



# King County

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## MEMORANDUM

DATE: November 17, 2011

TO: Metropolitan King County Councilmembers

FROM: Cheryle A. Broom, <sup>CAB</sup> County Auditor

SUBJECT: Special Study of FMD's Management of Project Delivery

### EXECUTIVE SUMMARY

This study provides a high-level review of the Facility Management Division's (FMD) capital project delivery on maintenance, rehabilitation, and parks projects. We found opportunities for improvement of its management practices. Overall, FMD's processes for developing initial project scope, schedule, and budget, lack rigor and compounded by the constraints of the county's budget development timelines, result in unrealistic or incomplete budget requests. FMD's former planning tools may result in over scheduling of project managers and some work processes are not consistently followed. Moreover, FMD lacks meaningful performance measures to adequately assess program results. Monitoring of project progress has often been conducted in an ad hoc manner without tracking project results to baseline plans.

Recent developments by FMD and the County offer opportunities to improve project delivery. These include use of new project management software, more stability in supervisory positions, new countywide guidelines for project management, and a new countywide finance and budget system in 2012. Collectively, these changes provide FMD new tools for applying standard procedures in developing more accurate initial project estimates and assessing project delivery performance. Our recommendations will compliment FMD and countywide efforts and result in improved management of project delivery through development of more meaningful performance measures and better budget formulation practices.

### BACKGROUND AND STUDY OBJECTIVES

The King County Council requested a special study of how FMD manages capital project delivery, because they were concerned about delays in completing projects, the amount of funds carried over each year for unfinished projects, changes in project scope, and rising or incomplete cost estimates, among other issues. These concerns relate to three types of capital projects managed by FMD including major maintenance and building rehabilitation of general government facilities and parks capital programs. The parks projects are managed in collaboration with the Parks and Recreation Division (Parks) of the Department of Natural Resources and Parks. Study objectives included:

1. Determine how FMD manages project delivery,
2. Determine whether FMD has sufficient tools available to manage project delivery, and

3. Assess whether FMD effectively utilizes these tools to measure the performance of capital project delivery.

This special study was a high-level review of FMD's project delivery processes and, due to limited review time, relied primarily on interviews with FMD's section managers and supervisors and one Parks program manager. It also included an analysis of project data as of June 30, 2011 reported in FMD's response to a Council-mandated proviso and a more detailed review of two case study projects.

## SECTION I: FMD MANAGEMENT OF PROJECT DELIVERY

FMD's Capital Planning and Development (CPD) Section manages capital projects paid from five different funds:

1. Major Maintenance and Reserve Fund (MMRF)
2. Building Repair and Replacement (BR&R)
3. Park and Recreation Open Space
4. Parks Facilities Rehabilitation
5. Parks Capital

As of October 2011, the CPD Section had 28 staff, including 17 project managers. The section is organized into two groups:

1. General Government Capital Improvement Program unit, with a separate unit supervisor, for projects paid from MMRF and BR&R funds, and
2. Parks Capital Improvement Program unit is supervised by the CPD section manager. They manage projects for the three separate parks funds.<sup>1</sup>

### Number and Size of Projects

In response to a King County Council proviso,<sup>2</sup> FMD provides quarterly reports on all active projects in the five funds we studied. As of the June 2011 report, the breakdown of the projects and appropriation amounts by fund are shown below in Exhibit A.

**Exhibit A: Number of Projects and Appropriations as of 6/30/2011<sup>3</sup>**

Fund	Number of Active Projects	Percent of Total	Total Appropriations	Percent of Total
MMRF	86	61%	\$38,459,808	44%
BR&R	23	16%	13,637,493	15%
Park & Recreation Open Space	13	9%	13,992,671	16%
Parks Facilities Rehabilitation	7	5%	10,903,626	12%
Parks Capital	12	9%	11,316,761	13%
<b>TOTAL</b>	<b>141</b>	<b>100%</b>	<b>\$88,310,359</b>	<b>100%</b>

Source: KCAO analysis of FMD 6/30/2011 Proviso Response.

