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SAN DIEGO URBAN AREA REGIONAL STRATEGIC TECHNOLOGY PLAN

A FRAMEWORK FOR REGIONAL TECHNOLOGY COORDINATION

Draft
February 7, 2013

TABLE OF CONTENTS

A FRAMEWORK FOR REGIONAL TECHNOLOGY COORDINATION I

DOCUMENT CONTROL III

DOCUMENT INFORMATION III
DOCUMENT HISTORY III
DOCUMENT APPROVALS III

EXECUTIVE SUMMARY 1

1. PURPOSE 2

2. VISION 3

3. GOVERNANCE 4

3.1 POLICY AND FUNDING 5
3.2 ADVISORY AND OVERSIGHT 6
3.3 PROJECT MANAGEMENT 6
3.4 TECHNICAL AND OPERATIONAL 6

4. TECHNOLOGY PLANNING AND IMPLEMENTATION CYCLE 8

5. GOAL 1—INTEROPERABLE VOICE COMMUNICATION SYSTEMS AND CAPABILITIES 9

6. GOAL 2—INTEROPERABLE DATA SYSTEMS AND CAPABILITIES 12

7. GOAL 3—INTEROPERABLE GEOGRAPHICAL INFORMATION SYSTEMS AND CAPABILITIES 17

8. GOAL 4—TRANSITION PROJECTS TO PROGRAMS 21

9. IMPLEMENTATION STRATEGY 25

10. CURRENT REGIONAL TECHNOLOGY INVESTMENTS 27

10.1 MOBILE DATA DEVICES FOR TERRORISM LIAISON OFFICERS 27
10.2 REGIONAL LICENSE PLATE READER PROJECT 28
10.3 COMMAND AND CONTROL COMMUNICATIONS (3CS) 29
10.4 REGIONAL COMPUTER AIDED DISPATCH INTEROPERABILITY PROJECT 32
10.5 SAN DIEGO REGIONAL PUBLIC SAFETY GEODATABASE 34
10.6 CITY OF SAN DIEGO AND RCS MIGRATION TO P25 STANDARD. 37
10.7 MODULAR COMMAND KITS 39
10.8 LIVE INTEGRATED NETWORKED SURVEILLANCE SYSTEM (LINNS) 40
10.9 MOBILE DATA DEVICES FOR PUBLIC SAFETY 41
10.10 REGIONAL INTEROPERABILITY COMMUNICATIONS PLAN 41
10.11 REGIONAL FIRE EMERGENCY COMMUNICATIONS CENTER STUDY 42
10.12 DIGITAL SANDBOX RISK MANAGEMENT SOFTWARE 44
10.13 REGIONAL EMERGENCY NOTIFICATION SYSTEMS 44

ATTACHMENT A – VISION, GOALS AND INITIATIVES 1

ATTACHMENT B – GOAL 1 – INTEROPERABLE VOICE COMMUNICATIONS 2

ATTACHMENT C – GOAL 2 – INTEROPERABLE DATA SOLUTIONS 3

ATTACHMENT D – GOAL 3 – INTEROPERABLE GEOSPATIAL SOLUTIONS 4
ATTACHMENT E – GOAL 4 – TRANSITION PROJECTS TO PROGRAMS 5

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This plan has been reviewed and approved by the Regional Technology Partnership members.

EXECUTIVE SUMMARY

The Regional Strategic Technology Plan (RSTP) provides the San Diego Urban area with a road map for implementing an effective approach to everyday prevention, protection, mitigation, response and recovery through regional interoperability technology solutions. The plan provides a comprehensive technology review of current San Diego Urban Area (SDUA) current activities, key gaps and obstacles, recommended initiatives, milestones and current regional investments.

The SDUA has made significant advances in the area of planning and implementing regional technology solutions. Some key examples are the San Diego/Imperial County Regional Communications System (RCS), the Automated Regional Justice Information System (ARJIS), San Diego Regional Public Safety Geodatabase, Regional Computer Aided Dispatch (CAD) Interoperability Project and the Command and Control Communications (3Cs) Program all of which are described at length in this plan.

The success of technology initiatives, shared systems and collaborative agreements has been possible due to the cooperative efforts of the organizations and agencies within the SDUA. These agencies are responsible for Public Safety personnel and resources and a commitment to the betterment of the region both inside and outside the SDUA. Each agency has made a strong commitment to share resources and approach solutions from a regional perspective whenever possible.

This plan serves as a guiding document for implementation of regional technology projects over the next 24 months. The one exception to the 24 month timeline is the migration of voice communications to Project 25 (P25) standards. That transition is projected to take as long as 60 months. The plan includes four major goals and twenty- six initiatives. These initiatives are not prioritized in any way and only serve as a list of regional technology solutions that the region should continue to work on. In conjunction with the Homeland Security Strategy, the RSTP should be used as a tool to support funding decisions for the regions policy and funding authorities.

The RSTP can be utilized to implement regional technology solutions regardless of the funding source. While the primary focus in recent years has been the Homeland Security grant funds, there will continue to be opportunities to leverage multiple funding sources to implement this plan.

This plan has been developed utilizing a variety of sources. These sources include the 2012 San Diego Homeland Security Strategy, the 2011 Regional Strategic Technology Plan and interviews and input from the various stakeholders who manage the technology initiatives listed in this plan.

1. PURPOSE

The overall purpose of the RSTP is to document existing capabilities and provide a roadmap portraying the managed, phased growth of technology solutions and systems to position the SDUA with the ability to uniformly:

- Respond to emergencies and multi-agency mutual aid situations
- React to expanding needs in basic service requirements
- Respond to growing voice, data and information sharing traffic loads
- Provide the ability to leverage enhanced technologies

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2. VISION

The vision of the RSTP is to enable the region to have an effective approach to everyday prevention, protection, mitigation, response and recovery through regional interoperable technology solutions. The RSTP is accepted by the SDUA as a guideline document to assure operability, interoperability and economy of scale in the future application of technologies across the region. The RSTP is complimentary to the requirements of previously approved documents that meet the goals and objectives for technology initiatives in the SDUA. The RSTP works in conjunction with the Urban Area Security Strategy (UASS) which serves to identify capability strengths and gaps in the SDUA, and establishes a process to help fill those gaps.

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3. GOVERNANCE

Governance is an organized structure of individuals or agencies that are authorized to make decisions about and oversee the implementation of strategic initiatives. It provides management oversight and serves as the policy and decision maker for an organization or effort. The governance structure for the SDUA consists of existing boards, committees, or councils that have already been authorized or created specifically to oversee technology initiatives.

Lessons learned during the San Diego region's wildfires in October 2003 led the Unified Disaster Council (UDC) to establish the Regional Technology Partnership (RTP), a group comprised of senior Public Safety representatives involved in emergency and disaster response. In 2005, the RTP was tasked with establishing a regional technology support structure for the SDUA. The RTP in turn, with support of the UDC, approved the creation of the Regional Technology Center (RTC) to be the operational arm and independent technology clearinghouse for SDUA agencies. In 2006, after a series of workshops, a strategy for voice/data communications and interoperability, as well as a framework for improving regional cooperation was approved by the San Diego Association of Governments (SANDAG) Public Safety Committee (PSC) and UDC. To implement this strategy, the SANDAG Executive Board, the PSC and the UDC approved support for the RTC to become the technical support arm for these bodies.

In 2011, the Urban Area Working Group in collaboration with the RTP and City of San Diego Homeland Security modified the technology support structure to focus on project management services through a base contract with options to add additional services.

The current framework for regional technology coordination is as described in this graphic.

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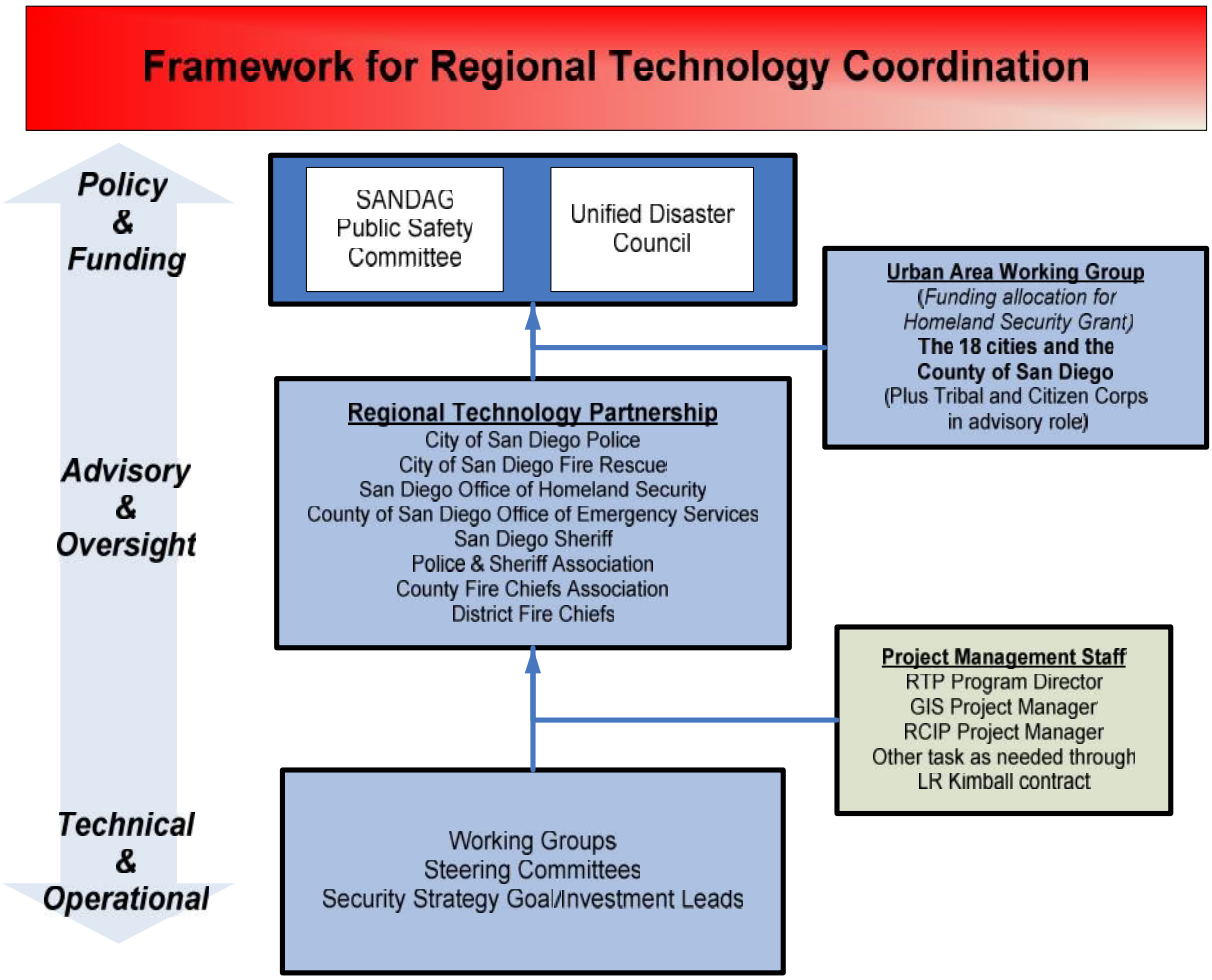

Figure 1—Framework for Regional Technology Coordination

3.1 POLICY AND FUNDING

The policy and funding bodies are responsible for directing regional interoperability and communications policy and funding decisions, as well as providing lobbying and legislative support. The UDC and PSC are responsible for addressing policy and funding issues within their areas of expertise. Additionally, they collaborate with SDUA agencies to drive the region's interoperability and communications efforts, while making the best use of existing resources and mandates. This structure allows the region to involve key stakeholders from all jurisdictions and disciplines in these efforts. The UDC continues its focus on emergency preparedness, response and disaster planning. The PSC's focus is on issues related to information sharing, data and privacy standards and crime analysis and prevention.

Under the authority of the UDC, an Urban Area Working Group (UAWG) Charter has been adopted to make funding decisions for the use of Urban Area Security Initiative grant funds. The UAWG consists of the 18 cities in San Diego County and the County of San Diego as voting members. Additionally, advisory roles are provided for by the Citizen Corps and tribal representation.

3.2 ADVISORY AND OVERSIGHT

The advisory and oversight level provides recommendations to the policy and funding bodies on the direction of the regional strategy, the definition of scope and priorities for the implementation of strategic initiatives. The policy and funding bodies have assigned this responsibility to the RTP. Regional Technology Partnership members currently include the following:

- City of San Diego Chief of Police
- San Diego County Sheriff's Office
- San Diego County Police Chiefs and Sheriffs Association
- City of San Diego Fire Chief
- San Diego County Fire Chiefs Association
- San Diego Fire District Chiefs Representative
- City of San Diego Office of Homeland Security Program Director
- San Diego County Office of Emergency Services Director

The SDUA has also created other oversight committees to manage regional memorandum of understanding (MOU) agreements. These include the Regional CAD Interoperability Project Executive Committee and the 3Cs Executive Committee. These executive committees provide oversight of regional agreements and make decisions on behalf of the region. The membership of these executive committees mirrors the RTP.

