

Worksession

MEMORANDUM

November 17, 2009

TO: Management and Fiscal Policy Committee
Public Safety Committee

FROM: Dr. Costis Toregas, Council IT Adviser
Minna Davidson, Legislative Analyst 

SUBJECT: Public Safety Communications System (PSCS) cost updates

Expected to participate in the discussion:

Steven Emanuel, Chief Information Officer, Department of Technology Services (DTS)
Joseph F. Beach, Director, Office of Management and Budget (OMB)
Richard Bowers, Fire Chief, Montgomery County Fire and Rescue Service (MCFRS)
Tom Manger, Chief, Montgomery County Police Department (MCPD)
Chris Voss, Director, Emergency Management and Homeland Security (OEMHS)
Arthur Wallenstein, Director, Corrections and Rehabilitation

and members from the Public Safety Systems Modernization (PSSM) Work Group:

Mike Knuppel, DTS
Albert George, MCFRS
Chris Johnson, MCPD
Charles Schwab, MCPD
Dieter Klinger, DTS
Bobby Johnson, DTS
Debbie Greenwell, OEMHS
Mark Wulff, DOCR
Darren Popkin, Sheriff's Office
Jo Ann Ricchiuti, Sheriff's Office
John Cuff, Office of Management and Budget (OMB)

Issues for the Committees

The Public Safety and the Management & Fiscal Policy Committees have been jointly reviewing the progress made in the effort to strengthen the Public Safety Communications System (PSCS). Most recently, during the worksession on October 1, 2009, the Committees requested that five explicit items be brought back in the November 19, 2009 worksession:

- Cost estimates and timeline for the replacement of the Public Safety Communications System components to include Radio, CAD, Information systems, infrastructure, and NextGen911.
- A memo to the Public Safety and Management and Fiscal Policy Committee Chairs explaining what will be included in the task order for the UASI-funded consultant study of workflow requirements for the new CAD system.
- Information about how Montgomery County Fire and Rescue Service (MCFRS) and EMS response times compare with response times in other comparable counties in the National Capital Region, including Fairfax.
- A chart showing MCFRS response times before and after call processing workarounds were implemented, to quantify the improvements created by the workarounds.
- An update on interoperability issues at the State and Federal level, the State's procurement of a 700 MHz radio system, and opportunities for possible collaborative activities with the State.

For each issue, the information provided by the Executive branch and Council staff comments are provided below.

1. Cost estimates and timeline for the replacement of the Public Safety Communications System components to include Radio, CAD, Information systems, infrastructure, and NextGen911.

The Executive branch information is on ©1-2. The cost estimates are as follows

	Cost Range	Timing
Radio Systems	\$75-100 million	Five years to complete
CAD	\$22-28 million	Three years to complete
Data Systems	No estimate	
Infrastructure	No estimate	
NextGen911	No estimate	

Under the CIP schedule, the Executive will be recommending his decisions on elements of this large PSCS (also known as the Public Safety Systems Modernization Plan) by January 15, 2010. However, there are information elements that should be discussed in the joint committee session including the following:

- The vendor has identified end of CY2009 as "out of maintenance" time line for the radio system. What are the plans for moving forward in the near term under such maintenance concerns?
- The key word is interoperability; the two reports dated July 2009 stressed its importance. How will the PSSM be phased and deployed to ensure maximum interoperability?

- The sums contemplated-whatever their exact magnitude-are significant. There is currently no “place holder” in the CIP for such magnitude undertaking. Are there Federal or State funds contemplated for this deployment, or a major shift in CIP priorities?
- The uncertainty around this complex undertaking is undeniable; however, there are alternate ways to accept this uncertainty, yet identify and plan for the risks ahead. The State of Washington probabilistic approach to cost estimation of complex projects has been discussed in other areas of County concern (see ©9). Could such an approach be practical in the PSCS effort?
- The organizational structure for TechMod, a similar complex undertaking across many departments, has two distinct features not yet evident in PSCS: placement of project management within the CAO’s office, and development of a Change Management strategy. Is either contemplated for PSCS?

