

California
9-1-1
Strategic
Plan

July 30, 2010

2010

Arnold Schwarzenegger
Governor



Teri Takai
Chief Information Officer



OFFICE OF THE STATE CHIEF INFORMATION OFFICER

Teri Takai
California Chief Information Officer

I am pleased to present the 2010 California 9-1-1 Strategic Plan, a dynamic strategy that recognizes California's need to embrace and implement new technologies in delivering 9-1-1 services. This plan will ensure California's positioning as a leader in providing the very best emergency response system for our residents.

The State of California has actively worked to provide enhanced 9-1-1 services to Californians for nearly thirty years. The people of our state continue to benefit from the foundation upon which California's 9-1-1 system has been built and administered. California has successfully implemented and supported various emerging technologies to include wireless 9-1-1 call delivery, as well as Voice over Internet Protocol (VoIP) 9-1-1.

While the existing 9-1-1 network and system remains a success story, it has been stretched to its limit because of relentless technology advances. And so it's time now to support the exciting new technologies with a new, state-of-the-art 9-1-1 network for California—a network that will allow the pinpointing of callers based on geographic coordinates, and a network that will champion exciting new ways of delivering information to emergency responders, including texting, instant messaging, picture and video delivery, and more.

It is essential that we have clear direction and continuity of purpose. Underscoring our commitment to build the fastest and best emergency communications system possible, the 2010 California Strategic Plan not only documents *what* needs to be done, but more importantly, also provides the process and foundation to ensure that Californians will continue to have the best and fastest 9-1-1 system available.

Now is an exciting and challenging time in California, and I am delighted to acknowledge the accomplishments of the hard-working 9-1-1 professionals that support Californians every day. This new Strategic Plan empowers these dedicated experts to now implement the next generation of 9-1-1 services - a system and network that will continue to make California a proud leader in supporting its residents with the very best emergency communications available anywhere for years to come.

Sincerely,

Handwritten signature of Teri Takai.

Teri Takai

Table of Contents

Executive Summary.....	1
Book 1 – An Environment in Transition	2
Opportunity.....	3
A Community of Service	4
Collaborative Transformation.....	7
Book 2 – Guiding Principles	8
Strategic Values	9
Mission and Vision	11
Book 3 – Goals and Objectives.....	12
Strategic Goals and Objectives	13
Collaborative Leadership.....	27

California 9-1-1 Strategic Plan

EXECUTIVE SUMMARY

California's 9-1-1 emergency communication system was established more than forty years ago. Its purpose was to provide citizens with fast telephone access to local police, fire and medical assistance during an emergency. Today Californians are increasingly adopting new and diverse modes of communicating using text, video and voice from a variety of communication technologies and providers. The old analog 9-1-1 system cannot support these new accepted means of communication.

This California 9-1-1 Strategic Plan provides the path to transition the legacy 9-1-1 system to the Next Generation of 9-1-1 services. This transition will also require a transformation of 9-1-1 program management throughout the entire 9-1-1 community:

- the California Office of the Chief Information Officer's (OCIO) Public Safety Communications Division (PSCD);
- the local and state jurisdictions (police, CHP, fire and others) that answer and respond to emergency calls;
- the special contributors that add expertise to policy and program, such as the 9-1-1 Advisory Board and the County Coordinators; and
- the supporting 9-1-1 industry that provides network, databases, systems and services.

The ability to dial 9-1-1 and to quickly reach a highly trained police, fire, or emergency medical service agency that can respond to an emergency is not just another government program goal. It changes lives. It affects families and communities. It is one of the most important services available to our public.

The OCIO/PSCD will guide the 9-1-1 community through this change by leadership and vision articulated in this California 9-1-1 Strategic Plan. Success will only be achieved through collaboration with all stakeholders and contributors. The OCIO/PSCD values and welcomes the vital support that all parties will bring to this transformative endeavor. The outcome will be a new level of emergency response to all Californians.

BOOK 1

An Environment in Transition

"9-1-1" are the digits that people dial when they need help in an emergency. It is dialed in life-threatening situations, during medical emergencies, when a crime is in progress, when there is a car accident, or when there is fire. People know that "9-1-1" means help when it is needed most. Over fifty-five thousand calls are placed to 9-1-1 every day in California.

Opportunity

We are at a strategic turning point in providing 9-1-1 services to the public. The public continues to embrace new communication technologies, and now is the time to chart the transformation of California's 9-1-1 services to a new service paradigm that answers the calls from multi-modalities. This new paradigm of Next Generation 9-1-1 (NG9-1-1) will create far-reaching advances among all spheres of 9-1-1 services:

- The Office of the Chief Information Officer's (OCIO) Public Safety Communications Division.
- The local and state jurisdictions that answer and respond to emergency calls.
- The special contributors that add expertise to policy and program, such as the 9-1-1 Advisory Board and the County Coordinators.
- The supporting 9-1-1 industry that provides network, databases, systems and services.

The opportunity for significant improvements will be generated in operations, costs and funding, education, leadership, collaboration and accountability.

This opportunity for change corresponds with the dynamic, multi-party, NG9-1-1 initiatives occurring at the federal level by congress, the FCC, industry, and other stakeholders. Congress and others are clamoring for a workable NG9-1-1 solution. However, these initiatives face significant jurisdictional, statutory and procedural hurdles that uniquely exist at the national level, and that will ultimately compromise possible federal solutions and delay implementation at the national level.