3.3 PROJECT MANAGEMENT

In 2011, the RTP in conjunction with San Diego Office of Homeland Security modified the method for technical support. Instead of a Regional Technology Center designed to test and evaluate technologies, the focus was shifted to project management support and consulting services. In addition, the current contract allows for issuing specific task orders to complete specific projects, plan development or studies on an as needed basis. The current contractor for this support is L.R. Kimball. The base contract provides a program director for the RTP and a Geographic Information System GIS project manager. Additional services have been added to support the Regional Computer Aided Dispatch Interoperability (RCIP) project management, GIS technician services, Regional Interoperability Communications Plan (RICP) and Regional Emergency Communications Center (RECC)Study.

3.4 TECHNICAL AND OPERATIONAL

The SDUA has developed a variety working groups and steering committees to identify the technical and operational issues related to implementing regional technology projects. There are a variety of methods used to bring together the necessary stakeholders. Some examples of technology working groups and steering committees include;

- GIS Steering Committee
- Regional CAD Interoperability Project Operations Committee
- Law Enforcement Information Technology Steering Committee
- Interoperability Communications Committee
- Chemical, Biological, Radiological, Nuclear Emergency (CBRNE) Committee
- Hazardous Materials Committee

The SDUA utilizes the eight Homeland Security Strategy Goals to coordinate the investment justification leads. These investment justification leads are responsible for coordinating the submission of investment proposals.

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4. TECHNOLOGY PLANNING AND IMPLEMENTATION CYCLE

The SDUA utilizes an ongoing planning and implementation process to coordinate the regions technology improvements. This can be described as a Homeland Security Strategy Cycle. The first step in this process is to perform a gap analysis, identify capabilities and complete a risk assessment. The next step in the process is to develop a set of goals and objectives in the Security Strategy. Based on those goals and objectives, input from the regional subject matter experts, fire service leadership, law enforcement leadership and emergency manager leadership, the Regional Strategic Technology Plan is developed. This combination of the Security Strategy and the Strategic Technology Plan is then utilized to assist in development of investment proposals, designed to address any regional gaps that would improve our capabilities and reduce our risk.

Figure 2—Technology Planning and Implementation Cycle

5. GOAL 1—INTEROPERABLE VOICE COMMUNICATION SYSTEMS AND CAPABILITIES

The SDUA should continue to improve the regions interoperable voice communications systems and capabilities. The importance of having seamless communications and interoperability in the SDUA cannot be overstated. Interoperability is consistently discussed as one of the most critical issues on the priority list for Public Safety agencies and first responders.

Current Activities

- **City of San Diego migration to Project 25 digital radio system**.
  The City of San Diego's Public Safety users including the Police Department and Fire-Rescue Department use the City's radio system as their primary voice system. This network provides service to more than 16,000 users in over 25 City departments and covers an area of approximately 400 square miles. The City operates a Motorola SmartZone Type 4.1 mixed-mode, analog/digital 800 MHz radio system. The City is in the process of installing an Association of Public-Safety Communications Officials (APCO) P25-compliant system. This is part of a phased migration for the SDUA.
- **Regional Communications System planning for migration to Project 25 digital radio system**.
  In 2011, RCS, utilizing Urban Area Security Initiative (UASI) funding contracted with Federal Engineering, to develop a plan for migration to a P25 digital radio system. Based on that plan, the RCS is making recommendations to the members for minor changes to governance and identifying funding mechanisms. As funding opportunities are identified, the RCS will begin the process of migration to an APCO P25-compliant system.
- **VHF radio infrastructure study**.
  In 2012, the RCS, utilizing UASI funding, contracted with Federal Engineering to complete a study of the existing County of San Diego legacy very high frequency (VHF) radio infrastructure. The objective of this study is to provide an analysis of existing VHF radio coverage and to make recommendations for improving the existing capabilities.
- **Regional Interoperability Communications Plan**.
  In September 2012, the RTP, utilizing UASI funding, approved a task order for L.R. Kimball to develop this plan. The objective of this plan is to develop a strategic and operational plan that will inventory existing interoperable communication assets, develop regional operational policies and procedures for interoperability, provide a field operations guide for first responders and provide related training material.
- **Regional Fire Emergency Communications Center Study.**
  In December 2012, the RTP approved a task order for L.R. Kimball to complete this study. The objective of the study is to conduct an assessment of opportunities to strengthen emergency communications interoperability capabilities and enhance the protection of the regions communications center critical infrastructure. The study will identify opportunities to enable resource sharing, improve operational efficiencies, standardized and implement common operational protocols and enhance emergency communications system survivability. The study will focus on the operational, technological and facility needs related to reducing the number of local government fire communications center in the San Diego region.

Key Gaps and Obstacles

- Need to improve infrastructure for VHF radio system to support mutual aid incidents and provide a back-up system.
- Need significant funding to transition radio systems to P25 standard.
- Complete the transition of portable and mobile radios to P25 standard in all agencies.
- Need additional information to evaluate the operational, technical and facility needs to reduce the number of fire communication centers.
- Need a more comprehensive set of policies and procedures for interoperability and communications continuity of operations for the region.

Supporting Initiatives and Recommended Milestones

Initiative 1.1 - Complete the migration of regional voice communications systems to P25 standards.

The City of San Diego has initiated the migration of their radio system to P25 standards. The plan has identified a combination of funding sources to implement the transition. It is anticipated that the migration will be accomplished within 36 months.

The Regional Communications System has developed the migration plan and is in the process of identifying funding mechanisms to fully implement the P25 system. It is anticipated that the migration will be accomplished within 60 months.

Recommended Milestone

Complete the transition to a P25 digital radio system within 60 months.

Initiative 1.2 – Expand the capabilities of the VHF radio infrastructure.

The expansion of the capabilities of the VHF radio infrastructure will provide improved coverage and additional channels for the region to use during potential trunked radio system failure. Additionally, these enhancements will support mutual aid interoperability plans.

Recommended milestone

Complete the Expansion of VHF Radio Infrastructure Within 18 Months.

Initiative 1.3 – Complete the Regional Interoperability Communications Plan

The Regional Interoperability Communications Plan will develop a strategic and operational plan that will inventory existing interoperable communication assets, develop regional operational policies and procedures for interoperability, provide a field operations guide for first responders and the provide related training material.

This plan supports the standard operating procedures section of the interoperable continuum by creating a regional set of communication standard operating procedures.

Recommended Milestone

Complete the Study and Provide the Training Material Within 6 Months.

Initiative 1.4 - Complete the Regional Fire Emergency Communications Center Study (RFECC).

The RFECC will provide information the operational, technical and facility needs to reduce the number of fire communication centers in the region. The goal of reducing the number of fire communications center includes enabling enhanced resource sharing and improvements in operational efficiencies, standardized and implement common operational protocols and enhance emergency communications system survivability.

Recommended Milestone

Complete the Study Within nine Months.

Initiative 1.5 - Continue to develop the Regional Emergency Notification Systems for preparedness and response capabilities.

The ability to communicate with and inform the public before, during and after an emergency is critical to emergency management. The region will continue to need to support the various methods for delivering information to the public. Those methods include mobile applications, text messaging, social media, email alerts, land line notification, cellular notification and emergency alert systems.

Recommended Milestone

Complete Enhancements tot System Within 12 Months

6. GOAL 2—INTEROPERABLE DATA SYSTEMS AND CAPABILITIES

The SDUA should continue to provide and improve the regions interoperable data systems and capabilities. This includes the ability to have access to mission critical wireless data networks for field applications, shared database information and interoperable data sharing for coordination of emergency response.

The ability to have access to wireless broadband in the field is critical to providing first responders with access to information. This information can include geo-based notification; real-time fingerprinting and other positive identification (ID) methods for recognizing suspects in the field; location and notification of units via cell phone or mobile data devices; global query of suspects; retrieval of building plans for fire and emergency medical services (EMS) responders; and access to a variety of other databases as needed for appropriate, real-time research and response. First responders need access to wireless broadband that has sufficient broadband bandwidth, security, control and backup that is built into proprietary Public Safety solutions. Currently, agencies in the SDUA are mostly utilizing commercial carriers to provide their wireless broadband. The one exception is the San Diego Sheriff's Office who is using a High Performance Data Network. This network has very good regional coverage, but lacks the broadband bandwidth available through commercial carriers.

The next major component of data is the regional sharing of database sharing. The ability for all agencies across the region to have access to and share data is critical to our effectiveness. Emergency incidents and criminal activity do not stop at jurisdictional boundaries. When a region collaborates and shares data, the regions fire and law enforcement is much more effective.

The last major component of data sharing is found in technologies that allow for interoperability between systems. One example of this includes CAD to CAD systems that facilitate effective regional incident command and emergency response. Another example is the standardized systems that can be deployed through mobile command and communications resources.

Current activities

Regional Computer Aided Dispatch Interoperability (RCIP).

This project provides a Regional CAD Interoperability solution that allows all participating San Diego urban area fire rescue and law enforcement CAD systems to seamlessly exchange data between each system where appropriate, regardless of the CAD vendor. This system allows regional fire, rescue and law enforcement dispatch agencies to share CAD data and provide a common operating picture to facilitate effective regional incident command and emergency response.

Regional License Plate Reader project.

The License Plate Readers (LPR) project is a system that captures pictures and data from license plates. License Plate Readers can be fixed or mobile (handheld or on a vehicle). The value of the LPR systems includes locating and recovering stolen vehicles, solving cases, linking crimes, providing investigative leads and a force multiplier.

This project includes the deployment of UASI funded mobile and fixed LPR systems and the regional collection of data. Recognizing that regional data would provide the ability to use LPR data to identify offenders and solve crimes across jurisdictions, and assist agencies by supplying a storage option, ARJIS, at the request of the San Diego High Intensity Drug Trafficking Area (HIDTA), partnered with the Office of National Drug Control Policy (ONDCP) to fund a regional server for sharing and accessing cross-jurisdictional LPR data.

ARJIS – Tablets and Smartphones for Terrorism Liaison Officers (TLO).

The goal of this project is to improve the region's ability for TLO's to communicate in the field and access critically needed Public Safety data on a near real-time basis. Providing the TLOs with mobile data devices with access to Public Safety applications enhances cross jurisdictional sharing of information and enables timely officer notifications and alerts. This enhances the ability to identify suspicious activity and potentially disrupt terrorism and other criminal activities.

Risk Management Software.

The SDUA has contracted with Digital Sandbox to provide risk management software for cataloging and analyzing the regions critical infrastructure. This information is primarily used to provide strategic goals and objectives for the San Diego Homeland Security Strategy. While much of the information within the database is protected critical infrastructure information, the software does have capability to share unprotected data on regional infrastructure through desktop and mobile applications. Operational aspects of this software have not yet been deployed.

Live Integrated Networked Surveillance System (LINSS).

A steering committee of law enforcement stakeholders are meeting to develop video sharing agreements and working to identify technical solutions for interagency viewing of video. The objective is to provide access to live video to Public Safety first responders to improve situational awareness and tactical operations.

3Cs – Command, Control and Communications microwave data network.

The Regional Command and Control Communications (3Cs) system is a secure Public Safety only communications network which directly connects Public Safety agencies and encourages inter-agency collaboration. Using tools such as video conferencing and streaming video across the 3Cs network, first responders work together to quickly and easily determine how best to manage large-scale incidents such as natural disasters or terrorist incidents. The goal is to assure that any Public Safety responder has the most up to date information possible when responding to a large- scale incident.

Preventative Radiological and Nuclear Detection (PRND) Program.

In 2009/2010, through the Department of Homeland Security (DHS) Domestic Nuclear Detection Office (DNDO), the SDUA developed the West Coast Maritime Pilot-San Diego (WCMP-SD) an operational maritime radiological/nuclear (rad/nuc) detection and interdiction capability to address the risk of radiological/nuclear materials entering the nation's waterways on small vessels. This pilot effort included:

- The development, adoption and implementation of a regional ConOps
- Standard operating procedures (SOP) and a quick reference card (QRC) for responders.
- The development and implementation of a sustainable training and exercise program.
- The establishment of the regional PRND Committee to assure ongoing operational coordination and information sharing, continued development and expansion of the capabilities gained and sustainment of the overarching PRND program.

The PRND program is under the auspices of the San Diego Area Maritime Security Committee (AMSC). The AMSC then established and chartered a PRND Sub-Committee to oversee the program. Going forward, through the Securing the Cities Initiative, the region is committed to building upon the achievements made under the PRND pilot program.

Key Gaps and Obstacles

- Not all communications centers are participating in the RCIP.
- Some law enforcement applications are not available in a mobile environment due to operating system limitations.
- Not all Public Safety first responders have access to a mobile data device to view mission critical information.
- Limited access to risk assessment center information to first responders.
- Security video feeds are not widely available for inter-agency law enforcement sharing.
- 3Cs microwave data network is under utilized
- Risk Management software needs additional data input.
- Risk Management software operational tools need to be implemented and shared with emergency responders..

Supporting Initiatives and Recommended Milestones

Initiative 2.1 – Complete the Build-out of the Regional CAD Interoperability Project.

With the exception of completing the addition of Escondido, the fire communications centers have fully deployed the use of the RCIP to connect the CAD systems. Law enforcement communication centers were planned as the final phase of this project. There are currently six law enforcement agencies that have agreed to engage in planning for implementation of the law enforcement portion of data exchange.

Recommended Milestone

Complete the Law Enforcement Planning and Implementation Phase Within 12 Months.

