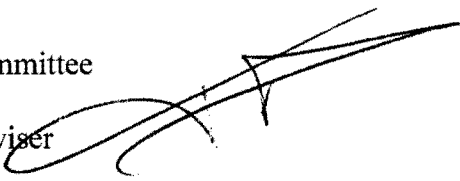


MEMORANDUM

November 25, 2009

TO: Management and Fiscal Policy Committee

FROM: Dr. Costis Toregas, Council IT Adviser 

SUBJECT: Update of Interagency Technology Policy and Coordination Committee (ITPCC) report titled "Risk and Consequences"

Expected to attend:

Dick Leurig, Chair, CIO Subcommittee, ITPCC and Director Emeritus of Future Technology and Innovation Initiatives, Montgomery College
Gary Thomas, ITPCC Manager
John Cuff, Budget Analyst, Office of Management and Budget

Summary of staff recommendations to the MFP Committee:

- 1. Review **Risk and Consequences** recommendations and discuss their use in policy formulation, given the challenge posed between the two opposing pressures of aging IT infrastructure and the current financial budget reality. Staff recommends their continued use.*
- 2. Agree to review the Executive's FY11-16 CIP, using these recommendations as a mechanism for prioritizing long-term funds.*
- 3. Consider the potential of cross-agency IT project evaluation and execution in the FY13-18 CIP cycle, and request that an appropriate process be developed for such an approach.*

Background

The recent difficulty experienced with the County's aging traffic control system underscores the importance of being aware of the major IT infrastructure systems that must be maintained and upgraded. ©1-3 describes this traffic signal outage, as well as a parallel and unrelated event which occurred on the Metro system at the same time. The T&E Committee has scheduled a briefing on December 7, 2009 to discuss this event.

Montgomery County, aware of the challenges posed by aging IT infrastructure, has developed an explicit process to organize information and help decision makers deal with the challenges of upgrading and replacing complex IT systems. The organization tasked with organizing this process is the Interagency Technology Policy and Coordination Committee (ITPCC). There are two significant reports undertaken by the ITPCC over the last decade:

- ***IT Asset Management: Phase II, Prediction of Major IT Systems Requirements in the ITPCC Agencies*** (the "Phase II report") issued on November 18, 2003
- ***Risk and Consequences, Long Range Planning and Funding of Major Information Technology Systems*** (the "Risk and Consequences" report) issued on February 23, 2007.

These two reports have been reviewed and accepted by the MFP Committee; they are available in their full form to Council Members and staff on the V drive of the County's information repository system; the explicit addresses for these files are:

V:\ITPCC\ITPCC_ITMajorSystemsPhaseIIReport_11182003.pdf

V:\ITPCC\ITPCC_ITMajorSystemsRiskandConsequencesReport_02232007.pdf

The **Recommendations and Conclusions** sections from the first report and the **Policy Considerations, Conclusions and Recommendations** sections from the second report are presented on ©4-5 and ©6-10, respectively. Two additional pages from the comprehensive **Risk and Consequences** report have been abstracted and presented on ©11-12, respectively: the Major Systems Replacement and Upgrade Process flow chart, and the table showing some **\$673 million** of IT infrastructure investments to be made over the lifetime of all systems.

The Administration gave agencies and departments implementation direction with a memo signed by Joseph F. Beach, Director of the Office of Management and Budget on August 23, 2007 (©13-14). Agencies present and discuss an update of their major IT systems status when the ITPCC provides the agency-wide IT budget review annual update, usually in March. These submissions for each of the six ITPCC agencies from September 30, 2009 can be found on:

http://www.montgomerycountymd.gov/content/council/pdf/agenda/cm/2009/090330/20090330_MFP01.pdf

The pages reflecting the health of existing major IT systems are on © 15-26.

Staff Comments

- Fix on Failure is unsustainable as a policy for IT system maintenance. The eventual costs from such a strategy are far higher, both in financial and service impact terms. There is every reason to carefully review the Risk and Consequences recommendations, even in the time of (some would say *because* of the time of) fiscal crisis the County finds itself in, and make decisions accordingly. In 2007, ITPCC estimated that \$40-90 million annually would be required to fund high and medium risk system replacements on a fully funded basis. It is difficult to assess what is the current level of such funding, given the uncoordinated nature of agency CIP IT budgeting and the lack of uniform data capture mechanisms. **The Committee should request an update providing this information.**
- Major IT systems' costly replacement and fiscal crisis may appear difficult to reconcile. The postponement of high ticket items such as major systems upgrades or replacement increases failure probability, while their full funding may crowd out other crucial on-the-ground priorities. It is essential to recognize that IT is no longer a technological luxury but a service delivery necessity. Therefore, the **funding of adequate infrastructure maintenance must be given high priority** as the consequences of, say, a County with no operational traffic signals or lack of access to tax records is inconceivable in this day and age. The Risk and Consequences report attempts to do this by establishing a three tier color system of priorities (see ©27) and a rolling multi-year horizon of investments.
- Major system procurements by departments and agencies should be viewed as a chance to consider leapfrogging technology. Outdated technologies and work methods can be replaced and improved by modern, updated ones. Additionally, such major procurements can be viewed as a chance to consider enterprise-wide actions in planning, procurement, and operations. A good example of this strategy is the ERP procurement, where the entire operational procedures of departments will be changed as new systems are deployed, giving rise to cost saving potential. The Committee can discuss the viability and helpfulness of a **report identifying such major procurements on a periodic basis**, and the **role Council can play in ensuring consistent replacement and upgrade practices.**
- The recommended **replacement process on ©11 should be followed aggressively**; appropriate agencies and departments should follow the logical sequence of steps that was suggested, which includes:
 - Compile agency inventory of major IT systems
 - Assess the health of major systems
 - Triage and perform budgetary processes by each agency
 - Decide on comprehensive resource allocation
 - Install or upgrade systems
- The Risk and Consequences report made a significant and difficult recommendation: that **off-the-top IT infrastructure funding should be provided to such systems** (see ©8). This recommendation, although justified by the analysis, has not been acted on, and is worthy of an explicit dialogue. It is **not currently an agreed priority**, and established constituencies with other competing priorities may disagree with the strategy of guaranteed, non-competed funding for any County service, no matter how important.

- **IT asset inventory needs must be refreshed and communicated.** The Risk and Consequences report recommended a semi-annual update and review of the Health of Major Systems report, a recommendation that is currently being done annually during the March discussion of the ITPCC as a whole. An example of two major IT systems in MCG that are **not** currently in these reports are the Public Safety Communications System (estimated to cost upward of \$100 million) and the future HHS interoperable system currently under consideration by the Executive branch.
- Health of major IT systems reports in March of each year should be evaluated and be used to provide input to next year's CIP effort in an explicit and coordinated manner. Currently, this report is provided as an informational item, and its relationship to the subsequent CIP submissions is not clear. The Risk and Consequences report suggested a **semi-annual update of these reports; a Fall submission** could provide good input into the development of multi-year CIP allocation decisions.
- **Mechanisms for within-agency and across-agency long-term funding** are not yet fully developed. The Committee may want to request that such a task be undertaken **by the ITPCC** next year, with both principals and CIOs active in its development.
- **Operational CIP IT project coordination across agency** IT investments **through** the currently dormant **Interagency Technology Fund** continues to be a long term goal. The Committee may want to consider the way in which such cross-agency IT investment strategy could be developed across the multiple Council Committees with current jurisdiction over each agency, and whether the potential positive outcomes of such cross-agency coordination of CIP investments outweigh the costs to create it. Such outcomes might include lower IT operating costs through consolidation of services; a more coherent and responsive face of government to the constituent through coordinated and interoperable services of all agencies; and a more productive work force.