*"It is a **national priority** to foster the migration from analog, voice-centric 9-1-1 and current generation emergency communications systems to a 21st century, Next Generation, IP-based emergency services model that embraces a wide range of voice, video, and data applications."*

- U.S. HR 4829 3/11/2010

However, California does not face these same constraints. We are in a unique position to lead the way, seizing the opportunity to distinguish our NG9-1-1 services, and transforming its elements into the new paradigm. The outcome will be not only a new extendable model for the nation and critical operational improvements, but most importantly a far higher level of public service and benefit for all Californians.

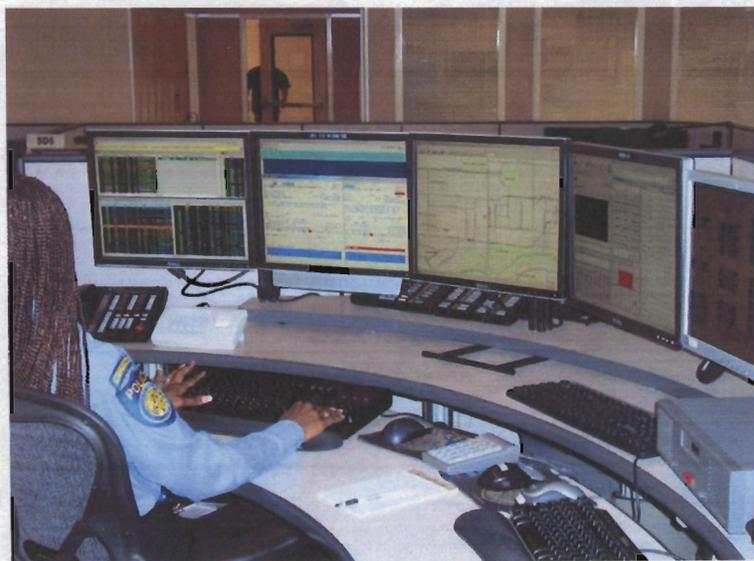
A Community of Service

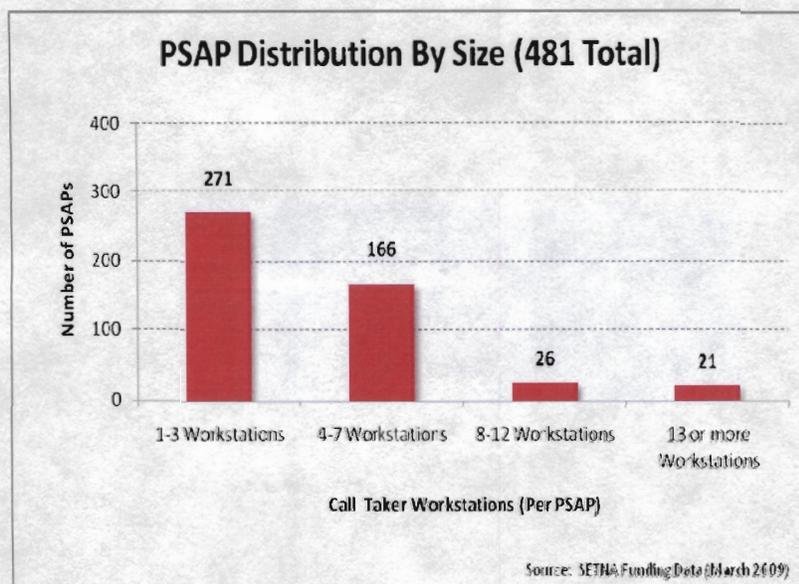
In California, like most states, numerous entities participate in ensuring that requests for emergency assistance reach their appropriate responding agency. The 9-1-1 environment functions as a combination of *centralized technology* and *local service delivery*. The program infrastructure is managed by the State while emergency services are provided to the public by local agencies. This framework of 9-1-1 in California is comprised of an interdependent community of public organizations and private companies:

PUBLIC SAFETY ANSWERING POINTS (PSAPs)

In the parlance of 9-1-1, the agencies that receive 9-1-1 calls are called “Public Safety Answering Points” or “PSAPs”. There are about 480 PSAPs in California. PSAPs are the call centers within the local agencies that answer the 9-1-1 calls. When Californians dial 9-1-1 their calls are initially answered by “primary PSAPs” such as the California Highway Patrol or their local police or sheriff department. Eighty-six percent of the PSAPs in California are “primary” PSAPs. If these “primary” PSAPs do not provide the type of response associated with the caller’s emergency, these calls are then transferred to a “secondary” PSAP for fire or medical assistance. Fourteen percent of California PSAPs are “secondary” – that is, they receive 9-1-1 calls that are transferred from primary PSAPs. The majority of secondary PSAPs are in fire department dispatch centers.

Answering 9-1-1 calls can be a highly stressful occupation. Although most California PSAPs have a small number of workstations for answering 9-1-1 calls, because they function 24 hours a day, 7 days a week, it can take a large number of trained personnel to staff those workstations. For example, a PSAP with three call taking workstations may require the equivalent of 12 to 15 full time employees.





OCIO PUBLIC SAFETY COMMUNICATIONS DIVISION

The California 9-1-1 Emergency Communications Office (9-1-1 Office) resides within the OCIO's Public Safety Communications Division (PSCD). Program authority and the responsibilities of the 9-1-1 Office are established in California Government Code sections 53100 to 53120 (the Warren 911 Emergency Assistance Act or Warren Act) and in California Revenue and Taxation Code sections 41001 through 41176 (the Emergency Telephone Users Surcharge Law).