Initiative 2.2 – Expand Capabilities and Access to Law Enforcement Data Through Mobile Data Devices.

The SDUA has supported the deployment of tablets and smartphones to allow law enforcement access to important information in a mobile application. The mobile data devices are capable of providing first responders and field personnel with mobile access to critical law enforcement data. Recent advancements in biometrics have expanded

the mobile capabilities, adding facial recognition and fingerprint identification technologies. Due to law enforcement security requirements, all mobile devices and associated applications must meet stringent security mandates. As these requirements are resolved and new applications and devices are deployed, the capabilities and access to law enforcement data in the mobile environment will be enhanced.

Recommended Milestone

Expand the Capabilities and Access to Law Enforcement Data Through Mobile Data Devices Within 18 Months.

Initiative 2.3 – Expand the Use of Mobile Data Devices for First Responders.

Mobile data devices play a critical role in providing first responders with real time tactical and operational information for emergency response. Mobile data devices in the form of fixed computers in vehicles, laptops in vehicles, tablets and smartphones are capable of providing mission critical information such as mapping, target hazard plans, wildland emergency response plans, law enforcement database queries and critical infrastructure information. Mobile data devices can be used to track resource location in real time. The ability to track vehicles, specialized resources and personnel in real time can provide critical information for incident management.

Recommended Milestone

Assure That 80 percent of Mission Critical Resources Have Access to Mobile Data Devices Within 24 Months.

Initiative 2.4 – Expand Regional Capabilities of the License Plate Reader Program.

The LPR Program has greatly enhanced Public Safety throughout the San Diego region. There are efforts underway to expand the number of mobile and fixed LPR cameras, and develop interfaces from the agency cameras to the regional server, to include sharing with Orange and Los Angeles counties. Due to the large number of records produced from the cameras, the regional server will need to be upgraded. A national LPR pointer system has been developed by Nlets and the San Diego region has been named the next region to participate. While LPR data provides officers access to tactical real time data, there is a requirement for geo-analytical tools to identify trends and patterns, and generate automated notifications on suspicious vehicles within predefined critical infrastructure and other geo-fenced areas of interest and exploring agreements.

Recommended Milestone

Complete the Expansion Goals of the LPR Program Within 18 Months.

Initiative 2.5 – Develop a Regional Approach to Interagency Sharing of Live Video Surveillance.

The ability to view and share existing video surveillance information across multiple agencies can be a force multiplier and allow for real time tactical information to enhance law enforcement deployment. Steps for developing a regional approach include creating a business plan, development of an MOU for sharing video data, creating operational policies and procedures and exploring short term and long term technical solutions.

Recommended milestone

Develop a Business Plan, Memorandum of Understanding Agreements and Identify Technical Solutions Within 12 Months.

Initiative 2.6 – Continue to Develop Digital Sandbox Risk Management Software and its Operational Tools.

The Digital Sandbox risk management software provides an important inventory of critical infrastructure and key resources in the SDUA, as well as providing a Capabilities Assessment that analyzes gaps in target capabilities as defined by Federal Emergency Management Agency (FEMA) (planning, communications, emergency management, mass care etc.). This database will continue to be refined to provide continuous improvement in understanding the regions risks.

This program will begin to provide tactical and operational information to first responders through a variety of the tools. Those tools include mobile access to important information through a map based viewer and through attachments to the database that will include Virtual Walkthrough Program, the First 30 Minutes Response Guide and the Tactical Surveys. As this information becomes available, the appropriate first responders will need access to this information through a secured, as yet undetermined central location or database.

Recommended Milestone

Complete the Development of the Risk Analysis Center and its Operational Tools Within 18 Months.

Initiative 2.7 – Expand use of 3Cs Microwave Data Network to Support Regional Data Interoperability Initiatives.

The 3Cs microwave data network has available capacity to support regional data interoperability initiatives. Using this network to support daily and emergency data connectivity will strengthen the regions resiliency and support additional capabilities.

Recommended Milestones

Identify Expanded Use Opportunities for the 3Cs Microwave Data Network Within 12 Months.

Initiative 2.8 – Continue to Develop a Regional Preventative Radiological and Nuclear Detection Program.

The SDUA region should build on earlier pilot efforts and continue to develop a regional approach to preventative radiological and nuclear detection program. This includes deploying fixed radiological and nuclear detectors, vehicle mounted devices in Public Safety vehicles and mass transit systems.

Recommended Milestone

Deploy Adequate Equipment and Systems to Detect Radiological and Nuclear Emergencies Within 24 Months.

7. GOAL 3—INTEROPERABLE GEOGRAPHICAL INFORMATION SYSTEMS AND CAPABILITIES

The SDUA should continue to provide and improve the regions interoperable geographical information systems and capabilities. Most data has a geospatial connection and can be referenced to a real-life location on the ground. Data maintained in this manner becomes more valuable because it provides the user with the ability to analyze the relationship to that of other data or features on the ground. Geographic information systems provide the capability not only to look at feature locations, but also to analyze their spatial relationships.

A comprehensive regional emergency geospatial information network increases the capacity for risks to be assessed and prepared for; assets to be positioned and managed; people to be warned; personnel to be deployed; damage to be assessed; rescue efforts to be targeted; and restoration activities to be tracked. Geospatial technology allows for multiple sets of information to be analyzed, modeled and correlated in order to find patterns that can lead to improved strategies for prevention, response and mitigation. Perhaps the most important role of geospatial information and geospatial technologies is that of an information integrator, providing both a canvas on which to post information from a wide variety of sources, and the tools to combine, visualize and make sense of the data. In this way, geospatial capabilities are a key component to decreasing or mitigating risk by providing the common operating picture needed by Public Safety personnel to see the whole situation simultaneously and develop an appropriate, coordinated response. In addition, geospatial technology allows aspects of that common operating picture to be shared with the media in order to prepare the public, keep them informed and seek their assistance.

Current Activities

Database Centralization

Phase one of database centralization (NorthCom and Heartland) has been completed. This step means that these two communications centers providing services for about 25 agencies have a single geodatabase. Phase two is on-going to include the City of San Diego and the County of San Diego. An important step in creating the central database is the network solution. The network solution for the centralized database is currently in development. Once the design has been approved, the centralized database network will be implemented.

Regional Public Safety Geodatabase Data Model.

A regional standard data model has been developed for use in the centralized database. This database will become the central repository of Public Safety GIS information for regional deployment. This data model provides a framework for consolidation of disparate data from regional agencies.

Regional Standard for Target Hazard and Critical Infrastructure Plans

The SDUA has developed a standard template for completing Target Hazard and Critical Infrastructure Plans. Over 1,600 plans have been completed in the standardized format and are available to all first responders.

Emergency Response Map Printing

North Zone and Central Zone have printed standardized response maps based on the phase one centralized database. This has allowed for a common look and layout of emergency response maps across multiple agencies. Since these maps are created from the central database, all agencies get the updates across multiple jurisdictions.

Regional Wildland Urban Interface Emergency Response Plans.

A scope of work has been developed to complete begin the project. The project will provide a regional standard emergency response plan for WUI areas and will be stored in the regional database.

Web Services to Other Applications.

The ability to share the regional database with other regional applications through Web services is being tested.

Regional Aerial Imagery Jointly Purchased.

The SDUA purchased aerial imagery in collaboration with United States Geological Services and other local agencies. The shared approach allowed for improved deliverables at a lower cost.

Key Gaps and Obstacles

- There are additional opportunities to leverage the regional database for data sharing and analytical applications.
- Limited participation in target hazard plans by east fire zone.
- Transition to next generation 9-1-1 (NG9-1-1) will bring an increased reliance on GIS
- Do not have a standard WUI Emergency Response Plan for the region.
- Multiple geospatial viewers being used.
- Not all agencies are taking advantage of the regionally purchased aerial imagery

Supporting Initiatives and Milestones

Initiative 3.1 – Complete the Build-out of the San Diego Regional Public Safety Geodatabase System.

Currently, the San Diego Regional Public Safety Geodatabase only stores the GIS data for the agencies dispatched by Heartland Communications and NorthCom. With the creation of the regional data model and the centralized database network, the database will include the geographical areas of the City of San Diego and the County of San Diego. This will provide a single repository for Public Safety GIS data for the entire region in one location.

A critical component of the centralized database is the implementation of the regional database network solution; all Public Safety agencies will have access to the centralized Public Safety GIS database. The network solution will provide redundancy through multiple server locations, potentially cloud services and access to data through Web services.

Recommended Milestone

Complete the Build-out of the Regional Public Safety Geodatabase System Within 12 Months.

Initiative 3.2 – Expand the Types of Applications for the Regional Public Safety Geodatabase.

The Regional Public Safety Geodatabase began as an initiative from the fire service community. That effort has focused on information layers important to fire response. Those layers include streets, addresses, fire hydrants, critical infrastructure and target hazard plans. The regional database can support many other types of applications such as law enforcement information, resource locations, incident management, wildland plans etc. The SDUA area should continue to expand the types of applications that have access to the information stored in the central Public Safety geodatbase.

Recommended Milestone

Expand the Types of Applications for the Regional Public Safety Database Within 18 Months.

Initiative 3.3 - Monitor Impacts of Transitioning to Next Generation 911 Systems on GIS Data Requirements.

Successful deployment of NG9-1-1 will require close cooperation between those responsible for wide-area networks, local public safety officials and GIS professionals at all levels of government. Next Generation 9-1-1 systems use GIS data to pre-validate caller locations by address and geographic coordinates, and to route calls based on caller location. This moves GIS to the front end of the process, eventually supplanting automatic number identification (ANI), automatic location identification (ALI) and Master Street Addressing Guides (MSAG).

Recommended Milestone

Monitor and Provide Information to the SDUA on the Impacts of Next Generation 9-1-1 systems on GIS Within 12 Months.

Initiative 3.4 – Complete the High Priority Critical Infrastructure and Target Hazard Plans in GIS Format.

The fire service and law enforcement (Law Enforcement Coordination Center [LECC]) have prioritized the completion of critical infrastructure and target hazard plans. These plans provide mission critical information to first responders in a standard format that will be made available through a variety of methods for easy access during emergencies.

Recommended Milestone

Complete the High Priority Critical Infrastructure and Target Hazard Plans in GIS Format Within 18 Months.

Initiative 3.5 – Complete the High Priority Wildland Urban Interface Emergency Response Plans Based on a Regional Standard Data Model.

Several agencies within the SDUA have developed WUI Emergency Response Plans. These plans reside on local computers or in hard copy versions in command vehicles or with local first responders. Funding has been allocated

to develop a standard GIS data model for the WUI Emergency Response Plans. This will provide a standard template for all agencies to develop plans that can be stored in the San Diego Regional Public Safety Geodatabase.

After a regional standard has been developed for the WUI Emergency Response Plans, the required information will be collected by a subject matter expert (SME) and placed into the San Diego Regional Public Safety Geodatabase. Storing these plans in the regional database will allow opportunities to distribute the plans and make them available to all Public Safety agencies in real time during emergencies.

Recommended Milestone

Complete the High Priority WUI Emergency Response Plan Within 12 Months.

Initiative 3.6 - Identify and Implement a Solution(s) for Providing Geospatial Information to First Responders and Emergency Managers on a Regional Platform.

With the development of a regional geodatabase and other options to display data information, a preferred solution for first responders and emergency managers needs to be provided. The development of solution to display geospatial information to first responders and emergency managers will improve situational awareness and provide a decision support system.

Recommended milestone

Identify a Preferred Solution Within 12 Months and Implement the Solution Within 18 Months.

3.7 – Continue to Utilize a Regional Approach to Purchasing Aerial Imagery.

In 2012, the SDUA in collaboration with United States Geologic Services, San Diego Association of Governments, SanGIS and other local governments partnered to purchase aerial imagery for the region. The region should continue to pursue this type of collaborative effort that reduces the cost for aerial imagery for all parties.

Recommended Milestone

Purchase an Updated Version of Aerial Imagery Through a Regional Approach Within 24 Months.

3.8 – Integrate Hazmat Records with San Diego Public Safety Geodatabase.

The County's hazmat database is currently undergoing a technical redesign that will allow easier integration into the San Diego Public Safety Geodatabase. The development of solution to these two databases will improve access in the field to the Hazmat records.

Recommended Milestone

Implement a Hazmat Integrated Solution to the San Diego Public Safety Geodatabase in 18 Months.

8. GOAL 4—TRANSITION PROJECTS TO PROGRAMS

The SDUA will need to identify long term solutions for maintenance and sustainment of those projects that will be ready to transition to a program. Many of the current technology projects that were created through the use Homeland Security funding do not have clear plans for where they will be supported in the future. In the interim, many of these projects have developed operational, technical or executive steering committees with regional representation. As these projects transition to programs and the possibility of reduced grant funding, the region must identify a solution that is capable of supporting the required maintenance and sustainment funding.

Options for long-term sustainment typically fall into one of the following solutions;

- Regional governance body – a governing body such as a joint powers authority typically has the ability to support a program through member assessments.
- User fee – sustainment for programs can come from user fees.
- General fund – a program can transition to a general fund expenditure for the agency hosting the program
- Grant funds – some grants allow maintenance and sustainment of existing programs to be paid for from grant funds.

Sustainment solutions can include these methods alone or some combination.

