MANNY ALERT ACT

(AB911)
FEASIBILITY STUDY
of a Self-Registration Database for 911 Calls

Final Report

Submitted by

911 Authority
Connecting Public Safety with Technology

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Section I   Executive Summary

The California legislature commissioned the California Office of Emergency Services (Cal OES or the Office) to conduct this Feasibility Study by passing The Manny Alert Act (AB911) into law in 2019. The intent of the Legislature and this Study is:

1. to explore the establishment of a statewide system under the management of the California Office of Emergency Services that provides the ability for Public Safety Answering Points to aid in dispatching activities. The statewide system would enable all Californians, including older adults, individuals with disabilities, and other at-risk persons, to voluntarily provide vital health and safety information to enable first responders to better assist them during an accident or emergency.

2. that the statewide system would inform law enforcement, fire departments, and emergency medical service personnel, who are planning for or responding to an emergency, with crucial information necessary for interacting with all Californians, especially older adults, individuals with disabilities, and other at-risk persons, so as to maximize the safety of these persons, minimize the likelihood of injury, and promote the safety of all individuals.

A conceptual diagram of the statewide system envisioned by the Manny Alert Act is provided below. In it you will see the various steps and stages Manny Act data would follow in order to fulfill its purpose.
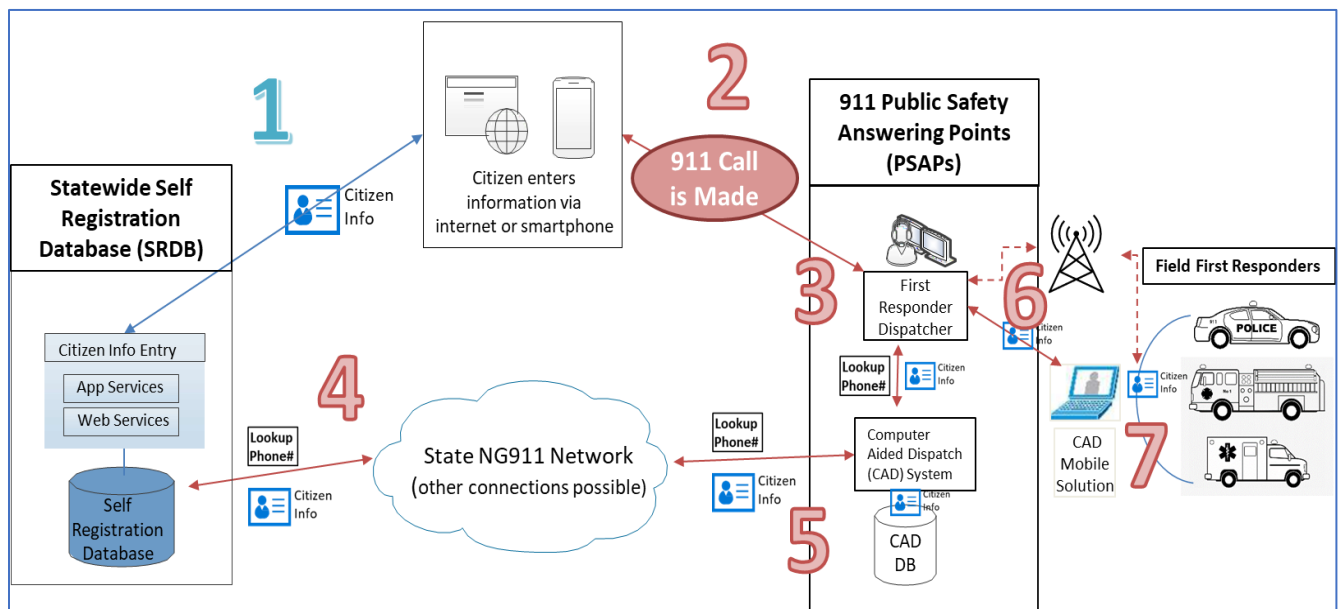

Figure 1 - Conceptual Manny Alert Act/Self Registration Database System Diagram

This Study explores different aspects of the system by offering insights into the feasibility of the Self Registration Database (SRDB) system itself, the feasibility of including Manny Act Data in the current 911

call workflow, as well as the feasibility of distributing Manny Act Data to first responders in the field who would be able to make better or different decisions if given the information provided by the citizen.

