

BUTTE COUNTY GRAND JURY REPORT 2009-2010

BUTTE COUNTY INFORMATION SYSTEMS DEPARTMENT

SUMMARY

The Butte County Grand Jury (Grand Jury) reviewed the Butte County Information Systems Department (Butte ISD), including the following divisions: Geographical Information Systems, Telecommunications, Accounting Systems, and Information Systems. The Butte ISD provides support to all other departments in Butte County government. Butte ISD benefits from a high level of performance by their well trained, knowledgeable, and experienced staffs who are difficult to replace when lost due to budget cuts. The GIS section of the Butte ISD is especially effective and essential during emergencies such as the wildfires of 2008. Support agreements for the Butte ISD computer software and hardware maintenance have been discontinued due to budget cuts. The Grand Jury recommends that the Butte County Board of Supervisors allocate funds to rehire (or replace) the Butte ISD staff members who have been let go due to budget cuts and to restore funding for computer software and hardware support agreements, and continue to support the Butte ISD mission and goals via stable funding. Butte ISD is a technology leader in the development and modeling of the statewide Next Generation 9-1-1 Network, and the Butte County Board of Supervisors should actively support the Butte ISD's continuing collaboration in that project.

Many departments in Butte County government provide their own independent Information Technology (IT) staff, services and hardware. Despite the availability of the Butte ISD support services to all Butte County departments, Butte County information technology staff and support services, decentralization and duplication of effort is wasteful. Communications between the Butte ISD and departmental information technology staff members are not formalized and need improvement in order to provide security and promote cohesion between departments. Information Technology services throughout Butte County government should be more centralized around the Butte ISD in order to eliminate duplication of expenditures and improve security.

The Butte ISD's Information Technology Strategic Plan was prepared in 2005 and should be updated to reflect new technology developments and new support service needs. The Butte ISD's website homepage is minimal in terms of information content and should be updated to include more types of information about its operations and services and provide more information on its homepage and its GIS section.

The Butte ISD was found to be operating smoothly and effectively, despite the impact of budgetary cutbacks. The Grand Jury commends the Butte ISD for its dedication, professionalism, and quality of work produced, especially in view of budgetary cutbacks.

GLOSSARY

Grand Jury – 2009/2010 Butte County Grand Jury

Butte ISD – Butte County Information Systems Department

Butte LAFCo – The Butte County Local Agency Formation Commission is a state mandated local agency that oversees boundary changes to cities and special districts, the formation of new agencies including incorporation of new cities, and the consolidation of existing agencies. The broad goals of the agency are to ensure the orderly formation of local government agencies, to preserve agricultural and open space lands, and to discourage urban sprawl.

E 9-1-1 – Enhanced 9-1-1 services differ from existing 9-1-1 services in that they provide the location of the caller and their callback information to public safety answering points (PSAP).

GIS – A geographic information system is a combination of hardware, people, procedures, software tools and data for the creation, display, management, and analysis of geographic information. GIS technology integrates common database operations with spatially referenced data and maps.

IT – Information Technology is a general term that describes any technology that helps to produce, manipulate, store, communicate, and/or disseminate information.

NextGen – E 9-1-1 system – The system that will replace the existing wired E 9-1-1 system in an effort to maximize call delivery to the correct PSAP thus reducing dropped and/or miss-routed emergency calls.

PSAP – Public Safety Answering Points are public safety dispatch centers that receive 911 calls directly.

Viper – Viper is the equipment that utilizes dedicated circuitry (fiber optics) to route emergency calls to the correct organization for handling, which takes advantage of current data networking infrastructures. Its purpose is to connect all PSAPs (Butte County police departments, Sheriff Office, and other public safety agencies) to the Next Generation E 9-1-1 (NextGen) system. Once the technology is proven it will replace the existing wired system not only in Butte County but eventually throughout the State of California.

BACKGROUND

In previous years the Grand Jury has toured the Butte ISD facilities and heard presentations by its managers, but there have not been extensive interviews and examinations to assess the effectiveness of the Butte ISD. This year the Grand Jury was interested to see how operations and services of the Butte ISD have been affected, given recent budgetary cutbacks throughout Butte County government. The Grand Jury was

particularly interested in seeing how the services of its GIS have been affected, since they are critically important for the cohesive functioning of all county government departments. We were also interested in learning if Butte County governmental operations might become more efficient through further consolidation of IT services into the Butte ISD.

