

Memorandum




DATE: January 30, 2009

TO: Members of the Public Safety Committee

SUBJECT: Computer Aided Dispatch (CAD) &
In-Vehicle Mobile Computer Application Overview

Attached is the briefing material on "Computer Aided Dispatch (CAD) & In-Vehicle Mobile Computer Application Overview" to be presented to Members of the Public Safety Committee on Monday, February 2, 2009.



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Assistant City Manager

Attachment

cc: The Honorable Mayor and Members of the City Council
Mary K. Suhm, City Manager
Ryan Evans, First Assistant City Manager
Deborah Watkins, City Secretary
Thomas P. Perkins, Jr., City Attorney
Craig D. Kinton, City Auditor
Judge C. Victor Lander, Administrative Judge
Forest Turner, Interim Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
A.C. Gonzalez, Assistant City Manager
Dave K. Cook, Chief Financial Officer
Helena Stevens, Assistant to the City Manager

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COMPUTER AIDED DISPATCH (CAD) & In-Vehicle MOBILE COMPUTER APPLICATION OVERVIEW

Dallas City Council Public Safety Committee
February 2, 2009



Agenda

- ❑ Purpose & Background
- ❑ Current Status
- ❑ Results of Pilot
- ❑ Proposed Next Steps
- ❑ Cost & Budget
- ❑ Recommendations
- ❑ Questions



Purpose

- **The purpose of the briefing is to:**
 - ❑ Provide an update on the Public Safety Dispatch systems (CAD)
 - ❑ Seek support for funding approval for the Mobile Application contract
 - ❑ Seek support for funding approval for agenda item for:
 - ❑ MDC Computers
 - ❑ Desktops & Laptops

Background

- The strategy to replace the 30-year-old mainframe CAD system three years ago was to:
 - 1) Minimize the amount of change imposed on DPD and DFR with CAD system;
 - 2) Spend the least amount of funds necessary at the time;
 - 3) Retain old mobile application and connect it to the new CAD system.
- On June 8, 2005, Council approved the purchase of the Computer Aided Dispatch (CAD) system from TriTech Software Systems.

Background

- On August 22, 2007, the TriTech CAD system replaced the 30-year-old mainframe CAD system to support 9-1-1, DPD, and DFR communications centers. The central core dispatching system has worked well from the first day.
- TriTech CAD system has brought the Public Safety communications systems to current state of the art technology, enabling more efficient use of resources, improved the quality of critical services to citizens, and improved the ability to respond to the changing operational needs of Dallas' first responders.
- Determined that the on-going issues between the old mobile application and the new CAD system could not be resolved. City Council approved \$14.5 million in capital funds in FY08-09 budget to purchase software and hardware necessary to resolve these issues.

Current Status

- The central core dispatching system has worked well from the first day and continues to perform well.
- In the April 2008 Public Safety update, reported 13 issues and 5 requests for new functionality:
 - ❑ Since the update 7 issues have been resolved
 - ❑ No solution has been found to resolve the issues between the old mobile application and the CAD system
 - ❑ No solution has been found to resolve the speed issue
 - ❑ No solution for the 5 requests for new functionality

Current Status

- In order to find a solution for the outstanding issues, a pilot was conducted from November 2008 to January 2009.
 - To ensure that the mobile software, wireless broadband technology and new MDCs actually worked.
 - The pilot was conducted by Police and Fire field personnel.
 - 180 fire personnel and 70 police officers
 - THE PILOT WAS SUCCESSFUL
- Ready to proceed with the project.

Pilot Program

Objective of the Pilot Program:

- Identify a replacement for the Old Mobile application
- Identify resolution to 6 outstanding issues & 5 new requests functionality
- Identify MDCs to replace the old MDCs
- Determine if wireless broadband would resolve the speed issue

Pilot Program - Results

The results from the pilot show that the TriTech's Mobile Application with broadband connectivity resolves the outstanding 6 issues and 5 new requests for additional functionality

In-Vehicle
Application



Successful

Mobile Data
Computer
Evaluation



Successful

Wireless
Broadband
Connectivity



Successful

Pilot Program

Improvements & Enhancements

- Ability to separate historical call data, caution notes, and call comments
- Improved confidentiality of information - keep personal health (HIPPA) and criminal history (CJIS) data private within the agency
- Ability to increase polling frequency for improved location information
- Enhanced ability to review incidents and see comments
- Improved mapping - see all units in the division on the map
- Ability to assign an officer to multiple calls at a time and allow the officer to move between calls
- Improved emergency button functions – all units in a division are notified of the location of the officer that activates the emergency button
- Re-sequencing call comments - last comment at the top
- Improved appearance and readability

