Narrative for AFG2004 Grant – Operations & Safety

Project Description

March 31, 2000, the Layton City Fire Department experienced every firefighter's worst nightmare, the tragic loss of one of our brothers during a search on a house fire. This loss served as a motivation for Layton City Fire to reassess our operations and to look for ways to improve firefighter safety. One of the most critical areas identified in the NIOSH report for improvement was in the area of communications.

After conducting an extensive assessment, the department determined that the most effective way to improve our communications capabilities would be to implement a CAD/MCT (Computer Aided Dispatch/Mobile Computer Terminal) Communications System.

In the area of Fire Operations and Firefighter Safety, one of the priority areas identified is in Communications Equipment. The unique aspect of this priority is that it involves both operations and safety.

The Layton City Fire Department is requesting $112,485 in the Assistance to Firefighters Grant funds to purchase the equipment and training needed to make this project a reality.

Countless times the review of efficient and safe operations cite the critical area of communication and how that determined the incident's successful outcome.

Pre-plans will be accessed with the touch of a screen, instead of thumbing through three ring binders. This will allow for safer fire operations by the initial responding units with building floor plans and lists of hazardous materials and other critical information readily available.

The Layton City Fire Department believes that through improved dispatch services by the use of computer aided dispatching (CAD) supplemented by mobile computer terminals in responding apparatus will greatly assist in enhancing response as it responds to the ¿worst day of my life¿ events.

These mobile computer terminals will be the link to provide mobile mapping for enhancing response in this fast growing city. Layton City has been for over the last 20 years one of the fastest growing cities in the Wasatch Front. Currently ranking eighth in the state in population with an estimated 62,000 citizens in 2004 (58,474 in the 2000 census), Layton City Community Development figures show continued growth to a build-out of approximately 120,000 over the next 30 years. Layton City has plans for two additional stations to cope with the growth. The Fire Department is tasked with the provision of service to county ¿islands¿ within its borders, including an Energy Recovery Facility. Layton City Fire Department prides itself as being a department not satisfied with status quo. It is committed to developing the finest customer service for the citizens that is possible. In our needs assessment, it has been determined that the most

efficient and effective way to lower our response times right now would be to add this CAD/MCT Communications Program..

New streets and hazards abound, with increasing call volume to almost 3,800 (up over 16% last year) as the Layton City Fire Department provides fire response, EMS (Advanced Life Support and all transportation services), hazardous materials response, technical rescue response, and fire prevention services. As part of the Department's state ambulance license, transportation services are also provided to Hill Air Force Base (est. pop. 26,000) and to South Weber City (est. pop. 5,176). Layton City receives NO funding from either Hill Air Force Base or South Weber City for this service.

Additionally a major Union Pacific railroad line bisects the city north and south, as does I-15 and US-89, all of which are major transportation routs for numerous types of hazardous materials. Several underground petroleum pipelines traverse the City, as do large natural gas delivery lines. Add to all of the above, the existence of the Wasatch earthquake fault in the eastern portion of the city and the potential for a major emergency is even greater.

Mutual aid agreements with surrounding fire departments are in place, and automatic aid is being formulated with Clearfield City at present. This system could easily be expanded to provide interoperability with Clearfield, as well as any other city in Davis County thus allowing the dispatch of the closest appropriate unit, regardless of geopolitical boundaries. Several cities have expressed a desire to migrate from the Davis County Sheriff's Department Dispatch Center to a Regionalized Fire Dispatch system. Layton City is a firm believer in regionalized, cooperative response and strongly believes this technology will further this cause of interoperability.

The Layton City Fire Department has attempted to be a leader in regional operations. The Department contributes to a regionalized response to homeland security issues and has begun to implement regional operating consistency standards. Because of its location next to facilities that are potential targets for acts of terrorism, the Layton City Fire Department is listed as primary first responder in the state of Utah's Emergency Operations Plan. The requested communications equipment would greatly enhance our department's capability in the event of a CBRNE incident to make strategic and tactical decisions. Vital information could be transmitted to apparatus and responding chief officers to assist in making those initial critical decisions.

One other such area of interoperability is in the wildland urban interface issues of Wasatch Front fire departments. An extensive wildland urban interface exists in the eastern portion of the city that borders the Wasatch National Forest. Last years¿ large interface fires in Davis County brought to light the importance of good communications and mapping systems to be able to appropriately deploy resources to protect structures. A standardized Structural Protection Plan has been implemented that could easily be placed within this CAD/MCT Communications System for all communities to use in a ¿unified command¿.

As stated prior, part of the aspects of this CAD/MCT Communications System is to be able to increase interoperability with departments. This includes increasing

communications within Layton City between the police and fire department. The Layton City Emergency Communications Center dispatches for both departments, with the police presently the only one on a true CAD system by Spillman. This grant will provide the missing link between department cooperation in the field. Incident data will be able to be transferred to mobile computer terminals in all emergency vehicles. This will be especially critical in joint police-fire operations that might involve hazardous materials, CBRNE incidents, large fire responses such as in the urban interface, or civil disturbances.

This plan encompasses a partnership with Fatpot Software of Bountiful, Utah providing a software link to the Spillman CAD system for fire operations with the future of interoperability with many neighboring departments on the horizon. Fatpot has begun implementation of similar programs for police departments and is providing this software through a donation to Layton City, based on a previous information technology relationship. This donation of service and software provides an exceptional amount of cost effectiveness in this CAD/MCT Communications System.

