

# Capital Facilities



## Mission

To provide Fairfax County with quality, cost effective buildings and infrastructures in a safe and timely manner.

## Focus

Capital Facilities' purpose is to complete the construction of publicly funded projects. Specifically, Capital Facilities provides the design, land acquisition and construction services for governmental facility projects such as libraries, courts, police and fire stations. The agency supports user agencies during the site selection and feasibility study phases and coordinates with the user agencies throughout the project implementation process. The agency is also responsible for the implementation of infrastructure improvement projects, such as roads, sanitary sewer extensions, sanitary pump stations, pollution control plant expansions/upgrades, walkways, bus stop shelter installation and the land acquisition and construction management of stormwater drainage projects. Through the completion of these projects, Capital Facilities contributes to the health, safety and welfare of all who reside in, work in and visit Fairfax County.

One of the strengths of Capital Facilities is its technical and operational capabilities and, as such, its operations have continued to be recognized for technical excellence. To improve upon this excellence, Capital Facilities has focused many of its efforts over the last five years on improving three major aspects of the agency, including work culture, environmental stewardship and relationships with the community.

Capital Facilities has several initiatives, including, but not limited to, the improvement of project delivery and customer service. As part of this initiative the agency continues to refine the agency performance measures to establish meaningful tools to help measure existing performance and, ultimately, improve customer service. To help track and report the agency performance measures, a new Capital Project Information System was designed and developed by in-house staff in FY 2006. In FY 2007, the Capital Project Information System was implemented, allowing better project tracking and monitoring by project managers and agency directors. The tracking system continues to be refined with sustained use and experience by agency managers.

Funding for capital construction projects administered by Capital Facilities is provided from bond funds, the General Fund and grant funds, and is affected by the economic climate and the availability of funds from the Commonwealth of Virginia and the federal government.

### THINKING STRATEGICALLY

Strategic issues for the department include:

- o Improving relationships with customers by working collaboratively and sharing information in a more timely fashion;
- o Implementing tactical information technology initiatives to improve business operations; and
- o Developing methods to allow the agency to accomplish its mission more efficiently.

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On April 4, 2007, the General Assembly approved the Governor’s substitute for House Bill 3202 (HB 3202). This bill is the first infusion of new transportation dollars in Northern Virginia in more than 20 years. As a result, significant new funding for transportation will be made available to Fairfax County, starting in the second part of FY 2008. Under the provisions of this legislation, on January 1, 2008, the Northern Virginia Transportation Authority (NVTA) implemented a series of taxes and fees to support Northern Virginia transportation projects and services. Forty percent of the revenue generated will be returned to the jurisdiction where the funds were raised. In addition, the new transportation legislation authorized an increase in the local commercial real estate tax of up to 25 cents per \$100 assessed value to be dedicated to transportation efforts and improvements. The Board of Supervisors will establish the level of the increase, recommended at 12 cents, as part of the adoption of the FY 2009 budget. In FY 2009 these two new revenue sources, and supported transportation projects, programs, and staff, are reflected in Fund 124, County and Regional Transportation Projects.

Due to the influx of this new funding and the increased requirements in design support for capital project implementation, 18/18.0 SYE positions from the Office of Capital Facilities (OCF) will be transferred to Fund 124, County and Regional Transportation Projects. It is anticipated that developing a consolidated program with one management structure will result in more effective delivery of services and will expedite the implementation of transportation projects. The relationship between transportation planners and capital project engineers will be facilitated by the collocation of OCF and Department of Transportation (DOT) staff in Fund 124 and will allow for an improved implementation process for transportation projects in the County.

