PSAP Grant Program Grant Ranker

View Application--18--911 Center Upgrade

Grant Period: 2009

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)
Grant Program: Enhancement **Grant Type:** Individual PSAP
Priority: Radio consoles (**CONSOLES**)

Primary PSAP Applicants: Fredericksburg Police Communications

Jurisdictions Served: Fredericksburg

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Project Description:
In order to meet the increasing demands of the growing region, the City of Fredericksburg is equipping the 911 Center in the new Police Headquarters by: • Replacing supporting CAD hardware at four 911 positions that are in continuous operation. • Outfitting a fifth 911 position with the hardware and software necessary to support 911 function and with the supporting CAD hardware to make the station operational. • Purchasing supporting CAD hardware at a sixth 911 position that already has functional 911 service but lacks the CAD interface capability. • Replacing the computer server which supports all of the 911 positions.

Total Project Cost	$244,790.76
Amount Requested:	$107,371.26
Matching Funds:	$137,418.50
Additional Local Funds:	

Statement of Need:
Protecting the citizens of Fredericksburg, Virginia has been the mission of the Fredericksburg Police Department for over one hundred years, and we have served this mission with dedication and efficiency. The City of Fredericksburg is located equidistant between Washington, D.C. and Richmond, Virginia on Interstate 95, one of the most heavily traveled highway corridors in the nation. Although occupying only eleven square miles with a resident population of 20,000, Fredericksburg is surrounded by two of the fastest growing counties in the Commonwealth of Virginia, and is the hub of a region with a population of approximately 250,000. The result is inevitably crime and traffic concerns that are more typically experienced in larger municipalities. Fredericksburg is home to a mixed-use retail and entertainment power center called Celebrate Virginia, which increases at its current levels of commerce the transient population of the jurisdiction by over 200,000 daily. When the build-out of the retail campus is complete, with

projected tourist destinations of the National Slavery Museum and the Kalahari Resort, it is estimated that over one million visitors every year will be within the jurisdiction of the Fredericksburg 911 center and potentially in need of emergency services. Additionally, the region is largely comprised of bedroom communities, whose residents commute to their jobs north and south on Interstate 95. The large majority of individuals who are in their vehicles for the purpose of tourism, shopping, or commuting to work remain in touch through the use of wireless cell phone service. To further emphasize the importance of the city's 911 operations, Fredericksburg also acts as the secondary PSAP to both Stafford and Spotsylvania Counties. In the event of a failure in 911 capability in either of those jurisdictions, calls for service are automatically routed to the Fredericksburg PSAP to ensure that emergency services continue uninterrupted. The Fredericksburg Police Department has the responsibility for receiving all of the 911 calls within the jurisdiction as well as dispatching units from Police, Fire, or Rescue services as appropriate. The City of Fredericksburg has proven its commitment to public safety by building a new 35,000 square foot Police Headquarters that unites the three departmental divisions (Patrol, Detectives, and Support Services) under one roof for the first time in twenty years. Prior to moving to the new facility in July 2007, the environment of the 911 Center was an adapted office space in an antiquated building that was barely suitable for the modern technology required of a primary PSAP. All of the hardware that was in use 24 hours/day in the previous location was transferred to the new building and placed in service without any upgrades, outfitting four 911 positions that have been in continuous use since May 2005. The new 911 Communications Center can facilitate up to six work stations, a necessary expansion in anticipation of the growth of the region.

Project Impact:

With grant funding provided by the Wireless E-911 Services Board, the Fredericksburg Police Department intends to upgrade and expand the capability of the 911 center by replacing outdated equipment on four work stations and outfitting an additional two work stations with the necessary hardware and software. The department further intends to upgrade the computer server that supports the functions of all of the 911 positions. The four work stations currently in use in the 911 Center have been in continuous 24 hours/day operation since May 2005. The supporting CAD hardware is in need of replacement in order to ensure uninterrupted service to the citizens and visitors of the region. Four fully functioning 911 positions will accommodate the present full-time staffing levels of two dispatchers, one dispatch supervisor, and one floating shift that allows for extra coverage during peak service hours. Additionally, the new Police Headquarters that just became operational in July 2007 designed the 911 Center with the expectation of crucial expansion in service requirements. There are two supplemental work consoles in place that are not fully equipped with the hardware necessary to support the 911 and related CAD functions. The growth that is anticipated in the Fredericksburg region will bring a correlated increase in the numbers of 911 calls for service. The expected growth specifically within the Fredericksburg jurisdiction will be transient in nature from tourism and retail customers, which increases the likelihood that 911 calls received will be from wireless providers. It is critical for the Fredericksburg Police Department to be able to maintain the current level of emergency service support through wireless E-911. It is essential to plan for the expanded needs of the community by putting in place the necessary equipment before the present operational capability is over-taxed. The upgrade and expansion of the 911 Center is crucial to mitigate the effects of excessive call volume on the Fredericksburg PSAP.

Consequence of Not Receiving:

Without approved funding in the operational budget of the Police Department to make the necessary upgrades to the 911 Center, the wireless E-911 capability will remain at its current capacity, provided there is no failure in the obsolete equipment. Should any equipment failure arise, the 911 Center will be forced to operate with limited functional resources and minimal staffing levels. The loss of any supporting CAD hardware for a 911 position requires a transfer of resources from other areas in the department, causing a deficiency in operational levels in other critical areas. Without funding, the replacement of equipment will be delayed and the longer use of the existing CPU's invites failure, resulting in a decrease in the quality of service provided to the public by the PSAP. And even though the Police Department is preparing for an expected increase in call volume through the expansion of the number of wireless 911 trunk lines to six, the center lacks the matching number of positions equipped with full E-911 and supporting CAD capability. Further, the additional two 911 positions that will be funded by this grant will allow for training of supplemental staff in the 911 Center as well as allowing for personnel from other jurisdictions should the Fredericksburg center be required as a secondary PSAP. Equally of consequence is the impact of failing to prepare for the burgeoning needs of the community. It is a simple equation that a greater number of

people within the jurisdiction will place a greater demand on emergency services and specifically through the means of wireless 911 communication. It is the goal of emergency service providers that every citizen in need will be connected immediately to the appropriate PSAP; a “busy signal” or unanswered call due to inadequate resources is an unacceptable outcome.

Part of Long Term or Strategic Plan?: Yes
Likelihood of Completion Unfunded?: 20%
Other Available Funding Sources?: No
Percent of Grant Funding Requested To Total Funding Cost?: 43.8%
Is Project Locally Sustainable?: Yes

Comprehensive Project Description:
The upgrade and expansion of the Fredericksburg E-911 Center is a critical part of the City's capital improvement project for the new Police Headquarters. Preliminary planning for the headquarters project began in 2003 when the Fredericksburg School Board authorized the use of a 16 acre tract adjacent to Hugh Mercer Elementary School. In November 2004, the City received a proposal from First Choice Public/Private Partners to design and construct a new facility on the site. Construction began in January 2006 and the Police Department moved into the new building in July of this year. The facility is almost 35,000 square feet and addresses the space requirements of the agency for a projected fifteen years. The total project cost was 12.4 million dollars. Most importantly, the move into the new quarters reunites the three divisions of the department under one roof. The Patrol Division, Detective Division, and Records had previously been housed in three separate downtown buildings which hampered the department’s efficiency and ability to best serve the public. The 911 Communications Center has also been greatly expanded and equipped with the most modern console technology to provide the optimum response to the citizens of Fredericksburg in the event of an emergency. “Fredericksburg’s city leaders have proven that public safety is one of their highest priorities”, said Chief David Nye. Although the transition into the new Headquarters is complete and represents a vast improvement over the previous facility, the 911 Center is still operating with computer hardware and related equipment that was moved from the former location. The monitors, CPU's, keyboards, and supporting equipment on the four fully functional 911 positions have been in continuous use in the 911 Center twenty-four hours per day, seven days per week for almost three years. Additionally, although the capital improvement project prepared for expected growth and service needs in the City by adding E-911 trunk lines and the capability for two more 911 positions, the positions are not equipped with the hardware and software packages that are required to make them operational. Computer Aided Dispatching (CAD) is an integral component of wireless E-911 as the CAD software translates the Phase 2 wireless information received via cellular phone service into usable data that allows the operator to closely ascertain the location of the caller. The City has supported the upgrade to the 911 Center by funding the purchase of consoles and furniture to outfit six E-911 stations. It is the intention of this grant request to complete the expansion of the 911 project by funding the purchase of replacement supporting CAD hardware at four 911 stations to include CPU's, monitors, keyboards, and mouse. (Positions 1-4) It is further intended to fund the purchase new supporting CAD hardware for two 911 stations to include CPUs, monitors, keyboards, and mouse. (Positions 5-6) Although the 911 capability currently exists at positions 1-5, the project further intends to fully outfit Position 6 with the equipment necessary to also make it 911 operational. That equipment is a CPU, monitor, mouse, and keyboard, as well as the computer hardware and software to support the 911 function. Since Positions 5 and 6 are new, it is also necessary to purchase CAD interface licensing for those stations from OSSI, in order to have the rights to operate CAD on those positions.

