

5.0 The Public Costs of Growth and Development

5.1 Introduction

Stafford County anticipates increases in population and business growth within the next 20 years. Although the County may not grow as quickly as projected on a continuous basis, the County is mindful of its continued responsibility to provide adequate levels of public services for residents and businesses. Increased residential growth requires adequate school facilities, social services, health service, and recreation facilities. All residents, businesses and commuters require sheriff and fire and rescue protection and support. Some growth will require expansion of existing public utilities. This chapter details expected Level of Service Standards, estimated capital costs of growth, and actions that can be taken to ensure that new development pays its share of the additional costs to meet expected Level of Service Standards. This chapter also projects out future public facilities needs (the Public Facilities Plan) based on projected population growth and land use and identifies how the financial impact of growth can be estimated with a Financial Impact Model that takes into account anticipated revenues and expenses. The information in this chapter may be used to assess the impact of proposed development projects, and to support planning for capital improvement projects.

5.2 Level of Service Standards

5.2.1 Background

Pursuant to Section 15.2-2223 of the Code of Virginia, Stafford County may identify which existing lands, facilities or services should be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed for use. Level of Service (LOS) Standards can assist in this effort.

The LOS Standards are designed to clearly articulate expectations for County service delivery in terms of staffing and the construction and/or improvement of public facilities. The location, size and timing of needed improvements are related to the development patterns identified in the Comprehensive Plan.

Generally, LOS Standards for capital facilities can be measured based on size of facilities, carrying capacity, services provided, and location and design criteria.

The LOS Standards are the basis for inputs that can be used to calculate the capital costs per residential unit, to develop a public facility plan and to estimate the financial impact of growth and development over the twenty-year course of the Comprehensive Plan.

LOS standards can also be used in evaluating a zoning reclassification request.

5.2.2 Definition

LOS Standards are benchmarks by which to measure the quantity and/or quality of service provided by a government agency. The types of services that are measured include schools, transportation, parks, libraries, emergency services, water utilities, wastewater utilities, and solid waste management. There are two types of LOS Standards: capital capacity and operational effectiveness. Capital capacity is geared towards ensuring there are an adequate number of facilities while operational effectiveness addresses issues such as staffing levels or response times. Although they are different, one influences the other.

5.2.3 Purpose and Intent

Level of Service (LOS) standards are measured on a County-wide basis for services. The LOS Standards provide an objective justification for assessing and mitigating the impacts of proposed development projects. Proffers are the most common method for mitigating impacts and can be based on established LOS. LOS can be integrated into the methodology for determining recommended proffers, calculating comprehensive impact fees, projecting future public facility needs, estimating the financial impact of growth, and the funding mechanism of the Capital Improvement Plan (CIP). Location, size and timing of needed improvements are directly related to the future development patterns identified in the Comprehensive Plan. LOS standards ensure the connection between growth and its consequences and ensure adequate facilities are available to support development.

The CIP is a dynamic document that is updated annually as part of the adopted budget; in this way, it reflects the capital capacity projects that are deemed necessary to meet and maintain the LOS Standards. The Proffer Guidelines are also updated annually and utilize a methodology which reflects the capital capacity projects on the CIP.

The Board of Supervisors has adopted debt limitation policies to protect and enhance the County Bond Rating. The debt limitation policies are used in the CIP to determine the affordability of proposed capital projects for public facilities but should not be used to delay necessary construction of required facilities. The public facility projections in this plan are intended to be informative and are not reflective of projected debt pursuant to those limitation policies. Development of the CIP and review of and development applications should be done in accordance with those stated limitations.

5.2.4 Benefits

- Establishing LOS Standards in a community is a beneficial tool in providing adequate public facilities consistent with citizen and business needs.
- The location, number, and type of facilities can be directly related to future development identified in the Comprehensive Plan.
- Allows for the prioritizing of projects in the CIP.
- Sound fiscal policy through planned debt service based on capital facility needs.

- LOS Standards can be integrated into the methodology for determining recommended proffer guidelines and required transportation impact fees to mitigate impacts from new development.
- High service levels may be used as selling points to promote Economic Development.
- Meeting these goals by providing adequate facilities can foster civic pride and a positive impression of the community.

5.2.5 Facilities

5.2.5.1. Schools

The Stafford County Public School System is currently comprised of seventeen elementary schools, eight middle schools, five high schools and Gari Melchers complex, which includes Head Start and alternative education programs, a Support Service complex, and the Alvin York Bandy Administrative complex that houses all central office administration. Rapid residential growth in the County impacts the capacity of the public school system and increases the demand for new schools. Subsequently, new school construction has become a standard component of the County's capital budget and Capital Improvement Plans. During the 2008-2016 timeframe, residential growth only slightly increased, however as the County's residential growth rebounds and new census figures are released, future school facility planning needs must be addressed and planned for with LOS Standards in mind.