APPROACH

The Grand Jury interviewed staff and clients/users of the Butte ISD. The Grand Jury toured the Butte ISD offices and facilities, heard presentations from the Butte ISD and GIS managers, and examined key Butte ISD policy documents and reports, including maps, charts, and displays created by the GIS section of the Butte ISD. The Grand Jury also interviewed eleven key IT contact personnel in other Butte County departments: Fire, Development Services, Public Works, Behavioral Health, and Butte LAFCo. Over 2/3 of the Butte ISD staff members, including all managers, were also interviewed. In addition, the Grand Jury examined the Butte ISD website, and websites of various Butte County government departments and agencies.

DISCUSSION

Butte ISD is the newest department in Butte County government. Its mission is to “provide efficient, secure, consistent, cost effective, and reliable communication infrastructures for the Butte County governmental organization that encompass high-speed digital, telecommunication, and radio networks.” Since the Butte ISD provides essential services to all other county departments and offices, the BCGJ was interested in the impact of budget reductions on the Butte ISD services. Those budget cuts have caused the loss of staff members, disruption of software purchases and support agreements, and the normal replacement and expansion of hardware to meet growing needs.

One of the major negative impacts of budget reductions has resulted in the suspension of maintenance and support agreements with essential software suppliers. Such software is highly complex, constantly improving, and is in need of regular updates covered by service contracts. When these service contracts are resumed, presumably at some point within the next several years, penalties will have to be paid or entirely new versions of the software will have to be purchased. If not, the effectiveness and efficiency of the software and equipment will deteriorate to the point where it will no longer be able to function at the expected level.

Despite the loss of four staff positions, morale is good. Due to the leadership, dedication, professionalism, innovation, and expertise of the Butte ISD staff, there has been only a relatively moderate reduction in services. Although staff positions have been lost, basic, ongoing services have generally been maintained. Negative budgetary impacts have slowed down, delayed, or suspended the implementation of new projects that would make improvements in services and operations in other departments of Butte County government.

The Butte ISD management works very well with the staff, and is closely in touch with daily operations, while allowing for independent and creative thinking. The staff is very effective, quite experienced, and highly educated. Many hold advanced degrees, specialized certificates, and stay abreast of the very latest in technological innovation. Many staff members have a long history working with the particular support needs of Butte County government. Because of this, these employees would be extremely difficult and expensive to replace.

The Butte ISD has been selected by the California 9-1-1 Emergency Communications Office (9-1-1 Office) to develop Phase 1 in the design and implementation of an Internet Protocol-enabled Next Generation 9-1-1 Network. This network will meet the needs of E 9-1-1 wireless call routing, provide “virtual” public safety answering point functionality, and eliminate mileage-sensitive network components. The new network elements would have the capability to hold the call for a specified programmable time period, provide call treatment (busy, recording, etc. to be selected by the state), and retrieve latitude and longitude of a caller from their wireless service provider. The new network elements would then access routing information that identifies emergency services’ jurisdictional boundaries, once the jurisdiction is identified.

The GIS section of the Butte ISD provides vital and essential services to all county departments and to the public. It works and coordinates with other GIS agencies and organizations in the region, such as LAFCo, California State University Chico, and Butte County Association of Governments. The GIS section develops and provides maps, charts, and data to support informed planning and decision making. Examples range from pinpointing drug awareness and education efforts to tracking locations of West Nile Virus cases in Butte County. GIS is currently being used for a multitude of land use applications: public health, emergency services including police and fire support, water and resource conservation, communications, and a variety of public works projects, to name a few. GIS is especially effective and essential during emergencies such as fires, floods, and high wind conditions. During the summer wildfires of 2008, GIS was active around the clock providing real-time mapping and data analysis to emergency services personnel.



Until five years ago centralized data storage and backup services did not exist within Butte County government. Only four departments had limited data backup abilities for systems located within that specific department. None had comprehensive networks with

adequate data backup capabilities. The Butte ISD now has an impressive data backup storage system that is compliant with U.S. Government and California standards for security.