Montgomery, Metro outages suggest more lapses coming

Agencies' sophisticated equipment often requires long-term replacement plan

By Ashley Halsey III
Washington Post Staff Writer
Monday, November 9, 2009

Two relics from an earlier century broke down last week, causing vast new frustration for commuters who normally rank among the nation's most frustrated and delays that any good economist could translate into millions of dollars in work hours lost.

Montgomery County called in outside help when a computer that controls the synchronization of 750 traffic signals failed, and the response came from the company that bought out the company that built the computer 30 years ago.

When workers pulled apart a 37-year-old power unit in Metro's downtown headquarters, the inside was thoroughly charred after a circuit breaker blew and the unit overheated. The backup that was put into service was just as old.

The coincidence of twin mini-disasters for commuters last week might foreshadow scores of problems as cash-strapped governments stagger into the 21st century burdened by creaking 20th-century technology. Unlike businesses, which have had to keep pace with technological advances to stay competitive, government and public agencies facing budget woes more readily can postpone spending to replace old but still functional equipment.

"This is a wake-up to all municipalities across the nation and the area and underscores the dangers -- the ticking time bombs -- buried in our aging traffic engineering infrastructure," said John B. Townsend II, spokesman for AAA Mid-Atlantic. "We are playing catch-up, because lawmakers have been unwilling to fund upgrades."

In both cases last week, however, the problem with ancient infrastructure had been identified. The probability that an aging system would break down simply trumped the speed of efforts to avert failure.

The tragedy and travails of Metro this year, including a June crash that killed nine people, have underscored that a network that debuted in 1976 is badly frayed.

Replacing the fried power unit plus two other 37-year-old companion pieces and related equipment will cost Metro \$14 million, an expense the transit agency can ill afford in the face of a projected shortfall of at least \$22 million this fiscal year and an even bigger one, about \$144 million, next year.

The budget picture in Montgomery is just as gloomy. County Executive Isiah Leggett (D) said he recognized the need for new traffic computers when he took office more than two years ago, and he launched a six-year, \$35 million program to replace them.

On Thursday, when the balky computer system burped and began working again, Leggett said he would expedite the effort to replace it and won't allow a lack of money to hold up the work.

But Leggett's mandate to expedite the project runs headlong into the reality that such work can't happen overnight. The transition had been planned over six years because, to sum up the list of reasons provided by a county spokeswoman, that's simply how long it takes to complete the complex task.

Jeff Schiller, who manages the computer network at the Massachusetts Institute of Technology, sympathized with the immediate problem and with the long-term dilemma faced by public agencies.

"Building data centers is a very tricky and very expensive proposition if you want to be very sure it's never, ever going to fail," he said.

The very desire to avoid a network failure like Metro's or Montgomery's makes the systems all the more complex and increases the challenge of finding the problem when they fail, he said.

The county and the transit system used the same jargon in describing the breakdown -- "a single point of failure" -- which means that a chink in the armor of redundant systems brought the whole thing down.

"Redundancy adds complexity, and complexity results in complex failures," Schiller said. "The result of that is failures that are really hard to figure out."

That's why, he speculated, it took more than 40 hours to find the fix when the Montgomery computer and its modem stopped sharing information with the county's more than 750 stoplights.

The larger question of how and when to invest in decaying public infrastructure is particularly challenging when it comes time to replace computer systems, he said. A pothole, for example, is a more obvious public menace than an aging but unseen hard drive.

"The argument of saying, 'Let's replace this thing which is working fine, and we want to replace it with something that will do exactly the same thing,' that's a hard sell," Schiller said. "The answer always will be, 'It's working fine, and if we don't fill the pothole or do the paving, people will be upset.' "

Warning that a hard-drive meltdown could be disastrous is "like saying there's going to be an earthquake. People would rather not believe it, and they figure they'll deal with it if it ever really happens."

If government operated like a business, he said, it would calculate the likely lifetime of a computer system and begin banking money against the day when it needed replacement.

"Public entities can't do that because if they try to save and have a pot of money lying around, somebody's going to say, 'Hey, let's spend that,' " Schiller said.

Recommendations

Implementation of these recommendations is contingent upon availability of appropriate planning resources.

1. Agencies should implement a formal methodology for creation and continuous maintenance of a comprehensive inventory of major IT assets.
 - a. Establish a standard data collection methodology and agree on what will be tracked and by whom.
 - b. Document key attributes of each system/application in each agency. Some consistent guidelines will need to be developed.
 - c. Update and maintain inventory documentation on a continuous basis. A methodology to capture detailed information on a common set of system attributes for each system is essential if system behavior is to be understood and statistical analysis is to be utilized.
 - d. Expand the scope of current IT planning practices to look beyond typical 3–5 year intervals. This may include long-range statistical projections that consider multiple replacement intervals for major systems assets in the enterprise.
2. Perform an analysis to determine the gap between current resources and predicted needs in each ITPCC agency, and then create a macro-level view to provide appropriate planning forecasts.
3. Implement an annual assessment of the health of major IT systems in each agency, and create a multi-year replacement and major upgrade plan that considers true long range trends and needs. This should be done in conjunction with IT strategic planning, including the development and ongoing update of an enterprise IT architecture.
4. Establish a stable and permanent funding mechanism to ensure replacement and upgrade of major IT systems assets such as an Interagency Technology Fund (ITF).
 - a. Designate an interagency task force workgroup to investigate the creation and management of a special technology fund.
 - b. Consider creation of an IT Planned Lifecycle and Replacement (IT - PLAR) CIP Project within each agency to provide funding and accountability for major IT systems upgrades and replacements.
5. Periodically evaluate technology shifts that may render existing systems or business processes obsolete.
6. Align architectures strategically and encourage interagency cooperation where feasible with a goal of increased efficiency.

Conclusion

This project demonstrates that a method for planned lifecycle management for major systems on an enterprise basis is possible. It provides a planning alternative to the current 'fix on fail' practices of most business and government entities. The aggregate set of systems encompassed in this report represents a highly complex and dynamic technology environment that requires constant renewal. The challenge is to manage this complexity.

Replacement requirements are demonstrated to be episodic and not evolutionary when viewed over the long-term and are subject to the unrelenting yet certain forces of internal and external change drivers. Agencies need to extend strategic IT and budget planning horizons beyond current 3-6 year approaches and consider the inevitable recurrence of replacement requirements for major systems over multiple lifecycles. These systems are not optional and the consequences of deferred replacement could be severe. Decisions to delay replacements only modify the dynamics displayed in Chart 1, *County IT Expense Needs Over Time*. The oscillations of the graph will vary depending on the decisions made, but this universe of systems is basically closed and will require resources sooner or later. A large spike of funding requirements is eminent in the near term due to the combined impact of aging Y2K remediation plus other major systems that are approaching the end of their lifecycles.

Estimated total replacement cost to maintain the business functionality currently provided by the major IT systems is \$348.6 million. The annual average replacement requirement is predicted to be \$83.3 million. Actual requirements in a given year may vary significantly from this average replacement estimate, especially within individual agencies as shown in Table 4. This estimated total replacement cost includes both new dollar requirements and existing appropriation in the approved operating and capital budgets of the agencies. It is beyond the scope of the Phase II study to determine the new dollar requirements but agencies will need to perform this gap analysis as an early step if long-term solutions are to be possible.