### New Initiatives and Recent Accomplishments in Support of the Fairfax County Vision

 <b>Building Livable Spaces</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Completed the construction of 120 capital projects, including the Crosspointe Fire Station, Katherine K. Hanley Family Shelter, Oakton Library and Waples Mill Road/Route 50 Intersection Improvements. This represents the highest number of projects completed by DPWES in any single previous fiscal year.	✓	
Initiated the construction of several key County projects including the Public Safety & Transportation Operations Center (PSTOC), Forensics Facility, Burke VRE Parking Structure and Burke Centre Community Library.	✓	
Continue to refine and implement pre-qualified competitive bid procedures to improve timely delivery, quality and cost effectiveness (ongoing).	✓	✓
 <b>Connecting People and Places</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Continue implementation of projects included in the Board of Supervisors Four-Year Transportation Initiative. DPWES has completed 13 projects and is managing approximately 20 projects as part of this major transportation initiative.	✓	✓
Completed 18 sidewalk/trail projects and the installation of 18 bus shelters, bus benches and bus pads countywide. Several more bus shelter sites will be under construction over the next several months.	✓	✓

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 <b>Connecting People and Places</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Continue to enhance outreach efforts to inform residents and vendors about proposed and ongoing projects through the County Web site. New information added to the Web site includes the publication of a quarterly status report to inform residents about ongoing capital construction projects. In FY 2008, a Geographic Information System (GIS) map of capital project locations will assist residents in finding information about ongoing projects.	✓	✓
Completed surveys to monitor progress, including a user survey to measure how satisfied building users are with completed buildings, such as fire stations, libraries and district police stations. In FY 2008-2009, new surveys of customers will be developed and administered to determine the level of customer satisfaction with completed capital projects.	✓	✓
 <b>Practicing Environmental Stewardship</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Capital Facilities is instrumental in the planning, design and construction management of sanitary sewer improvement projects that provide residents the ability to switch from private septic fields to County sewer. Due to the failure of many private septic fields, corrective measures often become necessary. To address this problem the Alps Drive, Laurel Ridge Road and Langley Forest Subdivision Phase I projects have made sanitary sewer available to residents with failing septic systems in FY 2007. Three additional projects are currently under design and one is in construction to address this problem.	✓	✓
Continue the development of a Green Building program specifically tailored to the needs of Fairfax County that is practical and economical, while maintaining the environmental intent of low impact development and Leadership in Energy and Environmental Design (LEED). The Fairfax Center and Crosspointe Fire Stations are now complete and are the County's first Green Buildings. Capital Facilities is working with other County agencies in the development of a County Green Building Policy to be adopted by the Board of Supervisors.	✓	✓
 <b>Exercising Corporate Stewardship</b>	<b>Recent Success</b>	<b>FY 2009 Initiative</b>
Implemented new internal performance measures for individual divisions and external performance measures for budgetary and business-wide use.	✓	
The Capital Facilities' Land Acquisition Process Redesign Team (LAPRT) reviews all land acquisition processes required for the implementation of capital projects. The LAPRT has identified ways to streamline and expedite the land acquisition process and has subsequently improved the overall delivery of capital projects.	✓	
Implement a comprehensive workforce plan for key disciplines in DPWES. Components of the workforce plan that will be evaluated include competencies, succession, knowledge management, recruitment, hiring, retention, staff development, compensation, benefits and workforce support.		✓

# Capital Facilities

 Exercising Corporate Stewardship	Recent Success	FY 2009 Initiative
Develop and implement a Web-based reporting portal for the Capital Project Information System, providing better access to capital project information, budgets, expenditures and statistics. Initial implementation was achieved in FY 2007. Ongoing refinements and improvements are expected as the system becomes more widely used within Capital Facilities.	☑	☑

## Budget and Staff Resources

Agency Summary				
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan
Authorized Positions/Staff Years				
Regular	141/ 141	141/ 141	143/ 143	125/ 125
Expenditures:				
Personnel Services	\$8,555,640	\$10,084,734	\$10,005,349	\$8,977,736
Operating Expenses	6,928,003	8,003,067	8,003,617	8,033,067
Capital Equipment	15,585	0	15,990	0
<b>Subtotal</b>	<b>\$15,499,228</b>	<b>\$18,087,801</b>	<b>\$18,024,956</b>	<b>\$17,010,803</b>
Less:				
Recovered Costs	(\$5,374,609)	(\$6,568,655)	(\$6,568,655)	(\$5,880,531)
<b>Total Expenditures</b>	<b>\$10,124,619</b>	<b>\$11,519,146</b>	<b>\$11,456,301</b>	<b>\$11,130,272</b>
<b>Net Cost to the County</b>	<b>\$10,124,619</b>	<b>\$11,519,146</b>	<b>\$11,456,301</b>	<b>\$11,130,272</b>