Of the 23 Butte County departments, 14 departments use only the Butte ISD for data storage and systems housing. CalFire/Butte County Fire Department and Child Support Services utilize their respective state systems. Behavioral Health, Department of Employment and Social Services, Public Health, Sheriff's Department, and the Probation Department maintain department-specific Information Systems staff and use a mix of centralized County services and internal services for backup and systems housing. The Clerk-Recorder/Elections office and the Sheriff's Department maintain separate systems and data housing. All County departments use the intranet and email services provided and maintained by Butte ISD.

Butte ISD's *Information Technology Strategic Plan* was written in 2005. Due to changes in technology and the changing needs of Butte County government, the strategic plan is now outdated. Originally, the Butte ISD was created to design, develop, roll-out, and maintain a county data network. Prior to 2005, when the Butte ISD was formed, all departments either had designated IT staff and/or had staff that performed IT type functions that were department specific, not network specific. Since its formation in 2005, the Butte ISD was directed to take over various technical duties held in other departments, such as housing and securing the County financial system and taking ownership from the Auditor-Controller and relocating GIS from Development Services.

When the role of the Butte ISD expanded, Butte County departments were given the option to relocate operating systems and hardware. The Probation Department planned to house systems in the Butte ISD but due to physical limitations of the Butte ISD (server rack space, electrical capacity, cooling capacity, etc.) the systems were not relocated. The Probation Department does use some of the Butte ISD functions. Four departments maintain their own separate systems and data warehousing: the Clerk-Recorder/Elections office, the Public Health Department, the Behavioral Health Department, and the Sheriff's Department. The Department of Employment and Social Services uses California centralized systems. The Grand Jury found that, because of the amount of IT decentralization in Butte County departments, there tends to be duplication of effort and expenditures.

Approximately 40 IT staff are scattered throughout county departments. There is little regular or structured communication and training of IT personnel that occurs between these departments. Information between IT staff of different departments is only shared on an informal or ad hoc basis. There is no IT newsletter or e-mail list which might allow all Butte County IT staff to develop and share a common sense of purpose. The Butte ISD does not have the authority to regularly gather all Butte County IT staff members from the various departments -for training, cross-training, planning, or problem solving.

Many organizations and private companies are structured with centralized IS services that effectively provide cost-effective, flexible, individualized IT services and support to all areas of their organization. Appendix A is an example of how one large International engineering and construction firm successfully does this. This particular example allows for maximum departmental control over the IT services delivered by its assigned IT personnel, while benefiting from a highly qualified, well-trained, and properly evaluated staff member.

Additional information specifically related to county organization also points toward the benefits of a centralized Information Systems Department. In December of 2009, Sacramento County published a *Review of California County Information Technology Efforts*. Their review listed a number of key points and advantages that supports a centralized approach in the management of Information Systems in county governments:

- *You have a more secure computing environment.*
- *You can effectively manage costs because you look at and control “the whole”.*
- *You can effectively organize staff under centralized management: you can group them by technology, cross-train, etc. It’s beneficial to staff in exposing them to more business requirements, technologies and projects.*
- *Improves flexibility in dealing with workload on both upside and downside.*
- *You are able to enforce standards.*

In addition, a more centralized approach coordinated by Butte ISD would allow for the application of a more accurately standardized job classification and more equitable pay scale, so that all county IT employees doing similar work are paid at the same rate and scale. Performance evaluations, advancement, promotions, and terminations would be more effectively and expertly carried out as well if a more centralized approach were implemented.



When the Grand Jury examined the Butte ISD website, we found little information regarding the services, work, and structure of the Butte ISD available on their homepage. Neither the Butte ISD’s GIS section nor the Communications section is linked from the

Butte ISD Homepage. The Grand Jury also noted that only a relatively small amount of the excellent maps and other geographic information produced by the GIS section are available to the public at the website. In addition, the Butte County's website list of *Department Contacts* shows both the GIS and Communications sections of Butte ISD as though they are separate departments – despite the fact that they have long been merged into the Butte ISD.