<sup>1</sup> Ordinance 17232, effective 2012, approved moving the responsibility for the three parks programs from FMD to the Parks Division. This transferred three project managers and one administrative position from FMD to Parks.

<sup>2</sup> Ordinances 16717 and 16984 required FMD in 2010 and 2011 to provide the Council with quarterly reports on all capital projects managed by facilities management division, including parks, building repair and replacement and major maintenance reserve fund projects.

<sup>3</sup> According to FMD, this list of projects excludes up to 40 projects that have not been entered into the Unifier project database, because they are at or near project completion.

The inventory of active projects reflects a number of projects that were started years ago. Of the 137 active projects,<sup>4</sup> 41 (29 percent) received first year appropriations in 2007 or earlier. Project size varies significantly. The most recent estimated costs at completion of those projects reporting such estimates ranged from \$17,000 to \$11,000,000. About a quarter of the projects were less than \$100,000 and another quarter was between \$100,000 and \$300,000.

### Project Information Systems

In early 2000, FMD developed a database of capital project information using Microsoft Access software. Through 2010, this was the main tool used to monitor project progress and according to FMD managers, contained basic project scope, schedule, and budget information. It was not linked to the County's financial systems (ARMS and IBIS) and, therefore, lacked automated budget and project cost tracking ability.

In 2010, FMD purchased project management software by Skire called Unifier to manage project information, process flow, and documentation, and by October 2011, was tracking most active projects in the Unifier system. Unifier is a comprehensive cloud based project management system designed especially for capital project management. Unifier combines Document, Schedule, and Cost Modules with a workflow component to manage a number of business processes. According to FMD managers, Unifier will help ensure project managers use standard, streamlined business processes and provide documentation of project status and other important information for monitoring of performance.

### Measuring FMD Project Management Performance

In terms of measuring and reporting the performance of each capital program, FMD has specific performance measures for only one of the five funds, MMRF. Program performance is measured and reported in the annual business plan for MMRF in two ways: (1) Planned vs. actual expenditures and (2) Planned vs. actual milestone completions. These measures do not provide meaningful performance indicators, because the performance on individual projects is masked at the aggregate fund level. In addition, the derivation of the "Planned" target numbers shown below is not clearly documented or linked to annual budget requests. FMD's planned annual expenditures for MMRF funds are much less than the MMRF budget. For example, in 2008 the total MMRF budget (including carryover plus new appropriations) was \$22 million and planned expenditures were only \$8.3 million or 37 percent. Planned MMRF expenditures, as a percentage of the total MMRF budget, were 30 and 27 percent, respectively, for 2009 and 2010.

#### Exhibit B: MMRF Performance Measures

Planned vs. Actual Budget Expenditures								
2008			2009			2010		
Planned	Actual	%	Planned	Actual	%	Planned	Actual	%
\$8,277,172	\$7,929,072	96%	\$6,578,041	\$6,410,906	97%	\$7,189,028	\$7,851,752	109%

  

Planned vs. Actual Milestone Completions								
2008			2009			2010		
Planned	Actual	%	Planned	Actual	%	Planned	Actual	%
173	96	55%	148	129	87%	143	107	75%

Source: FMD 2010-2011 MMRF CIP budget submittal.

<sup>4</sup> Four active projects did not list first year appropriation information.

Previously, FMD had identified an efficiency measure target, the percent of administrative costs as a percentage of the total project costs; however, according to FMD officials, that measure is no longer used. Also, in 2007, Parks capital projects had performance measures that tracked the degree that capital projects met design and construction milestones. These measures were discontinued, according to a Parks capital improvement program (CIP) manager, in anticipation of a standard performance measures being developed by a countywide committee. The first countywide report of these measures was published in September 2011 for projects with a baseline cost over \$1 million and included scope, schedule, and cost variance reporting on six FMD-managed projects.

### Budget Appropriations

Budget appropriations for the five funds show that all funds had significant carryover balances in 2010. This level of carryover may be indicative of delays in projects compared with the schedules that formed the basis of annual budget requests.

