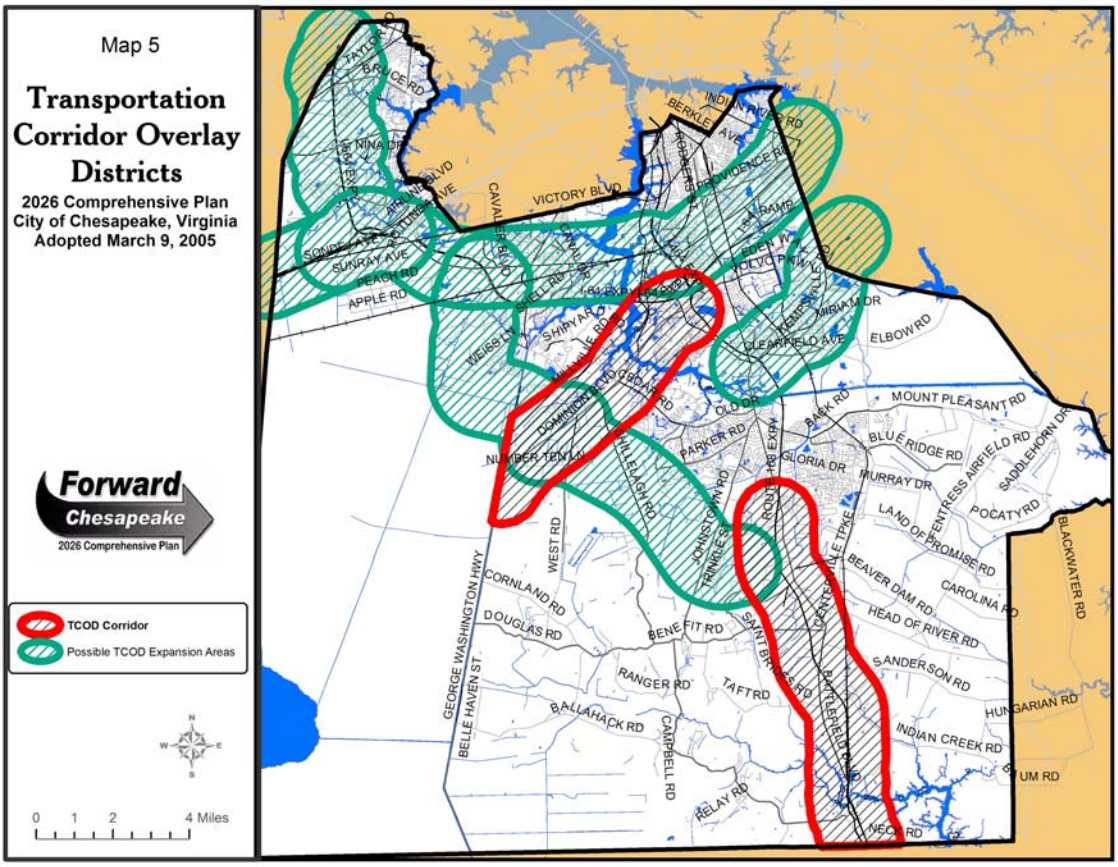
  The 2026 Land Use Plan incorporates the study's recommendations by establishing land use designations consistent with a village designation for the study area. The village designation will promote pedestrian-oriented activity by encouraging human-scale buildings, mixed uses, as well as trails and sidewalks to connect visitors to the waterfront and surrounding neighborhoods and retail establishments.

  - The Appendix of this Plan includes initial guidance provided through the Great Bridge Battlefield Plan Study; however, the development of enhanced land use and design guidance for this area is underway. It is recommended that the follow on guidance be incorporated into this Plan upon its completion.



- **Transportation Corridor Overlay District (TCOD)**
  The purpose of the Transportation Corridor Overlay District (TCOD) is to preserve future economic development opportunities for high quality, attractive development along key transportation corridors. To ensure the overlay fosters high quality development, TCOD consists of a series of guidelines designed to ensure that each rezoning and conditional use permit proposal is consistent with district policies.

  The original TCOD Policy designated the Dominion Boulevard corridor and three interchanges of the Chesapeake Expressway as Target Areas for future economic development uses (subject to the provisions of the TCOD policy). The first Target Area in the Chesapeake Expressway corridor includes a buffer of a one-mile radius from the center of the Hillcrest Parkway interchange. The second target area includes a buffer of a ¾ mile radius from the center of the Indian Creek Road Interchange, and the third target area includes a buffer of ½ mile from a segment of the centerline of the new Route 168 alignment extending from the Northwest River south to the State line. As a result of the discussions and recommendations of the Comprehensive Plan Advisory Team, last Target Area located at the Northwest River has been removed from the policy as a Target Area. This area, however, has been designated as a Gateway (see the Gateways subheading of this section).



The 2026 Land Use Plan has incorporated specific land use recommendations for the areas of the TCOD falling within Suburban and Urban Overlays of the Land Use Plan. The Indian Creek Target Area falls outside the 20-year window of this plan and as such it is premature to assign specific recommended uses for the entire target area. The Indian Creek Target Area is, however, still preserved for future economic development uses consistent with the TCOD Policy.

The TCOD Policy is set out in the Appendix of this document and is hereby incorporated into this Comprehensive Plan.

- The Transportation Corridor Overlay District Policy (TCOD) should be reviewed for possible expansion to the other roadways such as Military Highway, Kempsville Road, Pleasant Grove Parkway, Interstate 664 and Southeastern Parkway.

- The City Zoning Ordinance should be amended to provide clear linkages between it and the provisions of the Comprehensive Plan.

- **South Military Highway Corridor**
  The South Military Highway Corridor has long been an important roadway for the City. In the early 1940's, Military Highway was built as a defense highway to serve the Norfolk Naval and Little Creek Amphibious Bases. Its purpose was to bypass the congested traffic areas of Portsmouth and Norfolk, and to provide a high volume/high speed highway for transporting military supplies. Today, South Military

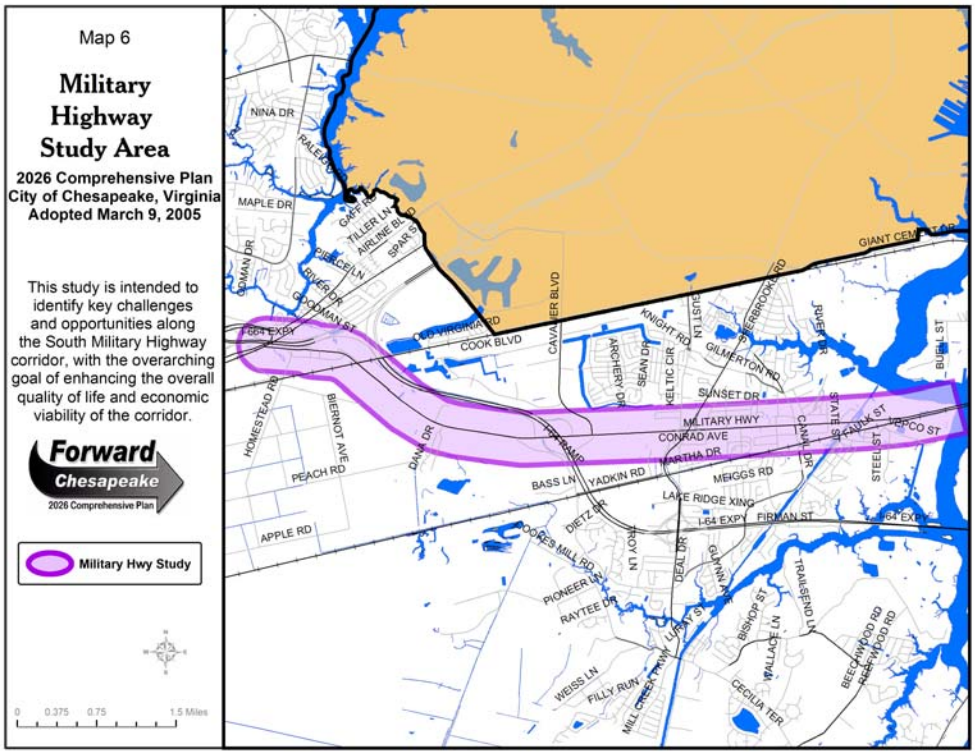
Highway continues to serve diverse land uses (type and density), as well as businesses and populations of widely different socioeconomic characteristics.

Because of its importance as a major arterial through Chesapeake, City Council established the South Military Highway Task Force in February 2003. The Task Force's goals were as follows: to undertake an in-depth study regarding the overall corridor in its present state, and make recommendations to City Council to improve, enhance, and sustain the viability of the area; to identify potential solutions to code enforcement issues and inappropriate land uses; to make suggestions for viable options that will help landowners and businesses to upgrade their facilities to meet current codes and ordinances; and to assist in the development of a long-range plan for reinvestment, both public and private, in the entire corridor.

Key recommendations from the Task Force included: providing more landscaping, screening and buffering between mixed land uses, especially between heavy industrial and residential uses; intensified policing of problem areas along the corridor; enhanced open space/recreational amenities; a unified set of architectural development guidelines for the entire corridor; a more focused, proactive inspections program; replacement of the Gilmerton Bridge; roadway and infrastructure improvements, including bicycle lanes; and various tax incentives and/or special district overlays to encourage revitalization and economic development. A follow-up master planning study for the corridor is underway.

The Task Force's recommendations are included in the Appendix of this document.

- Using the recommendations of the South Military Highway Task Force as a guide, a strategic plan of implementation should be developed.



- **Route 17 Trail / Dismal Swamp Corridor Study**
  U.S. Route 17 is a two-lane highway leading from the urbanized sections of Chesapeake through the rural southern section of the City and into North Carolina. Much of the existing road runs along the Dismal Swamp Canal, which is a part of the Intracoastal Waterway System. To expand capacity and improve safety, the Virginia Department of Transportation is constructing a new four-lane facility east of the current Route 17 alignment.

  Plans are in development to convert the existing road into a multi-use trail in order to expand recreational opportunities while protecting open space and managing access. This area is viewed as a vital conservation corridor for the City, due to its rich history and unique natural amenities. As such, the City has arranged for the development of a master plan for the Route 17/Dismal Swamp Corridor to plan for land uses between the old and new roadway, to develop the old roadway as a multi-use recreational facility, and to establish design guidelines for the new route.

  Potential recommendations for the corridor include: possible locations for wetland creation and habitat restoration; potential sustainable land uses to support eco-tourism (e.g. Bed and breakfasts, bicycle/canoe rentals, etc.); potential location for a Great Dismal Swamp Visitor Center; capital improvement needs to enhance recreational, historic, and environmental opportunities in the corridor; a conceptual trail design; access management; and master plan implementation techniques (such as land acquisition).

  - The City should continue to work to develop the master plan for this corridor and implement any necessary amendments to the Comprehensive Plan and 2026 Land Use Plan.

- **Greenbrier Major Activity Center**
  A key land use planning tool for the 2026 Comprehensive Plan is the major activity center concept. A major activity center is a form of land use characterized by regional scale retail, commercial, and industrial development that is oriented toward a major transportation corridor or area. Major activity centers can be automobile-oriented or transit-oriented. Greenbrier is one of the largest and most recognizable of the City's major activity centers. Because of its physical location near Interstate 64 and Military Highway and status as a planned unit development (PUD) since the early 1970's, Greenbrier has taken on the unofficial role of Chesapeake's "downtown," or center of commercial activity, anchored by Greenbrier Mall.

  - Effective January 2005, portions of the Greenbrier area will be designated as a Tax Increment Financing District (TIF). Designation as a TIF will provide funding opportunities for continual investment in the area to ensure the infrastructure and improvements keep pace with the demands of a significant regional activity center.

- The Land Use Plan will continue to promote regional mixed uses, including retail, commercial, light industrial, office space, and a variety of residential settings, particularly higher density dwellings.

- While Greenbrier is recognized as a strongly automobile-oriented major activity center in the present, it is also located along a planned mass transit corridor. As such the City should plan for facilities and services that promote both a more pedestrian-friendly and transit-oriented environment.

- **Dominion Boulevard Major Activity Center**
  The Dominion Boulevard/Route 17 Corridor is a significant transportation corridor due to its relationship as a primary north / south link between Raleigh, North Carolina, and Norfolk. Route 17 and Interstates 464 and 64 are significant regional transportation corridors and provide regional access to the area. The proposed Pleasant Grove Parkway also runs through the corridor and provides additional accessibility for the future. Recognizing the strategic nature of this corridor, it was designated as a TCOD Target Area in 2001. The road is currently a two-lane, undivided highway with a draw span at the Southern Branch of the Elizabeth River, improvements are planned.

  - As a part of the 2026 Land Use Plan, the Dominion Boulevard Corridor has been designated for regional mixed uses. It is the intent of this Plan to create an alternative regional employment center, south of the Albemarle and Chesapeake Canal. Corporate offices and research and development uses, including amenities such as integrated opens spaces or golf courses, and institutional uses, should be promoted for this area. Some strategically placed residential may be included in the area; however, the focus of the corridor should be on economic development.

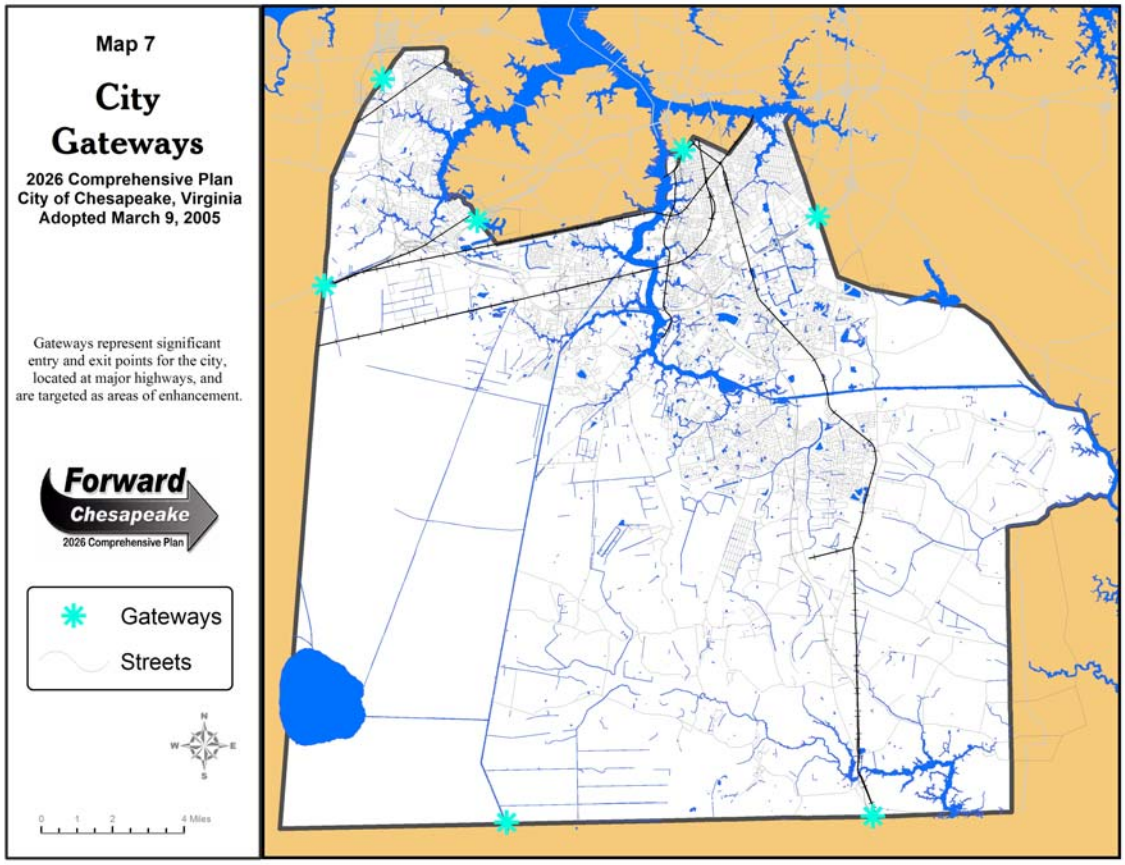
  - The guidelines for the Transportation Corridor Overlay District should continue to provide guidance in land use decisions in this corridor.

- **Gateways**
  The purpose of Gateways is to take advantage of the special opportunities associated with being an entryway into the City.

  - As an entryway, special consideration must be given to the overall appearance and impression created for the City as well as taking advantage of the potential for economically beneficial uses that may be appropriate at these locations. Uses which may be appropriate in these locations include welcome centers, hospitality centers, and well-designed convenience and lodging uses.

  - Design recommendations for Gateways may be found in the Design element of this Plan and should be used to provide guidance in the appropriate appearance of development within Gateways.

  - As a follow up to the adoption of the Comprehensive Plan, a study should be undertaken to develop more detailed guidelines for development within gateways.



- **Areas for Future Study**
  There are some areas of the City which are still in need of study for specific recommendations. These areas include the following:
  - Indian River Planning Area / Military Highway Corridor
  - The Southeastern Parkway Corridor
  - The Pleasant Grove Parkway Corridor
  - Community Revitalization Study
  - Kempsville Road Corridor
  - The Northwest River
  - The North Landing River

Design

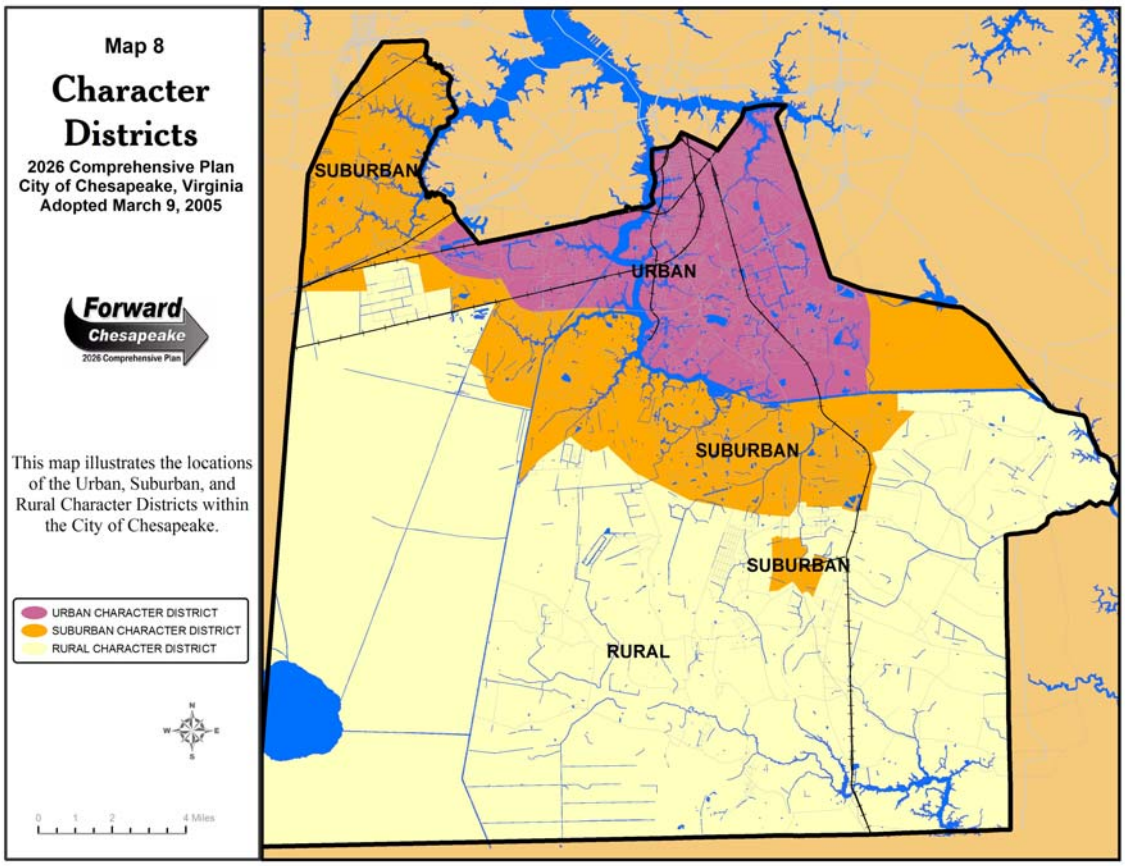
The Design of Chesapeake

The overall vision for Forward Chesapeake describes a city that is a desirable place for residents, businesses and visitors alike, with a high quality of life and an attractive and harmonious built and natural setting. This vision of Chesapeake's future calls for a city that works well, supports its citizens, and is a beautiful place to live and work. Implementing this vision will call for a renewed commitment to the importance of community design and appearance in the City.

Good design is more than just an option to consider for Chesapeake. The quality of a city's streets, buildings and parks has a direct impact on the city's economy, its quality of life and its long-term sustainability as a desirable place. Distinctive and high quality city design can help Chesapeake solidify its "brand identity" within the larger Hampton Roads region. It can be an effective marketing tool for the City, providing good models for future developers and investors. The excellent design quality that Chesapeake's citizens have demanded in their Vision can also be used to strengthen the City's economic base and long-term marketability in the region.

City-Wide Character Districts

Chesapeake is not uniform – it is a city composed of villages, neighborhoods and districts that often have distinct settings and separate design characters. By emphasizing quality in the design of the built environment, these disparate places can be enhanced and harmonized with the look of the city as a whole, while maintaining their individual character. It is important to recognize the different development patterns that make up Chesapeake as a whole. These patterns of growth and development have been determined by history, by governmental policy and by market forces. As Chesapeake flourishes over the next decades, the following broad "Character Districts" and associated design principles will help ensure a harmonious pattern of land use and design and give landowners and developers guidance regarding site development issues. The information provided in this element of the Plan is provided as guidance and it is understood that some flexibility may be expected in accordance with good design practices.



Urban Character District – Design Principles

- The Urban Character District should continue as a mixture of stable older neighborhoods and districts that are enhanced over time with new landscaping, façade improvements, a revitalized streetscape and better multi-modal transportation and access.

- Infill development should be encouraged in this area, with new development enhancing the visual character of neighborhoods and allowing for a greater range of densities and mixtures of uses over time.

- A diversity of housing types and densities should be promoted, with a range of density types from urban high density to suburban density housing prototypes.

- Consideration should always be given the mitigation of any undesired impacts between adjacent uses; good design practices should be used to ensure land use compatibility.

- Residential neighborhoods should be designed for enhanced pedestrian access, street trees and landscaping and pedestrian-scaled front yards and house facades.

- Historic buildings should be preserved and their design used to inspire "place-making" and new development in the area.

- New housing should respect traditional patterns of development in the area. Houses with front porches, consistent setbacks that are close to the sidewalk and on-street or rear-access parking should be encouraged.

- Neighborhood-based schools, civic services and commercial centers should be preserved where they exist, and encouraged when new development proposals are being considered.

Suburban Character District – Design Principles

- The Suburban Character District should be an area that maintains a basic suburban character, but enhances the livability and design quality of existing neighborhoods and new developments over time.

- Consideration should always be given the mitigation of any undesired impacts between adjacent uses; good design practices should be used to ensure land use compatibility.

- Street improvements in new suburban development should show improved vehicular connections between neighborhoods, increased pedestrian amenity and minimal pavement widths needed to meet functional and safety requirements. Street design should encourage slow vehicle speeds without reducing the connectivity of the overall network.

- Retail and service uses should be well connected to adjacent areas and neighborhoods. Neighborhood-based retail and service centers should, where possible, be within walking or biking distance of residential and employment areas.

- Where possible, encourage clustering residential and commercial development to preserve open space and reduce public expenditure for public services.

- Design roadways and buildings to preserve natural landforms and minimize impact on environmentally sensitive areas through:
  - Aligning roads to pass around, rather than through, sensitive areas.
  - Designing grade separation where applicable
  - Permitting flexibility in roadway width and geometry, to better preserve sensitive areas.

- Encourage the extensive and creative use of landscaping to create attractive streetscapes through:
  - Expanding and maintaining street tree programs in all public rights of way.
  - Developing special concentrations of landscaping in medians, at intersections and prominent focal points and gateway locations.
  - Creating attractive views of landscaped yards and street edges, rather than privacy fences and blank screen walls from major roadways.

Rural Character District – Design Principles

- The Rural Character District should be an area of preserved farmland, natural areas and small-scale rural communities and compatible employment uses. It is designed to support the goals of protecting working farmland and providing an open, rural landscape as a relief to the built up and developed areas of the City.

- Farmland preservation, environmental protection and the maintenance of an open, rural landscape and community structure should be the priorities for this district.

- Consideration should always be given the mitigation of any undesired impacts between adjacent uses; good design practices should be used to ensure land use compatibility.

- New residential development should only be permitted if it is very low density, compatible with the rural design character and is clustered in such a way as to preserve meaningful areas of viable farmland or connected natural habitats.

- Public and institutional uses should be designed to blend harmoniously with the rural landscape and to support the traditional design character of the area.

- Existing rural settlements should be preserved and only small-scale, compatible new infill development should be permitted within them that doesn't change the traditional visual character of the community or surroundings.

- Farming, forestry and compatible rural economic development should be encouraged as a way to make the district economically self-sufficient and part of a "working rural landscape."

- Important natural features such as waterways and wooded corridors should be identified and preserved whenever possible and these areas should be a priority for future public and private land protection efforts. Priority should also be given to the areas and corridors identified in the region's Southern Watershed Area Management Plan (SWAMP).

Additional City-Wide Design Elements

Gateways and Edges

Visual impressions of Chesapeake are usually formed as one enters the City and experiences a series of "views from the road." The quality of Chesapeake's gateways, edges and main transportation corridors leaves an important impression on visitors and residents alike. The current sameness and lack of visual distinctiveness to much of the City's gateways and corridors presents a key opportunity to strengthen Chesapeake's image and identity. A positive visual image for these key design elements will contribute much to the overall positive impression Chesapeake can make as a city and an attractive place to live and work.

- Gateways should be established at key entry points into the City. Gateways should incorporate a combination of the following design elements:
  - Identity and welcome signage to reinforce Chesapeake's brand identity and promote its unique qualities
  - Unified graphic and architectural treatment of logos, color and construction materials
  - Distinctive landscaping treatments to reinforce the image of a superior design quality at each gateway
  - Gateway points need not be at the actual City boundaries – they should be sited for the best visual and design impact.

- A separate but harmoniously designed system of "community gateways" should be incorporated at key neighborhood or community locations to reinforce Chesapeake's multi-focal urban form and the distinctiveness of its individual communities.

- Major transportation routes should be attractively landscaped and should have appropriate unified signage to direct visitors and promote the city's attractions.

- Identifiable City edges should be reinforced to create a distinctive design character for Chesapeake. New development around City edges should incorporate extensive natural protection, high quality building design and attractive landscape treatments.

Open Space System

Providing a high quality of life for the residents and employees of Chesapeake will rely on creating an integrated and accessible system of outdoor amenities, including active recreation areas, passive natural areas and sufficient "green relief" for the developed portions of the City. Chesapeake is fortunate to have within its boundaries extensive and environmentally significant natural resources such as the Great Dismal Swamp and the Northwest River. It also has a network of many smaller waterways and natural corridors that interlace the developed

areas and provide an unprecedented opportunity to create an open space network within the City. Open space and access to it are key indicators of community quality of life and Chesapeake should place a high priority on creating and maintaining this open space framework as an amenity to all residents and visitors in the City.

- Open space design and maintenance should be an integral part of community design in Chesapeake. Residents should have convenient access to parks, public gathering and recreation spaces and natural areas at home and at work.

- An integrated open space framework should be developed throughout the City and open spaces and preserved natural areas should be used as connective elements to join different development areas in the City.

- Preserved open spaces should relate as much as possible to identified natural resources. They should meet the diverse needs for groundwater protection, flood control, human needs and habitat protection.

- A hierarchy of open space areas should be designed, from high-use urban parks and plazas to passive-use natural areas. Good access to all types of open space should be provided for all residents.

- Encourage walking and biking access to open space from all developed areas through the design of:
  - Small "pocket parks" in residential neighborhoods
  - Plazas and courtyards in core areas and denser urbanized districts
  - Landscaped gathering places along key pedestrian "main streets" in individual communities
  - Sensitively designed trails through connected open space systems such as stream valleys and greenways

- The rural landscape surrounding designated development areas should be preserved as a city-wide resource and key element in the overall design character of Chesapeake.

Revitalization and Community Preservation

The long-term sustainability of Chesapeake depends not just on new development in "Greenfield" areas, but also in an ongoing process of revitalizing and redeveloping existing older areas within the City. Chesapeake has a number of small historic communities that form the nucleus of its recently expanded community growth centers. These older centers need to be preserved as an important link to the past and source of community identity. In addition, there are a number of commercial corridors that have aged significantly and represent a "disamenity" to new economic development and marketing efforts. The infrastructure investments in these older commercial strips and heavy industry corridors represent an underutilized resource and a prime economic opportunity for future reinvestment.

The future economic success of Chesapeake depends partly on successfully revitalizing its older neighborhoods and employment areas to effectively meet the needs of current and future populations.

- Recognized historic areas should be preserved and used as a guide for new development in and around them.

- Zoning in older commercial and industrial areas should be progressively restructured to allow mixed use development for greater market flexibility.

- Redevelopment / revitalization efforts should be coordinated with the Chesapeake Redevelopment and Housing Authority.

- Incentives such as more flexible density, subdivision & parking requirements should be incorporated to encourage development in priority infill/redevelopment sites.

- The use of community development corporations should be explored as a tool in redevelopment / revitalization efforts.

- Redevelopment and infill should generally follow compact development patterns and traditional urban forms rather than land-intensive suburban patterns.

- Design guideline for infill development should be developed.

- Primary redevelopment and revitalization areas should emphasize quality of life and pedestrian activity through:
  - Expanded transit access and multi-modal transportation flexibility to reduce automobile dependency
  - A mixture of residential retail and service uses for round-the-clock street life and activity
  - Buildings set close to street and wide sidewalks with pedestrian amenities
  - Ground floor facades & uses that emphasize pedestrian activity
  - On-street parking for shopping areas and a minimum of surface parking lots fronting on main streets

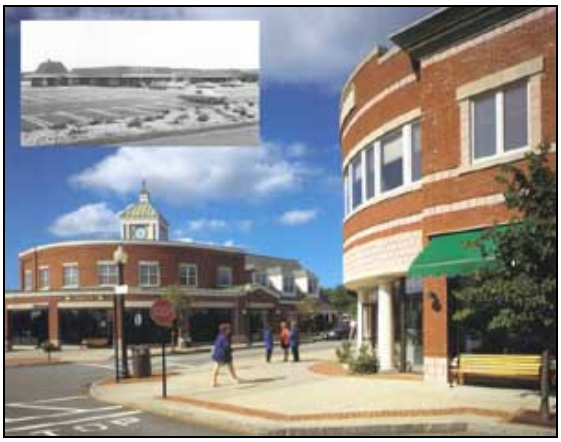
Streetscapes and Circulation

The most important publicly-controlled design elements in the City are its public streetscapes. The visual character of city streets is often more important than the appearance of buildings and facades in forming a visual impression of a neighborhood. Chesapeake has several excellent examples of landscaped and attractive streetscapes such as those in commercial areas like Greenbrier and residential communities like Riverwalk. Many older street corridors, however, such as Military Highway and Battlefield Boulevard, need significant design enhancements to improve their appearance and encourage commercial reinvestment and redevelopment.

Chesapeake should expect excellence in streetscape and street design to improve both the look and the function of the City – its streets should consistently be made both safer and more attractive in the future.

- Chesapeake should maintain an aesthetically pleasing street environment while meeting the needs of multiple transportation modes.
- Expressways should be designed to carefully channel traffic while minimizing impacts on adjacent neighborhoods.
- Landscaped urban boulevards should link neighborhoods with activity centers and be bordered by trails or sidewalks that connect to the overall open space trail system.
- Local transit should be expanded with the goal of connecting higher-density activity and employment centers along major routes supported by a demand-driven system of buses and shuttles serving areas of greatest access need.
- Traffic circulation needs should be balanced with the goal of creating neighborhoods that are designed with an orientation to pedestrian and bicycle needs.
- New development should be encouraged to create linkages to existing neighborhoods toward a flexible circulation network with multiple alternative routes.
- New neighborhoods should be developed with an integrated system of trails and pedestrian ways that link schools, shopping centers and other public facilities with residences. Bike paths are highly recommended to be included.
- Utilities should be located underground as matter of routine.

Village Design



Most of the development in the area that would become Chesapeake traditionally grew up as a series of small village settlements. These villages were of two distinct types, the urban village, such as South Norfolk, was a separate urban community, part of a larger urban area but standing separately as a distinct cluster of neighborhoods. The rural village, such as Deep Creek or Sunray or Great Bridge, on the other hand, was typically a self-sustaining market center that served surrounding farmland. Both types of villages were characterized by local churches, schools and small commercial centers. They allowed residents to live, work and shop within convenient distances. Most of these small village settlements have experienced enormous growth and are losing their identity as distinct communities within the fabric of the City.

Consistent with Chesapeake's vision as a City of individual communities, it is important to establish design principles that will help reinforce the village structure and emphasize each village's distinct character within the City as a whole.

- Historic village cores and buildings should be preserved and used as a guide for new development.

- As they grow, villages should retain separate identities and distinctive design characteristics.

- Streets should be tree-lined with sidewalks – gaps in walks and trees should be filled in. Houses should have consistent setbacks & front porches where possible.

- Village centers should be developed as mixed use centers, denser than the surrounding area and should primarily serve local populations.

- Pedestrian access routes should be established to link community facilities with neighborhoods, transit routes, and with neighborhoods.

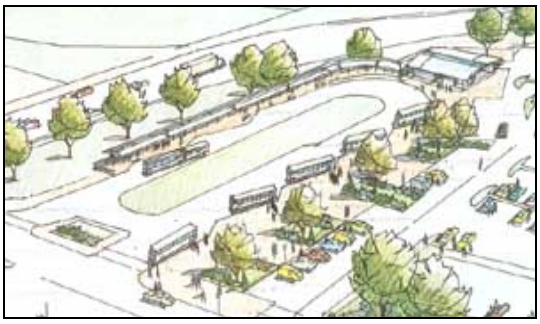
- Village Centers should be designed to encourage pedestrian activity with pedestrian-scaled streetscapes and strong pedestrian connections to surrounding neighborhoods.

Transit Oriented Village Design

Three locations should be planned for transit-oriented village redevelopment in the very long-term:

- South Norfolk
- Edmonds Corner
- Clearfield Triangle

As these areas infill and redevelop, options should be preserved for reorienting them toward transit-friendly design. Investments in transit are long-term and may take decades to be realized. However, planning for transit and transit-oriented design should be instituted in the short term, so that future village centers will have the development concentrations and land use patterns that can adequately support transit usage.

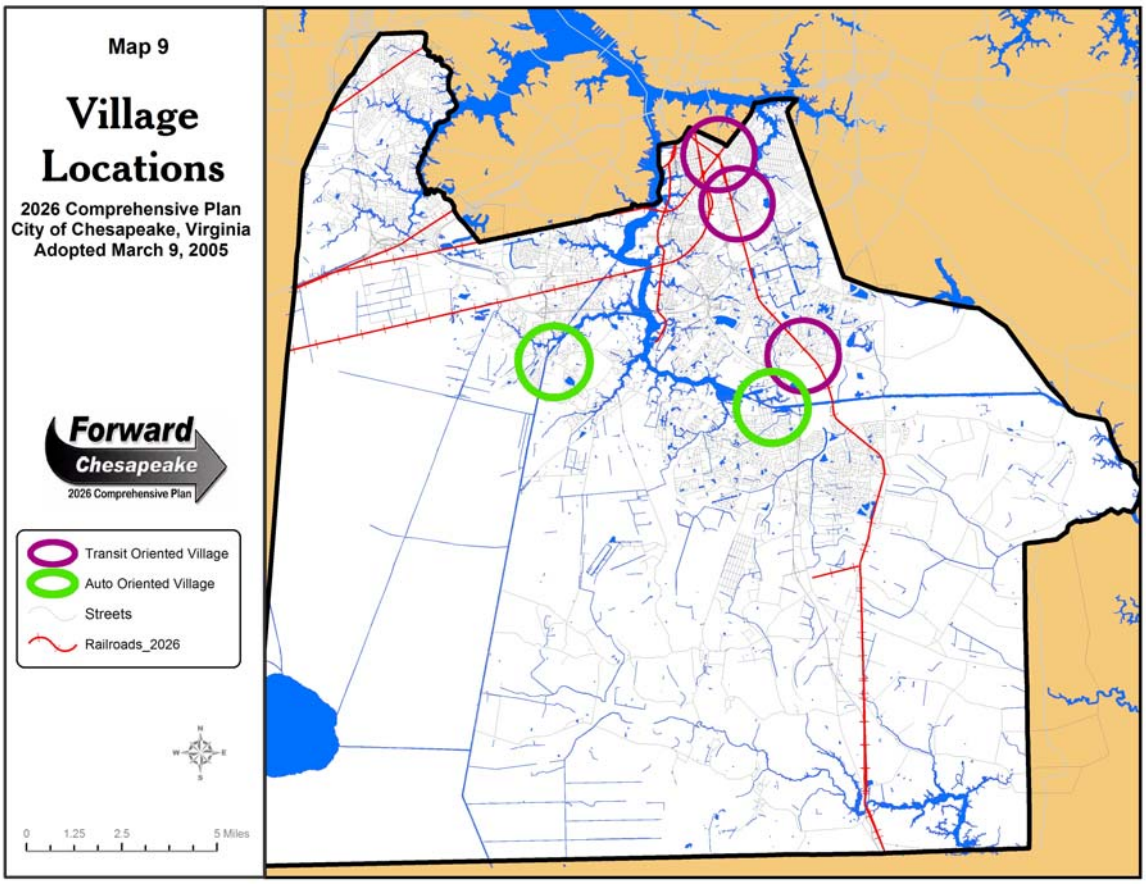


- Village centers along potential transit lines should be developed with consideration for transit-oriented design.

- Increased density and a mixture of residential and commercial uses should be designed within walking distance of potential transit stations.

- Land uses and streetscape design should emphasize a pedestrian orientation with strong pedestrian linkages to potential transit station locations.

- Consideration should be given to bus and shuttle transit, in addition to rail transit, with bus shelters, benches and special pull out areas for buses incorporated into the streetscape design.



Major Activity Center Design

Major Activity Centers are regional retail or employment nodes that are intended to draw customers and employees from the region. These centers are typically located in the Nodal Character Districts and are served by high speed transit or interstate highways and arterial roads. Current examples include Western Branch and Greenbrier. Future centers will be developed around new transportation hubs such as in Hickory. They are important to the continued economic vitality of Chesapeake and their design is a key component of the City's overall visual character.

Major Activity Centers by necessity require large areas of parking and are frequently characterized by large building volumes and simple massing. Land uses often include regional shopping malls, big box retail stores, entertainment centers, office, light industrial parks, and residential.

- Major Activity Centers should be located where they are adequately served by major transportation routes and, where possible, by future transit lines.

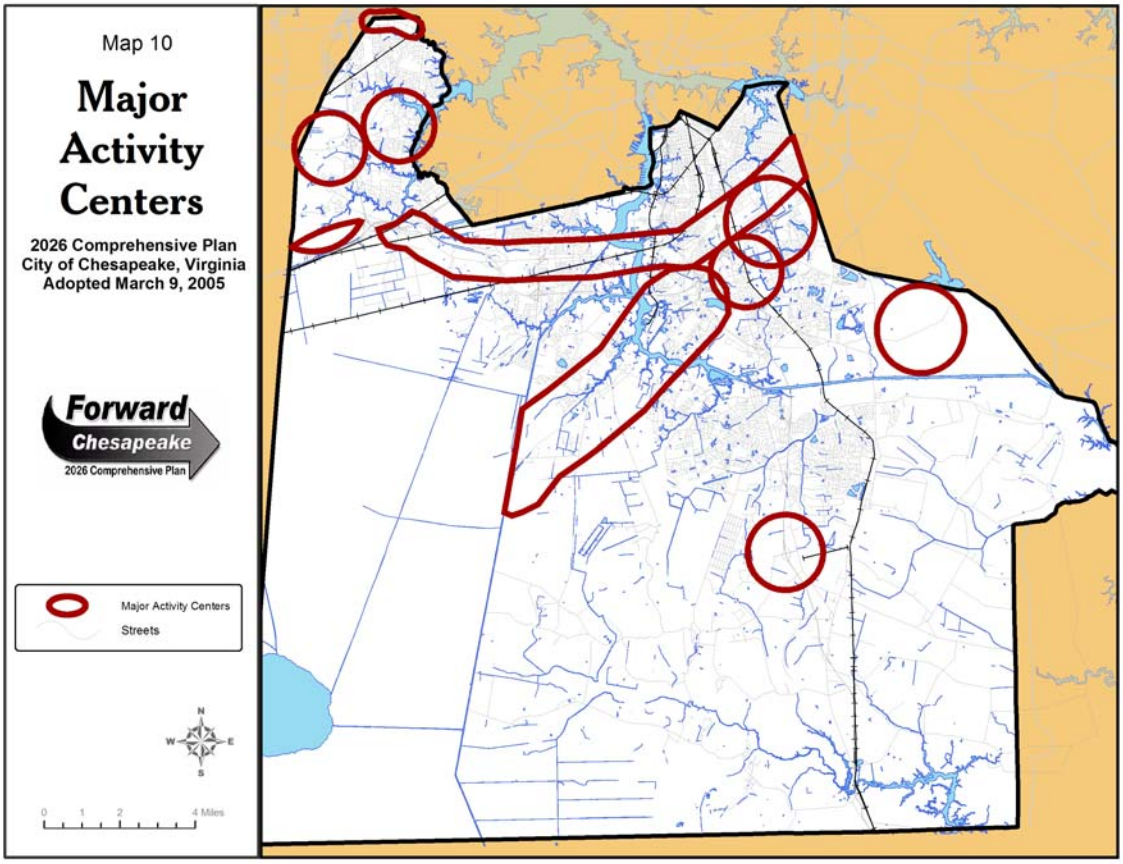
- Major Activity Centers should have maximum connection with collector and arterial streets. Traffic improvements should minimize disruptions to existing neighborhoods.

- Land area for parking should be minimized through shared parking, structured parking and on-street parking, where appropriate. Parking lots should be enhanced with extensive perimeter and external landscaping and clearly marked multiple vehicular access ways.

- Bicycle lanes, pedestrian ways and crosswalks should be encouraged to enhance safety and expand access opportunities within the Center.

- Architectural treatment of buildings should be architecturally compatible in terms of materials, massing and roof forms. Loading and service areas should be screened from view and visual clutter on site areas should be reduced.

- Signage should be clustered and attractively designed with unified stylistic elements. Lighting should be harmoniously designed with brightness levels that do not exceed functional needs while minimizing impacts on adjacent properties.



Industrial Corridors and Centers

Industrial Centers and Corridors in Chesapeake are special-use districts that are intended to serve as employment hubs for the City and the region. Existing examples include Cardinal Industrial Park, portions of Military Highway and the waterfront of the Southern Branch of the Elizabeth River. They range from light industrial parks with small lots and minimal outdoor storage and equipment, to large heavy industry sites with significant impact on adjacent land uses. Some of these areas have very good redevelopment potential and can be upgraded to improve their visual appearance and reduce their impacts on surrounding areas.

- Industrial Centers and Corridors should be served by major rail, river or vehicular corridors. Multiple connections to Arterial and Collector roads and to local vehicular ways within industrial centers should be encouraged.

- Site development should include good design practices in order to insure compatibility of land uses.

- Land area for parking should be minimized through shared parking, structured parking and on-street parking, where appropriate. Large parking lots should be enhanced with landscaping and clearly marked multiple vehicular access ways.

- Street frontages should be attractively designed with appropriate façade treatments and landscaping to fit in with surrounding areas.

- Outdoor storage should be shielded from public view. Fences and screens should be attractively designed and fit with the building architecture.

- Special consideration should be given to character of industrial areas in terms of determining the appropriate degree of design requirements.

Area-Specific Design Principles

While the above design principles incorporate recommendations for the City as a whole, additional design principles may be needed for individual areas within the City that have unique development issues and challenges.

Following are design recommendations that should be considered for specific planning areas within Chesapeake. Over the years, the City has developed detailed area plans for areas such as South Norfolk, Western Branch and, recently Poindexter Street and the Great Bridge Battlefield area. The purpose of area-specific design principles listed below is not to supplant, but to supplement and support the policies of the existing City area plans relative to design issues. In addition, for geographic areas of the City that have no detailed plans, the following design principles can be used for general design guidance until more specific area plan design policies are developed.

Western Branch

(See also the Western Branch Land Study, 1995 located in Appendix J)

- Encourage the development of a distinctive development character for the relatively self-contained planning area of Western Branch. The design character of development in Western Branch should reflect the unique qualities of the surrounding area, in particular the open space, woods and water and marsh systems.

- Encourage the development of special "gateway" design features along existing and future entrances into the City, such as I-664 and Military Highway / Route 58. Gateway features could include both City and area-specific identity signage, landscaped entry features and architectural and landscape design guidelines for areas with visual prominence from the main roadway corridors in the area.

- Consider zoning and other incentives for the development of self-sufficient mixed-use communities that provide localized housing, shopping and employment opportunities in Western Branch, in order to reduce vehicular traffic to other areas in the City for basic needs.

- Encourage new residential communities to provide internal functional open spaces and gathering areas that are centrally located within the community such as "pocket parks" and small neighborhood parks (cf. Western Branch Area Plan, 1995, p.36)

Great Bridge

(See also the Great Bridge Battlefield Master Plan, 2004 located in Appendix H)

- Encourage the development of a comprehensive and unified design character for the entire Great Bridge area, building upon the design recommendations in the Great Bridge Battlefield Master Plan, incorporating primary design themes for a historic and waterfront-oriented development character.

- Ensure that future commercial development on heavily traveled portions of Battlefield Boulevard incorporate traffic access management considerations, such as shared vehicular entrances, turn lanes and minimal curb cuts on Battlefield Boulevard.

- Incorporate pedestrian-friendly streetscape design features for all new commercial developments in the area, including extra width sidewalks, street trees, pedestrian plazas and crosswalks and decorative street furniture.

- For the City Hall complex, consider developing additional civic and pedestrian amenities and a more unified design theme as it grows over time. Envision the future of the City Hall complex as a pedestrian-oriented precinct with unified building designs set in a landscaped campus that is a showcase of civic architecture and a symbolic focal point for the whole City.

- Encourage both vehicular and pedestrian inter-parcel access and the linking of new and existing residential communities into a Great Bridge-wide trail and walkway system to foster a stronger sense of community for the area.

- Consider additional design guidelines and standards for site planning, signage and landscaping for the Battlefield Boulevard frontage to bring greater visual cohesiveness to the streetscape over time.

South Norfolk

(See also the Poindexter Corridor Strategic Development Plan 2004 located in Appendix G)

- Ensure that new infill development and redevelopment in South Norfolk is compatible with the traditional architectural styles and urban fabric of the area, including the incorporation of a connective street grid system, pedestrian-oriented streetscapes, traditional neighborhood "shop front" commercial styles and compact single-family development where possible.

- Ensure that new residential development and redevelopment in South Norfolk preserves traditional and historic design features, such as fencing, front porches, sidewalks and street trees and garages set back from the main front of the house or served by alleys at the rear of lots where possible.

- Encourage the redevelopment of the Jordan Bridge / Elizabeth River area as a waterfront mixed use focal point for the City, with residential waterfront multi-family residential lofts, ground floor retail and compatible commercial and employment uses where possible (see Poindexter Street Strategic Development Plan).

- Reinforce the redevelopment of a South Norfolk "downtown" of urban-scale mixed uses, in conformance with the Poindexter Street Strategic Development Plan design plans, at the key Poindexter Road, Bainbridge Boulevard and Campostella Road intersection where possible.

Growth Management

Goals

The City will:

- Plan with the assumption that growth will occur in the City.
- Foster the revitalization and preservation of older areas of the City as well as develop newer areas.
- Preserve as much of the existing natural areas as practical while recognizing that future growth will require some conversion of natural areas to developed land.
- Ensure that adequate public services, adequate schools, and utilities will be available to support the expected growth rates of people and jobs in accord with its Comprehensive Plan.
- The City will work closely with the school system to ensure school facilities match growth.
- Plan for density and intensity of land development to generally be highest in areas with public water and sewer service and good road and transit access, and thus the City will use the location and design of its future utility and transportation facilities to guide the location, pattern, character and timing of growth.

