

Chapter 8

PUBLIC FACILITIES AND SERVICES

Ensuring that the provision of community services and facilities is phased with the demand or need is a major component of growth management. Community facilities and public services are those minimum facilities and services the town provides for the common good. Generally, public facilities include land, buildings, equipment and whole systems of activity provided by the town on the behalf of the public. The quality of public facilities contributes to the quality of life in the town. Some facilities, such as clean drinking water and adequate sewage disposal are necessities; others, such as theaters and parks, are highly desirable for cultural and educational enrichment.

BACKGROUND AND ANALYSIS

Tappahannock provides a variety of public services and facilities for its residents which include water supply, sewage disposal, solid waste disposal, libraries, and public safety. The provision of these services facilitates growth and development, however, the absence of services or facilities does not effectively deter unguided growth. Rapid residential and commercial development places a burden on the town to meet service and facility needs.

A survey of existing services and facilities, in conjunction with population and economic data on which to base projections of need, provides an indication of what future improvements and additions might be necessary. In order to accurately anticipate needs, all projected figures should be updated constantly as new population and economic data become available. This section will focus on identifying existing and projected capacity of community facilities to identify the issues and problems of providing these services in the context of the town's projected growth rate and geographic distribution. To begin capacity analysis of the facilities based on growth, we will generally use the population projections shown in Figure 2-2 to the Year 2010. If other projections are used, they will be so noted. The following is a discussion of the existing capacities and levels of service for selected community facilities and services as well as projected demands. Planned facilities included in the town's annual financial planning process are noted.

During 2005 the Town had a buildout analysis completed for two high density residential zones in Tappahannock. Information from that study is included within this section.

Water Service

A number of laws control the use and quality of water in the Commonwealth of Virginia. A state-operated water allocation system defines water rights. This takes place within the state's judicial system and use of the Riparian Doctrine, which allow for landowners to make reasonable use of the water resources adjoining their land. Secondly, the Groundwater Act of 1973 allows the Water Control Board to designate management areas in which water withdrawals are regulated. This allows the Board to assert state ownership and have control of the water beneath a landowner's parcel of land. Areas outside of those management areas are controlled by common law. Thirdly, the State Water Control Law mandates the protection as well as the restoration of state waters. The standards are continuously reviewed and revised as appropriate. Fourthly, the State Health Department insures that all public drinking water supplies are pure, provides guidance to determine if a water supply or waterworks permit is to be issued, and assists applicants in completing all necessary paperwork pertinent to water supply. These are just some of the laws and agencies who help protect and regulate water.

The Comprehensive Water Quality Management Plan for the Middle Peninsula: An Information Search and Review, MPPDC, Jan. 1989, contained the following discussion of groundwater in the Tappahannock Area:

"the MTPD was divided into development zones based on groundwater availability characteristics and withdrawals. Essentially, the west-central MPPD (zone E) appears to have the greatest potential for development. This is due to the large capacities of groundwater available (5-15 million gallons per day) from the upper artesian and principal aquifer systems."

Water Use

Based on the town's billing records in 2006, there were 1,361 water users in the town requiring an average daily flow of 362,094 gallons (251 gallons per minute (gpm)). Based on the records for the town's existing supply wells, Well #1 pumped a daily average of 3,794 gallons (3 gpm) with a maximum day of 202,000 gallons (140 gpm) in February 2006. Well #2 pumped a daily average of 106,263 gallons (73 gpm) with a maximum day of 210,250 gallons (287 gpm) in September 2005. Well #3 pumped a daily average of 225,605 gallons (177 gpm) with a maximum day of 419,000 gallons (291 gpm) in September 2005. Hence, the average daily use is approximately 251 gpm and the average maximum daily use is approximately 266 gpm.