**Exhibit C: Budget Balance and Appropriations by Fund**

Fund	2010 Balance*	2011 Appropriation	2011 Budget	2011 Balance (as of June 2011)
Major Maintenance and Reserve Fund (MMRF)	\$17,027,876	\$15,087,392	\$33,867,381	\$23,889,670
Building Repair and Replacement (BR&R)	13,090,415	1,385,632	21,863,190	12,176,390
Park and Recreation Open Space	6,839,518	3,327,484	12,978,883	8,869,632
Parks Facilities Rehabilitation	4,654,598	2,518,729	7,320,677	5,084,013
Parks Capital	20,289,662	12,811,506	35,498,291	25,466,674
<b>TOTAL</b>	<b>\$61,902,069</b>	<b>\$35,130,743</b>	<b>\$111,528,422</b>	<b>\$75,486,379</b>

\*Balance refers to the carryover funds remaining at the end of the calendar year.

Source: KCAO analysis of ARMS reports.

### SECTION II: FMD'S PRIOR PROJECT DELIVERY PRACTICES WERE INSUFFICIENT, BUT NEW TOOLS OFFER OPPORTUNITIES FOR IMPROVEMENT

FMD has used a variety of tools for managing project delivery, but the tools have provided only limited information or were not automated, nor fully or effectively used to manage project delivery. We reviewed a number of FMD's tools and practices and compared them to project management best practices. According to a U.S. Government Accountability Office (GAO) study<sup>5</sup> of leading practices in capital project decision-making, successful implementation of a capital project is determined primarily by whether the project was completed on schedule, within budget, and provided the benefits intended. We have concerns in a number of areas regarding FMD's tools and practices historically used for managing project delivery, which to varying degrees, may have contributed to the current backlog of capital projects and carryover funding.

<sup>5</sup> Executive Guide: Leading Practices in Capital Decision-Making, U.S. Government Accountability Office, December 1998, (GAO/AIMD-99-32)

New tools that offer opportunities to address deficiencies in FMD's project delivery practices include the Unifier project management system; the 2012 implementation of the County's new budget and financial system, and its interface with Unifier; the planned mid-2012 completion of an FMD project management manual, consistent with countywide guidance; and recent procurement process reforms, including the new job order contract method.

### **Development of Initial Project Scope, Schedule, and Cost Estimates Lack Rigor**

FMD's current process for developing initial project scope, schedule, and cost estimates lacks rigor resulting in unrealistic or incomplete budget requests. Several processes FMD uses in developing the initial project scope, schedule, and budget of a new project are completed within a two- to three-week period early each calendar year due to the constraints of countywide timeframes established for developing next year's budget. FMD managers reported that these initial project estimates are completed with limited information about the building condition and tenant and potential procurement issues affecting project cost and schedule. In addition, on most projects, FMD has not yet completed any design work. According to FMD managers, these estimates should only be considered rough order of magnitude or conceptual estimates. However, when these estimates are used for budget appropriation requests for full project funding, there is an expectation that the project can be completed within the budget requested.

A key part of the initial project budget development is cost estimating. Project managers use a consistent format to develop cost estimates and schedules, which, in most cases, is based on a rough order of magnitude estimate of construction costs and standard multipliers for non-construction costs.<sup>6</sup> A more accurate cost estimate and schedule is not generally developed until sometime in the design phase of the project. There were not standard practices for timing and review of revised cost estimates, although a new countywide policy<sup>7</sup> requiring a baseline scope, schedule, and cost estimates at the end of preliminary design phase will guide FMD's process improvements in this area. FMD encounters challenges delivering the intended scope of a project when held to a project budget appropriation. If their initial cost estimate is too low, it may result in scope reductions or supplemental appropriations to cover cost overruns. Scope reductions and cost overruns may be symptomatic of poor cost estimation.