This software will be able to provide a mobile mapping system with routing directions through automatic vehicle locators (AVL) and visually display apartment complex and building layouts, as well as electronically stored preplan data. Additionally, status and location of units will be transmitted assuring the closest vehicle response to an incident.

A Fire Department Captain will be temporarily assigned as Project Manager and will be responsible for the implementation of the program to include; liaison with the Communications Center Supervisor and Fatpot Software, representative to the selected vendor overseeing installation process, lead trainer, and grant compliance reporter.

The hardware portion of this program is a ¿touch screen¿ computer monitor easily used by fire personnel to transmit status, retrieve pre-plans quickly, observe other apparatus locations, and quickly be able to change back and forth from CAD information to the mapping system.

This will greatly enhance the ability to provide a quicker response without the challenges of paper mapping and preplans stored in a multitude of three ring binders in the cab of apparatus. All updates to maps and preplans will be able to be done ¿wireless¿. This will eliminate the inefficient distribution of sheets of paper to the stations to update building owner information, hazardous materials changes, remodels, new streets in the city, and new apartment complex maps. Currently, Layton City is experiencing problems with duplicate street names as the result of the annexation of East Layton City. The transition to wireless digital mapping will greatly eliminate the possibility of responding to a wrong street location. Additionally, the availability to transfer from street maps to aerial photographs will greatly enhance deployment decisions in wildland urban interface fires and hazardous materials incidents.

How do you plan to use the grant funds for each major budget activity as listed on the budget form?

Hardware for Fire Units
18 Panasonic Toughbook 29 with PDRC ($5,587 each) $100,566
(6 Engines, 1 Ladder, 6 Ambulances, 3 Type 6 Brush Engines,
1 Paramedic Rescue, 1 spare system)
6 Panasonic Toughbook 29 ($4,204 each) $ 25,224
(1 Battalion Chief Unit, 1 Chief, 1 Asst. Chief, 1 Fire Marshal, 1 Investigator, 1 Safety Battalion Chief)
Mounting equipment for all computers ($425 X 24) $10,200
Installation of hardware (23 units x 3 hrs @ $50.00/hr.) $ 3,450
One year of AVL service for above units ($50.00/month per unit) $13,800

Communication Center Hardware
2 Projectors (to project status/location map to east and west walls) $5,000
1 Computer to run projected images (Gateway) $1,000
Cables for computer $ 50

Training
36 (paid-on-call personnel) for 3 hrs. @ approximately $13.00/hr $1,404
(47 fulltime fire personnel and 8 dispatchers will be trained on duty)

Total Project Cost $160,694
Layton City Fire Department cost would be $48,209
The Assistance to Firefighters Grant Program funds would be $112,485

The overall cost effective benefit relates to a citizen per capita cost of $2.59 for the total amount of funds required for this program. This seems a small price to pay to enhance the safety of Layton City firefighters, our mutual aid partners, and the citizens we protect. In addition, this is a small price to pay to be able to provide a more efficient response for the ¿all-risk¿ responses that our fire department provides.

Why would this program be beneficial to your community and/or department?

The immense benefits of being able to decrease response time to emergencies through the mobile mapping cannot be overstated. This will allow for accurate dispatch of the closest unit through automatic vehicle locators and visual ¿quickest route¿ indication. Seconds are critical in both medical and fire emergencies. The reduction of response time will have a tremendous affect on the Department's ability to make an impact on saving lives and property protection.

The Layton City Fire Department responded pro-actively to firefighter safety concerns following the tragic death of a firefighter in March of 2000 during a search on a house fire and has consistently looked at ways to improve safety and enhance customer service delivery. Preplans will be able to be retrieved at the ¿touch of a button¿ to allow for safer operations and accurate tactical decisions.

As an ambulance service provider, sensitive medical and patient information may be safely transmitted to a computer terminal bypassing radio voice communication to comply with HIPPA (Health Information Portability Protection Act) regulations.

Why can't this project be funded solely through local sources?

Layton City is one of the fastest growing cities in Utah. It currently ranks as the eighth most populace city in the State, and will continue to grow by doubling its population over the next 30 years. All the added growth places a burden on the city to provide the infrastructure to support it. Many new roads and streets will need to be built as well as critical issues with water supply to many areas taking precedence.

This rapid growth has challenged the City to budget sufficient funds to provide basic services including fire and emergency medical protection to each new citizen at each new residence. In coping with this growth, the Fire Department has had to be as innovative as possible. Currently cross staffing of apparatus exists, with on duty crews switching from an engine to ambulance based on type of emergency received. With the added responsibility of ambulance inter-facility transportation and the provision of ambulance service to Hill Air Force Base and the city of South Weber (which is mandated by Utah State Bureau of Emergency Medical Services licensing agreement) resources and funding for projects are ¿tapped out¿. Current Capital Improvement Projects (CIP) include the replacements for a 25-year-old aerial ladder and two ambulances. The 2005-2006 fiscal year's CIP is slated to include the addition of a fourth fire station to meet the needs of this growing city. Other large City CIP projects include water system upgrades and multiple street improvements.

The retail economy, of which Layton City relies heavily on, has been very flat over the past several years. City revenues have remained the same, however reliance on any state funds to the city continues to decrease each year.

All of these factors lead to the hindering of available funds to implement this very vital CAD/MCT Communications plan.