Overview

Growth Management is the process by which a local government influences the timing, amount, location, form, cost and funding of new development – particularly residential development - and the construction of the public facilities that support such development.

Typically, growth management focuses on what are referred to as "greenfields" - areas that are outside of the existing developed area and represent the "opening up" of new areas for conversion from rural to urban land uses. To a lesser degree, growth management can pertain to areas of "infill" within a mostly developed urban area. In general, the greatest challenge facing most rapidly growing jurisdictions like Chesapeake is the public cost associated with rapidly converting such "greenfield" areas from rural to urban or suburban densities.

The City's current growth management system has evolved during the past decade and a half, since adoption of the 1990 Comprehensive Plan. The central component of the City's system is the process of controlling the approval of new development projects (rezoning applications) based upon the levels of service (LOS) available for major public facilities. The LOS policies were adopted in 1995 and subsequently amended in 1997, 2001, and 2004. Current City LOS standards address three areas of adequate public facilities: school capacity, road capacity and sewer utility capacity.

In addition, in 1994 the City adopted a general policy for accepting proffers from rezoning applicants, in accord with the provisions for conditional zoning contained in §§ 15.2-2296 through 15.2-2302 of the Code of Virginia. The City has accepted very few cash proffers for rezonings since 1995, the year that the level of service policy was adopted. More recently, the City has considered the prospect of accepting cash proffers, in accord with state law, in response to several offers from applicants whose projects have drawn public opposition due to concerns about overcrowding of public schools in certain districts. The City has created a "lock box" fund to reserve and direct these cash proffers for school related capital projects. A new proffer policy is underdevelopment and is intended to be included as a component of this Plan upon its completion.

The City is widely known in the Commonwealth for its innovations in growth management, particularly the use of Levels of Service (LOS) approach for managing growth. The general proffer policy and the Levels of Service Standards focus on the two most critical aspects of growth management – the timing and funding of new development. Yet there are other aspects of managing growth that the City will need to address in the coming years, particularly the form or pattern of development, which can be as critical to the overall quality of life in the community as is the timing and cost of public facilities.

A key distinction between most growth management tools in Virginia compared to those in some other states is that they are mainly applied to decisions regarding zoning map amendments ("rezonings") rather than decisions regarding subdivisions or site plans. This is because in Virginia, a rezoning approval is a legislative action which enjoys the presumption of legislative validity on the part of the governing body, whereas subdivisions and site plan approvals are code compliance actions that generally must be granted approval if the standards of the regulations are met by the applicant. Due to these constraints, localities are not able to directly control the actual *rate* of development, although they can *indirectly* control the rate by only approving rezoning actions that conform to the Comprehensive Plan in terms of location, timing, quality/character and adequate infrastructure.

Section 15.2-2232 of the Code of Virginia states that when a comprehensive plan has been approved and adopted by a governing body, the plan "shall control the general or approximate location, character and extent of each feature shown on the plan." This code section further states that "unless a feature is already shown on the adopted master plan or part thereof…no street or connection to an existing street, park or other public area, public building or public structure, public utility facility or public service corporation facility, other than a railroad facility, shall be constructed, established or authorized, unless and until the general location or approximate location, character, and extent thereof has been submitted to and approved by the [planning] commission as being substantially in accord with the adopted comprehensive plan or part thereof…." This section of the Code also includes specific procedures to be followed by local jurisdictions during the review of proposed facilities and identifies specific instances when a facility does not need to be reviewed for conformity by the planning commission.

The growth management system of this plan re-affirms the City's current techniques and refines and strengthens the policy framework that gives the City the leverage to control such decisions, thus enabling the City to strike this critical balance on a continuing basis.

The focus of the City's growth management system is and will continue to be on utilities, schools, and transportation, but other major public facilities are to be considered as well, and all should be coordinated so as to be mutually reinforcing.

Issue One: The Timing of Development

By managing the timing and location of the public infrastructure – particularly utility lines and roads – the City can indirectly affect the rate and timing of development, and more importantly the pattern and location of development. In addition to utilities and transportation, other capital facilities can be used in the same manner to influence the location and timing of development.

Construction of new community facilities or even expansion of existing facilities requires careful consideration by local decision makers to assure that the needs and interests of the community are fulfilled in the most appropriate manner. The Commonwealth of Virginia recognizes that this is an important right and responsibility of local government and has provided local governments with the legislative authority to evaluate public facility and utility improvements for conformance with the locality's adopted comprehensive plan. The decision-making basis for implementing the phasing or expansion policies of the Comprehensive Plan is done through what is called a "2232 review," named after section 15.2-2232 of the Virginia Code.

To the maximum extent possible under Virginia law, the City of Chesapeake will manage the pace of growth in order to ensure the demands of growth do not outpace the capacity to provide the necessary services and infrastructure.

Strategies:

- **Level of Service Standards (LOS)**
  LOS is currently in use by the City, and the City has been an innovator in Virginia in using this growth management tool. LOS sets a measurable standard of capacity or performance for a given public facility or service that must be planned, funded or in place in order for any particular development application (rezoning) to receive approval. It is broadly accepted that such standards can be a key factor in rezoning decisions.

  Currently, all rezoning applications in the City are reviewed and evaluated to determine if they can pass the tests for "Adequate School Facilities," "Adequate Road Facilities," and "Adequate Sewer Capacity." The evaluation of each application includes existing service levels, plus the impacts associated with developments that have received preliminary plan approval, the cumulative anticipated impacts of minor subdivisions (5 lots or less), and the projected impacts of the property under consideration for rezoning. Staff will recommend denial of a residential rezoning application if it is determined that any one of the public schools serving the area exceeds 120% of rated capacity at the time of the rezoning, or if the proposed development in combination with other approved development in the school service area would exceed the 120% capacity cap. Similarly, staff will recommend denial of a rezoning application if the nearest road or signalized intersection serving the majority of traffic is currently performing at Level of Service E or F, or if the proposed residential or non-residential development, in conjunction with development of unimproved lots in the area would cause the nearest road or signalized intersection to perform at Level of Service E or F. A Level of Service E and in some cases, a level of service F, is acceptable for non-residential development rezoning applications if City Council finds that certain economic development criteria are met. The LOS policy requires that proposed residential rezonings will not be approved if the property is not located within the existing HRSD service area or private facilities are not approved within a certain time. This policy is a component

of the Comprehensive Plan and is incorporated herein. Please see Appendix D for a detailed statement of this policy.

The City will consider the adequacy of public facilities and services when reviewing any zoning application for a more intensive use or density. To fairly implement this policy, the City will consider the following:

1. The capacity of existing public facilities and the availability of required public services

2. Facilities and improvements proposed in the Capital Improvement Budget

3. Proposed Transportation Improvements and Facilities in the Master Transportation Plan

4. Service level standards for school, road, and utility capacity established by the City and the effect of existing, approved and proposed development on those standards

5. Other mechanisms, modeling, or analyses that the City may use to measure the adequacy of public services and facilities and the City's ability to maintain or establish the adequacy of those facilities, in various areas throughout the City

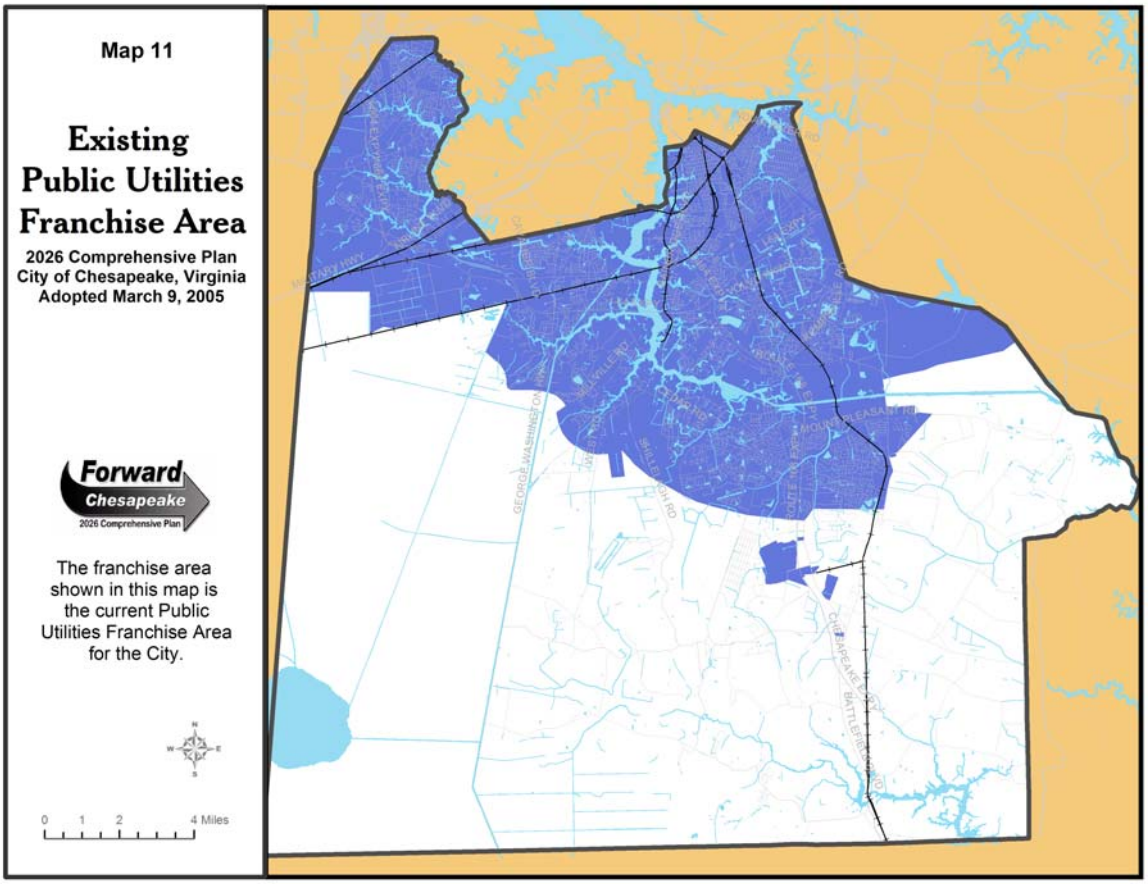
- **Infrastructure Expansion and Phasing**

  The infrastructure expansion for utilities, roads, and other public facilities is a key element in managing growth. Working in connection with the Level of Service standards previously discussed, the introduction of additional service capacity can be used to manage the time and location of new development.

  Both the sequence and timing of utility extensions are important. From a long term planning standpoint, sequence is typically more critical, in that timing will tend to be refined in reaction to specific ongoing constraints and opportunities of available capacity, City finances and market demand. The sequencing and timing of utility extensions should be consistent with the City's plans and priorities for future land uses.

  - Utilities

    Public water and sewer service will only be provided to those areas within the existing Public Utility Franchise Area (Franchise Area) or areas designated to be added to the Franchise Area within the window of this Plan (2026). The Franchise Area is hereby established as those areas depicted on the following map, which represents the existing Public Utility Franchise Area at the adoption of this Plan. The extension of public utilities (public water and sewer) within the Franchise Area does not require review by Planning Commission or City Council.



The City's policies regarding utility expansion were established in its "Public Utilities Franchise Area Expansion Policy" adopted in 2001, and the "Service Area Expansion Policy" adopted in 1997. The utility extension policies established by this Comprehensive Plan are based upon these original policies and modified as necessary to reflect changes in the Public Utility Franchise Area.

The 1997 policy addresses proposed expansions of the HRSD sewer service lines beyond one mile from existing lines. It establishes the following criteria for the City Council to consider in reviewing such requests:

1. Impact on the functional integrity of the City utility system

2. Fiscal obligations of the city in operation and maintenance to accommodate the expansion, weighed against the public benefit.

The 2001 policy provides that the City Council will "review and analyze all proposed expansions of the Public Utilities Franchise Area to ensure consistency with the [City's] Comprehensive Plan and the adequacy of Public Utilities to serve the area proposed for development." It shall be the policy of this Comprehensive Plan to continue this review as an integral component of the timing element of the overall growth management strategy as specified below.

Areas for future inclusion in the Franchise Area correspond to areas designated within the Suburban Overlay or adjacent to the Chesapeake Regional Airport. A map of these areas is included in the criteria for Franchise Area expansion.

Franchise Area expansions will only occur at a time that is consistent with the City's overall growth management strategy. Specific criteria for this expansion are as follows:

Criteria for expansion of the Public Utility Franchise Area:

In reviewing requests for the extension of public water and/or sewer service, the City Council may consider the following factors. Consideration for these factors may be conducted simultaneously with a request for rezoning or a conditional use permit:

1. The request shall only be for the property or properties being proposed for development.

2. The property must be located within an area designated as future Public Utility Franchise Area (see following map).

3. The proposal establishes a contiguous pattern of expansion from existing water and sewer service areas, without promoting "leapfrog" development.

4. The property must also lie within an H.R.S.D. service area and must meet all utility-related ordinances and policies.

5. The timing, nature, character, and extent of public utilities needed to serve the proposed use are consistent with the Comprehensive Plan and all other Public Utility policies. The proposal must clearly demonstrate that it helps to achieve specified goals and policies in the Comprehensive Plan (consistent with the City's Title 15.2-2232 review).

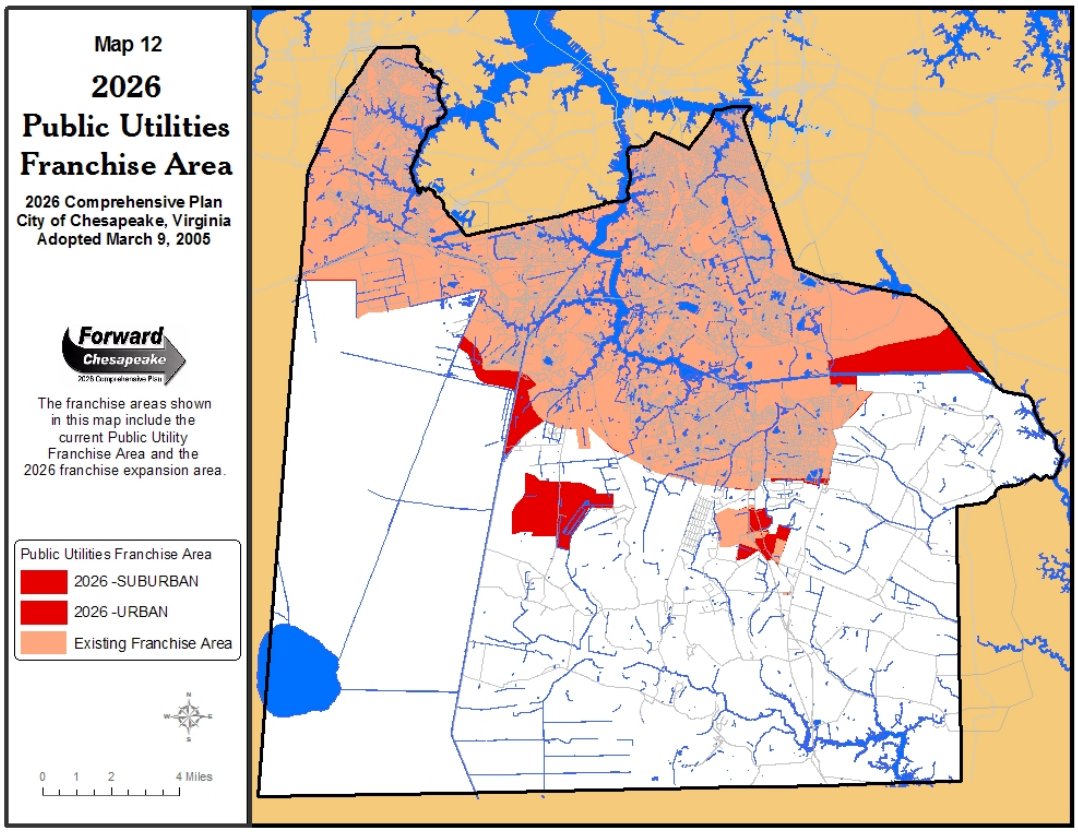
6. The obligations to be assumed by the City of Chesapeake shall be weighed against the public benefit to be realized by the expansion of the Public Utilities Franchise Area.

7. The proposal contains proffered improvements or mitigation measures that would minimize the capital impact to the City for the utility extension. The developer shall be responsible for all costs associated with the utility extension with no cost being borne by the City.

8. The proposal must be coordinated in a timely fashion with the anticipated expansion or improvement of roadways in the area served by the utility extension. The utility extension should not encourage growth in advance of the provision of road improvements sufficient to serve the new development.

9. The proposal must demonstrate that it is within the City's ability to be served by a long term water supply system.

10. To the maximum extent possible under Virginia law, the City of Chesapeake will manage the pace of growth in order to ensure the demands of growth do not outpace the capacity to provide the necessary services and infrastructure.



Public Utility Expansion / Extensions outside the Existing Public Utility Franchise Area or the 2026 Public Utility Franchise Area

Expansion of public utility service beyond those areas designated on the 2026 Public Utility Franchise Area map will require an amendment to the Comprehensive Plan.

The City recognizes that at times it may be necessary for water and sewer lines to be installed through an area without expanding the franchise area. The extension of such public utility lines to portions of the 2026 Franchise Area located outside the Urban and Suburban Overlays may result in a legal obligation to provide connections to adjacent properties under the "holding out doctrine." Any such legal obligation shall not be deemed an expansion of the Public Utility Franchise Area.

It is also recognized that there may be a need to construct water transmission lines outside the existing or 2026 Franchise Area due to the location of the Northwest River Water Treatment Plan in southern Chesapeake. The construction of these lines would not constitute an expansion of the Franchise Area, but would be to transport water from the water treatment plant to the Franchise Area located elsewhere in the City. Water transported through these lines would be solely for public water service within the Public Utility Franchise Area and would not be to serve new areas outside the Franchise Area. The construction of these lines would require a review under Section 15.2-2232 of the Code of Virginia.

- Roads and other Transportation Improvements
  Priorities for major road network expansions should also reflect the City's plans and priorities for the future. The location and sequence of road network expansions, as well as other transportation improvements, should reflect the land use patterns set forth in the plan. To the greatest extent possible, the location and sequence of the transportation infrastructure improvements are to be coordinated with the utility infrastructure improvements so that together they provide full infrastructure for future development.

  The language in Section 15.2-2232 of the Code of Virginia anticipates that major transportation improvements that are not already shown on the Comprehensive Plan will be reviewed for conformity with the Comprehensive Plan and Master Transportation Plan through the "2232" review process.

  In both cases – utilities and roads - the willingness of the private sector to participate in the funding and construction of such improvements, as part of the site approval and development process, is a key to successful development. In that regard, some flexibility is desirable in the sequencing of infrastructure so that the City can respond reasonably to the market demand for development. In addition, although the land use and infrastructure elements of this Comprehensive Plan have very long term horizons, short term adjustments are expected, to be considered on at least a five year basis, in accord with the state code.

- **Rate of Growth**
  Strategically, the City will plan to approve the extension of public facilities in a steady but incremental fashion, in accord with the location and timing as shown on the land use and infrastructure maps of this plan. As this process continues, the City will make any necessary adjustments so that it continues to balance the advantages for new development with the capacity of the City to finance the facilities and services to support that development. The overall target for the City is to accommodate an annual population growth of between 1 1/2% and 2 1/2% which is deemed to be a reasonable amount of growth that fairly balances the interests of current City residents with future City residents. (The City's growth rate in 2003 was 1.6%).

- **Capital Improvement Budget (CIB)**
  The City's Capital Improvement Budget (CIB) reflects the specific short-term plan for constructing public facilities. It is an important element of the City's growth management system because it defines when, where and how each specific facility is to be built in the immediate time horizon (typically five years).

  The CIB will also specify the revenue sources for funding each facility in terms of the allocation between public monies. Again, the CIB should be derived from the conceptual depiction of public facility locations and standards as outlined in the Comprehensive Plan. As for other major public investments and improvements, the "2232" process provides a mechanism for evaluating public improvements, such as parks or other public areas, and public buildings and structures such a schools, libraries and fire stations, for conformity with the Comprehensive Plan when such improvements are not already shown in the plan or otherwise exempt.

- **Zoning Map Amendments (Rezonings)**
  A critical element of the growth management system is the City's ongoing process of reviewing and acting on applications from land owners and developers to amend the zoning map. In Virginia, the rezoning stage of the development process is the point at which the City has the greatest leverage for ensuring that future development conforms to the policies of the Comprehensive Plan.

  As growth continues in the City, and new areas become subject to development pressures, the underlying zoning designations are often not consistent with the market demand for land use on the site, or with the City's long term plan for future land use as set forth in the Comprehensive Plan. This gap between past and future needs can be addressed by changing the zoning to better meet the City's long-term goals as well as the needs of the real estate market.

  In conjunction with an approval of a rezoning, the City may accept "proffers" from the applicant under the provisions of the conditional zoning process. Proffers are voluntary provisions or donations offered to the City by the rezoning applicant and are aimed at mitigating the impacts of the proposed development. Proffers may include cash funds for public facilities, land for public facilities, assurance of phasing or sequencing of construction, and/or other site-specific elements to ensure that city goals and policies are met. Thus, proffers can be an important method of implementing the Comprehensive Plan and achieving a successful growth management system.

  The timing and conditions of rezoning approvals should be coordinated with the decisions to extend or expand utility and transportation networks, all in accord with the sequence and location as set out in the Comprehensive Plan. Thus, the City can use the conditional zoning process in conjunction with LOS standards in order to achieve the goals of the Comprehensive Plan.

  Chesapeake currently has approximately 3,300 acres of undeveloped land that are zoned for residential use, which would be expected to accommodate about 9,000 new dwelling units. About two-thirds of the land is zoned R-15 and R-15s, which are zoning designations for single family homes. In addition, there are more than 5,000 acres of undeveloped agricultural land, some of which can be converted to 3-acre home sites under the City's A-1 zoning designation. Considering the various environmental features that constrain development on these properties, the City estimates that the currently zoned land capacity will provide for additional growth at current rates for another five years.

- Major utility and transportation infrastructure improvements and other public improvements, proposed by the local, state or federal government, or the private sector, will be evaluated for conformity with the land use policies of the Comprehensive Plan in accordance with Section 15.2-2232 of the Code of Virginia.

- The City will establish service standards or benchmarks for other City services as appropriate.

- An intermediate review of the Comprehensive Plan will be conducted prior the Virginia Code required five year review to determine the magnitude of required Plan changes.

- The City will consider proposals to mitigate the impact of new development as part of its decision to approve or deny rezoning applications. The applicant may propose to mitigate the impacts of development including voluntary proffers of cash, site dedication, in-kind improvements, as permitted by City policy or through the conditional zoning provisions of the Code of Virginia, development phasing schedules, and other mechanisms permitted by the Code of Virginia now or in the future.

Issue Two: Funding Public Facilities and the Costs of Growth

Closely associated with the timing aspect of growth management is the funding of the construction of public facilities that support the expansion of growth areas. The same tools that are used for guiding the timing of development can be used to help offset the costs of development.

In general, residential development will tend to create a greater burden on the City's capital and operating budgets than non-residential uses simply because public schools are such a large percentage of City government costs and students are directly generated by housing development. Thus, localities typically strive to encourage non-residential development as a way of enlarging the tax base that will support the residential development, thereby relieving some of the funding pressure from households.

In terms of funding future public facilities, the City's growth management system is aimed at achieving a coordinated and balanced policy of funding and construction of public facilities, based upon City ordinances and policies of the Comprehensive Plan. The City will use public funds when necessary and private funds received through proffers, pro rata programs, and other City requirements whenever possible, to support the construction of new or improved public facilities. The allocations of these funds will be based on the long-term goals and policies set forth in the Comprehensive Plan and specifically allocated through the short term specifications of the CIB.

The City will target a coordinated and balanced policy of funding and construction of public facilities.

- Infill development that complements existing communities will be encouraged in developed areas to maximize the use of existing public facilities, utilities, buildings and services, provided that there is capacity for such additional development.

- To increase fiscal stability and mitigate tax burdens on City residents, the City will seek a balance of residential and non-residential land uses designed to provide a diversified and steady revenue stream.

- Public facilities and infrastructure may be funded by either public sources, or private sources or a combination thereof.

- Projects proposed for the City's CIB will be evaluated for conformity with the Comprehensive Plan. In addition, the City will integrate its fiscal management policies and growth management policies by developing tools to project public facilities needs and expenditures beyond the five-year horizon of the CIB.

- A proffer policy has been adopted by City Council in December 2004 which is included as a component of this Plan. The Proffer Policy in contained in Appendix E and is incorporated herein. This policy will create an opportunity for developers to offset impacts created by their development proposals.

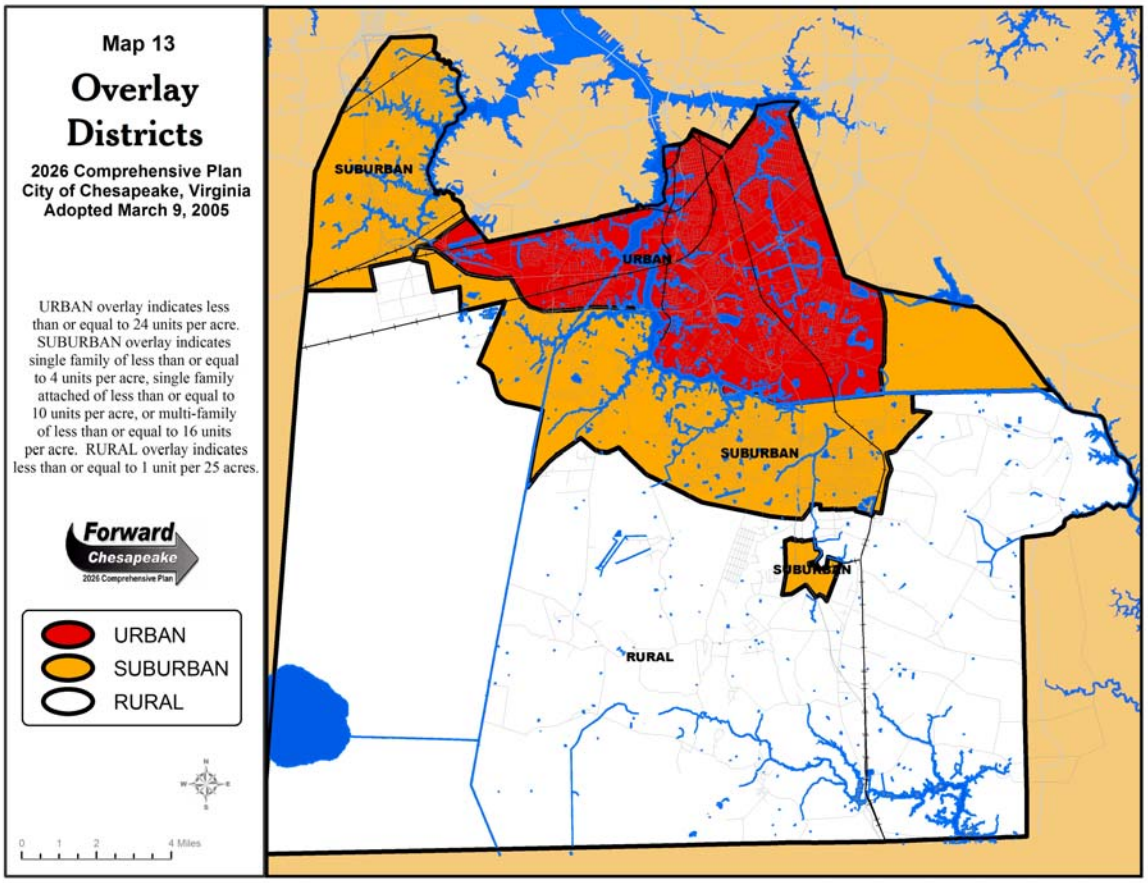
- The City will seek to ensure that an equitable and proportionate share of public facility and infrastructure improvements that are attributable, in whole or part, to a proposed development project will be financed by the owners, developers, users or beneficiaries.

Issue Three: Form of Development – Urban, Suburban, and Rural

The form of new development in the City greatly affects the impacts such growth has on the City's population, and therefore, is a key aspect of the growth management system. However, the City's policies for urban design and the form of development (Section 3 – Community Preservation and Development) should be strongly linked to the growth management policy because they are vital to quality of life, and can, in fact, be a key determinant as to whether City residents consider new growth to be a "good" thing or a "bad" thing.

This Comprehensive Plan, through the Land Use Plan, has created three distinct districts within the City: the Urban Overlay District, the Suburban Overlay District, and the Rural Overlay District. The purpose of the districts is to provide an orderly transition from the urban areas of the City to the suburban areas, to the rural areas. The character within the specific developments within each of the districts should be harmonious with and sensitive to the surrounding environment. The overall density of any residential development within an overlay district shall not exceed the overall density standards set for the district. This is not to imply that the maximum density for the district will be guaranteed, and in fact, other policies or ordinances may prevent the maximum density from being achieved. These districts are directly linked to the City's Zoning Ordinance regulations.

In order strengthen the City's commitment to rural preservation and the smart growth practices of revitalization and preservation, measures must be taken to control the continuing expansion of the Suburban and Urban areas of the City. In order to provide long term commitments to an ultimate form for the City, efforts must be made to correlate planned infrastructure improvements to reflect the City's desired ultimate development pattern.



The City will evaluate all proposed land uses and development densities and intensities for conformance with the policies of the Comprehensive Plan and other applicable policies, ordinances, and regulations.

Strategies:

- The City will direct growth to areas as designated on the 2026 Land Use Plan. Orderly expansions of utilities will be encouraged to avoid leapfrog development.

- The City will ask that the Benefit Interceptor be removed from Hampton Roads Sanitation District's (HRSD) master sewer plans in order to contain the limits of non-rural development.

- The City will amend its Zoning Ordinance provisions to reflect necessary changes to the Overlay District standards to be consistent with this Plan.

- The Design element of this Plan will be used to provide additional guidance to the compatibility of development proposals with the overall desired form for the City.

- The conditional zoning process may be used to provide assurance that the design and layout of the proposed development meets the design principles of this plan.

- The location, design and construction of City-owned facilities should conform to the design principles of this plan.

- The City will implement a land acquisition and stabilization (purchase or lease of conservation easements such as the Open Space and Agriculture Preservation Program) program.

- Economic development of agricultural and rural enterprises should be fostered and promoted including the development of agricultural markets, alternative products, agri-tourism, and eco-tourism.

- Design of development (clustered housing development with residual open space, “conservation design” for rural subdivisions) should be used as a tool to develop a desirable form for the City.

- Density or intensity of development should be considered when assessing the appropriateness of development proposals.

Economy

Goals

The City will:

- Retain the existing businesses and attract new businesses, with a focus on industries that maintain or raise the income level of residents, expand the tax base and enhance the quality of life.
- Pro-actively facilitate compatible, clean future economic development opportunities.
- Enhance the City's economic base through the expansion of progressive business initiatives such as history, nature and recreation-based tourism industries and telecommuting options.
- Maintain a moderate and reasonable tax rate to support an optimum level of city services.
- Capitalize on water-related commerce and the yachting market by providing or encouraging support services.
- Maintain and enhance the strength of the local agricultural industry.

Overview

The City of Chesapeake has experienced considerable success in its economic development efforts. It is now facing, however, increasing competition for economic growth and sustainability from localities around the world, as well as within the Hampton Roads region. If the City is to continue this success, it must remain cognizant of internal and external challenges to its long range competitiveness and fiscal health.

While the Economic Development Department maintains a strategic plan to guide its operations, the City needs to take certain actions at the macro level to create an environment that recognizes its fiscal needs, its responsibilities to the business community, and its ability to support the generation and sustainability of revenue sources.

Issue One: Increasing the Inventory of Commercial Properties

While Chesapeake's land area of 353 square miles is significant, the City's existing inventory of developable commercial land (office, industrial and retail) is limited by several factors:

- The success of attracting businesses to existing business parks has limited the availability of product for new and expanding companies

- Local, state and federal environmental restrictions (approximately forty-four percent of the City's land area is comprised of wetlands, and thirty percent is protected as conservation areas)
- Competition for large tracts of land among various municipal activities (schools, public safety, parks and recreation)

Opportunities for infill and redevelopment exist throughout the City, but they cannot meet current or anticipated market demands for business development. The City's last Comprehensive Plan had identified approximately 1,500 acres of land in the Bowers Hill area for future industrial park development, but changes in the state and federal wetlands policies removed that property from the City's inventory, with no replacement identified.

Based on the 2004 Old Dominion University Center for Real Estate Market Survey, commercial vacancy rates in Chesapeake continue to fall, and remain below the regional average:

INDUSTRIAL VACANCY RATE

	2003	2004
- Greenbrier Area	4%	1.49%
- Bainbridge Blvd	3%	3.15%
- Cavalier Area	9%	5.5%
- Hampton Roads	8%	6.0%

OFFICE VACANCY RATE

	2003	2004
- Chesapeake/Greenbrier	14.40%	9.80%
- Hampton Roads	14.3%	13.1%

RETAIL VACANCY RATE

	2003	2004
- Greenbrier/Battlefield	10.90%	7.75%
- Chesapeake Square	13.22%	11.96%
- Great Bridge	11.28%	8.59%
- Campostella Square	3.38%	2.69%
- Hampton Roads	11.64%	11.19%

The City can confidently anticipate several trends in commercial development to continue:

- Mixed use developments that combine business functions (office, industrial and research), retail, entertainment, educational and residential components in one development
- Office demand will be mixed among campus and high density users, mid- and large-scale research facilities, and smaller professional services providers; parking decks will most likely be necessary in higher density office environments
- Demand for logistics centers will continue to expand to accommodate spin-off activities from the growth of the region's port activities
- Continued growth of small businesses will maintain demand for industrial park properties in the 1 to 5 acre range, supporting buildings of 10,000 to 50,000 square feet and their associated outdoor storage needs

The City will identify opportunities to expand its inventory of commercially-zoned property.

Strategies:

- The City will proactively work with the private development community to create new office, industrial and logistics parks, as well as mixed-use developments. The City will place high priority on identifying opportunities for the creation of large business and/or mixed use developments. The City will also work closely with the private sector to ensure these opportunities are maximized to maintain an adequate inventory of available commercial property.

- The City will proactively support appropriate redevelopment and infill development opportunities.

- The City will identify ways to creatively overcome environmental obstacles to the development and redevelopment of commercial properties.

- The City will promote the creation of necessary infrastructure support systems for new and existing business developments.

- The South Norfolk Enterprise Zone program will be continued beyond initial enabling legislation and the Zone will be encouraged for full use by eligible businesses.

- Opportunities for additional Enterprise Zone designations will be sought.

- The Economic Development Department and the Chesapeake Redevelopment and Housing Authority will work cooperatively to identify innovative ways to maximize redevelopment opportunities in the City.

Issue Two: Providing Infrastructure Support for Commercial Development

In order to maintain the City's global competitiveness for attracting and retaining companies, its infrastructure plans and policies must be flexible enough to accommodate the creation of new business and mixed use developments (infrastructure includes roads, water, sewer and telecommunications).

The City will identify opportunities to meet the technology needs of its businesses and citizens.

Strategies:

- Chesapeake will promote and build technology transfer opportunities for the local business community.

- The City will actively partner with regional technology organizations to expand the area's technology-intensive and innovative business base.

- The City will partner with local, regional and national medical service and research facilities to expand local medical technology capabilities.

- The City will promote the creation of a wireless communications system for its business districts and residential neighborhoods.

Issue Three: Maintaining a Qualified and Available Workforce

One of the most critical elements to maintaining a successful economy is having an available, talented workforce. Even though the unemployment rates for Chesapeake and Hampton Roads are consistently below the state and national averages, the City has been able to meet this challenge in the past by coupling sustainable residential growth with a steady supply of exiting military members and the area's high concentration of college students. Since the late 1990's, Chesapeake is no longer one of the fastest growing localities in the United States and the unemployment rates for the City and region remain below state and national averages. Changes to the nation's military force structure have a major impact on the local area and its labor force. If Chesapeake is to continue attracting and retaining quality businesses, a qualified workforce must always be available. It is vital that sufficient residential growth occur, at least meeting the City's target annual growth rate, in order to provide this workforce, and to protect the City's important retail base against increasing competition from neighboring localities.

The City will strive to provide an available and qualified workforce for its businesses.

Strategies:

- Public and higher education systems will be integrated into business and workforce development activities

- The City will partner with local educational institutions and workforce development organizations to expand educational and training opportunities to meet the needs of the business community and the City's residents.

- The City will strive to maintain an adequately sized workforce, both locally and regionally, to meet the employment needs of its businesses. It will also strive to ensure that the workforce can effectively commute between work and home.

Issue Four: The Attraction of New Companies to the City

New companies that diversify the current economic base have the potential for many benefits to the City and region. These benefits include an elevated image and quality of life; spin-off growth; creating diverse job opportunities; and the long range fiscal health of the City.

The City will continue to expand the diversity of its economic base.

Strategies:

- An aggressive marketing and business attraction strategy will continue to be used to augment state and regional economic development organization efforts.
- The City of Chesapeake will continue to create a business environment that is attractive to the global business community.
- The City will continue to support and encourage the growth of businesses owned and operated by women and minorities.
- The City will partner with the business community to create and maintain safe working and living environments.
- The City will promote the creation of innovative business assistance programs for new and existing companies.
- The City will continue to support the growth of its small business community.
- Opportunities for retail trade will be increased within the city for residents, business employees, and visitors by creating major regional destination centers in Chesapeake (entertainment, retail, and/or recreational) that increase the retail and entertainment dollars spent in the City by residents, employees, and visitors.
- Tourism opportunities will be identified and promoted within the City as a means to support Chesapeake's retail sector.

Issue Five: Creating Opportunities for Businesses to Grow

The success of existing businesses of all sizes is crucial to the City's long range fiscal stability. They account for approximately eighty percent of Chesapeake's annual business growth, and play a vital role in the City's attractiveness to potential new companies. Existing businesses also provide crucial support to a wide variety of community activities, including recreation, education, arts, and charities.

The City will create and implement a proactive business retention program.

Strategies:

- The image of Chesapeake as a business friendly city will be promoted by advocating the continuous review and improvement of the City's development review process.

- The City will commit to strengthening its image as a dynamic, progressive home for businesses.

- The City will integrate the needs and realities of the business market into its lifestyle enhancement, development review and environmental conservation decision-making processes.

- The City will identify and maximize opportunities to partner with its business community in elevating Chesapeake's status as a great place to live, learn, work, and play.

- Partnerships among the City, its businesses and the community will continue to be encouraged.

Natural Resources

Goals

The City will:

- Balance land development with environmental preservation so that unique or essential natural resources are preserved in a pristine condition while citizens and businesses are also able to use and enjoy the benefits of high quality natural areas.
- Maintain and improve the quality of the natural environmental systems - air, water, natural habitats and wetlands.
- The City will require the minimization of the impact of development on natural resources to include buffering and screening where appropriate.

Overview

Through a series of public meetings, community surveys, and stakeholder workgroup meetings, environmental protection and rural area preservation were identified among the most important issues for Chesapeake citizens in defining the City's future character. The Planning Advisory Team and City Council recognized these concerns by incorporating goals to enhance and protect the City's Natural Resources in a vision for the City's future.

The Vision Statement for the Future of Chesapeake affirms the importance of the City's natural environment by stressing the important link between the City's future growth and a healthy natural environment. Specifically, the City's vision seeks to achieve the following goals with respect to the environment:

- Link neighborhoods, businesses, recreational and cultural centers and the natural environment through efficient and sustainable multi-modal transportation systems and open space corridors.

- Manage the City's growth to achieve a balance between employment opportunities, an expanding tax base, housing that meets the needs of a diverse population, and a healthy natural environment.

- Make the best use of land resources so that growth will include revitalization and redevelopment as well as development of new areas, in a manner that will preserve rural, historic and environmental assets;

- Chesapeake will be a culturally diverse, economically strong, and environmentally healthy with a quality of life that defines the unique identity of Chesapeake as a destination and a place to live, work and play.

In order to fulfill its resource conservation goals and objectives contained in the City's Comprehensive Plan, the City needs to establish a comprehensive environmental program. The program should incorporate the implementation strategies suggested in this chapter. To properly gauge the success in fulfilling these goals and objectives, a primary component of this program should include a periodic update of the natural resource inventory contained in this Plan and a report on the status of the health of the City's natural resources to City Council to be issued on a periodic basis.

It is critical to provide a strategic approach to land conservation that benefits people, business, wildlife and the environment. Future growth, recreational needs and environmental quality needs should be considered jointly in order to provide a sustainable future land use pattern for the City.

Identifying and Assessing Chesapeake's Natural Resource Infrastructure

Beyond the fundamental understanding that clean air, water, and soil is necessary for good health, Chesapeake citizens and their elected leaders recognize that wise use and careful management of the City's environmental assets is necessary for a good quality of life, thereby ensuring a vibrant future for the City. The City's abundant natural resources create local character, attract and retain commerce, provide recreational opportunities for its residents, and protect public health and safety.

In order to develop a plan on how best to utilize the City's natural resources, it is necessary first to assess the existing conditions of these resources in order to provide a baseline of information.

The first part of this section examines the state of the City's natural resources and identifies opportunities to better enhance and utilize these resources. Finally, this section assesses how the resulting planning principles will fulfill the City's natural resource goals and objectives.

Chesapeake's Landscape

The City of Chesapeake is located in the southeastern tip the Commonwealth of Virginia. The City encompasses approximately 353 square miles and shares borders with the cities of Norfolk, Portsmouth, Suffolk, and Virginia Beach as well as the state of North Carolina. The City is located in the northern extent of what is known as the Southeastern Evergreen Forest Region (DCR, Natural Heritage, 1998), which stretches

from southeastern Virginia along the Gulf Coast to eastern Texas. According to the Natural Heritage Division of the Virginia Department of Conservation and Recreation, this ecosystem is characterized by pine and pine-hardwood communities, along with large areas of swamp land. Examples of typical vegetation found in such areas include Pond Pine, Atlantic White Cedar, Red Maple, Loblolly Pine and Black Needle Rush Marsh. Generally, the City's climate is relatively mild with an average annual temperature of 59.5 degrees Fahrenheit. The area, however, is characterized by hot, humid summers with mild winters. The average summer temperature is 77 degrees Fahrenheit, and the average winter temperature is 42 degrees Fahrenheit. According to the National Atmospheric and Oceanic Administration (NOAA), the average yearly rainfall for the area is 45.74 inches, while average annual snowfall is only 8.2 inches. The prevailing wind is from the southwest with an average speed of 10.5 miles per hour.

The topography of Chesapeake is typical of the Tidewater coastal plain in which the City is located. The terrain is essentially flat and featureless with an average elevation of 12 feet National Geodetic Vertical Datum of 1929 (NGVD). Heavily developed areas along the Elizabeth River, located in South Norfolk and Deep Creek, are approximately 10 feet NGVD and lower. Many large industrial areas are below 10 feet NGVD. Areas of steep slopes are limited to areas along streams, creeks, and river banks. Ground elevations range between sea level along the major navigable waterways to 25 feet above sea level in some of the highland ridges between major watersheds.

The land area in the southeastern part of the City contiguous to the Northwest River is used primarily for agricultural purposes. This area contains large marsh and swamp areas below 10 feet NGVD. A typical feature of the rural landscape of the City of Chesapeake is the widespread use of manmade drainage ditches and canals alongside roadways and property lines.

The average land elevation of the Great Dismal Swamp National Wildlife Refuge is 20 feet NGVD and is not subject to tidal flooding. However, surface drainage is poor resulting in a swampy condition from which the area has derived its name. Although primarily undeveloped in the past, flooding problems have increased in the area surrounding the Swamp as development has occurred.

Geologic Profile

The City of Chesapeake lies east of the Suffolk Scarp, a north-south trending scarp representing one of several successive Pleistocene shorelines in the lower coastal plain geologic province. The resulting land surface consists of primarily near-shore and lagoonal marine deposits punctuated in the east by the Hickory Scarp, another north-south trending scarp. As a result, the City's relief is characterized by low elevations, low relief, and abundant wetland areas. Geologically, portions of Chesapeake are underlain by the Poquoson, Lynnhaven, and Sedgefield Members of the Tabb Formation. These deposits are composed of upper Pleistocene sands, silts, clays and peats deposited on coastal plains east of the Suffolk scarp, and in turn overlie older Pliocene deposits of the Yorktown formation.

Issue One: Soils

Soil characteristics affect the capacity of land to support structures, roads, foundations, and septic systems. Soil suitability is determined based upon degree of wetness, degree of slope, and size and texture of particles in the soil. Information on soils can be used to identify certain areas that need special attention in relation to potential soil problems.

For instance, soils with a high shrink-swell potential are unstable and thus poorly suited for foundations, roadways, and septic drainfields. The shrink-swell ratio, closely correlated with the clay content of a soil, is an important consideration due to changes in moisture content. Highly erodible soils have a high potential for erosion and cause excessive sedimentation in local waterways, thus harming water quality and creating navigational hazards. Highly permeable soils, such as dry, sandy soils, even where slopes are moderate, may be unsuitable for development requiring on-site sewage treatment, such as septic fields. This type of soil allows effluent to move too quickly to provide adequate treatment, and the potential for groundwater contamination is significant.

Information on soil types is a valuable aid in local land use planning and decision-making, as well as site-specific planning and design. Once these problems areas have been identified, more detailed soil analyses can be performed that will yield additional information necessary for site-specific decision-making in relation to which soil types are appropriate for or limiting for certain types of uses or development.