Generally, as with cost estimates, initial schedules are developed with limited project information. The standard estimating format provides guidance on length of time needed for permitting and procurement processes, although these are not consistently used by project managers. We also did not see any evidence that contingency was built into project schedules. Schedules may need to be revised based on adjustments to project manager workload, actual start dates, or additional information on project cost or scope and, as with cost estimating, FMD does not have a standard process to do so.

FMD managers told us that, because of supervisory vacancies and compressed time frames for annual budget development, during the last two to three years there was only cursory review of the project cost and schedule estimates developed by project managers. This historically limited quality assurance process may contribute to unreasonable cost and schedule estimates.

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<sup>6</sup> We did not review the level of rigor used in developing individual construction cost estimates. FMD engages technical consultant assistance in developing the construction cost estimates for the budget request on some of the more complex projects.

<sup>7</sup> Executive Policy CON-7-9-2, Section 7.4., effective date May 25, 2009.

The GAO study and other capital project best practice research<sup>8</sup> suggest actual cost and schedule performance should be measured against a baseline. The Capital Project Management Work Group<sup>9</sup> is currently developing a policy on timing and rigor for establishing project base lines and the threshold actions that would justify project base line revisions. According to FMD managers, project information used for performance reporting was historically kept in the Access database and was based on initial project cost estimates and schedules. FMD reports that, like their database, the County's budget appropriation process does not allow estimates and schedules to be changed to reflect when the project actually started and, therefore, was not a useful tool for ongoing monitoring of schedule performance. In response to Council's 2010 budget proviso, FMD now provides the Council with updated schedule and cost estimate information on all capital projects on a quarterly basis.

### **Workload Planning Methods May Over Schedule Project Managers**

Another key component of managing project delivery is developing good estimates of resource needs and establishing a realistic workload for project managers. FMD has an annual process of assigning project managers to new projects that includes consideration of their project workload carried over from last year, their expertise related to project scope, and familiarity with the tenant operations where applicable. The initial estimating of project management hours on a project is part of the budget development work, and like the overall cost and schedule estimates, also lacks rigor. Project managers develop schedules for new projects with many started and completed within the calendar year, an unrealistic schedule on all but the most simple projects, according to FMD managers. In addition, project management hours varied considerably when compared to the construction cost, depending on the project manager preparing the estimate. As a result, projects planned for completion in the calendar year often carry over and require project manager resources in the next year or beyond.

A final issue in planning project manager annual workloads concerns the amount project manager workload carried over from previous years. For 2011, the estimated carryover work from 2010 was 64 percent of the available project manager hours with 36 percent of project manager hours available for new projects. In 2011, FMD requested first-year funding on 32 new or additional projects. Beyond the carryover and new project work, the CPD section manager plans for additional project manager demand equivalent to 2.2 full-time employees in the 2011 workload estimates for emergent, unplanned projects. This level was based on analysis of project manager time records for 2010. The result of FMD's workload planning practices may be over programming of project manager time. While this assures that project managers will have ample capital projects for charging their time, projects may be delayed, because project manager availability has been overestimated.

The Unifier system has the capability for resource management that could be useful to FMD in their workload planning and management activities. Use of this capability requires more sophisticated schedule planning, and FMD has been prudent in delaying use of this module until project managers become proficient in using the other critical elements of the project management system. Implementation of this Unifier component is anticipated as a future activity.

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<sup>8</sup> Sources include "Summary Entity Survey Responses Related to Capital Project Management Practices," Griffin Hill and Associates, LLC, prepared for King County Standards Steering Committee, February 17, 2010; A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Fourth Edition, Project Management Institute, 2008.

<sup>9</sup> This group was created by Executive Order CIP 8-1 (AEO) on March 18, 2010 to develop consistent and comprehensive standards for capital project reporting, budgeting, management, and performance management.