This Study also explores and offers Rough Order Magnitude (ROM) cost estimates outlining the potential funding necessary to plan, test, implement, operate, and maintain a statewide system on an annual basis. While not considered budgetary, the findings do provide insight into various funding areas that may need to be addressed by the Legislature if the decision is made to move forward with this initiative.

The law requires Cal OES to submit the results of this feasibility Study in a report to the Legislature and the State 911 Advisory Board and make that report available to the public by January 1, 2021.

This Study was commissioned in March of 2020 at the onset of the COVID-19 pandemic. While impacted by these events, the conduct of the Study did not suffer from it. Information gathering was successfully completed by survey and phone calls/meetings or email. All input provided by the various stakeholder communities was provided openly, honestly and in a professional and sincere manner.

A summary of the Study's Findings and Conclusions are:

- *It is technically feasible to implement, operate, and maintain a statewide self-registration database system as intended by the Manny Alert Act in California.*
  - Other states have implemented similar systems.
  - For California, it is a matter of determining the specific functional requirements and technical specifications needed to publicly procure a system or service capable of fulfilling the Manny Alert Act requirements statewide.
  - Adoption or usage rates by citizens in other jurisdictions with access to a similar system have been very low when compared to the total population and the long-term operational costs of the systems.

- *From a PSAP perspective, it is operationally feasible to include Manny Act data as part of the 911 call workflow process if:*
  - the data remains accurate, concise, consistent and timely;
  - the data integrates into the 911 call workflow like other types of critical data relevant to emergency response;
  - data from the Manny Alert Act interfaces to current and future PSAP systems and applications; and
  - the data remains secure throughout the process.

- *From a field responder perspective, it would be feasible to use Computer Aided Dispatch (CAD) systems, a common existing PSAP application, to distribute Manny Alert Act data to responders.*
  - Today, most California PSAPs surveyed use a CAD system to share critical data with first responders in the field when a 911 call is made.
  - CAD system features and functions satisfy the Manny Alert Act's requirements related to the security of citizen data and its distribution to first responders in the field at the time of an emergency 911 call.

- o CAD systems are not an eligible expense covered by the SETNA fund today. They are a local agency/jurisdictional expense.
- o Not all PSAPs use the same CAD system. The features and functionality of CAD are generally determined by the size of the PSAP and the number of first responder agencies they serve.

- *Rough Order Magnitude (ROM) costs for the different components of the system have been established by this Study. They are as follows:*
    - o Estimated ROM costs for a Self-Registration Database System   = **$3,656,626 to $13,683,156**
    - o Estimated ROM costs for CAD system statewide support   = **$100,294,540**
    - o Estimated ROM costs for Cal OES Staff support   = **$2,064,738**
    - **Total Annual Estimated ROM costs   = $116,042,434**

- *The estimated ROM costs could be mitigated by other factors such as:*
    - o Innovations in cloud-based CAD computing
    - o Continued transition to NG911 for connectivity and data sharing among PSAPs
    - o Continued transition to cloud based Call Processing Equipment (CPE) for PSAPs
    - o Continued deployment of applications for PSAPs which can integrate with additional data repositories, like the Self-Registration Database for Manny Alert Act Data

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Section II   Introduction/Background

Manny Alert Act Authorization

The Manny Alert Act was named for Manuel, a young Californian who is autistic and nonverbal. Manny's mother, Astrid, advocated for a system that would allow any individual, and especially those who are older, disabled, or at-risk, to voluntarily provide vital health and safety information to help first responders better assist them in case of an accident or during an emergency.

In Manny's honor, the Act requires a feasibility study of a statewide system under the management of Cal OES that would provide an information conduit, via Public Safety Answering Points (PSAPs), between the public and first responders. The Act is codified in Chapter 7 of Division 1 of Title 2 of the Government Code, Article 6.3, beginning with Section 8592.20.