Current Activities

Regional CAD Interoperability Project Steering Committee

In 2009, the SDUA created an MOU for the participating members of RCIP. As part of this MOU, an RCIP Executive Committee and Steering Committee were created to provide an interim form of governance for this project. These committees have provided policy and technical guidance to the project as it was developed.

3Cs – Command, Control and Communications Data Network

In 2009, the SDUA created a MOU for the participating members of 3Cs. As part of this MOU, a 3Cs Executive Committee and Steering Committee were created to provide an interim form of governance for this project. These committees have provided policy and technical guidance to the project as it was developed.

Geographical Information Systems Steering Committee

In 2010, the GIS working group restructured into the GIS Steering Committee. This steering committee consists of regional representation of fire services based on the four operational area fire zones. Each of these fire zones provides a GIS technical person, fire operations and fire communications center representative. This committee is providing policy and procedure direction for the development all phases of developing a regional public safety GIS system.

Tablets and smartphones for Terrorism Liaison Officers

The Automated Regional Justice Information System under SANDAG has been the lead agency for developing and deploying tablets and smartphones for Terrorism Liaison Officers. The Automated Regional Justice Information System utilized Homeland Security funds to provide project management and to purchase the hardware and software.

License Plate Reader Program.

The Automated Regional Justice Information System under SANDAG has been the lead agency for developing the centralized database for license plate reader data. The Automated Regional Justice Information System utilized Homeland Security funds to provide project management and to purchase the hardware and software.

Key Gaps and Obstacles

- The RCIP project has been primarily funded by Homeland Security grant funds to provide contractual services, project management, hardware and software. The RCIP project MOU is due to expire in 2015. The project does not currently have a completed plan for sustainability or governance.
- The Regional Public Safety Geodatabase will be transitioning from project to program over the next 18 months. In approximately 18 months, the majority of the project will be complete and will transition into a maintenance and sustainment mode. As the project transitions from project to program, a long term sustainment solution is needed to ensure future funding and support.
- The 3Cs project has been funded over the last six years from a variety of funding sources, including Community Oriented Policing Services (COPS) grants, Border Interoperability Demonstration Project (BIDP) and UASI. The 3Cs currently has oversight through an Executive Committee of local Public Safety officials and emergency managers. Limited program funding support is provided through line use charges. These funds do allow for a certain level of sustainment funding but does not take into consideration long term capital replacement cost.
- The tablet and smartphone mobile data project for the Terrorism Liaison Officers has been primarily funded by Homeland Security grant funds and managed with ARJIS as the lead. The project currently does not have a sustainment plan.
- The license plate reader program central database project and field equipment has been funded through a variety of funding sources. This project does not have a long term sustainment plan.

Supporting Initiatives and Milestones

Initiative 4.1 – Identify a Solution that Will Support The Long Term Sustainment of the Regional CAD Interoperability Program.

With the RCIP project build nearing completion, the RCIP project will transition into a maintenance mode. A planning document is being circulated to present and review recommendations for this transition. The areas of concern center on hardware and software upgrades, local computer administration and the need to set up ongoing 24* hour support from Thinkstream. No provisions are in place to have grant or UASI funding for this work, so long lead recommendations are being made to the involved agencies to address these issues.

* Business-hours support is guaranteed in the original contracts in "perpetuity". But ongoing use has demonstrated a need for 24/7 support. This greater support will require additional funding.

Recommended Milestone

Identify a Solution for Governance or a Business Plan that will Support the Long Term Sustainment of the Regional CAD Interoperability Program Within 18 Months.

Initiative 4.2 - Transition the Regional Public Safety GIS System to a Sub-committee Role of the Unified Disaster Council.

In 2011, the concept of future transition of the GIS steering committee to the Unified Disaster Council (UDC) was proposed. The stated purpose of the UDC is to coordinate and facilitate regional plans and programs for the preservation and safety of life and property, and to make provisions for the execution of plans, programs and mutual assistance in the event of multi-jurisdictional emergencies or disasters. Given the stated purpose, the UDC membership supported by vote the concept of eventually transitioning the Regional Public Safety GIS System to a sub-committee role of the UDC. This transition would require additional discussion for long term funding solutions of sustainment.

Recommended Milestone

Transition the Regional Public Safety GIS System to a Sub-committee Role of the Unified Disaster Council Within 18 Months.

Initiative 4.3 – Identify a Solution for Governance or a Business Plan that will Support the Long Term Sustainment of the 3Cs Program.

The 3Cs program is currently managed by the City of San Diego in partnership with the County of San Diego. The majority of the infrastructure build and project management has been funded for by a variety of grants. A portion of the current maintenance and sustainment cost is funded through line user fees. The program will at some point need to address future capital replacement costs or upgrades to the system. There is currently no identified funding source for future capital cost.

Recommended Milestone

Identify a Long Term Sustainability Solution to Support the 3Cs Program, Within 18 Months.

Initiative 4.4 – Identify Long Term Sustainability Solutions to Support Mobile Applications and Access for Law Enforcement Data.

The development of mobile applications and access to law enforcement data has been funded primarily through Homeland Security grants. As the potential for reduced Homeland Security funding becomes a possibility, future enhancements, equipment replacement, maintenance and sustainment, the region will need to identify a plan for sustaining the program.

Recommended Milestone

Identify a Long Term Sustainability Solution to Support Mobile Applications and Access for Law Enforcement Data Within 18 Months.

Initiative 4.5 – Identify Long Term Sustainment Solutions to Support the License Plate Reader Program.

The development of the license plate reader program has been supported by a variety of funding sources in the region, to include grants from Homeland Security, Department of Justice, Indian Gaming, Office of National Drug Control Policy (ONDCP) and seized asset funds. As the potential for reduced grant funding becomes a possibility, future enhancements, equipment replacement, maintenance and sustainment, the region will need to identify a plan for sustaining the program.

Recommended Milestone

Identify a Long Term Sustainability Solution to Support the License Plate Reader Program Within 18 Months.

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9. IMPLEMENTATION STRATEGY

The implementation strategy utilizes the eight goals from the San Diego Homeland Security Strategy to organize the region into investment groups. The key stakeholders from each goal have been identified and are represented in the following organizational chart;

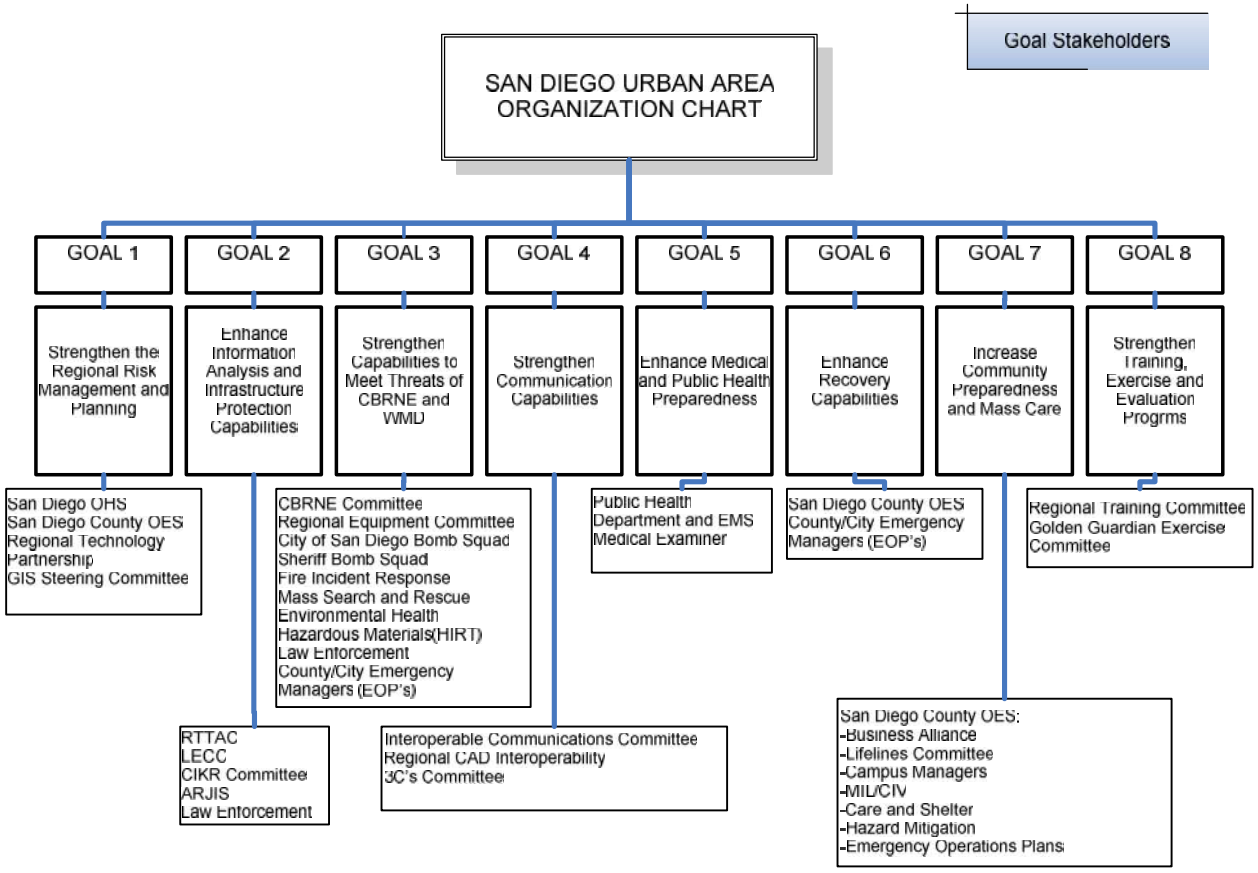

Figure 3—Organizational Chart

Each of these goals has objectives that have been identified through the Security Strategy based upon the identified gaps, risk and capabilities assessment. These stakeholders utilize that information to support investment proposals that can be submitted for consideration. If the Urban Area Security Initiative grant is the funding source, the City of San Diego Office of Homeland Security collects those proposals for the region. For UASI funding, the RTP has been designated as the first level review for prioritizing and ranking this projects for funding consideration. The RTP provides recommendations to the Urban Area Working Group on how projects are scored for meeting the needs of the Security Strategy and regional benefit.

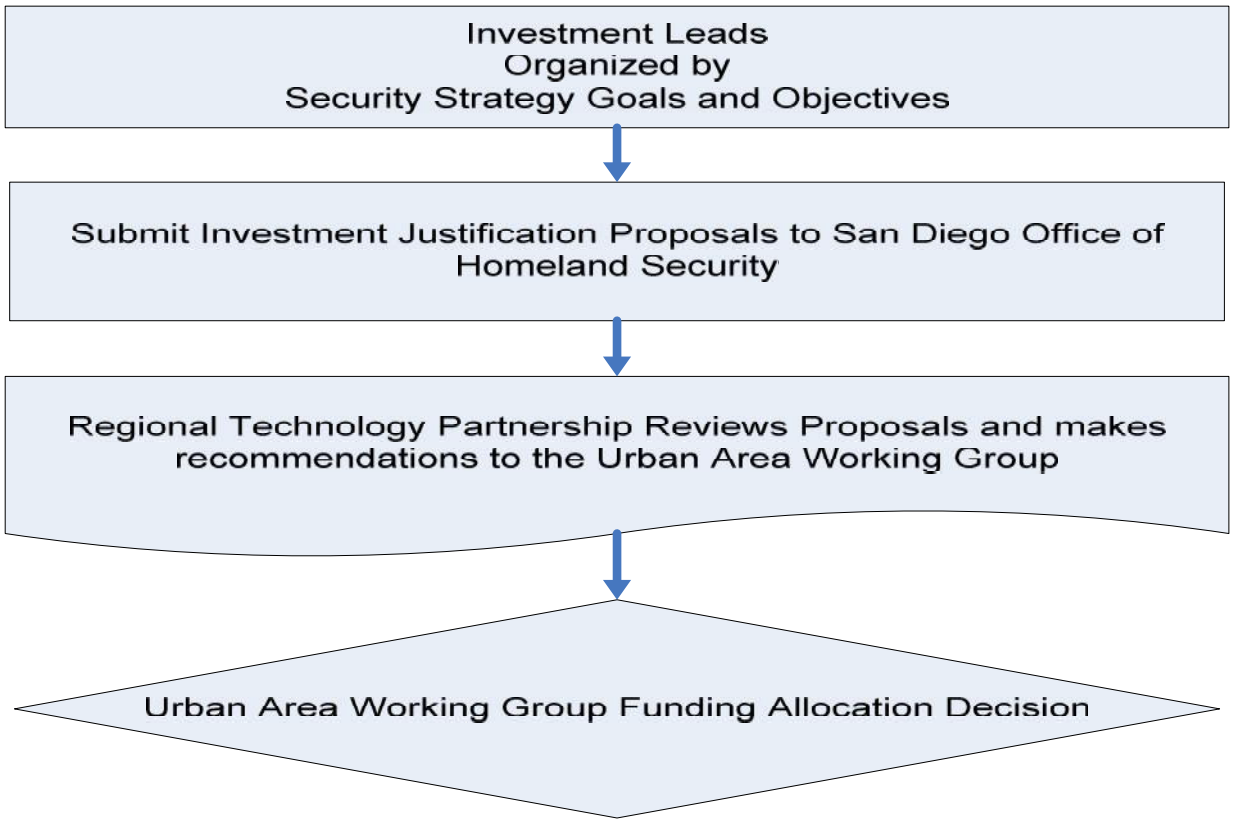

Figure 4—UASI Investment Proposal Process

This process currently only applies to the UASI funding. Consideration should be given to utilizing this process for any additional future regional funding sources.

