



**Fiscal 2007 Proposed Budget  
Briefing  
Division of Planning, Development, Engineering and Construction**

**Budget Committee  
January 26, 2006**



# Division of Planning • Development • Engineering • Construction (PDEC)

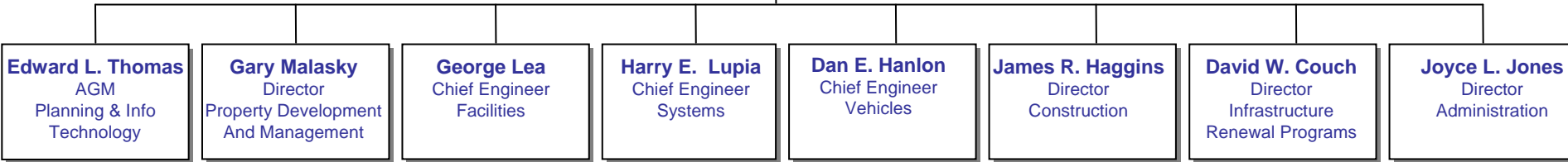
**P. Takis Salpeas**  
Deputy General Manager



**Linda Stoffregen**  
Executive Assistant



**Mary C. Knight**  
Office Administrator



## **MISSION STATEMENT:**

**Utilizing its high quality experienced, multi-disciplinary planning, real estate, professional engineering, architecture, construction management, inspection, information technology and administration staff, PDEC provides a single point of accountability for planning, designing, and implementing operational enhancements, system expansion, system access, technology, rolling stock and infrastructure renewal projects.**

**In terms of WMATA's core mission, PDEC provides on-going engineering leadership for Bus and Rail and support to Operations, to integrate WMATA's experiences so that the future projects are implemented better-faster-cheaper and in full compliance with Federal, State, Local and WMATA regulatory oversight and code(s) requirements.**





## Division of Planning • Development • Engineering • Construction

### A Valued Asset to the Authority

The Division of **Planning • Development • Engineering • Construction (PDEC)** is the outgrowth of the Authority's Engineering and Construction Division which built the 106-mile, 86-station, Metrorail System. The Division reflects a comprehensive organization with decades of progressive and diverse experience in successfully completing thousands of complex public infrastructure projects estimated at more than \$25 billion.

The Division brings together 564 staff in a unique synergy of talents, expertise and experiences to deliver annually 100 to 150 projects with a minimum "owner" cost, and thus create value for the Authority. Capital funded projects are always dependent on the scope of work available and funded. For example, should the Dulles project not proceed as planned, there could be an Authority-wide reduction in force of 50 FTEs.

### Goals:

- Zero-tolerance for project schedule delays.
- On average, at least 75 cents of every project dollar should be for direct construction/ installation contracting; 12 cents for consulting services, and no more than 13 cents in total for the "owner" organization.
- Individual accountability for senior managers to proactively ensure successful project implementation.



## What We Do and How We Do It

- Plan, develop, design and construct infrastructure projects for New-Starts and modernization, rolling stock (Bus and Railcars), technology (hardware and software)
- Formulate and deliver capital-intensive facilities, systems, technology and rolling stock projects from “Cradle-to Grave”
- Manage hundreds of competitively procured contracts; annually implement 100 to 150 projects ranging from \$1M to \$400M
- Oversee professional consulting firms in developing and delivering the Authority’s transit projects, continued inspections of every constructed project and vehicle procurement
- Advise the CEO and Board of Directors on proposed projects, technology improvements, project risk assessments, cost estimates and staffing requirements
- Develop, motivate, mentor and continuously train staff to update technical specifications, designs criteria, code(s) compliance requirements and project management methods and techniques

## Goals:

- Maintain complete and open relationships with regulatory and oversight agencies (e.g. FTA project management oversight)
- Certify that each project has been completed based on a well formulated quality and safety plan and fully satisfies the FTA project management principles: (a) time and cost increases should be no more than 5%; (b) continuously enhance safety and security aspects; (c) provide capacity for increased ridership by 1% each year
- Maintain an effective communication with the planning, engineering and construction staff in all WMATA jurisdictions via bi-monthly and quarterly coordination meetings