### **Limited Monitoring of Actual vs. Budget Project Costs**

Project management best practices suggest monitoring the actual expenditures compared to the project budget as well as maintaining an updated cost estimate at completion (EAC)<sup>10</sup> to identify the need for additional appropriation or other corrective action. We found limited evidence during the past two to three years that FMD project managers and supervisors systematically monitor actual expenditures and updated cost estimates on individual projects. FMD, however, stated division finance staff have controls in place to ensure that spending authority is not exceeded and, through monthly review, flag the need for additional budget authority. New with the County Executive's 2011 CIP request, all CIPs provided this information for projects requesting appropriations; however, FMD's submission showed an EAC for only one of the 20 General Government CIP projects on the list. Also relatively new is countywide quarterly reporting of appropriation, actual expenditures to date, baseline information, and updated cost estimates for all projects over \$1 million. The 2012 implementation of the new County finance and budget system and interface with FMD's Unifier project management system will improve FMD's ability to monitor project costs and budgets. FMD is planning to utilize similar reporting for their smaller projects.

### **FMD Processes Not Always Consistent but New Project Manual Will Help**

Another important tool in managing projects is a standardized set of work procedures as contained in a manual of project management processes. Based on discussions with CPD managers; however, it is not clear if FMD's project management manual is used consistently by project managers. The CPD section manager said required project documentation was not always available, i.e., on some projects a different contract amendment form was used depending on which project manager was overseeing the project. In addition, in FMD's July 2009 business case justification<sup>11</sup> for purchasing a new project management system, they noted that standardization of work processes was low, project participants do not use similar documents, forms, and processes; no predictable process existed for outside consultants and contractors to follow; and that project timelines and or schedules were not always predictable. Growing volume and complexity of contract documentation was also cited as a reason for needing a new system. Lack of an effective project management system contributed to financial consequences such as delayed responses from a consultant working on the renovation of an airport terminal project that led to a \$250,000 claim against the County.<sup>12</sup>

FMD reported that as part of implementing the new Unifier project management system, they developed streamlined and consistent processes for many routine project management tasks. FMD is developing a new project management manual, anticipated to be completed in mid-2012, that is consistent with the Unifier implementation and that addresses the new Executive policies and procedures that require consistent content and organization for project management manuals across all County agencies.

### **Limitations in Past Project Information Systems are Addressed by Unifier**

FMD acknowledged weaknesses in past project management practices due to the lack of a sufficient project information system. In their business case justification for a new information

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<sup>10</sup> EAC is a project management term that refers to the expected total cost of the project based on the cost to date plus the estimated cost of the remaining work.

<sup>11</sup> The business case for FMD's acquisition of a new project management system was presented to the Office of Information Resource Management's Project Review Board. Approval of this board is a countywide requirement for new information technology purchases.

<sup>12</sup> *Ibid.*

system,<sup>13</sup> they noted that document control was weak; standardization of processes/systems was low; team collaboration was not optimal; and project reporting was inadequate. The current CPD section manager did not find FMD's database tool useful for monitoring accountability related to project scope, schedule, and budget. The new Unifier system, along with the County's 2012 implementation of new budget and finance systems, holds the promise of providing a more comprehensive and reliable project management information system to better measure performance.

### **Performance Tracking Hindered by Inconsistent Project Definition and Numbering**

One factor that complicates monitoring project performance is inconsistent numbering practices and unclear definition of what constitutes a discrete project. We observed:

- What was proposed initially as a discrete project with a specific scope was later divided into multiple new projects with new numbers and appropriations. In addition, the initial project obtained multiple supplemental appropriations over time using the same number, but different project names and scopes.<sup>14</sup>
- Of 141 active projects, there are eight master projects. These eight are linked to 22 subprojects. The extent to which each subproject has a separate scope, schedule, and cost estimate for performance monitoring appears inconsistent.
- A master project contained six separate subproject numbers for selected project tasks associated with two discrete trail segments so as to make cost accounting and budget monitoring easier for the Parks client.<sup>15</sup> However, this unique numbering will require manual processes to monitor performance and track the total project costs.