10. CURRENT REGIONAL TECHNOLOGY INVESTMENTS

For many years, the San Diego has engaged in many regional technology projects to improve their everyday prevention, protection, mitigation, response and recovery through regional interoperability technology solutions. This section provides an overview, description, status and vision for final solution for several of these projects.

10.1 Mobile Data Devices for Terrorism Liaison Officers

OVERVIEW

The goal of this project is to improve the region's ability for TLOs to communicate in the field and access critically needed Public Safety data on a near real-time basis. Providing the TLOs with mobile data devices with access to Public Safety applications enhances cross jurisdictional sharing of information and enables timely officer notifications and alerts. This enhances the ability to identify suspicious activity and potentially disrupt terrorism and other criminal activities.

DESCRIPTION

The regions ARJIS has taken the lead to provide project management for this technology. They have completed the selection and purchase of the mobile data devices and configured the devices to connect to several sources of information that may be useful for law enforcement to have access to in a mobile environment.

STATUS

Automated Regional Justice Information System has deployed 250 tablets and 50 smartphones for TLO Officers. The devices have successfully addressed the Federal Bureau of Investigation (FBI) Criminal Justice Information Services (CJIS) security requirements and passed the audit. These devices have a remote secure management that allows remote upgrades and trouble shooting.

The following applications are available on the devices in the field:

- State, Regional Federal Enterprise Retrieval System (SRFERS)
- Global Query
- Coplink
- Officer notification
- License plate reader data
- Cal-Gang

The most recent addition to the device is the Tactical Identification System (TACIDS). The Tactical Identification System is facial recognition software that matches against San Diego jail booking photos. This application is currently in the process of deploying with selected users through a training process. The device will be able to provide Geo-query which geo-time stamps queries made in the field for analytical purposes. The devices will continue to receive upgrades for the latest mobile standards.

VISION OF FINAL SOLUTION

The ability to provide access to multiple data sources and applications such as TACIDS in a mobile environment will greatly enhance law enforcement's ability to manage information in the field. Currently, this project has been focused on providing information for the TLO. As this program is developed, it will provide a foundation for the regions law enforcement community to expand the program beyond TLO use. The mobile environment will continue to be challenged to meet the regulatory requirements for security for additional operating systems such as the Apple IOS. As those security concerns are resolved, additional uses will become available. The mobile data devices will continue to be a platform that can support multiple types of applications or access to data.

10.2 Regional License Plate Reader Project

OVERVIEW

The LPR project is a system that captures pictures and data from license plates. The License Plate Reader can be fixed or mobile (handheld or on a vehicle). The value of the LPR systems includes locating and recovering stolen vehicles, solving cases, linking crimes, providing investigative leads and a force multiplier. This project includes the deployment of UASI funded mobile and fixed LPR systems and the regional collection of data. Recognizing that regional data would provide the ability to use LPR data to identify offenders and solve crimes across jurisdictions, and assist agencies by supplying a storage option, ARJIS, at the request of the San Diego HIDTA, partnered with ONDCP to fund a regional server for sharing and accessing cross-jurisdictional LPR data.

DESCRIPTION

The region has deployed a large number of fixed and mobile license plate reader devices. The UASI funds have been used to deploy 22 mobile license plate reader units and to develop a regional server to connect 13 different LPR efforts. The records created by these multiple agencies are stored on a regional server and are accessible by all 82 ARJIS members. The records are accessed via SRFERS and are capable of sending alerts to investigators when a vehicle of interest is located. The server has implemented an interface to link the LPR information from the Mexico and Canada border crossings. The regional database currently contains 30 million records.

STATUS

The region continues to deploy additional mobile and fixed LPR cameras across various agencies. As additional agencies are added, interfaces are developed between agency LPR cameras to the regional server. The region continues to collaborate with Nlets on the national LPR pointer system. The regional server is in the process of an upgrade to meet the substantial increase in LPR records.

VISION OF FINAL SOLUTION

As the integration of the regional license plate reader programs continues, a substantial amount of records will be available. Enhancements to the current mapping dashboard will provide geo-analytical tools for LPR to identify trends and patterns. In addition, automated notifications on suspicious vehicles within predefined critical infrastructure and other geo-fenced areas of interest will be developed. The next significant step in collaboration will to explore partnering with Los Angeles and Orange Counties.

10.3 Command and Control Communications (3Cs)

OVERVIEW

Regional 3Cs is a secure Public Safety only communications network that directly connects Public Safety agencies and encourages inter-agency collaboration. Using tools like video conferencing and streaming video across the 3Cs network, first responders work together to quickly and easily determine how best to manage large-scale incidents such as natural disasters or terrorist incidents. The goal is to assure that any Public Safety responder has the most up to date information possible when responding to a large-scale incident.

Proposed jointly by the City of San Diego Police and Fire Departments, and San Diego County Sheriff's Department as a regional solution, the network includes law enforcement, fire-rescue, dispatch centers, emergency operations centers and critical infrastructure sites across San Diego County, as well as neighboring jurisdictions. Currently in the fifth phase of the project, the network is expanding to include more than 26 agencies at all levels of government, as well as key critical infrastructure sites.

DESCRIPTION

The 3Cs data network provides a redundant means of communication for Public Safety, separate from commercial services that can be overloaded during large scale disasters. The network provides a level of redundancy and security not offered by other networks in the region. The 3Cs infrastructure enables secure high-speed data sharing between Public Safety agencies in the region, providing improved interoperability.

As a transport mechanism, the network can be used any time data needs to be transferred or shared between participating agencies. It is tuned to support data, video and voice communications as needed. Some examples of how 3Cs is currently used include linking dispatch centers and emergency operations centers (EOCs) in San Diego/Imperial Counties for sharing critical information, use of video downlinks from air support assets for real-time decision making during emergencies, collaborating between field deployed staff and the operations centers that support them, and sharing maps and information regionally through web streaming.

STATUS

From the beginning, the goals of Regional 3Cs were to maximize the grant funded investment in data-based interoperability and build a network that is sustainable and useful during both emergencies and daily operations. In the five years since the project was initially funded and staffed, 3Cs has become a working data network using the latest in off-the-shelf wireless technologies. Regional 3Cs now has both project (new development) and program (long-term sustainment) aspects, including a governance structure outlined in a common MOU, a business plan and a revenue source to fund maintenance of the network. Regional 3Cs is formally a program of the City of San Diego, with oversight provided by an Operations Advisory Board, Steering Committee, Operations and Maintenance Group and Users Group. This structure is depicted in the graphic on the following page. In the beginning, Regional 3Cs focused on wireless connections between fixed site locations for Public Safety. While fixed sites are still being added to the network, 3Cs is working towards providing secure data capabilities to temporary command posts in the field. In 2010, 3Cs piloted mobile microwave data network (NOMAD), a system of deployable assets to build temporary network connections in the field to support communications between command posts and support staff. With the success of the NOMAD pilot, 3Cs is currently identifying additional grant funds to expand NOMAD throughout the region.

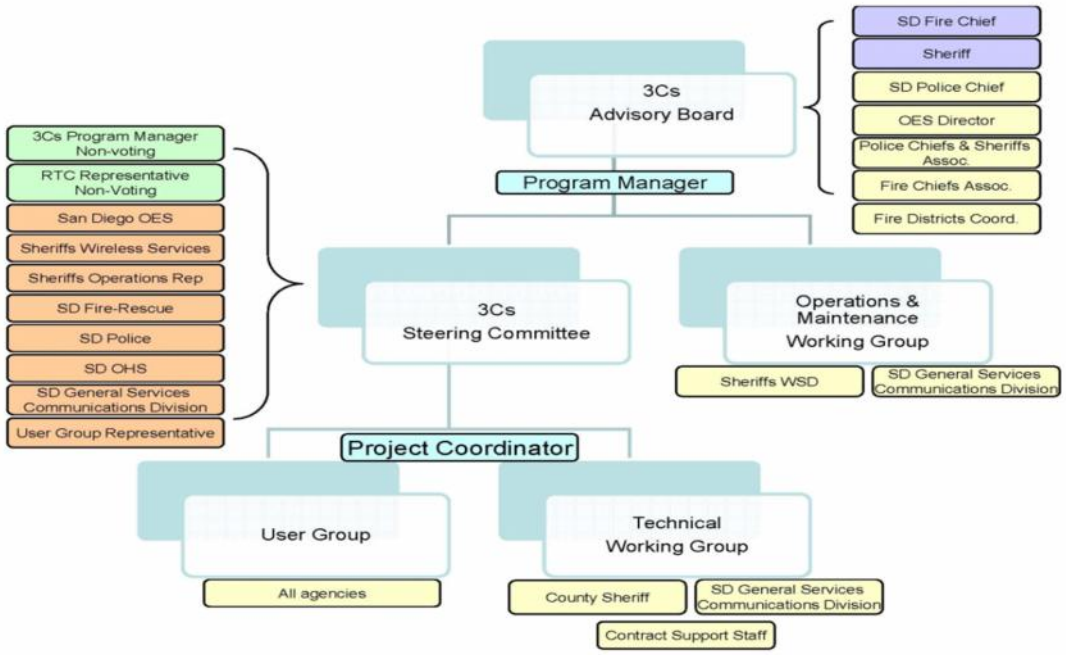

Figure 5—3Cs Network

PROJECT PHASES

Because of the multiple funding sources and short grant deadlines, 3Cs adopted Agile Project Management in 2007. Agile encourages projects to be broken down into small phases and sub-phases that are managed simultaneously. Through this system, 3Cs has been able to add fully functioning new sites to the network each of the five years it has been operational. The following is a list of the major 3Cs phases:

Phase	Timeframe	Phase Goal
1	December 2005 To March 2007 (Complete)	Proof of concept. Initial build out of the network to City and County sites. Infrastructure to key mountaintop sites, across San Diego and Imperial County.
2	May 2007 To April 2008 (Complete)	Add network sites to implement path looping for additional redundancy on the network. Add up to 10 public safety agencies to the network. Add 5 video downlink sites. Begin transition to Multiprotocol Label Switching (MPLS) networking standard for transport of secure data.
3	July 2008 To February 2012	Add up to 17 Public Safety agencies to the network within San Diego County. Improve coverage of helicopter downlink in the north and eastern sections of the county. Implement MPLS standard. Begin utilizing the network for data applications, in addition to incident based video applications. Implement a network operations center.
4	September 2009 To March 2012	Add two critical infrastructure sites to the network: Marine Corps Base Camp Pendleton, San Onofre Nuclear Power GenerationStation. Deployed 40 additional helicopter downlink handheld devices to law enforcement and fire agencies.
5	April 2011 To April 2014	Added United States Customs and Border Patrol to the network along with additional NOMAD-capable radio sites. Demonstrate ability to expand the network to regional command bands and mobile devices

Table 1—Major 3Cs Phases

Each phase has a Phase Scope Document, a defined budget and a set timeframe, often dictated by the grants funding the effort. A Project Closeout document is drafted at the end of each major phase to assess process, progress and assure that as lessons are learned they are identified early and used to improve on-going and future phases.

VISION OF FINAL SOLUTION

Regional 3Cs has been very successful in obtaining grant funds for initial implementation costs. Funding has been received from a variety of organizations including the Department of Justice through the Community Oriented Policing grants, State Homeland Security Grant Program, Law Enforcement Terrorist Prevention Program, Urban Area Security Initiative and Indian Gaming Local Community Benefit Committee, Border Interoperability Demonstration Project. Additionally, both City and County have contributed resources in the form of grant matches and labor to the project since 2005.

Beginning in 2010, Regional 3Cs began assessing and collecting line fees. These fees support on-going maintenance of the equipment purchased with grant funds. Each year, Regional 3Cs generates a budget for the

up-coming fiscal year (July 1 through June 30) and sets a line fee for the next year. Through the collection of local funds, the region is able to maintain the capabilities provided by the grant funds and assure that the data network is operational and reliable through its planned lifetime.

Regional 3Cs has accomplished its initial goal of being a working public safety grade data network to support inter-agency collaboration during large-scale, critical incidents. Based on input from 3Cs participating agencies, 3Cs staff is now focusing on three priorities:

- Completing the final fixed site locations (planned to complete in calendar year 2013), which assures that the network reaches all agencies who requested connection to the network as of July 2008.
- Maximizing the use of the network for daily operations. This includes leasing data capacity to participating agencies for inter-agency data transfer, supporting the use of video conferencing for regular meetings and implementing Voice over IP (VoIP) for a regional redundant phone system.
- Increasing capabilities of NOMAD to support data backhaul from remote locations back into the 3Cs data network.

10.4 Regional Computer Aided Dispatch Interoperability Project

OVERVIEW

Computer Aided Dispatch systems allow Public Safety operations using voice and data communications to be enhanced or partially controlled by an automated system. Computer -Aided Dispatch performs multiple functions including: call taking, dynamic dispatching, vehicle status and location reports, incident reporting, and integration with records and other management information systems. Computer -Aided Dispatch systems are routinely used to collect the initial information for an incident; then provide that information to a records management system (RMS) and other interfaces.