**Figure 8-1
Gallons/Day Water Usage
January - December 1997**

Date	Total Gallons per Day (GPD)
January 2005	326,477
February 2005	328,572
March 2005	327,749
April 2005	330,026
May 2005	355,729
June 2005	405,507
July 2005	397,236
August 2005	400,903
September 2005	515,461
October 2005	334,539
November 2005	315,570
December 2005	307,900

Water Supply

The town presently has three water supply wells. All wells have had pump tests run on them. Well #1 had a sustained yield of 145 gpm, Well #2 had a sustained yield of 250 gpm, and Well #3 had a sustained yield of 350 gpm.

Existing Storage Facilities

The town presently has three water storage tanks, a 500,000 gallon tank at the Riverside Tappahannock Hospital, a 75,000 elevated tank in town, and 100,000 gallon elevated tank at LaGrange Industrial Park for a total of 675,000 gallons of storage. According to the 2005 Buildout Study, well capacity is 1,000,000 gallons per day.

Storage Requirements

The water supply and storage requirements must meet the recommended fire flow demands, plus normal daily operating storage needs, plus an emergency reserve. The recommended fire flow duration for Tappahannock (based on the "Guide for Determination of Required Fire Flows" from the Insurance Services office) is 2 hours at a flow of 1,500 gpm, a total flow of 180,000 gallons. The recommended operating storage is 15 percent of the average daily water consumption. For the 2005 average flow of 251 gpm, 15 percent of the average daily use is 54,216 gallons. The emergency reserve is designated as 25 percent of the total of these numbers of 90,360 gallons.

Based on these criteria, the required storage under normal conditions is 281,700 gallons. The available effective storage which can be provided with existing facilities includes 675,000 gallons of storage plus 1010 gpm of pumping for two hours (121,200 gallons), less the 54,216 gallons of daily operating storage. The available storage is 741,984 gallons which more than adequately meets the requirements.

Conclusions

1. The town's water usage rate varies from a daily average rate of 251 gpm to a maximum daily rate of 766 gpm.
2. The town has 675,000 gallons of water storage capacity.
3. The town's water storage facilities are adequate for the foreseeable future.
4. The town has three water supply wells, one with a sustained yield of 145 gpm, one with a sustained yield of 250 gpm, and one with a sustained yield of 350 gpm.

Recommendations

Town labor forces make connections and maintain the system and Federal loans and grants have been utilized for expansion of the system as needed. Daily water consumption is approximately 362,094 gallons. Present well and storage capacity should be sufficient for the expected demand for some time unless industrial uses are greatly increased. New industrial connections may require an additional well.

Solid Waste

Presently, the Town of Tappahannock employs three full-time personnel to operate the curbside and greenbox collection of solid wastes. Based on estimates by the Planning District Commission, there are about 3,000 tons of waste generated per year in the town. Seventy percent of this is from commercial and industrial sources (UTPDC, 1989). Two trucks collect

trash throughout Tappahannock on a regular schedule and disposal is done at the BFI Landfill in King and Queen County, Virginia. Residential (937) and commercial (276) collections each take place two times a week for a total of 2,426 weekly collection stops and 126,152 collection stops each year. Residents pay \$5.00 per month for curbside collection, commercial customers pay \$10.00 per month for curbside collection or \$20.00 per month for dumpster collection. Revenues for collections are in excess of \$90,000 per year. Collection costs to the town approximate \$113,000 per year; \$.90 per residential and commercial stop.

The town also provides curbside pickup of recyclable materials once per week. Disposal is through the Regional Solid Waste Authority, and collection records indicate that the average weight of recyclable materials collected during Fiscal Year 2005 were 67,760 pounds of paper and 21,300 pounds of containers.

Safety and Emergency Services

The town operates its own Police Department which includes a Chief, Captain, Lieutenant, one investigator and six patrolmen, and one support person that enforce the law within the town limits. Jailing is handled through the county and prisoners are housed at the regional jail in Saluda. Dispatching is provided by the county. The town operates a fleet of twelve vehicles.

The Tappahannock-Essex County Volunteer Fire Department serves the Town of Tappahannock and Essex County from a main facility located in Tappahannock. A new satellite station located in Center Cross provides additional coverage to the southern and northern ends of the county. The department of 38 active members is equipped with three mini-pumpers, two tankers, three pumpers, one brush truck, one command post and ladder truck and a department car. The Department responded to 325 calls in 2005.