These laws were established to ensure that all Californians have prompt access to emergency response services throughout the state by dialing 9-1-1. To this end they empowered the 9-1-1 Office to plan and implement the 9-1-1 network that delivers the calls to the PSAPs, to establish standards for network and PSAP performance, and to monitor and enforce those standards. They also gave the 9-1-1 Office authority to reimburse PSAPs and vendors for their 9-1-1 network, database and equipment costs from user fees collected by telephone companies.

In this context the PSCD's 9-1-1 Office is responsible for the overall architecture of 9-1-1 services in California, and it outsources the provisioning of that architecture via contracts and tariffs. Concurrently the 9-1-1 Office measures PSAP and network performance to ensure that the system delivers as promised for all Californians.

COUNTY COORDINATORS

In order to effectively facilitate accurate 9-1-1 call routing, the State 9-1-1 Office has designated a 9-1-1 Coordinator in each county, statewide. The County Coordinator works with the 9-1-1 service and equipment providers, the PSAPs, and the State 9-1-1 Office to ensure that accurate and timely delivery of 9-1-1 calls and related call information is accomplished. The role of the County Coordinators has evolved from primarily updating AT&T's and Verizon's Master Street Address Guide (MSAG) databases with ongoing changes, to also facilitating PSAP field training and coordination between 9-1-1 vendors (e.g., wireless providers) and PSAPs. Guidelines for the County Coordinators' roles and responsibilities are published by the OCIO's 9-1-1 Office.

Most County Coordinators are employees of a county or city PSAP. At least one County Coordinator is an independent contractor retained by a city. No County Coordinators in California are employees of the State. A few County Coordinators work full time in their County Coordinator role, while most perform other non-County Coordinator functions. The State reimburses the local jurisdiction for the time their County Coordinator spends on 9-1-1 Office approved tasks.

THE 9-1-1 ADVISORY BOARD

In 2005 the Warren Act was revised to establish a 9-1-1 Advisory Board, whose purpose is to advise the 9-1-1 Office on 9-1-1 issues and policy, especially from the perspective of the PSAPs. The Board is made up of ten members and a chairperson. By statute the membership represents various public safety communities of interest (police chiefs, fire chiefs, NENA and APCO representatives, etc).¹ The chair is statutorily assigned to the Chief of the 9-1-1 Office. Members are nominated to the Governor, who confirms the appointments. Board members are not paid for their time, but are reimbursed for travel costs. The Board meets quarterly. Board members



¹ The chair is statutorily assigned to the Chief of the 9-1-1 Office. Members are nominated to the Governor, who confirms the appointments. Board members are not paid for their time, but are reimbursed for travel costs. The Board meets quarterly. Board members

¹ NENA is the National Emergency Number Association. APCO is the Association of Public Safety Communication Officials.

BOOK 1 – AN ENVIRONMENT IN TRANSITION

should have at least two years of experience as a PSAP manager or County Coordinator. The Board's role is advisory concerning a wide range of 9-1-1 topics.

THE 9-1-1 INDUSTRY AND ASSOCIATIONS

California's 9-1-1 services are comprised of a strong public-private partnership. The private component is comprised of firms that provide the telecommunications network, databases and computing equipment used for 9-1-1 call delivery and call processing. The technical integration of these proprietary vendor systems for the processing of 9-1-1 services is especially complex.

These industry partners are represented by 9-1-1 industry and professional organizations such as the National Emergency Number Association (NENA) and the Association of Public Safety Communication Officials (APCO).

THE PUBLIC

The public plays an important role in 9-1-1, for they must understand the purpose of the 9-1-1 system of services, and when to use the system. Yet the public is a diverse entity made up of many different ethnicities, languages, expectations, and uses of communications, including people with communication disabilities. Additionally, the public will continue to adopt new forms of communications and technologies with minimal regard for its potential use for 9-1-1 except when experiencing an emergency. Ultimately the success of the 9-1-1 program relies upon all Californians to know and use 9-1-1 appropriately.

Collaborative Transformation

Evolving from the present forty year old legacy analog telephone company architecture to the Next Generation of 9-1-1 services will bring into play changes that will need to occur not only to the technical infrastructure, but also to the entire community of 9-1-1 service providers discussed above. These entities will be called upon to transform themselves in how they interact with and support the new 9-1-1 architecture. In fact, the transformative and collaborative support of the entire California 9-1-1 environment is critical to the success of the Next Generation solution. Since the OCIO's Public Safety Communications Division has the statewide responsibility for the overall design of 9-1-1 in California, the OCIO/PSCD will facilitate and lead the way into the new paradigm. This transformation must support a 9-1-1 system that is adaptable and responsive to the changes in the paradigms of communications technologies.

BOOK 2

Guiding Principles

“NG9-1-1 promotes integration, standards, interoperability, coordination, communications, cooperation and collaboration to evolve into a unified system designed for all emergency services.”

Marc E. Berrymann, ENP
Chair of the NENA
Operational Next
Generation Integration
Committee

The transformation to a Next Generation environment will require many changes. These changes will need to be guided by firm principles.

This Book 2 distinguishes the new proposed Strategic Values for California’s Next Generation of 9-1-1 Services, and the associated Mission and Vision of the OCIO/PSCD. These Strategic Plan elements form the purpose and direction for program policy and tactical actions, and are key to facilitating the transformation of 9-1-1 services for all Californians.

Strategic Values

As the 9-1-1 community comes together to plan and support this important transformation and evolution of 9-1-1 services in California, it will need to be guided by strategic values. These values represent the core priorities of an organization’s culture and business. The 9-1-1 program’s statewide *Strategic Values* are:

IN THE PUBLIC INTEREST

Serving the public interest is the ascendant value to which all fiscal, organizational, operational, and technological activity must align.