The most recent soil survey for the City is the 2005 City of Chesapeake Soil Survey published by the Natural Resource Conservation Service (NRCS). NRCS has identified no highly erodible soils in the Chesapeake Bay watershed area of the City, excluding stream banks and river banks. Overall, the soils in the City range from peat soils to sandy, silty, and loamy mineral soils with varying degrees of drainage. Somewhat poorly drained to very poorly drained soils tend to predominate in the flat, low-lying landscape throughout the City. A table summarizing the City's soil characteristics and potential development constraints has been included below:

Chesapeake Soil Characteristics

Soil Series Name	Slope	Upper Limits of Water Table (ft)	Infiltration Rate	Use for Dwellings and Small Commercial Buildings	Use for Local Roads & Streets	Use for Septic Tank Absorption Fields	Total Acres	% of Each Soil
Acredale silt loam	0 to 1%	0.0 to 1.0	Very Slow	Very Limited	Very Limited	Very Limited	26,268	11.4
Acredale-Chapanoke complex	0 to 1%	0.0 to 1.0	Slow to Very Slow	Very Limited	Very Limited	Very Limited	2,059	0.9
Acredale-Urban land complex	0 to 1%	0.0 to 1.0	Very Slow	Very Limited	Very Limited	Very Limited	773	0.3
Acredale-Urban land-Chapanoke complex	0 to 2%	0.0 to 1.0	Slow to Very Slow	Very Limited	Very Limited	Very Limited	26	*
Aquents	0 to 2%	0.0 to 0.3	High	Not Rated	Not Rated	Not Rated	269	0.1

Soil Series Name	Slope	Upper Limits of Water Table (ft)	Infiltration Rate	Use for Dwellings and Small Commercial Buildings	Use for Local Roads & Streets	Use for Septic Tank Absorption Fields	Total Acres	% of Each Soil
Arapahoe mucky fine sandy loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	3,007	1.3
Arapahoe-Urban land complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	34	*
Bojac loamy fine sand	0 to 2%	4.0 to 6.0	Moderate	Not Limited to Somewhat Limited	Not Limited	Very Limited	958	0.4
Bojac-Urban land complex	0 to 2%	4.0 to 6.0	Moderate	Not Limited to Somewhat Limited	Not Limited	Very Limited	712	0.3
Bojac-Urban land-Wando complex	0 to 3%	4.0 to 6.0	High to Moderate	Not Limited to Somewhat Limited	Not Limited	Very Limited	456	0.2
Chapanoke-Yeopim complex	0 to 3%	1.0 to 2.0	Moderate to Slow	Very Limited to Somewhat Limited	Very Limited	Very Limited	634	0.3
Chesapeake sandy loam	0 to 2%	4.0 to 6.0	Moderate	Not Limited to Somewhat Limited	Not Limited	Very Limited	1,487	0.6
Chesapeake-Urban land complex	0 to 2%	4.0 to 6.0	Moderate	Not Limited to Somewhat Limited	Not Limited	Very Limited	654	0.3
Conetoe-Chesapeake-Tetotum complex	2 to 40%	1.5 to 2.5	High to Slow	Not Limited to Very Limited	Not Limited to Very Limited	Very Limited	509	0.2
Deloss mucky fine sandy loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	8,635	3.7
Deloss-Tomotley complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	5,586	2.4
Deloss-Urban land complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	160	*
Dorovan-Belhaven complex	0 to 1%	0.0 to 0.5	Very Slow	Very Limited	Very Limited	Very Limited	14,643	6.3
Dragston fine sandy loam	0 to 2%	1.0 to 2.5	Slow	Very Limited	Very Limited	Very Limited	1,178	0.5
Dragston-Tomotley complex	0 to 2%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	5,480	2.4
Dragston-Urban land complex	0 to 2%	1.0 to 2.5	Slow	Very Limited	Very Limited	Very Limited	782	0.3
Dragston-Urban land-Tomotley complex	0 to 2%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	2,193	1.0
Gertie silt loam	0 to 1%	0.0 to 1.0	Very Slow	Very Limited	Very Limited	Very Limited	2,261	1.0
Hyde mucky silt loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	3,171	1.4

Soil Series Name	Slope	Upper Limits of Water Table (ft)	Infiltration Rate	Use for Dwellings and Small Commercial Buildings	Use for Local Roads & Streets	Use for Septic Tank Absorption Fields	Total Acres	% of Each Soil
Munden fine sandy loam	0 to 2%	1.5 to 2.5	Moderate	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	3,759	1.6
Munden loamy fine sand	2 to 8%	1.5 to 2.5	Moderate	Somewhat Limited to Very Limited	Somewhat limited	Very Limited	570	0.2
Munden-Urban land complex	0 to 2%	1.5 to 2.5	Moderate	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	2,020	0.9
Munden-Urban land complex	2 to 8%	1.5 to 2.5	Moderate	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	57	*
Munden-Urban land-Pactolus complex	0 to 3%	1.5 to 2.5	High to Moderate	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	344	0.1
Nawney silt loam	0 to 1%	0.0 to 0.5	Very Slow	Very Limited	Very Limited	Very Limited	2,512	1.1
Pactolus loamy fine sand	0 to 3%	1.5 to 2.5	High	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	552	0.2
Pasquotank silt loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	727	0.3
Pocaty mucky peat	0 to 1%	0.0 to 1.0	Very Slow	Very Limited	Very Limited	Very Limited	832	0.4
Portsmouth mucky fine sandy loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	6,762	2.9
Psamments	0 to 10%	2.5 to 5.0	High	Not Limited to Somewhat Limited	Not Rated	Very Limited	1,325	0.6
Pungo-Belhaven soils	0 to 1%	0.0 to 0.5	Very Slow	Very Limited	Very Limited	Very Limited	43,389	18.8
Rappahannock muck	0 to 1%	0.0 to 1.0	Very Slow	Very Limited	Very Limited	Very Limited	1,131	0.5
Tetotum fine sandy loam	0 to 2%	1.5 to 2.5	Slow	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	2,303	1.0
Tetotum-Urban land complex	0 to 2%	1.5 to 2.5	Slow	Somewhat Limited to Very Limited	Somewhat Limited	Very Limited	349	0.2
Tetotum-Urban land-Chesapeake complex	0 to 2%	1.5 to 2.5	Moderate to Slow	Somewhat Limited to Very Limited	Not Limited to Somewhat Limited	Very Limited	119	*
Tomotley fine sandy loam	0 to 1%	0.0 to 1.0	Moderate to Slow	Very Limited	Very Limited	Very Limited	8,462	3.7
Tomotley-Bertie complex	0 to 2%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	5,004	2.2
Tomotley-Deloss complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	19,987	8.7
Tomotley-Deloss-Urban land complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	3,034	1.3

Soil Series Name	Slope	Upper Limits of Water Table (ft)	Infiltration Rate	Use for Dwellings and Small Commercial Buildings	Use for Local Roads & Streets	Use for Septic Tank Absorption Fields	Total Acres	% of Each Soil
Tomotley-Nimmo complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	16,010	6.9
Tomotley-Urban land complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	1,921	0.8
Tomotley-Urban land-Bertie complex	0 to 2%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	1,337	0.6
Tomotley-Urban land-Nimmo complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	4,149	1.8
Udorthents-Urban land complex	0 to 45%	No data available	No data available	Not Rated	Not Rated	Not Rated	6,566	2.8
Urban land	0 to 5%	No data available	No data available	Not Rated	Not Rated	Not Rated	3,878	1.7
Urban land-Conetoe-Chesapeake-Tetotum complex	2 to 40%	1.5 to 2.5	High to Slow	Not Limited to Very Limited	Very Limited	Very Limited	364	0.2
Urban land-Deloss-Tomotley-Nimmo complex	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	1,543	0.7
Wando loamy fine sand	0 to 3%	4.0 to 6.0	High	Not Limited to Somewhat Limited	Not Limited	Very Limited	412	0.2
Weeksville mucky silt loam	0 to 1%	0.0 to 1.0	Moderate to Very Slow	Very Limited	Very Limited	Very Limited	1,165	0.5
Water	-	-	-	Not Rated	Not Rated	Not Rated	7,882	3.4
							230,400	99.9

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, 2005.

The prevalence of poorly drained and somewhat poorly drained soils in the City generate several substantial concerns for the City's future growth and development pattern.

Improving soil drainage is one of the principal management problems in Chesapeake. The somewhat poorly drained and poorly drained soils need extensive improvements in drainage. Many of the deeper, sandier soils in Western Branch and Deep Creek require little artificial drainage, but the gray, finer textured soils near swamps in the southern part of the City need extensive improvements in drainage.

According to the City's 2005 soil survey, between 80 to 90% of the City's soils are considered hydric soils. Hydric soils are one indicator of potential wetland areas. If tidal or nontidal wetland areas found on a site with hydric soils, development of the site may be subject to local, state and federal regulations.

Although many of the soils in Chesapeake may be poorly drained, Chesapeake's favorable climate, extended growing season, and soils make farmland in the City some of the most productive statewide (Virginia Tech, 2001). Advancing septic technology and continued growth pressure on the City raise concerns for future public infrastructure costs as well as providing sufficient land area for the future viability of the agricultural industry in Chesapeake. As a result, soil quality and productivity are not highly discriminating factors for the City, thus other issues become more important in the determination of the City's form.

Well-drained soils are suitable for septic tank use. These soils purify wastewater and make it safe water to use again. Soils containing a seasonal groundwater table are not well-drained. Usually these soils have gray, yellow or pale brown colors (VA Department of Health, February 2004). Most research shows two to four feet of well-drained soil is necessary to clean wastewater.

Environmental health specialists estimate how fast water will move or "perc" by feeling the soil's texture. Soils that perc too quickly can contaminate ground water. Those that perc too slowly can cause sluggish plumbing flow. This can produce sewage overflows.

There must be two to four feet of well-drained soil to remove most bacteria and viruses from wastewater. Virginia requires at least one foot of well drained soil above rock or restrictive layers. Some geologic formations, such as limestone, are especially subject to transporting contaminated water. The physical and chemical nature of the earth's formation determines the degree of hazard. Even a single ridge of rock can cause serious health threats, if a sewage systems is installed too close to it.

New septic technologies are emerging which can be used in areas with high water tables, since they can be situated partially above ground. These new technologies are more compact in size and much more efficient. In some cases, they can remove up to 99% fecal coliform and reduce BOD by 98%. While these new technologies greatly enhance nonpoint source pollution removal efficiency, they may also serve to increase the amount of developable land in the City by eliminating the need for reserve drainfields as well as providing an on-site sewage treatment alternative for land previously unsuitable for septic drainfields

The City should direct incompatible development away from areas which are characterized by poor soils and toward areas where the extension of public sewer lines is planned.

Strategies:

- Soil data review will be coordinated with the local Soil and Water Conservation District or other professional with the required expertise. Areas with poor soils should be identified and mapped, including highly permeable and hydric soils.

- Development review will be coordinated with the Chesapeake Department of Health who will ensure soil suitability for on-site septic systems for new residential development.

- Soil borings should be considered for areas identified as having marginally suitable or unsuitable soils in order to confirm their suitability prior to development.

Issue Two: Water Resources

Although the City currently implements a variety of water quality protection programs, surface water quality in the City continue to show signs of impairment, potentially threatening human and environmental health.

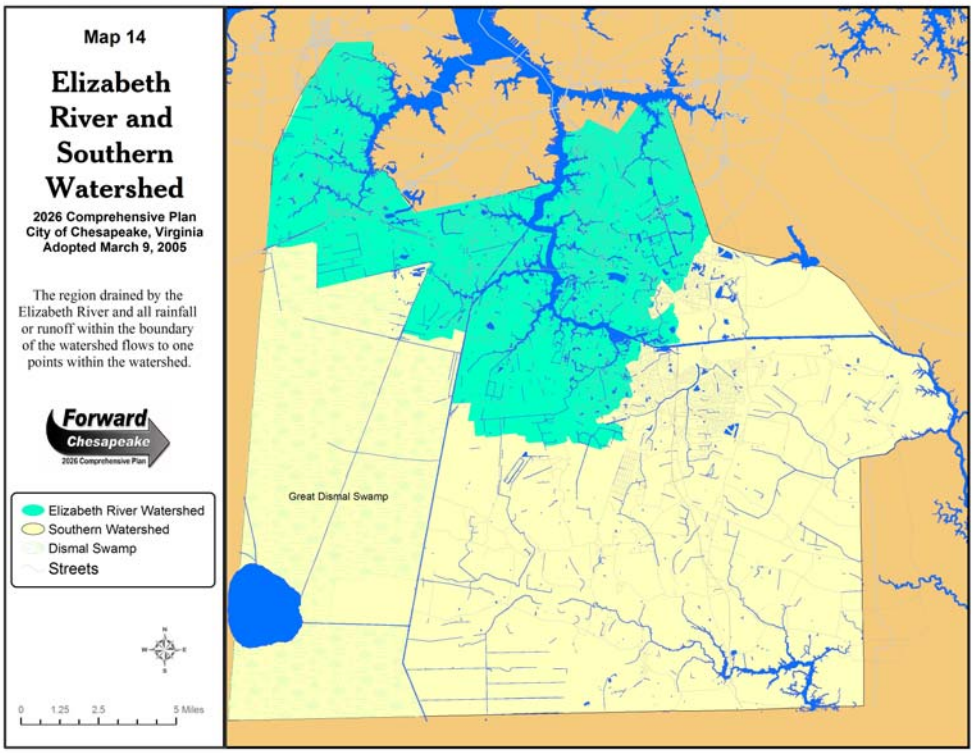
Two major watersheds split the City of Chesapeake – the Chesapeake Bay watershed drains the northern half of the City, while the Southern Watershed Area drains its southern end. The Elizabeth River is the primary river that drains to the Chesapeake Bay watershed area. The Elizabeth River consists of three major branches, including the Eastern Branch, the Southern Branch, and the Western Branch.

The Northwest River and the North Landing River are the major river basins in the Southern Watershed Area and drain south to the Albemarle –Pamlico Sound in North Carolina. In addition, there are two large lakes which lie partially in the City that belong to the Southern Watershed Area, including Lake Drummond lying at the City border with Suffolk, as well as Stumpy Lake on the border with Virginia Beach.

Approximately 92 square miles of the City, or 26%, drains to the Chesapeake Bay. Approximately 261 square miles, or 74%, of the City lies within the Southern Watershed Area. The City's large watershed areas consist of 27 smaller subwatersheds which are listed in the following table.

Chesapeake's Subwatersheds

Code	Subwatershed Name	Watershed Name
BC	Bailey Creek	Western Branch
BK	Berkley Drainage	Eastern Branch
BL	Blackwater Creek	North Landing River
BM	Bells Mill Creek	Southern Branch
CD	Coopers Ditch	Albemarle and Chesapeake Canal
CM	Camden Mills	Southern Branch
CV	Cavalier	Western Branch
CW	Crestwood	Southern Branch
DC	Deep Creek	Southern Branch
DP	Drum Point Creek	Western Branch
EB	Eastern Branch	Eastern Branch
GC	Goose Creek	Western Branch
GL	Gilmerton Canal	Southern Branch
GS	Gum Swamp	North Landing River
HR	Horse Run Ditch East	Albemarle and Chesapeake Canal
IR	Indian River	Eastern Branch
LD	Lake Drummond	Lake Drummond
MC	Mill Dam Creek	Southern Branch
NM	New Mill Creek	Southern Branch
NS	Northside Canal	Albemarle and Chesapeake Canal
OG	Oak Grove	Southern Branch
PR	Pocaty River	North Landing River
SC	Southern Chesapeake	Northwest River
SJ	Saint Julian Creek	Southern Branch
SL	Stumpy Lake	Stumpy Lake
SN	South Norfolk	Southern Branch
SS	Southside Canal	Albemarle and Chesapeake Canal
ST	Sterns Creek	Western Branch



Chesapeake's Surface Water Features

The City of Chesapeake is in a large part defined by its abundant water resources. Upon examination of the City's historical development pattern, it is readily apparent that this existing pattern of development grew up along the shores of its tributaries in order to capitalize on the proximity to the deep water shipping channels, access to other major ports, and access to major regional roadways and economic activity centers. These factors were key to the City's past success and will remain important to its future vitality. As a result, it is important to identify and assess the City's surface water features, in order to fully utilize and preserve one of the City's most vital assets.

Western Branch, Elizabeth River

Location	Between the City of Portsmouth and Chesapeake
Surrounding Land Use	Primarily suburban residential with limited agricultural and commercial uses.
Length	Approximately 20 miles
Average Depth	There are no Federally maintained channels in the Western Branch, however, there is an existing channel that ranges from 18 feet near the mouth to around 9 feet near Drum Point Creek. Near-shore depths range from 1 to 6 feet.
Historical Influences	Formerly agricultural in its surrounding land use, the Western Branch now supports low and medium residential development along its shoreline.
Water Quality	PCBs in fish tissues
Primary Uses	Recreational
Shoreline Conditions	Fully developed shoreline, with approximately 11% of shoreline hardened by bulkhead or riprap revetment. No visible or documented erosion problems.

Eastern Branch, Elizabeth River

Location	Situated between the City of Norfolk, Chesapeake and Virginia Beach
Surrounding Land Use	Primarily industrial shipping/shipbuilding with moderate urban and suburban residential
Length	Approximately 25 miles
Average Depth	Maintained navigation channel of 25 foot to 16 foot depth. Near-shore depths range from 1 to 4 feet during mean low tide
Historical Notes	Heavy industrial use since the early 1900's.
Water Quality	Nutrients, fecal coliform, tributylin, elevated PCBs concentrations in fish tissues. Possible sources of nutrients and fecal coliform include stormwater runoff from the surrounding residential and industrial land uses. Commercial port activities is believed to be the source of tributyltin. The specific source of the elevated PCB concentrations in fish tissue is currently unknown.
Primary Uses	Industrial, commercial and recreational uses
Shoreline Conditions	100% developed shoreline, 95% of which is residential. Approximately 40% hardened with riprap revetment or bulkhead structures. No visible or documented erosion problems.

Southern Branch, Elizabeth River

Location	Northern & Central Chesapeake
Surrounding Land Use	Industrial shipping, military, shipbuilding, urban and suburban residential
Length	Approximately 40 miles
Average Depth	The main channel varies from 35 to 40 feet at mean low tide in the Lower Reach to as low as 25 feet in the Upper Reach. Outside of the maintained navigational channel, the River is relatively shallow with near-shore depths ranging from 1 to 4 feet during mean low tide.
Historical Influences	Industrial development along shoreline since 1600s. Frequent dredging of navigation channels by the Federal government, wetland filling and bulkheading. Construction of dredge spoils disposal site known as Craney Island has impacted flushing characteristics of river.
Water Quality	Nutrients, fecal coliform, poor dissolved oxygen levels, poor benthic index biological integrity (BIBI) score, heavy metals (cadmium, chromium, copper, lead, mercury, nickel and zinc), and organic compounds (PAHs, phthalates, PCBs, and tributlyltin). St. Julian's Annex has recently been added to the National Priority Site List. Possible sources of nutrients and fecal coliform include possible stormwater runoff from the surrounding residential and industrial land uses. Commercial port activities is believed to be the source of tributyltin.

	Sources of the heavy metals include shipyards and stormwater runoff. The primary sources of polynuclear aromatic hydrocarbons (PAHs) include petroleum products, coal, and the incomplete combustion of fossil fuels, creosote, and stormwater runoff. Historical activities, such as the unregulated operation of creosote plants and the unrestricted filling of wetlands are the major causes of degradation of the River.
Primary Uses	Commercial shipping, recreation, segment of the Intracoastal Waterway
Shoreline Conditions	Approximately 10 miles, or 22%, of shoreline is hardened with bulkhead or riprap revetment. No visible or documented erosion problems.

North Landing River

Location	Southeastern Chesapeake
Surrounding Land Use	Agriculture and low density residential
Length	Approximately 77 miles
Average Depth	Depths of range from 5 to 15 feet.
Historical Influences	The Albemarle and Chesapeake Canal was constructed in the 1850's to connect the North Landing River to the Elizabeth River. The same project involved dredging to widen, straighten, and deepen some portions of the North Landing River to the Currituck Sound.
Water Quality	Although water quality is considered generally good throughout the River, recent reports do show some degradation of conditions, including problems with low dissolved oxygen, nutrient levels, and increasing suspended solids.
Primary Uses	Recreational, including boating, hunting and fishing. State scenic river as well as a segment of the Intracoastal Waterway.
Shoreline Conditions	Less than 1% of the River's shoreline in Chesapeake is hardened. The shoreline in Chesapeake is primarily natural No visible or documented erosions problems.

Northwest River

Location	Southern Chesapeake
Surrounding Land Use	Agriculture and forest
Length	Approximately 34 miles
Average Depth	Depths range from 5 to 15 feet
Historical Influences	With the exception of the Northwest River Water Treatment Plant which opened in March 1980, the Northwest River has not been subject to large-scale disturbances. A channel was dredged through the headwaters section in the distant past. A number of other minor ditches and canals also drain into the upper stretches of the River.

Water Quality	General water quality is good, but recent trend analyses show degrading conditions, especially increasing nutrient levels and suspended solids.
Primary Uses	Drinking water supply, recreational
Shoreline Conditions	Approximately 1% of the Northwest River shoreline has been hardened by either riprap revetment or bulkhead. The majority of the River's shoreline is natural with little development. No visible or documented erosion problems.

Lake Drummond

Location	Lake Drummond is located in the Dismal Swamp National Wildlife Refuge on the City's border with the City of Suffolk.
Surrounding Land Use	Dismal Swamp National Wildlife Refuge
Size	Average width of 4.1 kilometers and a surface area of 3,180 acres
Average Depth	Maximum depth of 6.5 feet
Historical Influences	Although it has been determined that the Lake was probably formed about 4,000 years B.C., the nature of its origin and development are unknown. A deep peat burn followed by lateral peat erosion is considered the most likely scenario.
Water Quality	General water quality is good.
Primary Uses	Recreational
Shoreline Conditions	The shoreline of the lake is completely within the Refuge property and is undeveloped. No visible or documented erosion problems.

Stumpy Lake

Location	Straddles the border of Chesapeake and Virginia Beach
Surrounding Land Use	Golf course, residential, forest
Size	278-acre man-made lake
Average Depth	At full capacity the maximum water depth is only 4.35 feet and more than half of the lake is less than 3.3 feet deep.
Historical Influences	The Lake was created around 1910 when the head of Gum Swamp was dammed to provide an emergency drinking water reservoir for the City of Norfolk.
Water Quality	High nutrient loading (nitrogen and phosphorus) and turbidity
Primary Uses	Recreational
Shoreline Conditions	Undeveloped shoreline in Chesapeake. No visible or documented erosion problems.

Albemarle and Chesapeake Canal

Location	Central and Eastern Chesapeake
Surrounding Land Use	Agricultural, residential and forest, with limited industrial and commercial
Size	Approximately 10 miles in length
Average Depth	The channel is maintained at a depth of 12 feet.
Historical Influences	A major component of the Intracoastal Waterway, the Canal consists of a man-made canal constructed in the 1850's to connect the upper part of the North Landing River to the Elizabeth River, a major tributary of the Chesapeake Bay.
Water Quality	According to DEQ, the canal has not been monitored since 1977.
Primary Uses	Commercial and recreational
Shoreline Conditions	Primarily undeveloped shoreline in Chesapeake. No visible or documented erosion problems.

Dismal Swamp Canal

Location	Southwestern Chesapeake from Deep Creek south to the State line.
Surrounding Land Use	Forest, agriculture, and residential with some commercial
Size	13 miles in length within Chesapeake
Average Depth	6.5 feet
Historical Influences	Canal was constructed between 1793 and 1805 to provide an alternative commercial transportation route between Virginia and North Carolina. Today it serves as an alternative route for the Intracoastal Waterway.
Water Quality	No current monitoring information available
Primary Uses	Recreational
Shoreline Conditions	Primarily undeveloped shoreline in Chesapeake. No visible or documented erosion problems.

The Future of Chesapeake's Waterways

As evident by an examination of the City's historical development pattern, water quality, surrounding land uses, and shoreline conditions, the City's Chesapeake Bay watershed has been its most intensely developed area. In the preferred 2026 development pattern, this area is designated for future infill development and redevelopment of existing disturbed areas. Many of the water quality concerns within this area belie its industrial past and reflect historical abuses as well as aging or absent stormwater controls, which may contribute to nonpoint source pollutant loadings.

The City's Southern Watershed Area is still primarily rural in nature. The shorelines of the Northwest River, North Landing River, and Lake Drummond are primarily undeveloped and general water quality is good. Because these water features supply drinking water, wildlife habitat, and recreational opportunities, the City should develop an action plan to protect these valuable resources. Stumpy Lake is an example of a water feature in the SWA facing development pressures as well as their consequent problems, including nonpoint source pollution loadings from surrounding residential and golf course development.

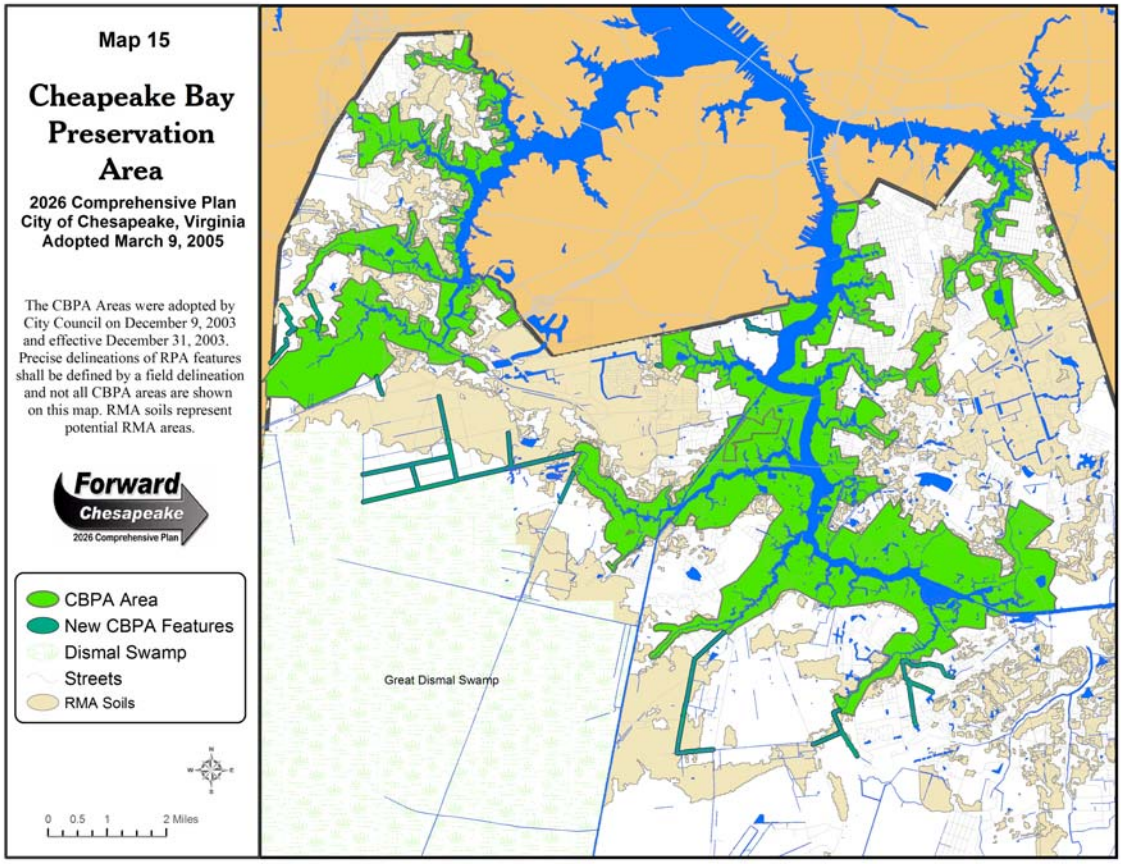
Waterways in the City are subject to a variety of regulatory programs meant to address impacts from surrounding land uses. Rain that flows from the land into a water feature is known as "runoff." Runoff from land surrounding a water feature, such as a creek, ditch, or wetland, can harm water quality if the runoff contains pollutants. Pollution

contained by runoff is known as non-point source (NPS) pollution, since it cannot be attributed to any one specific source. NPS pollution may come from a great many sources, such as residential lawns, driveways, construction sites, and parking lots, just to name a few examples. The biggest NPS pollutants include nitrogen, phosphorus, and sediment. Nitrogen and phosphorus are nutrients and are commonly used as fertilizers to promote plant growth in lawns and agricultural crops. Nutrients may also come from animal waste from yards and pastureland. Nutrients are harmful to water quality, because they promote algae growth which can block sunlight and reduce the amount of dissolved oxygen in a water feature, which animals and plants to need to grow. Sediment can fill in waterways, reduce water clarity and cover bottom habitat. Nutrients may also adhere to sediment particles and enter waterways.

Point source pollution can be attributed to a particular source, such as from an industrial outfall or from a water treatment plant, and therefore can be easily regulated. Point source pollution may contain the same pollutants as NPS pollution sources or may contain other chemicals, depending on their discharge permits issued by the State.

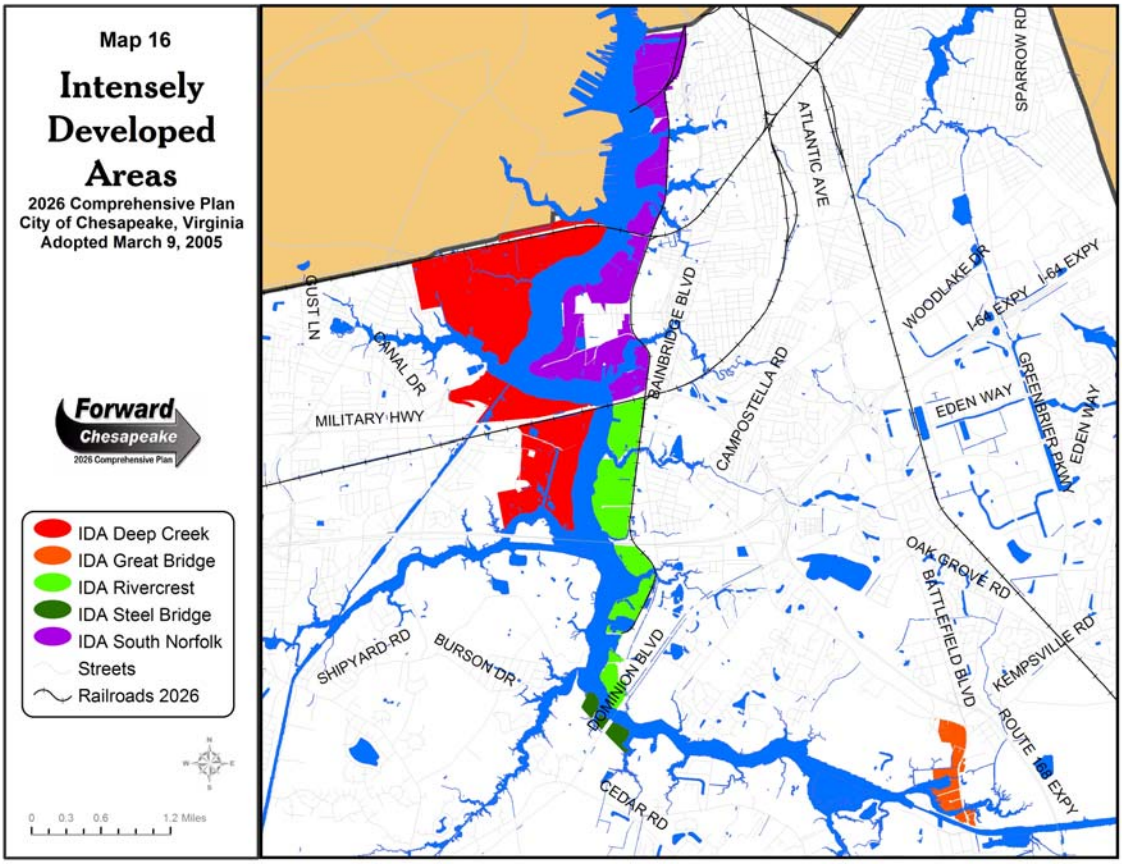
Existing surface water protection programs currently consist of a mixture of local, State, and federal regulations. Generally, the United States Army Corps of Engineers reviews development activities occurring in navigable waters and associated tidal wetlands. The Corps reviews impacts to nontidal wetlands in conjunction with the Virginia Department of Environmental Quality (DEQ). Together with the US Environmental Protection Agency (EPA), DEQ also maintains and monitors varying standards of water quality. Anyone wishing to discharge effluent into local surface waters must first obtain a discharge permit from DEQ. The City's Wetlands Board has jurisdiction over tidal wetlands; and the State's Virginia Marine Resources Commission has jurisdiction over waters and coastal areas located in sub-aquaeous areas, or the bottom of surface water features.

The City also manages development of its waterways in the Chesapeake Bay watershed through the implementation of its local Chesapeake Bay Preservation Area (CBPA) Program, which seeks to address impacts to water quality from surrounding land uses. The purpose of the City's CBPA Ordinance includes preventing a net increase in non-point source pollution from new development, a ten percent decrease in non-point source pollution from redevelopment, and a 40 percent reduction in non-point source pollution from agricultural uses. To achieve this, the ordinance includes performance standards for development, redevelopment, and agriculture. The most common of these performance standards is to preserve or re-establish a 100-foot buffer adjacent to the Resource Protection Areas (RPAs), which include all tidal wetlands, non-tidal wetlands connected by contiguous surface flow and perennial water features. A map showing the location of the City's CBPA areas is included below.



Retention of the 100-foot buffer area is deemed to achieve a 75% reduction of sediments and 40% reduction of nutrients. To maintain their pollutant removal integrity, development in these buffer areas is prohibited. In the City's designated Intensely Developed Areas, encroachment into the 100-foot buffer area is allowed in conjunction with the use of stormwater management Best Management Practices (BMPs) and low impact development techniques. A map of the City's IDAs is included below.

The purpose behind an IDA designation is to focus development activities where development has already been concentrated and is supported by existing infrastructure. In exchange for increased flexibility with buffer requirements offered by an IDA designation, the City's *CBPA Specifications Manual* recommends incorporating methods of improving water quality protection over time. These methods could include: consolidating surface parking, breaking up expanses of impervious cover; and revegetation measures of previously impervious surfaces. These are examples of what is popularly known as "low impact design." These low impact design requirements and others are included in the City's *CBPA Specifications Manual*.



On farmland in the CBPA district, agricultural activities may also encroach into the 50 feet of the 100-foot wide buffer when at least one agricultural best management practice, which in the opinion of the local Soil and Water Conservation District Board, addresses erosion control and nutrient management on the land adjacent to the buffer. Agricultural activities may encroach 75 feet into the required buffer, when agricultural best management practices are in place that address erosion control, nutrient management, and pest chemical control. State regulations require, however, that a soil and water quality conservation assessment be conducted for all agricultural lands within the CBPA district to evaluate the effectiveness of existing practices pertaining to erosion control, nutrient management, and management of pesticides to ensure the protection of water quality.

According to the Virginia Dare Soil and Water Conservation District, there are approximately 27 tracts under cultivation or in pasture in the CBPA district in Chesapeake. All but four of these tracts lie along existing agricultural drainage ditches that are shown as perennial features on the USGS topographic quad maps and are therefore shown as potential RPA features on the City's CBPA maps. Buffer areas are not required to be designated adjacent to agricultural drainage ditches, if at least one best management practice is being implemented on the adjacent land as approved by the VA Dare Soil and Water Conservation District. Little information is currently available on these farms, however, since most of these farmers do not participate in federal cost-share programs.

Another local water quality protection ordinance is the City's stormwater management ordinance which attempts to reduce nonpoint source pollution from stormwater runoff, or rainwater that runs off over land. This ordinance applies to all development greater than 10,000 square feet. Development larger than 10,000 square feet must prepare a stormwater management plan, which describes how existing runoff levels will be maintained or reduced and comply with program requirements. This ordinance also defines substances which are prohibited from entering into the municipal stormwater management system. The City's Public Facilities Manual contains the requirements for stormwater management plans.

The City's erosion and sediment control ordinance also helps to protect water quality by preventing sediment from entering local waterways. Sediment is soil particles carried by rainwater into local waterways. Sediment may contain pollutants as well as reduce the clarity and depth of waterways. The ordinance requires each project over 10,000 square feet in area that lies outside of the CBPA district to submit an erosion and sediment control plan to the Department of Public Works before engaging in any land disturbing activity. Within the CBPA district, a permit is required for all development projects over 2,500 square feet. The City adopted the Virginia Erosion and Sediment Control Handbook as the official City handbook.

Excavation, or mining, activities can be a source of sediment as well as create potential impacts to groundwater. The City's excavation ordinance applies to borrow pits which includes any operation where topsoil, sand, clay, gravel or other materials indigenous to the excavation site, or any combination thereof, are excavated below ground-level and are transported off-site for any purpose. This ordinance requires a conditional use permit. In addition to the requirements of the underlying zoning district, this ordinance requires additional site and geological data, including estimated impacts on surface and groundwater, assumption of legal responsibility for any environmental pollution that results from the proposed activity, as well as an end-use plan which describes restoration activities. The ordinance mandates that all applicable state and federal permits be issued prior to the beginning of the proposed activity.

Floodplain management is another water quality tool that the City has to prevent contaminants from entering local waterways. Flood activity has a potentially detrimental effect on water quality, since the volume and velocity of water associated with floods are of such magnitude that severe erosion is caused, creating non-point source pollution. The City's Floodplain Management ordinance establishes a floodplain district which serves to regulate uses within the floodplain, so that if flooding occurs, it shall serve to fulfill the following goals:

- Protect human life and health.
- Minimize damage to public and private property.
- Reduce public expenditures for both flood control works and flood damage relief.
- Maintain the stability of the tax base, and
- Minimize surface water and groundwater pollution.

The City also attempts to control pollution in general by prohibiting the disposal of garbage, refuse, trash and debris or other solid waste materials anywhere except in a lawful solid waste management facility. The City's Solid Waste ordinance found in Chapter 62 of the City Code also addresses control of weeds, the accumulation of debris, littering, hazardous materials, and regulates solid waste management facilities themselves. All solid waste management facilities shall be designed, constructed, operated, closed and restored in such a manner so as not to pose a present or potential danger to human health or the environment, including pollution of the air, land, surface

water and groundwater. No solid waste management facility may be located in wetlands, groundwater recharge area, or other critical environmental area, unless and until all required permits are obtained from appropriate regulatory authorities.

Despite its bevy of water quality protection programs, the City's local waterways continue to exhibit the impacts of pollution. The 2004 Virginia Water Quality Assessment Report published by the Virginia Department of Environmental Quality (DEQ) identifies waters not in compliance with federal water quality standards and includes those waters on the impaired waters list. The Clean Water Act requires each state to submit a Total Maximum Daily Load (TMDL) Priority List to EPA. Two factors determine whether an impaired stream is a priority, including 1) the severity of the impairment, and 2) the availability of "tools" to develop a TMDL. These tools include such things as availability of data and the interest, cooperation and backing of the affected public. Several stream segments in Chesapeake made the priority impaired waters list, including:

1) Southern Branch, Elizabeth River;
2) Western Branch, Elizabeth River;
3) Eastern Branch, Elizabeth River;
4) Deep Creek, a tributary creek to the Southern Branch;
5) St. Julian Creek, a tributary creek to the Southern Branch;
6) Indian River, a tributary to the Eastern Branch;
7) Northwest River;
8) Indian Creek, a tributary creek to the Northwest River;
9) Pocaty River, a tributary creek to the North Landing River;
10) Albemarle - Chesapeake Canal; and
11) North Landing River.

A TMDL is a special study that identifies all significant sources of pollution, the pollutant contribution from each source, and the necessary pollutant reductions from each source to attain and maintain water quality standards. TMDLs are used as the basis for establishing future pollution reduction levels and the actions necessary to achieve them.

In addition to its reliance on existing and future regulatory protection programs to protect water quality, the City should establish a local program to identify sources of water quality problems as well as feasible means to prevent future contamination.

The City will take a proactive approach to water quality protection by continuing to implement its existing protection program as well as seeking new solutions as additional information and technology become available.

Strategies:

- The City Planning and Public Works Departments will cooperatively undertake a comprehensive assessment of each of the City's sub-watersheds and formulate individual watershed action plans. A schedule for these plans should be developed.

- The City should continue to lend technical and financial support to regional water quality improvement efforts, such as cleaning up contaminated sediments to improve real estate marketability, improve recreational utility, and reduce the potential for transfer of harmful contaminants to humans from edible fish and shellfish. The City should continue to support regional stormwater and nonpoint source pollution public education programs.

- The City will identify opportunities for the creation of wetlands in order to restore some of the Elizabeth River watershed's natural pollutant buffering and flood control capacity.

- The City will identify development techniques which reduce the impact of land use on water quality, including incorporating sound low impact development techniques, such as reducing impervious levels, creation of community water access facilities in lieu of private facilities, and preservation of open space in environmentally sensitive areas, such as CBPA Resource Protection Areas (RPAs). Stormwater best management practices will continue to be required for new development and redevelopment to address runoff.

- The City should encourage the establishment of vegetated riparian buffer areas over time by creating incentives for redevelopment and infill development in the City's highly urbanized areas. The City will pursue funding for purchasing and establishing riparian corridors, in order to provide passive recreational opportunities for City residents, as well as enhance the area's water quality through preservation of floodplains, wetlands, and adjacent buffer areas.

- The City will pursue grants and other funding to undertake a comprehensive study of the City's Elizabeth River waterfront to create a future vision for the area. This study should explore redevelopment opportunities along its waterfront by utilizing DEQ's Brownfields Land Renewal program.

Issue Three: Floodplains

Because of its low relief and extensive waterways, flooding is a real issue of concern for Chesapeake, not only for water quality, but also for the health and safety of its residents. Approximately 43 square miles, or 12%, of the City's area is located in a flood hazard area. As of December 2003, approximately 14% of the City's population lives in a flood hazard area.

Flood events, commonly termed the 10, 50, 100, and 500-year floods, have a 10%, 2%, 1%, and 0.2% chance respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at shorter intervals or even within the same year. To provide a national standard, the Federal Emergency Management Agency (FEMA) adopted the 1% annual chance, or 100-year flood, as the base flood for floodplain management purposes. The 0.2% annual chance, or 500-year flood, is employed to indicate additional areas of flood risk in the community.

The 100-year and 500-year floodplain boundaries are shown on Flood Insurance Rate Maps (FIRM). Floodplains means any land area susceptible to being inundated by flood waters. On FIRM maps, the 100-year floodplain boundary corresponds to the boundaries of the areas of special flood hazards, Zones A and AE. The 500-year floodplain boundary corresponds to the areas of moderate flood hazards, Zone X. Zone X also includes areas outside the 500-year floodplain, areas within the 100-year floodplain where average storm surge depths are less than 1 foot, areas of 100-year floodplain where the contributing drainage area is less than 1 square mile, and 100-year floodplain areas protected by levees.

Tidal flooding elevations of 8 feet National Geodetic Vertical Datum of 1929 (NGVD) has been experienced in all areas contiguous to the Western and Southern Branches of the Elizabeth River and along the Intracoastal Waterway as far south as Great Bridge. The extreme southern part of the City and all areas contiguous to the North Landing and Northwest Rivers are partially protected from tidal flooding by the barrier beach which separates Back Bay from the Atlantic Ocean. Nevertheless, wind surges pushing water levels up to approximately 4 feet NGVD have been experienced in this part of the City.

In the northern part of the City where the source of tidal flooding is the Elizabeth River and its tributary branches, very little development has taken place below an elevation of 6 feet NGVD. However, between 6 feet and 9 feet NGVD, there are numerous residential, commercial, and industrial type structures which in some cases have suffered serious damage during past tidal floods. The land in the southern part of the City remains largely undeveloped and still rural in nature. Very little development exists in the floodplains, consisting of a few farmhouses or farm-related structures.

The main flood season due to hurricanes generally extends from May through November. Nearly 80 percent of all hurricanes occur during the month of August, September and October, and about 40 percent occur in September. The "northeaster" type of storm and the resulting flooding may occur at any period of the year, but they occur most frequently in the winter and spring.

Wave action is responsible for much of the waterfront structural damage and for damage to boats and equipment. Waves are generated by the action of wind on the surface of the water. The City of Chesapeake is not generally exposed to wide reaches of water; however, some wave action higher than the normal could be significant factor particularly at industrial locations adjacent to the branches of the Elizabeth River. Some

of these heavy industrial facilities use potentially hazardous materials. Locations where hazardous or toxic materials are stored, used, processed or disposed are of particular concern in vulnerable areas, because natural hazard events can result in secondary hazards such as toxic substance releases or hazardous material spills.

There are no flood control structures that affect flooding in the study area. The City does have a floodplain management ordinance in Chapter 26 of the City Code. The ordinance requires all development within the floodplain district to have elevated and flood-proofed structures. All site plans and building permits must show the elevation of the 100-year flood as well as topographic information showing existing and proposed ground elevations. All public utilities and facilities, such as sewer, gas, electrical, and water systems shall be located, elevated, and constructed to minimize or eliminate flood damage.

The City will protect its citizens by reducing the risk of flood damage and protecting the natural functions of its floodplains by controlling development in its flood hazard areas.

Strategies:

- Explore funding mechanisms for purchasing floodplain areas to provide flood water storage as well as community open space and passive recreational opportunities.

- Incorporate the recommended ordinance changes included in the City's 2003 Hazard Mitigation Plan as it pertains to development in flood hazard areas.

Issue Four: Groundwater

Although Chesapeake utilizes surface water from outside the City limits for much of its drinking water, a large segment of the population still relies on well water. Groundwater is water beneath the earth's surface and is found in pores of a layer of rock or soil. Groundwater does supply City-owned wells in times of peak demand or during events of saltwater intrusion in the Northwest River water supply. The geologic formation in which groundwater occurs is called an aquifer. Aquifers can either be confined or unconfined. Unconfined aquifers occur where unsaturated porous materials overlie an aquifer.[i] The top boundary of the unconfined aquifer, commonly known as the water table, will rise and fall as the quantity of water in the aquifer fluctuates. The water table generally follows the slope of the land flowing from higher to lower elevations. Unlike confined aquifers, water in unconfined aquifers remains at atmospheric pressure.

Confined aquifers are sandwiched between impermeable or semi-permeable rock or soil formations known as aquitards. The difference in height between the higher and lower portions of a confined aquifer may result in a considerable pressure differential. Artesian wells are a result of a well drilled into a confined aquifer whose pressure causes the water to flow above ground level.

The process by which water is added to an aquifer is known as recharge. Recharge may occur from rainwater infiltration, from seepage from a lake bottoms or stream beds, or from replenishment from overlying or underlying aquifers due to hydraulic pressure differentials. The surface area from which water for an aquifer is collected is called the recharge area. In the eastern United States, where precipitation usually exceeds evapotranspiration, recharge of aquifers generally exceeds discharge. Any removal of water from an aquifer is known as discharge. Discharge points included wells, springs, streams, lakes or wetlands.

Southeastern Virginia, of which Chesapeake is a part, is comprised of one water table aquifer and seven confined aquifers.[ii] Under natural conditions, groundwater flows through these aquifers in a lateral and seaward direction and discharges to a variety of points including springs, streams, lakes, the Chesapeake Bay and the Atlantic Ocean. The region's seven confined aquifers are generally composed of various mixtures of sand, clay, silt, gravel, and shell material. Recharge of local aquifers occurs in several ways, including:

- Infiltration of precipitation on outcrop areas along the Fall Line, located near Richmond;
- Seepage from water-bearing fractures in bedrock along the Fall Line;
- Vertical discharge to and vertical recharge between the confined aquifers;
- Infiltration from surface waters; and
- Vertical flow from the water table aquifer to the confined aquifers.

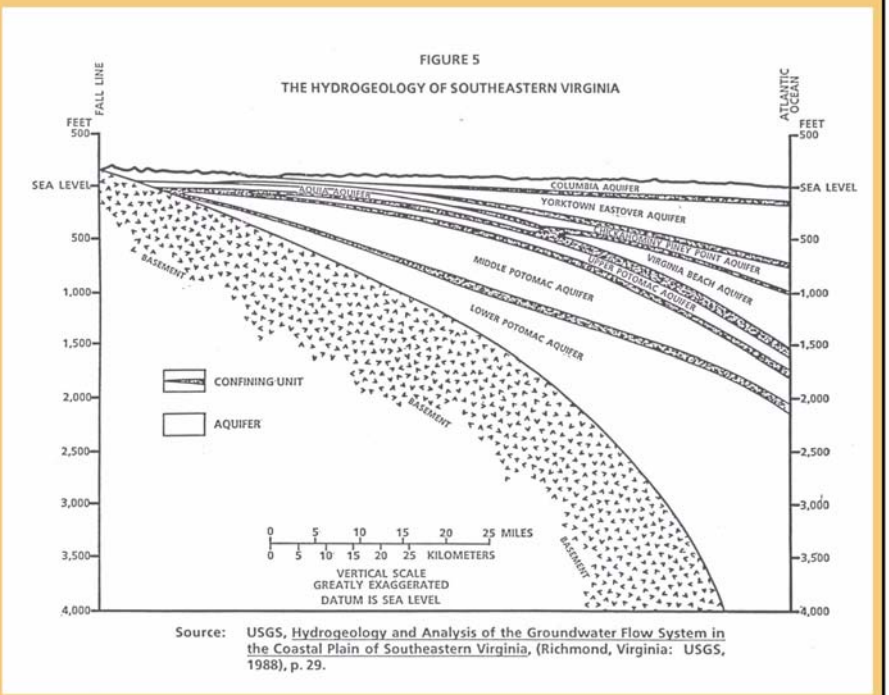
Chesapeake's water table aquifer is known as the Columbia Aquifer. The seven confined aquifers are known as the Yorktown-Eastover Aquifer, Chickahominy-Piney Point Aquifer, Aquia Aquifer, Virginia Beach Aquifer, Upper Potomac Aquifer, Middle Potomac Aquifer, and lastly, the Lower Potomac Aquifer which lies on top of bedrock. The City-owned Western Branch well system and the wells at the Northwest River Treatment plant tap into the Middle and Upper Potomac aquifers. [iii]

Map 17

Diagram of Local Aquifers

2026 Comprehensive Plan
City of Chesapeake, Virginia
Adopted March 9, 2005

This diagram illustrates the hydrogeology of southeastern Virginia.