It is the Legislature's intent to explore a statewide system that would provide law enforcement, fire departments, and emergency medical service personnel with crucial information necessary for interacting with all Californians. The purpose of the system is to maximize the safety of persons with disabilities, minimize the likelihood of injury, and promote the safety of all individuals.

- Cal OES, working with experts and stakeholders, is to complete a study of the feasibility of such a database system. The Study is premised on and required to include the following:

    - *Information submitted through the statewide system will be confidential and not a public record, and information collected can only be disclosed to law, fire, and emergency medical service personnel at the scene of an emergency and after a 911 call is made.*

    - *That the technology used requires the person submitting the information to confirm the accuracy of that information and state that the information will be used only by public safety dispatch personnel and first responders solely for planning for and responding to emergencies that result in a 911 call.*

    - *Determine the feasibility of integrating the data gathered to support Article 6.3 of the Manny Alert Act with existing 911 Call Processing Equipment (CPE), Next Generation 911 (NG911), Computer Aided Dispatch (CAD), and Record Management Systems at each PSAP.*

    - *Establish a rough order of magnitude estimate of cost to support the statewide system. The cost should provide a comparison of the cost to support a statewide system, versus each individual PSAP purchasing a system individually.*

- By January 1, 2021, Cal OES must submit the results of the study required by the Manny Alert Act in a report to the Legislature and the State 911 Advisory Board. The report, with aggregated information, will also be available to the public.

Feasibility Study Goals and Objectives

Cal OES contracted with 911 Authority, LLC to perform this Study, mandated by the state legislature, to explore the feasibility of a new statewide self-registration database system. The goal of this Study was to determine the feasibility of developing a statewide system to enable all Californians, including older adults, individuals with disabilities, and other at-risk persons, to voluntarily provide vital health and safety

information, with an encrypted connection, to be available to all first responders in an emergency if a 911 call is placed.

This report details how the Feasibility Study was completed and its findings. The Study had several objectives and took into consideration the following items as stated in the Manny Alert Act:

- All database information shall be available to first responders in an emergency if a 911 call is placed.
- Information submitted through the statewide system will be confidential and not a public record, and information collected can only be disclosed to law, fire, and emergency medical service personnel at the scene of an emergency.
- Technology used in the statewide system will require the person submitting the information to confirm its accuracy, and will state that the information will be used only by public safety dispatch personnel and first responders for planning for and responding to emergencies that would result in a 911 call.
- The system incorporates, to the extent doing so is consistent with public safety and is technologically feasible, shared infrastructure and elements of other public safety and emergency communication networks, as specified in the law.
- The estimated funding necessary to plan, test, implement, operate, and maintain the statewide system on an annual basis.

One of the main objectives of this Study was to determine the feasibility of integrating the data mandated by the Manny Alert Act with California's evolving NG911 system and components (911 CPE, CAD and RMS) at each PSAP in California. This included the following tasks:

- Gathering information on existing CAD operations to catalog technology and systems
- Comparing existing CAD operations and technology to industry baselines
- Considering opportunities or implications of technology expansion or replacement
- Establishing baseline capabilities, functionality and CAD system requirements after NG911 implementation
- Cataloging CAD requirements, including existing equipment and configuration, integration with telephony, mapping, logging, reporting and call handling

The second main objective of this Study was to determine a rough order of magnitude cost estimate to support this system.

Methodology

The methodology utilized for this Study was based on an assessment conducted of existing systems in California. The assessment collected and established baseline information about current PSAP and first responder practices and infrastructure.

A PSAP survey was developed with input from the four regional 911 Taskforces to ensure that it was understandable and thorough, but not overly burdensome. The survey was distributed to every PSAP in California. The information collected from the survey was used to assess the current system(s) in California

and determine their readiness for implementation of a self-registration database for all of the state's PSAPs to utilize. Of the 438[1] surveys sent, 279 surveys were returned with some level of usable information. Follow up questions were sent to PSAPs who responded but clarification was needed to fully understand their response.