The county-town rescue squad is composed of 22 members operating four rescue vehicles, a crash truck, and a boat. The volunteer rescue squad is supported by a private entity. The squad receives around 1200 calls a year. The units are dispatched county-wide from the county Sheriff's Department. This unit, as well as the volunteer fire department, is financed primarily from private donations and county funds. The fire and rescue organizations are non profit entities that build their own buildings and provide services.

Library

The Essex Public Library is operated by the county in a facility located in the old elementary school complex on Route 17 north of Tappahannock. The library staff includes a Director, Assistant Director and Children's Curator. The library is open Monday through Saturday. Monday, Tuesday and Friday hours are 9:30 a.m. to 5:00 p.m.; Wednesday and Thursday hours are from 9:30 a.m. to 8:00 p.m. and Saturday hours are from 10:00 a.m. to 4:00 p.m.

The library contains more than 18,000 volumes and is mainly funded by the county. Some additional funding comes from the Town of Tappahannock, the State, Federal grant-in-aid

monies and private donations.

Access to the library needs to be improved for children. The site is difficult to reach by pedestrians and bicycles. Children must be driven to the library in order to have access to the facility.

Sewer

Located south of the industrial park, a new sewage treatment plant was constructed in 2001. The capacity of the plant was upgraded to allow 800,000 gallons per day. Of the total capacity, 200,000 gallons are reserved for usage by Essex County as part of its allocation in exchange for participation in the sewer system expansion. The average daily flow of 382,000 gallons per day indicates only 218,000 gallons per day of additional flow are available for development within the Town limits.

The treatment plant will be required to meet significant reductions in nitrogen and phosphorus loads by 2010. Under the 2005 Buildout Study, the Treatment Plant would be able to accommodate about 355 additional housing units under the Town's current capacity of 600,000 gallons per day.

All of the current pump stations are sufficient to accommodate effluent.

The Buildout Study provided recommendations aimed to protect the ability to meet growth under the current capacity of the sewage treatment plant. Those recommendations are included under the implementation recommendations.

Government Services

Offices of the county government are located in Tappahannock in and around the county courthouse. The town utilizes the services of the county building inspector for enforcing the Uniform Statewide Building Code within the town.

Town offices on Church Lane house the Tappahannock administrative offices. The police department is housed on Duke Street. From these offices are administered all local ordinances, water and sewer system operations, trash collection and all regular town operations. Additional space within these buildings will be available for expansion, as needed.

GOALS AND OBJECTIVES

Goal: Adequate and efficient public services and facilities should be ensured for all town citizens.

Objectives:

- The town should continue to maintain and improve its central water and sewer systems.
- The town should continually monitor its waste collection system to ensure that adequate service is provided to town residents.
- The town should be conscious of the value of its library, rescue and fire services and encourage the support and improvement of them.
- The town should provide adequate police protection for its citizens.
- The town should insure that adequate water and sewer facilities are available to accommodate planned growth while assuring that public facilities are expanded in a manner commensurate with local financial capabilities in accordance with the Comprehensive Plan, Capital Improvements Program, and other relevant plans and policies.
- The town should continue to encourage recycling and reuse of refuse through town's recycling program.
- The town should seek to insure adequate accessibility to its library and recreational facilities via a variety of transportation modes.

IMPLEMENTATION RECOMMENDATIONS

There are an array of alternatives available for achieving the objectives relating to the provision of public services and facilities to accommodate growth. This section provides a brief discussion of the general techniques recommended. More specific recommendations are included as needed for individual public services.