What type of interface or compatibility solution will be used between existing equipment and/or software and that which you intend to purchase?:
The equipment hardware and software that will be purchased with these grant funds will be entirely compatible with the existing equipment. The hardware to support the CAD interface functions will simply be newer models of the in-place systems and will require the expertise of an in-house technician to replace it. Similarly, the replacement server will be an updated version of the existing server, but with a larger capacity for memory and compatible with technical upgrades in the future.

What is the overall relationship of your project to your PSAP or locality's established long-range future plans?:

The Fredericksburg Police Department is proactively planning for the need for expanded services in the future by establishing additional 911 positions. The construction of the new 911 center has already included two more trunk lines than could immediately be served by the existing positions, as well as redundant trunk lines as a safety net against system failure. As a targeted high-growth locality affected by development from both the north and the south, the City is committed to staying ahead of the curve. With the continued expansion of commerce and the attendant increase in the City's transient population, the 911 Center project will put the equipment in place that will be necessary to allow for increased staffing and training. Fredericksburg's daytime population is expected to be largely mobile and dependent upon wireless communication.

How will the equipment purchased will support future technologies for PSAP readiness?:
New computer hardware and software in the Fredericksburg PSAP will decrease the likelihood of equipment failure and will also allow us to maintain and expand the level of service to the community.

Budget and Budget Narrative:
The total cost of the Fredericksburg 911 Center upgrade project is $244,789.76. The amount requested to be funded by this grant is $107,371.26. Supporting CAD Hardware $14,417.10 The cost to outfit six 911 positions with new or replacement supporting CAD hardware from Dell is $2402.85 per station. This will include all of the equipment necessary to run CAD to include CPU, monitor, keyboard, mouse, and related ancillary items. CAD Licensing $13,452.00 A CAD license is necessary to operate the OSSI CAD and mapping system at every 911 console, as well as the license to operate the message switch function. The message switch is critical to the operation of the 911 center as a backup to radio communication in the event of radio failure or overload. The message switch allows for station to station communication and station to car communication via text messaging on the desktop. This budgeted item is to complete the sixth 911 position. The allotted budget includes a one-year maintenance contract at $1,026.00 for each position. 911 Position Equipment $44,502.16 This budgeted item is to create a sixth 911 position with all of the equipment, hardware and software, to support the 911 function. This equipment includes a CPU, monitor, mouse, and keyboard, as well as a back-up phone in the event of computer failure and a genovation pad for single-button answering and transferring capability. Computer Server $35,000 The recommended server for the CAD system in operation in the Fredericksburg PSAP is the Stratus Model 2500. The allotted budget includes a maintenance contract to support the system against failure. Matching Funds $137,418.50 The City of Fredericksburg has already installed in the new 911 Center the console furniture and infrastructure to support six permanent 911 positions at a cost of $16,805.75 for each station. Additional furniture to allow the sharing of reference and research materials between the operators cost $3984.00. The below-floor cabling to connect each console to the server, and wiring to support the radio base stations and thence connect to the consoles was a total cost of $32,600.00.