The recently updated PC inventory status for the ITPCC Asset Management Phase I Report indicates an annual replacement requirement of \$21.0 million for 13,317 desktop systems.¹⁰ Only a small portion of this is currently funded. This constitutes a significant unmet need for the systems that provide the important interface between the users and the major systems in this study. When combined with the estimated average annual major systems requirements, an annual total of \$104.3 million is required to maintain the health of systems identified in the Phase I and Phase II ITPCC studies.

The ITPCC IT Asset Management Workgroup concludes that a formal process for true long-term planning for major systems replacements and upgrades should be incorporated into IT planning and technology review processes in the ITPCC agencies. The overall health of major systems supporting important business processes throughout the agencies depends on it. An enterprise that fails to maintain information processing technology that keeps pace with innovation will not be able to achieve business objectives and meet customer requirements over the long term.

¹⁰ See Appendix G, *Montgomery County Agencies PC Inventory Status—Phase I Update*, December 31, 2002.

7.5 Interfund Transfers

Several special and enterprise funds could potentially provide revenue sources to fund major IT systems replacements and upgrades especially for the large and expensive systems that are critical to the core business processes of these entities. The Liquor Fund, Cable Fund, and Permitting Systems, are potential examples that could provide revenues for major IT systems replacement.

The Liquor Fund generates significant revenue for County government and is another good candidate for revenues to be designated for the replacement and upgrades for this major enterprise system.

The Cable Fund provides significant current revenue resources for the construction of FiberNet and provides funds for operating expenses associated with FiberNet. The Cable Fund could be examined for potential use to fund future major IT systems requirements.

These examples are illustrative and the ITPCC is fully cognizant that significant policy and procedure decisions are required before any implementation. These are offered as examples of potential funding sources that might be considered and directed to meeting the IT infrastructure funding requirements over the long term and are best evaluated by OMB and Council staff.

7.6 Use of TIF Designated Reserves

The Technology Investment Fund was originally created to provide for new projects, and under the current Policy Resolution cannot be used as a funding source for replacements or upgrade needs of existing systems. A separate ITPCC effort is examining TIF and will consider possible uses in relation to the IT major systems funding issues. The FY07 TIF designated reserve is \$1.9 million and projected to receive additional payments from MCPS through 2009 that will result in a reserve of \$2.5 million.

8.0 Policy Considerations

The ultimate authority for appropriation of resources to fund the major IT systems requirements is the County Council. A sustainable funding source for requirements that are determined by an objective, quantitatively derived needs and risk assessment process will provide a basis for meeting this important infrastructure need. Once agencies are reasonably certain of funding availability, long term planning for upgrade and replacement requirements may be implemented as standard operating procedures and the costly and risk prone 'fix on fail' approaches will stop. There should be "no surprises" for major IT infrastructure funding requirements once this methodology becomes a standard operating procedure in long range planning and funding decision processes.

ITPCC suggests that the County Council adopt a policy resolution that establishes funding for major upgrades and replacements of the IT major systems infrastructure as a priority for the County. The Council could specify that a percent of total resources sufficient to meet the determined replacement and upgrade needs be appropriated for major IT systems in the CIP.

Essentially, these funds would come “off the top” of available resources and are not subjected to a competition process that often results in major IT projects not getting funded at the end of the budget process.

In addition, one-time additional revenues and windfalls exceeding current reserve policy goals (6% of resources) could also be used to fund Major IT infrastructure replacement and upgrade requirements. Excess revenues typically get used to fund other PSP items, or go to reserves. A percent of the additional revenues could be designated for IT major systems replacement and upgrade as policy, particularly those systems at highest risk, with the remainder of the excess revenue made available for Paygo, or other uses. This was actually done in FY06.

In FY06, major IT systems at high risk were funded in this manner for Montgomery College, MNCPPC, and HOC, making a significant contribution to eliminating high and medium risk systems for these agencies. Montgomery County Public Schools (MCPS) and County Government (MCG) received partial funding for implementation of ERP systems in each agency to replace several older systems at rated at high risk.²² Agencies continue to have significant major systems at high and medium risk.

The ITPCC recommends that the Council continue this practice and designate a percentage of excess one-time revenues and windfalls to fund replacements and major upgrades for high and medium risk IT systems.

The agencies will be expected to perform due diligence reviews and risk assessments, provide current estimates of funding requirements, update implementation schedules, and provide justification for their major IT systems—updating the ‘Operational Health and Replacement Priority for Major IT Systems’ and PDFs for both Executive and Council consideration during the annual SAG and budget processes.

The Major IT systems replacement and upgrade projects should be programmed and funded in the CIP. Multiyear needs are clearly displayed and existing budget and finance systems can be used to monitor and report the IT infrastructure requirements.²³ The CIP budget process encourages long range planning and funding projections and enforces a more disciplined alternative to ‘fix on fail’ methods currently observed.

9.0 Conclusion

The ITPCC understands the final outcome will result from County Executive and Council recommendations, and available resources for this important project. The continued focus on developing good planning and sustainable funding strategies for our desktop and major IT systems represent a major long term challenge that will require the continued cooperation of all involved.

²² See Appendix H, Uses of One-time FY06 Revenue.

²³ See Appendix K, FY97-02 Recommended Information Technology CIP Multi-Agency Project Expenditure Schedule, County Executive’s Recommended FY97 CIP, Volume 1, 9-71. Also, the Multi-agency Information Technology Overview is presented on pages 9-65 through 9-71.

There are no easy solutions to funding the requirements to replace or perform major upgrades to major IT infrastructure components. Most organizations simply have not planned for it. They are continually forced to deal with apparent “sudden” needs to commit large amounts of money and manpower to deal with large systems and applications that have deteriorated beyond their useful lifecycles. The lifecycles tend to extend beyond typical two to three year planning periods and therefore do not get factored into a planned long range solution to ensure that this important infrastructure continues to deliver the support to business processes that is expected. The ITPCC has demonstrated that while lifecycles are long, they are predictable and may be structured into a long term planning and funding model for a healthy IT infrastructure.

The goal is to insure that the IT infrastructure that supports the business processes essential to provision of government services remains healthy and responsive to current and future demands. The emerging technologically sophisticated citizenry, the “millennials”, will demand much more from the services supported by our technology infrastructure. They will not be tolerant of excuses when the IT infrastructure fails to support the services they demand.

This solution requires a firm commitment—a policy commitment—that a defined and sustainable amount of resources will be consistently appropriated for funding major IT infrastructure requirements. It requires a predictable and objectively based process embraced by the agencies, the Executive, and Council that identifies the elements of IT infrastructure requiring funding and performs the needed levels of due diligence so available resources are applied to achieve the goals. Failure to implement a solution will continue to place core agency business process at risk, with consequences that are potentially severe.

The ITPCC recommendations attempt to integrate piecemeal and disconnected elements of a solution into a working model and process that addresses the needs of the IT infrastructure. The previous ITIFaB report and discussions with finance staff concluded that the fiscal tools are available to meet the needs. We do not need to invent a new fiscal process or finance instruments to address this requirement. Examination of other organizations attempts to deal with this issue revealed many solutions we have used previously that are still available and not in conflict with our current fiscal policies. The ITPCC Phase II report identified the scope of the major IT systems issues and the recurring needs for replacements and major upgrades that will continue indefinitely. This report attempts to standardize guidelines and procedures to frame the requirements, recommends that existing budget practices be applied to process the requirements, and requests that the County adopt a policy commitment to direct funding resources in a sustainable and predictable manner to fund the requirements.