CAPABLE AND EMPOWERED PUBLIC SAFETY ORGANIZATIONS

As stewards of the public trust, 9-1-1 public safety organizations have an obligation to enhance internal capability and autonomy through the retention of adequate resources, skilled personnel, technological capability, and authority to execute all aspects of the 9-1-1 Program.

ENSURING PUBLIC RESOURCES ARE USED TO CREATE PUBLIC ASSETS

Public organizations have an obligation to ensure that public resources are used to create public assets.

PARTICIPATORY PUBLIC-PRIVATE RELATIONSHIPS (COLLABORATORS VS. CONSUMERS)

Public organizations within the 9-1-1 environment can best serve the public interest by providing leadership, expertise, and oversight when engaging services from private organizations.

OPEN, COMPETITIVE, DYNAMIC MARKETPLACE

An open, competitive, dynamic marketplace is essential to producing innovation necessary for a modern 9-1-1 Program.

ORGANIZATIONAL ALIGNMENT TO CORE VALUES & VISION

All public organizations within the 9-1-1 environment must align to the core values & vision.

OPERATIONAL EFFECTIVENESS VS. EFFICIENCY

9-1-1 environment solutions should emphasize a balance between systemic effectiveness and cost efficiency.

LEADERSHIP & INNOVATION

Critical to the successful modernization of the 9-1-1 environment is a strengthened capacity for leadership, transparency, innovation and collaboration within and between public organizations.

LOCALIZED VALUE

The benefits of local autonomy and empowerment should be valued when considering future design alternatives for the 9-1-1 environment.

SUSTAINABLE 9-1-1 ECOSYSTEM

California benefits most from a sustainable 9-1-1 ecosystem that fosters innovation and opportunity (people), is effective and flexible (process), and is based upon solutions which are interoperable, extensible, and shareable (technology).

Mission and Vision

An organization’s mission and vision are formed by its values. The Mission Statement defines the organization’s purpose. The Vision Statement defines what the organization wants to achieve.

MISSION STATEMENT

The *Mission Statement* for the OCIO/PSCD’s 9-1-1 program, in collaboration with the stakeholder community, is:

THE MISSION OF THE CALIFORNIA 9-1-1 PROGRAM IS TO ENSURE THAT ALL 9-1-1 REQUESTS FOR EMERGENCY SERVICES ARE EFFECTIVELY DELIVERED TO, AND ANSWERED BY, A PUBLIC SAFETY ANSWERING POINT.

VISION STATEMENT

The *Vision Statement* for the OCIO/PSCD’s 9-1-1 program is:

THE OCIO’S 9-1-1 OFFICE WILL LEAD CALIFORNIA’S 9-1-1 COMMUNITY INTO THE NEXT GENERATION OF 9-1-1 IN ORDER TO PROVIDE EXCELLENT SERVICE TO THE PUBLIC.

BOOK 3

Goals and Objectives

“New technologies are transforming the ways in which individuals communicate with each other (and with 9-1-1). Governments, first responders and public safety organizations are looking for ways to use what technology has made possible to create more effective and robust networks and systems and improve the level of service provided to those in need. Next Generation 9-1-1 implementations are poised to fundamentally alter the form and function of the PSAP.”

Craig Whittington, ENP
NENA President

Strategic Goals and Objectives

The following Goals and Objectives provide the strategic path to implement a next generation of 9-1-1 service in California. Each Goal is followed by Objectives specific to the goal.

GOAL 1: EMPOWER THE OCIO/PSCD 9-1-1 OFFICE TO LEAD CALIFORNIA INTO THE NEXT GENERATION OF 9-1-1 SERVICES.

In order for the OCIO/PSCD to lead California into the Next Generation of 9-1-1 services, it will need to take on challenging issues and opportunities. To do so, it will need to be capable and empowered to facilitate the transition to a new paradigm of service management. The OCIO/PSCD's 9-1-1 Office is ultimately responsible for providing the leadership necessary to establish the policies required for a successful NG9-1-1 environment.

Objectives:

1.1 PSCD 9-1-1 Office as Gatekeeper.

The PSCD 9-1-1 Office will provide the leadership necessary to act as the gatekeeper throughout the planning, development, and implementation of the NG9-1-1 environment. In this role the PSCD will be responsible for establishing the system-wide standards, decisions and business rules by which communication services interact with the statewide NG9-1-1 network and by which 9-1-1 requests are distributed.

1.2 Facilitate solutions through collaboration.

Utilize the broad talent base within the PSCD's 9-1-1 Office and leverage the vast knowledge base available throughout the emergency communications community (including, the Advisory Board, County Coordinators, PSAP staff, professional organizations and vendors) to identify and address strategic and tactical Next Generation plans, projects and issues. Establish a NG9-1-1 governance structure to facilitate solutions through collaboration. Individual participation should remain flexible, and vendor participation in policy development should be minimized. A few examples of this type of work

include investigating alternative communication modalities for emergency communications, creative solutions for network architecture, shared resource deployments, and business rules for day-to-day operations versus crises management.

1.3 Ensure that the 9-1-1 Office has sufficient knowledgeable staff appropriate to the transition and ongoing support of NG9-1-1 in California.

Maintain adequate levels of staff with the knowledge and capability needed to be able to interpret, understand, and adapt to emergent technologies, organizational challenges, change management, vendor relationship management, and other complexities that will be part of the planning and transition to the Next Generation of 9-1-1 in California.