The estimated average daily membership for the 2021 school year dropped from previous years due to the COVID-19 Pandemic that closed most schools and moved most of the teaching to a virtual environment. The expectation is that for the 2021-2022 school year the enrollment will return to pre-COVID levels and could even slightly increase. The last full year of enrollment for which we have good numbers is 2019-2020. At that point elementary school enrollment was at 90.6% of capacity, middle schools were at 87.9% and high schools were at 91.3%. Out of all the public schools in the County, four elementary schools (Kate Waller Barrett, Conway, Hampton Oaks, and Moncure) exceed their program capacity. Positive action will be required in the immediate future to mitigate these situations.

GOAL: Ensure school capacity is capable of meeting the current level and expected increase of students from residential development.

Policies to achieve this goal include:

1. The desired design area required for elementary schools should be a minimum of 107,500 square feet on at least 20 buildable acres; for middle schools, a minimum of 146,000 square feet on at least 40 buildable acres and for high schools a minimum of 290,000 square feet on at least 70 buildable acres.
2. School enrollment should not exceed their design capacity. Design capacities at each school varies and is provided in Table 6.21.
3. To ensure all schools operate at their most efficient level, student enrollment should not exceed 90 percent of the design capacity of each school.
4. Constantly review attendance zones and when necessary, realign school zones to relieve overcrowding of facilities while minimizing disruptions to families and communities whenever possible.

5. Begin the process to construct new schools when overall student enrollment is greater than 90% of total Design capacity for all County schools.
6. Expand permanent seat capacity if possible at existing schools as the first response to student growth.
7. Establish new attendance zones based on the factors identified in school board policy 1403:
 - a. Proximity of schools to student residences,
 - b. Forecasted school enrollment and capacity;
 - c. Walking distances,
 - d. Busing times and cost;
 - e. Walking and busing safety,
 - f. Natural and man-made geographic features,
 - g. Impact on neighborhoods,
 - h. School feeder patterns,
 - i. Contiguous school attendance areas,
 - j. Capital Improvement Plan,
 - k. Student Accommodation Reports,
 - l. Socioeconomic characteristics of school populations,
 - m. Distribution of programs and resources,
 - n. Overall impact on families,
 - o. Comparative long-term costs,
 - p. Parental Input, and
 - q. Frequency of previous changes for affected neighborhoods.
8. Reduce land costs for new schools through advance acquisition of optimal locations.
9. Where possible, seek to cluster schools together to take advantage of benefits derived from economies of scale such as shared facility or athletic field use.
10. Provide varied and viable instructional alternatives for students and their families.

5.2.5.2. Parks, Recreation and Community Facilities

The Parks, Recreation and Community Facilities Department provides leisure services and facilities to all citizens in order to improve social, mental and physical development. In addition, the Parks and Recreation Department coordinates cost effective, year-round management and maintenance of parks and facilities, aquatics, gymnastics, community recreation, youth and adult sports and senior citizen programs. The Parks and Recreation Department is divided into six divisions: Sports, Gymnastics, Aquatics, Community Recreation, Administration and Parks Maintenance. The Parks Maintenance Division is responsible for managing over 1,445 acres of County-owned recreation and parkland (1,093 developed and 352 undeveloped acres), not including school athletic fields.

It is the intent of the County to provide an appropriate balance of both active and passive recreation opportunities for the community. The County recognizes that an ideal park system provides a wide variety of multi-use recreation facilities that accommodate the varied recreation needs of all the community's citizens. Existing recreational facilities should be used as a base for future development. As additional parks are developed, consideration of the balance between

conservation and preservation of open space and the provision of active recreation becomes an important ingredient in the park development process.

GOAL: Provide a highly rated parks and recreation system for the enjoyment of all ages of Stafford County residents.

Policies to achieve this goal include:

1. Satisfy a LOS standard of 12 acres of developed parkland for each 1,000 county residents, consistent with standards established in the County's Development Control Policy for Parks and Recreation.
2. Develop a system of Parks and Recreation facilities distributed throughout the community, providing equitable opportunity for all residents to utilize recreational programs, recognizing that unique County features, attractions and landscape may dictate in some areas the location of certain facilities.
3. Develop a system of greenways, water trails, and bicycle, pedestrian and vehicular trails throughout the County, with connections to other regional systems; relate the system to an ecotourism initiative.
4. Develop comprehensive relationships, using established agreements, with quality outside youth and adult sports organizations to improve and enhance the quality and opportunity for County youth and adults to participate in recreational sports.
5. Develop a strong network of summer programs that are specifically designed to meet the needs of elementary and middle school students.
6. Adopt development guidelines and policies that support the Parks and Recreation system and master plan to produce compatible public amenities and open spaces.