# FY2007 Proposed Budget – Division of Planning, Development, Engineering & Construction Summary

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$19.2	\$19.5	\$0.3	
Fringes	5.8	6.1	0.3	
Services	6.2	7.1	0.9	
Materials	0.9	0.9	0.0	
Other	0.9	0.9	0.0	
<b>Total</b>	<b>\$33.1</b>	<b>\$34.4</b>	<b>\$1.3</b>	<b>3.93%</b>

	FY2006	FY2007	Change	
<b>Capital Expense</b>	<b>\$40.8</b>	<b>\$42.6</b>	<b>\$1.8</b>	<b>4.41%</b>

	FY2007	FY2006
<b>Budgeted Positions</b>	<b>564</b>	<b>-4</b>

**Change Detail** Overall net reduction in positions for the Division

based on increases & decreases in projects.

No significant changes from FY 2006.

## Major Cost Drivers & Program Changes

- Services increases to support:
  - Multi-disciplinary engineering support services
  - More joint development projects
- Advancement of Dulles Metrorail Project
- Continuation of Parking Expansion Program



Department of Planning and Information Technology – plans system expansion, station enhancements, bus system improvements, installs and upgrades the Authority’s business and management systems and supports the IT/ROCS infrastructure.

## Planning

- Develop station access and capacity analysis to lay foundation for station area vision plans, improvements and joint development
- Conducts corridor studies for system expansion
- Advance bus projects in priority bus corridors identified by Metro Matters Bus Program

## Information Technology

- Replace major legacy business systems (Information Technology Renewal Program) with modern integrated systems
- Restructure and transition ITSV to support new IT systems
- Ensure IT infrastructure capacity through completion of Server Consolidation Project and database management
- Assume operations and maintenance responsibility for the new Rail Operating Computer System (ROCS)
- Promote implementation of Public-Private Technology Partnership

## Measures and Benchmarks

- 100% of ITRP remaining modules are implemented
- Maintain ROCS reliability at 99.9%
- Assure every project is well planned and fully coordinated with the local jurisdictions
- Represent WMATA in all jurisdictional transportation planning activities
- Maintain WMATA Intranet reliability at 98% with full customer support to all WMATA users
- Ensure Regional CLRP includes WMATA Ten Year Capital Plan
- Ensure Regional TIP includes WMATA Six Year Capital Improvement Plan
- Minimize the schedule delays for Development projects



Office of Property Development and Management – assist with negotiations of real estate agreements and the management of certain leases.

- Actively support 54 real estate and joint development projects
- Issue Requests for Proposal to implement retail concession programs at Metrorail Stations
- Complete installation of ATMs at 35 Metrorail Stations
- Has generated approximately \$150 million in support of funding Authority operations
- Offer Vienna real estate for disposition and coordinate other possible dispositions as directed by the Board of Directors

## Measures and Benchmarks

- Ensure 100% joint development fees are collected
- Maintain 100% of Authority leases as current
- 100% coordination of all projects both internally with planning, engineering and architecture and externally with the WMATA jurisdictions
- Total compliance with the Federal, State, Local and WMATA regulatory oversight and code(s) requirements





Office of Chief Engineer-Facilities – provides engineering leadership and continued technical support to operations ensuring safety, reliability of services, best maintenance practices and adherence to the Authority's Design Criteria and Standards and prevailing code(s).