## FY 2009 Funding Adjustments

The following funding adjustments from the FY 2008 Revised Budget Plan are necessary to support the FY 2009 program:

- ◆ **Employee Compensation** **\$332,153**  
 An increase of \$332,153 in Personnel Services associated with salary adjustments necessary to support the County's compensation program. As a result of budget constraints, compensation adjustments for County employees have been reduced. For FY 2009, employee increases as part of the pay for performance system have been discounted by 50 percent and the impact of the lower pay for performance funding is reflected above.
- ◆ **Streetlight Operations** **\$30,000**  
 An increase of \$30,000 over the agency's current streetlight operating and maintenance budget of \$7,390,000 is required due to an increase in streetlight inventory. Currently, there are 53,988 County streetlights with approximately 940 new streetlights scheduled to be added due to new resident petition program streetlights, developer project streetlights, as well as other interstate and revitalization project streetlights.
- ◆ **Recovered Costs** **(\$141,333)**  
 A net increase of \$141,333 for salary and operating requirements.

## Capital Facilities

- ◆ **Position Transfers** **(\$530,309)**  
A net decrease of \$530,309 in the Planning and Design Division for the transfer of 18/18.0 SYE positions to Fund 124, County and Regional Transportation Projects, including a Character 20 decrease of \$1,359,766 and a Character 40 decrease of \$829,457. Eighteen staff from the Office of Capital Facilities (OCF) will be transferred to Fund 124. It is anticipated that developing a consolidated program with one management structure will result in more effective delivery of services and will expedite the implementation of transportation projects. The relationship between transportation planners and capital project engineers will be facilitated by the collocation of OCF and Department of Transportation (DOT) staff in Fund 124 and will allow for an improved implementation process for transportation projects in the County.
  
- ◆ **Carryover Adjustments** **(\$550)**  
A decrease of \$550 in Recovered Costs due to the carryover of one-time expenses as part of the *FY 2007 Carryover Review*.

### **Changes to FY 2008 Adopted Budget Plan**

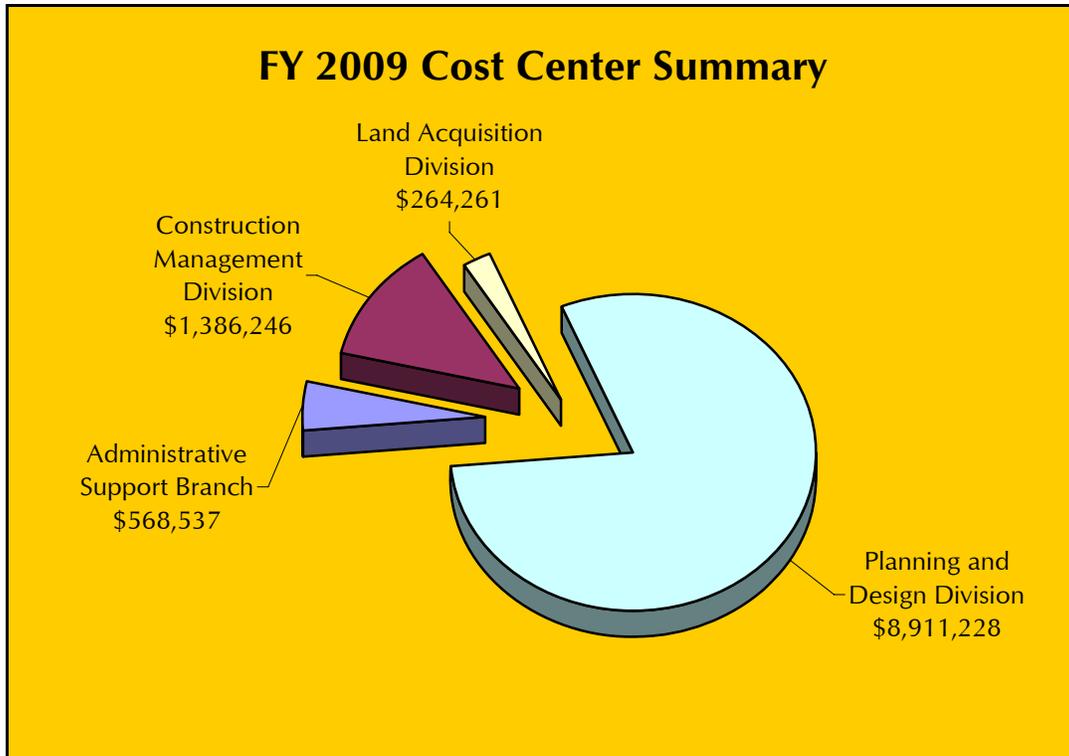
*The following funding adjustments reflect all approved changes in the FY 2008 Revised Budget Plan since passage of the FY 2008 Adopted Budget Plan. Included are all adjustments made as part of the FY 2007 Carryover Review and all other approved changes through December 31, 2007:*