2. A memo to the Public Safety and Management and Fiscal Policy Committee Chairs explaining what will be included in the task order for the UASI-funded consultant study of workflow requirements for the new CAD system.

The Executive response is on ©3. Staff has no additional questions on this item.

3. Information about how MCFRS and EMS response times compare with response times in other comparable counties in the National Capital Region, including Fairfax.

The materials submitted for this item are on ©4-5. The following questions may help the Committees appreciate the issues within the response time discussion:

- On a regional comparison, our County’s dispatch times are by far the longest, even when the impact of the EMD times is factored in. How can such a performance be explained?
- The table on ©4 presents call processing times. The original request was for a comparison of response times, which include turn out, travel and other time segments. If these additional components are included, does the emergent picture improve the County’s performance?

4. A chart showing MCFRS response times before and after call processing workarounds were implemented, to quantify the improvements created by the workarounds.

The response by the Executive is on ©5. Staff has no additional questions.

5. An update on interoperability issues at the State and Federal level, the State’s procurement of a 700 MHz radio system, and opportunities for possible collaborative activities with the State.

The response the Executive is transmitting, seemingly from the State, is on ©6-8. Staff suggests the following questions be addressed during the worksession to clarify the intent and progress made on this collaborative effort:

- Are discussions between the County and State oriented towards a joint procurement effort?
- What is the State’s desire to enter into joint operations with the County? Joint procurement?
- Who are the officials most aware of the County’s interest in collaboration and the desire to reduce costs through joint action? Can the PS and MFP Committees do something to enhance the chances of this collaboration in FY11?

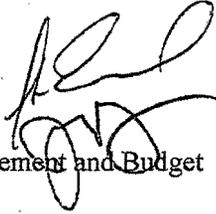


ROCKVILLE, MARYLAND

MEMORANDUM

November 12, 2009

TO: Dr. Costis Toregas, Council IT Advisor

FROM: Steven Emanuel, Chief Information Officer 
Joseph F. Beach, Director, Office of Management and Budget

SUBJECT: Public Safety Communication System

This memorandum is in response to your requests for detailed information on costs and scheduling for the components of the subject project in preparation for the November 19th Public Safety Committee meeting.

The Department of Technology Services (DTS) and the public safety agencies are engaged in evaluating the various components of the County's public safety communication system to determine the appropriate course of action to insure these systems continue to effectively operate with the latest "state of the art" technology. The components of the system are outlined and described in the "Montgomery County Public Safety Systems Modernization Plan" (PSSM) dated July 2009, and they include:

- Upgrades and modernization of computer aided dispatch (CAD),
- Voice radio system,
- Mobile and portable radios.

Presently, discussions and analysis involving DTS, the public safety agencies, and the Office of Management and Budget are occurring in conjunction with the preparation of the County Executive's Recommended FY11-16 Capital Improvements Program. These discussions include the type of technology to meet the County's operating requirements, the cost of the technology, and the implementation schedule.

These programming elements directly affect the staff recommendations to the County Executive. Completion of the discussions and analysis is expected to be completed by mid December 2009 at which time, staff recommendations for implementing the PSSM Plan will be presented to the County Executive. The County Executive's decision on the staff recommendations will be incorporated in the Recommended FY11-16 CIP to be released on January 15, 2010.

Based on our experience, analysis, and research, it is projected that the cost of implementing the PSSM Plan, over a six-year period, could be at least \$100 million, but may be significantly more than that depending on a variety of factors including the ultimate project scope; bid prices received for system components including radio infrastructure; cost for IT consulting services; required land acquisition for additional tower sites; the impact of the State's Radio and CAD project plans; and other factors.

Dr. Costis Toregas
November 12, 2009
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The current projected costs for replacement of the Radio Systems including planning, design, and infrastructure is estimated at between \$75 million to \$100 million. The current estimate for the CAD system is estimated at between \$22 million and \$28 million. We currently do not have estimates for design and implementation of related data systems, infrastructure, and the NextGen911 systems because more precise estimates are subject to further development of the CAD and Radio Project plans and can not be reliably estimated at this time. Please note that these are preliminary, order of magnitude, estimates for the system components and are subject to change based on further analysis and project planning and design.