While the above-described project numbering practices may be useful to simplify tracking of some discreet project elements for internal purposes, such inconsistency can make automated reporting, data analysis and accountability for project results difficult. Consistent project numbering practices along with effective use of the new Unifier, finance, and budget systems will be important components to enable efficient tracking of performance on individual projects. FMD will have access to reporting features in the new systems which will enable monitoring of project elements of interest for unusual circumstances.

### **Several Other Factors May Contribute to Project Delays and Carryover**

- **Managing to Budget Not Schedule.** FMD managers told us they primarily manage the project budgets and are less concerned with project schedules, because maintenance or rehabilitation and parks projects are not usually time critical and can be delayed without long-term negative consequences, when higher priority projects demand FMD resources. Project management decisions are budget driven, because obtaining supplemental appropriation is a time consuming and uncertain process, especially outside the annual budget process and given revenue constraints. Unless responding to an emergency or fixing critical functionality that is broken, schedule is the secondary concern. As a result, the initial project schedule slips or project scope is reduced to stay within the allocated budget. However, we found no tool developed for project managers and supervisors to proactively monitor actual expenditures and updated cost estimates to the project budget appropriation. Given FMD's acknowledgement that their

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<sup>13</sup> *Ibid.*

<sup>14</sup> MMRF funded Courthouse HVAC projects 342614, 342459, 344814 and 342458.

<sup>15</sup> Subproject numbers 105303 through 105308, are associated with West Side Trail and Two Rivers Trail under master project number 358105.

management practices are predominately budget driven, we found the deficiencies in cost estimating and ongoing monitoring systems especially problematic.

- **Emergent Projects.** During 2008-2010 a number of emergent issues such as Green River flooding, a fire at the Yesler building, King County Courthouse maintenance issues, the Maleng Regional Justice Center heat pipe failure, and tenant relocations were unanticipated top priority projects that demanded project manager resources. These priorities caused existing, planned projects to be placed on hold.
- **Divestiture of Assets.** Recent decisions about mothballing or surplusizing County buildings and creation of a “watch list” of buildings for potential surplusizing have lead to decisions to cancel or defer major maintenance projects until final decisions are made regarding the future use of these County buildings.
- **King County Procurement Process.** King County’s procurement procedures can add several months of time to project delivery, even on relatively simple projects. FMD has been part of King County’s recent effort to reform the procurement process to accelerate the time needed to contract for design and construction work. FMD uses work order contracts for architectural, engineering, and construction extensively to streamline procurement processes where possible. In 2011, King County implemented a new alternative contracting method known as job order contracting for small projects.<sup>16</sup> The contract was executed in August and by the end of September had been used for 18 job orders to construct projects for FMD.
- **Background of FMD’s Project Managers.** According to FMD managers, many current project managers were initially hired for their design expertise. Capital project design work is now almost entirely contracted out to architects and engineering consultants. FMD project managers may lack expertise and experience in some key project manager skills such as cost estimating, scheduling, and project close out. In addition, we found little evidence of ongoing training for project managers to develop necessary skill sets or stay current with technical advances or new contracting methods. This may contribute to schedule delays on some projects.
- **Turnover in Supervisory and Manager Positions in the CPD Section.** Since 2007, FMD has had turnover in several key CPD section supervisory positions, and one supervisory position was eliminated. For example, the CPD manager and the General Government CIP supervisor positions were held by three different people during 2007-2008. Both the General Government CIP supervisor and Parks CIP supervisor positions had vacancies during 2008-2010. Finally, the CPD section manager was responsible for overseeing 200 projects and directly supervising 25 employees from December 2008 until the General Government CIP unit supervisor was hired in October 2010. In addition, a number of complex and unplanned projects demanded his urgent attention during that time period. This constrained time available for monitoring progress on individual projects, and assuring project managers were moving projects through to completion. This may have contributed to schedule delays on some projects.

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<sup>16</sup> Job Order Contracting is an alternative public works contracting method authorized by RCW 39.10 for projects not exceeding \$350,000.