Intergovernmental Cooperation

The Development Service District established in the county's comprehensive plan is based on the premise that new development can be serviced most efficiently if it is limited to areas in

proximity to the Town of Tappahannock. The key to the success of a development service district in the county is in the availability of services and capital improvements; therefore, the county has indicated through its comprehensive plan that it will work with the town to provide adequate sewerage capacity, water, roads and schools in order for the district to accommodate anticipated county growth. It is essential, for example, that these areas have access to adequate sewer if they are to develop at the intensities called for in the County Plan, therefore, it will be imperative for the town and county to begin meeting to establish county and town expectations. Some of the issues to be resolved are:

- equitable funding mechanisms
- sources of revenue
- timetables for the extension of services
- safeguards to insure that existing and future town residents have adequate services and facilities and that they in no way bear additional costs for the extension of services.

Capital Programming

The capital programming plan should be developed in conjunction with the comprehensive plan and any agreements for utility extension made with the county. For example, a well-designed capital improvements plan will provide for the orderly extension of sewer and water at a rate needed to accommodate anticipated growth. The capital improvements plan will provide the vehicle for the town to set priorities and to make the most efficient use of available funds. Capital programming is the tool which should be used to guide growth toward predetermined areas of the town and county and at predetermined rates. The town should use the capital improvements program to guide developers in proffering conditions for the provision of public facilities.

Voluntary Proffers

Voluntary proffers provide a direct means of obtaining the needed capital improvements to service new developments. A proffer normally involves the donation of property or a cash payment by an applicant seeking a rezoning on a property which will offset the capital costs incurred to the locality by allowing the increased development to occur. Examples of proffers include donation of property for a school or fire station, paying for improvements to roads or municipal sewer systems. Proffers should continue to be used to help defray the costs of expanding public services and facilities. Off site improvements of public facilities and dedication of land but not cash contributions can be used to offset the impacts of a proposed development associated with a rezoning. (Section 15.2 - 2297 Code of Virginia.)

Fiscal Impact Analysis

The development of a per unit fiscal impact of residential and commercial development would provide a rational basis on which to accept proffers from developers. It is intended that the fiscal impacts be calculated for water and sewage facilities, parks, roads and schools, as well as, for more public welfare needs such as police, fire, and emergency medical facilities. It is intended that the impacts be calculated based on accepted methodologies and following the standards described below.

Generally, the court decisions upholding impact fees or development exactions require that they meet a three-part standard. First, new development must demand new capital facilities. Secondly, a rational nexus or close relationship must exist between this new development and the need for these new facilities. Finally, there must be some assurance that sufficient benefit accrues to the particular development that pays the fees. These tests are similar to the standards set forth by the Virginia General Assembly (Section 15.2 - 2297 Code of Virginia) for voluntary proffering. Virginia courts have upheld the use of the proffer system when the above referenced standards are adhered to.

Though impact fees are not expressly authorized for Tappahannock, the detailed impact analysis will establish the basis for such fees once the town is enabled by the State legislature. Tappahannock may now use, to some degree, impact fees for water, sewage and drainage control (Section 15.2 - 2297 Code of Virginia). Recognized fiscal impact assessment techniques agreed upon by the town and county will offer a basis for county contribution for the expansion of facilities and/or extension of services to county areas.

Adequate Public Facilities Standards

Adequate facilities standards will help control the development process by showing that sufficient infrastructure and services are present or will be provided. These standards can ensure that land development coincides with the location and timing of capital facilities. Standards for water, waste treatment, transportation, and educational facilities guide the development review process. "Acceptable" levels of service as established by the town will serve as a basis for determining the impacts of development and for programming new capital facilities.

When a development is proposed, the adequacy of existing facilities should be considered for fire suppression, roads, schools, sewerage, storm drainage, and water. Minimum standards to determine adequacy need to be established for Tappahannock. For example, one of the criteria for determining the adequacy of sewer is that the interceptor is adequate to handle the peak flows calculated by the methodology set forth by the town.

Though it is recognized that Tappahannock is not currently enabled to deny approval of subdivisions based on the lack of adequate public facilities, the State law (Section 15.2 - 2241 - 15.2 - 2246) does provide for the means of achieving adequate facilities objectives voluntarily. The town should pursue this technique in light of efforts by a growing number of Northern

Virginia counties to gain the authority to more positively tie development approvals to the availability of public facilities.

