

PSAP Grant Program Grant Ranker

View Application--97--Enterprise Data Base for Staunton

Grant Period: 2009

Tier: Strengthen current equipment and service delivery capability by upgrading existing wireless E-911 related equipment or services (**STRENGTHEN**)

Grant Program: Continuity and Consolidation **Grant Type:** Individual PSAP

Priority: Mapping servers and workstations (**MAPPING SUPPORT**)

Primary PSAP Applicants: Staunton 9-1-1 Communications

Jurisdictions Served: Staunton

Project Director:

John Brady
GIS Coordinator
116 W. Beverley St IT Department Staunton, VA 24401
540-332-3952 (phone)
(fax)
bradyjp@ci.staunton.va.us

Project Description:

Regular, real-time, and necessary address point and centerline updates to Staunton Dispatch are not a current reality but are infrequent and irregular at best. E-911 data is derived from various sources. The GIS Coordinator is responsible for E-911 data preparation. Staunton has determined the method for a more efficient and effective process is to create a Live, Real-Time, Uniformed environment to house spatial data, attribute information, and table and spatial relationships. Staunton does not have database capacity or appropriate technology to meet these needs. Staunton requests funds for a server, SQL and related Database Software, and ESRI's ArcSDE Enterprise Software.

Total Project Cost \$39,394.00

Amount Requested: \$31,515.20

Matching Funds: \$7,878.80

Additional Local Funds: \$0.00

Statement of Need:

GIS data and GIS applications support a wide array of city activities, applications, and personnel including E-911 Dispatch. Currently Staunton does not have the database capacity to store and maintain all of its interrelated spatial data and subsequent attribute data in one location accessible to all necessary editors of data and GIS applications, including 911 Dispatch. E-911 critical datasets (fire hydrant locations and attribute information, Police, Fire and EMS reporting areas, Police, Fire, and EMS districts) would be stored and maintained in this central repository as would spatial datasets that are not E-911critical (parcels, zoning, Floodzone, streetlights, etc, etc). Topological relationships would be built within the geodatabase

between all datasets including 911 critical datasets and datasets that are not 911-critical. Topological relationships would be established and built between these datasets because changes to one layer often times necessitates changes be made to other related datasets. Establishing geodatabase topology allows editors to be made aware of relationship conflicts between datasets caused when updating a single data layer. Moving to the geodatabase model eliminates the need to create and maintain separate, smaller geodatabases or spatial datasets which are all stored in multiple locations, are all independent of one another, are maintained by various individuals, and are not accessible throughout the city.

Project Impact:

As a result of this project, dispatchers will be provided with a more accurate, up to date, organized, and uniform CAD mapping system dataset they can trust, use, and rely on with confidence. This project will facilitate the process for more effectively and efficiently providing real time centerline, address point, reporting area, and district map updates to Staunton's 911 dispatch center. The ability to increase database storage capacity enables all E-911 related information to be brought under one roof to be worked on and shared in a substantially more effective and efficient manner. Staunton Dispatch is already facing issues whereby the city is growing, parcel boundaries are changing, new parcels are created, new addresses assigned, and new roads are built but the address point layer, centerline layer and various emergency services reporting areas and district maps are not changing with them. 911 call locations are not being verified or mapped correctly because the address point layer is not up to date with new developments. This is due to the fact that the city has no environment large enough or complex enough to pull all requisite address data into one place in conjunction with other spatial data where relationships can be built. Emergency personnel are incorrectly routed to the wrong areas because the datasets created for 911 Dispatch were done in a one time effort in a static environment. Those datasets remain static to this day and have no reliable, comprehensive method of keeping them up to date with Staunton's other spatial datasets. Without an integrated approach to handling spatial datasets, this problem continues to compound on itself.

Consequence of Not Receiving:

Without funding, the city will continue to confront these issues with no durable, lasting or proper method of resolving them. Currently there is no funding approved or reserved for a project requiring this amount of capital nor any plans to do so for at least the next 2 years. In the time it takes to raise awareness to the level of action and money being set aside some negative consequences could unfold including; supporting datasets falling further and further behind in usefulness and reliability and 911 Dispatch confidence waning on a heavily invested mapping system. The chances get larger, not smaller that the issues presented above lead to a more severe negative consequence.

Part of Long Term or Strategic Plan?: No

Likelihood of Completion Unfunded?: 0%

Other Available Funding Sources?: No

Percent of Grant Funding Requested To Total Funding Cost?: 80%

Is Project Locally Sustainable?: Yes

Comprehensive Project Description:

The goal of this project is to create a single spatial data repository for the City of Staunton. This repository will store all Staunton spatial data. Being an enterprise database the repository will be able to store massive quantities of data. Being an Enterprise Database the repository will be accessible to many users and clients for read or write access. Being an Enterprise Database the repository will allow for multiple editors concurrently to edit data. All of Staunton's current GIS and CADesign programs are able to read and write to an ESRI ArcSDE database. The requisite E-911 dispatch files can be exported out of this database into the file format needed by OSSI software. Eventually, OSSI software will be another application that connects to the geodatabase directly, hence the need for an Enterprise System, one that allows unlimited numbers of connections. The server and software will be installed in IT's server room and connected to Staunton's Network. ArcSDE software will be configured and the process of importing spatial data will begin. Spatial data import will be done via ESRI's ArcCatalog. Connections will be made with Staunton's existing Information Systems and the necessary data field or tables will be pulled directly from those systems in a read only format. Spatial data relationships will be made with the attribute tables. Relationships will be created between tables. Spatial data relationships will be created at this time as well, e.g. reporting area

boundaries must coincide with parcel boundaries. Police Districts can not be intersected by the same road segment. The installation of the server should take no longer than a few hours. Installing software and configuring the server with database software will take 2 days. Installing ArcSDE software will take one day, configuring ArcSDE software will take a week. Importing spatial data will take a week. Creating connections to other city hall databases and finding the necessary tables will take a week. Creating relationships between spatial data and attribute information will take a week. Creating topological rules will take 2 weeks minimum because spatial data will have to be QA/QC'd for topological errors and those errors corrected. The longevity or sustainability of this project is ongoing for the foreseeable future so long as Staunton has mapping needs and E-911 has mapping needs.

What type of interface or compatibility solution will be used between existing equipment and/or software and that which you intend to purchase?:

The city currently is invested in ESRI technology and AutoCAD technology for managing and maintaining spatial data. City computers and network run on the Windows OS platform, hence the request for SQL Server, and a Windows Server. The license level the city has for its CAD and GIS software products are able to interface with the requested software. Regular E-911 system data updates can be scheduled whereby data is exported to the E-911 system data folder from the Geodatabase until E-911 Dispatch mapping software is upgraded to be able to read directly from an Enterprise Geodatabase.

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

The Dispatch Center CAD system will continue to be supported by data supplied by the city in the future. This project enables the city to continue providing ongoing data support for the CAD Mapping System but in a manner superior to what is currently provided.

How will the equipment purchased will support future technologies for PSAP readiness?:

E-911 Dispatch software currently supports shapefiles, but will support the Geodatabase model in the future. This project will put the city in the position to take advantage of this enhancement when it is released in future OSSI upgrades. Until that time, this equipment and the procedures established to work with it will help provide the Dispatch Center with the more timely, more accurate, more reliable locational information it needs and a more effective and efficient way to provide it.

Budget and Budget Narrative:

ArcSDE Enterprise License \$ 16,832 (Software to spatial enable SQL db) Server Hardware \$ 11,613 (the server) Backup Software \$ 2,479 (software for backups) SQL Licenses \$ 8,000 (SQL database) Windows License \$ 470 (Windows for the server) Total \$ 39,394

Ongoing Expenses:

Ongoing expenses for this project include paying hardware and software maintenance and will be funded through the general budget.

Evaluation:

Decrease the number of times a 911 call is declared "Unverifiable" Decrease the number of times an officer is incorrectly directed out of their service area

What are the short term, intermediate, and/or long-term outcomes desired for this project?:

The short term outcome desired is to decrease the amount of time it takes for the Dispatch Center to receive data updates The Intermediate outcome desired would be decrease the chances for mapping inaccuracies due to changes in various mapping layers The long term outcome desired is providing a centralized, living, breathing framework for spatial data to exist with established rules and relationships governing spatial data behavior.

What measures will be used to determine outcomes?:

No formal measures will be used to determine the outcomes other than comparing response time with Geodatabase to average response time prior to geodatabase

How will data be collected and how will evaluations be conducted?:

Response time is a metric currently collected and measured

How will data be presented?:

NA

Attachments

| |
|---|
| |
| ESRI Quote 20310567 (3).pdf |
| ARCSDE Server.pdf |
| ARCSDE Server Software.pdf |



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ESRI

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ESRI, Inc.
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Vienna, VA 22182-2214
Phone: 703-506-9515
Fax: 703-506-9514

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Quote is valid from: 01/10/2008 To: 04/09/2008

Quotation # 20310567

Date: January 10, 2008
Customer # 199451
Contract # 2003MPA2064

CITY OF STAUNTON
DATA PROCESSING DEPT
116 W BEVERLY ST
STAUNTON, VA 24402

ATTENTION: John Brady
PHONE: 540-332-3823
FAX: 540-851-4019

| Material | Qty | Description | Unit Price | Total |
|----------|-----|--|--|-------------|
| 109065 | 1 | ArcGIS Server Standard Enterprise Windows Up to Four Cores License (eVA reference #104589) | 16,832.00 | 16,832.00 |
| 108878 | 1 | ArcGIS Server 9.2 Enterprise Windows Installation Package | 0.00 | 0.00 |
| | | | Item Total: | 16,832.00 |
| | | | Subtotal: | 16,832.00 |
| | | | Estimated Shipping & Handling (2 Day Delivery) : | 0.00 |
| | | | Contract Pricing Adjust: | 0.00 |
| | | | Total (excludes applicable sales tax): | \$16,832.00 |

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Quoted By: Aaron Armstrong, x8072
Email: aarmstrong@esri.com

Account Manager: Robert Rike
Email: rrike@esri.com

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DELIVERY

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