Source: USGS, Hydrogeology and Analysis of the Groundwater Flow System in the Coastal Plain of Southeastern Virginia, (Richmond, Virginia: USGS, 1988), p. 29.

0 5 10 20 Miles

The quality of groundwater varies by aquifer to a large extent. The Lower Potomac Aquifer is little used, if at all, in the City of Chesapeake due to its deep depth and low quality of water due to high chloride levels. The Middle and Upper Potomac Aquifers contain high levels of sodium, fluoride and chloride. The quality of the Yorktown-Eastover Aquifer is generally good and suitable for potable water use, although it is incapable of producing a sufficient supply for municipal use. The quality of water obtained from the water table aquifer, or Columbia Aquifer, is generally suited for small-scale irrigation, such as lawn irrigation, but requires treatment for potable use. Associated water quality problems include high acidity, high iron content, and hardness. In addition, the pollution potential for the water table aquifer is high, considering its close proximity to the ground surface and the lack of a low permeable barrier.

Aside from naturally occurring water quality concerns, groundwater quality can be threatened by a variety of sources, including:

- Septic systems;
- Leaking underground storage tanks;
- Spills or improper disposal of hazardous materials;
- Surface waste impoundments;
- Landfills;
- Pesticide and fertilizer applications; and
- Saltwater encroachment.

Most of the existing zoning on the adjacent land to the Northwest River is zoned either A-1, agriculture zoning, and C-1, conservation zoning. The Northwest River also lies within the rural overlay district, which prescribes low density, rural development patterns, primarily devoted to agriculture and related uses. In addition to relying on its existing zoning and overlay district ordinances to protect its primary surface water source of drinking water, the City should enact further measures to protect both its surface and groundwater resources.

The City will assess and protect its groundwater supplies.

Strategies:

- The City Planning Department will coordinate the development of a water supply watershed management program, such as that found in the Hampton Roads Planning District's report titled "Water Supply Watershed Management in Hampton Roads."

- The City Planning Department, in conjunction with the Public Utilities Department, will coordinate a comprehensive assessment of the extent of the City's groundwater resources, the scope of any existing and potential threats, existing local, state and federal protective measures, as well as any opportunities to further these protection efforts.

Issue Five: Wetland Resources

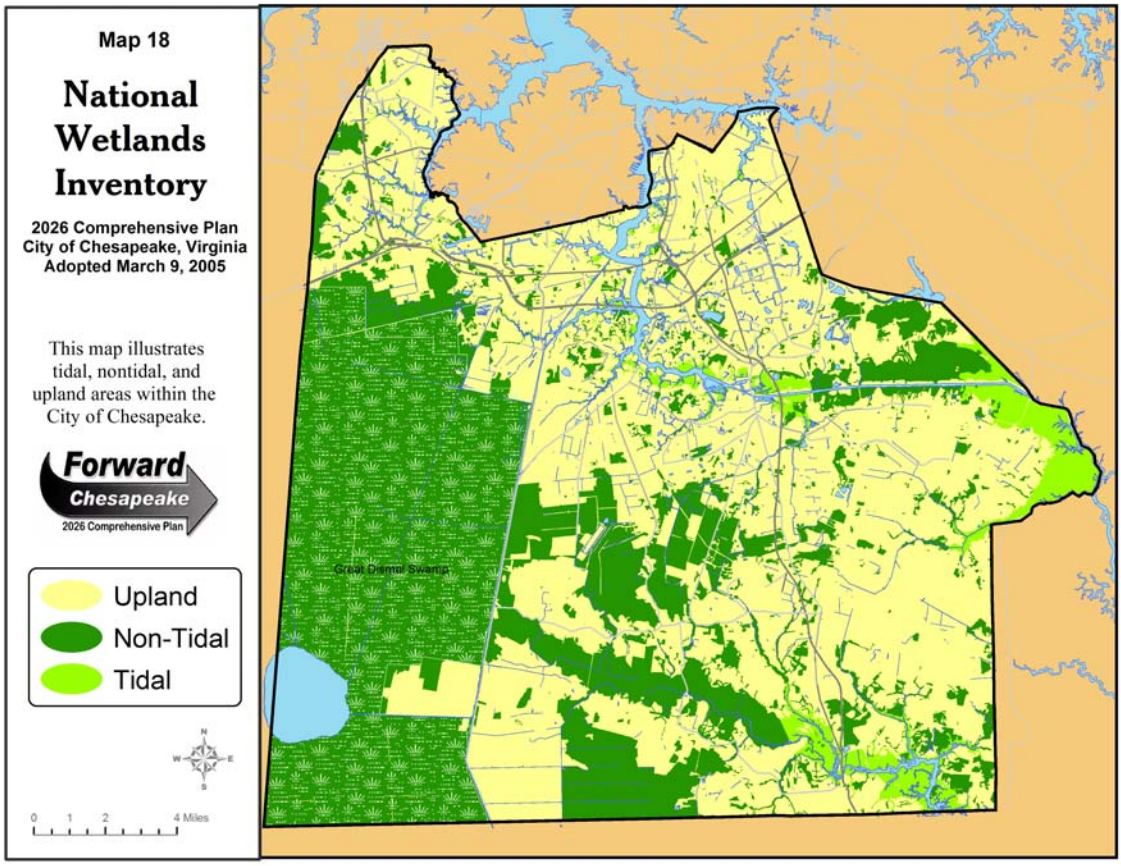
Wetlands in general have intrinsic value in terms of their aesthetic nature or the recreational, habitat and open space preservation opportunities they present. Tidal wetland areas or marshes along the City's shorelines absorb wave energy and buffer erosion of upland areas, thereby protecting real estate values. Wetlands help reduce peak water flows after a storm by slowing the movement of water into tributary streams which allows potential floodwater to reach mainstream rivers over a longer period time, thereby abating potential flood damage. Water quality is also improved by removing

nutrients, pesticides, and bacteria from surface waters as they are absorbed and broken down plants, animals and chemical processes within the wetland. Both coastal and inland wetlands provide breeding, nesting, and feeding habitat for millions of waterfowl, birds, fish and other wildlife. Coastal wetlands provide nursery and spawning grounds for sixty to ninety percent of US commercial fish catches. Often, the City's marsh areas represent unique community character traits and help define the City's sense of place as a Tidewater coastal community. For these reasons and many more, knowing where wetlands areas exist and their relative size, health, and role in water quality protection is important.

The City's 1990 Comprehensive Plan suggests that the locations of all wetlands be mapped and protected from inappropriate destruction or change. Since that time, the City has obtained several sources of wetland location information for its use. The City acquired the National Wetland Inventory from the US Geological Service in a GIS-compatible format which can be used in reviewing development applications. Although this data is comprehensive for nontidal and tidal wetland areas, it is very general in nature and should only be used to identify potential wetland areas for on-site delineation. A table and map summarizing the NWI data is found below. The Virginia Institute of Marine Science (VIMS) also published a tidal marsh inventory for the City in 1999. In December 2001, the City became a signatory to the "Memorandum of Agreement to Improve the Coordination of the Wetlands Compensation Process in the Southern Watershed Area," along with twelve other local, State and federal agencies. The purpose of the agreement is to improve the coordination and sharing of information among the agencies involved in wetland compensation decisions in the Southern Watershed Area as well as to continue to refine a coordinated process for the selection of compensation sites which provide multiple benefits. City staff currently participates on a Technical Advisory Committee to further develop the information sharing process, which includes the sharing of wetland and mitigation site information with other agencies.

Chesapeake's Wetlands

Wetland Type	Acreage	Percentage
Emergent Marsh, Fen or Wet Meadow	1,294	1%
Estuarine Flat, Beach or Sand Bar	107	<1%
Estuarine Forested Marsh	77	<1%
Estuarine Shrub Swamp	122	<1%
Forested Swamp or Bog	87,688	89%
Open Water Estuary	2,613	3%
Pond Shoreline	15	<1%
Salt or Brackish Tidal Marsh	2,031	2%
Shrub Swamp or Bog	5,032	5%
TOTAL	98,979	100%



Source: National Wetlands Inventory,

Historically, it is important to note that wetland loss has been severe in the Elizabeth River watershed. Much of this loss resulted from the siting of numerous heavy industrial uses along the shoreline of the Elizabeth River. According to the The Virginia Wetlands Report (VIMS, 1999), the Southern Branch of the Elizabeth River lost 1,265 acres of wetlands from 1944 to 1977. Many of these losses occurred prior to the City's formation. After the passage of the 1972 Wetlands Act, permitting requirements resulted in a significant decrease in the loss or alteration of tidal wetlands. For example, in the years between 1988 and 1992, approximately 6.3 acres of tidal wetlands in the City were lost or otherwise impacted through permitted activities (VIMS, 1999). In 1999, the latest year for which figures are available, permitted impacts affected less than one-half an acre of tidal wetlands.

VIMS' tidal marsh inventory for the City found that there is approximately 1,746 acres of tidal marsh in the City. The greatest concentration of this tidal marsh is found in the Southern Branch of the Elizabeth River, representing 70% of the total, or 1,230 acres. The findings of the tidal marsh inventory are summarized in the table below. VIMS classified the City's tidal marshes into different types and groups according to their ecological value. Group One wetlands possess the highest ecological value because of their high productivity, wildlife utility, and close association with fish spawning and nursery areas. Group Five wetlands possess the lowest possible ecological value. The great majority, over 80%, of the tidal wetlands in the City are Group One or Group Two, indicating that they possess a very high ecological value.

City of Chesapeake Tidal Wetlands in the Chesapeake Bay Watershed (VIMS, 1991)

System	Marsh Types	Group	Total (Acres)
Western Branch, Elizabeth River	• Saltmarsh Cordgrass • Saltbush • Big Cordgrass • Brackish Water Mixed	I IV V XII	421.3
Southern Branch, Elizabeth River	• Saltmarsh Cordgrass • Saltbush • Big Cordgrass • Reed Grass • Brackish Water Mixed	I IV V VIII XII	1,234
Eastern Branch, Elizabeth River	• Saltmarsh Cordgrass • Brackish Water Mixed	I XII	91
Total			**1,746.3**

Source: HRPDC, City of Chesapeake Public and Private Waterfront Access Study, June 2001.

The soils and hydrology of the Southern Watershed Area (SWA) of the City are uniquely adapted to the development of wetland systems. Located within the broad floodplains of the Northwest River and North Landing River on Pleistocene sands, silts, and clays, the SWA contains several soils series with seasonally shallow (near-surface) water tables (HRPDC, June 2001). These wetland systems range from palustrine forests to herbaceous marshes and shallow-water submerged aquatic vegetation beds. Consequently, significant portions of the SWA in the City satisfy the soils, vegetation and hydrology criteria set forth in the 1987 Corps of Engineers Wetland Delineation Manual for jurisdictional wetlands protected by Section 404 and 401 of the Clean Water Act as well as Virginia State Water Control regulations (HRPDC, June 2001).

Several studies have been conducted in the SWA of the City which identify significant wetland areas. These studies include the Virginia Department of Conservation and Recreation's Natural Heritage Division report titled, Natural Heritage Inventory of the City of Chesapeake, Virginia (June 1998) as well as the Natural Heritage Division's report titled, Comparative Wetlands Ecology Study of the Great Dismal Swamp, Northwest River and North Landing River in Virginia (June 1998). In February 2001, the Natural Heritage Division also published the report called Conservation Plan for the Southern Watershed Area, as part of the Southern Watershed Area Management Program (SWAMP). The SWAMP program produced another report based on this study called the Southern Watershed Area Multiple Benefits Conservation Plan in June 2001, which developed a strategy for increasing the number and types of benefits derived from wetland compensation and other types of conservation measures in the SWA. These studies contain a comprehensive catalogue of the SWA's significant wetland areas and should be consulted prior to any work performed in this area.

Tidal wetland areas in the City of Chesapeake are afforded some existing protections on a City-wide basis. These programs include a Wetlands ordinance, which is included in Article VI, Chapter 26, of the Chesapeake City Code. This ordinance outlines permitted uses in wetland areas as well as establishes the local wetlands board to hear permit applications for proposed activities in wetland areas. Any person who wants to use or develop any tidal wetland area in the City, other than those permitted uses listed in the ordinance, must file an application for a permit with the Wetlands Board. Permitted uses include those permitted by state law under Title 28.2, Chapter 13, such as construction and maintenance of noncommercial piers, boathouses and fences as well certain low-impact recreational uses, conservation activities and shellfish cultivation.

In addition, the Chesapeake Zoning Ordinance contains two conservation districts which vary in the degree of intensity of use. The purpose of the C-1, Conservation District, is to protect and preserve critical and environmentally sensitive areas, including parklands, wilderness areas, open spaces, greenbelts, beach reserves, scenic areas, wetlands, floodplains, floodways, watersheds, water supplies, and fish and wildlife preservation areas. These districts are not intended for development.

In the Chesapeake Bay watershed area, the City has implemented a Chesapeake Bay Preservation Area (CBPA) District. This district is found in Chapter 26 of the City Code and applies only to those lands found within the Chesapeake Bay Watershed. In general, those lands within the Elizabeth River watershed, a major tributary to the Chesapeake Bay, are included in this district.

The performance standards contained in the CBPA ordinance establish the means by which the City protects its Resource Protection Areas (RPAs) and Resource Management Areas (RMAs). Tidal wetlands and nontidal wetlands connected by contiguous surface flow are designated as RPAs and are protected by a 100-foot wide buffer adjacent to any of these features. Development activity is prohibited or curtailed in these areas.

In the SWA, wetlands have been a major focus of biodiversity protection efforts since 1989. As of February 2001, approximately 11,000 acres of wetlands on the North Landing River have been acquired by the Virginia Department of Conservation and Recreation (DCR) as well as the Virginia Chapter of The Nature Conservancy. Additional public lands are owned by the City of Chesapeake and the US Army Corps of Engineers. Approximately 2,250 acres of the middle and lower Northwest River wetlands are owned and managed by DCR as a state natural area preserve. The 763-acre Northwest River Park owned by the City also contains extensive wetlands. Additional natural areas owned by The Nature Conservancy are also situated along the River east of Route 168 (Battlefield Boulevard), and east of Route 17, north of the River.

Although existing federal, State and local laws help to ensure the preservation of valuable wetland areas that have been identified, the City currently has no reliable, site-specific inventory of its wetland areas. The City should strive to fill this information gap in order to better protect and enhance its existing wetland resources. The City could also improve it wetland protection efforts by establishing development criteria to avoid or minimize impacts to its wetland areas outside of the CBPA district.

The City will create site-specific data for its wetland areas and incorporate development design criteria to enhance its wetland protection efforts.

Strategies:

- As recommended in its 1990 Comprehensive Plan, the City Planning Department should map the City's wetland areas as on-site delineations become available, either through the local development review process or through the State or federal permitting process. Information on wetland type, size and location should be tracked and maintained on an annual basis.

- The use of nonstructural shoreline stabilization methods to preserve and facilitate the growth of wetland areas will be encouraged through the City's Wetland Board review process. In areas of low to moderate shoreline recession problems, the Board and City staff should encourage the use of nonstructural shoreline stabilization methods, such as establishing a marsh fringe, to improve water quality and preserve wetland

areas. City Planning and Wetland Board staff will track the use of structural shoreline stabilization methods to gauge the extent of shoreline hardening.

- The City will support the creation of conservation corridors for wetland compensation and restoration as recommended in the Multiple Benefits Conservation Plan Information Sharing Memorandum of Agreement.

Issue Six: Commercial and Recreational Fisheries

Currently, there are no significant commercial seafood operations located along the City of Chesapeake's shoreline. Poor water quality and degraded habitat, such as frequent dredging and the lack of significant submerged aquatic vegetation areas, are several reasons for the absence of a viable commercial fishing industry in Chesapeake. For example, prior to the Kepone contamination of the James River system, the Southern Branch supported a commercial crab pot fishery. Today, the Southern Branch still supports limited commercial crabbing activity. In contrast, the largemouth bass recreational fishery is still particularly viable in the North Landing and Northwest Rivers.

Although Chesapeake is not a location for commercial fisheries, spawning and fish breeding areas are still found within the City's waters. Studies by the Virginia Institute of Marine Science (VIMS) indicate that there is considerable spawning activity, primarily by forage species, in selected areas of the Elizabeth River, namely near its headwaters and in Deep Creek. VIMS also reports that the these areas of the Elizabeth River are used as a nursery ground for a variety of commercially and recreationally important fish, such as Atlantic Croaker, Atlantic Menhaden, Weakfish, Spot, Striped Bass, Black Sea Bass, and Summer Flounder. The shallow margins of the Elizabeth River and its tributaries are important shedding and mating areas for blue crabs.

The Virginia Marine Resources Commission indicate that there are a few privately leased or public Baylor oyster grounds in Chesapeake, and they only exist in the Eastern and Western Branches of the Elizabeth River. As of 1993, the Virginia Department of Health Condemned Shellfish Area #7E covered the entire Elizabeth River System. Therefore, it is unlawful for any person, firm, or corporation to take shellfish, including oysters and clams, from this area for any purpose.

Identification of commercially and recreationally important fisheries, their spawning and nursery areas, shellfish producing and management areas, and waterbodies which are closed to shellfish harvesting, is an important first step in protecting this component of the City's natural resources. Although shellfish information is available from the Virginia Marine Resources Commission, fish habitat is not. In other states, such as North Carolina, fish habitats are delineated on maps and provided to localities for use in their planning efforts. No such maps have been made to Virginia's Tidewater Localities.

The City will develop local fishery protection measures.

Strategies:

- The City Planning Department should create a map which shows condemned shellfish beds and important spawning areas for use in future development review. In addition, information on revenues from recreational and commercial fishing within City limits should be collected by the Planning Department on an annual basis to gauge the true economic impact as well as the health of these industries.

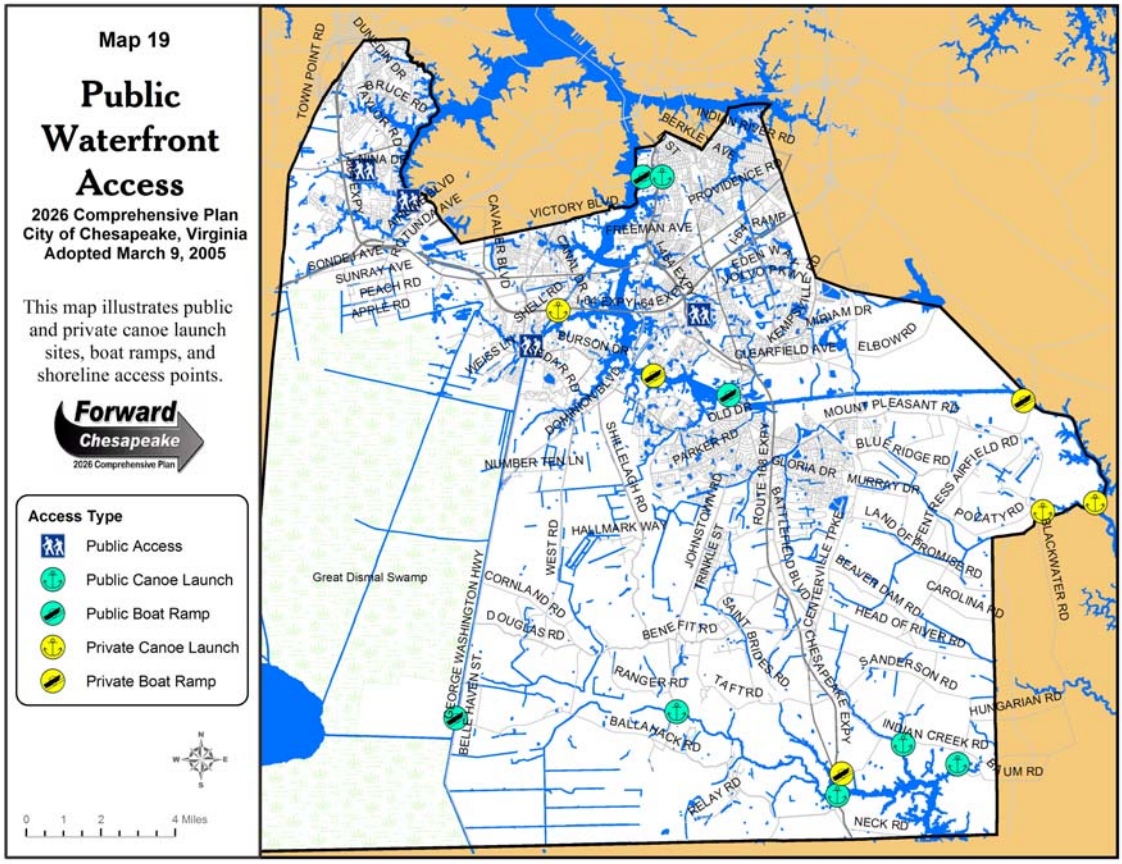
- Criteria should be incorporated in the development review process in order to avoid or minimize impacts to these areas.

Issue Seven: Public and Private Waterfront Access

The ability to access the City's waterways is crucial to its future quality of life for its residents in many ways. Since waterfront property is limited in supply, waterfront property is assessed at a higher level than non-waterfront property. Therefore, waterfront access for both commerce and recreation is a valuable resource that is limited in supply. Not only does waterfront access facilitate shipping and industrial uses, but also boating, fishing, and aesthetic uses as well for its residents. With over 300 miles of shoreline, the City's waterways shape the character of its community and set it apart from anywhere else. This distinctive physical aspect to the City should be conserved as a local showpiece and strategically utilized as an economic growth tool to attract future quality development and redevelopment to the City.

As a result of possessing one of the region's fastest growing populations, Chesapeake also faces an increasing need for water-based recreation opportunities. For example, the City contains one of the fastest growing number of registered boats in Hampton Roads. According to the Public and Private Waterfront Access Study, the number of registered boats grew from 3,700 in 1980 to 5,900 in 1996, an increase of approximately 60%. Data from the Virginia Department of Game and Inland Fisheries indicates new registrations of approximately 250 boats per year.

The public and private waterfront access study performed by the Hampton Roads Planning District Commission found a total of 30 public and private shoreline recreation and water access facilities in the City. Of these, 19 are boating access sites, either in the form of marinas or boat ramps. Of these, 3 are owned by the City and 10 are only available for private use. In addition, 6 canoe access points were identified. A location map of these facilities is shown on Map 20.



According to the 2002 Virginia Outdoors Plan, swimming, fishing, sunbathing and boating are the 3rd, 4th, 7th, and 8th most popular outdoor recreational activities, respectively. The increasingly heavy use of popular water resources is beginning to result in conditions of overcrowding, over-fishing, trespassing, littering and conflicts between user types. In order to meet this ever increasing public need, the City should actively preserve and identify future public water access facilities.

The City will make it a priority to identify and facilitate the provision of future public waterfront access areas.

Strategies:

- The acquisition of new public waterfront access sites, such as those identified in the City's 1990 Comprehensive Plan and the Private and Public Waterfront Access Study, will be pursued including:

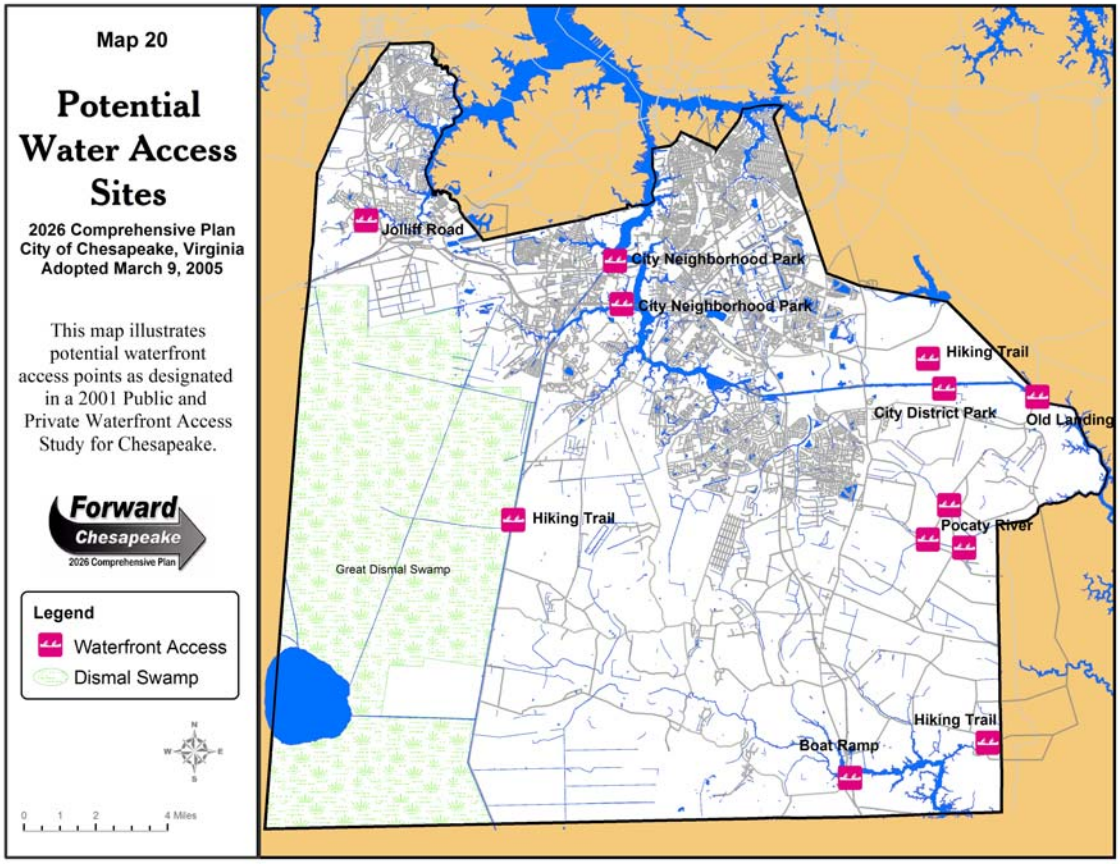
- Waterfront development along the Southern Branch of the Elizabeth River includes the potential for joint ventures with industrial uses, perhaps through the City's Intensely Developed Areas (IDAs) program, for additional water access. Depending on the location and nature of the site, there is the potential for boat ramps, fishing and nature study.
  - Pocaty Creek and St. Julian Creek offer potential access areas.
  - The abandoned Route 168 bridge over the Northwest River could be used to provide an additional boat ramp.

- Increase shoreline pedestrian and boating access to the Albemarle and Chesapeake Canal through a proposed hiking trail on the northeast side of the Canal.
- Institute a hiking trail along the Dismal Swamp Canal.
- The Western Branch area of the City should be further explored for future access points. Possible sites include Western Branch Park and the former Lake Ahoy site.

Although a City such as Chesapeake, which is closely tied to the water, needs community marinas, boat ramps and waterfront pedestrian access to the water, careful consideration should be given to the potential impact of these facilities on its sensitive waterfront areas. In 2001, the Hampton Roads Planning District Commission provided the City with a study on its public and private waterfront access. The study reveals 512 private piers and docks located within the Elizabeth River watershed alone. Although comparative figures for the North Landing and Northwest River were not included, the study does report that the density of piers and docks was highest in Stearns Creek and Drum Point Creek and lowest along the upper reaches of the Southern Branch, the Albemarle and Chesapeake Canal, and the North Landing and Northwest Rivers.

Significant environmental impacts of private piers and docks could include shading and displacement of aquatic life, leaching of wood preservatives that are toxic to aquatic life, increased turbidity and other short-term impacts during construction, and impacts from boating activities. The individual impact of private piers and docks to the surrounding aquatic ecosystem may be significant, particularly where pier and dock densities are high.

The common law riparian right to wharf out has long been recognized in the Virginia Code. Title 28.2-1203(a) of the Code of Virginia allows owners of riparian or waterfront property to construct non-commercial pier to access navigable water without obtaining a permit. While piers and docks are not subject to permit regulations, the Virginia Marine Resources Commission does require an application to determine qualification for an exemption. While riparian property owners have the right to construct a pier or a dock to access navigable water, their impacts can be managed through siting and design requirements.



The City will take into consideration the suitability of different water access types in relation to physical constraints, water quality conditions, fish breeding and spawning areas, and oceanographic characteristics as well as its own plans and policies.

Strategies:

- New development should be required to be clustered away from shorelines and the waterfront area be retained as community open space. Community piers, docks and waterfront access facilities will be encouraged in lieu of private facilities.

- The City Planning Department will track both private and public waterfront access facilities for use in future planning efforts and fulfilling reporting requirements.

- Consideration of adjacent or nearby documented natural areas or environmentally sensitive areas will be incorporated into site plan assessments and impacts to these areas minimized.

- Procedures and guidance will be developed for reviewing marina proposals by City staff and the Wetlands Board that incorporate the marina siting and design criteria developed by the Virginia Marine Resources Commission. Existing and new marinas will be encouraged to adopt pollution prevention practices through participation in the Virginia Clean Marina Program during the development review process.

- Existing City programs, such as its Open Space and Agriculture Preservation Program and the cluster development ordinances, will be used to acquire future water access.

Acquisition and development of such property should be coordinated with the City's Parks and Recreation Department.

Issue Eight: Air Quality and Climate Protection

Local air quality is a serious quality of life issue with the potential to negatively impact individual health, profitability of local businesses, and efficiency of government operations. According to the US Environmental Protection Agency (EPA), the average adult breathes over 3,000 gallons of air every day. Children breathe even more air per pound of body weight and thus, are more susceptible to air pollution. Many air pollutants, such as those that form urban smog and toxic compounds, remain in the environment for long periods of time and are carried by the winds hundreds of miles from their origin. Long-term exposure to air pollution can cause cancer and long-term damage to the immune, neurological, reproductive, and respiratory systems. In extreme cases, it can even cause death.

At the time of the City's adoption of its 1990 Comprehensive Plan, the air quality of the Hampton Roads region, in which the City lies, was found to meet all current air quality standards. In light of this, the Comprehensive Plan recommended that the quality of air in Chesapeake should meet or exceed all air quality standards adopted by the Commonwealth of Virginia and the EPA.

Since that time, the Hampton Roads region has experienced tremendous population growth which has impacted the surrounding air quality. In 2000, the Virginia Department of Environmental Quality recommended a non-attainment designation for the Hampton Roads Region for excessive ozone levels. In addition, new data has emerged during the last decade regarding impacts from rising global temperatures, or "global warming" and the need for climate protection.

Air pollution and global warming share many of the same sources, in that they are both caused by human activities, such as through energy production that burns fossil fuels, deforestation and wood and leaf burning which increases atmospheric carbon dioxide, and landfills which produce methane gas.

The City will identify realistic, cost-effective measures that would provide tangible benefits to local air quality as well as long-term quality of life and economic benefits.

Strategies:

- Increase energy efficiency and use of renewable energy sources, except residential wood burning which can exacerbate air quality problems. Such renewable energy sources could include the wind or solar energy and offer utility customers more options as well as reduce emissions.

- Promote waste reduction activities, such as recycling, in order to reduce reliance on local landfill space to decrease the production of methane gases which add to poor air quality.

- Support alternative modes of transportation, such as mass transit, walking and biking, which help to reduce the combustion of fossil fuels and lower local pollution levels.

- Explore techniques to promote energy efficient housing which improve housing affordability and reduce emissions.

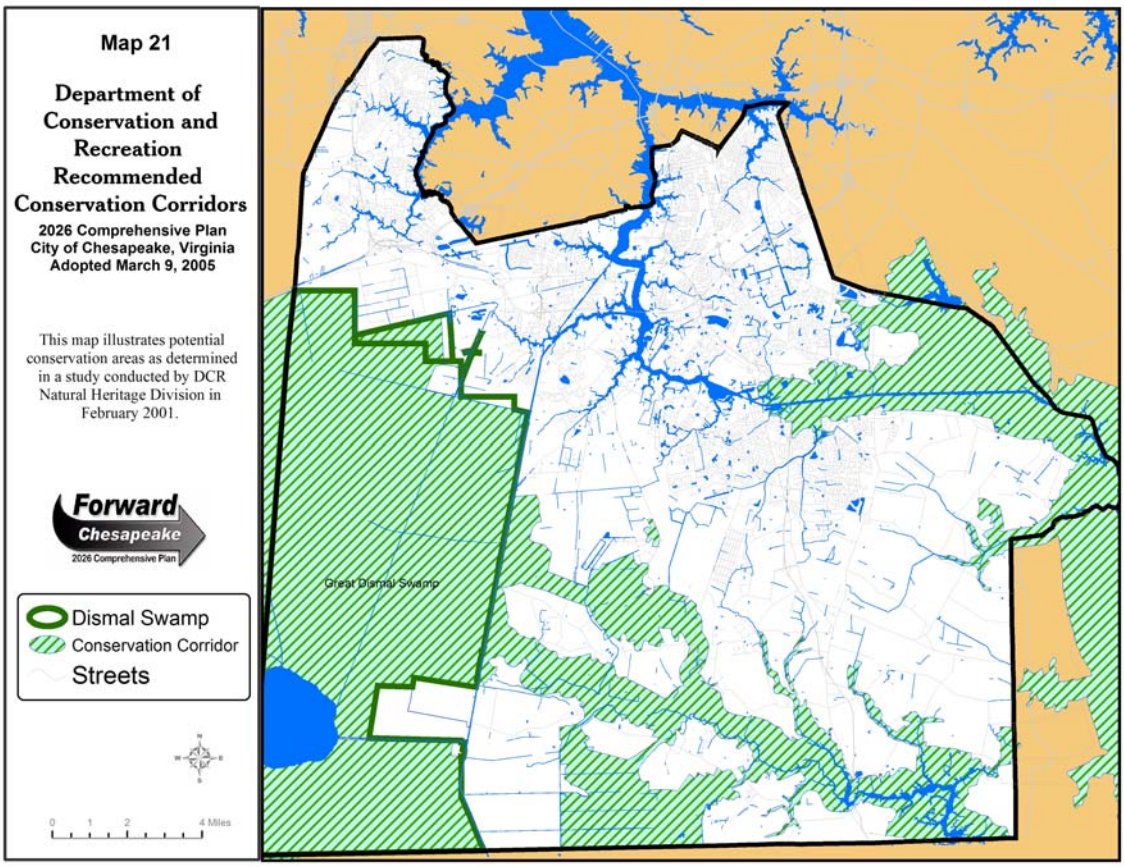
- Promote mixed-use development in order to promote pedestrian activity, which reduces reliance on car travel, thus cutting air emissions.

- Evaluate local air quality issues, such as local ozone levels, and develop a prioritized list of reduction activities. Assess the City's benefits to be gained from its investment in these reduction activities to provide reasonable cost estimates prior to undertaking these activities. Initial measures could include "no and low-cost" initiatives. Develop a reasonable implementation schedule for each reduction activity to provide progress benchmarks and assessing budget needs. Reduction activities should include, but are not limited to the following:
  - Seal air leaks in existing municipal buildings to reduce energy use and provide cost savings;
  - Retrofit existing lights in municipal building to reduce energy use and provide cost savings;
  - Convert traffic signals from incandescent bulbs to energy-efficient light emitting diode technology (LEDs), which last longer and can save the City millions of dollars over time;
  - Continue the City's partnership with the Southeastern Public Service Authority (SPSA) in its "green waste" recycling program which turns yard waste, such as leaves, tree trimmings, weeds, grass, and other organic material, into horticultural compost or mulch. This mulch is then returned to the City for use at City facilities or resold to the community through local retailers;
  - Continue City support for its local recycling program to reduce the need for additional landfill space;
  - Research the implementation of energy-efficient building codes to promote health indoor air, resource efficiency and energy efficiency;
  - Incorporate requirements for pedestrian and biking trail connections between different areas of the City in local ordinances and plans to reduce combustion of fossil fuels; and
  - Explore the feasibility of implementing a "green building" program.

Issue Nine: Habitat

The preservation of habitat is broadly defined as the place where a plant or animal species naturally lives and grows; or consists of the characteristics of the soil, water, and biologic community (other plants and animals) that make this possible. Habitat enhancement and preservation is important, because it is necessary for the survival of native species, maintains natural ecological processes, sustains air and water resources, and contributes to the health and quality of life for Chesapeake residents.

According to the Natural Heritage Division of the Virginia Department of Conservation and Recreation (DCR), Chesapeake is fortunate to have a remarkable assemblage of relatively intact biological and natural resources, particularly in the Southern Chesapeake. Within the last ten years, the City's important habitat areas as well as detailed descriptions of its plant and animal species, have been catalogued in several studies, including the City's "Multiple Benefits Conservation Plan" (Langley and McDonald, July 2001), the "Southern Watershed Area Conservation Plan" (DCR, February 2001), the "Comparative Wetlands Ecology Study of the Great Dismal Swamp, Northwest River, and North Landing River in Virginia," (DCR, June 1998) and the "Natural Heritage Inventory of the City of Chesapeake, Virginia," (DCR, June 1998). A map illustrating DCR's recommended conservation corridors is shown below.



In addition to providing shelter for rare and endangered species, natural habitat areas provide economic value. Intact, undisturbed natural habitat can foster a growing ecotourism industry, components of which include bird watching, hiking, fishing and hunting. The Virginia Department of Game and Inland Fisheries recently designated southern Chesapeake as part of the National Birding Trail. Protected habitat areas help protect private property values. The table below illustrates the amount of existing conservation land in the City of Chesapeake.

Chesapeake Conservation Lands

Land Type	Acreage	Percentage
City Parks	2,085	1%
Virginia Department of Conservation and Recreation	2,282	1%
Conservancy Organizations	7,338	3%
Wetland Mitigation Banks and Sites	4,691	2%
Federal Lands	49,859	22%
Total	**66,255**	**29%**

Proximity to open spaces, such as greenways, wildlife corridors, and natural areas, have been shown to increase the worth of property. Habitat areas also provide valuable public services such as the natural filtration of stormwater runoff, flood storage, and recreational areas.

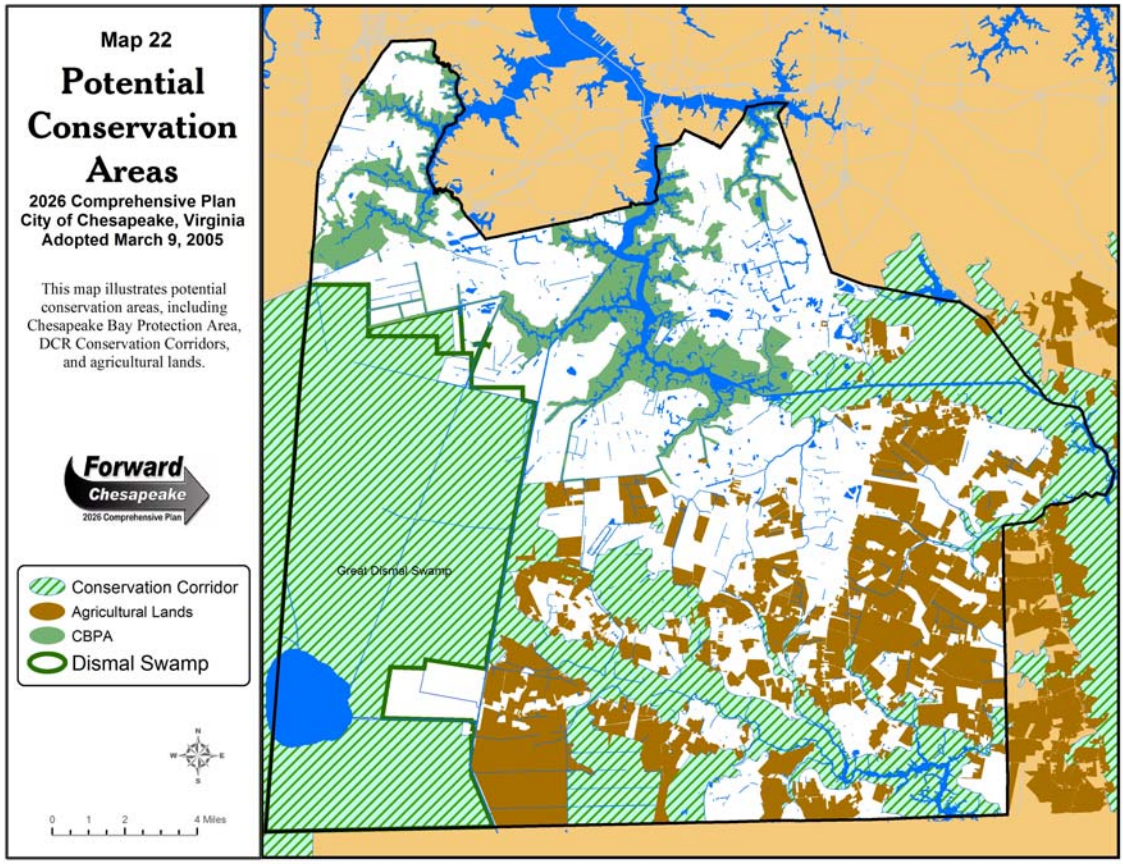
In contrast, habitat loss also has numerous social consequences, including the loss of vital natural processes such as the natural filtration of stormwater runoff, loss of breeding areas for game species, loss of recreational opportunities and degradation of community character. Scattered, unconnected natural areas have only limited ability to provide the important ecological services listed above.

Both members of City Council and members of the City's Comprehensive Plan Advisory Team support the goal of preserving as much of the City's existing natural areas as possible while recognizing the need for areas for future growth. It is important that any habitat enhancement and preservation strategy be based on a scientifically-sound, utilitarian approach to maximize community benefits. In addition, any preservation or enhancement strategy needs to be legally and politically tenable.

The most balanced strategy for habitat enhancement and preservation is to utilize the City's existing programs. Utilizing the City's existing open space and agricultural preservation program can provide permanent protection through an existing City purchase of development rights program. Establishing conservation corridors based on the recommended conservation corridors contained in the City's Southern Watershed Conservation Plan and Chesapeake Bay Preservation Area program would provide a logical, scientifically-based approach to conservation corridor design, because these programs have identified the most environmentally sensitive areas.

This alternative that would allow the City's growing population and natural habitat areas to coexist by providing connections between remnant habitat patches by means of a system of linear open spaces known as conservation corridors. Corridors and greenways restore some of the previous landscape connectivity, providing habitat connections for wide-ranging animals as well as the gene flow necessary to maintain healthy, viable populations of plants and animals. In addition to providing wildlife habitat connections and protecting ecosystems, conservation corridors have been used to promote and enhance local parks, recreational opportunities, and preserve local community character.

Incorporating conservation design techniques in existing ordinances would encourage preservation of conservation corridors through the land development process. Conservation design techniques include clustering development as well as incorporating environmentally sensitive areas into community open space. Wherever possible, due to the high cost of restoration and the difficulty of re-creating functional natural systems, planning preservation areas should come first. A map containing potential conservation areas is included below:



The City's landscaping ordinance also provides a venue to further preserve and enhance the integrity of its natural habitat areas. Although the City landscaping ordinance specifies tree canopy requirements for new development, the City does not have a master forestry plan. Such a forestry plan together with the landscaping ordinance can provide a comprehensive forestry program which can help preserve high priority woodland tracts as well as enhance the functionality of impacted habitat areas.

In developing areas such as Chesapeake, it is important that protective measures stabilize wildlife habitats while allowing public enjoyment of and appropriate use of these resources. Protection measures should be based on local scientific studies, sound planning principles, and public acceptance.

The City will pursue a multi-faceted habitat implementation strategy to provide both sustainable habitat as well as a sustainable development pattern for the City's future growth needs.

Strategies:

- Conservation corridors will be preserved based on the recommended conservation corridors contained in the City's Southern Watershed Conservation Plan and Chesapeake Bay Preservation Area program. This action would provide a logical, scientifically-based approach to conservation corridor design, because these programs have identified the most environmentally sensitive areas.

- City's Open Space and Agriculture Preservation (OSAP) Program should be funded and target potential conservation corridor areas for participation in the OSAP program.

- Conservation design requirements should be incorporated in the City's zoning and subdivision ordinances which require preservation of areas within the potential conservation corridors in the development design process.

- A master forestry plan should be developed and adopted in conjunction with the City Arborist.

Issue Ten: Noise

Ensuring a quality environment also includes the mitigation of noises arising from various land uses. Unusually loud noises can be detrimental to the City's quality of life. The City has several existing noise management programs in place.

The City has an existing noise ordinance as a component of the City Code. The ordinance defines prohibited noises, establishes standards for the determination of unreasonable, excessive or unnecessary noises, maximum sound levels by land use, and penalties for violations.

The City has also adopted the Fentress Airfield Overly District that recognizes the United States Navy's Air Installation Compatible Use Zone (AICUZ) program. The program was instituted by the Department of Defense to address the problem of incompatible land development surrounding military installations. Each AICUZ zone has associated with it categories of compatible or incompatible land uses recommended for that zone based on an average decibel level or accident potential.

The City also incorporated noise attenuation measures in accordance with the Virginia Uniform Building Code. These measures are required for new residential construction within the most intense noise zones in the Fentress Airfield Overlay District. In addition, anyone selling or leasing a residential unit within all noise zones is required to provide written disclosure to all prospective buyers or leases. Additionally, the City requires noise disclosure notes on site plans and subdivision plats.

Land use planning can effectively reduce the effect of noise by isolating noise generators, such as airports and interstate highways, from incompatible uses, such as neighborhoods and hospitals. During development review, minimum distances of separation should be considered between various incompatible land uses, such as between industrial and manufacturing processes and residential uses or even residential areas.

The City will continue to manage detrimental impacts from noise.

Strategies:

- The City will maintain its working relationships with representatives of the US Naval Airfield Fentress Station, Chesapeake Municipal Airport, and the Hampton Roads Airport to mitigate the noise generated by air traffic and to update, if appropriate, and enforce land use controls within the adopted Fentress Airfield Overly District.

- The City will continue to implement the recommendations of the Chesapeake Jet Noise Task Force, as contained in their final report, dated May 2, 2001.

- The City will actively participate in the Joint Land Use Study with the Cities of Virginia Beach and Norfolk, the Commonwealth of Virginia, and the US Department of the Navy, which seeks to address land use issues associated with the operation of Naval Air Station (NAS) Oceana, Naval Auxiliary Landing Field (NALF) Fentress and Chambers Field (formally Naval Air Station Norfolk).

- Off-site impacts of noise associated with certain land uses and transportation facilities will be minimized by combining careful selection of alignment, buffers, landscaping, and sound barriers which provide the most cost-effective noise mitigation benefits.

- Consideration will be given to minimum distances of separation between various incompatible land uses, such as between industrial and manufacturing processes and residential uses, during development review.

Historic Resources

Goals

The City will:

- Foster the preservation and rehabilitation of significant historic sites and structures.
- Incorporate the City's historic resources and cultural heritage into the creation of a unique identity and image for Chesapeake.
- Ensure that historic sites and structures are integrated into new development during the land development process.

Overview

The City of Chesapeake, Virginia is a new city; but its landmarks and communities have a long, varied, and interesting history that reaches back to the early days of the Colony of Virginia. It is important to protect resources of this past, as historic preservation preserves a sense of community; enhances economic development through reinvestment and tourism; stabilizes/increases property values, and makes better use of natural resources.

Past Plans

The City of Chesapeake has been active in promoting preservation as described in the following synopsis of recent plans, surveys, nominations, and guidelines.
Conservation and Development Plan for the South Norfolk Conservation Area – As early as 1976, the Chesapeake Redevelopment and Housing Authority prepared a conservation plan that was adopted with the goal to achieve the elimination, through staged rehabilitation and limited clearance, of all blight and deterioration and blighting factors, and the refurbishing of a predominately residential community of good overall design.

Historic District Guidelines – In 1990, the South Norfolk Civic League Historic District Committee prepared the report, Historic District Design Guidelines: Building on the History of Chesapeake. It included a guide to architectural styles; guidelines for rehabilitation, new construction, moving buildings and demolishing buildings; as well as guidelines for street elements and streetscapes. These guidelines

were presented to City Council for consideration but were not adopted at that time. However, a revision of these guidelines by the City's Historic Preservation Commission in 2000, was approved.

The Report of the Chesapeake Historic Preservation Steering Committee – In 1990, a committee was appointed by City Council to make appropriate findings and recommendations concerning the recognition and preservation of historical places, buildings and other amenities of significance in the City of Chesapeake.