- ◆ **Carryover Adjustments** **\$550**  
As part of the *FY 2007 Carryover Review*, the Board of Supervisors approved encumbered funding of \$550.
  
- ◆ **Personnel Services Adjustments** **(\$63,395)**  
As part of the *FY 2007 Carryover Review*, the Board of Supervisors approved a decrease in Personnel Services based on the transfer of one Accountant I position from the Office of Capital Facilities to Stormwater Management, Stormwater Planning Division (SWPD). This transfer supports the management of all stormwater related capital projects by SWPD, and better aligns the missions of the two agencies.
  
- ◆ **Position Redirections** **\$0**  
During FY 2008, the County Executive approved the redirection of 2/2.0 SYE positions from Wastewater Management to establish 1/1.0 SYE Engineer III position and 1/1.0 SYE Engineer IV position in the Construction Management Division to oversee the implementation of Wastewater and Solid Waste projects.

# Capital Facilities

## Cost Centers

Capital Facilities has four cost centers including Administrative Support, Construction Management, Land Acquisition and Planning and Design.



## Administrative Support Branch



Funding Summary				
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan
Authorized Positions/Staff Years				
Regular	8/8	8/8	8/8	8/8
<b>Total Expenditures</b>	<b>\$666,102</b>	<b>\$620,234</b>	<b>\$556,939</b>	<b>\$568,537</b>

Position Summary			
1 Management Analyst IV	1 Programmer Analyst III	1 Administrative Assistant IV	
2 Accountants I	2 Network/Telecom Analysts II	1 Management Analyst II	
<b>TOTAL POSITIONS</b>			
<b>8 Positions / 8.0 Staff Years</b>			

## Goal

To provide personnel, procurement, information technology, budget and financial support to the cost centers within Capital Facilities to ensure they have adequate resources available in order to accomplish their goals.

# Capital Facilities

## Planning and Design Division

Funding Summary				
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan
Authorized Positions/Staff Years				
Regular	52/ 52	52/ 52	52/ 52	34/ 34
<b>Total Expenditures</b>	<b>\$7,438,629</b>	<b>\$9,345,003</b>	<b>\$9,345,003</b>	<b>\$8,911,228</b>

Position Summary			
1 Director	4 Engineers IV (-3 T)	1 Engineering Technician II	
2 Project Coordinators	17 Engineers III (-10 T)	1 Administrative Assistant IV	
1 Engineer VI (-1 T)	1 Engineer II	1 Administrative Assistant III	
2 Engineers V	2 Engineering Technicians III (-4 T)	1 Administrative Assistant II	
<b>TOTAL POSITIONS</b>			
<b>34 Positions (-18 T) /34.0 Staff Years (-18.0 T)</b>		<b>(T) Denotes Transferred Positions</b>	

<sup>1</sup> As part of the FY 2009 Advertised Budget Plan, 18/18.0 SYE positions within the Planning and Design Division are transferred to Fund 124, County and Regional Transportation Projects.