Special Taxing Districts

Special taxing districts could be used by the county to provide certain additional public services for an area benefiting exclusively from such services. Essex County has the authority under the Virginia Water and Sewer Act to create Public Service Authorities for the purpose of providing any or all of the utilities and services described in the Act. This option exercised by the county would mean that the town would deal directly with an authority as opposed to county government.

Annexation

Annexation is a viable way to serve areas adjacent to the town with traditional municipal services. Application can be made to the Virginia Commission on Local Government for the requisite hearings and processing. If the county and the town are in agreement on the area and terms of annexation there are several more streamline methods of annexation available to the town. Legislation currently under study by the Virginia Municipal League and the Association of Counties would allow towns under 10,000 population to annex by ordinance. If this legislation passes, annexation will become a very workable tool for the county and the town to service areas around Tappahannock.

The following annexation options are available to Tappahannock:

Boundary Line Adjustment by Agreement - (Article 1, Chapter 31, Title 15.2) Any two contiguous localities are eligible to effect a boundary adjustment by jointly petitioning the circuit court. There are no restrictions as to the size or character of the land area involved. This was used by Kilmarnock and Lancaster County about 1984.

Agreements Defining Town Annexation Rights - (Article 2.1, Chapter 32, Title 15.2) Any town located in a county which is not immune from city initiated annexations may enter into an agreement with its county defining the town's future annexation rights. The agreement must provide that upon formal adoption by the town and county, the town will permanently renounce its right to become a city. The agreement must permit the town to annex at regular intervals by the adoption of a municipal ordinance. This was used by Warsaw and Richmond County about 1986.

Voluntary Settlement of Annexation - (Chapter 34, Title 15-2) Any city, county or town is eligible to enter into an arrangement with any other local jurisdiction to settle matters related to annexation, governmental transition, **or** immunity. Once the terms of the agreement have been negotiated by the local governing bodies, the proposed settlement must be submitted by the Commission on Local Government for review. In its review the

Commission must consider whether the proposed agreement is "in the best interest of the Commonwealth," which also encompasses the best interest of the affected localities.

Municipally-initiated Annexation - (Article 1, Chapter 32, Title 15.2) Any city not located in a county immune from city-initiated annexations **or** any town may annex territory from an adjacent county under the provisions of this article prior to petitioning the circuit court for review of a proposed annexation action, the municipality must first notify the Commission on Local Government of its intention to seek the annexation of territory from an adjacent county.

Citizen-Initiated Annexations - (Article 1, Chapter 32, Title 15.2) county voters or property owners may petition the circuit court to have their property annexed to an adjacent city or town. Citizen petitions requesting annexation of territory to an adjacent municipality must contain the signatures of 51 percent of the qualified voters or property owners in the annexation area.

In summary, services are localized within the town limits and are convenient to citizens. As population increases, however, additional employees and departments will be necessary and additional departmentalization may be practical. Coordination with county programs may also provide more effective and efficient delivery of services as they become more complex.

Zoning Ordinance Changes

The 2005 Buildout Study highlighted deficiencies in the Tappahannock Zoning Ordinance which should be evaluated for inclusion in order to ensure the Town is able to accommodate growth under the current capacity of the sewage treatment plant. Most of these recommendations include evaluating the allowable densities for certain types of housing allowed in the R3 and R4 Zoning Districts. Specific recommendations include:

- Amend the Tappahannock Zoning Ordinance to prohibit using nondevelopable lands such as Resource Protection Areas, wetlands, steep slopes and flood plains to meet the open space requirements of the ordinance.
- Reduce the number of multifamily dwelling units allowed in the R3 and R4 Districts under the Tappahannock Zoning Ordinance.
- Reduce the densities currently in place in the R4 Districts and consider reduce the number of multifamily dwelling units allowed per acre.
- Require household water saving equipment and technologies in high density residential areas.
- Consider changing the Zoning Classification of undeveloped areas under the 2005 Buildout Study to a less intensive use.