Due to the onset of the COVID-19 pandemic, on-site PSAP visits and in-person town hall meetings could not be conducted as originally planned. However, open lines of communication via phone and email were available to address questions and conduct follow-up research. Conference call meetings were held with first responder agencies, various local government offices, and supporters and proponents of the Manny Alert Act, including United Domestic Workers of America (UWDA), ARC of California, Assembly Member Rodriguez's office, and Disability Rights California. The time and effort of everyone who assisted with this Study is gratefully acknowledged.

Not only was data collected across the state, but expert analysis was performed on the data to determine feasibility of the system. This Study includes examination and analysis of the existing 911 systems in California and identifies necessary components to implement a self-registration database. This analysis by subject matter experts was the basis for determining feasibility of such a database. Once feasibility was established, the Study recommends the best path forward, in coordination with the NG911 system implementation, to achieve the strategic benefit of a self-registration database.

Research and analysis were performed and documented on the technology, legislation, funding, personnel, training, and education necessary to implement the proposed database. This analysis is also included in this Study. Additionally, research was conducted on existing self-registration databases for medical information to determine usage rates of similar systems.

A principal component of determining feasibility, beyond technological viability, is cost. A rough order magnitude (ROM) cost estimate has been formulated by industry experts, based on call taking positions and costs per year for each PSAP in California. Cost estimates for CalOES administration of the system are also included in this Study.

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[1] 438 is every PSAP in California. For the purposes of the survey, entities with multiple PSAPs with identical equipment and practices such as Cal Fire and California Highway Patrol were asked to complete only one survey for their entire organizations.

Section III The Feasibility and Utility of Self-Registered Data

Emerging Trends

While conducting this Study, societal discussion regarding police reform increased greatly.[2] One facet pertinent to the system proposed by the Manny Alert Act is dispatching alternative responders for mental health and other types of calls.[3] The California Legislature considered action in that area during the 2020 Session. AB2054 was the proposed Community Response Initiative to Strengthen Emergency Systems Act (or the C.R.I.S.E.S. Act). The bill was supported by Taun Hall, whose son, Miles, was killed by police during a psychotic episode in June of 2019. 911 call recordings indicated that callers relayed that Miles had mental health issues.[4] AB2054 did not become law, but similar efforts are underway locally in California and across the country.[5] A system as outlined in this Study could assist telecommunicators in dispatching and could better ensure that first responders in the field are aware of such critical information. Because of this evolving situation, and the applicability of this technology, the feasibility of the system is also examined in the context of these possible changes.

Technology in this area is also rapidly evolving. NG911, while not a new concept, provides the basic network capability for a variety of emergency services and interfaces between 911 callers and first responders. Providing additional information to responders in the field has become a priority for some vendors, thus broadening the options and capabilities available. For example, RapidDeploy, a company that offers an integrated emergency response platform, recently announced a new platform that will integrate with Google, OnStar, ADT, Priority Dispatch and Rave Mobile Safety.[6] This Study does not endorse RapidDeploy, or any other vendor. However, RapidDeploy is an application in some California PSAPs today, and is used as an example of existing and emerging technology in this area

Establishing the Feasibility and Utility of Self-Registered Data

Based on existing technology, this Study is premised on the assumption that the database described in the Manny Alert Act is technologically feasible. It is also uncontested that additional information can always be useful in emergency situations. However, it is necessary to consider other factors in order to provide a well-reasoned analysis of overall feasibility for California. This section outlines expected uses,

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[2] Public Safety technology continues to evolve in ways that can impact a variety of social reform movements. https://www.zdnet.com/article/axon-ceo-rick-smith-on-technologys-role-in-police-reform-reinventing-911-calls-and-digital-transformation/

[3] Programs for alternative responses to mental health incidents are being discussed across the nation. For example: https://www.thedenverchannel.com/news/front-range/aurora/aurora-could-see-a-new-program-that-diverts-some-911-calls-to-a-paramedic-and-clinician
https://www.thedenverchannel.com/news/local-news/new-program-diverts-some-911-calls-from-police-to-a-mental-health-team
https://www.cbsnews.com/news/mental-health-team-responds-to-emergencies-oregon-alternative-to-police-2019-10-23/