5.2.5.3. Libraries

Central Rappahannock Regional Library (CRRL) provides library services within Stafford and Spotsylvania Counties as well as the City of Fredericksburg. Stafford County provides financial assistance for operations based upon the County population usage. As of March 2010, forty-five percent (45%) of the total 79,072 cardholders within the CRRL library system resided in Stafford County with most of them located in the southern portion of the County. The County will be providing maintenance to two County-owned branch facilities when the newest library opens.

The CRRL Headquarters Library is in Fredericksburg. The John Musante Porter Library Branch is located on Parkway Boulevard in the northern portion of Stafford County. The England Run Library, opened in the fall of 2010 and built to Leadership in Engineering and Environmental Design (LEED) standards, is located on Lyons Boulevard in the southern portion of the County. Based on a current LOS standard of 1 square foot of library floor area per person, Stafford County has a need for approximately 124,166 square feet of public library space. The square footage of Porter (approximately 23,000 square feet) and England Run (approximately 30,000 square feet) combined with 45% of the Headquarters space (approximately 17,000 square feet, based on 45% of the total cardholders residing in Stafford County) results in a total of 70,000 square feet. The square footage provided has a direct impact on the collection counts provided.

GOAL: Provide adequate library services to meets the needs of the current and future residents.

Policies to achieve this goal include:

1. Provide and maintain a LOS standard of 1.0 square foot of library floor area per capita, consistent with national and state standards.
2. Provide and maintain a LOS standard collection of 2.5 books/materials per capita.
3. Locate libraries within a 5 to 15-minute drive of the population they serve
4. Build new facilities at a 25,000 square footage standard in order to provide enough space to meet the demand for services “close to home.”
5. Locate future facilities to allow equitable distribution of services among the population.
6. Recognize the changing role of the library as a provider of information technology services and space for community meetings, classes and training.

5.2.5.4. Fire and Rescue

LOS Standards allow the County to plan for the number and location of facilities required to meet the service needs of the residents. Standards are applied to an anticipated growth pattern (from the Land Use Plan) to determine facility needs. The intent is to identify these standards within the Comprehensive Plan. Fire and Rescue LOS Standards are defined as travel/response time as well as workload capacity. Workload capacity has been quantified as building square footage, acreage and equipment needed to provide fire and rescue service that meets LOS standards for suburban and rural populations expressed as cost per capita for residential development. New development presents increased demands for County-wide fire and rescue services that affects the ability of current facilities to meet established LOS Standards. It is important, therefore, that Stafford County provides fire and rescue services countywide to address these demands.

Response and ISO Rating: Stafford County is rated by the Insurance Services Office (ISO) which has a direct impact on insurance premiums established by private insurance companies for residential, commercial and industrial structures. ISO is an independent company that serves insurance companies, communities, fire departments, insurance regulators and others by providing information about risk. ISO’s expert staff collects information about municipal fire suppression efforts in communities throughout the United States. In each of those communities, ISO analyzes the relevant data and assigns a Public Protection Classification (PPC) – a number from 1 to 10. Class 1 represents an exemplary fire suppression program and Class 10 indicates that the area’s fire suppression program does not meet ISO’s minimum criteria. In September of 2014, ISO established the latest Public Protection Classification (PPC) rating for Stafford County at a Class 4/4y level. This “split” classification applies the rating of “4” to properties within 5-road miles of a recognized fire station and within 1,000 feet of a recognized water source. The rating of “4y” then applies to structures within 5 miles of a fire station but not within 1,000 feet of a recognized water source.

GOAL: Ensure adequate fire protection response and emergency medical services for the County’s residents, businesses and tourists.

Policies to achieve this goal include:

1. Improve upon a LOS Standard of an ISO Rating of 4/4y countywide.
2. Strive towards full-time staffing all Fire and Rescue facilities 24 hours a day, 7 days a week with at least one staffed ground transport unit (6 FTE) and one staffed fire suppression unit (12 FTE) per station.
3. Respond to 90% of all fire and emergency medical calls within Center for Public Service Excellence (CPSE) response time standards for suburban (5 minutes) and rural (8 minutes) demand zones.
4. Districts with units exceeding 20% of Unit Hour Utilization and/or exceeding 2,000 calls annually should be evaluated for staffing additional Fire and Rescue units.
5. Existing and new stations and other facilities shall be refurbished, modernized, and constructed to maintain adequate service levels consistent with growth levels.