Proposed Next Steps

2/09

3/09

11/09

**Train the Trainers
DFR and DPD**

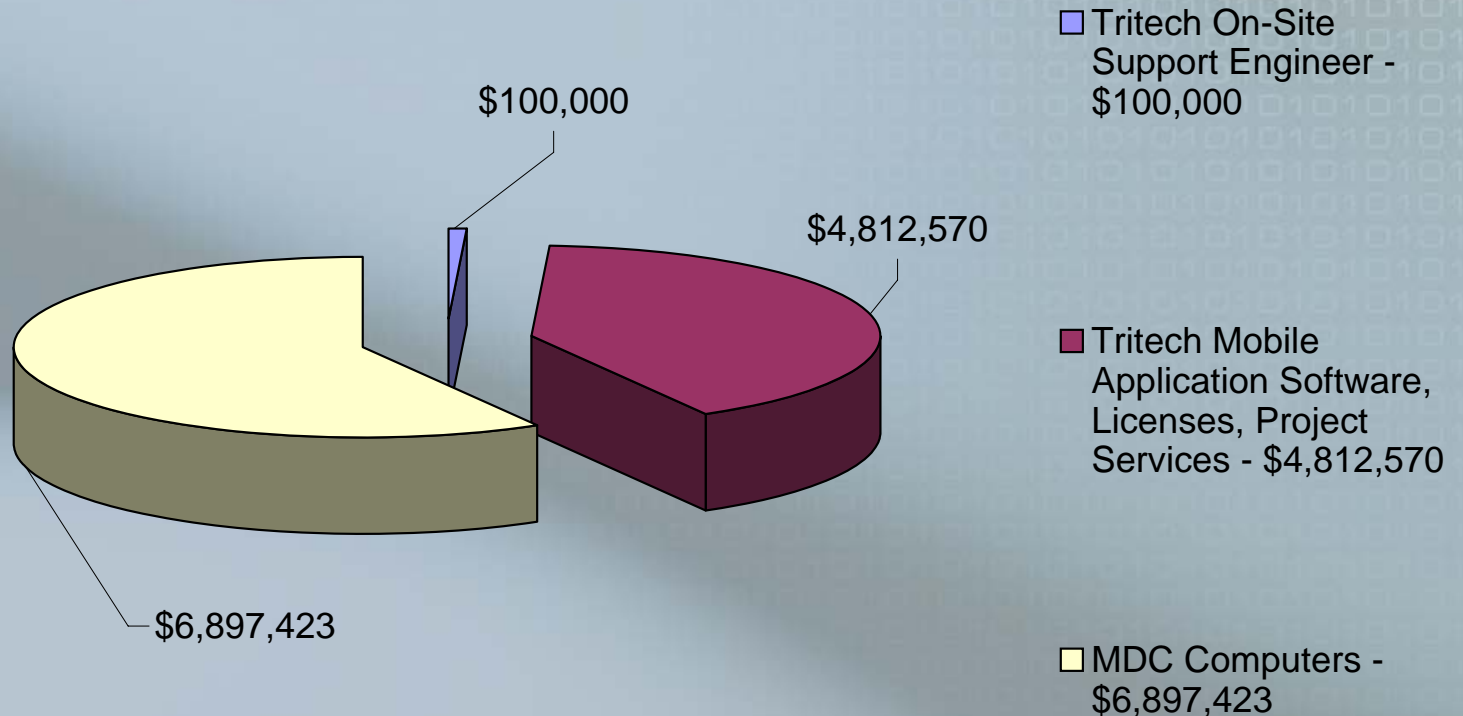
Install 1407 new MDCs in DFR and DPD vehicles.

Install new TriTech's Mobile Computer Application on new DFR and DPD MDCs.

Provide field training

In order to install the new mobile application in this 10-month timeframe, the original 3-year replacement plan of the old MDCs must be accelerated.

Cost and Budget



Total Mobile Application & MDC Project Cost: \$11,809,993

Cost and Budget Matrix

	FY 08-09 Budget for Mobile and MDC Project		FY 09-10 Projected Cost		FY 10-11 Projected Cost	FY 11-12 Projected Cost	FY 12-13 Projected Cost
	Approved Capital Funds	Approved Current Funds	Approved Capital Funds	Proposed Current Funds	Proposed Current Funds	Proposed Current Funds	Proposed Current Funds
MDC Replacement	6,897,423 *						
VisiNet Mobile Application	4,812,570 *						
Vendor On-Site Support Engineer		100,000		150,000	150,000	150,000	150,000
CAD System Maintenance				1,216,065	1,216,065	1,216,065	1,216,065
Digital Video Recorder Hardware			1,269,578 *				
Radio Back Up Solution			545,740 *				
Locution Improvements			715,000 *				
Regional Warrant Database Migration			338,000 *				
Total		11,809,993		4,234,383	1,366,065	1,366,065	1,366,065

* Approved \$14.5 million Capital Funds

Fiscal Year Depicts Projected Spending Timeline

Recommendation

The staff recommends that the Public Safety Council Committee:

- Support the February 11th Agenda item to acquire the mobile application from TriTech Software Systems – total \$9,926,830
 - ❑ \$4,912,570 for TriTech's new mobile application
 - ❑ \$5,014,260 for five years of Trittech's new mobile application and CAD maintenance.