- Provide support for operations, new facilities, maintenance, and infrastructure renewal projects in the civil/track structures, architecture, electro-mechanical and environmental engineering areas.
- Provide the Authority's Architect services
- Support Dulles rail expansion and Metro Matters Yards upgrade and numerous reimbursable projects
- Perform reviews and updates of preventive maintenance procedures for HVAC systems and station power systems
- Provide Authority-wide support on an on-call basis for supported technical issue resolution
- Ensure environmental code compliance of facility waste discharges
- Implement advanced engineering technology to include ground penetrating radar and remote monitoring of critical mechanical systems
- Maintain asset inventory and emergency response maps

## Measures and Benchmarks

- Provide 24/7 engineering support to Operations for both Bus and Rail.
- Utilize state-of-the-art criteria and standards in design and engineering support during construction
- 100% design reviews by professional engineers and architects



Office of Chief Engineer-Systems – provides engineering leadership and continued technical support to operations ensuring safety, reliability of services, best maintenance practices and adherence to the Authority’s Design Criteria and Standards and prevailing code(s).

- Provide support for operations, new facilities, maintenance, and infrastructure renewal projects in the traction power, communication, automatic train control, computer system engineering areas
- Support Dulles rail expansion and Metro Matters Yards upgrade and numerous reimbursable projects
- Provide Authority-wide support on an on-call basis for supported technical issue resolution
- Implement advanced engineering technology to include monitoring the performance of traction power and automatic train control systems
- Maintain asset inventory and emergency response maps

## Measures and Benchmarks

- Provide 24/7 engineering support to Operations for both Bus and Rail.
- Utilize state-of-the-art criteria and standards in design and engineering support during construction
- 100% design reviews by professional engineers
- Maintain computer based diagnostics to automatically detect and rapidly correct problems to minimize customer service interruptions (e.g. track circuit diagnostics)



Office of Chief Engineer-Vehicles – provide engineering leadership and continued technical support to operations ensuring safety, reliability and best maintenance practices for railcars and buses while providing for project management, inspection and acceptance for new and rehabilitated buses and railcars.

- Reduce service delays through improved trend analysis for maintenance problems and component failures
- Oversee warranty work by vehicle contractors
- Review reliability trends by subsystem and develop specific annual remediation work programs.
- Improve reliability focused maintenance process procedures
- Support Operations and Maintenance Training Support
  - Technical evaluation, standards & configuration development
  - Reliability focused planning improvement programs
  - Engineering documentation management and system performance monitoring

## Measures and Benchmarks

- Monitor weekly the fleet reliability performance by subsystem and report engineering analysis
- Maintain skillful exploitation of state-of-the-art safety, criteria and standards in design and testing
- 100% testing acceptance review by professional engineers
- 100% adherence to the delivery schedules for both buses and railcars
- Document “Lessons Learned” by project/contract
- Provide project management performance to total satisfaction of the funding agencies and WMATA requirements
- Report status of Vehicle Programs (Bus & Rail) bi-annually to Board



Office of Construction – responsible for the design, project management and testing for a wide range of New Starts projects which are part of the Authority’s System Access Program (SAP) and System Expansion Program (SEP) and the Metro Matters Yards Program.

- Complete active projects as planned working closely with the community and ensuring all requirements of the applicable jurisdiction are met:
  - District of Columbia (i.e., New York Avenue, MTPD Police Station)
  - Maryland (i.e., Largo extension, New Carrollton Yard)
  - Virginia (i.e., Dulles, Huntington Parking Garage)

## Measures and Benchmarks

- Continue to update existing construction tools and contracting practices
- Document “Lessons Learned” by project/contract
- Provide project management performance to total satisfaction of the funding agencies and WMATA requirements
- Ensure all projects are managed by credentialed engineers and construction managers
- Closeout construction contracts within a year of completion



Infrastructure Renewal Programs – responsible for the design, project management, installation and testing for bus and rail infrastructure renewal projects as well as adjacent construction and joint development.