5.2.5.5. Law Enforcement

The Stafford County Sheriff's Office operates from the Ford T. Humphrey Public Safety Building located in the Stafford Courthouse area. The Office is organized into eight primary divisions: Field Operations, Special Operations, Administrative Services, Criminal Investigation, Civil Process/Court Security, Emergency Communications, Animal Control and Professional Standards Unit. There are 297 total authorized positions that includes sworn officers, animal control personnel, civilian personnel, and emergency communication center personnel.

A multi-year year comprehensive study of line level staffing, supervision and workload was undertaken by the Sheriff's Office in 2013 and later adopted by the Board of Supervisors. This study involved looking at accepted formulas for determining staffing levels, customizing those formulas to local conditions, collecting local data and then applying the data to the formulas to determine the need for additional staffing in the various divisions of the Sheriff's Office. In all but a few cases, calculations were based on workload and the availability calculations of personnel. In other cases, national best practices or fixed position calculations were utilized. The study indicated a need for additional sworn law enforcement officers, animal control officers and staff, emergency communications personnel and civilian support personnel.

The most critical needs were identified in the patrol function where the staffing determinations were based upon a formula using operational and operational support workload time and proactive patrol time. The set standard is no more than 70% of a law enforcement officer's time should be devoted to operational and operational support workload time and no less than 30% of their time should be devoted to proactive patrol time. Operational workload and operational support time are defined as the time dedicated to responding to calls for service or initiation of criminal investigations, time to meet fair labor standards, service vehicles, report documentation, case preparation, meeting, training, etc. Proactive time is defined as the time used to solve potential crime problems, engage the community, patrol, traffic safety, etc. The study revealed that the County's present operational and operational support workload comprises 70-90% of a law enforcement officer's time, leaving only 10-30% of their time for proactive policing.

Response Time: The Sheriff's Office records all "Calls for Service" as workload. These calls are prioritized into five individual categories:

- A. Priority 1: Emergency call life threat or similar; respond with all haste generally lights and siren.
- B. Priority 2: Emergency but not quite to the level of #1; respond expeditiously.
- C. Priority 3: Urgent non-emergency; respond ASAP.
- D. Priority 4: Non-emergency respond, within a certain time frame.
- E. Priority 5: Non-emergency respond, when you are free from other duties.

The "gold standard" for response time to emergency and "in-progress" calls for service is 3 minutes. The national recommended average for emergency response time has been set at under 5 minutes and is a more realistic goal for the County. Due to traffic congestion, distances in some areas and personnel constraints, the response time to these types of calls has averaged more than 7 minutes during the study period. Response time for non-emergency calls for service is recommended to be under 10 minutes. During the study period, the County's field response time for non-emergency calls for service averaged over 12 minutes.

GOAL: Ensure a higher level of ethical, compassionate, fair and professional crime prevention and public safety protection by the Sheriff's Office for the County's residents, businesses and tourists, by employing the best personnel and using the best tools and technology available.

Policies to achieve this goal include:

1. Provide crime prevention services and education to all segments of the community, reaching at least 40% of the residents annually.
2. Maintain appropriate facilities, equipment and staffing to dispatch Sheriff's and Fire and Rescue units to emergency calls, ensuring timely processing of request for assistance and the initial deployment of the most appropriate emergency resources.
3. Deliver a comprehensive, data driven, law enforcement program approach to reduce fatalities and serious injuries on Stafford roads while addressing community traffic concerns.
4. Respond to 100% of all emergency calls for service within 5 minutes or less, on average, of being dispatched.
5. Respond to 100% of all non-emergency calls for service within 10 minutes or less, on average, of being dispatched.
6. Decrease the percentage of a law enforcement officer's time dedicated to operational and administrative workload activities to 70%.
7. Increase the percentage of a law enforcement officer's time dedicated to proactive activities to 30%.
8. Provide criminal investigation services to 100% of crimes requiring follow-up.

The goal and objectives can be achieved through appropriate and contemporary law enforcement facilities and equipment, properly distributed, and staffed by highly trained personnel to meet community safety and response standards.

5.2.5.6. Water Utilities

The Stafford County Department of Utilities is the sole provider of public water service to the County. The public water service area is the entire Urban Service Area (USA) of the County and certain areas outside of the USA.