The objective of this project is to develop and implement a Regional CAD Interoperability solution that will allow all SDUA Fire Rescue and Law Enforcement CAD systems to seamlessly exchange data between each system where appropriate, regardless of the manufacturer. The proposed solution is flexible enough to accommodate future CAD interoperability requirements and provide for growth to accommodate additional public safety agencies and functions as needed. Interoperability with state and federal agency CAD systems and databases is required and included in the scope of the project. Integration with selected third party systems, such as ambulance and utility companies, is also available.

DESCRIPTION

Computer -Aided Dispatch is critical to support the daily operational needs of Public Safety agencies in the SDUA. The mission for Public Safety agencies has expanded to include new threats such as terror attacks, infrastructure sabotage, copycat crimes, mobile and inter-jurisdictional criminals and catastrophic natural disasters. Quick access to information systems and current data is vital in providing the proper response for these and other emergency situations. This includes access to mapping, mobile data computers, and other external local, state and federal information systems such as ARJIS. The RCIP Solution will give users access to real-time shared data, enhancing the development of a Shared Common Operational Picture and expanded Situational Awareness.

Most CAD systems require custom development, and for large regions like the SDUA, the cost can reach several millions of dollars. Unless there is planned integration with existing systems and services, Public Safety agencies end up with incompatible systems with little or no interoperability. Most SDUA Public Safety agencies have purchased their CAD software independently and have little to no interoperability; this causes major frustration and expense when those agencies try to integrate systems or move toward a consolidated dispatch.

There is partial interoperability among some disparate systems; typically limited by "fire-to-fire" or "police-to-police" communications. Little or no interoperability exists between police and fire CAD/RMS systems, even within the cities they serve.

The SDUA must have the ability to share information for critical Public Safety response. As an ongoing plan, agencies with CAD/RMS systems should adopt the Global Justice extensible markup language (XML) Data Model (GJXDM) for an information-sharing standard for CAD-to-CAD and ARJIS interfaces. There have been some key advances made in the development of this standard through a cooperative effort with APCO and the Central Station Alarm Association (CSAA).

An Information Exchange Package Documentation (IEPD) specification was developed that defines the method for exchanging data between disparate CAD systems. The IEPD specification allows data to be transferred and provides automatic information sharing and exchange. Future enhancements to the standard include linking RMS to the County's automated fingerprint information system and linking police CAD/RMS databases to fire/EMS CAD/RMS databases.

STATUS

An RFP was issued for this project and a vendor, Thinkstream, Inc., was contracted in August 2009. The project was designed as a multi-phase effort. Early phases included a pilot program and the inclusion of fire agencies. Phases currently in progress involve the introduction of law enforcement agencies. Work is expected to be completed in 2013.

The RCIP has as its governance body, the Executive Committee, made up of a subset of the Regional Technology Partnership. Additionally, a Steering Committee, Technical Group and User Group participate in the development and deployment of the project.

VISION OF FINAL SOLUTION

The final solution will provide the capability for all participating regional fire rescue and law enforcement dispatch agencies to share CAD data and provide a common operational picture to facilitate effective and efficient regional incident command and emergency response. Connectivity to other nearby counties may be possible, along with sharing distributed data with cooperating agencies such as public utilities.

This project also has a Public Private Partnership Agreement with the vendor, allowing for revenue to come back to SDUA should the vendor resell the solution within the United States.

10.5 San Diego Regional Public Safety Geodatabase

OVERVIEW

The San Diego Regional Public Safety Geodatabase (SDPS) project was established to solve traditional regional interoperability issues. The project began as a fire service driven initiative to standardize map features, attributes and symbology, resulting in the development of a common-use geospatial language for emergency responders. Prior to the project, most fire agencies had hard copy, run books and dispatch systems that stopped at their jurisdictional or district boundaries. Each agency used a different set of symbols to represent features on their map pages. To improve the geodatabase capability of the region the project has the following goals:

- Consolidate GIS data from Metro and East zones into the geodatabase;
- Increase law enforcement participation in interoperable GIS efforts
- Keep emergency response mapping updated
- Continue the development of digital target hazard pre-plans
- Develop regional wildland/urban interface emergency response plans
- Develop and implement a locally hosted enterprise network solution
- Improve data sharing by implementing Web services to feed other regionally significant interoperable GIS and data systems
- Continue to support regional approaches to acquiring aerial imagery

Fire services in SDUA are divided into four zones for the purposes of coordination. The map below shows the name and area of each zone.

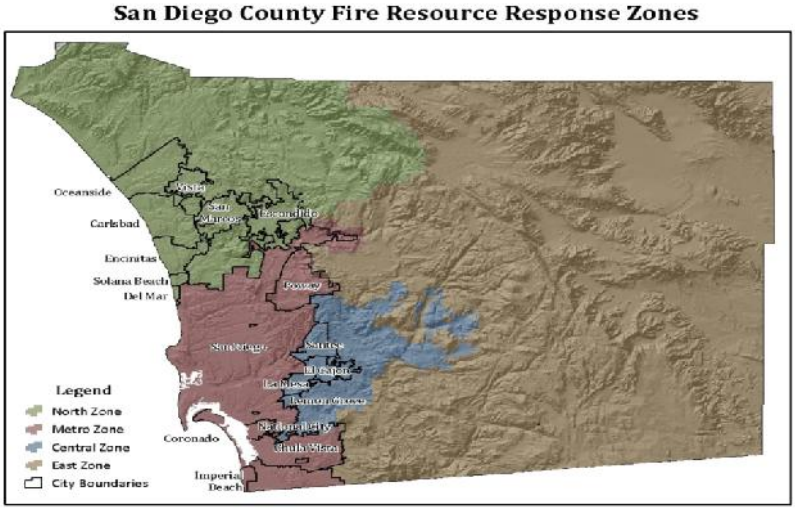

Figure 6—San Diego County Fire Resource Response Zones

DESCRIPTION

Since the project's inception in 2005 as a pilot project in the North Zone, there have been several accomplishments:

- Install mobile data computers (MDCs) in all fire apparatus with Internet hotspot connections at all fire stations
- Consolidate North and Central zones GIS into one geodatabase
- Create Emergency Response Run Map Books that are standardized across the region
- Design and implement a standardized geospatial database that can be loaded at emergency dispatch centers and jurisdictions
- Create geospatial standardized digital target hazard pre-plans accessible to all;
- Participate in regional efforts to acquire public domain, high-resolution imagery

Efforts are on-going with the GIS Steering Committee and Regional GIS Working Group to continue to refine the designs of regional symbology, digital target hazard pre-plan templates and reports as well as wildland/urban interface emergency response plan templates and reports. These bodies meet on a monthly basis. The GIS Steering Committee is comprised of one GIS, technical and operations representative from each of the fours zone. The Regional GIS Working group is open to any interested party that would like to help develop regional standards.

The project has broad support from the SDUA Security Initiative in its building phase. An important next step in this regard is to transition it from a project, during its building phase, to a program, in its operational phase, with appropriate governance and maintenance and sustainment funding source(s). It has been generally accepted at the UDC that it would be an appropriate body to fill this role for the SDPS.

STATUS

Currently, the San Diego Regional Public Safety Geodatabase only stores the GIS data for the agencies dispatched by Heartland Communications and NorthCom. With the creation of the regional data model and the centralized database network, the database will include the geographical areas of the City of San Diego and the County of San Diego. This will provide a single repository for Public Safety GIS data for the entire region in one location. A critical component of the centralized database is the implementation of the regional database network solution; all Public Safety agencies will have access to the centralized Public Safety GIS database. The network solution will provide redundancy through multiple server locations, potentially cloud services and access to data through Web services.

The Regional Public Safety Geodatabase began as an initiative from the fire service community. That effort has focused on information layers important to fire response. Those layers include streets, addresses, fire hydrants, critical infrastructure and target hazard plans. The regional database can support many other types of applications such as law enforcement information, resource locations, incident management, wildland plans etc. The SDUA area should continue to expand the types of applications and information stored in the central Public Safety geodatabase.

Successful deployment of NG9-1-1 will require close cooperation between those responsible for wide-area networks, local public safety officials and GIS professionals at all levels of government. Next generation 9-1-1 systems use GIS data to pre-validate caller locations by address and geographic coordinates, and to route calls based on caller location. This moves GIS to the front end of the process, eventually supplanting ANI, ALI and MSAG.
The fire service and law enforcement coordination center (LECC) have prioritized the completion of critical infrastructure and target hazard plans. These plans provide mission critical information to first responders in a standard format that will be made available through a variety of methods for easy access during emergencies.

Several agencies within the SDUA have developed WUI Emergency Response Plans. These plans reside on local computers or in hard copy versions in command vehicles or with local first responders. Funding has been allocated to develop a standard GIS data model for the WUI Emergency Response Plans. This will provide a standard template for all agencies to develop plans that can be stored in the San Diego Regional Public Safety Geodatabase. After a regional standard has been developed for the WUI Emergency Response Plans, the required information will be collected by a SME and placed into the San Diego Regional Public Safety Geodatabase. Storing these plans in the regional database will allow opportunities to distribute the plans and make them available to all public safety agencies in real time during emergencies.

With the development of a regional geodatabase and other options to display data information, a preferred solution for first responders and emergency managers needs to be provided. The development of solution to display geospatial information to first responders and emergency managers will improve situational awareness and provide a decision support system.

In 2012, SDUA in collaboration with United States Geologic Services, San Diego Association of Governments, SanGIS and other local governments partnered to purchase aerial imagery for the region. The region should continue to pursue this type of collaborative effort that reduces the cost for aerial imagery for all parties.

The county's hazmat database is currently undergoing a technical redesign that will allow easier integration into the San Diego Public Safety Geodatabase. The development of solution to these two databases will improve access in the field to the Hazmat records.

VISION OF FINAL SOLUTION

Once completed, public safety personnel in the region will have an interoperable central repository at their disposal. This central repository will include GIS data, digital target hazard pre-plans, wildland/urban interface emergency response plans and virtual building walkthroughs of certain critical infrastructure/key resource facilities. The region has created an online portal that will serve as the central repository at www.sdpsgis.org.

The geodatabase will further serve as a data feed to many important regional data applications with other purposes such as the Risk Management Program, the Next Generation Incident Command System (NICS), the region's CAD systems and others.

The geodatabase will well position the SDUA for the on-going development and implementation of NG9-1-1 systems in the region. Next generation 9-1-1 systems will be heavily dependent on regional, interoperable GIS data for many of its core functions.

An important concept of the SDPS vision is that this system will be an aggregator of data and information products that is source-data format agnostic. In other words, Public Safety agencies will be able to contribute their data without significant change to their current data and workflow processes. The data aggregation will occur in a seamless fashion to the Public Safety personnel providing their data.

10.6 City of San Diego and Regional Communications System Migration to P25 Standard.

OVERVIEW

Project 25 (P25) or APCO Project-25 refers to a suite of standards for digital radio communications for use by federal, state/province and local public safety agencies to enable them to communicate with other agencies and mutual aid response teams in emergencies. Agencies in the SDUA share the vision of a standards-based Regional Public Safety Communications System. The migration of the RCS from the current Motorola SmartZone 3.0 architecture, combined with the migration of the City of San Diego from the Motorola SmartZone 4.1 architecture to a P25 system in the SDUA will allow for the highest degree of equipment interoperability, compatibility and economy of scale for all agencies in the region, while leveraging to the greatest extent possible the existing infrastructure in both systems.

DESCRIPTION

Project 25 is an open-system technical standard that has been nationally developed for more than 15 years. The P25 Steering Committee sought to establish open system standards so multiple vendors could make competing products that are compatible. Many of the P25 technologies are still privately owned or proprietary. However, the P25 Steering Committee only selected proprietary technologies as a recommended standard when the owners agreed to freely share the technology with other competing vendors. Every aspect of P25 is designed to benefit Public Safety agencies with a new level of performance, efficiency, capability, and quality in two-way radio communications. The four key objectives of the P25 Steering Committee include:

1. Enhanced functionality with equipment and capabilities focused on public safety needs
2. Improved spectrum efficiency
3. Assured competition among multiple vendors through Open Systems Architecture
4. Effective, efficient, and reliable intra- and inter-agency communications

By adhering to these objectives, P25 makes it easier for agencies to make informed decisions when planning to convert from an existing system to a P25 digital system. Agencies are able to compare the direct features and benefits of different vendor systems and equipment. The purpose is to make the procurement process more competitive and fair.

The SDUA will have the opportunity to mix and match equipment from multiple P25-compliant suppliers since their equipment will follow all basic standards. For example, buyers will have the ability to purchase multiple tiers of radio systems based upon the features needed. Most public service users do not need the robust capabilities that Public Safety users require and pay for. Additionally, the P25 design allows Public Safety users to operate transparently on another frequency band using less expensive radios and infrastructure.

The P25 standard continues to be developed as the technology evolves and additional parts of the complex standard are addressed. A basic P25 requirement for new digital radio equipment is backward compatibility. This supports a phased migration into mixed analog and digital systems, allowing agencies to gradually trade out radios and infrastructure equipment.

Even though P25 networks will be backward compatible, the current RCS product life is nearing the end (anticipated support from Motorola through 2012); therefore, supporting the current infrastructure will become increasingly

difficult. The ending of the RCS product life cycle increases the importance of planning for the phased upgrade and replacement of the current radio system infrastructure and identifying the funding necessary to transition to a P25 network.