- Concurrently manage over 60 active projects - critical FY07 projects include Traction Power Upgrade for 8-Car trains and bus system integration
- FY07 projected work in place of \$130 million
- Detailed design underway for over 30 Metro Matters rehabilitation contracts
- Perform field inspections to ensure contractor compliance with approved procedures
- Improve serviceability and provide better customer access, safety and comfort
- Manage all adjacent construction projects in accordance with WMATA and jurisdictional requirements

## Measures and Benchmarks

- Continue to update existing construction tools and contracting practices
- Document “Lessons Learned” by project/contract
- Provide project management performance to total satisfaction of the funding agencies and WMATA requirements
- Ensure all projects are managed by credentialed engineers and construction managers
- Report status of Capital Improvement Plan program to Board bi-annually
- Closeout construction contracts within a year of completion



**Office of Administration** – is responsible for administration, coordination and reporting for environmental compliance, cost estimating, project controls, quality & safety assurance, staffing, for all projects and programs for the Division.

## Project Controls

- Manages and reports on funding activities by project
- Prepares monthly Project Controls Reports for each project/program
- Works closely with the Department of Finance to assure consistency with CFO directions
- Coordinates the development of the Division's operating and Capital annual budgets

## Compliance

- Provides the Authority's independent cost estimating for projects/programs and contracts
- Monitors independent project schedules; reviews and reports findings
- Monitors and reports on environmental compliance planning requirements
- Develops project policies and procedures to assure full compliance with Authority requirements
- Conducts frequent quality and safety audits to assure compliance with Authority plans

## Human Resource and Administrative Services

- Performs overall administrative support including statistical and management analyses by office/project
- Assists in the recruiting and hiring staff for the various offices within PDEC
- Coordinates inter-division project to project placements based on project needs in compliance with Authority's procedures
- Develops Division "Reduction-In-Force" and "Increase-In-Force" plans based on affordability analysis

## Measures and Benchmarks

- 100% FTA project management plan, regulatory, safety, quality and code(s) compliance for all projects
- 100% independent cost estimating and schedule reviews for all projects
- 100% compliance with WMATA and WDFEA human resource policies and procedures



Division of Planning • Development • Engineering • Construction (PDEC)

## **Conclusion:**

PDEC provides efficient and successful stewardship of public resources and strict attention to the guiding principles of WMATA's strategic vision, including improving service quality and capacity to accommodate ridership growth, by managing a wide variety of projects and programs for WMATA and its jurisdictions, while ensuring quality, customer safety, and security. Through detailed short-term and long-term planning and its integration of professional services, PDEC has established a solid foundation to guide its response to future needs and continues to improve its husbanding of public resources to provide projects better, faster, cheaper and safer for the Washington Metropolitan Area public.



## Division of Planning, Development, Engineering and Construction

### Appendix

#### Office Budgets for:

- Planning, Development, Engineering & Construction – Deputy GM
- Planning & Information Technology – Assistant GM
  - Business Planning and Project Development*
  - Information Technology and Services*
  - Information Technology Renewal Program*
- Property Development and Management
- Chief Engineer – Facilities
- Chief Engineer – Systems
- Chief Engineer – Vehicles
- Office of Construction
- Infrastructure Renewal Program Group
- Office of Administration





# FY2007 Proposed Budget – Deputy GM Planning, Development, Engineering and Construction

Operating Expense: \$ Millions

	FY2006	FY2007	Change	
Labor	\$0.5	\$0.5	\$0.0	
Fringes	0.1	0.1	0.0	
Services	0.0	0.0	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$0.6</b>	<b>\$0.6</b>	<b>\$0.0</b>	<b>0.00%</b>

**Changes**

Subsequent to print of the Budget Book, one position was moved to another office in the Division

	FY2006	FY2007	Change	
Capital Expense	\$0.1	\$0.1	\$0.0	0.00%

	<i>Change From</i>	
	<i>FY2007</i>	<i>FY2006</i>
Budgeted Positions	6	0

**Change Detail** Subsequent to publishing one position moved to Chief Engineer-Systems.  
 Current positions stand at 5.