- Support the February 11th Agenda item to acquire the new mobile data computers from Austin Ribbon & Computer Supplies, Inc. (ARC) – total \$31,240,546
 - ❑ \$6.897 million for MDC replacement project
 - ❑ \$5.046 million for future MDCs and the equipment necessary to mount in vehicles (necessary as we add 200 police officers annually over the next 3 years).
 - ❑ \$19.297 million for desktop and laptop leasing over the 5-year contract term.

Questions



Appendix A – Outstanding Connection Issues Between CAD and Mobile In-Vehicle Application



	Issue	Description	Fire	Police
1	Citywide Car-to-Car Messaging and BOLOs (Be On The Look Out)	Allow officers in the field to transmit BOLOs division-wide or citywide from the field instead of having to rely on dispatcher.		X
2	Improper Sequencing of Messages	In the event of a swap, the system sends a disregard message before assigning the new equipment.	X	
3	GeoFence (feature that automatically places the unit "at scene" when it comes within a certain proximity to the incident location)	The CAD software supports GeoFence, but the interface to the legacy in-car system allows for only one setting. The new in-car software allows the requested option for Police and Fire to have different settings.	X	X
4	Clearing dispatch calls automatically (Ghost Clears)	On occasions, calls assigned by automatic dispatch or the dispatcher are cleared before a police officer, EMT personnel, or firefighter can view the call on the MDC. As a temporary solution, dispatchers verify by radio that the call was received.	X	X

Appendix A - Outstanding Issues Due to Network Speed and Capacity



	Issue	Description	Fire	Police
1	Slow System	<p>At times, data transmitted to vehicles is slow.</p> <p>Submitting reports is slow.</p> <p>Amount of details overwhelms the radio network.</p> <p>Limits the ability to improve Automated Vehicle Location (AVL) polling frequency. AVL is determined by Global Positioning Satellite (GPS).</p> <p>Limits ability to message division-wide and citywide.</p>	X	X
2	Inaccurate Automated Vehicle Location (AVL) Data	The accuracy of the AVL/GPS information can be off 100-200 meters.	X	X
3	Access to other information	<p>DPD & DFR provide access to information and applications via their internet portals</p> <p>DFR Firebase Inspection Tracking</p> <p>Dallas County Jail Systems</p> <p>Daily update information</p> <p>Standard Operating Procedures</p>	X	X

Appendix B - Additional New Functionality Requested



	Issue	Description	Fire	Police
1	Separate historical call data, caution notes, and call comments	Ability to have premise history, and caution notes not included in Call Comments.	X	X
		Ability to keep Police comments and Fire Rescue comments separated.		
2	Stacked Calls Queue (Call Transitions)	Officers want the ability to be able to be assigned to more than one call at a time.		X
		Officers want the ability to be able to move between assigned calls in no particular order.		
3	Call Reviewing	The capability to easily see call comments for all incidents.		X
		Assigned, unassigned, and closed calls in real time with links to maps.		
4	Improved Mapping	Ability to see all units in the division on the map.		X

Appendix B - Additional Capabilities Requested (Cont.)



	Issue	Description	Fire	Police
5	Improved Emergency Functions	Notifies all units in the division when an officer activates the emergency button. Shows all units in division a map indicating where the officer's vehicle is located.		X
6	Information Display is Cluttered	The incident screen displays a lot of detail information Premise history and other shared comments make it difficult to locate and read the incident information.	X	X
7	Re-sequence Call Comments	The ability to have the most recent comments appear first.	X	X
8	Confidential Comments	Retain the ability to share comments but keep certain comments confidential within the agency like Health Insurance Portability & Privacy Act (HIPPA) and Criminal Justice Information System (CJIS) information.	X	X

Appendix C – Issues Already Addressed



	Issue	Description	Fire	Police
1	Slow System	Occasional system slow down in dispatch centers when entering or assigning incidents has been corrected.	X	X
2	Suspect/Record Check	TxDPS system improved return times from "30 minutes - 2 hours" to "10 seconds - 1 minute".		X
3	Equipment Dispatched from Wrong Location	On occasions, the calculation to determine the closest fire equipment for an incident assignment was incorrect. On-going efforts to improve the GIS data accuracy continue to improve the selection of fire equipment assigned to an incident.	X	
4	Border Streets	Issues with streets that border an adjacent city. We implemented a fix from TriTech on Nov. 18, 2008. We will be coordinating the required changes in enterprise GIS over the next 30-60 days.	X	X

Appendix C – Issues Already Addressed (Cont.)



	Issue	Description	Fire	Police
5	Station Alerting	On occasions, the stations speakers were not sounding audible alert messages.	X	
6	Erroneous Messages	Erroneous confirmation messages were sent to the mobile computer. TriTech has fixed this issue on April 2008.	X	X
7	Early Log-off	The system allows an officer to log-off without clearing active incidents. This issue has been addressed with training.		X