STATUS

Local first responders in SDUA currently operate on two shared 800 MHz radio systems; the RCS and the City of San Diego Radio System (CSDRS) for primary public safety voice communications. Both of these are in the early phases of upgrading to P25.

CSDRS: The City has implemented a metro San Diego P25 core switch and successfully linked the existing Motorola SmartZone 4.1 system to the new metro San Diego P25 core through interoperable gateways. The metro San Diego P25 radio system is operational on six channels at six radio frequency locations with approximately 200 subscriber units. Overall the metro CSDRS P25 system is currently about 30 percent complete and will be 50 percent complete by December 2013. The goal is to complete the metro CSDRS P25 phase 1 system by December 2016.

RCS: The County has developed a multi-year plan to upgrade RCS to a fully P25 compliant system. The County is completing a project to replace the RCS trunked radio proprietary core equipment with a P25 core and interoperable gateways to link the core to the existing Motorola SmartZone 3.0 radio infrastructure. The core upgrade will be completed in March 2013. The County will then address the replacement of the RCS microwave backhaul network with an IP-standards based system (which is required to support a fully P25 compliant system) over the next two years, followed by the replacement of the RCS trunked radio system within five years.

CONVENTIONAL VOICE: The SDUA has developed a number of sites to provide multi-band gateways between users of these shared systems and other government users who are not equipped to operate on one of these two networks. These systems support both interoperability and mutual aid response to threats in the region and provide backup communications capability. The County is in the process of replacing all of the legacy conventional radios utilized in these mutual aid/gateway systems with P25 capable radios in order to facilitate a future transition to full P25 operations.

DATA: While there is extensive voice interoperability between users of these two voice systems, data communications systems are disparate and the shared-system technology used is proprietary, which limits interoperability and the open exchange of information. The SDUA is following the progress of the recently established First Responder Network Authority (FirstNet) in creating a nationwide Public Safety Broadband data network, and will support FirstNet's efforts to bring the network to California and the SDUA.

VISION OF FINAL SOLUTION

After transitioning to P25 systems, SDUA will be able to link the two systems into a single network, therefore significantly increasing interoperability and potentially increasing network capacity for operating decades into the future. Many of the subscriber radios currently being used on RCS are capable of using both 700 and 800 MHz narrowband frequencies. The 700 MHz spectrum allocated to Public Safety agencies is immediately adjacent to the 800 MHz frequencies now being used by RCS and the City of San Diego. The RCS and the City of San Diego have been allotted sufficient 700 MHz channels for future use in P25 radio systems.

Implementation of a Regional network of P25 Radio Systems will provide full digital operation within various spectrums (VHF, ultra high frequency [UHF], 700 MHz and 800 MHz), a higher degree of privacy through improved encryption standards and significantly enhanced user and resource capacity.

The long-range plan for achieving communications interoperability across the SDUA's multi- jurisdictional and multi-agency boundaries includes the long-term convergence of all radio systems to digital, open-standards technology and implementation of the most current version of the P25 standard available at the time of purchase. Project 25 system technology will allow seamless communication between SDUA Public Safety agencies operating on 700 MHz and 800 MHz spectrum and other P25 Public Safety agencies operating on different spectrum. Federal radio system users in the 150 MHz band will have the capability to communicate with SDUA users, since all agencies' users have reciprocal coverage with their radio systems. Through the implementation of the P25 standard, SDUA can achieve seamless interoperable radio communications.

10.7 Modular Command Kits

OVERVIEW

This project has been created to test the concept of a standard portable command post that can be deployed from the back of a command vehicle or deployed as a stand-alone system at command post or other remote location.

DESCRIPTION

The kits are a combination of radios, MDCs, mobile phone technology, wireless connectivity solutions and software built on a ruggedized platform. The goal is to provide a quick, simple integration of tools and functions to enhance real-time situational awareness.

STATUS

The San Miguel Fire Protection District administered a contract for building the kits and took delivery of the kits in early 2012. Agencies with interest in hosting the equipment participated in preliminary field test demonstrations of the equipment. In November 2012, the host agencies were identified as;

- San Diego Police Department
- Chula Vista Fire
- El Cajon/Heartland Fire
- Encinitas Fire
- San Miguel Fire

A common configuration baseline was identified for the computers that would be integrated into the system. This approach allows for the trained users to have a level of familiarity for all five kits, allowing for a baseline regional approach. In addition, each of the individual agencies added software specific to their agency.

VISION OF FINAL SOLUTION

The vision of this project is to evaluate the modular command kit concept for consideration of expansion. While this modular concept does not replace the mobile communications or command vehicle resources, it should be viewed as another tool for the region to fill potential gaps needed in field communications, command and control. The host

agencies will continue to exercise the technology and identify training, special events or actual incidents to evaluate the effectiveness of the kits.

10.8 Live Integrated Networked Surveillance System (LINSS)

OVERVIEW

This project would allow Public Safety agencies, special districts and businesses within the San Diego Urban Area to share video surveillance system information. There is considerable interest to share this resource for the purpose of providing real time tactical information to enhance law enforcement deployment. This sharing of live video surveillance would benefit the community by providing critical information that improves Public Safety during major incidents, disasters and special events.

DESCRIPTION

The Live Integrated Networked Surveillance System project is working on a strategic path to assure that agencies using camera and sensor technology for Public Safety will be able to access and share information as deemed necessary. The project will develop regional guidelines and structure to promote automatic sharing of data when appropriate, identify broad standards and the necessary agreements for interagency sharing of resources.

STATUS

In 2011, a pilot project utilizing Boeing's Visual Security Operations Console was conducted and completed with San Diego State University, University of California San Diego, Metropolitan Transit System and San Diego Police Department. The pilot showed that while the technology exists and there are several options to connect camera systems, there remain challenges with regard to policies, agreements and security challenges.

The recommendations from the working group report included;

1. Form a steering committee.
2. Explore utilizing 3Cs network for video sharing.
3. Identify any cost estimates.
4. Engage appropriate staff to gain support and understanding.
5. Identify a central point of access.

In November 2012, a meeting of the key stakeholders was convened to determine level of interest to move the project forward. The stakeholders included San Diego Police Department, Metropolitan Transit System, San Diego Fire Rescue (Lifeguard), San Diego Sheriff and ARJIS. Based on considerable interest by the stakeholders, a monthly meeting schedule has been established to work on key action items. The action items have focused on confirming the vision of the project through a business case, the development of a MOU for video sharing, exploring potential technology solutions and consideration of submitting an investment justification for Homeland Security funding to support the project.

VISION OF FINAL SOLUTION

After an agreement has been established to share video information, a technology solution that allows for easy access to video feeds needs to be determined. The solution should be accessible through a map type viewer that

allows the end user to access video feeds utilizing desktop and mobile computer devices. A visual display of camera locations in a geospatial format would allow for access to camera locations.

10.9 Mobile Data Devices for Public Safety

OVERVIEW

The goal of this project was to provide support to the region on future options for hardware platforms for use in Public Safety. This includes evaluating the features, capabilities, ruggedness and costs associated with devices that Public Safety and first responders utilize in the field. This also concludes an evaluation of wireless connectivity solutions as related to stability of connection and coverage issues.

DESCRIPTION

The guide provides information on the key questions that an agency needs to consider when deploying mobile data devices. These questions include the environmental considerations, the objective of the device, operating system considerations, deployment systems, options for connectivity, hardware features, security requirements and total cost of ownership. Additionally the document provides information on the latest trends in mobile data technology. Lastly, the document provides examples of mobile data device deployments in the San Diego Urban Area.

STATUS

A guide titled "Mobile Data Devices for Public Safety – How do I pick the right device?" was completed in December 2012. The guide has been made available in electronic format for interested parties.

VISION OF FINAL SOLUTION

As Public Safety agencies in the region develop replacement plans for existing equipment or explore new technology solutions, a guiding document will be available to support regional efforts to deploy mobile data devices.

10.10 Regional Interoperability Communications Plan

OVERVIEW

The goal of this project is to develop an RICP. The RICP will gather the information required for conducting an assessment of various aspects of interoperability governance, planning and procedures in the San Diego UASI Region (Region), and develop strategic recommendations to address identified gaps in each of these areas.

DESCRIPTION

This assessment includes systems that support voice (radio, satellite phones, teleconference), data (MDC, WebEOC, Regional CAD Interoperability, 3Cs Microwave), emergency notification systems and social media usage for Public Safety. As part of this process, an SOP document for applying or accessing interoperability resources within the Region and surrounding jurisdictions will be completed. Additionally, a Field Operations Guide (FOG) reflecting the SOP document will be developed for emergency responders and communications unit leaders.

STATUS

The documents are in final draft and have been scheduled for review by the regional stakeholders. Once the document is finalized, a multi-media lesson plan will be developed to provide emergency responders and communications unit personnel the necessary training to implement the SOPs.

VISION OF FINAL SOLUTION

This comprehensive document will provide the region with an updated list of available interoperability voice and data resources that are available. The SOPs will provide the necessary procedures to operate in an interoperability environment and establish procedures for sharing of limited communications resources during partial or complete system failure.

10.11 Regional Fire Emergency Communications Center Study

OVERVIEW

In 2012, the San Diego Urban Area Working Group approved the allocation of Homeland Security Grant Funds from the UASI to conduct a Regional Fire Emergency Communications Center Study.

This study is conducting an assessment of opportunities to strengthen emergency communications interoperability capabilities and enhance the protection of the regions communications center critical infrastructure. This assessment will address three key Homeland Security objectives:

1. Opportunities to enable resource sharing and improve operational efficiencies.
2. Opportunities to standardized and implement common operational protocols.
3. Opportunities to enhance emergency communications system survivability.

DESCRIPTION

The Department of Homeland Security has developed an interoperability continuum to demonstrate the levels of interoperability. This continuum includes governance, standard operating procedures, technology, training and exercises and usage.

The objective of this study is to focus on the options for reducing the number of fire communication centers in the San Diego region. The benefits of creating a modern regional emergency communications center related to the interoperability continuum include;

- Improved governance – a regional emergency communications center will allow enhanced staff collaboration on a regular basis
- Standard operating policies and procedures – a regional emergency communications center will support the creation of regional communications SOPs.
- Technology – a regional emergency communications center will enhance the use of two-way standards based sharing for data and standards based shared system for voice communications.
- Usage – a regional emergency communications center will support daily usage of shared systems.

- Enhanced critical infrastructure protection – a regional emergency communications center will allow enhanced critical infrastructure protection by providing a modern center that meets essential facilities construction requirements and security concerns.
- Enhanced command and control – a regional emergency communications center will enhance the command and control of regional fire and emergency medical services resources.

STATUS

This study is addressing the appropriate space requirements, operational components and technology for a modern RECC. This scope of work will provide the details on the process for achieving full interoperability through shared space, technology and operational protocols for the multiple fire communications centers.

This study will provide consulting services and expert professional technical support for the development of a regionalization study of the local government fire communications centers. Specifically, the study will analyze the four major fire communications service providers in the UASI Region; Heartland, North County Dispatch, the City of San Diego and the City of Escondido Future consideration may be given to other UASI Region fire communications service providers; however these other resources are not the focus of this study.

The assessment will study the aforementioned fire communications providers and provide options for reducing the number of fire communications centers within the UASI Region. The three specific consolidation model options shall be:

- Heartland and North County Dispatch
- Heartland, North County Dispatch and the City of San Diego Fire communications or the City of Escondido Fire communications
- Heartland, North County Dispatch and both the City of San Diego Fire and the City of Escondido Fire communications

The focus of the study will be to assess the current conditions of each center, then analyze the space, operational and technology needs that would form a basis for recommendations toward a regional center or centers. It is the desire of the UASI Region to reduce the number of fire communications centers serving the region. The study will include analysis of the best fit for the UASI Region in terms of whether one or two regional centers provides the appropriate level of sustainable service and redundancy.

VISION OF FINAL SOLUTION

The study will provide the region with a needs assessment and analysis of the current facilities, operations and technology. The needs assessment and analysis will document the current conditions of space needs; operational function, management and staffing; and technology capabilities, capacity and interoperability within the region and with other levels of government response. An analysis of the information captured in the needs assessment will be conducted to produce recommendations for operational and technology improvements, and facility requirements and space needs.

10.12 Digital Sandbox Risk Management Software

OVERVIEW

The SDUA has implemented the use of Digital Sandbox as its risk management software to manage assets, conduct surveys and assessments, manage threats and hazards, complete a capabilities assessment and provide a risk analysis. This software application has been adopted statewide for all California UASI's.

DESCRIPTION

The risk management software combines several modules to create a variety of information for analysis. The modules include;

- Asset management - Allows the region to identify and document the critical assets.
- Survey assessment tools – Allows the users to develop their own forms for doing security assessments.
- Threat and Hazard Manager – Enables the user to view and adjust threat and likelihoods and combine with asset information for a picture of the threats and hazards in their jurisdiction.
- Capabilities Assessment – Enables users to perform detailed capabilities assessments for the region.
- Risk Analysis Center –Provides default threat and hazard likelihood, vulnerability and consequence data and combines it with the asset catalog to create a risk analysis of an asset, jurisdiction, sector and sub-sector.