### Goal

To provide essential professional engineering design and project management services in support of Capital Improvement Program (CIP) implementation including: sanitary sewers, pump stations, commuter parking lots, building projects including fire stations, libraries, police stations, parking structures, parking structures, developer defaults and streetlights.

## Construction Management Division

Funding Summary				
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan
Authorized Positions/Staff Years				
Regular	67/ 67	67/ 67	69/ 69	69/ 69
<b>Total Expenditures</b>	<b>\$1,577,664</b>	<b>\$1,308,207</b>	<b>\$1,308,657</b>	<b>\$1,386,246</b>

Position Summary			
1 Director	4 Engineering Technicians III	1 Chief of Survey Parties	
1 Management Analyst II	3 Engineering Technicians II	3 Senior Survey Analysts/Coordinators	
2 Engineers VI	2 Supervising Engineering Inspectors	5 Survey Party Chiefs/Analysts	
1 Engineer V	7 Senior Engineering Inspectors	6 Survey Instrument Technicians	
6 Engineers IV	1 County Surveyor	1 Administrative Assistant III	
22 Engineers III	1 Deputy County Surveyor	2 Administrative Assistants II	
<b>TOTAL POSITIONS</b>			
<b>69 Positions /69.0 Staff Years</b>			

### Goal

To provide contract administration, inspections and land surveys for all assigned County capital construction projects, which will enhance governmental services to County residents (excluding School Board Construction).

# Capital Facilities

## Land Acquisition Division



Funding Summary				
Category	FY 2007 Actual	FY 2008 Adopted Budget Plan	FY 2008 Revised Budget Plan	FY 2009 Advertised Budget Plan
Authorized Positions/Staff Years				
Regular	14/ 14	14/ 14	14/ 14	14/ 14
<b>Total Expenditures</b>	<b>\$442,224</b>	<b>\$245,702</b>	<b>\$245,702</b>	<b>\$264,261</b>

Position Summary			
1 Director	1 Engineering Technician II	6 Right-of-Way Agents	
2 Engineering Technicians III	2 Senior Right-of-Way Agents	1 Administrative Assistant III	
1 Project Coordinator			
<b>TOTAL POSITIONS</b>			
<b>14 Positions / 14.0 Staff Years</b>			

### Goal

To acquire easements, dedications, rights-of-way and other fee purchases requested by Fairfax County agencies in order to keep capital construction projects on schedule.

### Key Performance Measures

#### Objectives

- ◆ To monitor design and construction activities in order to maintain construction cost growth at no more than 5.0 percent.
- ◆ To perform Value Engineering (VE) studies in accordance with the adopted BOS policy in order to identify cost savings while meeting required performance, with Return on Investment (ROI) of at least 25:1.

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2005 Actual	FY 2006 Actual	FY 2007 Estimate/Actual	FY 2008	FY 2009
<b>Output:</b>					
Projects completed	96	96	77 / 120	82	87
Projects completed with total cost over \$10,000,000	3	0	2 / 0	1	1
Projects completed with total cost over \$100,000 and under \$10,000,000	32	35	20 / 47	27	33
Projects completed with total cost under \$100,000	61	61	55 / 73	54	53
Projects completed on time	NA	66	52 / 91	56	65
Projects completed within budget	NA	81	64 / 102	68	74
VE studies completed/accepted cost savings	4/\$4,085,039	1/\$593,800	3/\$1,723,000 / 3/\$1,570,379	3/\$1,500,000	2/\$1,000,000