Ongoing Expenses:
The cost of installing the CAD hardware equipment will be absorbed into the operating budget of the Police Department as a function of the IT manager under the Support Services Division Commander. Each piece of equipment purchased will possess a warranty against failure, and the computer server and CAD licensing software each will be purchased with a maintenance contract included in the budget to guard against loss of use. The operational life span of the equipment intended to be purchased with this grant is three years until replacement is recommended.

Evaluation:
The replacement of supporting CAD hardware in the Fredericksburg 911 Center will result in a reduction in maintenance costs and a decrease in down-time of 911 positions due to service and repairs. The attendant reliability of the new equipment will allow for a more efficient level of service to the community. Increasing the number of 911 positions from four to six will permit supplemental staffing during peak hours of service and will mitigate the effects of heavy call volume on the PSAP. The greater number of stations will also allow hands-on training of new personnel without stacking the trainer and trainee on one console. This will result in a shorter average time-frame required to train and release 911 Center employees.

What are the short term, intermediate, and/or long-term outcomes desired for this project?:
The short-term outcome of the 911 Center upgrade project is the installation of the equipment by qualified technicians during the first four months following the grant award. The intermediate outcome of the project

will be increased staffing levels during expected times of greater call volume as well as the ability to call back personnel in the event of a natural or man-made emergency. An additional outcome will be the increased rate of training conducted during the remaining time frame of the grant since the added 911 positions will allow for more than one trainee at a time in the 911 Center. With the installation of all new supporting CAD hardware for the 911 Center, as well as the construction of the new Police Headquarters with the ideal environmental conditions to support the 911 PSAP function, the long-term outcome of this project will be a longer operational life of the equipment and an overall reduction in maintenance costs. The most critical long-term outcome will be the greater efficiency of the PSAP to manage the expected increase in calls for service due to planned development in the jurisdiction.

What measures will be used to determine outcomes?:
Immediately following installation of the new and replacement equipment in the 911 Center, qualified technicians will test the systems for proper functioning and quality control. The amount of time spent training new 911 personnel is maintained in each trainee's log book, and time sheets are complied bi-weekly that track the number of personnel working in the 911 Center on a regular shift, overtime, or emergency callback status. A maintenance log will also be organized to compile the hours spent on repairs and down-time of the new 911 hardware as compared to the replaced equipment.

How will data be collected and how will evaluations be conducted?:
Information concerning all of the calls received by the Fredericksburg PSAP is logged by OSSI's Computer Aided Dispatch (CAD) system. Via CAD, every call is date and time stamped, and data is entered in the call history concerning source of the call (wireless E-911, wireline E-911, or non-emergency wireless or landline), the type of call and resources used to handle it, and the location of the call. By this recording method, data can be organized based on any or all of the parameters listed, and staffing levels and potential equipment needs can be extrapolated. Given that a primary goal of the 911 Center upgrade project is to improve the overall efficiency of the PSAP, such data is highly important to determine present and future organizational models.

How will data be presented?:
Staffing levels in the 911 Center are logged on daily time sheets and organized on a monthly chart which highlights expected supplemental staffing requirements. Data concerning call volume will be presented quarterly in the form of short-format call histories that show trends for peak call volumes as they relate to specific locations, times, and/or days of the week. Maintenance reports will be complied to track the hours required to perform regular or emergency repairs to the new equipment in the 911 Center.

Attachments

Fredericksburg 911 Center Upgrade Project.doc

Fredericksburg 911 Center Upgrade Project

Supporting CAD Hardware	$14,417.10
CAD Licensing	$13,452.00
911 Position Equipment	$44,502.16
Computer Server	$35,000.00
Matching Funds	$137,418.50

TOTAL	***$244,789.76***