The estimated timeline for implementation of these systems is dependent on a number of factors including funding levels, project scope, availability of consultant resources, and the pace at which the State implements its Radio/CAD project, but assuming full funding the CAD project could be completed in three years and the Radio project could be completed in five years, upon final appropriation decisions.

We look forward to discussing these issues with the Public Safety Committee at its November 19th session.

Attachments

c: Phil Andrews, President, County Council
Duchy Trachtenberg, Chair, Management and Fiscal Policy Committee
Richard Bowers, Fire Chief
Thomas Manger, Chief, Montgomery County Police Department
Kathleen Boucher, Assistant Chief Administrative Officer
Michael Knuppel, Chief Technology Officer



DEPARTMENT OF TECHNOLOGY SERVICES

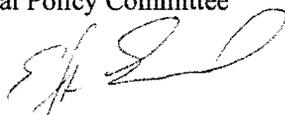
Isiah Leggett
County Executive

E. Steven Emanuel
Chief Information Officer

MEMORANDUM

November 12, 2009

TO: Phil Andrews, Chair, Public Safety Committee
Duchy Trachtenberg, Chair, Management and Fiscal Policy Committee

FROM: E. Steven Emanuel, Chief Information Officer 

SUBJECT: Urban Areas Security Initiative (UASI) Funding – Plans for Grant Expenditure

Pursuant to your request of October 09, 2009, the Executive Branch Public Safety Leadership is pleased to provide this memorandum explaining the UASI grant expenditure.

In concert with the Public Safety Leadership, three separate UASI planning grant awards, totaling \$155,000 have been consolidated and directed towards one of the critical Public Safety areas. The Public Safety Systems Modernization (PSSM) workgroup has met and identified the Fire and Rescue ECC 9-1-1 call processing workflow analysis as the area to be prioritized and addressed first.

MCFRS has developed a detailed task order proposal request (TOPR) that is currently posted via the Montgomery County Consulting and Technical Services (MCCATS) contract. The task order proposal request closes on November, 13, 2009.

The TOPR requests a contractor with industry expertise to provide the following detailed services to MCFRS. The Contractor will identify, organize, document, and validate work flow processes and human/technology interfaces involved in the handling of 9-1-1 emergency telephone calls requesting fire and emergency medical services. The Contractor will also create work flow analysis/business process related graphics and presentation documents. Additionally, they will provide preliminary recommendations to improve 9-1-1 call processing and reduce 9-1-1 call processing times. Six deliverables have been documented in detail in the TOPR. The effort is expected to take three (3) months once the task order is finalized and approved.

This effort is the just another step in the overall planning that will be required as the PSSM workgroup moves toward the broader system replacements. We look forward to any questions surrounding our efforts.

Cc: Thomas Manger, Chief of Police
Richard Bowers, Fire Chief
Chris Voss, Office of Emergency Management and Homeland Security
Arthur Wallenstein, Director, Corrections

Office of the CIO

101 Monroe Street, 13th Floor, Rockville, Maryland 20850
240 777-2900 FAX 240 777-2831



MONTGOMERY COUNTY FIRE AND RESCUE SERVICE

Isiah Leggett
County Executive

Richard R. Bowers
Fire Chief

ECC RESPONSE TO COUNCIL QUESTIONS
11/19/09

3. Information about how Montgomery County fire and EMS response times compare with response times in other comparable counties in the National Capital Region, including Fairfax.

NCR Call Processing Comparison

	Average Full Assignment Processing Times	Average ALS Call Processing Times	Average ALS EMD Times	Type of CAD	Type of EMD ¹	Type of Call Takers ²
Alexandria ³	60s	60s	60s	Sungaurd	PowerPhone Cards	Civilian Common Call Takers
Arlington ⁴	Not Tracked	Not Tracked	Not Tracked	Tiburon	APCO Cards	Civilian FD Call Takers
DC	60s	90s	60s	Intergraph	MPDS Software	Civilian Common Call Takers
Fairfax ⁵	Not Tracked	Not Tracked	Not Tracked	Altaris	APCO Cards	Civilian Common Call Takers
Montgomery County	187s	230s ⁶	53s	Altaris	MPDS Software	Uniformed FD
Prince Georges	145s	205s	70s	Tiburon	MPDS Software	Civilian Common Call Takers
Prince William	110s	95s	76s	Altaris	MPDS Cards	Civilian Common Call Takers

¹ Maryland requires jurisdictions to use EMD and telecommunicators must have a medical license to practice dispatch life support. EMD protocol becomes the dispatch life support medical protocol. DC and Virginia are not bound by this requirement to use EMD.