1.4 Develop new tools to enhance staff effectiveness, and that will facilitate planning and problem solution analysis and outreach.

For NG9-1-1, the PSCD will refresh or replace the tools necessary to increase staff effectiveness. In response to the continuing dramatic shift from landline to wireless calling, continue the 9-1-1 Office's Routing on Empirical Data (RED) and Emergency Call Tracking System (ECaTS) projects to ensure the timely delivery of 9-1-1 wireless calls to the appropriate PSAPs, establishing a baseline for NG9-1-1. More 9-1-1 Office staff will be involved in problem and solution analysis, in outreach and education of the public, County Coordinators and PSAPs, and in general program leadership.

GOAL 2: EXPAND 9-1-1 TO INCLUDE COMMON AND USEFUL MODES OF COMMUNICATION

There are a variety of communication and database services that may be included within California's Next Generation solution. The NG9-1-1 literature suggests a wide range of communication possibilities, including but not limited to: landline voice, local mobile voice, cellular, stationary and mobile VoIP, SMS and MMS texting, pictures, stationary and mobile video, email, instant messaging, telematics, telemetry, and others. NG9-1-1 suggested databases include the customer information for these communication services, plus information from other potential databases such as medical records, criminal records, incident records, building plans, etcetera. The selection of which elements to include in NG9-1-1 has many ramifications, including technical design, complexity of project management, initial and ongoing costs by all parties, administration and management of the services, required changes in law,

and public expectations and public education. Embracing the communication requirements of people with disabilities within the NG9-1-1 environment has technological, ethical and legal (e.g., ADA) significance. Therefore, the primary decisions required for this goal will be more in the nature of public policy rather than simply technological. Some of these technologies will need to be subject to stringent security requirements.

Objectives:

2.1 Determine the criteria for including or excluding various communications technologies into California’s NG9-1-1 solution.

The PSCD and the 9-1-1 community will need to establish criteria to use in considering which communication technologies should be brought into California’s next generation of 9-1-1 services. For example, criteria may include (but should not necessarily be limited to):

- a. Prevalence or popularity of the modality for communication, as well as its purpose.
- b. Whether or not the modality is capable of providing real-time communication between the requestor and the PSAP.
- c. The degree that certain disadvantaged parties are reliant upon the communication modality (e.g., deaf, speech disabled, blind, etc).
- d. The extent that the modality might be considered by the public or others to be a useful or normal form of communication to request emergency help.
- e. The extent that the modality may offer unique functional advantages to the responding PSAP.

2.2 Determine a process for indentifying the appropriate data to include in the NG9-1-1 solution.

In conjunction with the identification and inclusion of the NG9-1-1 communications technologies, the PSCD and the 9-1-1 community will need to assess the available types and sources of data that can be utilized to compliment the effectiveness of the emergency response effort. Establish standards for data format, accuracy, security, delivery, and other parameters. As with the analysis of communications technologies, this will be an ongoing process as new communications technologies and new data sources become available.

2.3 Determine which communications technologies should be supported by California’s NG9-1-1 solution.

Using the criteria developed in response to objective 1.1, assess and determine which communications technologies should be included within California’s NG9-1-1 solution. This can also be an ongoing process as new communication methodologies are developed and adopted. Also consider whether the inclusion of each modality should be mandatory or optional on the part of the service provider, and mandatory or optional on the part of the user.

GOAL 3: DEFINE THE NEXT GENERATION 9-1-1 ARCHITECTURE.

Based on the selection of the types of communication modalities and information from Goal #1, the next step is to identify an effective networked architecture that will support the needs of the public, the PSAPs and the State. Key NG9-1-1 elements will need to include:

Objectives:

3.1 IP based and open standards technology.

Create an architecture that will support the broadest possible types of communication modalities and systems, based on an open standards IP network. Adherence to open standards will ensure the greatest possible flexibility and interoperability for California’s NG9-1-1 system, facilitating participation by all communication providers and modalities, as well as interfaces to adjunct 9-1-1 systems such as GIS and CAD.

3.2 Security Requirements.

Developing a NG9-1-1 public safety system on IP-based technology will require information technology security considerations similar to other IP networks that are vulnerable to cyber-threats (such as viruses, hackers, and cyber-criminals). Stringent security requirements must be defined and included in the initial system design and development, and kept up to date on an ongoing basis. These requirements will need to encompass all aspects of the NG9-1-1 security design technologies, as well as operational program, policies and procedures.

3.3 Deliver requests to PSAPs over the IP network without requiring specialized hardware and software at the PSAP.

Connect 9-1-1 requests and associated information to the PSAPs via web applications operating as a cloud/hosted environment (software as a service), ensuring universal client access via open standards interfaces. Web based services will allow connectivity from variable locations, supporting traditional, consolidated, virtual and incident based PSAPs.

3.4 All 9-1-1 communication modality vendors to provide all information necessary to identify and route the request.

As a condition of providing 9-1-1 access to their customers, all communication providers of the modalities selected in Goal #1, shall provide their 9-1-1 related valid customer information to the NG9-1-1 system at no charge as a requirement of doing business in California. Such information might include but is not limited to, ten digit phone number, IP address, physical address, longitude and latitude (X/Y address), name of customer, identity and call back number of the communications provider, modality of the request.

3.5 Establish a common statewide knowledge system to route requests based on business rules.

Route calls based on flexible business rules rather than an inflexible network or statute. Business rules could include factors such as X/Y and street address routing, communication modality, type of emergency, PSAP jurisdictional boundaries, availability of the PSAP, predictive emergency events, load balancing, and so forth.