In the end, it is this commitment of resources, off the top, on a sustainable basis that is central to solving this issue. The current planning model indicates that fully funding the requirement for the current CIP planning period would allocate over \$40-90 million annually to fund high and medium risk systems. Actual requirements will depend on actual agency requests and will undoubtedly vary from the models used for projections.

Agencies will need to accept and agree that these resources will not be available for non-IT purposes and frame their other funding needs accordingly. The Executive will need to commit to

this and insure that the IT infrastructure requirements remain a priority focus over the long term, and the County Council will need to appropriate the funds.

It is certain that expecting a different outcome while continuing to approach this issue the same way year after year is the definition of futility. The opportunity for change is ours to grasp, or we can continue to accept the risk and consequences of our current practices.

10.0 Recommendations

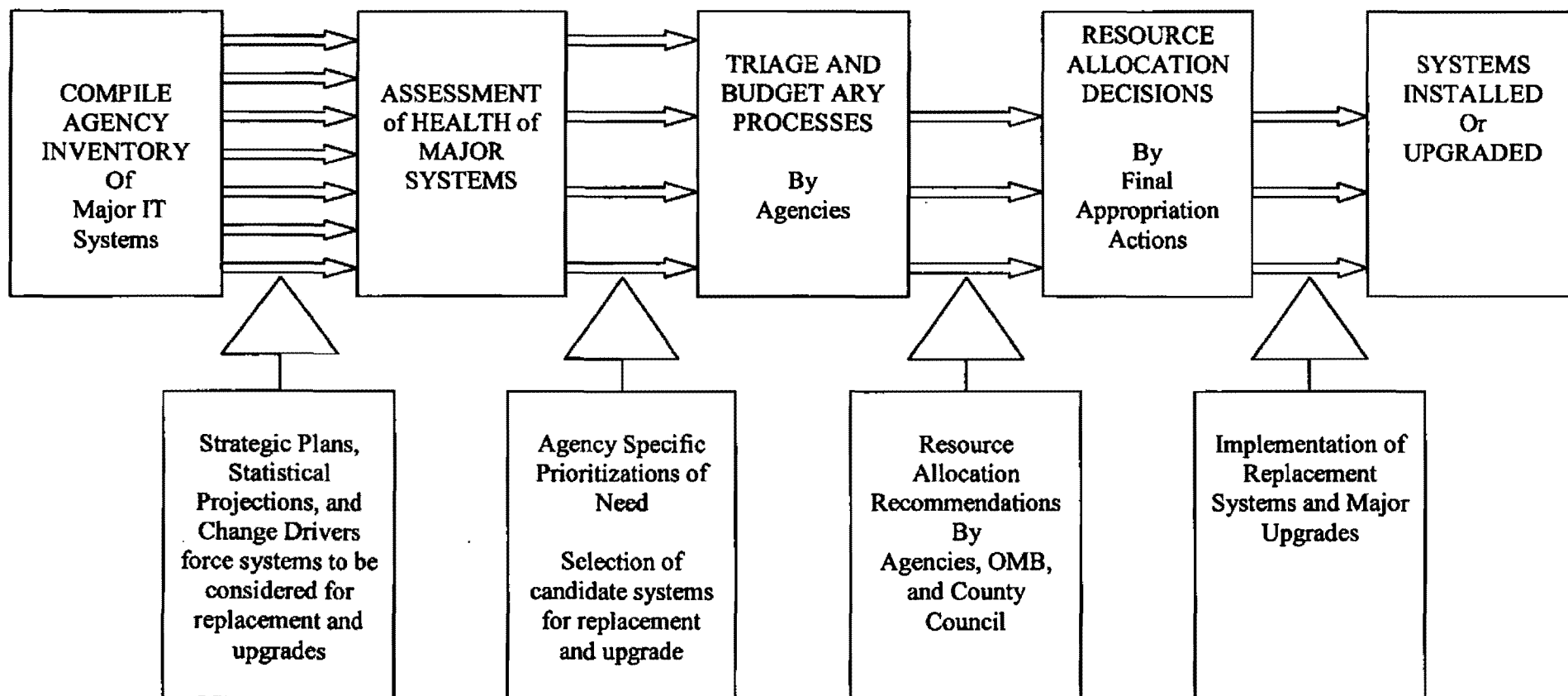
The ITPCC understands the final outcome will result from actual agency requests, County Executive and Council decisions, and available resources.

1. Adopt a Council Resolution that establishes funding of Major IT infrastructure replacements and upgrades as a policy priority for County government.
2. Adopt the ITPCC recommended guidelines for periodic assessment of the health of major IT systems and applications that evaluates current risks, impacts, and consequences on core business process areas supported. It is recommended that agencies adopt the QEF analysis process, scorecards, Health and Replacement Priority of Existing Major Systems, and PDFs to analyze and report IT infrastructure health and requirements for replacement and major upgrades.
3. Program the IT Infrastructure replacement and upgrade requirements in the Capital Improvements Program (CIP). The CIP will maintain the focus on the ongoing project requirements, multi-year expenditures, funding, and appropriations. It is most compatible with a long term and planned lifecycle approach to major systems replacements and upgrades. It provides a six-year planning model for IT infrastructure based on actual vs. statistically projected requirements like those in the ITPCC Phase II Report.
4. Adopt IT PLAR projects in the CIP for this purpose, but allow discretion by the agencies that prefer discrete projects. Budget and finance information systems can generate aggregate views to produce 'IT PLAR' summaries from agency projects for both agency and countywide views.
5. Update and review the Health of Major IT Systems and Replacement priorities twice per year. The 'Operational Health of Major IT Systems' could be reported to the Council MFP Committee in the fall just prior to CIP and PSP submissions, and spring in coordination with the annual ITPCC Program and Funding overview presentation. The report in the fall could reflect the most current agency priorities for programming expenditures for major IT systems replacements and upgrades and identify systems that will potentially be the subject of appropriation requests. The second report should occur in the spring as part of the annual ITPCC Program and Budget Overview presentation. This report sets the baseline for the next budget year and keeps the six-year requirements in focus for decision makers.
6. Incorporate the Major IT Systems Infrastructure information in the County budgeting processes administered by OMB and agencies to ensure that the multi-year requirements are consistently managed and reported in a manner that maintains the health of the County IT infrastructure over the long term. This should include the automated systems used in the process to ensure that the funding requirements are known, monitored,

projected, and reported as necessary. The ITPCC simply does not have the capability to do this effectively on an ongoing basis.

7. OMB and Council should develop and provide agencies with the necessary guidelines to insure that agencies understand what is required to meet all readiness criteria and submission deadlines associated with developing annual IT infrastructure planned replacements and upgrades requirements.
8. Monitor and revise the implementation of the planned lifecycle asset replacement model for major IT systems to achieve a 'steady-state', sustainable funding level for major IT Infrastructure replacements and upgrades.
9. Pilot this approach initially, preferably over several years with periodic assessments and adjustments as needed.