Historic Preservation Plan (adopted by City Council in 1996) -- This plan established a number of goals and objectives regarding preservation issues. A chief objective was the establishment of a seven member Historic Preservation Commission to advise City Council, the Planning Commission and City staff in regards to preservation issues.

Surveys/Assessments

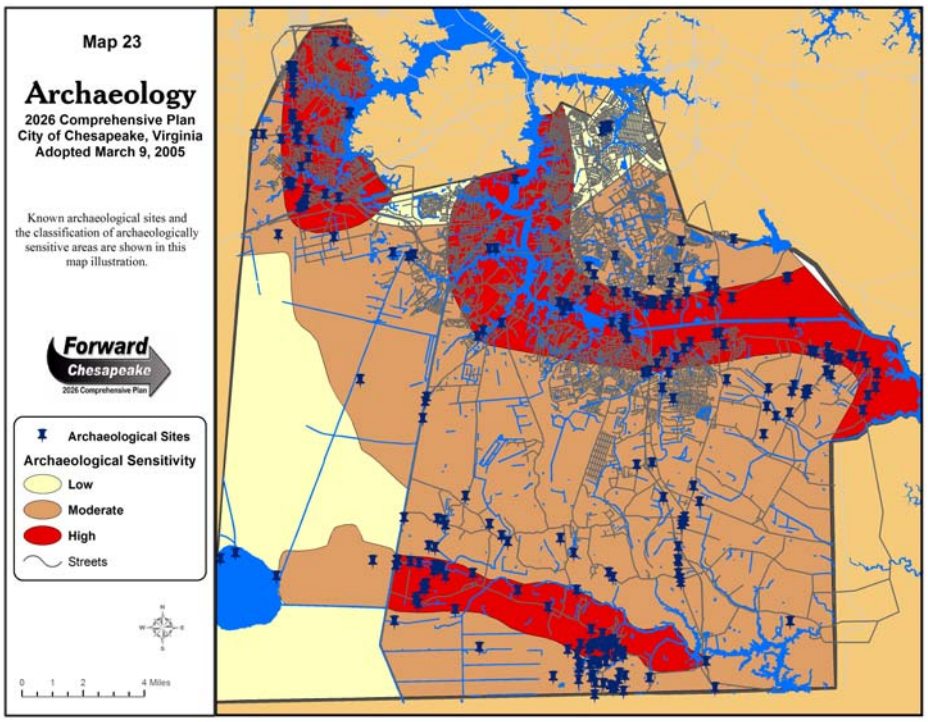
In order to effectively plan for historic resources, a community needs to survey its resources to identify priorities and threats. Additionally as time passes and development occurs, it is essential to provide for necessary updates. The following are major survey projects conducted for the City:

1987 Reconnaissance Survey – This survey included approximately 800 structures within the South Norfolk Historic District and more than 700 in the remainder of the City. A successful recommendation of this survey was the listing of the South Norfolk Historic District on the National Register of Historic Places and the Virginia Landmarks Register.

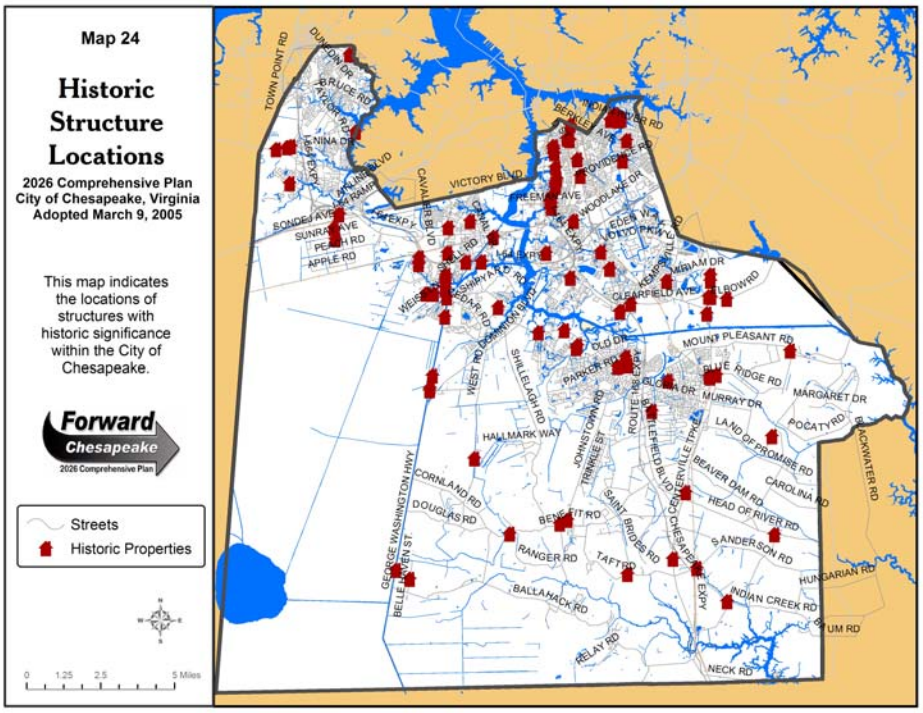
1999 Reconnaissance and Intensive Survey Update – This survey included 200 reconnaissance level surveys and 20 intensive surveys within the most threatened suburban areas of the City, including Western Branch, Deep Creek, Indian River, Rivercrest, Greenbrier, and Great Bridge. Recommendations from this survey resulted in the listing of three additional communities to the National Register of Historic Places and the Virginia Landmarks Register.

1999 Archeological Assessment – This document represents an assessment of archaeological resources in the City. It is designed to provide the following:

- A user friendly reference for planners
- A summary of current knowledge
- A catalog of officially recorded sites
- Locations of officially recorded sites
- Discussion of relative site significance and rank
- Definitions and locations of sensitivity areas, and
- Recommendations for planning/management of these resources



2002 Most Significant Structures list - The City's Historic Landmarks Commission approved the listing of the City's most significant sites from information provided with the previous survey reports. This list was developed to better identify those structures that need special consideration when impacted by development.



Districts and Structures

When the City's Historic Preservation Plan was adopted in 1996, only four districts/sites were listed on the National Register of Historic Places and the Virginia Landmarks Register. Recently five additional districts/sites with a total of 173 resources were listed along with an additional individual site. The City's nine historic districts/sites are described as follows:

South Norfolk Historic District – The South Norfolk Historic District covers about ½ of a square mile at the northern end of the City of Chesapeake. Begun as a streetcar suburb and retaining its residential character, the district contained 795 buildings when listed with only 127 non-contributing structures. A majority of the Register district is now also a local historic district with design review by the City's Board of Historic and Architectural Review.

Dismal Swamp Canal and Associated Development – This 22 mile long district is located to the west of U.S. Route 17 between Deep Creek in Chesapeake and South Mills, North Carolina. Its origin was a charter in 1787 by the Virginia General Assembly, ratified by North Carolina in 1790. Insofar as is known, the Canal is the oldest operating canal in the United States.

Sunray Agricultural Historic District – The Sunray Agricultural Historic District retains its visual integrity and reflects an early 20th century immigrant farming community. Early 20th century vernacular farmhouses are located throughout the district and are simple in form and treatment. 97 of the 317 resources in the district are contributing.

Oaklette Historic District - The Oaklette Historic District is an example of an early 20th century planned, streetcar suburb. Oaklette is defined by large scale single family dwellings of frame construction dominating the waterfront and smaller Bungalow and Colonial Revival dwellings located on the landlocked parcels. 31 of the 63 resources are contributing.

Centerville-Fentress Historic District – The Centreville-Fentress Historic District is an example of a rural farming community that developed a small commercial core, which grew with the addition of a road linking the community to the Albemarle and Chesapeake Canal, and the Norfolk and Elizabeth City Railroad in the 1880's. Most dwellings and buildings are modest frame Colonial Revival and Craftsmen inspired buildings, reflecting the vernacular quality of the craftsmanship. 34 of the 67 resources are contributing.

Albemarle and Chesapeake Canal Historic District – This district was listed on the Virginia Landmarks Register on December 3, 2003 and is expected to be listed on the National Register in 2004. The Albemarle and Chesapeake Canal is significant on the state level in the areas of Transportation, Engineering and Military, with the period of significance being 1775-1953. There are 11 contributing resources in the District.

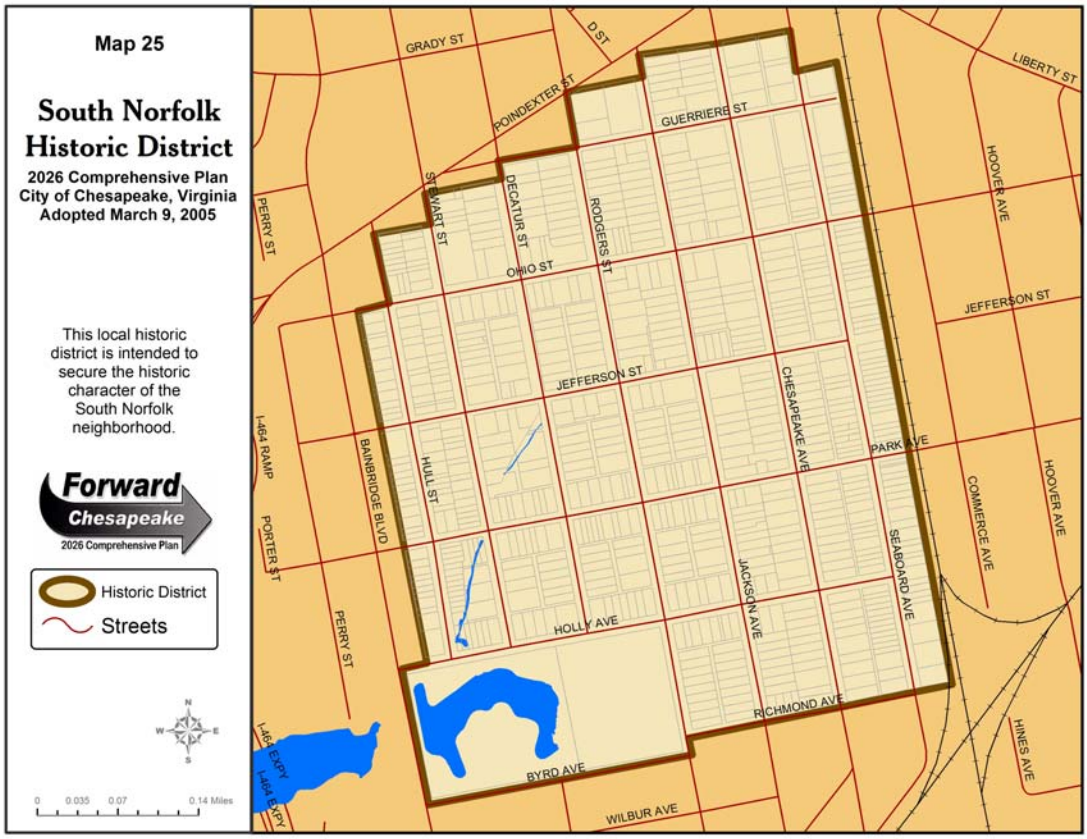
Battle of Great Bridge Site – The site of the Battle of Great Bridge is located on both sides of the Albemarle and Chesapeake Canal. Route 168 Business (Battlefield Boulevard) cuts through the area on the north-south axis and runs over the site of the colonial bridge and causeway in which the battle was named. The Great Bridge Battlefield site is significant as a landmark to Virginia's role in the American Revolution, for in this marshy location took place the first armed conflict between British soldiers and the colony's patriot forces.

Wallaceton – This house is located along the Dismal Swamp Canal and was built in 1855. The most outstanding feature of the home is the vertical hand hewn logs covered by the standard weatherboard siding.

Old Portlock School Number 5 - One of three early 20th Century schools in Chesapeake that have been put into adaptive re-use. This building is currently under consideration for use as an art studio and gallery.

Local Historic District

South Norfolk Historic District – In November, 2000, the South Norfolk Historic Preservation Overlay District was established. This district encompasses approximately 75% of the district listed on the National and State Register. A Historic and Architectural Review Board has been established to review exterior modification within the district as can be seen from the paved public right-of-way. The Board hears approximately 40-50 applications per calendar year and another 40-50 minor applications are approved by the Planning Department.



Heritage Tourism

The City has recently embarked upon several projects which highlight the City's heritage and encourages visitation from those outside of Chesapeake, as well as local residents.

Civil War Trail – This state-wide program contains over 100 sites and is divided into regional themes. Chesapeake currently hosts 5 sites associated with the Peninsula campaign. Three of these sites are located along Route 17 in the southern portion of the

City (Village of Deep Creek, Dismal Swamp Canal, and Glencoe). The other two include the Village of Great Bridge and the Pleasant Grove Baptist Church Monument to the Jackson Grays.

Rt. 17/Dismal Swamp Corridor Study – A study is underway to determine a land use plan for the area between the existing and future Route 17. This study also includes the conceptual design of a multi-use trail along the existing roadway, identification of other potential historic, recreational and environmental opportunities, and design guidelines along the new road. This project is being coordinated with the Great Dismal Swamp National Wildlife Refuge's Public Use Plan. A key feature of this plan is a Visitor's Center along Route 17.

Battle of Great Bridge Project – The Great Bridge Battlefield and Waterways History Foundation and the City are currently developing the design for a park and visitor center to commemorate the Battle of Great Bridge and the City's Historic Canals.

Issue One: Loss of Historic Resources

The City continues to lose historic resources due to property owner neglect or demolition to make way for new development. A Planning Department survey in 2002 indicates that approximately 16% of the sites identified in the 1987 Reconnaissance Survey have been demolished. A majority of the demolished structures were in the City's growth areas and thus, there has been a direct correlation between growth and loss of historic resources.

In order to curb the loss of important historic resources, the City should locate, designate, and protect the City's most important historic sites.

Strategies:

- The City will continue to update its survey of historic resources and nominate new properties to the National Register and Virginia Landmarks Register. This can be achieved through continued use of cost-share grants between the Virginia Department of Historic Resources and the City of Chesapeake.

- Additional local historic districts will be created, as community support warrants, ensuring that the character of significant communities are preserved. To help residents/business owners comply with the design standards, local funding programs need to be established.

- The Historic Preservation Commission will provide assistance to homeowners/citizens with preservation-related issues. The City's Historic Preservation Commission and the City's Board of Historic and Architectural Review membership composition includes individuals with demonstrated knowledge, competence, and interest in preservation and architecture. The Virginia Department of Historic Resources (DHR) operates a Regional Office in Portsmouth and offers many valuable services, including administration of the State and Federal tax credit programs. The State Tax Credits allow owners of historic structures up to a 25% tax credit on renovations that follow the Secretary of the Interior standards for renovation. Owners must spend a total of 25% of the building's assessed value to qualify. The Federal Tax Credit allows income producing property to up to an additional 25% tax credit.

- A Real Estate tax abatement program similar to the City's Enterprise zone should be developed for historic districts/sites.

- The advice of the Historic Preservation Commission will be sought in regards to impacts brought on by development activity and major governmental projects such as road construction.

- City-owned historic properties will be identified and used as examples of stewardship for historic resources.

Issue Two: Public Education

One of the reasons why some important historic resources have been lost is the lack of knowledge about such resources. There is a need to better educate and inform citizens about their heritage and its value to the community. The City created the Historic Preservation Commission to coordinate and promote educational programs throughout the City. Some progress has been made in this regard; however, improved coordination and resources from governmental and private sources are necessary to fully address this issue.

Efforts should continue to educate the public about the importance and significance of the City's historic resources.

Strategies:

- A central depository for historic information should be created. Currently, this role is being met by the Wallace Room in the Central Library. The Great Bridge Battlefield and Waterways Visitor Center should also be considered.

- Continue to support the work of the Great Bridge Battlefield and Waterways History Foundation.

- Organize programs to inform citizens about the history of Chesapeake and historic preservation activities. A good example is the City's current participation in the planning for the Jamestown 2007 celebration.

Issue Three: Community Character and Vitality

Historic preservation can be a tool to protect the integrity and character of the City of Chesapeake's neighborhoods. A neighborhood's history and heritage can been an important focus for revitalization and civic pride.

The City should utilize historic districts where possible to foster community vitality.

Strategies:

- The City should pursue nomination of new properties/districts to the National Register and Virginia Landmarks Register. This can be achieved through continued use of cost-share grants between the Virginia Department of Historic Resources and the City of Chesapeake.

- The creation of additional local historic districts can be used to help ensure that the character of significant communities is preserved. Strong local support will be

necessary for this implementation. To help residents/business owners comply with the design standards, local funding programs need to be established.

In many cases there are conflicts between the goals of various governmental entities and the private sector. A chief purpose of the City's Historic Preservation Commission was to coordinate preservation activities and recommend policy implementation to City Council. Some progress has been made, but resources continue to be lost as preservation priorities are often not weighed as heavily as other priorities.

All municipal actions should recognize the importance of historic preservation in the City of Chesapeake.

Strategies:

- A designated full-time City staff person responsible for historic preservation activities should be created and funded. To make this program more effective it will require a full-time staff person to spear-head and oversee the plan.

- Communication between public/private parties regarding decisions affecting historic resources should be improved.

- The Historic Preservation Commission through City staff should continue to make recommendations regarding development applications that impact historic structures and land. The City's Cluster Ordinance can be utilized as a tool for preserving historic sites while allowing appropriate development.

Issue Four: Heritage Tourism

The City has many exciting opportunities to capitalize on the draw of heritage tourism and has initiated several related projects. Continued coordination of the various departments/ agencies/ private sector and resources will help to address this issue.

The City should promote Economic Development through the promotion of historic resources and thus, encourage tourists to visit Chesapeake.

Strategies:

- The City should prepare a historic tourism package. This promotional program can be developed through the coordination of the City's new Tourism Office, the Historic Preservation Commission, and various other public/private groups.

- Support should continue for special projects capitalizing on the City's heritage like the Dismal Swamp Corridor Study, the plans for the Battle of Great Bridge and Waterways Visitor Center and planning activities of the Great Dismal Swamp Wildlife Refuge.

- The City will continue to coordinate the creation of history trails, greenways, and driving tours that connect historic resources.

Housing

Goals

The City will:

- In all parts of Chesapeake, the City will foster the development and maintenance of a diverse, safe and high quality housing stock for people of all ages, ethnic groups, races, special needs and incomes, including housing that is affordable to all people who live or work in the City.
- Locate new housing so that it provides safe and convenient access to employment, shopping, recreation and educational facilities.
- Foster the development and maintenance of stable and vibrant communities with strong, distinct identities.
- The following issues relating to the provision of affordable housing were identified by the Affordable Housing Focus Team through their research and deliberations. The City's affordable housing policies are designed to address these issues to the greatest possible extent.

Issue One: Affordable Housing Supply versus Demand

For a variety of reasons related to basic supply and demand principles, the private sector has been generally unable to create affordable housing for the community, especially for persons in lower income ranges. High land costs, increasing house sizes, various development/regulatory fees, and rising material and labor costs have contributed to driving new construction pricing beyond the ability of citizens to afford them.

Additionally, the resale housing market has such a reduced inventory at this time that resale prices are reaching all-time highs in most neighborhoods. This lack of supply places increased pressure on the stock of affordable housing for two reasons: 1) persons who under normal circumstances would purchase more expensive homes now are settling for houses in lower prices ranges; and 2) the overall increase in housing values affects affordable housing, putting it further out of reach for lower income households.

Finally, waiting lists for subsistence based housing, primarily the Section 8 and Public Housing Programs administered by the Chesapeake Redevelopment & Housing Authority, continue to remain at high levels.

The City will foster the development of a strategy to address affordable housing and the maintenance of a diverse, safe and high quality housing stock for people of all ages, ethnic groups, races, special needs and incomes, including housing that is affordable to all people who live or work in Chesapeake.

Strategies:

- The City will include existing housing as an important element of its affordable housing supply. The City will foster the revitalization, preservation, and redevelopment of older neighborhoods and commercial corridors, as well as promote a variety of affordable housing development techniques for new construction. The adaptation of existing non-residential buildings for residential use should be encouraged where appropriate. The City will maintain the condition of the existing supply of affordable housing by proactively enforcing zoning and building codes.

- The City will coordinate with the Chesapeake Redevelopment & Housing Authority and other appropriate agencies to designate areas and implement measures for the construction, rehabilitation and maintenance of affordable housing, both renter and owner-occupied. The City will encourage the use of comprehensive neighborhood revitalization plans for targeted areas of the City to ensure the most efficient and leveraged use of public and private resources rather than a piecemeal, parcel-by-parcel approach.

- The City's will reinforce its commitment to protect existing neighborhoods from decline and encourage revitalization by fostering a strong working relationship between the Chesapeake Redevelopment Authority and the Economic Development Department.

- The City should establish a review committee to examine zoning and development-related regulations for opportunities to increase opportunities to increase affordable housing.

- The City will foster the creation of incentive programs to increase the supply of affordable housing. Such programs may include land use planning policies to promote a variety of innovative affordable housing options such as mixed-income housing developments, inclusionary zoning, mixed-housing style developments and planned unit developments; and taxing policies to encourage the rehabilitation of housing for affordable housing purposes.

- The City, through the Chesapeake Redevelopment and Housing Authority (CRHA), will continue to participate in the Hampton Roads Community Housing Resources Board (HRCHRB), a regional organization devoted to affirmatively furthering fair housing.

- Where public funds are invested in affordable housing development or redevelopment projects, the City should consider policies aimed at ensuring the long-term or permanent affordable status of these units. Such policies could include: deed-restricted owner-occupied housing; non-profit rental housing; and publicly owned rental housing.

- The City will appoint a committee to study affordable housing issues and to develop and recommend specific strategies to increase the City's supply of affordable housing. This study, upon completion, will be submitted for adoption by the City Council as an amendment and appendix to the Comprehensive Plan.

Issue Two: Lack of Funding for Affordable Housing Programs

As federal, state, and local government budgets have become increasingly constrained, funding for affordable housing programs and initiatives has suffered.

Alternative funding options will be explored to improve the condition, availability, and accessibility of the City's housing stock.

Strategies:

- The City will continue to support the development of housing funded through the Low-Income Housing Tax Credit (LIHTC) Program, to the extent that such developments are compatible with the City's land use policies and strategies.

- The City will continue to support efforts by CRHA and community-based housing development organizations to develop and/or redevelop affordable housing, as well as promoting homeownership opportunities for first-time homebuyers, utilizing funding from both public and private sources, such as the Virginia Housing Development Authority.

- Creation of a local affordable housing trust fund and/ or community reinvestment fund should be explored by CRHA, as well as other public-private relationships and mechanisms that increase private investment in affordable housing.

- Developers of residential and mixed-use housing projects are encouraged to address affordable housing through voluntary proffers and the residential cluster ordinance.

Issue Three: Housing Diversity

Affordable housing issues more commonly focus on the provision of housing for lower income households; however, housing affordability is an issue for many segments of the population including the workforce, special needs populations, and seniors. Affordable housing is not simply a physical type of housing unit, but rather the relationship of gross household income to the cost of housing.

The City will strive to adopt a balanced approach to providing housing for all segments of Chesapeake's population.

Strategies:

- The City, through the Chesapeake Community Services Board and other appropriate agencies, will strive to increase awareness of and responsiveness to housing needs of the special needs populations, particularly the desire for community-based settings and integration.

- The City will encourage the development and preservation of housing that serves a range of household income levels at locations near public transit and employment.

- The City will encourage the production of a range of housing types for the elderly and people with disabilities, including, but not limited to, group homes, independent living, assisted living, and skilled nursing facilities.

- Special consideration should be given to the special needs of the population targeted by specific housing developments such as the need for access to public transit and /or access to emergency medical services.

- The City will encourage a range of housing types and tenures within mixed-use neighborhoods and discourage the concentration of low-income households in any one area.

Issue Four: Provision of Housing for an Aging Population

By 2020, approximately 53 million Americans, or 20% of the population, will be 65 or older. This marks a significant increase from today's proportion of 12.4% (35 million). The Report on Affordable Housing and Health Facility Needs for Seniors in the 21st Century found that between the year 2002 and the year 2020:

- The number of senior households will have grown by nearly 53 percent;
- More than 80 percent of senior householders will be homeowners;
- Almost 44 percent of senior householders will be age 75 or older;
- Even if current rates of disability continue to decline, the number of seniors with disabilities will have increased from 6.2 million in 2000 to 7.9 million; and
- The need for home- and community-based services (HCBS) will have increased due to the desire of seniors to *"age in place."*

(Source: A Quiet Crisis in America: A Report to Congress by the Commission On Affordable Housing and Health Facility Needs for Seniors in the 21st Century. 2002.)

Seniors currently occupy a diverse array of housing types. Their housing reflects both economic decisions and life circumstances such as the purchase of a house in middle age, new retirement lifestyles, the disability or death of a spouse, and/or changes in financial well-being, personal health, and mobility. Just over 21.4 million or almost 82% of older (age 65 and older) American householders live in conventional homes that they own or rent. Although homeownership is the norm, more than 16% of senior householders rent their accommodations, with most (70%) living in private market-rate

housing, rather than government-subsidized or rent-assisted housing (*Source: A Quiet Crisis in America: A Report to Congress by the Commission on Affordable Housing and Health Facility Needs for Seniors in the 21st Century. 2002).*

Some of the different senior housing types include:

> ***Independent Living:*** Independent living residences for seniors range from single family, detached, to condominiums or apartments (sometimes called active-adult communities). Each unit is a self-contained housekeeping unit with its own kitchen and bath facilities. Generally run by a management company, these facilities provide options to generally younger, healthier seniors who no longer want the responsibilities of household upkeep. Units are generally accessible from interior corridors, with lobby entrances similar to lodging designs.
>
> ***Assisted Living:*** Assisted living is generally considered the best option for seniors in need of some additional care. These facilities are offered in apartment style buildings and provide services to assist with non-medical activities of daily living, include dressing, bathing, eating, or walking, meal preparation, shopping, housecleaning, or taking medication. The apartments in assisted living are generally smaller than those in independent living communities and become smaller as more intensive services are included.
>
> ***Skilled Nursing Facilities:*** Skilled nursing facilities, otherwise known as nursing homes, best meet the needs of seniors requiring significant daily medical attention. These facilities predominately offer 24 hours medical care, complete meal service, more shared unit options, and generally have a more institutionalized setting.
>
> ***Continuing Care Retirement Communities (CCRCs):*** Continuing care retirement communities combine each of the other types of senior housing. This effectively permits seniors to *"age in place"* so that they can remain within the same community as their health deteriorates. These continuing care campuses tend to resemble small towns, with both traditional senior services like pharmacies, to entertainment services such as theaters, craft areas, and dining. Given their complexity, this type of community typically involves a lengthy planning process.
>
> ***Staying at Home:*** Some seniors choose to stay in their home, preferring the comfort of familiar surroundings and neighbors. This choice may ultimately lead to the need to for alterations to the home or for the hiring of home health aides.

An estimate of future seniors was prepared to more fully understand the population patterns of seniors in Chesapeake versus the State of Virginia and the broader United States. Data from the 2000 Census, projections by the Census Bureau and the Weldon Cooper Center, as well as various other sources were examined. The 2000 Census data clearly shows that Chesapeake lags behind in its proportion of seniors, which represents 9.0% of its total population, versus 11.2% for Virginia, and 12.4% for the United States. The Census Bureau provided projections for the year 2025 for the number and proportion of seniors in the population of Virginia as well as the United States. Both of these regional areas saw a significant increase in the number of seniors in the population by 2025, with Virginia rising from 11.2% to 20.7% and the United States rising from 12.4% to 18.5% in 2005 and 2025, respectfully.

Projected Senior Households 2026

Chesapeake 2026 Projected Total Population		**264,900**		***Implied:***	**Households**
Current Chesapeake Proportion 65 +	**9.0%**	**23,731**			**15,821**
Projected 2026 Chesapeake Proportion 65 +	**16.7%**	**44,278**	[1]		**29,518**
USA 2025 Proportion 65 +	**18.5%**	**48,981**			**32,654**
VA 2025 Proportion 65 +	**20.7%**	**54,796**			**36,530**

[1] Estimated based upon the current gap between Chesapeake City and Virginia's proportion of 65+, compounded annually
Assumes 1.5 seniors per household

Personal preference, as well as considerations for personal needs and finances, will be important factors in housing choices for seniors. The table above indicates that there may be close to 30,000 senior households in Chesapeake by the year 2026. This would correlate to approximately 27% of all households in the City. These households will comprise all housing types in the City, not just age restricted housing. It is reasonable to expect that increases in the senior population will lead to market demands for housing options that are age restricted to only senior citizens; however, not all senior housing needs will be met through this type of housing.

In recent years, interest in the construction of housing limited only to seniors has increased. Since 2001, City Council has either approved, or has pending, approximately one thousand independent senior housing units (including both apartments and condos) and a similar amount of other designated senior housing options (such as assisted living and group care facilities).
Interest in the construction of certain housing types is typically a function of market demand.

There is very little information regarding senior preferences for different types of housing. Therefore it is the strategy of the this plan that housing for seniors should be made available in a variety of different types of communities ranging from age restricted to traditional neighborhoods. In the event housing is designated solely for seniors, certain accommodations should be made to make sure this housing is appropriately suited to the particular needs of this segment of the community.

The City will strive to provide a variety of senior housing options to meet the needs of an aging population.

Strategies:

- Housing options for seniors will be located throughout the City and will include all types of existing and new housing units.

- Housing options for seniors will include a wide array of housing and tenure types.

- Housing designated exclusively for seniors must be designed for the specific needs of this population. Such designs should include residents' potentially impaired sight, hearing, and mobility. Design features should include the following:
    - Elevators in multi-story housing
    - Grab bars in bathrooms
    - Fire suppression and notification systems
    - Shower stalls with handheld showerheads
    - Lever hardware in place of doorknobs
    - Benches and/or chairs in long corridors
    - Corridor handrails
    - Increased lighting in public areas
    - Wheelchair accessibility options
    - Specialized fire warning systems
    - Back up emergency power supplies

- Senior housing is frequently proposed at higher densities. Housing that is of a greater density than the surrounding uses must incorporate measures to ensure compatibility between development types. Such measures may include increased buffering and design considerations.

- Convenient access to needed facilities and services such as public transportation, medical services, and shopping must be a location consideration for senior housing.

- Independent and assisted living communities should include common facilities for recreation, entertainment, and community socialization. These facilities should include design features similar to those provided in the homes. In addition, walking, paths, doorways, and entrance halls should be well-lighted and evenly graded.

Transportation

Goals

The City will:

- Achieve a safe, efficient, economical and multi-modal transportation system, including non-motor vehicle modes and public transportation, while recognizing that pressures for increased motor vehicle travel will continue.
- Balance the priorities of motor vehicles with those of bicycles and pedestrians in the design of roadways and land use patterns so that most residents have the choice to walk and bicycle conveniently to shopping, schools and recreation.
- Coordinate land use and public facilities development with the transportation system in order to ensure safety, efficiency and convenience.
- Provide adequate transportation facilities and services that meet the City's adopted service standards.
- Provide adequate transportation access to the City's waterways.
- Coordinate the City's transportation system with the regional transportation network to promote commerce and emergency evacuation routes.

General Overview

The City's transportation system and level of accessibility has a major influence on economic development and on the basic function and form of the City. It also has the potential to generate adverse impacts on the community if not carefully integrated into its fabric. Thus, long-range transportation planning is a key element in organizing and directing the future growth of the City of Chesapeake. In the context of comprehensive planning, land use and transportation must be recognized as complementary components of the City's overall planning process.

Master Transportation Plan

Chesapeake's transportation system is composed of roadways, public transit, trails, waterways, railways, trucking, and airports. Each mode of transportation and all elements within each perform a specific role in the system, and should be appropriately coordinated to provide various levels of accessibility to areas and sites within the City. In turn, the arrangement of land uses and densities should be consistent with the role, level of accessibility, and capacity of each transportation facility. This critical, but fragile relationship is fundamental to the overall performance of all urban areas.

In 1990, Chesapeake City Council adopted a Master Road Plan that outlined the City's future roadway needs based on projected land use and traffic generation assumptions. This plan focused mainly on roadways; however, the updated Master Transportation Plan will address all modes of

transportation. While roadways are recognized as the backbone of the City's transportation network, alternate modes of transportation will need to be incorporated to meet the transportation challenges of the future. The Master Transportation Plan will also evaluate Chesapeake's transportation needs from both the local and regional perspective, as transportation and development impacts extend beyond City boundaries.

The goal of the Master Transportation Plan is to develop a planning document that outlines the necessary measures to provide a safe, cost-effective, well coordinated, environmentally sensitive system for moving people and goods to and from, through, and within the City of Chesapeake. The Master Transportation Plan is an element of the Comprehensive Plan and substantial changes to the Plan will require an amendment to the Comprehensive Plan.

Changes to Transportation Facilities

The Master Transportation Plan is an element of the Comprehensive Plan. In accordance with Section 15.2-2232 of the Code of Virginia, changes to the transportation facilities shown on the Master Transportation Plan must be consistent with the entire Comprehensive Plan. The following types of changes to the transportation facilities shown on the Master Transportation Plan are contemplated by, and thereby included in, the Comprehensive Plan:

1. Incremental construction of lanes provided that the ultimate laneage shown on the Master Transportation Plan is not increased or decreased.

2. Changes in the alignment of proposed roads along new rights-of-way through undeveloped properties shown on the Master Transportation Plan, provided that the facility continues to serve the intended transportation corridor and the deviation does not exceed 500 feet in any direction.

3. Paving, repaving, repairs, reconstruction, realignment of lanes, addition or deletion of turn lanes, adding curb and gutter or installing, repairing or eliminating roadside drainage facilities.

The following changes are not included in the Comprehensive Plan and will require consistency review under Section 15.2-2232 of the Code of Virginia or in lieu of consistency review, an amendment to this 2026 Plan:

1. An increase or decrease in the ultimate laneage of the roads shown on the Master Transportation Plan.

2. Changes in the alignment of roads shown on the Master Transportation Plan where the facility no longer serves the intended transportation corridor, the deviation

exceeds 500 feet in any direction, or the re-alignment will be through one or more developed properties.

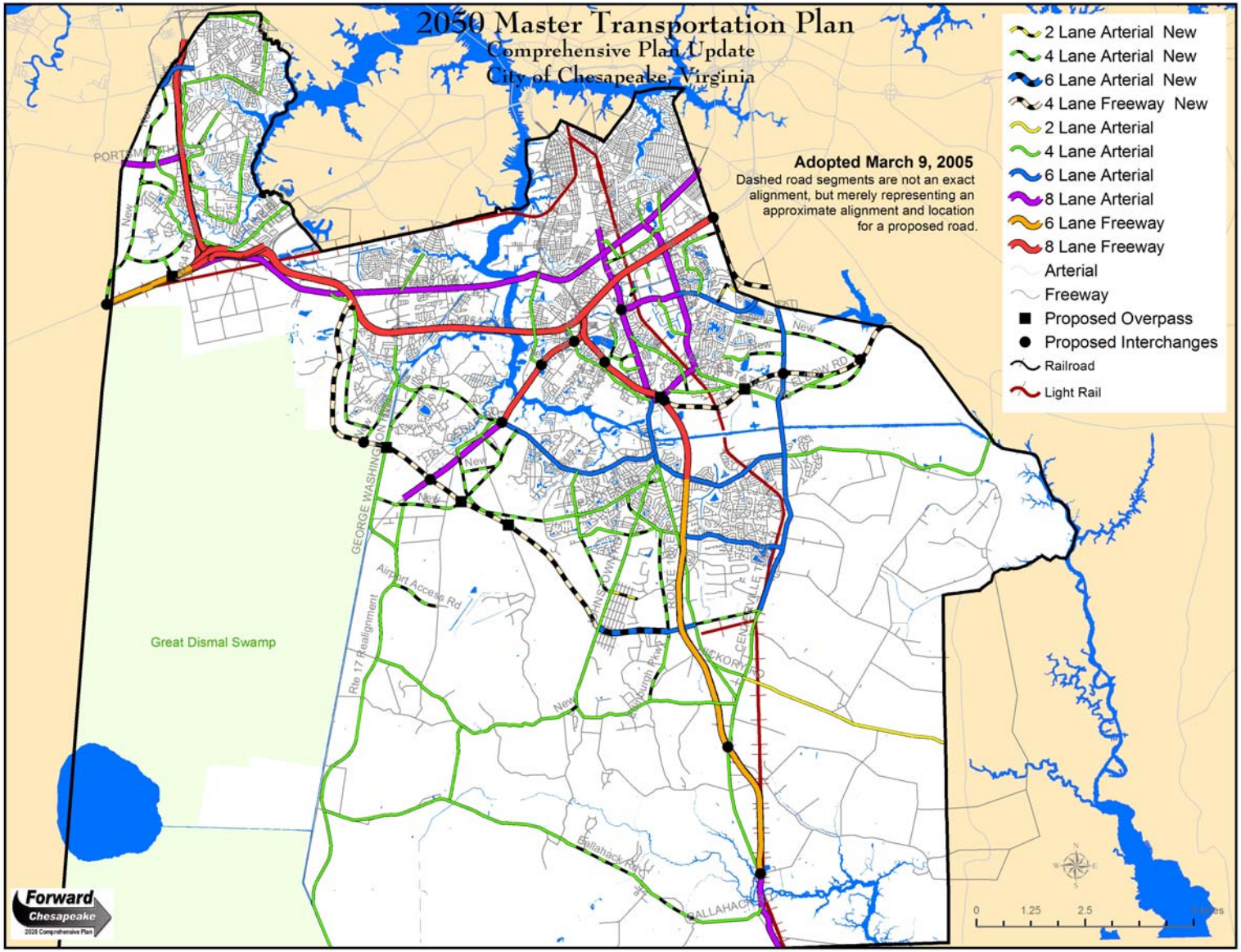
3. Terminating a street by installation of a cul-de-sac or other mechanism designed to prevent through traffic, other than temporary closures with movable barricades.

4. Linear extension of a street beyond the limits shown on the Master Transportation Plan.

5. Adding a new principle arterial street or freeway.

6. Vacating right-of-way of a Master Transportation Plan facility.

In the event the Planning Commission or City Council determines that a change is not consistent with the Comprehensive Plan, the desired action shall not occur unless or until an appropriate amendment to the Plan is reviewed by the Planning Commission and approved by the City Council.

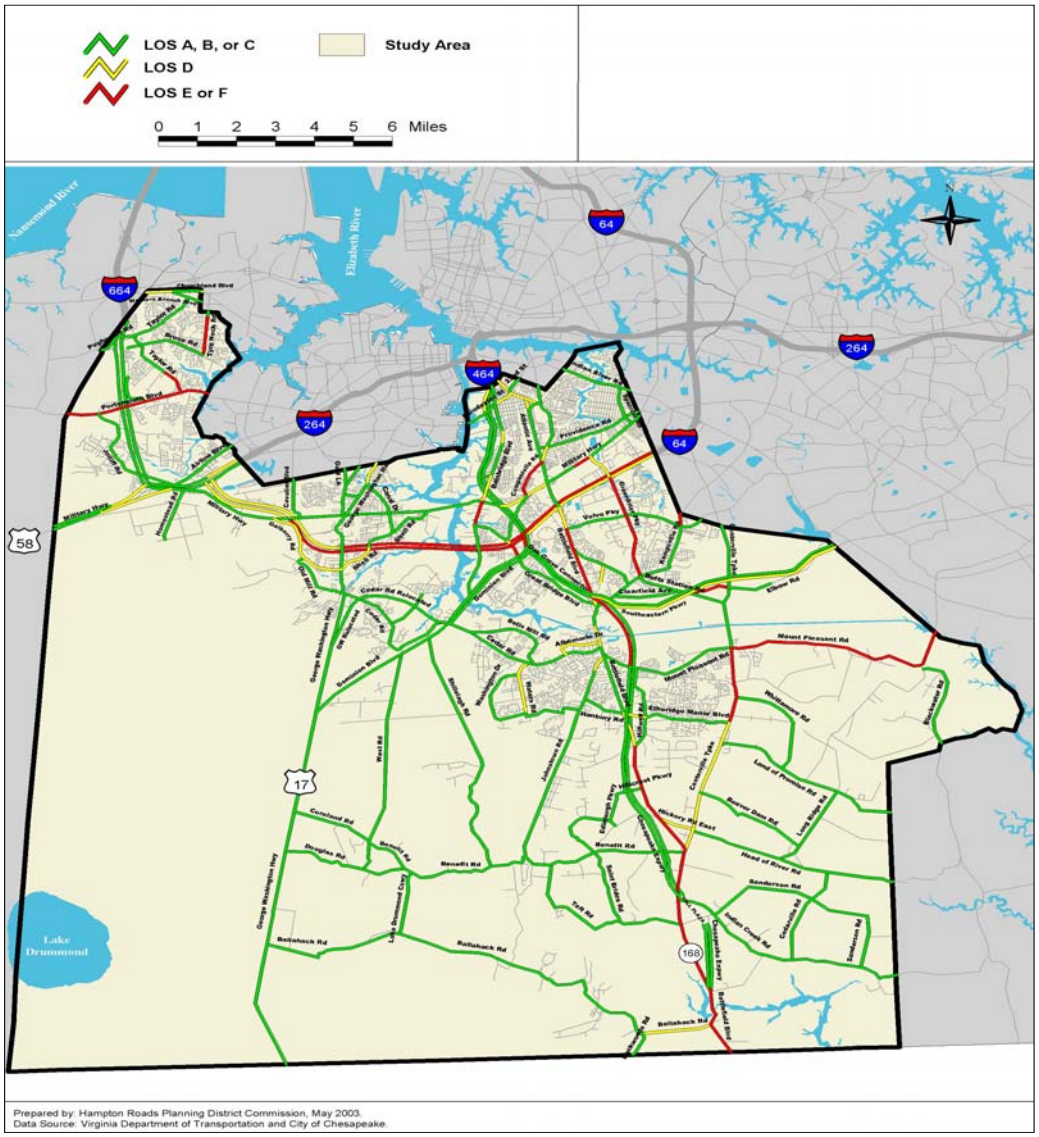

2050 Master Transportation Plan
Comprehensive Plan Update
City of Chesapeake, Virginia
Adopted March 9, 2005
Dashed road segments are not an exact alignment, but merely representing an approximate alignment and location for a proposed road.
2 Lane Arterial New
4 Lane Arterial New
6 Lane Arterial New
4 Lane Freeway New
2 Lane Arterial
4 Lane Arterial
6 Lane Arterial
8 Lane Arterial
6 Lane Freeway
8 Lane Freeway
Arterial
Freeway
Proposed Overpass
Proposed Interchanges
Railroad
Light Rail
Great Dismal Swamp
Airport Access Rd
Rte 17 Realignment
Ballahack Rd
0
1.25
2.5
Miles
Forward Chesapeake
2026 Comprehensive Plan

Roadways

The amount of roadway a community has is measured by calculating the total number of miles of roadway for each lane of traffic. This is referred to as a "lane mile." Chesapeake's current roadway system consists of 119 lane miles of interstate facilities, 536 lane miles of arterial and primary roadways, 182 lane miles of collector roadways, and 1,468 lane miles of local roads.

Over the past decade, Chesapeake has experienced significant growth. With this growth have come new homes, new businesses and industries, and ever increasing traffic. It is clear from roadway studies that have been recently completed that portions of the City's roadway network are currently inadequate to serve existing traffic demands, and that the gap between the targeted service level and the service demand continues to grow. The 2003 Chesapeake Level of Service Study indicates that 24% of the City's roadways will operate at level of service "D" or worse by the year 2021. With the uncertainty of funding for major roadway improvements, this scenario could worsen significantly over the years to come.

Map 27--PM Peak Hour Level of Service 2021



Level of Service

Level of Service (LOS) is a measure of the operating efficiency of a roadway. Level of service A is considered the best operating condition and level of service F is considered the worst. Both level of service E and F are considered to be unacceptable, while a level of service of D should be considered a warning. The following illustration provides an illustration of the different service levels.

Roadway Levels of Service

Source: Pictures provided by the Department of Transportation Bureau of Transportation Statistics and the MIT Center for Transportation Studies @1995

Issue One: Impact of Increased Demand

Service demand often exceeds available capacity, resulting in congestion, pollution, and driver frustration. Congestion is exacerbated by openings of the eight drawbridges within the City limits.

Issue Two: Network Integrity

Major roadway improvements are necessary to maintain the integrity of the City's roadway network. The major projects planned for the future include:

- Dominion Boulevard Bridge Replacement and Road Widening
- Interstate 64 Widening
- Interstate 664 Widening
- Southeastern Parkway
- Pleasant Grove Parkway
- Route 460 Widening

Issue Three: Impact of Technology

Over the past decade, numerous technological advances have been made in regard to traffic operations. These technologies, commonly referred to as Intelligent Transportation System (ITS) programs, have been developed to provide system integration, incident and emergency management, and advanced traveler information. Recognizing the benefits of these programs, the Federal government provided significant funding for these initiatives through its Congestion Mitigation and Air Quality Program. Chesapeake has received approximately $8 million through this program to develop and construct a Smart Traffic Center.

Issue Four: Access Management

Access management is necessary to maintain system integrity and continuity. Access management refers to the planning process whereby connection points to a roadway are managed to maximize safety and capacity as appropriate for the functional classification of the roadway.

Issue Five: Connectivity

Connectivity, or the lack thereof, impacts accessibility and emergency response. Connectivity is probably one of the most contentious issues in the development process. Most communities see connectivity as a detriment by potentially increasing traffic in their subdivision. However, they infrequently recognize the benefits to their own community as well as the City overall. The importance of connectivity is clear in that it improves transportation capacity and safety, optimizes response times of emergency vehicles, increases efficiencies of various services, and enhances recreational opportunities.

Issue Six: Impact on Neighborhoods

Neighborhood quality of life is impacted by the number and speed of vehicles using local streets.

Issue Seven: Right of Way Preservation

Development often threatens the viability of future roadway corridors by encroaching into the needed rights of way for the new alignments.

Strategies:

- The roadway needs identified on the Master Transportation Map should serve as the basis for future roadway improvements.

- The City's Level of Service (LOS) study will be updated every three to five years to ensure that level of service data is available and accurate.

- The City should continue to utilize ITS technologies to improve traffic signal efficiency, enhance mobility, and improve safety and security. Design and construction of the next phases of the Smart Traffic Center should commence as soon as funding permits.

- An Access Management Policy should be adopted with particular emphasis on arterial roadways.

- A Connectivity Policy should be adopted. Design guidelines should recognize connectivity as an integral component of the City's roadway system.

- A Traffic Calming Policy should be adopted. Traffic calming is a program designed to slow speeds on residential streets. Program elements include: education, data collection, speed monitoring and enforcement, and physical devices.

Funding

Adequate funding is necessary to keep Chesapeake's transportation system viable and responsive to both mobility and public safety needs now and in the future. In addition to funding for new construction, additional funds are needed for the operation and maintenance of the City's drawbridges. The City of Chesapeake has more miles of deep-water canals than any other city in the country. The City is responsible for the maintenance, repair and replacement of 73 fixed bridges, 5 drawbridges and 10 overpasses. The City, VDOT, and the Army Corps of Engineers are the only two entities in the State that operate/maintain drawbridges.

Issue Eight: Needs Exceed Funding

Roadway needs far outpace available funding. It has been estimated that the 2026 regional roadway needs total approximately $20 billion, while the available funding over this time period is estimated to be approximately $2 billion.

There remain many regionally significant thoroughfare improvements in Chesapeake that are unfunded or partially funded including: Interstate 64 (from I-464 to Bowers Hill), Dominion Blvd., and the Jordan Bridge.

In recent years, localities have been burdened with funding larger shares of transportation improvements. Since 1994, Chesapeake has expended/committed well over $100 million for major construction projects, including the Oak Grove Connector ($37 million), Rt. 168/Chesapeake Expressway (urban funds - $45 million/ local funds – $28 million), and Cedar Road ($8 million).

The Virginia Department of Transportation (VDOT) identified fiscal year 2002-2003 as a "crossover" year, in that funds had to be diverted from the State's construction fund to its maintenance fund. VDOT expects this trend to continue, resulting in little to no growth in the construction fund over the next twenty years.