The County's water supply and treatment system consists of three surface water reservoirs and two water treatment facilities. Lake Mooney reservoir, completed in 2015, has a safe yield of 12.0 million gallons per day (mgd) and is a pump storage facility from the Rappahannock River. Lake Mooney is the sole source of raw water to the Lake Mooney Water Treatment Facility, which has a maximum treatment capacity of 9.1 mgd and an ultimate capacity of 20 mgd. The Smith Lake reservoir has a safe yield of 7.7 mgd. It is the sole source of raw water to the Smith Lake Water Treatment Facility which has a maximum treatment capacity of 12.5 mgd. The Abel Lake reservoir has a safe yield of 6.1 mgd. It can be made available for future use with a water treatment facility on site or as a raw water source for the Lake Mooney Water Treatment Facility.

The water transmission and storage system consists of three ground level water storage tanks, eleven elevated water storage structures, five major water pumping stations, six standby pumping stations, and approximately 715 miles of water mains ranging in size from 2-inch to 30-inch diameter. The County currently has six individual pressure zones.

GOAL: Provide an adequate and quality public drinking water supply, treatment, transmission, storage, and distribution system to serve existing and proposed developments as reflected in the County's Land Use Plan (LUP). The public drinking water system is to be economically feasible and environmentally sensitive.

Policies to achieve this goal include:

1. Design and construct all water supply, treatment, and distribution facilities in accordance with the Stafford County General Water Improvement Plan and Capital Improvement Plan (CIP). Water facilities shall be planned and designed in accordance with the land uses, densities, intensities and locations as shown in the LUP.
2. Water system improvements shall be constructed in accordance with the schedule shown in the Stafford County General Water Improvement Plan and the CIP.
3. The capital costs of system expansions and increases in system capacity shall be the responsibility of new development.
4. The County's water supply and water treatment capacity shall be monitored and shall be increased as required in order to provide a sufficient water supply within Stafford County on an as-needed basis.
5. Expansions of the service area and improvement of the water transmission system shall be done in accordance with criteria set forth in the Comprehensive Plan.
6. User Fees, Availability Rates, Pro Rata Rates, and other fees will be reviewed on an annual basis.
7. All future development within the USA shall be required to utilize the public water system.
8. Only developments within the USA will be allowed to connect to the public water system, except for those properties that satisfy Policy 1.4.2.

9. Extension and improvements of public water facilities shall not be used as a justification for increasing the residential densities beyond what is shown in the LUP.
10. Operate the water system at a level of service (LOS) to ensure full compliance with state and federal standards.
https://staffordcountyva.gov/government/departments_p-z/public_works/utilities/water/water_quality_report.php
11. Design the water distribution system to meet a LOS that has a normal operating pressure of between 40-80 pounds per square inch (psi).
12. Provide fire protection to the USA in accordance with the Stafford County Water and Sewer Standards. It is recognized that currently portions of the county do not have this standard of fire protection. Upgrading the entire service area to this level will require a minimum of ten years.
13. Design Standards shall meet the following LOS:
 - a. Water treatment facilities shall be designed to provide a maximum daily water demand that is 1.5 times the annual average daily water demand.
 - b. Water pumping stations shall be designed to pump the maximum daily water demand with one pump out of service.
 - c. Pipelines shall be designed to provide:
 - i. The maximum hour domestic flow plus fire flow.
 - ii. A maximum velocity of 5 feet per second (fps).
 - iii. A maximum head loss of 2-5 feet/1000 feet of pipeline.

5.2.5.7. Wastewater Utilities

The Stafford County Department of Utilities is the sole provider of public sewer service to the County. The public sewer service area is the entire Urban Service Area (USA) of the County and includes very limited areas outside of the USA.

Stafford County has two wastewater treatment facilities:

- Little Falls Run facility serves the southern portion of the USA and currently has a capacity of 8.0 mgd.
- Aquia facility serves the northern portion of the USA and currently has a capacity of 10.0 mgd.

These two wastewater treatment facilities are expected to serve Stafford County through buildout or approximately 2060. The facilities will be expanded once VPDES permit thresholds are reached.

There are five major interceptor sewer systems that are defined by the drainage basins they serve. The Claiborne Run and Falls Run Interceptors convey wastewater to the Little Falls Run Facility. The Accokeek Creek, Austin Run, and Aquia Creek Interceptors convey wastewater to the Aquia Facility. Smaller drainage basins are pumped into these major interceptors. These sewer systems are comprised of 94 wastewater pumping stations, 476 miles of pipe ranging from 8 to 48 inches in diameter, and 78 miles of pressure force main ranging from 1.5 to 24 inches in diameter.