MAJOR IT SYSTEMS Replacement and Upgrade Process



ITPCC Interagency IT PLAR Totals											
EXPENDITURE SCHEDULE (\$000)											
Agency Expenditures	Total	Thru FY05	Est. FY06	6-Year Total	FY07	FY08	FY09	FY10	FY11	FY12	Beyond 6 Year
MCG-Enterprise	230,531		7,309	82,435	7,335	16,110	26,260	10,585	13,385	8,760	140,787
MCG-Departmental	91,938		500	82,338	13,723	13,723	13,723	13,723	13,723	13,723	9,100
MCPS	218,925		17,473	191,993	19,163	34,345	36,185	35,128	34,976	32,196	7,459
MC	124,268		12,818	94,100	15,250	15,050	14,550	14,550	17,350	17,350	17,350
MNCPPC	7,377		555	3,322	2,797	175	175	175	0	0	3,500
HOC	2,863		0	930	830	20	20	20	20	20	1,733
Total	673,702	0	38,655	455,118	59,098	79,423	90,913	74,181	79,454	72,049	179,929
FUNDING SCHEDULE (\$000)											
Curr. Rev. Record Tax	166,468		22,291	144,175	24,660	27,340	25,186	24,593	20,472	21,924	0
G.O. Bonds	2,442		2,442	0	0	0	0	0	0	0	0
Curr.Rev. General	491,589		11,855	301,518	32,388	50,328	64,147	48,233	57,627	48,795	178,196
State Aid	0		0	0	0	0	0	0	0	0	0
Other	1,913			180	80	20	20	20	20	20	1,733
Other	0			0	0	0	0	0	0	0	0
Other	11,312		2,067	9,245	1,970	1,735	1,560	1,335	1,335	1,310	0
Total	673,702	0	38,655	455,118	59,098	79,423	90,913	74,181	79,454	72,049	179,929
Revenues less expenditures----->	0	0	0	0	0	0	0	0	0	0	0
WSSC (non-tax supported)-3/27/06	23,250	0	0	17,250	2,875	2,875	2,875	2,875	2,875	2,875	6,000
NOTE: FY05 is intentionally blank.											
AS of 1/26/2007											



OFFICE OF MANAGEMENT AND BUDGET


Dean Leggett
County Executive

Joseph F. Beach
Director

MEMORANDUM

August 23, 2007

TO: All Agencies
All County Government Departments

FROM: Joseph F. Beach, Director 
Office of Management and Budget

SUBJECT: Implementation of the Risk and Consequences Report for Major IT Systems

In an effort to progress towards implementation of the recommendations set forth in the *Risk and Consequences Long Range Planning and Funding of Major Information Technology Systems Report (ITPCC February 23, 2007¹)*, County Government Departments and Agencies may include their funding request for replacement of major IT systems in the upcoming FY09-14 Capital Improvements Program (CIP).

The funding request must meet the following requirements in order to begin the process of competing for resource allocation and inclusion in the Capital Improvements Program:

- Should be identified in the Risk and Consequences report in the red category;
- Have been technically assessed as ready and feasible for implementation by Technology Services for County Government Departments or an Agency's equivalent department with review and signoff by the submitting CIO, department head, or agency director;
- Cost estimates should be identified and quantified in a sufficiently reliable manner;
- Ongoing costs after completion of the project should be identified and reliable (i.e., Operating Budget Impact (OBI) – future staffing, maintenance, licensing etc.);
- Identify which components of the project have a useful life of five years or greater and are therefore eligible for debt financing (e.g., software licenses, hardware, etc.);
- The projects are sufficiently large and complex in scope and will be implemented over more than one year.
- Indicate the extent to which the technology upgrade involves collaboration with another County agency (e.g., joint development, information sharing, etc.), shares the same technology platform, or creates synergies with the ongoing technology development of another County agency.

¹ For details on or a copy of the *Risk and Consequences* report please contact Gary Thomas of the Interagency Technology Policy Coordinating Committee at 240-777-7993 or gary_thomas@montgomerycountymd.gov

Office of the Director

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August 23, 2007

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If a project is not sufficiently developed that it would be ready to compete for funding, planning funds may be requested to begin the replacement process. However, a detailed project plan should be submitted with this request that indicates how the planning for the project will be administered and the requested funds be used (e.g., consultant support, staff support, etc.) The decision for new or expanded projects which require current revenue funding will most likely be made in March 2008, in conjunction with the Operating Budget. OMB will be assessing the readiness of projects to compete for funding during the normal review period for the CIP process.

If you have any questions concerning this matter, please contact Jacqueline Carter, Acting CIP Manager at 240-777-2771 or by e-mail at www.jacqueline.carter@montgomerycountymd.gov or Jennifer Bryant, CIP IT Coordinator at 240-777-2761 or by e-mail at www.jennifer.bryant@montgomerycountymd.gov.

My staff and I look forward to working with you on IT infrastructure needs for the FY09-14 CIP.

JFB:rm

Distribution: Isiah Leggett, County Executive
Timothy L Firestine, Chief Administrative Officer
Jennifer Barrett, Director of Finance
Executive Branch Department Heads
Dr. Jerry D. Weast, Superintendent of Schools
Dr. Brian K. Johnson, President, Montgomery College
Royce Hanson, Chairman, Montgomery County Planning Board
Andrew Brunhart, General Manager, WSSC
Keith Miller, Executive Director, Revenue Authority
Judge Ann S. Harrington, Circuit Court
Scott Minton, Housing Opportunities Commission
Sheriff Raymond Kight
John McCarthy, State's Attorney

cc: Chief Information Officers in departments and agencies
Dr. Costis Toregas, County Council Staff
Glenn Orlin, Council Deputy Staff Director
Gary Thomas, Interagency Technology Policy Coordinating Committee
OMB Staff

O&F Perspective

Major Enterprise IT Systems Report



FY10-Estimated Operational Health and Replacement Priority of Existing Major IT Systems								
Priority	System Name	Status	Life	Age	Upgraded	Total 6-Yr.	Full Repl-Cost	NOTES
1a	(MCG) Core Financials	Red	10	14	1995	\$0	\$30,000,000	Potential for replacement by ERP system
1b	(OHR) Human Resources	Red	7	22	1999	\$0	\$5,000,000	Potential for replacement by ERP system
1c	(OHR) Position Control	Red	7	22	1986	\$0	\$2,000,000	Potential for replacement by ERP system
1d	(OHR) Occ. Health	Red	3	7	2002	\$0	\$100,000	Potential for replacement by ERP system
1e	(OHR) PeopleClick	Red	3	7	2004	\$0	\$500,000	Potential for replacement by ERP system
1f	(OMB) Budget Devel.	Red	8	16	2007	\$0	\$100,000	Potential for replacement by ERP system
2	(MCG) Voicemail	Red	10	17	1992	\$0	\$68,000	System replacement scheduled in 2009
3	(MCG) CJIS	Red	8	14	1995	\$0	\$10,000,000	Potential for replacement by JIS program
4	(MCG) Tax Receivables	Red	8	23	1986	\$2,000,000	\$2,000,000	
5a	(DLC) StoreKare	Red	7	10	1999	\$0	\$1,000,000	Replacement planned for 2009
5b	(DLC) Trace	Red	4	7	2002	\$0	\$250,000	Replacement planned for 2009/2010
5c	(DLC) POS Hardware	Red	5	5	2008	\$0	\$1,000,000	Replacement planned for 2009
6a	(DOT) Highway CMMS	Red	10	11	2000	\$100,000	\$100,000	
6b	(DOT) Traffic Signal Mod	Red	TBD	30	n/a	\$0	\$2,600,000	CIP project - currently in Phase 1 rollout
6c	(DOT) Bus Scheduling	Red	9	18	2008	\$0	\$250,000	System replacement in progress
7	(OMB) Budget Publication	Red	7	16	2004	\$0	\$2,000,000	

Estimate only. Not a Formal Budget Plan.