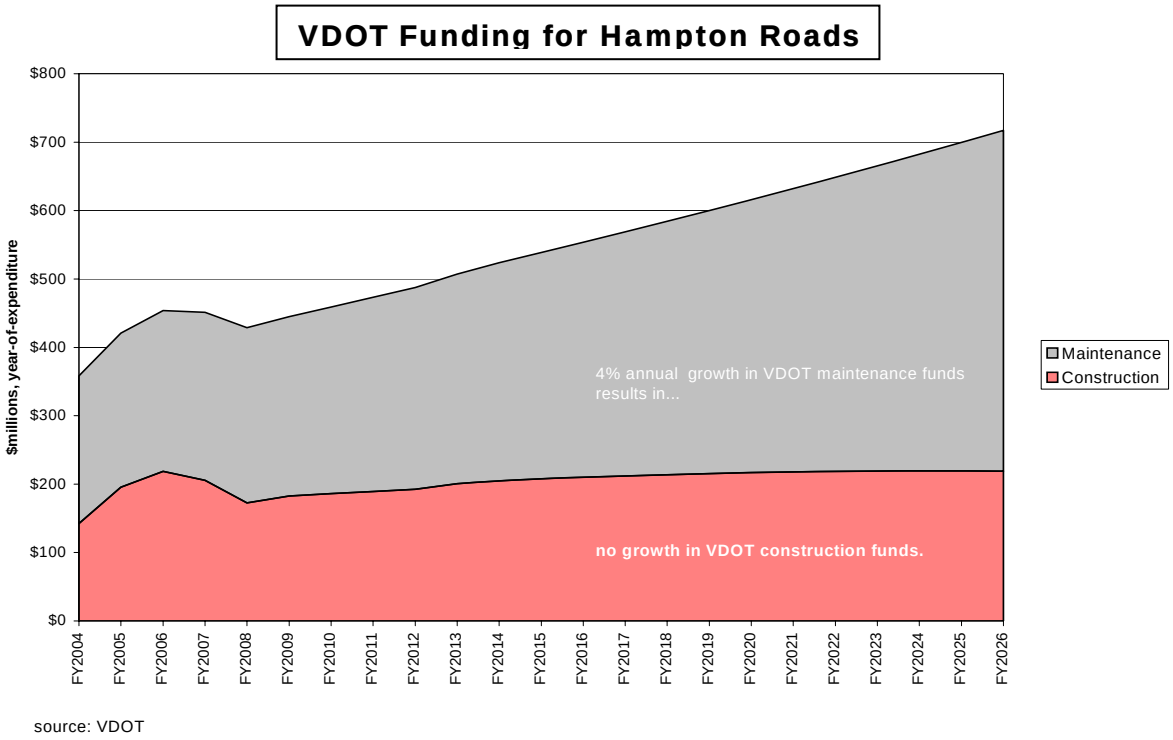


Chart Source: Hampton Roads Planning District Commission

The current urban maintenance formula does not provide differential costs for the significant additional costs for drawbridges. The City is reimbursed the same amount for a mile of road, as for a mile of bridge, as for a mile of drawbridge. Allocation formulas are in Code of VA 33.1-23.1 On collector/local roads, VDOT's current annual reimbursement to the City of Chesapeake is $7,608 per lane mile, whereas the City's cost for maintaining bridges on these roads is $155,682 per lane mile. On principal/arterial roads VDOT reimburses the City $12,958 per lane mile for all bridges whereas annual costs to the City are $339,998 per lane mile.

The City will aggressively pursue funding for needed transportation improvements.

Strategies:

- The City should continue to lobby Federal and State legislative bodies for additional funding for roadway improvements.

- Recognizing current budget difficulties, innovative financing alternatives such as Public-Private Transportation Agreements (PPTA) and Tax Increment Financing Districts (TIFD) should be evaluated and implemented where feasible.

- A roads pro-rata program should be evaluated and implemented if feasible.

- The City should continue to seek dedicated bridge funding to replace drawbridges, as well as State reimbursement for drawbridge operations and maintenance commensurate with actual costs.

- A dedicated funding stream should be set aside for advanced right-of-way acquisition to preserve roadway corridors. The FY 2004-08 Capital Improvement Budget (CIB) includes a project that would provide $6,000,000 for this effort. However, the project is currently unfunded.

- The City should seek private funding of some improvements such as pedestrian and bikeway facilities.

Transit

Public Transportation within the City of Chesapeake consists primarily of bus service which is provided by Hampton Roads Transit. Current service includes both fixed route bus service as well as para-transit service. Para-transit service is defined as a form of transportation ranging between fixed route bus service and the private automobile. Para-transit is characterized by its low capital cost and innovative answers to the provision of transit. Its chief attribute is its flexibility.

Fixed route bus service is provided primarily in the densely populated areas of the South Norfolk Borough, within the Campostella Square and Crestwood areas of the Washington Borough, and in the Camelot community. Fixed route service is also provided to Chesapeake General Hospital, the Civic Center, and the Chesapeake campus of Tidewater Community College. Express service from Greenbrier Mall to the Norfolk Naval Base is also provided. Current frequencies are one hour. Para-transit service, known as "Handi-ride," is provided to qualifying citizens living within ¾ mile of a fixed route bus line. Currently, there is no bus service south of Cedar Road.

Per the Americans with Disabilities Act (ADA), transit operators are required to provide service to qualifying individuals living within ¾ miles of a fixed route bus line. There are currently no provisions for disabled citizens living beyond the ¾ mile limit.

Current ridership on most of the bus routes within the City of Chesapeake is considered low by industry standard, with the daily commute being dominated by single-occupant vehicles. Reductions in single-occupant automobile usage will occur when availability and public acceptance of transit service increases. The key principle of this concept is the linkage between residential and employment areas.

The *Chesapeake Corridor Alternatives Analysis Report*, a light rail study, was completed in early 2003. The study concluded that light rail transit in Chesapeake is not feasible at this time; however, it recommended steps to maintain rail service as an option in the future:

- Improve the existing bus service to encourage the use of transit
- Encourage transit supportive developments and densities in the potential corridors evaluated
- Take proactive steps to preserve existing rail corridors in the City so that rail transit can be implemented in the future without extensive takings

Issue Nine: Increased Costs

With shrinking state and federal revenues, as well as low fare-box revenues, cities are required to pay a large portion of transit operation costs.

Issue Ten: Ridership

Ridership on many of the bus routes within Chesapeake is low by industry standard. This is likely due to the current development patterns in the City, as well as the frequency of bus service.

Issue Eleven: Limited Service Area

There is currently no transit service for the southern half of the City.

Public transit will be an increasingly important component of Chesapeake's overall transportation network.

Strategies:

- Public transit service should be provided throughout built-up portions of the City to serve special target groups, and to reduce dependency on automobile usage. Specifically, public transportation should be provided from residential areas to major activity centers within the City.

- Special transit service should be available for the handicapped community throughout the City.

- The City, residential and commercial developments, and major employers should be encouraged to support para-transit service, vanpools, ride sharing, and other transportation alternatives to the single-occupant vehicle.

- The City should continue to seek increased federal and state funding for transit systems without the reduction of funding for other transportation modes. A larger, dedicated source of federal and state funding for transit - including funds for existing operating and capital needs as well as start-ups – should be a top priority, particularly as requests for local participation continue to increase.

- Bus service frequencies should be increased where necessary and when funding allows. Current frequencies are one hour. The industry standard for bus service frequency at a given bus stop is a maximum of 30 minutes, with 15 minute frequencies recommended.

- The recommendations of the *Chesapeake Corridor Alternatives Analysis Report* should be implemented to keep light rail transit a feasible option in the future.

- Safe pedestrian connections should be available from public transit lines to community facilities, such as schools, libraries, social service facilities.

Railroads

There are currently five rail operators in the City of Chesapeake: Norfolk-Southern, Chesapeake & Albemarle Shortline, Norfolk & Portsmouth Beltline, Commonwealth Railroad, and CSX Railroad. The primary commodity transported in the region is bituminous coal, accounting for over 90% of all inbound rail shipments (*Intermodal Management System for Hampton Roads*, HRPDC, December 2001).

1998 Top Ten Inbound and Outbound Commodities For Hampton Roads to and from the United States

Inbound Freight

Commodity	Rail	Truck	Air	Water	Total Tonnage (Short Tons)	Percent of Total Inbound	Commodity Value
BITUMINOUS COAL	44,683,996	650,040	0	0	**45,334,036**	**59%**	**$1,189,312,716**
MISC WASTE OR SCRAP	0	0	0	5,161,259	**5,161,259**	**7%**	**$35,284,015,031**
WAREHOUSE & DISTRIBUTION CENTER	0	3,405,102	0	0	**3,405,102**	**4%**	**N/A**
BROKEN STONE OR RIPRAP	1,211,836	0	0	426,821	**1,638,657**	**2%**	**$9,135,283**
FAK SHIPMENTS	1,408,052	0	3,135	0	**1,411,187**	**2%**	**$10,434,205,131**
PETROLEUM REFINING PRODUCTS	0	329,316	0	981,567	**1,310,883**	**2%**	**$323,973,496**
PRIMARY FOREST MATERIALS	0	1,159,244	0	0	**1,159,244**	**2%**	**$83,270,225**
READY-MIX CONCRETE, WET	0	1,037,224	0	0	**1,037,224**	**1%**	**$33,591,449**
BITUMINOUS COAL OR LIGNITE	909,838	0	0	0	**909,838**	**1%**	**$23,869,082**
RAIL INTERMODAL DRAYAGE	0	885,721	0	0	**885,721**	**1%**	**N/A**
Subtotaled Tonnage for the Top 10 Commodities					**62,253,151**		
Total Tonnage Transported					**77,193,941**		

Outbound Freight

Commodity	Rail	Truck	Air	Water	Total Tonnage (Short Tons)	Percent of Total Outbound	Commodity Value
WAREHOUSE & DISTRIBUTION CENTER	0	6,304,611	0	0	**6,304,611**	**19%**	**N/A**
PETROLEUM REFINING PRODUCTS	0	1,085,058	0	1,635,215	**2,720,273**	**8%**	**$672,292,079**
GRAVEL OR SAND	0	0	0	1,237,145	**1,237,145**	**4%**	**$7,021,647**
MISC WASTE OR SCRAP	0	0	0	1,196,609	**1,196,609**	**4%**	**$8,180,401,321**
FAK SHIPMENTS	1,137,416	0	0	0	**1,137,416**	**3%**	**$8,409,966,262**
READY-MIX CONCRETE, WET	0	1,011,470	0	0	**1,011,470**	**3%**	**$32,757,393**
RAIL INTERMODAL DRAYAGE	0	958,889	0	0	**958,889**	**3%**	**N/A**
MOTOR VEHICLES	0	766,111	0	118,014	**884,125**	**3%**	**$5,563,483,690**
BROKEN STONE OR RIPRAP	0	0	0	855,035	**855,035**	**3%**	**$4,766,700**
POTASSIUM OR SODIUM COMPOUND	36,590	806,547	0	3,401	**846,538**	**3%**	**$211,100,500**
Subtotaled Tonnage for the Top 10 Commodities					**17,152,110**		
Total Tonnage Transported					**32,522,418**		

Source: Reebie Associates Transearch

The proximity of rail service to industrial parks and intermodal transfer locations significantly impacts the City's transportation system and economic development efforts.

Issue Twelve: Highway and Rail Crossings

There are over 70 at-grade highway/rail crossings in the City of Chesapeake. The number and location of highway/rail grade crossings is directly proportionate to the exposure of automobiles to train traffic and vice versa. The number of highway/rail grade crossings and the volume of train traffic impacts traffic delays on the City's roadway network. The maintenance of highway/railroad grade crossings and safety equipment (flashing lights, gates, bells) impacts the safety of the motoring public.

Issue Thirteen: Compatibility

The location of residential developments in regard to rail lines has an impact on the quality of life for citizens residing in such areas. The mixture of housing and rail lines has long been recognized as incompatible.

Chesapeake's rail facilities are an important element of the City's commerce and will be enhanced as practical and compatible with the surrounding land uses and transportation system.

Strategies:

- Railroad service should be maintained and enhanced where appropriate in conjunction with major industrial parks and intermodal transfer points.

- The number of highway/rail grade crossings in the City should be minimized to reduce train/automobile interference. In regard to industrial areas, ideal designs would include a combination of railroad spur lines and dead-end street access coming in from opposite sides like "interlacing fingers," thereby avoiding crossing.

- The City should ensure railroad companies maintain their facilities and safety devices in satisfactory condition. They should also be encouraged to work cooperatively with the City to identify needed improvements and funding opportunities through various Federal and State safety programs.

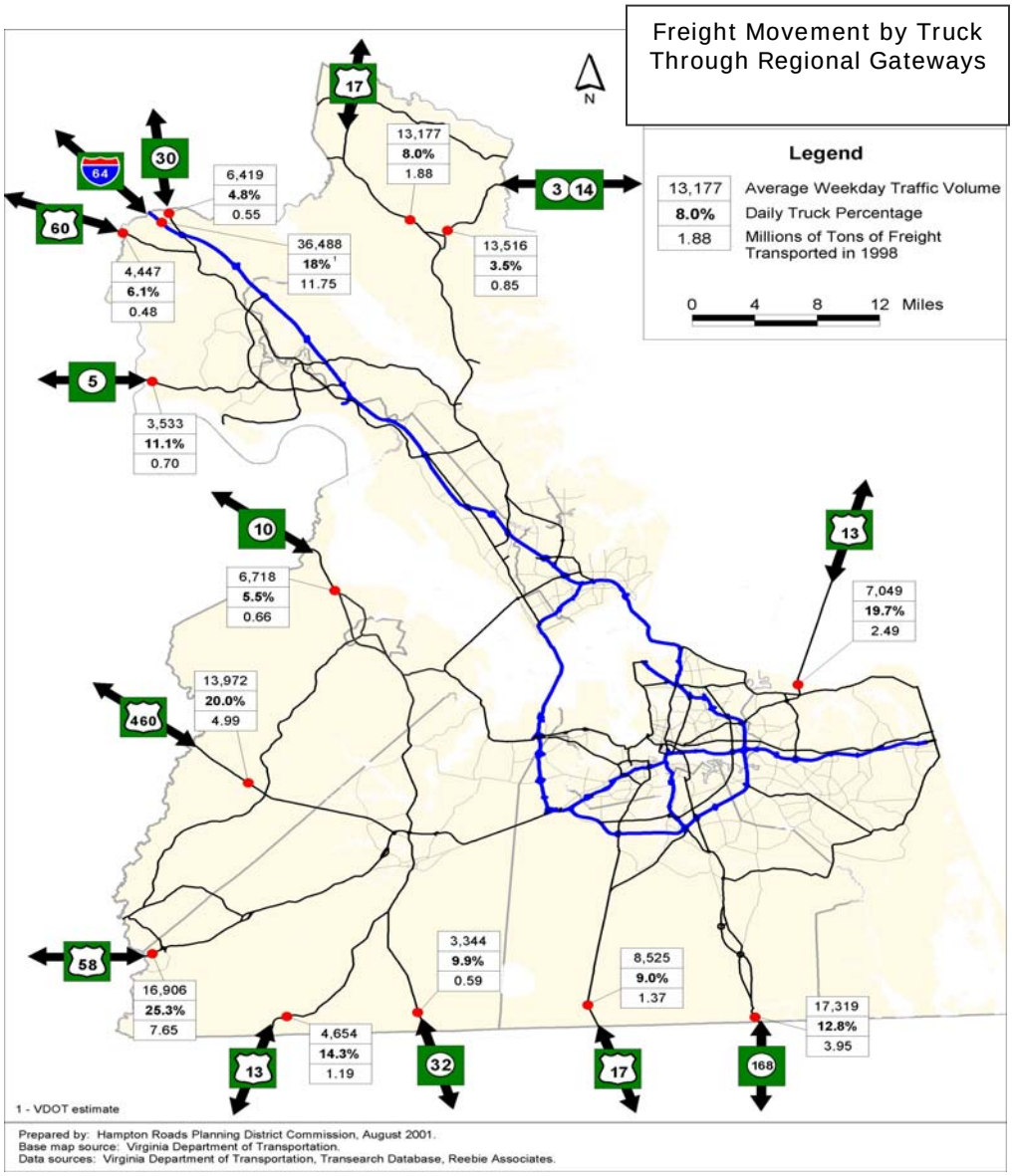
- Residential developments should not be constructed immediately adjacent to railroad facilities and vice versa. In locations where adequate separation between dwelling units and rail lines cannot be maintained, a buffer should be provided.

- Where demand for railroad service has lessened or ceased, consideration should be given to the conversion of the rail line to some other use compatible with its surroundings. Specifically, opportunities under the federal "Rails to Trails" program should be evaluated.

- The City should preserve railroad right-of-way along corridors where passenger rail may be a future consideration.

Trucking

As in most areas of the Country, the trucking industry is a major component in the movement of goods in and through the City. In terms of the Hampton Roads region, truck transport accounted for 50% of all inbound domestic freight and more than 74% of outbound domestic freight in 1999. The primary gateways for trucks entering the Hampton Roads region are Interstate 64, Route 58, and Route 460.



Source: Intermodal Management System for Hampton Roads, prepared by the HRPDC December 2001.

Issue Fourteen: Increased Truck Traffic

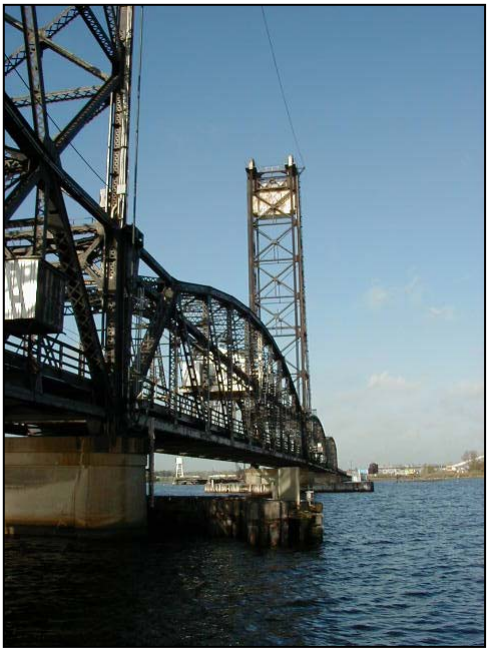
Truck traffic within both the Hampton Roads region and the City of Chesapeake will increase with the various port expansion projects that are either underway or planned. The average daily truck percentage on regional roadways is 5.2%. Portions of U.S. Route 17 and Route 168/Battlefield Boulevard currently carry over 12% trucks. While the Hampton Roads Harbor is the reason for the area's prominence in freight movement, it also presents difficultly for the movement of goods between the Peninsula and the Southside.

Issue Fifteen: Impact of Waterways, Surrounding Uses, and Infrastructure

To ensure compatibility of trucking-related facilities with their surroundings, the location of trucking facilities within the City should be carefully planned. Many roadways, particularly in the more rural areas of the City, are not designed to accommodate truck traffic. Truck traffic, particularly overweight vehicles, burdens the structural integrity of the City's transportation infrastructure.

The Trucking industry will be a component of the overall commercial traffic system within the City and will be fostered in a manner that will minimize its impact to the community.

Strategies:



- The City should support the U.S. Route 460 Improvements as a primary route from South Hampton Roads to I-95, the major truck route of the southeast.

- The City should encourage and assist the trucking industry to establish and maintain modern and attractive facilities at appropriate locations in the City in close proximity to freeways or major arterials and, if necessary, rail yards or ports.

- The City should regulate the use of certain roadways by trucks in order to maintain safety, preserve capacity, and protect the structural integrity of its transportation infrastructure.

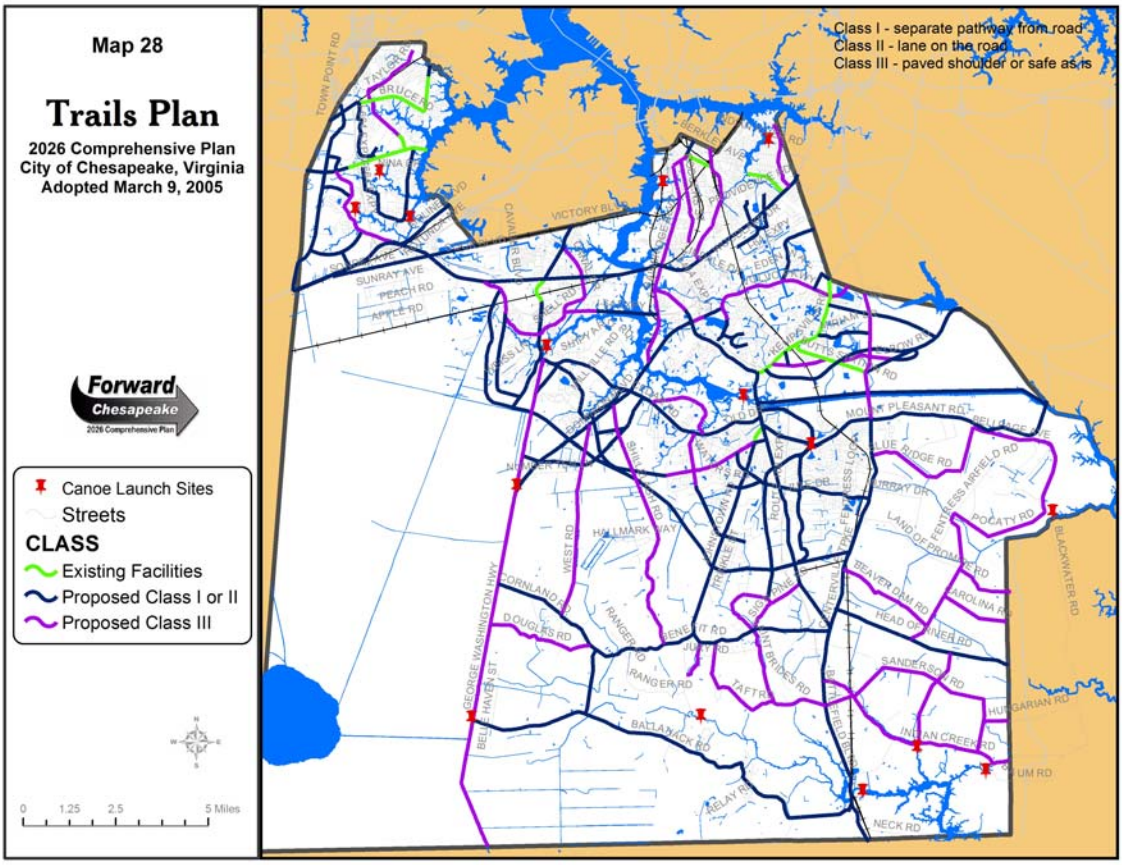
- Arterial roadway design, particularly intersections, should reflect truck accommodation requirements.

- Traffic Engineering, City police, and State police should work closely to monitor and enforce the regulations regarding oversized and overweight vehicles. The use of portable scale crews and weigh in motion technologies should be encouraged.

Trails

The Chesapeake Trails Plan was first adopted on March 19, 1996 by City Council. A chief implementation strategy of this plan was the creation of a Bicycle/Trails Advisory Committee. This Committee serves in an advisory role to City Council, other City Boards and Commissions, and City Staff.

The goal of the trails committee is to formulate a safe, integrated, cost effective and comprehensive system of multi-use trails, bicycle lanes, bicycle routes, and water trails throughout the City; to satisfy the transportation and recreation needs of a variety of users; to reduce traffic congestion, and enhance alternative transportation modes while minimizing negative impacts on the surrounding area. Trail facilities also contribute to the health and quality of life of our citizens, and should be recognized as an integral component of the City's transportation network.



Issue Sixteen: Increased Public Interest in Bicycling and Walking

The popularity of bicycling/walking as both a form of recreation and a means of transportation is on the rise. Accessibility to bikeways and trails increases the opportunities for people to engage in a healthier lifestyle.

Issue Seventeen: Need for the Development of a Network of Trails

Although demand has increased significantly in recent years, there is limited number of bike facilities within the City. Priority should be given to bicycle/pedestrian access between neighborhoods, and from neighborhoods to schools and activity centers. Consideration for access within activity centers such as Greenbrier should be given when developing plans. The top priority trails project is the Great Dismal Swamp Trail. This project will convert approximately 8.5 miles of existing Route 17 South to a trail, and will construct approximately 5.5 miles of an off-road path from Route 17 to Cedar Road.

The City will integrate a comprehensive Bikeway and Trail strategy to enhance the City's quality of life, recreational opportunities, and overall transportation network.

Strategies:

- Bicycle facilities should be modeled on the American Association of State Highway and Transportation Officials (AASHTO) standard classifications for facility type.

- Bike facilities should be designed with the intended user in mind. Off-road paths may be more appropriate for recreational users, while bike lanes adjacent to the roadway may be more appropriate for the avid cyclist.

- Bike facilities should be considered with all future transportation projects.

- New developments should be required to provide bicycle/pedestrian facilities in accordance with the approved Master Trails Plan.

- Opportunities to provide various trail types that accommodate bicyclists, equestrians, and pedestrians should be pursued.

- The City should adopt a connectivity policy that addresses both motor vehicle and bicycle/pedestrian needs.

- Priority should be given to the improvement of bicycle/pedestrian facilities adjacent to schools and within activity centers.

- The City should continue to pursue funding options for bicycle/pedestrian improvements through state and federal grant programs.

- Employers should be encouraged to make bicycling/walking more acceptable modes of commuting to work. Examples of such initiatives include on-site showers and bicycle lockers.

Airports

Chesapeake is home to two airports: the Chesapeake Regional Airport and the Hampton Roads Executive Airport. Norfolk International Airport provides the Hampton Roads region with the necessary facilities for commercial airline transportation and air-freight terminals.

Located on West Road only 4.5 miles from City Hall, the Chesapeake Regional Airport is owned and operated by the Chesapeake Airport Authority. Created by an act of the General Assembly in 1968, the Authority is a political subdivision of the Commonwealth of Virginia. The Airport was formally opened on August 1, 1978. Designated by the Virginia Department of Aviation as a reliever airport for Norfolk International Airport, Chesapeake Regional Airport has approximately 100 based aircraft and conducts an estimated 40,000 aircraft operations annually. The Airport is served by a 5,500' x 100' grooved runway with a parallel taxiway, high intensity runway lights, taxiway lights, Precision Approach Path Indicators, an ILS precision instrument approach, and medium intensity approach lighting. The Airport also has a lighted Helipad for helicopter operations.

The Airport Terminal Building was constructed in 1993. There are 61 aircraft tie-down spaces on the paved aircraft-parking ramp, and the Airport has 68 T-Hangars for single-engine and small twin-engine aircraft, all of which are occupied. There are also three corporate hangars, all of which also are occupied. Current planning is to construct twenty additional T-Hangars and three additional corporate hangars in FY 2004 – FY 2005.

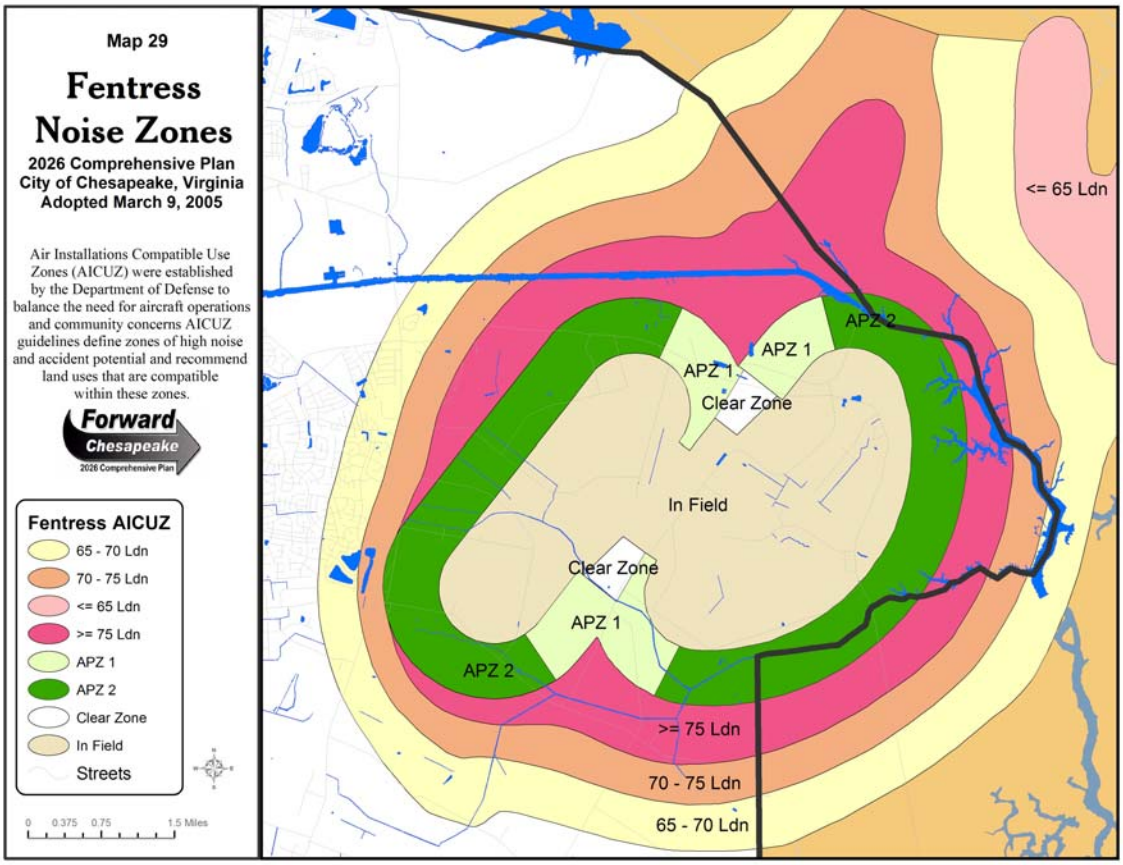
There are currently seven businesses located in the Airport Industrial Park on West Road adjacent to the Airport, and an approximate 20 additional acres adjacent to the Airport were recently rezoned from agricultural to industrial to allow for further development. The ongoing construction project to relocate and widen Route 17 to four lanes includes exit and entrance lanes for an airport access road, and discussions have been initiated with the appropriate landowner to acquire the right-of-way to construct the access road from Route 17 to the Airport.

The Hampton Roads Executive Airport (HREA) is owned and operated by Virginia Aviation Associates, L.L.C. and is located on the north side of Military Highway West (U.S. Route 460) in the Bowers Hill area of the City. HREA began with two (2) grass runways, hangars, a maintenance building, an operations building, and a fueling facility located on 300 acres of land. As the facility modernized and expanded, additional acreage was acquired to insure room for expansion and prevent intrusion of incompatible land uses adjacent to the airport. Total acreage today is approximately 634 acres.

The present facility, classified as a general aviation airport, consists of the following: one north-south 3,600 foot runway; one east-west 4,000 foot runway, fueling facilities, hangars, an administration building, and a restaurant. HREA is home to 183 aircraft, with fifteen (15) airport related businesses operated on site. In terms of annual operations, HREA ranks second in the State for general aviation airports.

HREA developed a master improvement plan in 1990 which called for the construction of a new 5,350 foot east-west runway, and the conversion of the existing runway to a taxiway. These plans were put on hold with the change of ownership in 1993. The 1990 improvement plan was rejuvenated in 2000 with yet another change of ownership. Also included in this update is the installation of an instrument landing system. HREA has received FAA grants for this effort, and anticipate having the improvements in place by 2007. In addition to the improvements described above, a 4,000 square foot hanger was completed in 2002, and ten (10) new hangars are planned to be constructed in 2004.

Chesapeake is also home to the Naval Auxiliary Landing Field Fentress. This 2,553 acre military facility was commissioned in 1943 and is located in the rural eastern portion of the City. Among the first aircraft touching down on the field were the Hellcat, Avenger, and Corsair, all well renowned aircraft during World War II. Today some of the Navy's best high-performance planes use this facility.



Chesapeake is currently engaged in a Joint Land Use Study (JLUS) with the Cities of Norfolk and Virginia Beach, and the U.S. Navy and Department of Defense to develop measures to minimize the impact of military operations on lands adjacent to or in close proximity to Navy air facilities in Hampton Roads. It is the intent of the JLUS to encourage cooperative land use planning between the U.S. Navy and the host cities for Navy air facilities in Hampton Roads so that future community growth and development are compatible with the Navy's training and operational missions. Recommendations from this study are anticipated by the close of 2004.

Issue Eighteen: Potential for Growth in Air Traffic

While surface transportation congestion continues to grow, air transportation is well below capacity. Private ownership of airplanes and helicopters has increased significantly over the last 10 -15 years. This trend is expected to continue for the foreseeable future.

Issue Nineteen: Potential for Related Development

Chesapeake City Council has expressed a desire to construct an airport access road from the new Route 17 to West Road to serve both the Chesapeake Municipal Airport and future industrial development in the area. The Hampton Roads Executive Airport has expressed concerns regarding sewer service and access to their site from West Military Highway.

Issue Twenty: Compatibility with Adjacent Land Uses

Recognizing the problem of land development near air bases, the Department of Defense instituted a study program known as the Air Installation Compatible Use Zone (AICUZ). This program determines which properties near military air installations will be significantly affected by the function and operation of the facility.

Issue Twenty-One: Integration with Other Modes of Transit

The Route 460 improvement proposals include a high-speed rail station in the Bowers Hill area near the HREA.

Chesapeake's airport facilities will be an integral part of the City overall transportation strategy.

Strategies:

- The City should continue to work with regional agencies and airport owners to enhance air transportation in the region.
- The City should support the Hampton Roads Executive Airport's expansion plans.
- The City should continue dialogue with property owners and VDOT regarding the construction of an airport access road to serve the Chesapeake Regional Airport. Airport Access/Industrial Access funds should be pursued for this effort.
- City officials should participate fully in the planning process for the Route 460 improvements, including the high speed rail proposal. If a rail station is feasible in the Bowers Hill area, connectivity with the HREA should be considered in the planning and design process.

Compatibility issues with airport facilities will be a primary consideration when locating new developments.

Strategies:

- The City should work closely with the Department of Defense and operators of other airport facilities regarding future plans.
- The city should participate in Joint Land Use Study with neighboring jurisdictions and the Department of Navy and Defense and implement its recommendations as appropriate at the completion of the study.

Ports/Maritime Industry

In discussing ports and port related activities, it is necessary to review this data in a regional context. The Port of Hampton Roads, comprised of Norfolk International Terminal (NIT), Portsmouth Marine Terminal (PMT), and Newport News Marine Terminal (NNMT), is the second leading port on the United States east coast behind only the Port of New York in terms of total exports and imports. In comparison to ports on the east coast, Hampton Roads ranked first in exports and fourth in imports in 1999. The predominant bulk cargo is bituminous coal. Per the Hampton Roads Maritime Association, 2,700 ships visited the Port of Hampton Roads in the year 2000 (HRPDC, *Intermodal Management System for Hampton Roads,* December 2001).

Port facilities in the City of Chesapeake are located along the Southern Branch of the Elizabeth River and consist mostly of oil terminals. Other terminal uses in this area are grain elevators, merchandise terminals, fertilizer plants, concrete plants, and the Virginia Dominion Power Plant. The Southern Branch of the Elizabeth River is a segment of the Intracoastal Waterway providing the link between the Albemarle and Chesapeake Canal and the Hampton Roads Harbor. This route provides the vital connection between the Albemarle Sound and points south, and to the Chesapeake Bay and points north. The Intracoastal Waterway is used for both commerce and recreation.

The Southern Branch of the Elizabeth River to the north of U.S. Route 17-Dominion Boulevard is a traditionally heavy waterfront industrial corridor with relatively easy access to the Port of Hampton Roads and the Chesapeake Bay. Businesses such as Virginia Dominion Power, Huntsman Chemical, Proctor and Gamble, SPSA, several shipyards, and numerous oil companies have located facilities here. With the exception of Tidewater Skanska located immediately to the south of U.S. Route 17, there are no other industrial properties requiring access to the Hampton Roads Harbor located farther south. The river segment between the G.A. Treakle (High-Rise) Bridge on Interstate 64 and the Steel Bridge on U.S. Route 17 is the last segment of the River devoted primarily to waterfront industrial uses and requiring access to the Hampton Roads Harbor for commerce (Source: *Land-Use Feasibility Study/Southern Branch of the Elizabeth River*).

Issue Twenty-Two: Regional Port Expansion

The amount of general cargo using regional ports, railroads, and roadways is increasing, with significant growth expected to continue in the future. The Virginia Port Authority is in the midst of a $400 million expansion of NIT. New port facilities are being planned in Portsmouth, including a site owned by Maersk on the Elizabeth River just north of the Western Freeway, as well as a fourth regional terminal at Craney Island. Roadways are becoming more congested as the amount of general cargo moving through area ports increases. Congestion will cost shipping companies, and ultimately consumers, more money.

Port and maritime - related industry that has a positive impact on the community will be fostered as a means of enhancing Chesapeake's economic base.

Strategies:

- Surface transportation should be improved to enhance freight movement in and through the region.
- The City should continue to work with the U.S. Army Corps of Engineers and other appropriate public agencies to maintain our waterways for maritime commerce.
- Future improvements to Interstate 64 should consider a non-constraining bridge alternative for the crossing of the Southern Branch of the Elizabeth River.
- Related inter-modal connections to transfer goods between different modes of transportation should be located in a reasonable manner to accommodate the transfer.
- Future regional port expansions should be reviewed closely to assess the potential impact on the City of Chesapeake.

Waterways / Blueways

This Plan's Vision includes an emphasis on creating a high quality of life for Chesapeake including the creation of recreational opportunities for Chesapeake's residents. Community comment has consistently emphasized the need to protect and enhance recreational opportunities associated with Chesapeake's waterways.

This section focuses on the recreational aspects of the City's waterways. Recognizing the value of the City's waterways, City Council in 1974 adopted a Scenic Waterways program as part of the City's *Master Leisure Time Activities Plan*. This program recognizes the outstanding recreational and scenic values afforded by Chesapeake's waterways and promotes the careful use of these natural resources. The facilities identified in this plan include:

- Dismal Swamp Canal – During the 1800's, this canal served as a major north-south commercial artery. It parallels the Great Dismal Swamp and currently has put-ins at Deep Creek Lock Park and at the Route 17 ramp just north of Ballahack Road.

- Feeder Ditch/Lake Drummond – Lake Drummond is located in the center of the Great Dismal Swamp and offers primitive camping at the reservation site. Access to the lake from Route 17 is via the Feeder Ditch – a man-made canal approximately 3.5 miles in length.

- Northwest River – This river serves as a major recreational venue for water related activities. Fishing is a favored pastime, as well as canoeing and recreational boating. Accentuating the river is the Northwest River Park, a 763 acre facility providing camping sites, picnic areas, trails, canoe rentals, and restroom facilities. In addition to recreational opportunities, the Northwest River also serves as the primary source for the City's water supply.

- Pocaty Creek – This waterway is situated in southeastern Chesapeake, running primarily east/west and joining the North Landing River in Virginia Beach. This area offers an ideal location for viewing wildlife and natural scenery.

- Southern Branch of the Elizabeth River – Running approximately from the Downtown Tunnel on the Norfolk/Portsmouth border to the Intracoastal Waterway, this facility provides a mixture of both recreational and commercial traffic. Access points are located at Deep Creek Lock Park, Great Bridge Lock Park, and Elizabeth River Park. Recreational uses include water skiing, fishing, and canoeing. This is also a primary route for recreational yachters during the spring and fall seasons (C*hesapeake Scenic Waterways Plan).*

Other waterways not included in the Chesapeake Scenic Waterways Plan are:

- Western Branch of the Elizabeth River – This waterway runs from Baileys Creek northward along the Chesapeake/Portsmouth border. Drum Point Creek and Stearns Creek branch off of the northern portion of the river. There is currently no public access to this waterway within the City of Chesapeake; however, canoe put-ins are planned at Western Branch Park and Lake Ahoy.

- Albemarle and Chesapeake Canal (Atlantic Intracoastal Waterway) – The Albemarle and Chesapeake Canal is an intracoastal waterway linking the Southern Branch of the Elizabeth River with the North Landing River. Traffic usage along the Canal is considered moderate to heavy and is a combination of commercial and recreational boating. Recreational activities include fishing, water skiing, and leisure boating. Wakes caused by heavy boat traffic generally preclude canoeing. Yacht traffic is significant during the spring and fall seasons.

Issue Twenty-Three: Waterways are an Underutilized Recreation Source

The City's waterways are valuable natural resources, providing a mixture of commercial and recreational opportunities. Current access to our waterway system is inadequate, as are support facilities and directional signage. Ecotourism opportunities remain largely untapped.

The City should treat the City's waterway system as an integral part of its overall recreational system and should maximize its opportunities to both utilize and protect these waterways.

Strategies:

- Access to the City's waterways should be improved and expanded. Consideration should be given to both motorized and non-motorized vessels.

- Support facilities such as parking areas and restroom facilities should be developed where feasible.

- The City should work with the Great Dismal Swamp Wildlife Refuge and other public and private agencies to promote ecotourism in and around the Great Dismal Swamp.

- Wayfinding signage to and along the City's waterway system should be improved and expanded.

- The Chesapeake Scenic Waterways Plan should be updated and expanded if feasible.

- Environmental impacts on the City's waterways should be closely monitored to ensure water quality is not degraded. This is particularly important with the Northwest River as it is the primary source of the City's drinking water.

Air Quality

Environmental issues will be discussed in detail in the *Resource Conservation* portion of this document; however, it is worth noting in this section the linkage between transportation and air quality.

Each state air quality agency is tasked with determining how best to achieve the goals of the Clean Air Act (CAA), and with developing State Implementation Plans (SIP's) for achieving health-based air quality standards. Transportation officials must be involved in the air quality planning process because decisions made in this process can have a direct effect on transportation plans and projects.

Transportation contributes to four of the six criteria pollutants: ozone, carbon monoxide, particulate matter, and nitrogen dioxide. New standards for ozone and particulate matter have been established by the Environmental Protection Agency (EPA) that will also impact transportation planning in the future. One of the key issues of transportation planning and air quality is "conformity." That is, transportation elements must conform to pre-determined emission reduction standards identified in the State Implementation Plan (FHWA, *Air Quality Planning for Transportation Officials*).

Issue Twenty-Four: Conformity of Transportation Projects with Air Quality Standards

When air quality standards are not being met, non-attainment area boundaries are established by the State and the Environmental Protection Agency. These boundaries define the geographic areas subject to State Implementation Plan controls and conformity, and commuting and travel patterns are important elements in setting these boundaries. If transportation projects are not considered conforming, projects and programs may be delayed. When areas do not comply with air quality planning requirements, sanctions may be imposed under the Clean Air Act regulations. Motor vehicle emissions can be a controlling factor in the development of transportation plans and programs.

City transportation officials should participate fully in the air quality planning process.

Strategies:

- The most up to date and accurate transportation data should be used and interpreted correctly.
- The emissions inventories and transportation control measures used should be appropriate and consistent with the transportation vision of the City and the region.
- State and local air quality agencies should keep State Implementation Plans and measures current and on schedule.
- Decisions should reflect community priorities, including mobility.

Water and Sewer

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Water

The City uses both surface and groundwater resources to supply its residents with drinking water. The City's drinking water is supplied from the City of Norfolk, the City of Portsmouth, City wells, private wells, the Northwest River, and in the future, Lake Gaston.

The City's Northwest River Water Treatment Plant, located on South Battlefield Boulevard, treats up to 10 million gallons per day (mgd) from the Northwest River. The plant also treats brackish groundwater from four wells located along South Battlefield Boulevard. The plant capabilities include both the conventional processes of coagulation, sedimentation, and filtration as well as reverse osmosis (RO) membrane treatment. This supply generally serves customers south of Military Highway.

The City purchases bulk treated water from two neighboring cities, Norfolk and Portsmouth. Customers in the Indian River and South Norfolk areas north of Military Highway receive water from the City of Norfolk. Water customers in Western

Branch and Deep Creek north of Military Highway receive water from the City of Portsmouth. All sources are of excellent quality and meet or exceed the SDWA standards.

2003 Water Supply Resources

Source	Amount
Northwest River Water Treatment Plant	10.0 m.g.d.
Bulk Water from City of Portsmouth	5.0 m.g.d.
Bulk Water from City of Norfolk	3.75 m.g.d.
Total	18.75 m.g.d.

The Western Branch Auxiliary Source is located near the Hampton Roads Airport. This source contains groundwater from the Western Branch Well #1 blended with Aquifer Storage and Recovery (ASR) water. This source is used to meet peak demand and serves roughly the Deep Creek area below Military Highway with a maximum reach to the Civic Center on Cedar Road.

A private water company, Aqua America of Virginia, has a franchise area in the Norfolk Highlands neighborhood, which serves approximately 450 customers.

The City is currently constructing a new water treatment plant in the Bowers Hill area that will use state-of-the-art membrane technology to provide approximately 13.6 million gallons of drinking water a day. The project began construction in August 2003 and will be completed in 2006. The plant will receive water from Lake Gaston between 2015 and 2020. The plant will compliment the other existing supplies.

Issue One: Water Supply

Through combined water sources, Chesapeake anticipates having an adequate water supply, at current growth rates, to handle water demands until approximately 2040. The need for water will always be a reality, and there is always the need to identify new water resources for the future. Securing and developing water supplies often requires a considerable amount of lead time prior to being able to actually use the new water source, and as such, it is never too early to begin looking for more resources. It has taken several decades to secure the Lake Gaston water, and it is reasonable to expect the development of other resources will be equally time consuming.

New water resources have been identified for Chesapeake's maximum daily needs until approximately 2040. Current contracts with Norfolk and Portsmouth allow for the purchase of finished water. In addition, the contract with Norfolk allows for the purchase of raw water that will be treated at the new treatment plant.

Another element in the City's water reserves is the Lake Gaston Project of which Chesapeake is a 1/6 partner with the City of Virginia Beach. This project is currently rated at 60 million gallons per day. This water will also be treated at the new plant following future upgrades to expand its capacity as needed to meet projected water demands.

The City of Chesapeake should become more self-sufficient in its ability to supply fresh, potable water to its residents, business and industry.

Strategies:

- The City will maintain a proactive approach to identifying future water sources and continue to update its strategy to provide for future needs.

- A program of water conservation has been established and is implemented to varying degrees as circumstances require, beginning with standard practices suggested by good stewardship to more substantial practices required during times of stress, and in a manner that minimizes adverse impacts on economic activity and existing residences.

- Continued study should be given to all feasible long-term supply alternatives until the most cost- effective system or combination of systems for Chesapeake is determined.

- Water resources should be diversified in order to reduce the reliance on any particular source.

Issue Two: Safe Drinking Water

The provision of safe drinking water has a direct relationship to the protection of the health and safety of Chesapeake residents.

The City will continue to maintain a strong position against the potential contamination of its water supply.

Strategies:

- An adequate buffer should be established around all drinking water supplies in which no development should occur. The magnitude of this buffer will be impacted in part by the proposed adjacent development.

- The creation of additional impervious surfaces on lands directly draining into the water supply should be carefully considered and protections to prevent contamination implemented. Part of the consideration will include the type of water source impacted.

- Development proposals for activities that have traditionally affected hydrology, such as borrow pits or drainage facilities, should be carefully considered for their potential impact on the water supply.

- The City will continue to meet or exceed all water quality standards.

- The City Planning Department will coordinate the development of a water supply watershed management program, such as that found in the Hampton Roads Planning District's report titled "Water Supply Watershed Management in Hampton Roads."

Issue Three: Water Supply Infrastructure

The water supply infrastructure located throughout the City is of varying age and construction. This infrastructure includes pipes, pumps, storage tanks, and treatment facilities. As these facilities age or become outdated, they require replacement. This issue is critical and must be managed to prevent future fiscal impacts. Additionally, many existing developed areas within the City's Utility Franchise Area are not served by public water service.

As a general guide, developers will continue to be responsible for constructing the necessary water infrastructure to support their developments. The City will continue to identify funding for the maintenance and operation of existing facilities.

The provision and maintenance of water service distribution facilities to existing development within the City's Utility Franchise Area should be considered prior to the construction of new facilities.