[4] https://www.desertsun.com/story/news/crime_courts/2020/07/05/efforts-grow-rethink-911-find-alternative-mental-health-crises/5380206002/

[5] https://losangeles.cbslocal.com/2020/10/14/la-city-council-to-vote-wednesday-on-using-unarmed-crisis-teams-for-nonviolent-911-cass/

[6] https://www.govtech.com/biz/Google-OnStar-ADT-and-Others-Integrate-With-911-Startup.html

regulatory and administrative considerations, and provides comparisons with other jurisdictions who have implemented similar services. The diagram below shows a logical view and representation of how the proposed system would function.
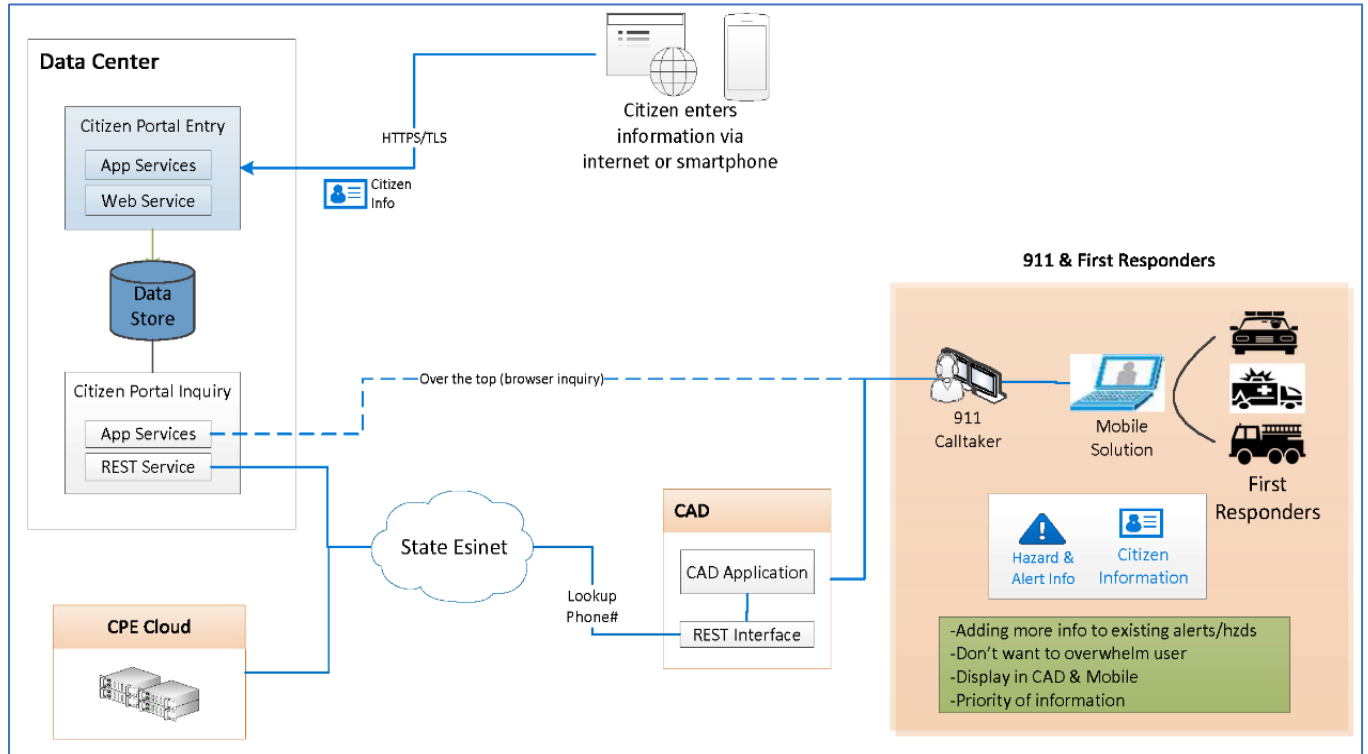
Figure 2 - Self-Registration Database System Components

This diagram conceptually illustrates how citizen-entered data could enter and transit the public safety network to CAD, which is the most likely PSAP based application for receiving information and communicating it to first responders. There are multiple ways the system could be structured; this is offered as one possibility for envisioning the various considerations. For the purposes of this Study, Self-Registration Database (SRDB) will be used to describe the application being evaluated/assessed in this Study.