GOAL: Provide a quality wastewater treatment, conveyance, and collection system which serves the existing and proposed development as reflected in the County's LUP. The system is to be economically feasible and environmentally sensitive.

Policies to achieve this goal include:

1. Design and construct all wastewater treatment, transmission, and collection facilities in accordance with the Stafford County General Sewer Improvement Plan and the CIP. Sewer facilities shall be planned and designed in accordance with the land uses, densities, intensities, and locations as shown in the LUP.
2. Sewer system improvements shall be constructed in accordance with the schedule shown in the Stafford County General Sewer Improvement Plan and the CIP.
3. The capital costs of system expansions and increases in system capacity to serve new development shall be the responsibility of new development through connection fees and pro-rata fees.
4. The County's wastewater treatment capacity shall be monitored and shall be increased to accommodate projected needs as required.
5. Expansions of the service area and improvements of the wastewater transmission system shall be done in accordance with criteria in the Comprehensive Plan.
6. User Fees, Availability Rates, Pro Rata Rates, and other fees will be reviewed on an annual basis.
7. All future development within the USA shall be required to utilize the public wastewater system.
8. Only developments within the USA will be allowed to connect to the public wastewater system, except for those properties that satisfy Policy 1.4.2.
9. Extension and improvements of public sewer facilities shall not be used as a justification for increasing the residential densities that are shown in the Land Use Plan.
10. Operate the wastewater system so that it is in full compliance 100% of the time with the requirements of the Virginia Pollutant Discharge Elimination System (VPDES) permits for each treatment facility.
11. Design Standards:
 - a. Wastewater treatment facilities shall be designed to treat the maximum daily flows.
 - b. Pipelines and pumping stations shall be designed to provide:
 - i. Dry weather flow of 64 gpd per capita (80% of average residential water demand).
 - ii. Infiltration allowance of 500 gpdidm (gallons per day per inch-diameter mile) for existing pipes.
 - iii. A peaking factor of 3.5 to account for diurnal flow variations and inflow.

5.2.5.8. Solid Waste Management

The mission of the Rappahannock Regional Solid Waste Management Board (R-Board) is to provide professional, courteous, and intelligent service and solutions to the waste disposal needs of citizens residing in Stafford County and the City of Fredericksburg.

The R-Board's vision is to operate the best landfill in Virginia. Being the best landfill includes environmentally sound solid waste management policies, having an active Reduce, Reuse, and Recycling program, all coupled with outstanding customer service. The R-Board intends to continually strive to be a leader in the waste management industry and to set an example for others to emulate. The R-board is run entirely through usage fees and does not require additional resources from the County.

GOAL: Provide for efficient collection and disposal of solid waste while maintaining an adequate waste disposal capacity.

Policies to achieve this goal include:

1. Establish a LOS for land-filled waste based on a daily generation rate of 4.4 pounds per day per person, which is to be used in designing landfill capacity.
2. Continue to maintain or exceed 25%, measured by weight, as a recycling goal for residential and nonresidential waste stream.

5.2.5.9. Transportation

All public roads in the County should operate at a Level of Service (LOS) of C or better. All new public roads should be built to Virginia Department of Transportation (VDOT) design specifications. Additional LOS Standards may need to be established to address specific situations within designated areas.

5.2.5.10. Stormwater Facilities

LOS Standards for stormwater management should be established.

5.3 Capital Costs per Residential Unit

5.3.1 Introduction

As population and commercial growth continues in the County, the demand increases for public facilities. This section presents a summary of the capital costs per type of residential unit, and the mechanisms available to the County to recover a portion of these costs, with the goal of ensuring that development pays its share of the impact.

Table 5.1: Summary of Capital Costs by Residential Unit Type

Housing Unit Type	Parks and Recreation	Schools	Libraries	Fire and Rescue	Transportation	Law Enforcement	Government	Total Monetary Contribution
Single Family	\$ 17,653	\$ 45,762	\$ 2,257	\$ 3,071	\$ 114,599	\$ 1,293	\$ 811	\$ 185,446
Townhouse	\$ 16,412	\$ 33,471	\$ 2,098	\$ 2,855	\$ 80,219	\$ 1,202	\$ 754	\$ 137,011
Multi Family	\$ 14,495	\$ 10,915	\$ 1,853	\$ 2,521	\$ 45,840	\$ 1,061	\$ 666	\$ 77,351
Mobile Home	\$ 10,660	\$ 24,204	\$ 1,363	\$ 1,854	\$ 55,008	\$ 781	\$ 490	\$ 94,360

Appendix A provides the methodology for calculating these costs. Proffers and impact fees may be used to recover a portion of these capital costs.