Strategies:

- As part of the capital improvement program Public Utilities has identified areas where upgrades or replacements are needed within the water system. These improvements take into account improved fire and domestic service for the areas identified.

- When planning for water supply infrastructure, consideration to water storage and distribution facilities must be included.

- It is recommended that the City's Department of Utilities consider undertaking an engineering review of both the Year 2026 Plan and supporting data to determine its impacts on the existing water and wastewater infrastructure, in addition to new public infrastructure required to support the Plan's recommendations. Engineering cost estimates and construction schedules are logical outcomes of these studies. They will serve to support an updated capital improvements program and to refine the planning estimates that resulted from the development of the Plan.

Issue Four: The Provision of Public Water Service

The Public Utilities service area, referred to as the Public Utilities Franchise Area, is established as that area which it shall be the policy of the City of Chesapeake to provide public water and sewer service. Expansions to this area should only be made when the expansion would be consistent with the City's overall growth management strategy.

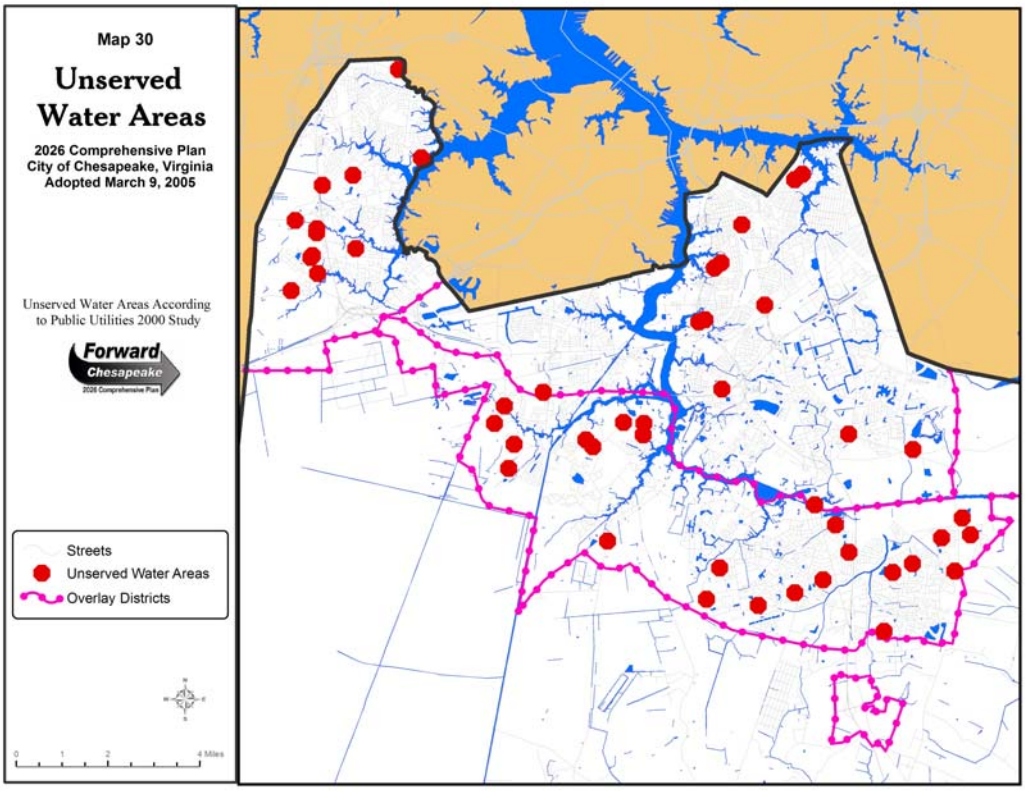
Public water service will only be provided to those areas within the Public Utility Franchise Area or to the 2026 Public Utility Franchise Area, and only at a time that is consistent with the City's overall growth management strategy.

Strategies:

- Water distribution systems and new hookups should be provided only in areas that can be served cost-effectively by a complete range of urban services, or in those cases where private groundwater supplies to existing residents are a threat to public health.

- The provision of public water service to areas of existing development within the Public Utility Franchise Area will take precedence over the extension of public water service into new undeveloped areas.

- The Public Utilities Department will prepare a strategy to provide public water service to existing neighborhoods not served within the Public Utility Franchise Area.



- Water supply infrastructure constructed by developers must be installed consistent with the provisions of the Comprehensive Plan.

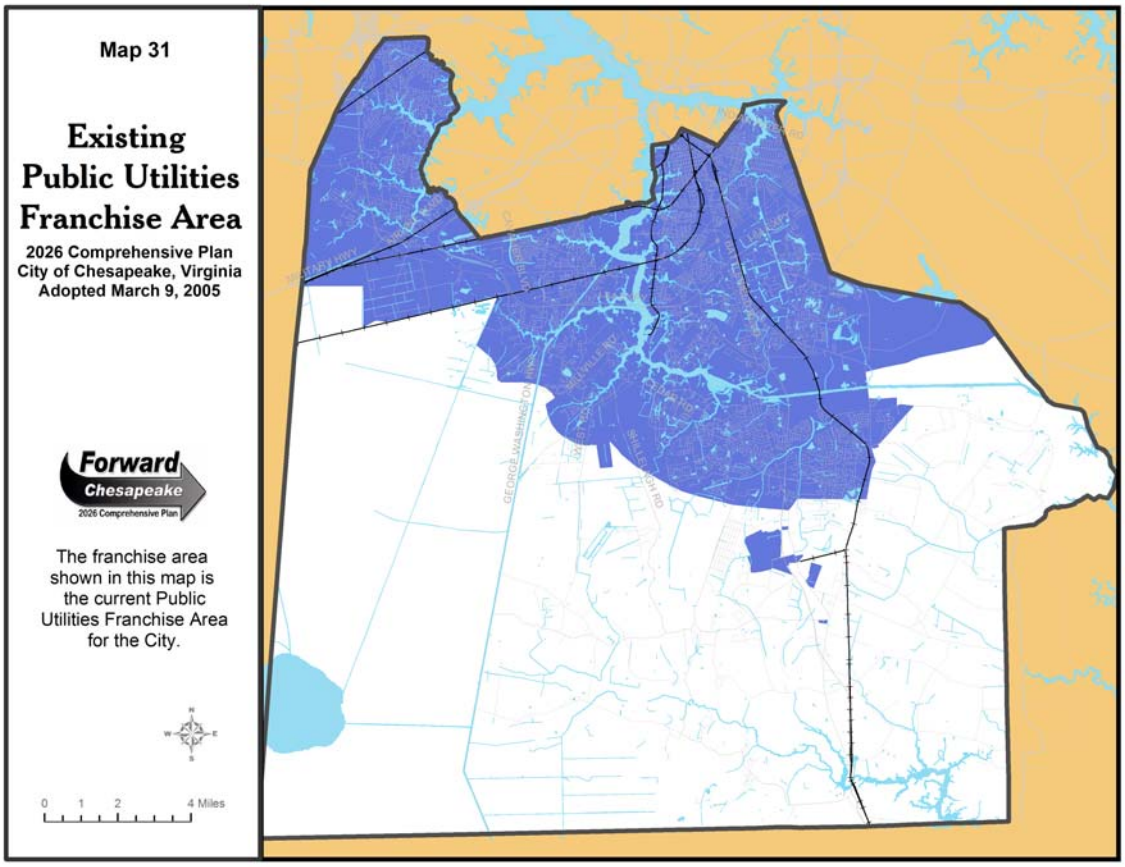
- Water supply infrastructure includes facilities beyond the actual distribution lines, such as necessary storage facilities and transmission lines.

- The installation of new water distribution facilities should be sequenced in such a way as to provide a logical progression from existing service areas to new service areas.

- Private water treatment and distribution systems should be discouraged, except for individual residences in rural areas where groundwater supplies meet health standards.

- Expansions to the Public Utility Franchise Area will require approval by the Chesapeake City Council. This process is outlined in the Growth Management element.

- Funding to extend water service to serve new development areas will be borne by land owners / developers.



Sewer

Chesapeake owns and operates the wastewater collection system and transports the wastewater to Hampton Roads Sanitation District's (HRSD) interceptor facilities. Wastewater treatment is provided by HRSD. Sewer service is critical to development in Chesapeake due to the limitations on the installation of private septic systems. The proper placement and timing of the sewer facilities are necessary to insure the most efficient use of City resources.

HRSD maintains a master plan for sewer force mains; however, it is up to the City to determine the timing of such facilities. Under Section 15.5-2232 of the Code of Virginia, all capital improvements must be found to be consistent with the Comprehensive Plan. It has been Chesapeake's policy to grant such approval only to those lines that will serve current needs as opposed to future needs, thereby reducing the demand for untimely development. This plan provides for an overall growth management strategy and all sewer extensions should be regulated by that strategy.

Issue Five: The Provision of Public Waste Water Treatment

Chesapeake's soils are not well-suited for septic tank systems, and as such, sewer placement has become a critical element to new development. The location of sewer improvements has historically created powerful catalysts for development activity. Given this, public sewer service should only be allowed to those areas of the City that are planned for growth and development. The Public Utility Franchise Area and the 2026 Public Utility Franchise Area corresponds to these areas.

Public sewer service will only be provided to those areas within the Public Utility Franchise Area or to the 2026 Public Utility Franchise Area, and only at a time that is consistent with the City's overall growth management strategy.

Strategies:

- The decision to extend new public sewer service to new development areas must consider the timeliness of the new development and the City's ability to provide other required City services to the new area.

- The extension of new sewer interceptor facilities will be subject to review under the provisions of Title 15.2, Section 2232 of the Code of Virginia for consistency with all provisions of Chesapeake's Comprehensive Plan.

Issue Six: Funding Public Sewer Service

The construction of sewer infrastructure is very expensive; and funding is very limited for such improvements. Replacement costs for inadequate, deteriorating, or obsolete sewer lines may be borne by the City or HRSD depending upon who owns the line. City costs for such projects have typically come from the Capital Improvement Budget. To

further explore methods of providing service to these areas, other funding methods and sources should be examined for future improvements.

The cost associated with constructing new sewer lines to service new development areas is impractical for the City to bear. The cost associated with the construction of new sewer lines and related facilities, such as pumping stations and force mains, should be borne by the developer. Methods for possibly recouping portions of this investment, such as pro-rata agreements, are available and may be used by the developer who funds sewer improvements. When pro-rata is used, it must be done in a manner consistent with all City codes and policies. All lines, regardless of funding source, must be consistent with utility master plans.

An additional financial impact associated with the provision of sewer service comes from the impacts associated with changing regulations and mandates. An example is the impending CMOM (Capacity, Management, Operation, and Maintenance) Regulation. CMOM is a federally mandated asset management program for sewer service requiring the locality to have an adequate flow of revenue for renewal (both system and operation). CMOM will create a mandated need for additional sewer funds. Guidelines are currently under development for this program. This will impact the entire sewer system.

As a general guide, developers will continue to be responsible for constructing the necessary sewer infrastructure to support their developments. The City will continue to identify funding for the maintenance and operation of existing facilities.

The use of public funds for sewer facilities and infrastructure will be prioritized and distributed according to substantiated need. A variety of funding options will be considered when funding these improvements.

Strategies:

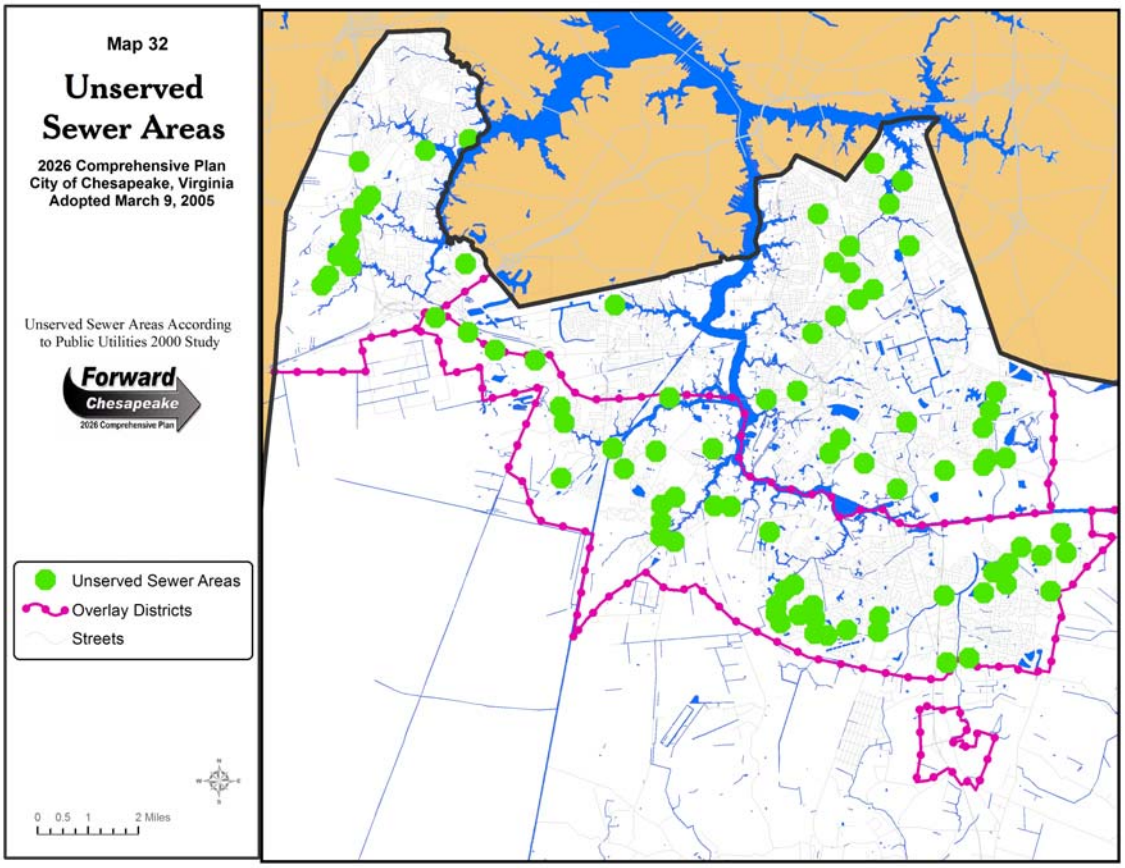
- Existing areas will take priority over service for new areas for the use of public funds.

- The Public Utilities Department will prepare a strategy to provide public sewer services to existing neighborhoods located within the Public Utility Franchise Area but not currently served with public sewer.

- All options should be considered when identifying funding for sewer improvements. Some sources for funding could include: Community Development Block Grants, Economic Development funds if business development is benefited, or special taxing districts.

- Special consideration will be given to planning for the potential impact of new legislation or regulation which will influence the cost of providing public sewer service.

- Funding to extend sewer service to serve new development areas will be borne by land owners / developers.



Issue Seven: The Provision of Private Wastewater Treatment

Private wastewater treatment facilities provide risk for the City in that a failed system may ultimately require City intervention. While a private solution may appear to be a convenient and expedient means of providing wastewater treatment for development outside of utility service areas, these solutions should be seen only as temporary. The ultimate cost of providing public service should be considered as a part of the decision for allowing such systems.

It shall be the policy of Chesapeake to discourage private wastewater treatment facilities.

Strategies:

- Private wastewater collection and treatment systems should be discouraged, except on individual lots in rural areas where soil and groundwater conditions are suitable.

- Private wastewater collection and treatment facilities designed to serve more than a single residence will require a review under Section 15.2-2232 of the Code of Virginia for consistency with the Comprehensive Plan.

- The City of Chesapeake Health Department and Department of Planning should review existing on-site standards with the U.S. Soil and Water Conservation Service, Virginia Department of Environmental Quality, Virginia Department of Health and the U.S. Environmental Protection Agency to determine whether or not such standards and procedures should be amended in the future.

- Sewer collection systems should be maintained and provided to all existing developed, developing, or underutilized urban/suburban areas for which on-site septic systems are unsuitable; however, extension of such systems to presently undeveloped areas should be limited only to those areas which meet comprehensive planning criteria, and can be served cost-effectively.

Stormwater Management

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Overview

Chesapeake's existing stormwater management program is a comprehensive program that identifies structural and nonstructural control measures to reduce the discharge of pollutants as well as provide adequate drainage. The management program includes provisions for improving water quality and drainage through construction and maintenance of structural controls such as culverts, ditches, and detention ponds. The program also includes the stormwater management ordinance which contains site design requirements for drainage and stormwater management controls. By incorporating drainage and stormwater management considerations into the City's long-range land use planning and community design, the City can better ensure both public and private drainage facilities are adequately sized and maintained to meet future growth needs as well as protect water quality and private property.

Flood and infrastructure damage, such as washed-out culverts and bridges, are two potential results from inadequate drainage management planning. Increasing amounts of impervious area from new development impact the size and types of drainage facilities needed to handle the amount of stormwater runoff from future development. This is especially a concern for low density areas which are experiencing a high rate of growth.

To best prevent flooding and consequent property damage, stormwater management requires extensive planning in advance of development activity and should include a comprehensive, regional approach. To best accomplish this goal, the City's Master Drainage Plan should be coordinated

with the 2026 Land Use Plan. Finalized in 1987, the City's current master drainage plan is similar in age to the City's 1988 Land Use Plan.

Chesapeake was issued its stormwater permit in April 1996. As part of the permit, the City adopted a Stormwater Ordinance. The City's Stormwater Management Ordinance is found in Chapter 26, Article VIII, of the *City Code*. The Ordinance applies to all development greater than 10,000 square feet. Development exceeding this threshold must prepare a stormwater management plan, which describes how existing runoff characteristics will be maintained or improved and comply with the requirements of the local program. Requirements for stormwater management plans are contained in the City's Public Facilities manual. This ordinance also defines substances which are prohibited from entering into the municipal storm water management system, unless permitted by a Virginia Pollutant Discharge Elimination System (VPDES) permit.

Since the Master Drainage Plan's adoption, the City has experienced a tremendous rate of growth – approximately 30% since 1990. As such, the City's Master Drainage Plan should be revised to reflect the City's changing land use characteristics as well as any future land use patterns set out in the Comprehensive Plan in order to ensure that public drainage facilities are of adequate capacity to handle future runoff requirements.

The revised Master Drainage Plan should look at opportunities for improvements. An example of such an improvement is including drainage as a preliminary consideration in development site design as well as the City's own long-range planning. The City's Master Drainage Plan should also include individual watersheds for each of the City's forty study areas in its 25 watersheds. By comprehensively assessing each of the City's watersheds, these plans would provide an accurate assessment of the surrounding land use and could provide the City with a logical basis for assessing future planning efforts. Currently, Public Works is doing a watershed plan for Milldam Creek with the US Army Corps of Engineers which uses a stream restoration grant from the Virginia Department of Environmental Quality.

Regional detention or on-site storage should also be implemented wherever possible. One aspect of the Milldam Creek Watershed study will be assessing the feasibility of regional facility around either side of Military Highway on Milldam Creek.

Issue One: Stormwater Management

Inadequate drainage facilities can present flooding problems as well as pose a water quality threat due to insufficient capacity to store and control stormwater runoff.

The City will continue to implement a stormwater management program to protect the health, safety, and welfare of Chesapeake residents and to ensure that public drainage facilities are of adequate capacity to handle future runoff requirements.

Strategies:

- The City will revise its Master Drainage Plan to reflect the City's changing land use characteristics as well as any future land use patterns set out in the Comprehensive Plan.

- Alternative means of managing stormwater will be considered when developing stormwater management plan such as wetland preservation and low impact design techniques.

- Regional stormwater management facilities will be incorporated into community design as prominent landmark features and will be treated as multi-use facilities with such uses as hiking trails, parks, fishing areas, wildlife habitat, or other passive recreational uses.

- In order to provide passive recreational opportunities for City residents as well as enhance the area's water quality benefits through preservation of floodplains, wetlands, and adjacent buffer areas, funding for purchasing and establishing riparian corridors will be considered when available. One implementation strategy could include nominating one or more corridors for acquisition by the City's open space preservation program or non-profit conservation organization.

- A periodic progress report on these efforts should be included as a component of an environmental report to City Council.

- Strategies to provide enhanced stormwater management to older neighborhoods, especially those with chronic drainage problems, will be developed by the Public Works Department and funded in the Capital Improvement Budget.

Solid Waste Management

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Overview

Solid waste is the unfortunate byproduct of civilization. The issue is how we manage that waste. The Waste Management Division of the Public Works Department provides refuse collection once every week for over 60,000 residences in Chesapeake. Over 100,000 tons of refuse is collected annually. The City's Solid Waste is transported to the Southeastern Public Service Authority (SPSA) transfer facility located on Greenbrier Parkway, or the regional Refuse Derived Fuel Facility located in Portsmouth (SPSA facility locations). The City currently has a long term contract with SPSA for solid waste disposal.

Waste management strategies are more far reaching than merely depositing refuse in a landfill and include many different approaches to the control of waste. A comprehensive waste management strategy will include provisions for pollution prevention, waste reduction and minimization, reuse, recycling, waste to energy initiatives, and, as a last resort, landfills.

Solid waste management facilities are a conditional use in all Chesapeake Zoning classifications. The location of waste management facilities should be part of a comprehensive planning process that includes the opportunity for meaningful public participation and public consensus. Site selection for waste sites should be considered in a full public hearing process.

Recycling and Education Programs

SPSA offers recycling programs to help preserve natural resources, reduce the need for raw materials, and minimize dependence on landfills. Chesapeake has curbside recycling and drop off services which are provided by SPSA.

The City of Chesapeake is a participating sponsor of the HR CLEAN, the recycling and litter prevention education program of the Hampton Roads Planning District Commission (HRPDC). HRCLEAN is a regional coalition of local and regional clean community, recycling, and environmental education coordinators who promote litter prevention, recycling, community beautification, and general environmental awareness through educational projects designed to reach all sectors of our communities.

Issue One: Provision for Long Term Waste Management Needs

The City of Chesapeake shall ensure an environmentally sound and efficient solid waste management system that utilizes recycling and source reduction.

- The City of Chesapeake should continue to cooperate with the Southeastern Public Service Authority on regional solid waste disposal facilities outside the City, and shall continue to provide a collection system and a transfer point within the City.
- The City should continue to study and implement long-term solutions to solid waste disposal in order to avoid future problems of service, capacity, environmental impact or cost.
- The City will maintain or improve the existing efficiency of the solid waste management system.
- The City shall encourage activities which educate the citizenry in the values, methods and techniques of recycling, resource recovery, and waste reduction. The City shall continue its efforts to educate and encourage citizens to recycle and to avoid products that do not lend themselves to recycling through City sponsored programs or other initiatives such as HRCLEAN.
- Solid waste facilities that are to be operated in the City of Chesapeake shall be designed and operated in conformance with all applicable federal, state, and local regulations.
- Public participation in the decision making process shall be encouraged through ample notice of meetings where major solid waste management and planning issues are being considered.
- The City of Chesapeake should continue to work within the regional framework for solutions for solid waste management problems.

Schools

Goals

The City will:

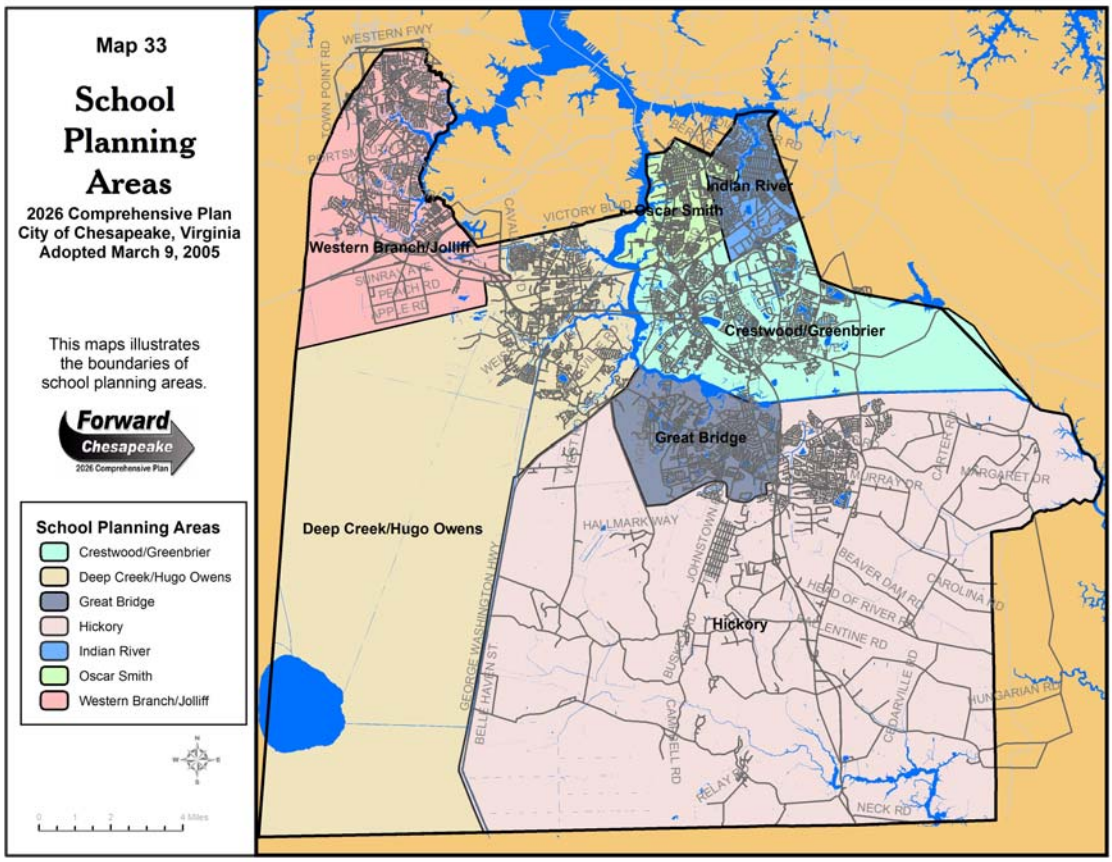
- Provide adequate public facilities and services for all services which the City provides.
- Provide excellent educational services that exceed state standards.
- Ensure that new school facilities are designed and located to reinforce and support the goals and policies of the City's Comprehensive Plan.

Public Schools

The mission of the Chesapeake Public School system is to ensure that students attain the knowledge, skills, and aptitudes to become lifelong learners and productive citizens. This mission is achieved by combining the efforts of students, parents, community, and staff to provide a quality education in a safe, orderly environment. This mission is further enhanced by the desire of this plan to provide the opportunity for excellent educational services exceeding state standards.

The City of Chesapeake Public School system currently has 28 Elementary Schools (both primary and intermediate), 10 Middle Schools, 6 High Schools, and 2 Education Centers. Two new schools (one high school and one middle school) and a replacement school are proposed in the School Board's 2005-2015 Proposed Capital Improvement Plan. The School Board approves a capital improvement plan each year.

For the purpose of planning for school facility needs, the City has been divided into seven school planning areas. These seven school planning areas are identified with the middle school attendance zones and associated high school attendance zones.



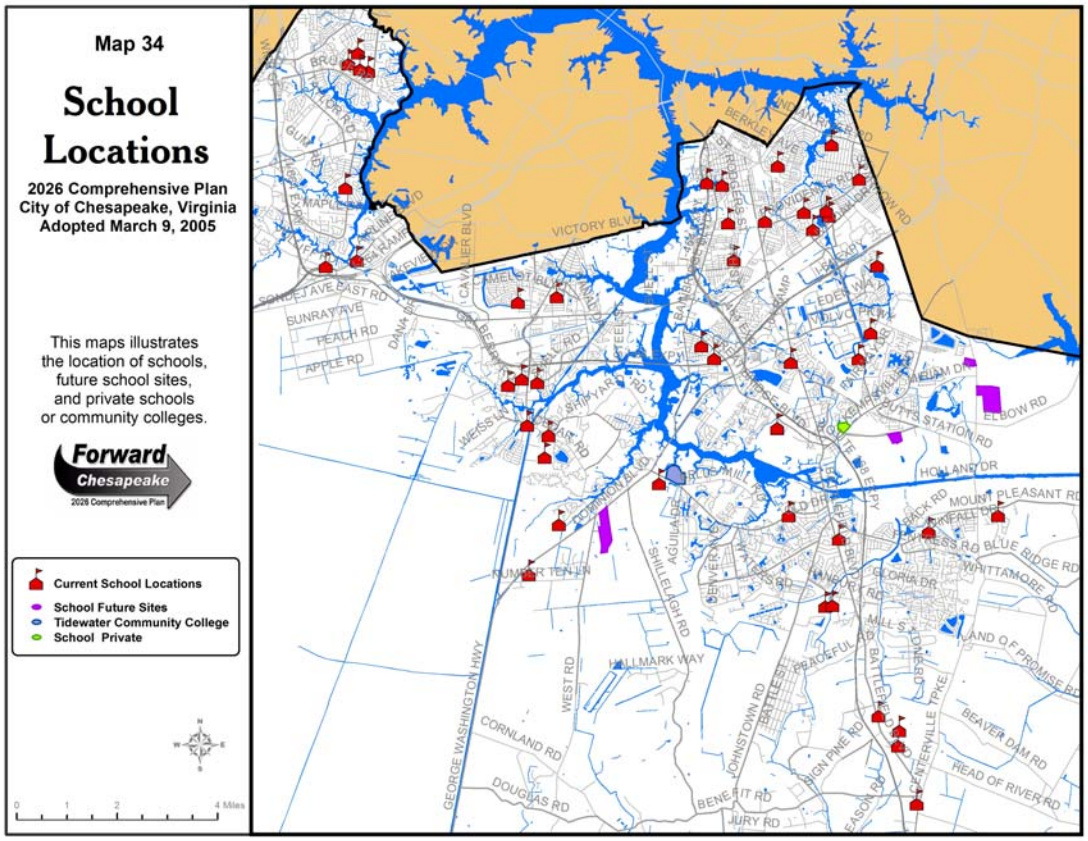
Enrollment Projections

Enrollment projections from all of the school planning areas, except the Indian River Middle School Planning Area, point to a steady increase in the number of students. Table 1 summarizes the changes expected in student enrollments over the next ten-year period (2005-2015). By the end of the year 2015, it is projected that an additional 4,675 students will be enrolled, bringing the total student enrollment to approximately 44,650 students. These anticipated changes will result from additional pupils who are new to the school system because of residential growth and demographic changes within some communities.

Student Enrollment Changes
2005-2015

SCHOOL PLANNING GROWTH AREA	K-5 ELEM	6-8 MIDDLE	9-12 HIGH	TOTAL
Crestwood Middle/Greenbrier Middle	250	275	**[4]	**525**
Deep Creek Middle/ Hugo A. Owens Middle & Deep Creek High	275	250	400	**925**
Great Bridge Middle & Great Bridge High	125	175	325	**625**
Hickory Middle & Hickory High	250	500	625	**1,375**
Indian River Middle & Indian River High	-25	0	200	**175**
Oscar Smith Middle & Oscar Smith High	-25	50	375	**400**
Western Branch Middle/ Jolliff Middle & Western Branch High	150	200	300	**650**
TOTAL	**1,000**	**1,450**	**2,225**	**4,675**

Note: The projected total enrollment of 44,650 students in based on the current enrollment, the projected increase for the 2004-05 school year, and the projected increase for the 2005-2015 ten-year planning period. All estimates have been rounded to the nearest 25. Students from Crestwood Middle School attend either Oscar Smith High School or Great Bridge High School for Grades 9-12. Students from Greenbrier Middle School attend either Indian River High School or Oscar Smith High School for Grades 9-12. Therefore, the projections for additional high school students from the Crestwood/Greenbrier Middle Schools Planning Area are included with those of the high school these students will attend.



Planning for Capital Facility Needs

When planning for school capital facility needs, the School Administration has developed a series of guidelines to facilitate planning. These guidelines have been included as a component of the Schools Capital Improvement Plan. These guidelines should be used for planning for future school capital facility needs and are categorized as follows:

Philosophy Statement on School Facilities

Because Chesapeake's public school facilities are an expression of the community's commitment to educate and invest in its children and its future, Chesapeake Public Schools should:

- Provide facilities that meet the curricular and extracurricular program needs of our students, that are logically designed and, to the extent possible, that are flexible enough to adapt to changing requirements.
- Provide facilities that support and enhance the use of current and future technology.
- Plan schools that have sufficient space to house the students, mindful of the present and future growth patterns of our city.
- Design and construct school facilities free of safety hazards.
- Design and construct school facilities in harmony with the history and architecture of the community.
- Construct and maintain school facilities to be structurally sound, clean, efficient, and attractive.

- Provide facilities that meet the requirements of the centralized support services, such as transportation, food services, central administration and plant maintenance.
- Work with other city departments to provide facilities that encourage multiple public uses, including parking and grounds.
- Secure funding and support for school facility needs.

Planning Principles for Future Schools

Buildings

- Give primary consideration to the basic instructional, administrative, and extracurricular programs of the school system in determining the design of a school.
- Consider the potential for expansion when designing new facilities which are not initially constructed to maximum capacity.
- Design and construct school additions in accordance with maximum capacity guidelines, to the extent possible, before constructing new schools.
- Innovative design practices will be sought which meet a school's instructional requirements, but reduce overall construction costs.

Sites

- Consider the following when determining the location of a school site:
  - Accessibility
  - Proximity to compatible City services, such as parks, athletic fields, and utilities
  - The adequacy of necessary public services such as sewer
  - Adjacent zoning
  - Elementary school sites that are in close proximity to the communities served
  - Secondary school sites that encompass larger geographic areas

Planning

- Explore all viable options for housing students before constructing new schools and additions.
- Draw boundary lines for school zone changes according to minimum and maximum enrollment guidelines.
- Plan for stable school attendance zone boundaries to the extent possible.
- Revise the operational capacity of school buildings annually based on the current instructional program of each building.
- Reevaluate and revise annually all proposals (such as new construction projects, renovations, grade level realignments, and attendance zone adjustments) for inclusion in the School Board's ten-year Proposed Capital Improvement Plan.

Issue One: Overcrowded Conditions in Schools

The capital building needs of the school system are directly linked with the residential growth of the City (1983-2002). After 1982 the school system began experiencing an increase in student population. This increase in enrollment began after the start of rapid, increased residential growth in the city.

Student enrollment has increased approximately 2 percent to 5 percent per year between 1986 and 1997. Overall, between 1998 and 2003, enrollment in Chesapeake increased by about 2,725 students. In the early-to-mid-1990s yearly enrollment increased significantly. Student enrollment has outpaced school construction and portable classrooms have become common place.

In response to this situation, the City adopted the Planning and Land Use Policy in 1995. This policy provides guidance for the rezoning applications which would bring a more intense use to land by providing level of service thresholds for City services which must be met in order to receive a recommendation for approval from City staff. The level of service standard required for schools was established at 120% as the rated capacity for each school in the impacted district. According to the policy, if any school that would serve the proposed development has an enrollment which exceeds the schools capacity by 120%, then the application would be recommended for denial.

The City will seek to create a positive relationship between school construction and school capital needs.

Strategies:

- A direct linkage should be established between the timing of new development and the ability to fund needed capital improvements. This linkage should be incorporated into an overall growth management strategy for the City.

- The guidelines developed by the Chesapeake School Administration regarding philosophy, building, sites, and planning should be used to provide guidance in school construction decisions. The guidelines should not be used to excessively constrain site selection, but to provide general guidance.

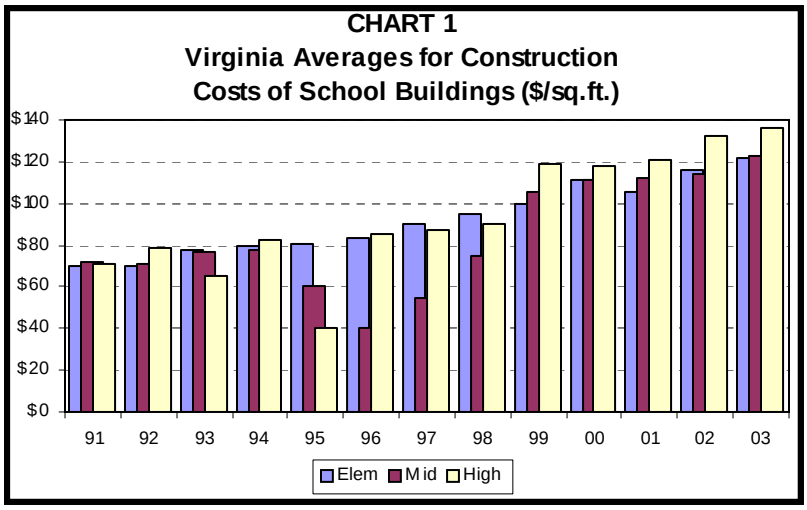
- The City will work with School Administration to develop methods to monitor impending impacts to the school system created by changes in demographics, and new development.

Issue Two: Funding Limitations

Traditionally, Chesapeake has used four sources for funding school capital projects: (1) the City's annual borrowing authority, (2) local bond referendums, (3) loans from the state Literary Fund, and (4) the Virginia Public Schools Authority. Beginning in 1999, additional funding was made available at the state level through lottery proceeds and funds specifically identified for school construction. It is anticipated that the state will continue to provide a limited amount of funding for school construction. In the past, the City has borrowed a significant amount of funds for capital projects including school construction using the funding sources mentioned previously. A significant amount of additional debt service cannot be added without jeopardizing the City's bond rating until

(1) some of the existing debt is retired, or (2) the revenue source is increased. In 2002, City Council established a “lock box” for school capital projects. Funds in the “lock box” have been set aside as a means of providing the necessary backing for future bond issues for school capital improvements.

The cost of school construction in Virginia rose steadily from 1991 until 1995 and in 1996 there were some decreases in construction costs. Since 1997 there has been a slow, steady increase in those costs. The rise in costs for school construction in Virginia was reflected in the increase in school construction costs experienced in Chesapeake. Beginning in December 2003, the price of all types of construction showed sharp increases. In summer 2004, construction costs for schools were in the range of $145-$160 per square foot, depending on the type of building. Many factors impact construction costs. Some of the most important are (1) the number of other large construction projects either online or soon to be online, (2) the availability of manpower, and (3) the availability of materials. School construction costs are expected to increase over time.



The City will continue to seek funding alternatives for schools that are fair to all citizens and that will adequately fund school capital needs.

Strategies:

- The City will continue to seek enabling legislation from the Virginia General Assembly to administer impact fees and adequate public facility programs.

- The City will continue to seek enabling legislation from the Virginia General Assembly to administer a real estate transfer fee to fund public infrastructure, including school construction.

- The City will continue to support the creation of new and enhancement of existing state funding sources.

- The City will continue to request that state and federal mandates be accompanied with the necessary funding for their implementation.

- The City will continue to identify both one-time and recurring funding for school capital facility needs.

- The City will accept, where appropriate, voluntary land dedication and contributions for the construction of new school facilities, or expansion of existing facilities, from landowners and developers impacting school facilities.

The City will continue to encourage the efficient use of capital funds.

Strategies:

- Opportunities to co-locate school and municipal facilities should be identified as a means to control land and infrastructure costs when practical.

- School sites should be located within existing utility service areas. Sites acquired in advance of need should be located within planned utility service areas with the intention of developing only after such services are available. All sites will be subject of a review for consistency with the City's Comprehensive Plan, as required by the Code of Virginia (Title 15.2, Section 2232).

- New school facilities should not be located in such a manner as to provide a catalyst for new development activity in undesired areas for development.

- To the extent possible, new school facilities will be located in such a manner that they do not conflict with efforts to manage service levels in other public facilities. For example, schools should not be located in such a manner that they create the need for school zones on arterial roadways. Such zones create adverse impacts to the roadway service levels usually during periods of high demand as well as creating an unnecessarily dangerous condition for the students. New school facilities should also not be located where they would exceed the capacity of sewer or water facilities which would service the school.

Issue Three: Maintenance Required for Existing Schools

Over the past fifteen years Chesapeake Public Schools has built new school facilities and added to many other school facilities because of the overwhelming need for additional classrooms. The focus during this time has been providing needed additional classrooms. As many of the most pressing space needs have been addressed, at least in the short term, it has become apparent that many facilities require much needed repairs and renovations.

Not all facility deficiencies are considered to be maintenance items addressed through the regular maintenance program. Many facility deficiencies are of a greater magnitude and need to be addressed through the capital budget process. These items are necessary to keep existing facilities operational, and range from the replacement of HVAC systems and roofs to the complete renovation of a facility.

When determining overall school capital facility needs, consideration will be given to major maintenance issues as well as new construction needs.

Strategy:

- When prioritizing future school capital needs, equal consideration should be given to the maintenance of existing facilities.

Issue Four: Quality Educational System is an Integral Part of Overall Community Quality of Life

Education is an important component of the overall fabric of the community. Schools become a point around which community interest develops and is nurtured. The school should provide both a physical and social presence in the community. School facilities should be located in such a way that they are integral elements of the physical landscape of the community as well as being logically located in terms of their relationship to the community they serve.

The City will continue to foster the integration of school facilities into the overall fabric of the community.

Strategies:

- Schools should be located in such a way to be a centrally accessible and identifiable component of the community.
- Schools should not be segregated from the communities they serve by extreme barriers or great distance.
- High Schools and Middle Schools should be designed so that they may also serve the community as primary emergency shelters and should be built to meet American Red Cross standards wherever practicable.
- School Administration and City Administration should collaborate on school site selection with selected sites being mutually agreeable between the two entities.
- Opportunities to engage businesses, community groups and individual citizens as partners in the education of our youth should continue to be identified and expanded.
- The community should work to enhance the capacity of schools to maintain high student achievement.
- Opportunities to create public use campuses should be identified and developed where feasible. Co-location of schools with other important community facilities such as libraries and recreation centers help to solidify these resources as important elements of the community. In these efforts, the safety and security of students should be maintained.

Private Schools

There are at least 8 private schools currently operating in the City of Chesapeake. The students that attend these schools may reside anywhere in the region and likewise, some Chesapeake residents may choose to send their children to private schools located in neighboring jurisdictions. The private nature of the school does not negate the potential impact the facility may have on the community and care should be given to ensure compatibility.

While private schools are not subject to the same building and site requirements of public schools, they should be held to similar standards for community compatibility.

Strategies:

- Private schools will be examined prior to approval for its impact on the adjacent community. Only schools that can demonstrate that they will not create and undue negative impact should be approved. These impacts may be addressed through a conditional use permit process.

Higher Education

The benefits of learning extend well beyond the fundamentals of elementary and high school. Requirements for advanced training and education have become standard in today's job market and important to developing a quality work force. As such, opportunities for advanced training should be fostered within the City.

Chesapeake residents have access to a variety of public and private colleges in the Hampton Roads region including Norfolk State University, Old Dominion University, Virginia Wesleyan College, and Regent University. Satellite facilities for George Washington University, Virginia Tech, and the University of Virginia are also located in the region.

Tidewater Community College (TCC), which is the second largest community college in Virginia, operates a campus on Cedar Road. The Chesapeake Campus of TCC. TCC's facilities are in high demand and there is a need for expansion. The College is seeking opportunities to add additional class room space, a Learning Resource Center, an Automotive Technology Center, a Cultural / Fine Arts Center, a student center, a parking garage, and an observatory to their Chesapeake facilities.

The City of Chesapeake will seek and nurture opportunities to increase higher learning.

Strategies:

- Tidewater Community College should be encouraged to prosper and grow at its current location on Cedar Road. Other off-site facilities should be developed as appropriate and compatible with adjacent communities.

- The City should look for opportunities to partner with TCC and other higher learning institutions to help to enhance the facilities and opportunities afforded to Chesapeake residents.

- The use of public/ private partnerships should be explored as a means of facilitating more opportunities for higher learning.

- The attraction of other public and private colleges and universities, or extensions thereof, should be strongly encouraged and aggressively pursued.

Police

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Overview

The Chesapeake Police Department currently has a total authorized strength of 523 personnel, including 365 sworn Police Officers, 138 civilian personnel, and 20 Animal Control personnel plus an additional 38 part-time School Crossing Guards. These personnel comprise the major bureaus of the Department, which include the Operations, Investigations, Support and Administrative Bureaus. Chesapeake is consistently ranked among the top five safest cities in the United States for cities of similar size. Police response time, measured from time of call to time of arrival, averages over eight (8) minutes for all types of calls.

The Police Department experienced four major changes during 2002 that positively affected their ability to provide services to the citizens of Chesapeake:

- Replacement of the existing radio system with a state of the art 800 MHz radio system. The 800 MHz radio system provides reliable city-wide coverage for Police, Fire and EMS with additional radio channels which enhances the safety of personnel in the field.
- Changing the patrol beat configuration from 13 patrol beats to a total of 24 patrol beats. This was accomplished without additional personnel by reorganizing Departmental functions.

- Decentralization of all uniform patrol operations and placement of Captains to head precincts throughout the City to enhance community relations and to be more responsive to the needs of the community.

- Equipping all uniformed patrol personnel with laptop computers to increase their effectiveness and efficiency. Officers in the field are capable of preparing reports of incidents and obtaining National, State and local information via wireless connection.

Police Department facilities are strategically located throughout the City and consist of five (5) precincts. All uniform patrol operations are handled at the precinct level. The precincts are each commanded by a Captain, except the Third Precinct. Police Headquarters is located in the Police-Fire Building in the Civic Center Complex. From this facility the major bureaus operate with their support staff to provide police services throughout the City. Support functions within the facility include: Records; Identification; Crime Prevention; Information Technology; Internal Affairs; Criminal Investigations; Special Investigations; Federal Task Force Operations; Warrants; Planning; Crime Prevention Through Environmental Design; Crime Analysis; State Standards and Accreditation; Intelligence; Traffic, Abandoned Vehicles, Overweight Vehicles, Motorcycle Escort, Radar Enforcement; Property and Evidence; Accounting, Budget and Payroll; Public Information; Inspections; and the 911 Emergency Center for Police-Fire-EMS emergency response.

The First Precinct is co-located with Police Headquarters in the Public Safety Building. A Police Captain is assigned to this facility which is staffed by a civilian Information Specialist on a 24-hour a day basis to handle civilian walk-in traffic and requests. The Canine Unit (K-9) is assigned to this precinct providing city-wide coverage and has a total of 7 police dogs. The dogs are specially trained for patrol operations including searching for narcotics and people. One dog is specially trained for explosive detection. The First Precinct is responsible for routine and emergency police patrol operations and covers the area consisting of Great Bridge and Hickory to the North Carolina Line. There are four patrol beats in this area, each staffed by one officer 24 hours a day.

