

Summary of Public Facilities Analyses For GMU's High Forecast of Growth at Tysons

Fairfax County staff briefed representatives of County agencies and private utilities on the Forecast by George Mason University's Center for Regional Analysis in October, 2008. Summarized below is the high level forecast by GMU.

	Year				
	2010	2020	2030	2040	2050
Population	18,500	31,400	44,400	64,000	85,900
Households	9,300	15,700	22,200	32,000	42,900
Jobs	112,600	140,300	166,700	186,600	209,900
Office Square Feet	27,400,000	36,200,000	44,900,000	52,600,000	60,200,000
Retail Square Feet	6,200,000	6,600,000	7,200,000	7,300,000	7,400,000
Hotel Square Feet	2,400,000	3,000,000	3,700,000	4,300,000	4,900,000
Residential Sq. Ft.	11,160,000	18,840,000	26,640,000	38,400,000	51,480,000
Total Square Feet	47,160,000	64,640,000	82,440,000	102,600,000	123,980,000

Agencies were asked to analyze the impacts of this forecast on their operations. The remainder of this document focuses on the public facilities providers' analyses of infrastructure needed to serve new development at Tysons.

Dominion Virginia Power

Dominion's existing Tysons substation is located on Tyco Road. It will be expanded to serve approximately 400 MVA (megavolt-amperes) for normal operating conditions. By the year 2050 Dominion projects that growth at Tysons will generate demand for 738 MVA, including electricity for Metrorail operations. Therefore a second substation should be planned for the year 2020, with a preferred location south of Route 7 near Spring Hill Road, adjacent to Dominion's existing high voltage transmission line. The new facility should be a conventional walled substation and will require up to 2.5 acres of land.

A new Spring Hill Substation will serve the Tysons West and Tysons Central 7 Metrorail stations, as well as development along the south side of Route 7, and Tysons Corner Center. The existing Tysons Substation will serve the Tysons Central 123 and Tysons East Metrorail stations, as well as development on the north side of Route 7, the Gannett Building and Tysons Galleria.

Fairfax County Fire and Rescue Department

The Fairfax County Fire and Rescue Department (FRD) recommends two new urban fire stations at Tysons, located on the first two to three floors of commercial or mixed use buildings. The first station will be needed by 2020 and could be located in the Tysons Central 7 or Tysons Central 123 district. The second station will be needed by 2040 and could be located in the Tysons East district.

Because the existing Station 29 is adjacent to the Tysons West Metrorail station, it will need to be relocated, probably to a site in the North Central district. FRD also recommends construction and staffing of the proposed Wolftrap Fire and Rescue Station 42, to provide backup emergency service at Tysons.

Fairfax County Police Department

The Fairfax County Police Department (FCPD) estimates that the projected workload due to growth at Tysons will exceed the capacity of the current staff of the McLean Police District by the year 2025. FCPD also wants to provide a strong, visible police presence near the central Metro station areas of Tysons. To facilitate this presence, FCPD recommends a satellite police station, co-located with the Fire & Rescue station in the Tysons Central 7 or Tysons Central 123 district. FCPD also recommends a new district station in the Merrifield-Dunn Loring area, to open between 2020 and 2030. This new district station will be needed to supplement the staff at the McLean district station.

Fairfax County Park Authority

The Fairfax County Park Authority (FCPA) currently owns about 86 acres of park land within the boundaries of Tysons. Except for Westgate Park, co-located with Westgate Elementary School, the land is in natural or cultural resource protection areas and not active recreation. Using an urban park standard developed by FCPA staff of 1.5 acres per 1,000 residents and 1 acre per 10,000 employees, FCPA projects a need for 150 acres of developable park land in Tysons by the year 2050. This proposed Tysons park system should include a mix of small urban pocket parks of less than one acre; one to five acre civic plazas, common greens, and recreation-based parks; and a centrally located signature park of at least 10 acres. The green network planned for Tysons will also include linear open spaces and trails.

The Countywide recreation facility service level standards in the Park and Recreation element of the Countywide Policy Plan should be applied to new development at Tysons. This will generate a need for recreational facilities, which should be supported in large part by the private sector, either as part of their developments or through contributions. Other recreation facilities may be added to existing public school sites, publicly accessible commercial space, or in nearby existing parks surrounding Tysons.

Fairfax County Public Library

The Fairfax County Public Library projects a need for a new community library between 2030 and 2040. The recommended site would be near the Tysons Central 7 Metro station, with possible co-location with a community center or a 500-seat performing arts center.