FINDINGS

- F1. Despite budget cuts the Butte ISD is maintaining basic IS services in its support of Butte County government.
- F2. Butte ISD benefits from a high level of performance by its well trained, knowledgeable, and experienced staff and from a low turnover and high retention rate of these staff members.
- F3. Well trained, knowledgeable, and experienced Butte ISD staff members are difficult to replace when lost due to budget cuts. Training of replacement personnel is lengthy and results in lower efficiency during their training period.
- F4. The GIS section of the Butte ISD provides vital and essential services to all county departments and to the public. It is especially effective and essential during emergencies such as the wildfires of 2008.
- F5. Support agreements for the Butte ISD computer software and hardware maintenance have been discontinued due to budget cuts.
- F6. Despite the availability of the Butte ISD support, information technology staff and support services throughout Butte County departments are somewhat decentralized and duplication of effort is wasteful.
- F7. Regular communications between the Butte ISD and information technology staff members in various county departments are not formalized and need improvement in order to provide security and promote cohesion between departments.
- F8. The Butte ISD's *Information Technology Strategic Plan* was prepared in 2005 and is outdated.
- F9. The Butte ISD's website homepage is minimal in terms of information content. The Butte ISD's GIS and Communications sections are not linked directly from the Butte ISD's homepage.
- F10. Butte ISD is a technology leader in the development and modeling of the statewide Next Generation 9-1-1 Network.

RECOMMENDATIONS

- R1. The BCGJ recommends that the Butte County Board of Supervisors allocate funds to rehire (or replace) the Butte ISD staff members who have been let go due to budget cuts and to restore funding for computer software and hardware support

agreements. The Butte County Board of Supervisors should continue to support the Butte ISD mission and goals via stable funding.

- R2. Information Technology services throughout Butte County government should be more centralized around the Butte ISD in order to eliminate duplication of expenditures and improve security.
- R3. Regular communications between the Butte ISD and information technology staff members in various county departments should become more formalized and more frequent.
- R4. The Butte ISD's *Information Technology Strategic Plan* should be updated to reflect new technology developments and new support service needs.
- R5. The Butte ISD's website should be updated to include more types of information about its operations and services and provide more information on its homepage and its GIS section.
- R6. The Butte ISD's GIS and Communications sections should not be listed as separate departments on the Butte County website's *Department Contacts* page. They should be integrated into and connected directly from the Butte ISD's homepage.
- R7. The Butte County Board of Supervisors should actively support the Butte ISD's continuing collaboration in the development and modeling of the statewide Next Generation 9-1-1 Network.

REQUEST FOR RESPONSES

Pursuant to Penal Code §§ 933 and 933.05, the 2009/2010 Butte County Grand Jury requests responses from the following:

- Butte County Board of Supervisors
- Butte County Information Systems Department

The governing bodies indicated above should be aware that the comment or response of the governing body must be conducted subject to the notice, agenda, and open meeting requirements of the Brown Act.

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Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person, or facts leading to the identity of any person who provides information to the Civil Grand Jury. The California State Legislature has stated that it intends the provisions of Penal Code Section 929 prohibiting disclosure of witness identities to encourage full candor in testimony in Civil Grand Jury investigations by protecting the privacy and confidentiality of those who participate in any Civil Grand Jury investigation.

APPENDIX A

Specialist Matrix Organization

APPENDIX A: SPECIALIST MATRIX ORGANIZATION

Specialist Matrix Organization		
Specialty Group Responsibilities	Specialists Responsibilities	Director/Program Manager Responsibilities
Recruits and maintains a group of qualified specialty staff		Client relations
Trains staff in latest technology		Mission statement
Ranks staff		Outlines project needs
Evaluates performance		Develops scope of specialist requirements
Administers salaries		Gives scope of work to Specialty Group
When requested, evaluates needs of project	Performs technical tasks assigned	Provides work space and support
Assigns specialists to positions	Works with other specialists to achieve project objectives	Provides schedules for deliverables
Evaluates technical performance	Prepares technical reports summarizing analysis of technical work	Evaluates performance
Reviews technical reports	After completion of technical assignment reports back to Specialty Group	After review by Technical Group and Project Management, presents reports to client

The matrix shown above is a rough outline of how one large international engineering and construction firm organizes its professional groups: Finance, Project Controls, Procurement, Engineering, Geology, Environmental and Other specialty groups.

Each technician or specialist has a home where her/his training and professional development are managed. The specialist is ranked against all the specialists in her/his group. The specialty group performs salary administration and actively searches for assignments among the department and projects. The Group reviews her/his technical reports.

The Department or Project determines the scope of work, and with the advice of the Specialty Group, how many and the grade of the specialists required to perform the scope of work. The Department or Project arranges for work space, controls schedules and manages the interface with other specialists, and manages client relations and deliverables. The Department or Project evaluates the specialist against the assignment requirements. The Specialty Group evaluates the technical performance of the Specialist.