² Montgomery County uses uniformed firefighters as telecommunicators.

³ Alexandria uses only ALS transport units (2 paramedics on each ambulance). There is no need to use EMD to prioritize events since all events receive same level of response.

⁴ Arlington has a unified call center and does not track NFPA benchmarks.

⁵ Fairfax County has a unified call center and does not track NFPA benchmarks.

⁶ Data for Montgomery County represents YTD 2009 average of all ALS events (ALS-1 and ALS-2). Note improvement shown on next chart, where September 2009 data indicate ALS-1 = 165 seconds and ALS-2 = 147 seconds (average ALS call processing time = 156 seconds).

MCFRS Monthly Average Call Processing Times (September 2009)

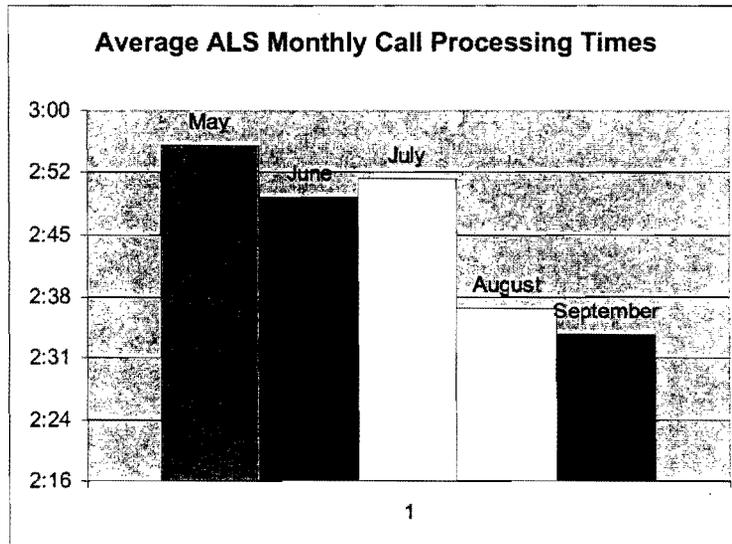
ALS-2 ⁷	147 seconds
ALS-1	165 seconds
BLS	174 seconds
Full Assignment	187 seconds

⁷ ALS response time for September demonstrate improvements from upgrading EMD to ProQA v.12 and separating ALS-1 from ALS-2 (more time-critical, life-threatening).

4. A chart showing MCFRS response times before and after call processing workarounds were implemented, to quantify the improvements created by the workarounds.

Many of the workarounds mentioned at the last Public Safety Committee are still in the planning stages for implementation. Staff at the ECC have been working on two workarounds with an implementation date of November 1, 2009 – Changes in the PreAlert for Full Assignments and Elimination of Polling. This new business practice will be stabilized and data from November and December will be analyzed to determine if the changes helped reduce call processing times.

The last major change implement to reduce ALS call processing times was the installation of the latest version of EMD in May of 2009. From the following chart, it is evident that after a stabilization period, a reduction in call processing time for ALS events was realized. The source of data is the monthly response time reports.



Other enhancements are in the development stages, including realigning our benchmarks to the NFPA 1710 and NFPA 1221 90% fractile standards. Monthly reports are being developed by FRS IT that will enable staff to focus on the truly time-critical, life-threatening events such as *Echo ALS Events* (i.e. cardiac arrest) and *Structure Fires* (residential) at the 90% fractile standard.