# FY2007 Proposed Budget – Assistant GM Planning and Information Technology

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$0.4	\$0.4	\$0.0	
Fringes	0.1	0.1	0.0	
Services	0.3	0.3	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$0.8</b>	<b>\$0.8</b>	<b>\$0.0</b>	<b>0.00%</b>

**Changes**  
No significant change

	FY2006	FY2007	Change	
Capital Expense	\$0.2	\$0.2	\$0.0	0.00%

	<i>Change From</i>	
	<i>FY2007</i>	<i>FY2006</i>
Budgeted Positions	4	0

### Change Detail

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# FY2007 Proposed Budget - Business Planning and Project Development Office

Operating Expense: \$ Millions

	FY2006	FY2007	Change	
Labor	\$0.9	\$0.9	\$0.0	
Fringes	0.3	0.3	0.0	
Services	0.1	0.1	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$1.3</b>	<b>\$1.3</b>	<b>\$0.0</b>	<b>0.00%</b>

	FY2006	FY2007	Change	
Capital Expense	\$0.7	\$0.7	\$0.0	0.00%

**Changes**

- Removal of a position out of BPPD
- Minimal increase to non-personnel expenses

*Change  
From*

*FY2007    FY2006*

Budgeted Positions	18	-1
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**Change Detail** Movement of a position within the  
Division




# FY2007 Proposed Budget - Information Technology and Services Office

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$7.4	\$7.4	\$0.0	
Fringes	2.3	2.4	0.1	
Services	3.2	3.2	0.0	
Materials	0.7	0.7	0.0	
Other	0.9	0.9	0.0	
<b>Total</b>	<b>\$14.5</b>	<b>\$14.6</b>	<b>\$0.1</b>	<b>0.69%</b>

**Changes**  
No significant changes

	FY2006	FY2007	Change	
Capital Expense	\$2.7	\$2.7	\$0.0	0.00%

*Change From*

*FY2007 FY2006*

Budgeted Positions	106	-3
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**Change Detail** Movement of positions within the Division

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# FY2007 Proposed Budget - Information Technology Renewal Program

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$0.0	\$0.0	\$0.0	
Fringes	0.0	0.0	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>0.00%</b>

**Changes**  
No significant changes

	FY2006	FY2007	Change
<b>Capital Expense</b>	<b>\$2.4</b>	<b>\$1.5</b>	<b>(\$0.9)</b>

	<i>Change From</i>	
	<i>FY2007</i>	<i>FY2006</i>
Budgeted Positions	19	0

### Change Detail

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# FY2007 Proposed Budget – Office of Property Development and Management

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$1.6	\$1.7	\$0.1	
Fringes	0.5	0.5	0.0	
Services	0.2	0.4	0.2	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$2.3</b>	<b>\$2.6</b>	<b>\$0.3</b>	<b>13.04%</b>

	FY2006	FY2007	Change	
Capital Expense	\$0.5	\$0.5	\$0.0	0.00%

### Changes

- Services increase due to number of new joint development projects in negotiation
- Appraisals completed in prior years are outdated and require current market value analysis
- Appraisals of bus garages increased the requirement for and thus the cost of Real Estate consultants

### *Change From*

*FY2007 FY2006*

Budgeted Positions	24	0
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**Change Detail** Services increased for real estate consultants.

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# FY2007 Proposed Budget - Chief Engineer - Facilities

## Operating Expense:

\$ Millions

	*FY2006	FY2007	Change	
Labor	\$2.3	\$2.4	\$0.1	
Fringes	0.7	0.8	0.1	
Services	1.5	1.7	0.2	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$4.5</b>	<b>\$4.9</b>	<b>\$0.4</b>	<b>8.8%</b>

	FY2006	FY2007	Change	
Capital Expense	\$3.8	\$4.2	\$0.4	10.5%

*From*

*FY2007    FY2006*

Budgeted Positions	54	-3
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**Change Detail** Movement of positions to other offices within the Division; some positions returned to the Division of Operations.