O&F Perspective

Major Enterprise IT Systems Report



FY10-Estimated Operational Health and Replacement Priority of Existing Major IT Systems

Priority	System Name	Status	Life	Age	Upgraded	Total 6-Yr.	Full Repl-Cost	NOTES
1a	PS Mobiles upgrades	Yellow	4	4	2008	\$24,000,000	\$16,000,000	Annual cost: \$4,000,000
1b	Fibernet/WAN upgrades	Yellow	7	7	2008	\$3,000,000	\$3,000,000	Annual cost: \$500,000
1c	Servers/Storage upgrades	Yellow	5	5	2008	\$6,000,000	\$5,000,000	Annual cost: \$1,000,000
2a	(MCG) Fixed Assets	Yellow	8	7	2002	\$0	\$625,000	Potential replacement by ERP system
2b	(OHR) Human Capital	Yellow	4	9	2003	\$0	\$2,000,000	Potential replacement by ERP system
2c	(OHR) MyHR	Yellow	3	4	2005	\$0	\$100,000	Potential replacement by ERP system
2d	(OHR) Benefits	Yellow	7	10	1998	\$0	\$2,000,000	Potential replacement by ERP system
2e	(OHR) Financial Reports	Yellow	6	9	2002	\$0	\$400,000	Potential replacement by ERP system
2f	(CFW) Intake System	Yellow	7	9	2000	\$0	\$150,000	Potential replacement by ERP system
3	(DPS) Permit System	Yellow	5	10	2006	\$0	\$2,500,000	Upgrade in progress
4a	(MCG) PSDS hardware	Yellow	6	4	2005	\$0	\$20,000,000	
4b	(MCG) CAD	Yellow	7	4	2005	\$0	\$16,000,000	
4c	(MCG) PS Radio System	Yellow	12	7	2002	\$0	\$75,000,000	
4d	(MCG) MS Office/Outlook	Yellow	5	7	2002	\$0	\$3,000,000	
4e	(MCG) MS Windows/SMS	Yellow	5	6	2003	\$0	\$1,000,000	
4f	(MCG) Juv. Justice - JJIS	Yellow	8	6	2009	\$0	\$700,000	
4g	(MCG) eGov Web Portal	Yellow	5	7	2002	\$0	\$3,000,000	
4h	(MCG) PBX CMS	Yellow	10	10	1999	\$0	\$7,000,000	
4i	(MCG) Content Mgt Sys	Yellow	5	6	2003	\$0	\$1,000,000	
5	(MCPD) Packet Writer	Yellow	4	3	2006	\$0	\$5,000,000	
6a	(DLC) APPX	Yellow	18	14	2008	\$0	\$3,000,000	
6b	(DOT) Archibus CAFM	Yellow	TBD	10	2002	\$0	\$125,000	
6c	(DOT) FASTER System	Yellow	TBD	6	2008	\$0	\$65,000	
6d	(DEP) OSCAR	Yellow	TBD	9	2008	\$0	\$150,000	
6e	(OHR) IVR	Yellow	3	6	2003	\$0	\$150,000	

Estimate only. Not a Formal Budget Plan.

O&F Perspective

Major Enterprise IT Systems Report



FY10-Estimated Operational Health and Replacement Priority of Exlating Major IT Systems								
Priority	System Name	Status	Life	Age	Upgraded	Total 6-Yr.	Full Repl-Cost	NOTES
--	(MCG) Mainframe DB/utills	Green	5	6	2008	\$6,000,000	n/a	Annual cost: \$1,000,000
--	(MCG) Server apps/utills	Green	5	5	2008	\$1,200,000	n/a	Annual cost: \$200,000
--	(MCG) Enterprise Oracle	Green	5	3	2006	\$600,000	n/a	Annual cost: \$600,000
--	(MCG) MUNIS	Green	8	2	2007	\$0	\$2,000,000	
--	(MCG) Enterprise GIS	Green	5	3	2006	\$0	\$1,000,000	
--	(MCG) Sophos/Proofpoint	Green	5	2	2007	\$0	\$500,000	
--	(MCG) Mainframe	Green	8	6	2003	\$0	\$1,000,000	
--	(MCG) MS Exchange	Green	5	6	2003	\$0	\$1,000,000	
--	(DOT) Transit CAD AVL	Green	9	1	2008	\$0	\$7,600,000	
--	(LIB) Integrated Lib System	Green	12	10	2007	\$0	\$4,000,000	
--	(LIB) Internet Session Mgt	Green	8	5	2007	\$0	\$175,000	
--	(DHHS) Service Point	Green	TBD	3	2008	\$0		Replacement Cost TBD
--	(DHHS) CRS	Green	TBD	6	2008	\$0		Replacement Cost TBD
--	(DHHS) AVATAR	Green	TBD	4	2008	\$0		Replacement Cost TBD
--	(CUPF/REC) Fac Schedule	Green	TBD	11		\$0	\$650,000	
--	(MCPD) RAFIS Upgrade	Green	7	2	2006	\$0	\$1,200,000	
--	(MCPD) RMS	Green	7	2	2008	\$0	\$6,500,000	Life linked to CAD and Packetwriter
--	(OMB) BASIS	Green	10	14	2003	\$0		Potential replacement by ERP system

Estimate only. Not a Formal Budget Plan.



Operational and Functional Perspective: Health of Existing IT Systems

Priority	System Name	Status	Life	Age	Up graded	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Full Repl- Cost
1	Data Center Infrastructure	Red	4-6	26	2005		2,535,146					2,535,146		5,070,291
2	Telephony	Red	4-6	9	2005		3,100,000	3,100,000	3,100,000			9,300,000		15,500,000
3	Web Information System	Red	3-5	12	2005	275,000	550,000	275,000	550,000			1,650,000		3,300,000
4	Facilities Management Information System	Red	7-10	22	1999	96,000	15,000	15,000	15,000	15,000	15,000	171,000		148,000
5	Transportation Information Mgmt Sys	Red	7-10	9	2002	500,000	50,000	50,000	50,000	50,000	50,000	750,000		2,000,000
6	Evaluation & Selection Database	Red	4-6	27	2001		250,000					250,000		250,000
7	Scheduling System	Red	4-6	6	2007		500,000	200,000	200,000	200,000	200,000	1,300,000		
8	CATV/ITV	Red	4-6	18	2003	1,250,000	1,250,000	1,246,000				3,746,000		4,996,000

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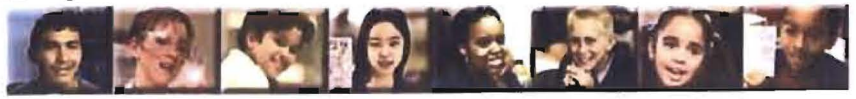




Operational and Functional Perspective: Health of Existing IT Systems

Priority	System Name	Status	Life	Age	Up graded	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Full Repl-Cost
1	WAN/LAN/ISP	Yellow	3-5	6	2005	7,400,000	7,400,000	7,400,000	7,400,000			29,600,000		37,000,000
2	Network Operating System	Yellow	4-6	5	2005	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	1,700,000	10,200,000		10,200,000
3	IT Perimeter Security	Yellow	3-5	7	2005			255,000				255,000	510,000	255,000
4	Food Service Management System	Yellow	7-10	11	2003	500,000	600,000					1,100,000		1,100,000
5	Human Resources Information System	Yellow	7-10	7	2005	167,155	12,780,000	178,856	191,376	204,772	219,106	13,741,265		12,780,000
6	Unicenter Service Desk	Yellow	3-5	5	2008		150,000					150,000		400,000
7	Handheld (Used for Reading 3D)	Yellow	2	3	2007									250,000
8	Business Continuity	Yellow	3-5	6	2005	246,864	249,333	251,826	254,344	256,888	259,457	1,518,712		1,488,788
9	Budget Management System	Yellow	7-10	2	2007	750,000				250,000		1,000,000		1,488,788