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Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 2005 Actual	FY 2006 Actual	FY 2007 Estimate/Actual	FY 2008	FY 2009
<b>Efficiency:</b>					
Design costs as a percent of construction costs for projects with total cost over \$100,000 and under \$10,000,000	16.2%	18.8%	18.0% / 10.7%	18.0%	18.0%
Design costs as a percent of construction costs for projects with total cost under \$100,000	34.2%	20.3%	56.7% / 20.4%	51.0%	51.0%
Construction contract administration costs as a percent of construction costs for projects with total cost over \$100,000 and under \$10,000,000	11.9%	7.2%	9.2% / 10.7%	10.0%	10.0%
Construction contract administration costs as a percent of construction costs for projects with total cost under \$100,000	13.0%	18.8%	13.2% / 16.5%	14.2%	14.2%
Staff cost per land acquisition instrument acquired for projects with total cost over \$100,000 and under \$10,000,000	\$3,928	\$2,153	\$2,256 / \$2,135	\$2,153	\$2,256
Staff cost per land acquisition instrument acquired for projects with total cost under \$100,000	\$3,869	\$2,946	\$3,074 / \$2,988	\$2,946	\$2,988
Cost per VE study	\$29,025	\$39,380	\$27,753 / \$45,638	\$45,000	\$47,000
<b>Outcome:</b>					
Contract cost growth (1)	4.7%	4.5%	3.6% / 5.4%	3.8%	5.0%
Return on investment ratio for VE studies	35:1	15:1	25:1 / 35:1	25:1	25:1

(1) Cost Growth = (Final Construction Contract Cost - Initial Construction Contract Cost) / Initial Construction Contract Cost \* 100

# Capital Facilities

## Performance Measurement Results

During 2007, Capital Facilities implemented new software programs in order to effectively collect, store and manage data elements required by the new performance measures.

Value Engineering (VE) studies involve a thorough, intensive review of project plans by a group of individuals with engineering expertise in various disciplines. The review identifies the functions of products, establishes the worth of those functions and generates alternatives through the use of creative thinking. VE studies are performed at the preliminary design stage where the design is 35 percent complete and studies are conducted by using a combination of in-house staff and consultants, depending on the type and size of the project. After VE study recommendations are evaluated by project managers and impacted agencies, they are reviewed by the Director of DPWES, who ultimately decides which recommendations will be accepted. The amount of VE cost savings and return on investment ratios vary from one fiscal year to another and are somewhat dependent on both the type and size of projects reviewed. In FY 2007, three VE studies were completed on projects with a construction estimate totaling \$21,480,000, identifying \$3,397,039 in savings, with \$1,570,379 in accepted savings.

Design costs include in-house design costs and consultant design costs, as well as the cost of survey work during design. Construction contract administration costs include the cost for in-house staff to administer construction contracts, as well as the cost of survey work during construction. The cost of construction includes the costs for contracted construction, in-house construction, and utility connections/relocations. The efficiency measure for staff costs per land acquisition instrument acquired is calculated by dividing land acquisition staff costs by the number of instruments, such as easements, acquired.

The efficiency measures are further broken out by the size of the completed projects. It is substantially more efficient to design and administer construction for larger projects and the staff cost per instrument is also less for larger projects. The three category breakout clearly shows the economy of scale achieved with larger projects.

During FY 2007, 120 projects were completed and 73 of these projects cost less than \$100,000, showing a similar volume of smaller projects as in previous years. Typically, smaller projects result in increased design and administrative costs as a percentage of total project costs when compared to larger, more expensive projects, which tend to be more cost-efficient. There were zero projects with total costs over \$10 million completed in FY 2007 and FY 2006, versus three completed in FY 2005, yet the design and contract administration costs as a percent of costs efficiency indicator remained consistent from FY 2006 to FY 2007. In addition, design cost as a percent of construction costs for projects with total cost under \$100,000 was 20.4 percent in FY 2007, which was much lower than the FY 2008 estimate of 51.0 percent. This is due to a large number of unexpected simple projects. The agency does not expect a large number of simple projects in FY 2008 and FY 2009.

The agency continues to maintain cost growth of less than 5.0 percent. The use of abbreviated designs has been expanded in order to improve project delivery times. Using abbreviated designs may result in increases in cost growth, but current cost growth rates remain below the 5.0 percent benchmark.

In FY 2007, the agency completed more projects than anticipated due to the number of smaller projects. The expanded use of abbreviated designs helped to improve the number of smaller completed projects. Past process re-design efforts and other initiatives within Capital Facilities helped to increase the overall number of completed projects.