Another option would be replacement of the existing regional library, which has limited usable public space, with a new regional library in Tysons Central 7. A regional library could also be co-located with a community center or performing arts center. The current site of the Tysons-Pimmit Regional Library could be used for another public purpose.

Fairfax County Public Schools

The Fairfax County Public Schools (FCPS) has projected enrollment from new units at Tysons using the Countywide student yield ratios for mid- and high-rise units. These ratios are 0.043 elementary students, 0.011 middle school students, and 0.024 high school students, for a total of 0.078 students per unit. These student yield factors are lower than those used by Arlington County, Virginia, and Montgomery County, Maryland, for similar types of housing near Metro stations. These ratios are also around 1/6 the Countywide average ratio for single family housing (0.48 students per unit), or the predominant type of housing in the neighborhoods surrounding Tysons.

FCPS recommends at least two new school sites at Tysons. First is an elementary school site in the North Central district where it could share recreational space with the proposed eight- to ten-acre park. A second school site should be located in the East Side district, and might be used for a middle school.

Other options for increasing elementary school capacity include expansion of Westgate Elementary and locating an urban elementary school in a commercial office building. At the secondary school level, FCPS has previously discussed expansion at the Marshall High School site. Other options for increasing secondary school capacity include modifying other existing middle and high school sites.

Fairfax County Stormwater Management (DPWES)

The vision for Tysons includes stormwater management practices that return water into the ground, reuse it, or delay its entry into the stream system. All redevelopment sites should be design to ensure downstream protection and prevent stream degradation. Pollutant removal for redevelopment projects should be consistent with the requirements of the Public Facilities Manual for new development. Environmentally friendly stormwater design must be included at the conceptual stage of site development on all redevelopment. Low impact development techniques should be integrated into streetscapes, open space, buildings and rail. These techniques include vegetated ponds, rain gardens, vegetated swales, porous pavement, vegetated roofs, and tree box filters.

Fairfax County Wastewater Management (DPWES)

Wastewater from Tysons Corner is treated at the Blue Plains Treatment Plant, which is owned and operated by the DC Water and Sewer Authority. In order to accommodate growth at Tysons and elsewhere in Fairfax County, DPWES is pursuing the purchase of additional treatment capacity at Blue Plains and at the Loudoun County Sanitation Authority. However, it is not yet known how much additional capacity could be made available to the County at this time. Most likely, the additional wastewater from Tysons will have to be diverted to other treatment plants such as the County's Noman Cole plant or the Alexandria Sanitation Authority's plant, in which there are some available capacity.

Over time it is hoped that the adoption of conservation measures will result in less water consumption and less wastewater production by County residents. In any case, DPWES projects that growth at Tysons will generate the need to increase the capacities of major trunk lines, to upgrade the Difficult Run Pump Station, and to invest in other improvements to the current wastewater system.

Fairfax County Water Authority

The Tysons area is currently served by both the Falls Church Department of Public Utilities and the Fairfax County Water Authority (FCWA). FCWA has provided detailed analysis of its plans to serve growth at Tysons. Regarding water storage, they plan to supplement their current capacity with one additional storage tank in 2030 and one in 2040. At the Tysons Corner Pumping Station, FCWA proposes adding two distribution pumps in 2010 and one distribution pump in each of 2020 and 2030.

For water distribution, between 2010 and 2020 FCWA will extend the Northeast Connector, and between 2020 and 2030 they will extend the Southeast Connector. For transmission mains, FCWA will extend the Spring Hill Road water main in 2010 and the Route 7 water main in 2020. In 2030 FCWA will extend a water main to Magarity Road and in 2040 they will extend a water main from Dranesville to Tysons Corner.

Transmission system improvements will be funded from Fairfax Water Availability Charges. Distribution system improvements will be funded from a combination of Fairfax Water revenues and developer-provided infrastructure.

Telecommunications Providers

It is anticipated that telecommunications services will be able to accommodate growth at Tysons through continuous improvements in technology, funded by user fees.

Washington Gas

Washington Gas serves Tysons through a gate station in the Dranesville area of Fairfax County. This gate station is very centrally located in the region's system of gas pipelines, and is therefore considered to be in a "healthy" condition. Washington Gas estimates that by 2050 growth at Tysons would increase output in this gate station by 50%. This assumes high-rise, multifamily housing units, which consume about one-fourth as much gas as single family units. In the unlikely event that system improvements are needed as a result of growth at Tysons, any such improvements will be financed through the utility's rate system.