### **SECTION III: FMD LACKS MEANINGFUL PERFORMANCE MEASURES FOR EFFECTIVE MANAGEMENT OF PROJECT DELIVERY**

Given the limited nature of existing performance measures and problems with their former reporting system, FMD has not had a meaningful framework for measuring project delivery performance. Some aspects of FMD's processes for reporting performance are in flux as they transition in to use the new project management system, Unifier, and in 2012, begin using the County's new finance and budget system. While these new systems provide the technological capability to enhance performance measurement, FMD will need to adopt meaningful internal performance measures to demonstrate budget and schedule performance and to alert management to areas needing attention or corrective action. Our study found the following:

#### **Limited Performance Measures**

FMD has had limited performance measures to assess project delivery and program performance. Only one of the five programs reviewed, MMRF, had any measures tracking program performance. However, the two measures used are very broad performance indicators and provide limited performance information about project delivery.

Effective management of capital improvement programs means evaluating planned actions against actual results at the project level and holding project managers accountable for achieving desired project outcomes. With Unifier, FMD will have the ability to automatically generate standard countywide performance measures for all projects as well to develop more sophisticated performance measures. For instance, with Unifier linked to the new finance system, FMD will be able to gather reliable information on actual project management and design costs. This will enable them to re-establish efficiency performance measures and develop targets that point toward improvement.

#### **Assessment of Project Progress Performed in an Ad Hoc Manner**

The CPD manager and General Government CIP unit supervisor told us they meet monthly with each project manager to assess progress in managing individual projects and to identify and resolve any roadblocks to project completion. They routinely measure whether project managers are meeting overall targets for hours spent working on capital projects supported by budget revenue. We found no evidence that any project managers were falling short of this goal and question whether focus on this measurement alone is useful in improving project performance.

FMD managers also said they have not had adequate information systems to systematically assess project manager performance in meeting planned vs. actual milestones, scope delivery, or actual costs compared to budget, because data is not sufficiently available in a reliable form. In addition, project managers may be reassigned to emergent, higher priority projects causing schedules on planned projects to slip. While these factors are often beyond the project manager's control, a systematic process would enable FMD to better monitor performance issues that impact FMD's overall project delivery and contribute to larger amounts of carryover funding than planned. Assessing project progress in this ad hoc manner relies extensively on supervisory and management judgment and could be improved if based on comprehensive and quantifiable results. While such an approach may have been reasonable given the limitations of the prior project information systems, the new Unifier system offers the potential to provide more timely performance feedback and prompt corrective action where needed to improve project delivery.

## RECOMMENDATIONS

Our special study found three areas where FMD's tools and processes for project delivery need improvement. At the same time, FMD's use of Unifier and accompanying process improvements such as a new project management manual and new countywide finance and budget systems offer an opportunity to apply more rigorous and transparent procedures and improve overall performance. Gaps in supervisory staffing are now filled, which should strengthen FMD's ability to manage project delivery more effectively and reduce project backlogs. We make recommendations in several areas to facilitate a more robust accountability framework for capital project delivery.

1. As FMD continues their ongoing implementation of new tools and standardized project management processes, we recommend FMD:
  - a. Improve initial estimates of project scope, schedule, total project costs, and project management hours;
  - b. Consistent with Capital Project Management Work Group guidelines, develop a process for establishing a baseline cost, schedule, and scope and, if applicable, thresholds for subsequently revising the baseline; and
  - c. Insure consistent project numbering conventions as they use the new County finance and budget system, by developing clear definitions of what constitutes a project and criteria for master and subproject convention use.
2. FMD should develop meaningful performance measures for capital project delivery to assess whether planned scope, schedule, and budget are achieved on individual projects and across their programs. Beyond this, FMD needs to develop and use internal measures to inform management decisions and actions.
3. FMD should develop and apply standards to ensure project cost and schedule estimates are consistent with best practice guidance for the project phase and level of confidence need for appropriation requests.

Tina Rogers, CPO Manager, and Brian Estes, Senior Principal Management Auditor, conducted this special study. Please contact Tina at 296-0802 or me at 296-1655 if you have any questions about this memorandum.

CB:TR:BE:jl

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