3.6 Supports complete flexibility of PSAP jurisdictions and operations.

The system should provide complete flexibility in supporting all types of PSAPs, including existing PSAPs, consolidated PSAPs, temporary or permanent virtualization of PSAPs, mobile and temporary incident PSAPs. PSAPs shall continue to be owned and managed by the responsible government jurisdiction.

3.7 Robust services and delivery mechanisms, including leveraging existing or planned State infrastructure as appropriate.

The system must be fail safe and offer multiple delivery pathways, including leveraging other State IP and data networks, and emergency communication systems, with active management reporting, while ensuring appropriate security standards.

3.8 Ensure that the NG9-1-1 system is publicly owned and non-proprietary.

California’s vision is to create our NG9-1-1 environment as an open source, open standards-based public asset, licensed via the General Public License (GPL). Public agencies under the leadership of the PSCD will oversee NG9-1-1, while private companies may be contracted for systems development and administration. This public solution will provide California with a NG9-1-1 system which is interoperable, extensible, shareable, and cost sustainable.

GOAL 4: MODERNIZE THE FUNDING MECHANISM TO ALIGN WITH THE NEXT GENERATION SOLUTION.

The current system of funding the State’s costs of the 9-1-1 program is based on user fees collected by landline and wireless telephone service providers. These 9-1-1 fees are based on a percentage of the costs of the consumers’ intrastate calls. The 9-1-1 fees are remitted to the State through oversight by the Board of Equalization (BOE), into the State Emergency Telephone Number Account (SETNA). By statute, the SETNA funds can only be used for specific 9-1-1 program expenses. Presently they are primarily used to reimburse the telephone companies for their customer databases, routing systems and circuits, and PSAP 9-1-1 call taking equipment. Additional lesser costs include the State’s 9-1-1 Office, the BOE, a portion of CHP call taker costs, and reimbursements for County Coordinators, education, training, and travel.

However, the inclusion of a variety of non-regulated, i.e., non-telco, communication providers within the 9-1-1 system will make the establishment and collection of fees very problematic. Therefore, the funding mechanism and the expenditure rules will need to be modernized and aligned with the new Next Generation 9-1-1 solution.

Objectives:

4.1 Keep the SETNA special fund and ensure that its use is protected.

Retain the special purpose fund account in the State Treasury, and ensure by statute, policy and procedure that it can only be used for approved 9-1-1 purposes, and cannot be borrowed against for other purposes.

4.2 Ensure a minimum available fund value at all times.

The amount in the fund should be sufficient to continuously provide authorized 9-1-1 program services, and should have sufficient excess reserve to accommodate unforeseen emergency requirements and multi-year

planning. The funds should also be available during periods without an approved State budget.

4.3 Identify the most appropriate funding source for NG9-1-1 program services.

The current telephone user fee based funding of 9-1-1 will be neither sufficient nor equitable to support the wide variety of Next Generation services. A new funding model will need to be collaboratively identified and developed that is appropriate to the communication services and responsive to the fiscal needs of the program. Request federal grant funds as available.

4.4 Repurpose the fund's allowed expenditures.

The current Revenue and Taxation Code for 9-1-1 does not sufficiently define the variety of costs and expenditures associated with the full range of 9-1-1 program elements, nor for all of the types of costs that will be necessary for the Next Generation of services. Clarifying and repurposing the expenditures should include items such as:

- a. Fund the 9-1-1 Office
- b. Pay for the NG9-1-1 architecture including IP network, databases, SAAS, and reporting systems
- c. PSAP 9-1-1 call taking customer premise equipment (CPE) and related items (e.g., furniture, etc.)
- d. Special projects and pilots
- e. 9-1-1 Office training and travel
- f. Advisory board support
- g. County Coordinators
- h. PSAP call taker recruitment
- i. PSAP education and training
- j. Public education and outreach
- k. Other program related costs

4.5 Continued review and evaluation.

The PSCD 9-1-1 Office will provide ongoing review of the impact that NG9-1-1 deployments are having on the PSAPs and their associated SETNA funding considerations.

GOAL 5: CREATE AN OPEN MARKETPLACE FOR NG9-1-1 SOLUTIONS.

California can benefit from the innovation and rapid evolution of products and services fostered by a vibrant, open commercial market. Technology companies thrive when allowed the opportunity to compete on a level playing field, and win contracts based on the merit of their products and capabilities. Competing new creative ideas are inhibited when the primary systems are proprietary and controlled by one or more big companies. The creation of NG9-1-1 as a non-proprietary environment is an excellent method for ensuring a sustainable and open market for the greatest number of contributors, both contractors and public communication providers.

Objectives:

5.1 Promote market outreach and enrichment.

Educate vendors of broader technology industries about the opportunity to participation in California NG9-1-1. Attracting the interest of technology companies from outside the traditional 9-1-1 telecommunications industry is a constructive way to infuse new ideas, energy, and innovation.

5.2 Procure open source NG9-1-1 systems and services.

Engage commercial companies to help design and develop new open source systems, components and features for the NG9-1-1 environment. These new open-source systems will facilitate multiple new compatible projects in response to specific needs of PSAPs and communications services providers. These individual projects have the potential to be smaller, less complex, and faster to develop than traditional stand-alone proprietary systems, and therefore less expensive overall. A significant benefit can result from lessening the distance between a good idea and its implementation. This creative, agile approach enables the rapid pace of evolution and enhancement of the NG9-1-1 environment.