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Operational and Functional Perspective: Health of Existing IT Systems

Priority	System Name	Status	Life	Age	Up graded	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Full Repl- Cost
1	E-Mail (Microsoft)	Green	4-6	7	2009									
2	OnDemand Training Development Tool	Green	3-5	4	2004			530,000				530,000		530,000
3	Professional Development Online System	Green	4-6	3	2006			500,000				500,000		500,000
4	Parent-Teacher Outreach System (IQMS)	Green	3-5	3	2007			300,000				300,000		300,000
5	Special Education Mgmt System (IQMS)	Green	3-5	3	2006	500,000	100,000					600,000		2,000,000
6	Pinnacle Electronic Gradebook (IQMS)	Green	3-5	3	2007	104,000	104,000	104,000	104,000	104,000	104,000	624,000		
7	Financial Management System	Green	7-10	2	2007			3,000,000				3,000,000		15,000,000
8	Student Information System	Green	7-10	2	2007	150,000	150,000	150,000	150,000	150,000	150,000	900,000		7,000,000
9	Sharepoint	Green	4-6	2	2007	420,000						420,000		
10	Identity Manager	Green	4-6	0.5	2009	72,817	56,000	56,000	56,000	56,000	56,000	352,817		500,000
11	Data Warehouse	Green	4-6	1	2008	380,000	130,000	130,000	130,000	130,000	130,000	1,030,000		1,000,000
12	ATS-Applicant Tracking System	Green	4-6	0	2009			250,000				250,000		
13	HRO	Green	4-6	0	2010		125,000	50,000	50,000	50,000	50,000	325,000		

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Montgomery College Operational & Functional Perspective

FY10 Operational Health and Replacement Priority of Existing Major IT Systems
Agency Name: Montgomery College

Priority	System Name	Status	Life	Age	Upgraded	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Full Repl.	NOTES
1		Red										0			
2		Red										0			
3		Red										0			
1	Network Infrastructure	Yellow	5 years	Varies	2000-2008	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	6000			Note 1
2	Academic Student Applications	Yellow	5 years	Varies	2000-2008	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	\$1,600	9600			Note 1
3	Network Operating System	Yellow	4 years	Varies	2000-2008	\$500	\$500	\$500	\$500	\$500	\$500	3000			Note 1
4		Yellow										0			
5		Yellow										0			
6		Yellow										0			
7		Yellow										0			
8		Yellow										0			
9		Yellow										0			
10		Yellow										0			
--	NOC (Network Operating Center)	Green	3-7 years	Varies	2008	\$1,000	\$1,000	\$2,000	\$2,000	\$2,000	\$2,000	10000			Note 1
--	ERP, HR, SIS, Finance, Alumni - Maintenance	Green	8 years	7+ years	2004	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	15000			Note 1
--	E-mail Systems	Green	8 years	4 years	2004	\$100	\$100	\$100	\$100	\$100	\$100	600			Note 1
--	Library System	Green	8 years	4 years	2007	\$200	\$200	\$200	\$200	\$200	\$200	1200			Note 1
--	Bookstore System	Green	5 years	3 years	2007	\$50	\$50	\$50	\$50	\$50	\$50	300			Note 1
--	Repl/Upgrade Instructional Systems	Green	4 years	1 year	2008	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	6000			Note 1
--	Desktop Computer Repl/Upgrades	Green	4 years	1 year	2008	\$500	\$500	\$500	\$500	\$500	\$500	3000			Note 1

Note 1 Complete replacement is not planned for these systems as upgrades normal replacement and enhancements appear adequate for future planning. Amounts are estimated in addition to current operating and CIP budgets for these enhancements, small new applications and maintenance.

The College conducts a major upgrade each year otherwise this system would be red. Annual maintenance included.

Based on continued levels of CIP funding projections that are below our original request.

SUMMARY Multi-year Cost Projections by Risk Categories

	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr	Repl-Cost
RED	0	0	0	0	0	0	0	0	0
YELLOW	3100	3100	3100	3100	3100	3100	18600	0	0
GREEN	5350	5350	6350	6350	6350	6350	36100	0	0
TOTAL	8450	8450	9450	9450	9450	9450	54700	0	0

Risk Key

Red- OEF Rating 29-54: obsolete or vulnerable critical systems/applications in immediate risk of failure

Yellow- OEF Rating 15-28: aging or vulnerable critical systems likely to need major upgrade or replacement in the next 3-6 years

Green- OEF Rating 7-14: stable systems expected to require only routine maintenance or minor upgrade over the next 3-6 year

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Montgomery College Operational & Functional Perspective

Health of Major IT Systems – Scoresheet Summary

Business Process vs. Major Systems Matrix	Finance	Student Information	Human Resources	Academic Applications	E-Mail	Library	Book Store
Network Infrastructure	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Academic Student Applications	White	Yellow	White	Yellow	White	White	White
Network Operating System	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
NOC (Network Operating Center)	Black	Black	Black	Black	Black	Black	Black
ERP: HR, SIS, Finance, Alumni - Maintenance	Black	Black	Black	White	Black	Black	Black
Email Systems	White	White	White	White	Black	White	White
Library System	White	White	White	White	White	Black	White
Bookstore System	White	White	White	White	White	White	Black
Repl./Upgrade Instructional Systems	White	Black	White	Black	White	Black	White
Desktop Computer Repl/Upgrades	Black	Black	Black	White	Black	Black	Black

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Maryland-National Capital Park and Planning Commission

Health of Existing IT Systems

FY10--Operational Health and Replacement Priority of Existing Major IT Systems
Agency Name: M-NCPPC

Priority	System Name	Status	Life	Age	Upgraded	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Full Repl-Cost	NOTES
1	Planning & Parks Department SAN	Red	5	8	2002							0		500,000	Budgeted
2	Microsoft Exchange	Red	5	8	2002							0		500,000	Budgeted
1	Homeowners Association	Yellow	5	8	2004							0		N/A	In-house developed product/staff time
2	Plant Management	Yellow	5	6	2002							0		N/A	In-house developed product/staff time
1	Hansen	Green	10	5	2008	74,000	74,000	74,000	74,000	74,000	74,000	444,000		1,000,000	Web based (Version 8)
2	Document Imaging	Green	5	3	N/A	5,000	5,000	5,000	5,000	5,000	5,000	30,000		150,000	
3	GIS (ESRI Software)	Green	5	18	2008	55,000	55,000	55,000	55,000	55,000	55,000	330,000		2,500,000	On continuous upgrade cycle
4	MapMaker	Green	10	14	2008	N/A	N/A	N/A	N/A	N/A	N/A	0		N/A	In-house developed product/staff time
5	SmartParks	Green	10	5	2008	26,000	26,000	26,000	26,000	26,000	26,000	156,000		1,000,000	
6	Microsoft Office	Green	5	2	2007	N/A	N/A	N/A	N/A	N/A	N/A	0		300,000	Enterprise License
7	Faster	Green	10	5	2009	6,000	6,000	6,000	6,000	6,000	6,000	36,000		150,000	
8	Avaya VoIP	Green	10	1	2008	90,000	90,000	90,000	90,000	90,000	90,000	540,000		1,000,000	Replacement of Key Phone System
9	Network Infrastructure Maintenance	Green	10	N/A	2007	N/A	N/A	N/A	N/A	N/A	N/A	0		2,000,000	Upgraded as needed
10	Mobile Data System	Green	5	10	2008	22,000	22,000	22,000	22,000	22,000	22,000	132,000		300,000	Upgraded as needed
11	CAD/RMS	Green	5	8	2009	23,000	23,000	23,000	23,000	23,000	23,000	138,000		400,000	Upgraded as needed
12	GE Security System	Green	10	0	2009	N/A	N/A	N/A	N/A	N/A	N/A	0		Unknown	Joint Effort with Prince Georges Park Police
13	Voice Print	Green	10	5	2008	N/A	N/A	N/A	N/A	N/A	N/A	0		20,000	911 Call recording software/Maintenance included with Avaya system
14	Arbitrator	Green	10	0	2009	N/A	N/A	N/A	N/A	N/A	N/A	0		50,000	In-vehicle camera/Park Police
15	Videocasting Planning Board	Green	4	2	2007	N/A	N/A	N/A	N/A	N/A	N/A	0		100,000	Periodic Maintenance
16	ParkPass	Green	10	4	2008	20,000	20,000	20,000	20,000	20,000	20,000	120,000		800,000	