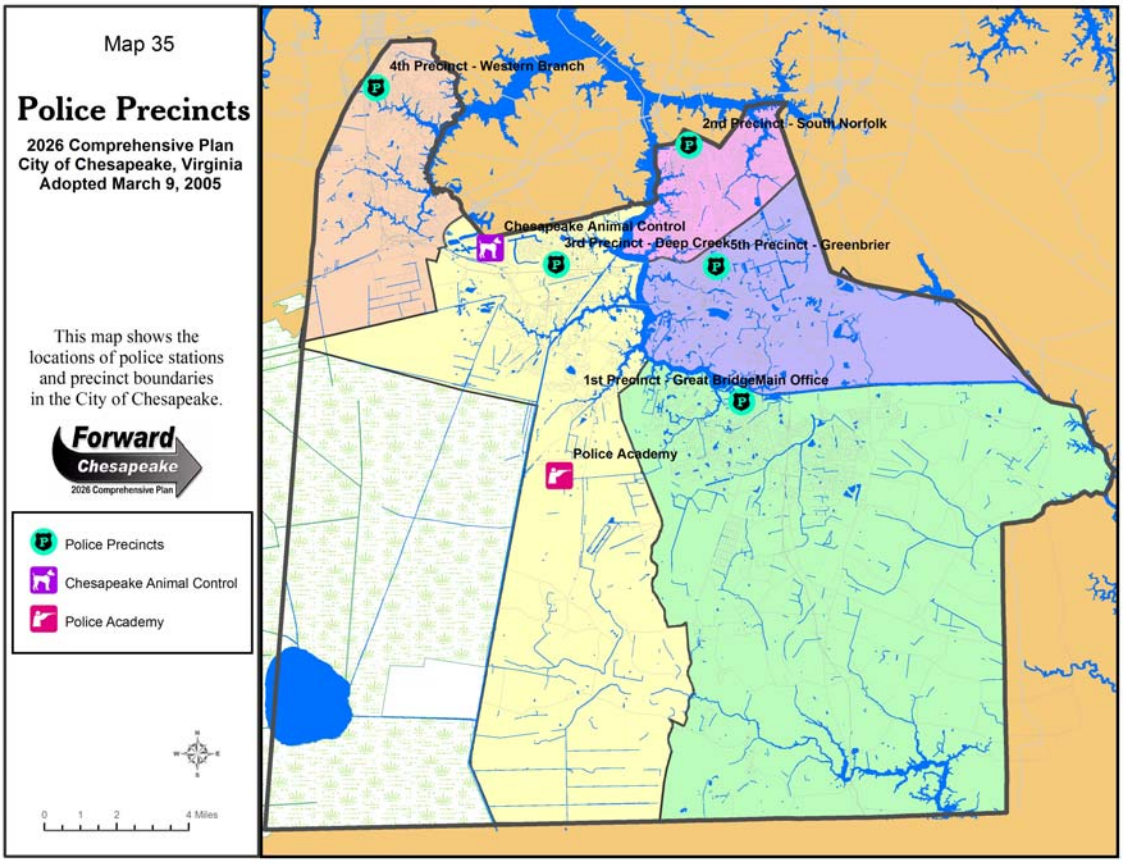
The Second Precinct is located in the South Norfolk area. A Police Captain is assigned to this facility, which is staffed by a civilian Information Specialist during the week during normal working hours to handle civilian walk-in traffic and requests. The Second Precinct covers the area consisting of South Norfolk and Indian River. There are six patrol beats in this area, each staffed by one officer 24 hours a day.

The Third Precinct is located in the Deep Creek area and is unmanned for civilian walk-in traffic. The Police Captain assigned to the Fourth Precinct is responsible for overseeing the operations of this Precinct. The Third Precinct covers the area consisting of Brentwood, Camelot and Deep Creek to the North Carolina Line. There are five patrol beats in this area, each staffed by one officer 24 hours a day.

The Fourth Precinct is located in the Pughsville area. A Police Captain is assigned to this facility and is also staffed by a civilian Information Specialist to handle civilian walk in traffic and requests. The Fourth Precinct covers the area consisting of Western Branch, Pughsville and Bowers Hill. There are four patrol beats in this area, each staffed by one officer 24 hours a day.

The Fifth Precinct is located in the Princeton Halls area of Greenbrier. A Police Captain is assigned to this facility, which is also staffed by a civilian Information Specialist. The Fifth Precinct covers the area south of Military Highway to the Intracoastal Waterway

Canal and from the Elizabeth River to Virginia Beach (Greenbrier and Crestwood). The Fifth Precinct operates out of a leased office building. There are five patrol beats in this area, each staffed by one officer 24 hours a day.



Reported Crimes

Crime	2002	2003	2004
Homicide	6	5	12
Rape	65	70	61
Robbery	321	483	293
Felony Assault	971	926	735
Burglary	1,438	1,258	1,313
Larceny	5,351	5,753	5,975
Auto Theft	604	615	634
TOTAL	8,756	9,110	9,023

The Police Academy is located on Number Ten Lane in the Southern portion of Deep Creek on property that once housed the U.S. Army Nike Missile Site. Basic, In-Service and Specialty training for police officers is provided on an on-going basis and the training is also available for other area law enforcement personnel. The site contains a small physical workout area, four classrooms, administrative offices, and the recently opened pistol range, a state of the art 28 position range. Arrangements have been made with the U.S. Navy to utilize an unused runway at the Navy Fentress Landing Field for driver's training.

The Police Department's Community Resource Vehicle program, which allows officers to take police vehicles home and operate them for personal use within the City, has approximately 142 units. This program has been a valuable resource for the Department, by adding to the Departments exposure. The resulting additional number of police units on the street at varying times has proven again and again to be a beneficial program. Current local financial constraints threaten the ability of the Department to maintain this program.

The Police Department operates a Civilian Police Academy for citizens interested in law enforcement and the department. Currently there are over 350 graduates of this program in the 16 Sessions that have been conducted throughout the city. This has been a very positive program with strong citizen support.

The Police Department has officers assigned to each of the City's Middle and High Schools. This program has been in effect since 1973 and provides students with strong positive law enforcement models in addition to providing a strong law enforcement presence within the schools. This program is managed at the Precinct level and strongly supported by the School System.

The Police Department makes extensive use of volunteers throughout the department in an effort to maximize its effectiveness. The Police Auxiliary Unit consists of 33 civilian personnel who are state certified law enforcement officers. These individuals assist uniform patrol operations on the street and at various events, assist in serving of court papers and perform other law enforcement functions. The Police Chaplain Unit consists of pastors who provide counseling services to both law enforcement and civilian personnel when requested or needed.

The Department maintains several part-time specialty units composed of personnel from all areas of the Department. They are trained, equipped and capable of responding to incidents when activated. The Special Weapons and Tactics (SWAT) Team handles high risk search warrants, barricaded and hostage situations. The Underwater Search and Rescue Team (USART) is responsible for the recovery of evidence that may be underwater and water rescue. The Special Incident Response Team (SIRT) is responsible for handling a large civil disturbance within the City. The Boat Unit provides water patrol on the waterways in the City during the summer months. An all-weather boat is currently on order to provide year-round coverage of high-risk waterfront areas. Funds for this boat were obtained through a Federal Homeland Security Grant

The Animal Control Bureau is located in Animal Shelter building at the Cavalier Industrial Park and is responsible for handling all animal issues involving domesticated animals, including enforcement of animal laws, impounding of stray animals, protection of abused animals, adoption, euthanasia and operation of the Animal Shelter. The Animal Shelter was built in 1987. The Animal Control Bureau operates 16 hours a day and personnel are available for emergency calls during all other periods. Impounded or abandoned animals are held until claimed, adopted or euthanized. There are 11 Animal Wardens authorized.

Issue One: Population Growth

In order to maintain excellent public safety records, police facilities, services, and personnel will need to be increased with population growth.

Growth has created the need to expand or replace existing facilities and programs. This need will increase a population increases. Existing needs include improvements to the 911 call center and more precincts to serve the southern portion of the City. Some facilities have exceeded their functional lifespan require renovation or replacement

The National Law Enforcement average is two law enforcement personnel per 1,000 population. The City should use this figure as a guide to determining future staffing levels.

The City will strive to maintain its excellent public safety record and will develop strategies to maintain this high level of service.

Strategies:

- The City will continually evaluate its police stations and precincts to ensure that they are aligned for maximum efficiency.
- Where enhanced service is warranted, the City will develop an implementation strategy to provide new, expanded, or relocated stations.
- In order to reduce costs, opportunities to co-locate police stations with other public facilities should be explored.
- When considering possible funding sources for police services, opportunities for creative funding sources should be sought including possible public/private partnership options.

Fire and Emergency Management

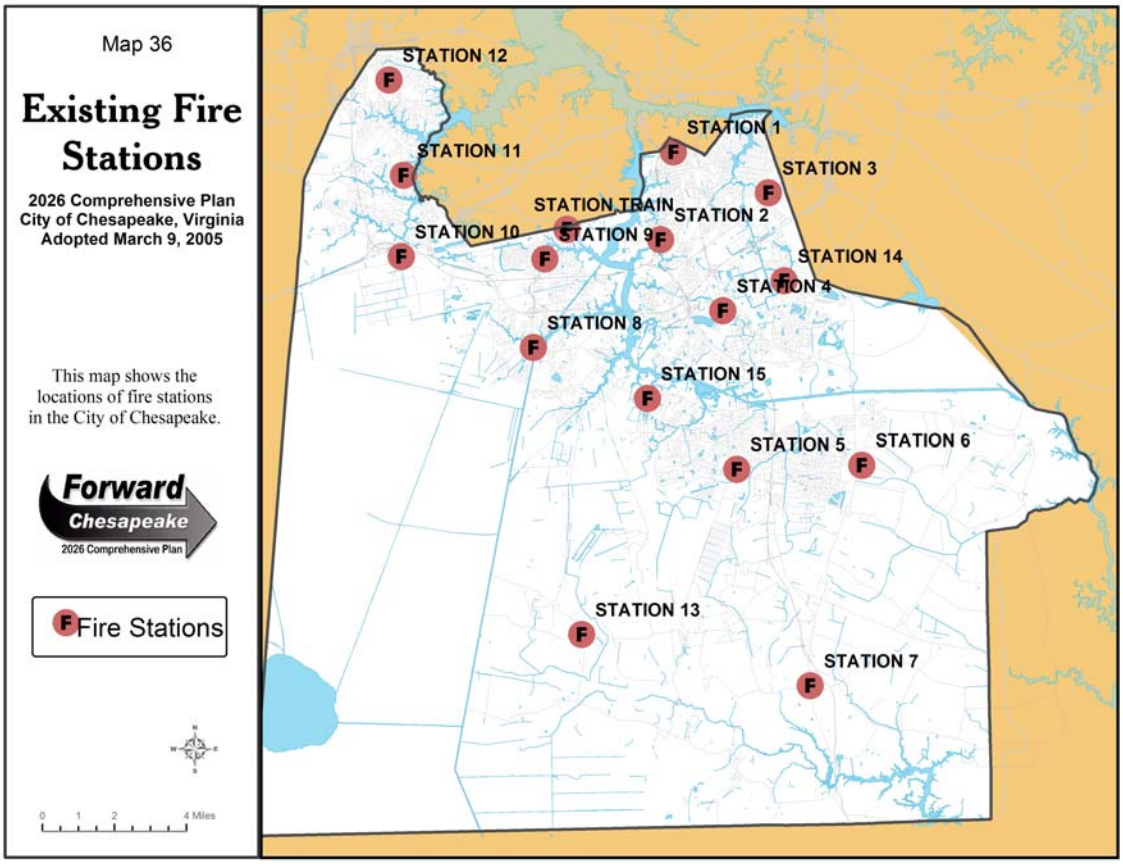
Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Overview

The Fire Department provides rapid response to fires, emergency medical emergencies, hazardous material incidents, natural and man-made disasters, mutual aid assistance to neighboring departments and related emergencies to reduce life and property loss. The Department provides specialized rescue operations, and supports regional hazardous material, technical rescue, and maritime response teams. In addition, the Fire Department inspects businesses and properties, assists with code enforcement, and conducts public education programs. The Department maintains a constant level of readiness through professional training and development. The City of Chesapeake currently operates 15 stations strategically located throughout the jurisdiction. There are 3 divisions in the Fire Department: Fire Operations (Fire and Emergency Medical Services), Fire Prevention, and Support Services.



The Fire Operations Division provides professional response to various emergencies including fires, medical emergencies, accidents, natural and man-made disasters, hazardous materials incidents, and tactical rescues. The Fire Operations Division is also responsible for a public education program to mitigate and prevent many emergencies before they occur. The Office of Emergency Management under the Operations Division is tasked with developing a disaster resistant community through a total system concept. They accomplish this by developing and updating the City's Emergency Operations Plan, designing and conducting all-hazards exercises and drills, and managing the City's Emergency Operations Center.

The Fire Prevention Division provides fire safety inspections, code education and enforcement, pre-construction plan review, and investigative services to reduce the probability, frequency, and severity of fires, explosives, hazardous materials, and the corresponding deaths, injuries, and loss of property from these events. In addition, this division responds to and investigates incidents of suspicious and incendiary fires, hazardous materials, terrorist threats, bomb threats, and explosive devices. A proactive approach is taken by educating citizens and the business community in fire safety codes and reviewing pre-construction plans to ensure compliance with applicable building and fire codes.

The Support Services Division is responsible for health, safety, training, resource management, and accounting for Fire Department personnel The Support Services Division pursues technology to improve service delivery, manages the inventory and

resources of the department, and ensures that the department is operation in a fiscally sound and efficient manner. The Training branch of the Support Services Division conducts a 26-week recruit academy for new employees, and in-service programs and recertification classes for incumbent members. The training staff not only provides professional training for Fire Department staff members at also for other departments and citizens.

The Fire Department has conducted several Deployment Studies to evaluate when and where additional stations and resources are needed. An impact study of NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations t the Public by Career Fire Departments, is being conducted to bring the Department's response times and staffing complement into compliance with this National Standard.

Issue One: Growth Strains Fire and EMS Response Capabilities

The rapid population growth in the City has increased the demand for fire and emergency services. As a result, the Department has had trouble in providing adequate services in acceptable response times. For example, there is a need for additional Advanced Life Support Medic Units in the City. The City frequently has all 10 Medic Units committed to emergency incidents and must rely on mutual aid for any additional calls for service, resulting in an increased response time. Projections indicate that this trend will increase due to unhealthy and elderly populations.

The City shall strive to balance future growth with its ability to provide adequate Fire and EMS services.

Strategies:

- Guidelines and standards, including NFPA 1710 Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, should be followed to determine services needed to provide adequate emergency coverage for the City's population.

- The City should develop methods to monitor impending impacts to its emergency services created by changes in demographics and new development.

Issue Two: Need for Adequate Fire and EMS Capital Facilities and Equipment

The quality of its equipment and facilities can impede or enhance the Department's ability to provide adequate emergency services. The Department has a 5-year capital plan that is evaluated and updated on an annual basis. Capital needs have been identified including the relocation, renovation, and addition of several stations throughout the City due to the expanding development pattern. Currently, the Department has identified a need for additional capital assets in Indian River, southern Greenbrier, Cavalier Industrial Park area, Western Branch, southern Deep Creek, and southern Chesapeake. When the impact study of NFPA 1710 Standard for Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, is complete, the five year capital plan will be updated with these recommendations.

One of the greatest capital needs of the Fire Department is for a Fire and Emergency Medical training facility. The Fire Department's current training facility consists of four borrowed portable classrooms. The Fire Department has only two staff members assigned to training, a Training Program Manager, and a support member. They are responsible for training the 410 employees of the Fire Department.

There is also an urgent need for a functional Emergency Operations Center (EOC). The current facility has severe space limitations with little room for expansion. The support facilities such as restrooms, showers, food preparation, and rest areas necessary to sustain a support an active EOC do not exist in the current structure. Even during small scale incidents, the EOC is often above capacity. Furthermore, the technologies required to manage the complex and evolving incidents faced by emergency responders in this new age require a state of the art EOC. The facility is the nerve center of operations. The must be secure and hardened from external threats including floods, explosives, cyber attacks, and wind damage. The current facility is susceptible to all these external threats.

Technology can greatly improve the Department's ability to provide emergency services, particularly in improving response times. The Department uses mapping software technology and Geographic Information Systems (GIS) in an office environment for analysis and planning. However, this should be expanded to each station and integrated with Auto-Vehicle Location (AVL) technology. This will allow the closest unit to automatically be dispatched to and emergency. This program will decrease response times allowing emergency services to arrive on the scene faster, mitigating the loss of life and property.

The City will find an efficient and effective means of providing the necessary facilities and equipment to provide quality Fire and Emergency Management Services.

Strategies:

- The City will continually evaluate its Fire and EMS stations to ensure that they are aligned for maximum efficiency.

- Where enhanced service is warranted, the City will develop an implementation strategy to provide new, expanded, or relocated stations.

- The City will continue to integrate and improve the technology used to deliver Fire and Emergency Management Services in order to improve service delivery.

- In order to reduce costs, opportunities to co-locate fire stations with other public facilities should be explored.

Issue Three: Need for More Comprehensive Emergency Planning

The City is vulnerable to many types of natural hazards, including hurricanes, nor'easters, floods, tornadoes, winter storms, and wildfires. Growth in Chesapeake has increased the potential for severe economic and social consequences if a major disaster or other catastrophic event were to occur today. Such events can potentially cost the City millions in damages to public buildings and infrastructure, lost tax revenue, unemployment, and homelessness. A multi-hazard mitigation plan has been adopted by the City in accordance with the Disaster Mitigation Act of 2000. The Chesapeake City Council adopted this plan on October 14, 2003, making Chesapeake the first community in the Commonwealth of Virginia with an adopted, and FEMA-approved, local hazard mitigation plan.

Chesapeake will strive to maintain a proactive approach to planning for emergencies.

Strategies:

- The City will enhance the safety of residents and businesses by protecting new and existing development from the effects of hazards. The City will endeavor to protect new and existing public and private infrastructure and facilities from the effects of hazards.

- The City will increase its floodplain management activities and participation in the National Flood Insurance Program. The Departments of Fire, Neighborhood Services and Planning will work together to improve the City's existing floodplain management program.

- The City will institute hazard awareness and risk reduction principles into the City's daily activities, processes, and functions. The City will enhance community-wide understanding and awareness of community hazards. The City will publicize mitigation activities to reduce the City's vulnerability to the identified hazards.

- The City will discourage development in floodplains in order to protect the public health and welfare and prevent property damage.

- The creation of a new Emergency Operations Center (EOC) with appropriate staffing will be pursued.

- The City should explore federal and state grant opportunities as they relate to homeland security and all hazards preparedness.

Issue Four: Regional Cooperation Needs

Because of its proximity to other urban areas, Chesapeake has fostered regional cooperation with neighboring localities in providing Fire and EMS services. The Department participates in numerous regional endeavors to experience economies of scale, pool limited resources and expertise, and to promote a positive and proactive image.

The City should continue to work cooperatively with neighboring jurisdictions to provide needed emergency services.

Strategies:

- The City will continue to participate in regional endeavors such as the Southside Hazardous Materials Team, Tidewater Technical Rescue Team, Maritime Incident Response Team, Local Emergency Planning Committee, and the Metropolitan Medical Response System.

- Opportunities to work cooperatively with neighboring jurisdictions in the provision of training facilities should be considered.

Parks and Recreation

Goals

The City will:

- Ensure that new parks and recreation facilities are designed and located to reinforce and support the goals and policies of the City's Comprehensive Plan.
- Provide parks that meet the needs of special needs citizens and youth.
- Create more recreational facilities sufficient to meet the City's adopted service standards.
- Develop parks and open space on existing city lands.
- Provide trails and bikeways to link parks and neighborhoods.

Overview

Chesapeake residents value highly their outdoor environment and its quality. The quality of life enjoyed by City residents is enhanced by the wealth of natural, cultural, historic and open space resources. They cherish the opportunity to enjoy the outdoors by visiting parks, participating in activities at community recreation centers, traveling scenic roadways, viewing farms and forested land, and enjoying a myriad of educational programs. The benefits of parks and recreational areas associated with physical and mental health are substantial - from the personal physical fitness gained through active outdoor recreation to the mental benefits of passive recreation, parks and open space. Community design which allows for adequate recreation facilities ensures that Chesapeake neighborhoods are attractive places to live with parks and open spaces for exercise, recreation, and enjoying nature. Finally, local economies prosper as businesses and economic investments are drawn to attractive, high-quality living environments that utilize sustainable design and carefully manage future growth.

A recent study by the Chesapeake Health Department found that unplanned suburban-style development is associated with high levels of driving, which contributes to air pollution and its associated health risks, as well as increased back pain, cardiovascular disease and stress levels among commuters. Suburban residents drive twice as far, walk and cycle one-third as often, consume twice as

much energy and produce twice as much air pollution as their urban counterparts who live where land use tends to be mixed. The Surgeon General of the United States cites a correlation between obesity and lack of exercise and high blood pressure, diabetes, and heart attacks and calls for increased recreation opportunities close to home where all Americans can play, exercise and improve their health.

Topping the list of benefits provided to us by natural areas, parks and open spaces are those associated with health, fitness and wellness. When parks and recreation areas are close to home, physical activity can become part of daily life, and enhance everyday living. Individuals and families can be active, both safely and conveniently. Local parks and recreation areas are home to many opportunities. From jogging and walking to playgrounds, athletic playing fields and tennis courts, parks support a variety of activities which contribute to the City's quality of life.

Planning for the City's parks and recreational programs is important to its overall quality of life. The City adopted its Parks and Recreation Master Plan in 1991, with an update to the implementation section in 1998. The basic objectives of the Plan include:

- Acquire land for parks and open space.
- Plan for and construct a comprehensive trail system.
- Construct additional athletic fields to meet existing and projected needs.
- Phase the development of park sites in relation to service demands.
- Enhance and expand existing facilities.
- Increase utilization of existing athletic fields.
- Maintain parks and facilities in good repair.
- Provide diverse indoor recreation and leisure opportunities.
- Develop a tournament-quality tennis complex.
- Increase the availability of water-related recreation.

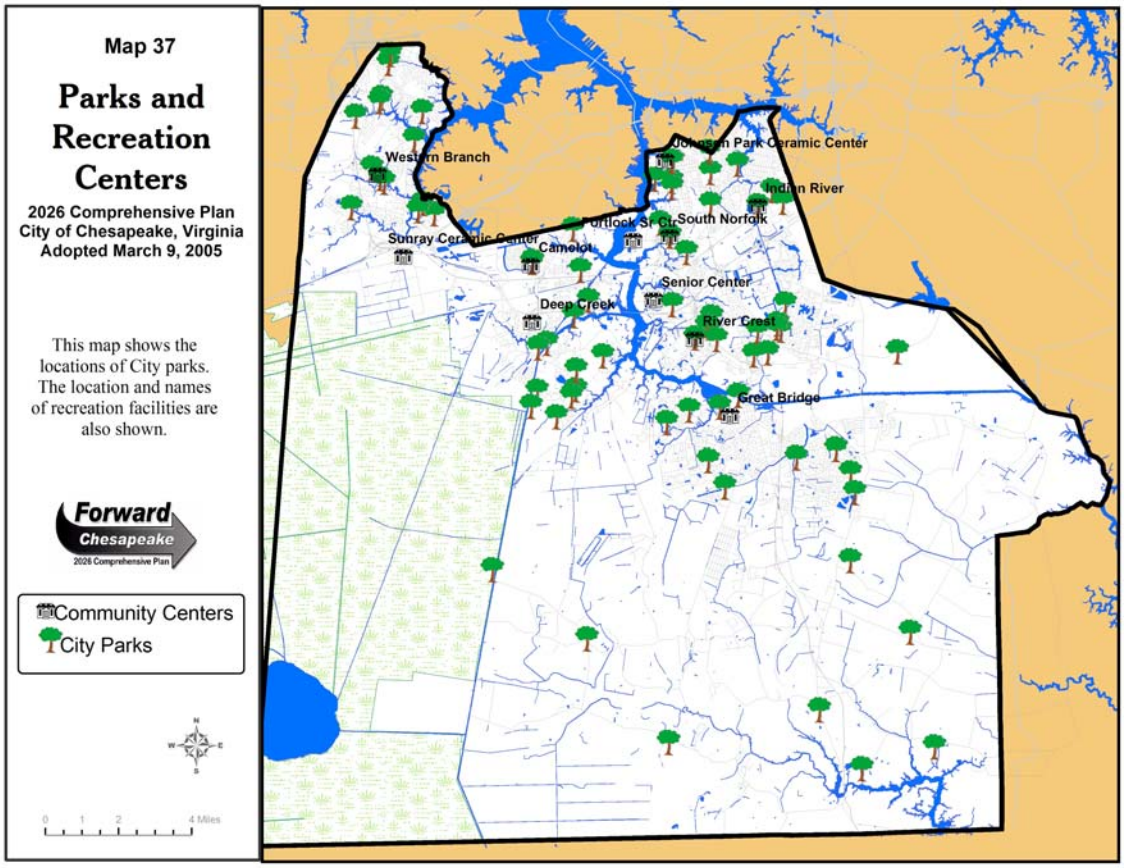
Existing Parks and Recreation Facilities

The area standard for local park sites is 10 acres per 1,000 population. The City of Chesapeake currently has 65 local parks consisting of approximately 2,042 acres serving its current population of 214,759. Local parks are divided into three major classifications based on size: neighborhood, community and district parks. All three types are used to meet park standards.

Neighborhood parks range in size up to 10 acres with a primary radius of ½ mile to 1 ½ miles or 5-15 minutes walking distance. The area standard is 3 acres per 1,000 population. Currently, the City has a total of 52 neighborhood parks with a collective acreage of approximately 237 acres.

Community parks range in size from 20-50 acres with a primary service radius of 5 miles or 15 minutes driving time. The area standard is 3 acres per 1,000 population. Chesapeake currently has five community parks with a collective acreage of about 163 acres.

District parks have a minimum size of 50 acres with a primary service radius of 5-15 miles and 15-25 minute driving time. The area standard is 4 acres per 1000 population. The City currently has eight district parks with a total acreage of about 237 acres.



The Open Space Ordinance

City Council recently revised fees charged to developers for the provision and development of open space for new subdivisions when public parks are not provided by the developer. The fee amount per recorded lot increases from $50 to $500 if a park site is provided within the subdivision and increases from $100 to $1000 per lot if no park site is provided within the subdivision. This change was necessary as the original fee had not been revised since it was adopted in 1989. The Open Space Ordinance addresses primarily neighborhood parks and there is also a need for development of more district and community parks.

As Chesapeake's population increases and demographics change, planning for the manner in which future parks and recreational services are provided is essential to maintaining the City's high quality of life. In this regard, it will be essential to provide new and different opportunities to all segments of Chesapeake's population while maintaining and enhancing existing facilities.

Issue One: Impact on Quality of Life

City parks and recreation services and facilities are a significant element of what defines quality of life for Chesapeake residents.

Chesapeake will provide a parks and recreation system that will serve all segments of its population with a variety of facilities and programs necessary to meet expressed needs.

Strategies:

- The City will develop a phased program to provide additional park facilities to meet park standards as demand increases.
  - Continue efforts to develop existing park sites.
  - Prioritize the neighborhood park sites obtained through the Open Space and Recreation Ordinance for development based on the funds provided by the ordinance along with neighborhood needs.
  - Continue efforts to purchase land of sufficient size to develop regional and district parks including the following types of amenities:
    - Regional community centers
    - Multi-purpose fields
    - Nature Trails (walking/biking/canoe)
    - Equestrian facilities
    - Passive activities
  - Other types of recreational facilities, such as athletic fields and recreation facilities, must also be built as demand increases.
  - The City will explore all possible funding options for district and community parks including opportunities for public-private partnerships.

- The location of local parks to serve residents should be consistent with sound neighborhood planning principles.
  - Opportunities to co-locate parks and other recreational facilities with other public facilities should be pursued where practical.
  - Park facilities should be designed as an integral component of the community and should be accessible to the residents.
  - Opportunities to link park facilities to the community through sidewalks, bikeways, and trails should be sought.
  - New park sites that are a part of new developments which are surrounded by existing development, should be located in such as manner that the park site is accessible to and convenient to those living in the surrounding neighborhoods.

- The City or developers should provide a variety of recreational amenities to address the needs of a diverse population.
  - The City should consider including municipal swimming pools, teen centers, and equestrian facilities as alternative forms of recreational amenities.
  - A Feasibility and Program Development Study should be conducted as a prelude to developing a plan to construct mega-recreation centers. These centers could include a variety of amenities such as game rooms, swimming pools, fitness facilities, conference rooms, basketball courts, and day care facilities and could be incorporated as elements of the larger recreational complexes.
  - Citywide senior, therapeutic, and prevention programs should be developed to accommodate special population needs.

- Construct a comprehensive “connected” multi-purpose trail system by continuing to work with Planning and Public Works to implement the City’s Trails Plan as an element of the Master Transportation Plan (see also Transportation section of this Plan).
- Construct athletic facilities (softball, baseball, soccer fields, field hockey, etc.) in conjunction with park development plans to meet minimum athletic facility standards for Chesapeake.

- Existing parks and recreation facilities must be maintained as an integral part of the overall recreational network, and existing facilities should be enhanced as possible.

- Chesapeake’s unique environmental features and extensive waterways should be considered for their vast recreational opportunities (see also ‘Waterways’ in the Transportation element of this Plan).
  - A Scenic Waterway designation should be sought for certain key recreational waterways such as the Northwest River and the North Landing River.
  - Develop public waterway properties for boat ramps and canoe launch areas.

- As a means of enhancing economic development while providing for the recreational needs of Chesapeake citizens, the City should endeavor to develop world class sports facilities which may include multi-use playing fields built to tournament standards for local and regional tournaments.

Libraries

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.
- Coordinate the location and design of all City public facilities with the goals and policies of the Comprehensive Plan.

Overview

The Department of Libraries and Research Services is responsible for the operation of the Central Library, five area libraries, and a bookmobile. As an educational and cultural repository for the City, the library serves citizens of all ages and interests by providing free access to a wide range of materials, programs and services. The library strives to select, preserve, and make accessible a balanced collection and programs which stimulate an interest in literature, reading and lifelong learning. Responding to the needs of the Chesapeake community, the library focuses on its primary roles of formal education support center, popular materials library, reference center, preschoolers' door to learning, and independent learning center. A City Council-appointed Library Board advises City Council regarding community library issues.

Within the Chesapeake Public Library System, the Central Library contains the most comprehensive collection and serves as the reference resource center, including computerized information services. The area libraries and the bookmobile assist in serving the citizens of this large city. The area libraries contain current and popular books, as well as a basic reference collection, newspapers, magazines, videos, DVDs, CDs, and a computerized information service.

A detailed description of each of the Library System components follows:

Library Administration plans and implements the strategies necessary to meet citizen expectations for innovative library service. Administration is responsible for financial/budget operations; personnel issues; strategic planning; promoting the services of the library; and for other management functions of the library system. The Library Director, with guidance from the Library Board and citizens, provides leadership to the library staff.

The *Central Library* houses a materials collection of over 289,000 items, including a Public Law Library and the Wallace Memorial Room, which is home to the local history collection. The library is also a partial depository for Commonwealth of Virginia and United States Government Federal documents. The library also houses a large periodicals collection and provides patron access to the Internet, typewriters, and computers. The enlarged and completely renovated 67,838 square foot Central Library opened in January 1993 and now has more than 500,000 visits annually. It has the largest circulation (over 662,000) and seats (342) of all library branches.

The 19,500 square foot *Greenbrier Library* has a collection of more than 87,000 items, including CDs, Videos, Audio books and Print books. The Reference Department includes an Online Database and Internet access. Other services provided by the Library include meeting room availability, typewriter and personal computer access, and an Adult Literacy Tutoring Room. A coin operated photo copier is also available. This library has a circulation of nearly 269,000 books and 160 seats.

Greenbrier Library

The 17,053 square foot *Russell Memorial Library*, originally known as the Western Branch Library, had its beginnings in a small room at the rear of A.W. Johnson's store in Churchland in the Fall of 1963 as an experiment. With the opening of the small stationary library, bookmobile service to the area was discontinued. About a year after the successful experimental library opened, a new branch was leased in the Churchland Shopping Center, replacing the small, one-room library. In January of 1968, 10 square miles of the Western Branch Borough became part of Portsmouth in the court annexation agreement and the Churchland Library became a Portsmouth library. Charles Russell, in memory of his late wife, Parthenis Russell, donated .73 acres at 2408 Taylor Road for the City's first new library building. The Russell Memorial Library quickly outgrew its new space, so a wing was added in the summer of 1984. Within a year, however, the library was again in need of expansion. A new Library was constructed at 2808 Taylor Road. The relocated and expanded library opened for business on September 4, 1992. It contains over 91,000 volumes, 115 seats, and has a book circulation of over 296,000.

Russell Memorial Library

The *Major Hillard Library* was opened on June 5, 1977 with a collection of 7,264 items. The 5,000 square foot building was named in honor of Judge Major Hillard, a long time Deep Creek resident and now holds over 53,000 items. The Major Hillard Library was later moved to a five acre site on Old George Washington Highway adjacent to the Washington Square Shopping Center. The new library comprises 22,430 square feet and maintains a volume of over 57,000 items. It will eventually hold a collection of 100,000 volumes. It has 126 seats and a circulation of over 168,000 books.

The first *South Norfolk Library* was sponsored by the Women's Club of South Norfolk and opened its doors with a donated collection in Lakeside Park in 1953. In May 1956, the library moved to a rented building at 1015 Chesapeake Avenue, where it remained until 1958 when the building at the corner of Poindexter and Decatur Streets was constructed. Linwood L. Briggs, Jr., as Mayor of South Norfolk, was instrumental in proposing construction of the South Norfolk Library as a memorial to those who lost their lives during World War II. During his years of dedicated service, Mr. Briggs collected historic photographs of South Norfolk. Renovated in 1989, the 6,946 square foot facility was the first Chesapeake Library to have a room solely dedicated to training. On September 26, 1997, the literacy room was dedicated to Mr. Linwood L. Briggs. Many of his collected historic photographs of South Norfolk are displayed in the room. First Lady of Virginia, Mrs. Lindsay Almond, Jr., dedicated the first South Norfolk Library building in 1958. First Lady of Virginia, Mrs. Jeannie P. Baliles, dedicated the renovated South Norfolk Library in August 1989. The library currently has a collection of more than 44,000 items, including videos, CD's, audio books and printed books. Other services provided by the library include patron access to the Internet, typewriters, and computers. The library also houses a periodical and newspaper collection. It has 50 seats and a book circulation of over 51,000.

South Norfolk Library

The *Indian River Library* was first established in 1965, when the bookmobile could no longer keep up with the demands of the Indian River residents. A storefront library was opened on Sparrow Road in the Indian River Shopping Center in October 1965. In December of 1978, the present facility at 2320 Old Greenbrier Parkway was opened. Prior to its recent demolition, the library contained over 57,000 volumes, had a book circulation of over 104,000, and held 16 seats. An expansion of the library was completed in 2004. The new library now comprises 16,981 square feet and has a capacity of holding 70,000 items. It has 58 seats in the public area, 30 seats in the children's area, and 100 seats in the meeting room. Over 27,000 patrons visit the facility on a monthly basis. This library has one of the highest internet use rates of all the branch libraries, with over 7,000 internet customers using 22 computers in an average month. The average monthly book circulation is over 13,500.

The Chesapeake Public Law Library occupies a 600 square foot facility housed on the second floor of the Central Library. It affords a variety of seating in a quiet, comfortable environment conducive to research and study, as well as browsing. The library is self-sufficient with its own collection, online services, public access catalogs, photocopier, and fax machines. Its collection encompasses over 250 titles and 10,000 volumes which include federal law finding aids; legal encyclopedias, directories and handbooks; selected

state codes including the Code of Virginia; Supreme Court case records; and professional journals.

The Chesapeake Public Library System is also supported by two auxiliary organizations. The *Friends of the Chesapeake Public Library* is a non-profit organization devoted to improving the Library's services and resources. Members help support the Library through activities including volunteer service, cultural education and recreational events, and financial assistance for continuing improvements to library facilities and programs. The *Chesapeake Public Library Foundation* was established in 1997 to ensure the future provision of resource services at the libraries through building and managing endowment and capital funds, and providing grants to the Library System from these funds.

The Library System is recognized as an integral component of the overall fabric of the community. Chesapeake Public Libraries will continue to pursue its overarching goal of helping to improve the quality of life of Chesapeake citizens by providing the information and services that help them to manage and improve their lives. It will continue to adapt itself to remain a leading social institution in an ever-changing world. The Library System's current inventory of building square footages, volumes, seats and circulation have been compared with library standards from the Commonwealth of Virginia and have been found to exceed the state's minimum standards. It will strive to continue maintaining these high service standards.

In looking at future library needs based on anticipated growth in Chesapeake, certain planning standards should be kept in mind. According to the Development Impact Assessment Handbook published by the Urban Land Institute, for municipalities of 200,000 to 500,000, there should be 1.25 library seats per 1,000 population; 0.35 square feet of library space per capita; 7 book circulations per capita; and 1.25 volumes per capita.

In light of these standards, future challenges and needs identified by the Library System include: covering under-served areas of the City, including Crestwood, Bowers Hill, Campostella Square, and Southern Chesapeake (which are now being served by the Bookmobile); providing at least one library per borough, according to demand; remodeling or renovating the South Norfolk, Russell Memorial, Central, and Greenbrier Libraries; maintaining and enhancing (as needed) the in-house daily courier service that shuttles books and other materials between the branch libraries, ensuring adequate and balanced circulation; and continuing to promote technology as a tool to enhance access to library services by patrons. This final challenge includes continued efforts to enhance Internet access, such as the recent Bill and Melinda Gates Foundation grant that enabled the Library System to provide more Internet stations at all library branches.

Issue One: Impact of Growth on Services

Accessibility to library services is impacted by city growth and demographic changes. It is important for the Library System to consider trends in population growth patterns across the City, in order to plan for future library locations and services. For example, the Central Library currently serves the Southern Chesapeake Borough. Future growth patterns in this area will determine how long the Central Library will be able to serve that region.

The traditional rule of thumb for locating libraries is that they be built near residential areas, shopping centers and transit lines, so as to be within walking distance of large segments of the population. This rule of thumb has not been applicable to Chesapeake,

due to its size and orientation toward automobiles. The use of the Bookmobile can help to address this issue, but the changing demographics of Chesapeake will dictate how the Bookmobile is utilized in the future, as it strives to continue serving areas in need where transportation and poverty are issues, as well as serving growth areas.

Accessibility of library services is a big issue for the Library System, particularly for lower income citizens who face the biggest challenge in going online, buying books, and owning computers. The Library System continues to be on the lookout for underserved areas of the City as it relates to accessibility of library services, such as Campostella Square or Crestwood.

The City of Chesapeake will endeavor to develop a Library System that is sized adequately to serve a growing population, and that is accessible to the all citizens of Chesapeake regardless of age, handicap, location, or socio-economic status.

Strategies:

- Planned future development will be considered when determining the future location of library facilities.
- The impact on libraries will be evaluated as a component of new development requests.
- Public-private partnerships will continue to be pursued.
- Libraries should be considered for co-location with other municipal facilities in order to increase their accessibility and functionality.
- The Library System should continue to develop multi-year capital project plans in anticipation of future growth.

Issue Two: Technological Advancements

Changes in technology have had a profound effect on the manner in which library services are delivered. These changes will continue and libraries will have to adapt to these changes. Public computer access is vital in an age where computers are used for many routine activities, such as searching/applying for jobs, shopping, paying bills, and doing research. Finding the right balance between online library services and “bricks and mortar” libraries to best meet the changing needs of the citizenry is a big issue. The Library System must make sure that future trends for library services, such as kiosks in malls or mini-branches in shopping centers, are meeting citizens’ needs and not just creating a presence.

The City of Chesapeake will endeavor to utilize advancements in technology to improve the quality and availability of library resources wherever practical.

Strategies:

- The Library System will continue to position itself to be a preferred location for conducting community surveys and forums.

- The Library System will increase its use of online services.

- The Library System will continue to explore new trends for reaching the community with its programs and services, such as online kiosks in malls and mini-branch libraries in shopping centers.

Issue Three: Library Funding

Limited funding resources will make construction of future library branches a major challenge. As the City's population continues to grow, the daily demands on existing library buildings will continue to grow, causing accelerated wear and tear. Unless a strategy is developed for routine maintenance and upkeep, the buildings will fall into disrepair and citizens will become disenchanted with the facilities.

The City of Chesapeake will pursue alternative funding opportunities to provide funding for the construction and maintenance of Library facilities.

Strategies:

- When considering possible funding sources for public libraries, opportunities for creative funding sources should be sought including possible public/private partnership options.

- In order to reduce costs, opportunities to co-locate library facilities with other public facilities should be considered when determining future library locations.

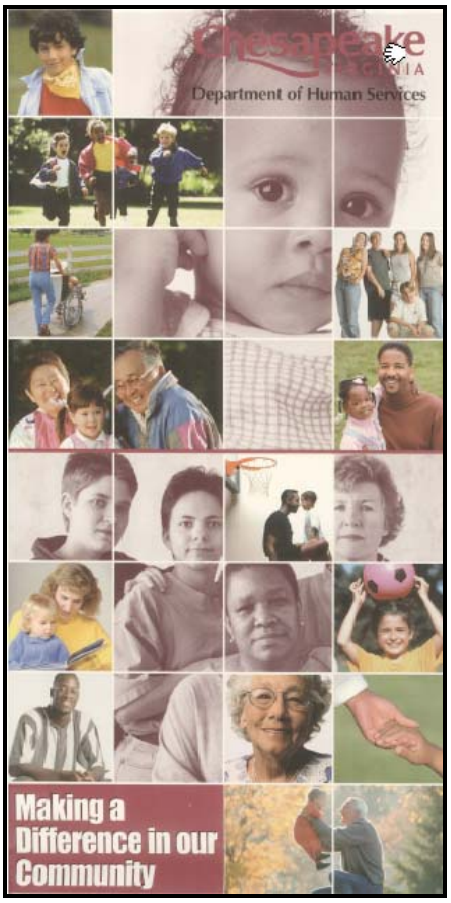
Major Hillard Library

Human Services

Goals

The City will:

- Provide adequate public facilities and services for all services which the City provides.



Overview

The mission of the Department of Human Services is to provide a holistic approach to prevention, intervention, and appropriate sanctions for people considered impoverished, those with special needs and juvenile delinquents. The Department achieves this through an interdisciplinary, collaborative, and proactive process supported by public and private partners. The Department's guiding principles are as follows:

- To strengthen its customers by providing effective, timely and high quality services using innovative approaches;
- To listen empathetically to its stakeholders and to be honest and forthright in its responses to them;
- To respect, value and serve its stakeholders and the community; to be concerned about and contribute to their well being; and to operate with integrity so as to be deserving of their trust;

- To strive for excellence by aligning its policies and procedures to match its mission and core values;
- To provide meaningful work, fair compensation, and a safe, healthy work environment that encourages openness, creativity, self-discipline, and growth; and
- To build stakeholders' relationships by including full and honest dialogue, responsiveness to needs and concerns through the exchange of accurate information, skills and talents.

A primary goal of the Department of Human Services is to improve the quality of life in Chesapeake by helping people help themselves, helping those incapable of acting on their own behalf, and ensuring that every citizen has an acceptable standard of living. The Department serves more than 77,000 of Chesapeake's most vulnerable citizens, including:

- Abused and neglected children;
- Troubled youth;
- Families in need of food or shelter;
- Individuals and families facing a crisis; and
- Neglected or exploited adults and senior citizens.

One of the largest agencies in City government, the Department of Human Services has more than 352 employees with an operating budget of $27 million. The Department is organized into several divisions, as follows:

Social Services – offers income support and social services in a professional and caring manner through the following programs:

- Adoptions and Foster Care;
- Child Protective Services;
- Family Services;
- Adult Services;
- Employment Services in the Virginia Initiative for Employment Not Welfare (VIEW) and Welfare to Work (WtW);
- Benefits: i.e. Food Stamps, Medicaid, Temporary Assistance to Needy Families (TANF), General Relief;
- Fatherhood Initiative; and
- Mentorship.

Tidewater Detention Home (TDH) – a short-term, regional facility dedicated to providing secure detention services to the children of the cities of Chesapeake, Virginia Beach, Franklin, Portsmouth and Suffolk and the counties of Isle of Wight and Southampton. TDH averages a daily population of 128 youth. Programming includes education, group counseling, medical services, mental health assessments, behavior management and recreational activities.

Chesapeake Interagency Consortium (CIC) – operates the State Comprehensive Services Act (CSA) program. The CIC provides high quality, child-centered, family-focused, and cost-effective community-based services to high-risk youth and their families.

When considering the future human services needs in Chesapeake within the context of a growing city, certain planning standards should be kept in mind. According to the

Development Impact Assessment Handbook published by the Urban Land Institute, it can be expected that 23.6 welfare workers will be needed for each 10,000 population for municipalities between 200,000-299,999 in size. Chesapeake's projected population in 2026 will be nearly 265,000.

Issue One: Department Facilities Needs

The City's most vulnerable citizens often have multiple services needs that require assistance from several different agencies or organizations. Accessing these various services can be a challenge, particularly if the individuals and/or families have transportation issues.

The Human Services Department will work with other human services providers, including non-City entities, to fulfill the vision of creating a human services campus.

Strategies:

- Relocate to a building that could better serve the Human Services Department's needs for enough space for its programs and services, as well as to utilize current and emerging technologies to facilitate service to clients.

- Facilitate a "one-stop shop" approach to various human services, which would promote economies of scale in terms of buildings and other operational costs, especially benefiting non-profit entities.

- Opportunities for co-location of human services facilities should be sought to reduce public facility and operational costs.

Cultural Facilities

Goals

The City will:

- Foster the development of a performing arts school.
- Foster the development of an independent cultural arts center that is accessible by highway and transit.
- Foster the development of satellite cultural arts centers.
- Foster international cultural exchanges.

Overview

The City's cultural and artistic endeavors are coordinated under the Chesapeake Fine Arts Commission. The Fine Arts Commission serves as a vehicle for educating the public about the significance of the arts. The Commission also ensures that the arts are accessible to citizens and are reflective of the City's ethnically and socially diverse constituencies. The Commission operates under the auspices of the Department of Economic Development because of perceived congruencies in their respective roles relating to improving economic, social, and cultural opportunities in the City. These objectives lead to improved overall quality of life and to the perceived attractiveness of the City as a place to live, work, and play.

As the City continues to grow and mature, the presence of cultural facilities/amenities will become increasingly important. The 2026 Comprehensive Plan Vision Statement affirms this, stating that "As the City continues to grow, it will be a progressive community of vibrant residential and commercial neighborhoods…each with their own identity yet interconnected culturally, economically, politically, and physically." International cultural exchanges between the City and other communities around the world have been occurring for a number of years and should continue. These exchanges are good for facilitating awareness and appreciation of cultural diversity and also augment economic development efforts.

As the City looks to the future in providing adequate cultural facilities that contribute to the overall quality of life, certain planning standards should be kept in mind. According to the Development Impact Assessment Handbook published by the Urban Land Institute, there should be 23.6 full-time municipal employees devoted to health/welfare/recreation/culture activities for municipalities between 200,000-299,000. Chesapeake's projected population in 2026 will be nearly 265,000.

Issue One: Need for Cultural Facilities

The typical suburban-style development pattern that has characterized growth in Chesapeake over the past several decades has not been conducive to the maintenance and enhancement of cultural facilities in the City. The ability to interact on a human scale is important to the social fabric of a community. As Chesapeake matures, it should continue to view itself as not just a bedroom community, but as a city in its own right, complete with cultural and artistic diversity. Critical to this transition is the presence of accessible public gathering places, as well as recreational and leisure activities that give people opportunities to congregate.

Future land use planning decisions and development review processes should, to the maximum extent feasible, promote the expansion of cultural facilities throughout the City.

Strategies:

- A variety of funding options should be explored for the provision of cultural facilities.
- Cultural diversity could be fostered by devoting a segment of the City to creating specialty/ethnic restaurants and eateries, with outdoor dining as appropriate.
- Art and culture can be a vital tool to address the needs of these children, by providing them with outlets to express themselves (e.g. public murals), thereby building self-esteem and pride in their community.
- The City may consider accepting cultural facilities or sites or funding for such facilities that may be proffered by developers.

Issue Two: Need for Performing Arts Center in Chesapeake

The City does not have a dedicated performing arts/cultural center to serve Chesapeake residents. A small to mid-size performing arts/cultural center would be a tremendous asset for the City, both from a quality of life standpoint and for economic development purposes.

The City will continue to study the feasibility of establishing a performing arts/cultural center in Chesapeake, including building public support and identifying proposed funding mechanisms.

Strategies:

- The City should continue the pursuit of the development of an Arts Education Center. A study to assess the feasibility of constructing an arts performance center, to research locations, and to provide conceptual drawings has been initiated.

- Satellite performing arts centers should be considered for other areas of the City. These venues would primarily host community-based programs.

- Opportunities to co-locate cultural facilities with other facilities should be considered as a means of reducing overall costs. For example, opportunities to combine the City's cable channel, WCTV-48 with the performing arts facility should be explored.

Issue Three: Provision for Public Art

Chesapeake suffers from a shortage of public art in its public spaces, office buildings, parks and other community venues. More public art in parks, public spaces, road medians, and in front of public buildings would contribute to the City's cultural identity.

The City will strive to expand the use of public art in a variety of settings throughout Chesapeake, utilizing public, private, and public/private mechanisms.

Strategies:

- The City should explore the feasibility of placing thematic public art at strategic locations around Chesapeake, which could contribute to a sense of unity and common community. Public art can and should be promoted in all areas of the City, not just urban areas.