These data are based on a trend analysis assuming linear growth and cost increases. Growth projections are bound by state estimates, which may fluctuate. Fire and Rescue costs are based on assumed fixed population per fire and rescue station, rather than response times, which is a driving factor in determining facility need. Desired Parks and Recreation levels are based on public parkland and do not account for private recreation facilities which may fill some of the community needs.

5.3.2 Proffers

Proffers are voluntary contributions made by an applicant to offset the impacts of a change in land use through a rezoning. A locality cannot unilaterally impose proffers. They are offered by the applicant and the locality votes on whether to accept them as part of the rezoning. Proffers may be in the form of cash contributions, land dedication for a public facility, or construction of a public facility, and may also include restrictions on the intensity and type of the development.

The General Assembly passed a law, effective July 1, 2016, which applies to proffers relating to new residential developments and residential components of mixed-use properties. Such law was amended again in 2019, effective July 1, 2019. The law, Virginia Code § 15.2-2303.4 as currently stated (the “Statute”), makes it unlawful for a locality to require an “unreasonable proffer.” In order to ensure compliance with the Statute, unless proffers are deemed reasonable by the applicant and owner, certain applications for zoning reclassification must include an analysis demonstrating how each proffer made complies with the Statute’s requirements.

5.3.3 Transportation Impact Fees

In May of 2014, the County modified its Transportation Impact Fee Program and presently collects transportation impact fees Countywide for residential uses. The fee rate is \$2,999 for all types of residential dwelling units.

GOAL: Collect impact fees to ensure new development pays its share of the capital costs to build or expand transportation facilities to serve that development.

Policies to achieve this goal include:

1. Evaluate the potential to apply impact fees Countywide and update and revise the two existing areas.
2. Impact fees should be established to capture the public facility needs generated by each new residential dwelling unit and non-residential uses.
3. The impact fee areas and potential for new projects should be reevaluated on a 2-year cycle.

Action Strategies:

1. Adopt new ordinance and/or amend existing ordinance in order to maximize collection of transportation impact fees.
2. Continue to track affected parcels and collect impact fees as required.
3. Establish guidelines for the appropriate expenditure of collected impact fees.
4. Establish a process to regularly reevaluate and adjust the impact fee amounts.

5.3.4. Payments for upgrading impounding structures (Dams)

Sec. 15.2-2243.1 of the Code of Virginia provides localities with the ability to collect funds from developers and subdividers to offset 50% of the costs of upgrading dams, effective July 1, 2009. These funds may be collected by the locality if the Department of Conservation and Recreation (DCR) determines that a plan of development proposed by a developer or subdivider is wholly or partially within a dam break inundation zone and would change the spillway design flood standards of an impounding structure pursuant to Sec. 10.1-606.3.

These payments are collected on a project specific basis and must be used to improve the specific project within six years. The County may issue an extension of up to an additional four years for the use of the funds if the dam owner shows that sufficient progress is being made.

If the County chooses not to collect these payments, then the developer or subdivider must make payments to the Virginia Dam Safety, Flood Prevention and Protection Assistance Fund instead.

GOAL: Collect payments for upgrades to dams when new development or subdivisions in a dam break inundation zone create the need for improvements to the dam.

Policies to achieve this goal include:

1. Developers and subdividers of land within dam break inundation zones should share in the costs of maintaining dam safety.
2. The County should explore the possibility of collecting payments to offset the costs of upgrading dams when these upgrades are needed because of development within the dam break inundation zone.

Action Strategies:

1. The County shall amend its subdivision and zoning ordinances to require applicants to provide an engineering study in conformance with the Virginia Soil

and Water Conservation Board's standards under the Virginia Dam Safety Act (§ 10.1-604 et seq.) and the Virginia Impounding Structure Regulations (4 VAC 50-20) when DCR determines that the proposed plan lies within a dam break inundation zone.

2. Establish a payment system for collecting 50% of costs of improvements needed to meet spillway design flood standards and associated administrative fees.

5.4 Public Facilities Plan

5.4.1 Goal of the Plan

To provide the public facilities and services needed to serve the existing population and new growth through efficient, equitable, safe and accessible delivery of public services as well as forecast when and where expanded and new public facilities will be needed.

5.4.2 Background

The anticipated economic and population growth of Stafford County will require an increased level of public services. More population will mean more school-aged children as well as more health services, social services and recreation facilities. Economic growth will require expanded utilities, improved fire and rescue protection and coordination with the business community.