## Changes

- Environmental compliance
- Engineering and technical services, support, and evaluation of Metrorail and Metrobus operations
- Training and staff development
- Technical resources and equipment to maintain current codes and standards



# FY2007 Proposed Budget – Chief Engineer - Systems

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$1.3	\$1.3	\$0.0	
Fringes	0.4	0.4	0.0	
Services	0.0	0.0	0.0	
Materials	0.0	0.0	0.0	
Other	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	
<b>Total</b>	<b>\$1.7</b>	<b>\$1.7</b>	<b>\$0.0</b>	<b>0.00%</b>

	FY2006	FY2007	Change	
<b>Capital Expense</b>	<b>\$4.6</b>	<b>\$4.9</b>	<b>\$0.3</b>	<b>6.52%</b>

	<i>From</i> FY2007	FY2006
<b>Budgeted Positions</b>	<b>50</b>	<b>3</b>

**Change Detail** Movement of positions within the Division.

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### Changes

- FTE's to provide engineering technical expertise to maintain and operate Metrorail and Metrobus systems
- Provide engineering leadership to IRPG and CONS
- Training and staff development
- Technical resources and equipment to maintain current codes and standards





# FY2007 Proposed Budget – Chief Engineer - Vehicles

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$2.7	\$2.8	\$0.1	
Fringes	0.8	0.9	0.1	
Services	0.5	1.0	0.5	
Materials	0.1	0.1	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$4.1</b>	<b>\$4.8</b>	<b>\$0.7</b>	<b>16.99%</b>

	FY2006	FY2007	Change	
Capital Expense	\$2.7	\$3.0	\$0.3	11.11%

	FY2007	FY2006
Budgeted Positions	55	4

**Change Detail** Position change attributed to receipt of 2 positions from CFO & movement within the Division. Services increased due to need for Booz-Allen support.

**Changes**

- Staffing reassignments to improve the effectiveness of program delivery and operational reliability
- Additional consultant services required for engineering support of reliability improvements



# FY2007 Proposed Budget – Office of Construction

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$0.1	\$0.1	\$0.0	
Fringes	0.0	0.0	0.0	
Services	0.0	0.0	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$0.1</b>	<b>\$0.1</b>	<b>\$0.0</b>	<b>0.0%</b>

**Changes**

- Advancement of Dulles Metro rail project
- Continuation of Parking Expansion Program

	FY2006	FY2007	Change	
Capital Expense	\$13.4	\$14.7	\$1.3	9.7%

*Change From*

*FY2007 FY2006*

Budgeted Positions	119	-2
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**Change Detail** Movement of positions within the Division

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# FY2007 Proposed Budget – Infrastructure Renewal Programs Group

Operating Expense: \$ Millions

	FY2006	FY2007	Change	
Labor	\$1.6	\$1.6	\$0.0	
Fringes	0.5	0.5	0.0	
Services	0.4	0.4	0.0	
Materials	0.1	0.1	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$2.6</b>	<b>\$2.6</b>	<b>\$0.0</b>	<b>0.0%</b>

	FY2006	FY2007	Change	
<b>Capital Expense</b>	<b>\$7.3</b>	<b>\$7.5</b>	<b>\$0.2</b>	<b>2.7%</b>

<b>Budgeted Positions</b>	<b>84</b>	<b>-2</b>
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**Changes**

- Over 80% of the cost is labor
- Time required to review and coordinate submittals is the main cost
- Over 60 active projects at any point in year

**Change Detail** One position transferred to Workforce Development Administration and one position moved to another office in the Division. There were position changes subsequent to issuance of the Budget Book.



# FY2007 Proposed Budget – Office of Administration

## Operating Expense:

\$ Millions

	FY2006	FY2007	Change	
Labor	\$0.4	\$0.4	\$0.0	
Fringes	0.1	0.1	0.0	
Services	0.0	0.0	0.0	
Materials	0.0	0.0	0.0	
Other	0.0	0.0	0.0	
<b>Total</b>	<b>\$0.5</b>	<b>\$0.5</b>	<b>\$0.0</b>	<b>0.00%</b>

**Changes**  
No significant changes

	FY2006	FY2007	Change	
Capital Expense	\$2.4	\$2.6	\$0.2	8.33%

*Change From*

*FY2007 FY2006*

Budgeted Positions	25	0
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Change Detail N/A

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