STATUS

The SDUA has entered thousands of assets into the system over the last few years. The information entered into the system has been supported through the use of survey assessment tools. The users continue to adjust the threat and hazard levels based on current intelligence information and continue to refine the data. Multi-discipline stakeholder meetings have been conducted to determine the status of the regions capabilities. The combination of this input has resulted in a risk analysis that has been used to develop the Security Strategy for the region.

VISION OF FINAL SOLUTION

The Digital Sandbox risk management software will continue to provide a means to manage assets, conduct surveys and assessments, manage threats and hazards, complete a capabilities assessment and provide a risk analysis. This information will constantly evolve based on conditions and additions or deletions of assets. The implementation of additional modules such as the event manager or pre-fire incident planner will enhance the use of the risk management software. The deployment of mobile applications such as the Mobile Command, Mobile Indicator, Mobile Assessor and Mobile Threat may give additional tools for risk management.

10.13 Regional Emergency Notification Systems

OVERVIEW

The SDUA has developed a variety of methods for keeping the public informed before, during and after an emergency. While many of the SDUA communities utilize a variety of methods for communicating with their residents at a local level, the County of San Diego Office of Emergency Services has taken the lead on providing a regional emergency notification system.

DESCRIPTION

The County of San Diego Office of Emergency Services utilizes a variety of methods communicate emergency information with the region. They include;

- Alert San Diego – The County of San Diego, in partnership with Blackboard Incorporated., has instituted a regional notification system that is able to send telephone alerts and notifications to residents and businesses within San Diego County impacted by, or in danger of being impacted by, an emergency or disaster. This system, called AlertSanDiego, is used by emergency response personnel to notify those homes and businesses at risk with information describing the event actions (such as evacuation) they are asking them to take. The system utilizes the region's 9-1-1 database, provided by the AT&T, and therefore is able to contact landline telephones whether listed or unlisted. It is Teletype/Telecommunication Device for the Deaf (TTY/TDD) capable.

  Because the system uses the 9-1-1 database, only landline numbers are in the system. If the resident has a VoIP or cellular telephone and would like to be notified over that device, or if they want to receive a text or email notification, they must register those telephone numbers and/or email address for use by the system. This system is used for registering cell phone numbers, VoIP phone numbers and email address only. Listed and unlisted landline phone numbers are already included in the database and do not need to be registered
- Accessible Alert San Diego - This addition provides access to emergency information capable of alerting and notifying residents of San Diego County who are deaf, blind, hard of hearing and deaf/blind before, during and after a disaster. Accessible AlertSanDiego sends accessible alerts and information to Internet and video capable devices, such as computers, cell phones, smart phones, tablet computers and wireless Braille readers. These alerts are offered in American Sign Language (ASL) with English voice and text.
- Mobile Applications - The San Diego Emergency Application contains disaster preparedness information and interactive checklists to residents create their emergency plan, build an emergency supplies kit, and when disaster strikes; the San Diego Emergency Application will keep them informed with emergency updates, social media feeds, interactive emergency maps and shelter locations and status.

The County of San Diego Office of Emergency Services (OES) created the San Diego Emergency Application to better prepare and inform San Diego County residents and visitors about disasters. With San Diego Emergency, the tools they need to plan, prepare and respond in an emergency are right at their fingertips.

- Commercial Mobile Alert System/Wireless Emergency Alerts (CMAS/WEA) – The SDUA has partnered with this FEMA administered system that provides alerts and notifications to cell telephones in specific geographical areas. The local integration of CMAS/WEA included a regional field test in San Diego County to test the system. CMAS/WEA is accessed through the Integrated Public Alert and Warning System (IPAWS).
- Emergency Alert System (EAS)- the EAS system is used to provide emergency information to the public utilizing area radio, television, satellite and digital media. It is a federally designated system that is mandated by the Federal Communications System, all area broadcasters are encouraged to participate. The EAS warning is received by the entire region and not just those in the affected area, therefore an accurate description of the area affected is a required part of the message.

STATUS

The SDUA has supported a regional approach to emergency notification systems. This approach is especially effective when an emergency is multi-jurisdictional and impacts many agencies. At the same time, through a MOU, local agencies are given training and access to utilize the alerting systems at a local level. This allows a more effective approach and eliminates duplication of effort for emergency notification systems.

The Office of Emergency Services is currently expanding the mobile application resource by adding links to each of the interested cities in SDUA. This again provides a resource to information for preparedness from a regional approach and avoids duplication of effort.

VISION OF FINAL SOLUTION

The SDUA will continue to enhance the methods for communicating information to the public before, during and after emergencies. The Office of Emergency Services is the natural lead for a regional approach to this function. While local agencies will continue to manage communication with their jurisdictions at their own local level, they should continue to leverage the regional resources to avoid duplication of effort. These emergency notification systems go well beyond the early concepts of calling land lines for alerts and notifications. They now include methods such as texting, social media, emails, cell phones and mobile applications. Of special interest will be the Commercial Mobile Alert System that will be able to send emergency notifications to all CMAS capable cell phones based on the user's geographical location.

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ATTACHMENT A – VISION, GOALS AND INITIATIVES

VISION

Effective approach to everyday prevention, protection, mitigation, response and recovery through regional interoperable technology solutions.

Goal 1 – Interoperable Voice Communications

INITIATIVES

1.1 Complete the migration of regional voice communications systems to Project 25 standards.

1.2 Expand capabilities of VHF radio infrastructure.

1.3. Complete the Regional Interoperability Communications Plan.

1.4 - Complete the Regional Fire Emergency Communications Center Study

1.5 – Continue to develop Regional Community Notification Systems for preparedness and response capabilities.

Goal 2 – Interoperable Data Solutions

INITIATIVES

2.1 – Complete the build-out of the Regional CAD Interoperability Project

2.2 – Expand capabilities and access to law enforcement data through mobile data devices.

2.3 – Expand the use of mobile data devices for first responders.

2.4 Expand regional capabilities of the license plate reader program.

2.5 – Develop a regional approach to interagency sharing of live video surveillance.

2.6 – Continue to develop the Digital Sandbox risk management software analysis and operational tools.

2.7 – Expand use of 3C's microwave data network to support regional data interoperability initiatives.

2.8 Continue to develop a Preventative Radiological and Nuclear Detection Program.

Goal 3 – Interoperable Geospatial Solutions

INITIATIVES

3.1 – Complete the build-out of the San Diego Regional Public Safety Geodatabase.

3.2 – Expand the types of applications for the regional public safety geodatabase.

3.3 - Monitor impacts of transitioning to Next Generation 911 systems on GIS data requirements.

3.4 – Complete the high priority critical infrastructure and target hazard plans in GIS format.

3.5 Complete the high priority Wildland Urban Interface Emergency Response Plans in regional GIS format.

3.6 Regional platform for providing geospatial information to first responders and emergency managers.

3.7 – Continue to utilize regional approach to purchasing aerial imagery.

3.8 – Integrate Hazardous Materials

Goal 4 – Transition Projects to Programs

INITIATIVES

4.1 – Identify a solution for sustainment to support the Regional CAD Interoperability Program.

4.2 - Transition the Regional Public Safety Geodatabase to a sub-committee role of the Unified Disaster Council.

4.3 – Identify a solution for sustainment that will support the 3C's Program.

4.4 – Identify a solution for sustainment to support mobile applications and access for law enforcement data.

4.5 – Identify a solution for sustainment to support the license plate reader program.

ATTACHMENT B – GOAL 1 – INTEROPERABLE VOICE COMMUNICATIONS

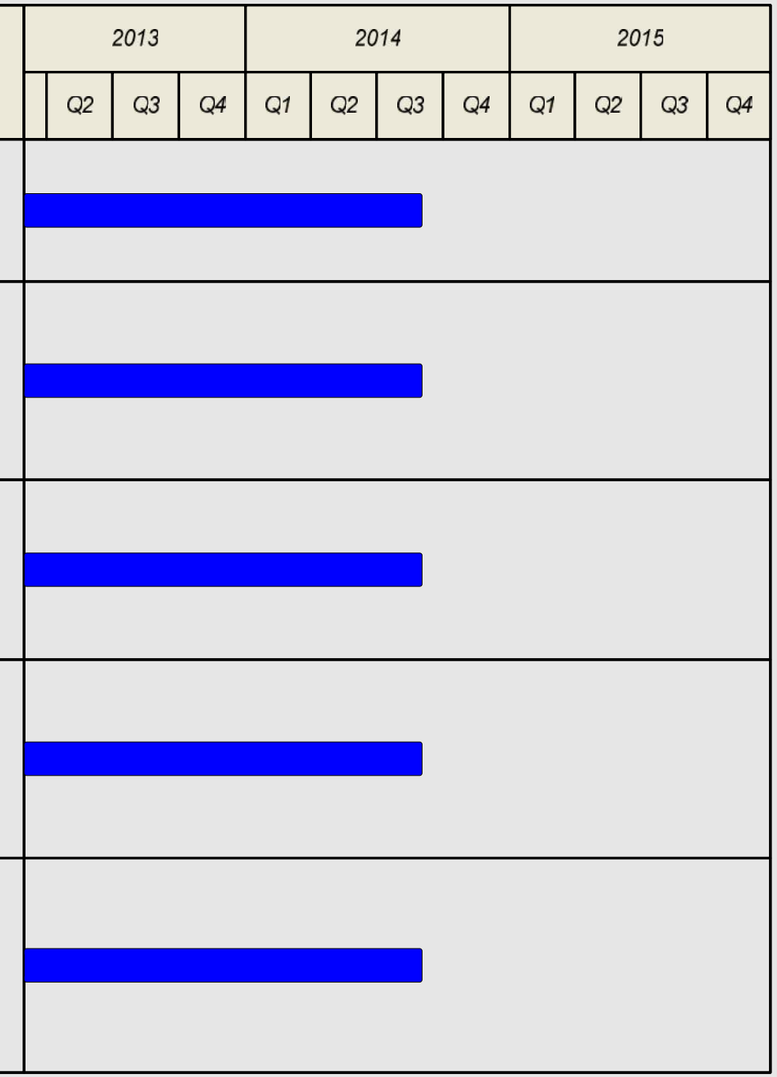
ID	Initiative	Start	Finish	2013				2014				2015			
					Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Complete the migration of regional voice communications to Project 25 standards.	3/1/2013	2/26/2018												
2	Expand capabilities of VHF radio infrastructure	3/1/2013	2/27/2015												
3	Complete the Regional Interoperability Communications Plan	3/1/2013	5/31/2013												
4	Complete the Regional Fire Emergency Communications Center Study	3/1/2013	8/30/2013												
5	Continue to develop Regional Emergency Notification Systems for preparedness and response capabilities	3/1/2013	2/28/2014												

ATTACHMENT C – GOAL 2 – INTEROPERABLE DATA SOLUTIONS

ID	Initiative	Start	Finish	2013			2014				2015			
				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Complete the build-out of the Regional CAD Interoperability Project	3/1/2013	2/27/2014											
2	Expand capabilities and access to law enforcement data through mobile data devices.	3/1/2013	2/27/2015											
3	Expand the use of mobile data devices for first responders	3/1/2013	5/31/2016											
4	Expand regional capabilities of the license plate reader program	3/1/2013	8/28/2015											
5	Develop a regional approach to interagency sharing of live video surveillance	3/1/2013	2/27/2015											
6	Continue to develop the Risk Management software analysis and operational tools	3/1/2013	2/27/2015											
7	Expand the use of 3C's microwave data network to support regional data interoperability initiatives.	3/1/2013	2/28/2014											
8	Continue to develop a Preventative Radiological and Nuclear Detection Program	3/1/2013	3/1/2016											

ATTACHMENT D – GOAL 3 – INTEROPERABLE GEOSPATIAL SOLUTIONS

ID	Initiative	Start	Finish	2013			2014				2015			
				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Complete the build-out of the San Diego Regional Public Safety Geodatabase	3/1/2013	2/27/2014											
2	Expand the types of applications for the regional public safety geodatabase	3/1/2013	9/1/2014											
3	Monitor the impacts of transitioning to Next Generation 911 systems on GIS data requirements	3/1/2013	5/30/2014											
4	Complete the high priority critical infrastructure and target hazard plans in GIS format	3/1/2013	8/28/2014											
5	Complete the high priority Wildland Urban Interface Emergency Response Plans in regional GIS format	3/1/2013	8/28/2014											
6	Identify a regional platform for providing geospatial information to first responders and emergency managers	3/1/2013	2/27/2015											
7	Continue to utilize regional approach to purchasing aerial imagery	3/1/2013	2/26/2016											
8	Integrate Hazardous Materials records with Regional Public Safety Geodatbase	3/1/2013	2/27/2015											

ATTACHMENT E – GOAL 4 – TRANSITION PROJECTS TO PROGRAMS

ID	Initiative	Start	Finish
1	Identify a solution for sustainment to support the Regional CAD Interoperability Project	3/1/2013	9/1/2014
2	Transition the Regional Public Safety Geodatabase to a sub-committee role of the Unified Disaster Council	3/1/2013	9/1/2014
3	Identify a solution for sustainment that will support the 3C's program.	3/1/2013	9/1/2014
4	Identify a solution for sustainment to support the mobile applications and access for law enforcement data	3/1/2013	9/1/2014
5	Identify a solution for sustainment to support the license plate reader program	3/1/2013	9/1/2014