5.3 Preserve open access to the market.

A key role of the PSCD, in collaboration with other stakeholders such as the 9-1-1 Advisory Board, is to preserve the continual opportunity for diversity and participation by new vendors in the California NG9-1-1 market through lessons learned, preventing the insertion of proprietary components into the NG9-1-1 environment, ensuring product and service contracts are correctly written, and encouraging a healthy understanding and appreciation among industry organizations such as NENA and CalNENA.

5.4 **Publish/distribute shared solutions.**

California and other participants benefit from the continuing evolution, expansion and enrichment of the open source NG9-1-1 environment brought about by the sharing of solutions. It is critical that California provide a leadership role in charting, understanding and obtaining new solutions developed by other state, local and federal agencies, as well as distributing information about our new system enhancements. Sustained collaboration is the cornerstone of an ever-evolving NG9-1-1 experience.

GOAL 6: EMPOWER COUNTY COORDINATORS IN THE NEW PARADIGM.

The value and role of the County Coordinators will significantly increase as 9-1-1 transitions to the Next Generation of services. County Coordinators will need to be current with new State NG9-1-1 policies and practices, and will need to be more technically informed, as they provide critical support services to the PSAPs and feedback to the State 9-1-1 office and the Advisory Board.

Objectives:

6.1 Expand the role and responsibilities of the County Coordinators to support NG9-1-1.

Expand and clarify the role and responsibilities of the County Coordinators to support the PSAPs as NG9-1-1 services are implemented. Consider multiple ways that an expanded role of County Coordinators may contribute to the success of 9-1-1, such as public outreach and education, PSAP compliance and problem assistance, conveying PSAP needs to the 9-1-1 Office, and so on. A manual created by a joint effort of the State 9-1-1 Office, County Coordinators and PSAP managers, can facilitate the development and understanding of this new role.

6.2 Establish a standardized training program and monitor effectiveness.

Develop a formal 9-1-1 Office training program for County Coordinators, covering a variety of topics germane to their responsibilities. Conduct both initial and ongoing training, and include regional County Coordinator meetings to ensure peer discussion, education, mentoring program, and feedback to the 9-1-1 Office.

6.3 Research the best ways to employ County Coordinator services to ensure stability and succession planning in support of their expanded NG9-1-1 role.

Considering the anticipated expanded roles and responsibilities of the County Coordinators in transitioning to and supporting the NG9-1-1 environment, a best practice for employing and retaining County Coordinator services will need to be collaboratively developed. This may result in refinements to the existing methods of employing County Coordinator services through various counties and cities, or may consider other approaches, all with the purpose of identifying the best practice and best value solutions.

GOAL 7: EMPOWER THE 9-1-1 ADVISORY BOARD TO PROVIDE LEADERSHIP IN THE NEW PARADIGM.

The 9-1-1 Advisory Board will have a critical role in advising the OCIO/PSCD on the many policy challenges and decisions that will be faced as we plan for and implement the Next Generation of 9-1-1 services. Empowering the Board to carry out its mission will be a key catalyst for the program and the public to receive maximum benefit.

Objectives:

7.1 Provide the Board with ongoing and current information related to the policy and program challenges of transitioning to the NG9-1-1 environment.

The Advisory Board should be informed of 9-1-1 program challenges, information and opportunities in order to empower it to provide advice and guidance to the 9-1-1 Office. The PSCD should gather and/or develop pertinent project and other information with the purpose of sharing that information with the Board members, especially as it relates to transitioning to the Next Generation environment.

7.2 Involve the Board in collaborative policy development.

The Board members represent unique experience and perspectives within the 9-1-1 community that may not reside within the State 9-1-1 Office. The PSCD recognizes the significant contribution that the Board may add to the development of program policies and practices, and therefore, the 9-1-1 Office and the Board should collaborate in the early stages of policy development, as well as in ongoing program improvements.

7.3 Enhance the Board’s communication and procedural methodology.

Communication and sharing of information needs to be enhanced among the Board Members, and between the Board, the County Coordinators and the State 9-1-1 Office to improve the free flow of ideas and information, while ensuring the public transparency of the Bagley-Keene Act.

7.4 Encourage the Board to provide leadership and outreach to the 9-1-1 Community in support of transitioning to the new NG9-1-1 environment.

The PSAPs and other members of California’s 9-1-1 community will benefit from knowing the Advisory Board’s recommendations and consensus with the State’s 9-1-1 plans and policies. The transition to NG9-1-1 will require significant collaboration and partnership with all jurisdictions, and the Advisory Board is in a unique position to corroborate NG9-1-1 statewide program direction and policies.

GOAL 8: ENSURE THE PUBLIC IS INFORMED OF THE NEXT GENERATION CHANGES AND THE PROPER USE OF 9-1-1.

Twenty-five million 9-1-1 calls are placed in California each year. That represents two calls for every three people of all ages. It is doubtful that all of those calls are for true emergencies. As cited in a previous study, “The public needs to be educated, and routinely reminded, about the appropriate use and characteristics of the 9-1-1 system.”² Public education on the purpose and proper use of dialing 9-1-1 may significantly lower overall 9-1-1 call volumes.

Additionally, as the 9-1-1 system transitions from the current level of legacy service to the new Next Generation of services supporting multiple communication methodologies and other advanced features, the public will need to be informed about how they will work with 9-1-1. It will be important to clearly and consistently match the message to program policies and technical capabilities.

² *Report to the Legislature on An Analysis of Gaps in Statewide 9-1-1 Services*, DGS Telecommunications Division, February 2007, available at www.cio.ca.gov/PSCD/911/pdf/GapAnalysis911ReportJun07.pdf.