Risk Key
 Red = QEF Rating 29-54; obsolete or vulnerable critical systems/applications in immediate risk of failure
 Yellow = QEF Rating 15-28; aging or vulnerable critical systems likely to need major upgrade or replacement in the next 3-6 years
 Green = QEF Rating 7-14; stable systems expected to require only routine maintenance or minor upgrade over the next 3-6 years

SUMMARY Multi-year Cost Projections by Risk Categories

	FY10	FY11	FY12	FY13	FY14	FY15	Total 6-Yr.	>6-Yr.	Repl-Cost
RED	0	0	0	0	0	0	0	0	1,000,000
YELLOW	301,000	301,000	301,000	301,000	301,000	301,000	1,806,000	0	3,800,000
GREEN	321,000	321,000	321,000	321,000	321,000	321,000	1,926,000	0	9,820,000
TOTAL	321,000	321,000	321,000	321,000	321,000	321,000	1,926,000	0	19,620,000



WSSC OPERATIONAL AND FUNCTIONAL PERSPECTIVE HEALTH OF EXISTING MAJOR IT SYSTEMS

Replace
d by
ERP:
Phase 1
(FY09-
10)

Phase
2
(FY10-
12)

Priority	Name of System/Application	Estimated Lifecycle	Age of System	Most Recent Upgrade	Est. Replacement Cost	System Status
1	COMPASS (Work Mgmt Sys)	15 yrs	15 yrs	2008	\$5,000,000	Red
2	Fleet Management System	10 yrs	20 yrs	1998	n/a	Red
3	Employee Payroll TAMSO	10 yrs	10 yrs	1998	\$ 400,000	Red
4	MOST	15 yrs	15yrs	n/a	\$3,500,000	Red
5	General Ledger	15 yrs	9 yrs	2007	\$3,000,000	Yellow
6	Human Resources	15 yrs	9 yrs	2007	\$ 500,000	Yellow
7	Sewer Model	15 yrs	20 yrs	1999	\$1,000,000	Yellow
8	Retirement Payroll	15 yrs	20 yrs	2008	n/a	Yellow
9	MMIS	15 yrs	18 yrs	2008	\$3,000,000	Green
10	MAPS (Procurement/Inventory/AP)	15 yrs	23 yrs	2008	\$4,000,000	Green
11	CSIS (Customer Svcs Info Sys)	15 yrs	18 yrs	1999	\$7,000,000	Green
12	Permits System	15 yrs	19 yrs	2007	\$1,000,000	Green
13	Employee Payroll	7 yrs	15 yrs	2007	n/a	Green

Status Key:

- Red** - Obsolete or vulnerable critical systems in immediate risk of failure.
- Yellow** - Aging/vulnerable critical systems likely to need major upgrade or replacement in the next 3-6 yrs.
- Green** - Stable systems expected to require only routine maintenance or minor upgrade over the next 3-6 yrs.

Definitions:

Lifecycle: The creation and life span of an application or system from development to deployment that provides a particular function or service.
Upgrade: Application of a major upgrade or release.

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WSSC OPERATIONAL AND FUNCTIONAL PERSPECTIVE HEALTH OF MAJOR IT SYSTEMS – SCORESHEET SUMMARY

Business Process vs. Major Systems Matrix

	Customer Care	Engrg & Constr.	Finance	Logistics	Production	IT
General Ledger	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Human Resources	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
COMPASS (Work Management Sys)		Red	Red	Red	Red	Red
MMIS	Red	Red				
Sewer Model	Red	Red				
Procurement/Inventory/ AP	Red	Red	Red	Red	Red	Red
MAPS (Materials, Acct, Purchasing System)	Red	Red	Red	Red	Red	Red
CSIS (Customer Svcs Info Sys)	Red	Red				
Permits System	Yellow	Yellow				

*** Finance works with the Permits system as it relates to assessments.**

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Operational Health and Replacement Priority of Existing Major IT Systems

Replacement or upgrade	Name of	Est.	Age of	Most Recent	Estimated	System
Priority	System/Application	Lifecycle (Years)	System (Years)	Upgrade	Replacement Cost	Status
1	Human Resources / Payroll System	8	6	2001	\$150,000	Yellow
2	E-mail System	10	7	2008	\$200,000	Yellow
3	Document Imaging	8	3	2008	\$150,000	Yellow
4	CRM	10	2	2008	\$250,000	Yellow
	RS Tracking	8	3	2008	\$100,000	Green
	Server Virtualization	8	1	2009	\$250,000	Green
	Housing/Financial	15	6	2009	\$1,500,000	Green
	Work Order / Inventory	10	1	2009	\$500,000	Green
	Online Application System	5	2	2008	\$50,000	Green
	LAN/WAN	8	1	2009	\$500,000	Green
	CITRIX	7	2	2009	\$350,000	Green

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IT Major Systems Common Criteria for Risk Color Coding

RED	YELLOW	GREEN
<ul style="list-style-type: none"> • Obsolete or vulnerable critical systems with high risk of failure requiring immediate remediation actions. • High risk to business processes, major disruptions occurring, and remediation resources not committed. • Diminishing pool of support resources for old technology (legacy systems) and software (example:COBOL). • Operating in an emergency response/management mode; most planning is highly reactive. • Degraded performance is negatively impacting other systems or business processes. • Very high cost to maintain. • Replacement or upgrade process is long, complex, and expensive. • System prevents compliance with legal mandates, and cannot be modified. • Product support not available. • Obsolete software-not supported, modification is high risk or impossible. • Obsolete hardware, replacements becoming unavailable. • Agency priority ranking is high risk. • <u>(Risk Factors = 29-54)</u> <p>AS OF: January 18, 2007</p>	<ul style="list-style-type: none"> • Aging or vulnerable critical systems likely to need major upgrade or replacement in the six year PSP and CIP period. • Obsolete or vulnerable non-critical systems in immediate risk of failure. • Business processes at risk, planning initiated, and some operational disruption evident. • Replacement or upgrade process will exceed useful life estimate. • Support of business requires significant ad hoc processes or manual interventions. • Significant resources (WYs, \$) needed to continue to function. • No specific replacement, maintenance, or funding plan; aware of issues and increasing cost. • Vendor viability is questionable; installed product base is stagnant. • <u>(Risk Factors = 15-28)</u> 	<ul style="list-style-type: none"> • Stable systems expected to require only routine maintenance or minor upgrade over the next six year PSP and CIP period. • Meets current and projected business requirements. • Minimal risk, normal operational status. • Lifecycle maintenance plan in place and resources committed. • (Risk Factor = 7-14)