Statewide Interoperability PMO

*700 MHz Project Update
October 2009*

Martin O'Malley
Governor

Anthony Brown
Lt. Governor



Statewide 700 MHz Project

- 2004-5 - Multiple State agencies have need for updated communications systems
 - MSP, MdTA, DNR, MDOT, SHA, MAA, MPA, MTA, DPSCS, etc.
 - Work begins on infrastructure (towers, microwave, fiber)
- 2007 - Committee of State and Local agencies work with consultant to develop RFP
- 2008 - RFP is released
 - Multiple Proposals received (Nov. 2008)
 - Evaluation Committee, supported by a consultants, begins process of reviewing proposals and requesting clarifications
- 2009 - Evaluation continues. Approximately 40% of the required infrastructure has been completed statewide.
- 2010 - Selection, negotiations, award (March is current projection)
 - First phase of buildout to occur in Central Maryland
 - MdTA, MSP, SHA will be among the first users

Interoperability Goal

Provide a statewide strategic planning framework for an innovative, inclusive, scalable, sustainable, and well-managed interoperability infrastructure that promotes national standards, and is effective in addressing the unique urban and rural requirements of the public safety first responders and designated public service organizations serving the citizens of Maryland.



I-405 Congestion Relief and Bus Rapid Transit Projects

Revised July 2003

Scenario

Tukwila to Bothell
(Option C)



Project Descriptions:

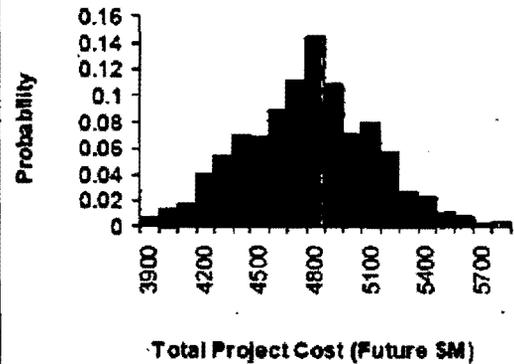
- Continuous multi-modal corridor improvement projects from I-5 in Tukwila to SR 522 in Bothell.
- Adds one lane each direction from I-5 to SR 181 in Tukwila.
- Adds two lanes each direction from SR 181 in Tukwila to I-90 in Bellevue.
- Adds one lane each direction from I-90 in Bellevue to SR 522 in Bothell.
- On SR 167, adds one lane between I-405 and S. 180th St.
- Constructs Bus Rapid Transit system with stations, HOV direct access ramps and Park & Ride lots and coaches.
- Expands the vanpool program.

Schedule:

Begin Construction
Range: 2006-2007

End Construction
Range: 2013-2014

CEVP Result:



Project Benefits:

- Reduces congestion and improves freight movement.
- Provides bus rapid transit system from SeaTac to Lynnwood.
- Constructs 2300 new Park & Ride spaces.
- Adds 600 new vanpools and increases commute reduction programs.
- Improves water resources.

Project Cost Range:

10% chance the cost < \$ 4.2 Billion

50% chance the cost < \$ 4.7 Billion

90% chance the cost < \$ 5.1 Billion

Project Risks:

- Changing environmental requirements for project mitigation (stormwater, wetlands, fish resources and streams) may increase project costs-- primarily for added right-of-way purchases.
- Delays in right-of-way purchases may result in construction delays and project cost increases.
- Early stage of project development leads to scope uncertainty.
- Legal challenges and delays in obtaining environmental permits may result in project delay.
- Utility relocations may require extra time to negotiate and complete.

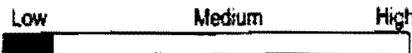
What's Changed Since 2002:

- Scope: Project limits are smaller.
- Schedule: Begin construction range has been delayed up to one year. End construction range has been accelerated two years.
- Costs: Costs have gone down approximately \$1 billion due to scope revisions.
- Risk Management: Identifying new strategies for improved environmental clearances and right-of-way processes. Coordinating decision strategies with FHWA.

Financial Fine Print (Key Assumptions):

- Full project funding becomes available in July 2005. State I-405 Nickel funds will roll-over into this package.
- Inflation escalation is to 2010, the approximate midpoint of construction.
- Additional federal, state, regional and local money may be needed.
- Project cost range includes \$18.5 million in past expenses, beginning in 1999.
- Assumes funding decisions do not interrupt or cause construction delays.

Level of Project Design:



July 16, 2003