Objectives:

8.1 Confirm policies affecting the public’s use of 9-1-1.

Review and confirm those policies that will impact the public’s ability to use 9-1-1 effectively in the Next Generation environment. For example, the use of ten-digit emergency numbers, which types of communication modalities are to be incorporated into NG9-1-1 and how to use them when placing a request for emergency service, any actions that users may need to perform to register or enable their NG9-1-1 services, and so forth.

8.2 Determine the percentages of call types among 9-1-1 calls.

Perform a statistically valid sampling of calls received at various PSAPs to find out the nature of the calls. Assess why people are calling 9-1-1 and determine the percentage of calls that are for various emergencies, and those that are not emergencies. Also determine what groups are not using 9-1-1.

8.3 Study the cost and benefit of a public education campaign.

Contract with a marketing and outreach analysis firm to determine: 1) what kinds of public education may significantly lower 9-1-1 call volumes, and 2) what is the best way to inform the variety of users of non-legacy communication technologies on how to use 9-1-1. Include consideration of material that can be used by a variety of community groups, such as community based organizations and agencies that serve people with communications disabilities, instructors of English as a Second Language, police and fire departments, primary and secondary grade teachers, university police, etcetera. Consider material for a variety of media such as TV, radio, websites, and corporate distribution (i.e., material that should be provided by the communication providers to their potential and existing customers). Also investigate co-sponsorship and gratis participation of statewide or regional companies, such as public service announcements, supermarket chains that may put information on their bags, and others. Assess potential costs and benefits to develop and manage the campaigns, including in different languages, and what campaigns may be State sponsored and which may best be achieved at the local level.

8.4 Conduct focused public education campaigns as warranted.

Depending upon the results of the studies, develop and initiate public outreach and education efforts to reach the targeted audiences, including people with communication disabilities, with the most effective messages.

8.5 Establish standard messages for PSAPs to include on their websites.

A survey of over 300 California PSAPs' websites indicated that almost 40% did not list a "non-emergency" telephone number.³ Without a non-emergency number listed, citizens may conclude that the appropriate way to contact the police or fire department is by dialing 9-1-1 for all situations. Provide updated messages for PSAP use with new information as NG9-1-1 services are implemented.

GOAL 9: MONITOR SYSTEM HEALTH FOR THE PUBLIC GOOD.

A key contribution of the OCIO/PSCD will be to coordinate the ongoing monitoring and performance tuning of the California NG9-1-1 environment. Next Generation technology will provide an unprecedented set of software and network tools with which to view the ebb and flow of 9-1-1 requests, avoid congestion and utilize spare bandwidth in network traffic, and adapt in real time to large scale or complex public safety events. Systemic transparency allows the 9-1-1 Office team to act as a central knowledge group with a broad array of information at their fingertips. To make use of these capabilities and achieve the best possible impact for the citizens of California, new methods for measurement and collaboration are required.

Objectives:

9.1 Define NG9-1-1 key performance indicators and business rules.

NG9-1-1 creates the possibility for all PSAPS (including small distributed locations, centralized large call centers, and individual PSAP team members participating outside a PSAP or in a mobile fashion) to perform as a collaborative community. New business rules and practices can help ensure consistency and capability across the entire spectrum of PSAPs. Legacy wireline voice answer times and other performance standards can serve as a starting point, but will need to evolve to become applicable to NG9-1-1. The 9-1-1 Office will provide leadership in working with other stakeholders such as the Advisory Board and County Coordinators to determine new NG9-1-1 business rules.

³ Conducted by Mission Consulting LLC for the OCIO/PSCD in 2009.

9.2 Create the NG9-1-1 performance dashboard.

Create a NG9-1-1 portal environment which includes a “dashboard” view of overall system health. This type of *status-at-a-glance* feature allows all stakeholders to easily understand and rapidly and appropriately respond to conditions such as network trouble spots, PSAPs in event distress with potentially slow response times, missing request information, training requirements, and many other potential key indicators of NG9-1-1 performance. A strength of this online dashboard is the ability for all parties to view the same information, thus encouraging collaborative problem solving between different jurisdictional agencies.

9.3 Create the NG9-1-1 Community Portal.

In conjunction with the performance dashboard, the creation of a portal environment enables the creation of a statewide knowledge repository. All participants in California 9-1-1 will be able to contribute content such as lessons learned, stories of individual achievement, resolutions to challenging problems, development of new solutions, and questions to be answered by other PSAPs or the 9-1-1 Office. There is enormous potential for idea sharing, cross training, and enhancing a sense of collaboration throughout the state. Such a NG9-1-1 Community Portal may quickly become the glue that creates a new, stronger and more flexible bond between all 9-1-1 contributors.

9.4 Communicate up, communicate out.

The 9-1-1 Office will be responsible for making system health status viewable *upward* to the benefit of state management and elected officials, as well as *outward* to help inform the public of how well 9-1-1 serves – and of potential challenges faced. Connecting the public to the heartbeat of the 9-1-1 system via web sites or other information distribution methods is one for the strongest accelerators for creating a greater sense of community between public services and the public served as long as appropriate security requirements are maintained.

Collaborative Leadership

California's diverse 9-1-1 community represents an incredible pool of talent, knowledge and dedication to public service. The California Office of the Chief Information Officer and its Public Safety Communications Division are dedicated to leading the change from the legacy 9-1-1 system to the Next Generation of 9-1-1 in California through collaboration with this entire community of involved stakeholders.