5.4.3 Purpose and Scope

The purpose of the Public Facilities Plan is to assess the current and future public service and facility needs and provide a plan for addressing these needs in an efficient and cost-effective manner. The Plan seeks to aid County staff when considering site selection and acquisition, facility location and timing of facility development. The plan will aid the County in the site selection process, reclassification and comprehensive impact fee processes as well as assist the County in the development of the Capital Improvement Program (CIP).

The County's Plan must be carefully coordinated with land use and transportation plans to integrate the provision of services with anticipated growth, revenues and available funding. The principal goals of this Comprehensive Plan regarding the provision of public facilities and utilities are:

- Provide community facilities/services to serve existing and new development in an efficient and cost effective manner.
- Provide emergency services and law enforcement to protect citizens and allow them to enjoy a safe and secure environment.
- Promote an integrated information system for the County, supporting the education and the enrichment of all its citizens.
- Serve the recreational needs of the community through a comprehensive system of recreational facilities and programs.
- Provide a system of high-quality educational opportunities that meet the future educational needs of all citizens.
- Provide safe and adequate facilities and educational programs for the removal, disposal and reduction of solid waste; and

- Provide a sufficient supply of high-quality drinking water and a distribution system to serve the domestic, recreational, industrial, commercial, and fire protection needs of the community at the most economical price possible.

5.4.4 Key Objectives

The Public Facilities Plan should serve as the foundation for future decisions concerning the location and timing of public facilities. In making these decisions, the following objectives should be considered:

- Locate new facilities within the existing Urban Services Area (USA). Exceptions may be made when the only way to meet LOS Standards or locations criteria contained in the Public Facilities Plan, is to locate the facility outside the USA.
- Locate new facilities to provide convenient service to the greatest number of users.
- Construct or expand facilities in accord with established Level of Service Standards.
- Coordinate the location of public facilities with the recommendations of the Comprehensive Plan.
- Provide equitable distribution of public facilities between established and developing parts of the county.
- Consider maintenance or replacement needs in established areas to encourage healthy communities.
- Acquire sites for future facilities in advance of, or in conjunction with, development.
- Provide co-located facilities wherever possible to provide greater efficiency and cost savings.
- Use this plan to determine whether proposed facilities are in accord with the Comprehensive Plan as required by state law.

It is not the intent of the Comprehensive Plan to address funding availability, debt capacity or other financial concerns. The plan also does not address facility design, equipment or operation factors, unless such factors directly relate to system-wide facility planning.

The Plan recommends construction of the following new (and expansion to existing facilities which are not built to the County's current standards) public facilities by facility type by 2035. The Plan references the Public Facilities Impact Model (PFIM) to help keep track of the capital needs with the growth population on an annualized basis. This Plan is based on per-capita demand and does not reflect actual ability to afford or ability to construct these facilities.

The PFIM tracks the amount of building square footage by facility type as well as the number of acres of County parkland needed based on the year's projected increase. Using the County's current standards for each facility type, especially the building size of which County facilities are constructed, the PFIM can determine the total number of facilities needed by 2036. Where standards have not been established, the PFIM uses current data to establish the provided service level by the County. This service level is assumed to be provided by the County as the population increases over the next 20 years. During the twenty-year period of 2016 - 2036 covered by this Comprehensive Plan, there is a projected need for the following, additional public facilities:

- Six (6) elementary schools.
- Two (2) middle schools.
- Two (2) high schools.

- Two (2) Fire and Rescue stations for a total of 42,000 square feet of space.
- 940 acres in land for parks and recreational facilities (502.7 acres for future population growth).
- Four (4) libraries for a total of 100,000 square feet of space (2 libraries for future population growth).
- Other government facilities totaling 137,215 square feet of space.

As of this revision of the Comprehensive Plan, the Public Facilities Plan does not address the need to upgrade existing facilities to the Level of Services Standards. The Public Facilities Plan background is provided in Appendix B.

5.5 Financial Impact Model

A financial impact model (FIM) is a simplified representation of public revenue and expenditure flows. It estimates in a systematic manner how economic, land use, and population changes affect government finances. The model can be used to estimate the impact of residential and non-residential growth and development over the twenty-year period of the Comprehensive Plan.

Objective 2.4 of this Plan recommends the County adopt a FIM. The FIM should be designed to facilitate analysis of future trends or forecasts in population, expenses and revenues for the county and show the financial impact of alternate scenarios. The FIM is only a part of the total planning process. It is designed to show the potential fiscal result of planning choices, not what those choices should be. It does not address land use, environmental impact, transportation, health and safety, community design, or economic development except as a reflection of how decisions in those areas might impact the County's fiscal condition.