The process and infrastructure as shown in the diagram is detailed as follows:

- A citizen who chooses to participate would begin by accessing a User Interface (UI) via the Internet or a smart device. They would create a profile, including a username and a password. The information entered by the citizen would need to be transmitted over a secure (e.g. encrypted) connection to help ensure the privacy of the personal information being entered.

- Once information is entered into the SRDB, the data must be stored, managed, and maintained. Part of that process is having a place to store citizen data that is accessible to the citizen, but that can also be queried by every PSAP in California. For 911 first responders/public safety dispatchers to query the system, it would have to be accessible by browser, or by an interface with an existing public safety system, such as CAD or CPE. The information contained in all queries, and the return

information from the database, must be secure and meet the rigid data security requirements that are standard for any public safety network.

- Today, when a 911 call is received, PSAP systems automatically create a call for service record, which contains all known information about a particular 911 call. When public safety dispatchers receive information back from the SRDB query, that information needs to be housed in the call for service record. This Study envisions that there would be a type of indicator (icon, color change, or flag) that would alert the public safety dispatcher that there is information from the SRDB associated with the call for service. It is expected that the return information will be included with any other compiled hazard information provided with the call for service. For the dispatcher to access the citizen data, the system could provide a hyperlink to the record, visible to the dispatcher on their existing screens. The hyperlink would also be part of the call for service information sent to first responders so that they could access the SRDB information to review, as feasible, during their response to the call.

All of these steps, and the technology and other requirements to facilitate them, are discussed in greater detail later in this Study.

Research from Other Jurisdictions

Direct project knowledge and experience, as well as publicly available news and reports were reviewed to understand implementations of similar self-registration database systems across the country. Based on that knowledge and research, at least 30 States and the District of Columbia were identified as having Smart911, the most commonly referenced system, deployed on either a state, county, or city level.[7] Smart911 currently reports having over 45 million people protected by their service in the United States.[8]

This Study does not advocate or endorse the Smart911 product. However, Smart911 aligns conceptually with the initial phase of this Study: individuals providing information that may be used in an emergency. Smart911's software allows users to create a profile, tied to a phone number, and provide information similar to that required by the Manny Alert Act.

Our research indicates that these types of systems can save lives. However, the public's adoption and use rates are very low. Chicago deployed Smart911 in September of 2018[9]. In April of 2019, there were 11,000 Chicagoans who had created safety profiles. Chicago had 2.6 million residents at the time and was paying $3 million per year for the service.[10] In 2020, the Mayor called for use of the system in light of COVID-19. As of April 2020, there were 20,200 registered users in Chicago. 4,200 of those individuals signed up in the month following the Mayor's appeal.

Porter County and Lake County, Indiana both contracted for Smart911 services. Privacy concerns were the paramount issue in an article regarding these deployments. In June 2018, fewer than 5,000 residents in

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[7] Those States are: Alabama, Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Massachusetts, Michigan, Minnesota, Missouri, Montana, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington, Wisconsin, and the District of Columbia.

[8] https://www.smart911.com/ Accessed August 31, 2020.

[9] https://www.nbcchicago.com/investigations/chicago-officials-urge-smart-911-sign-up-amid-coronavirus-pandemic/2251253/

[10] https://www.nbcchicago.com/news/local/city-smart-911-could-save-lives-but-sign-up-lagging/161559/

Porter County, population – approximately 170,000 were reported to have signed-up for the service. Costs for Porter County's Smart911 services were reported at approximately $28,000 per year. Lake County, population approximately 485,000, had not yet deployed the system, which was contracted at $41,700 per year.[11]

At the state level, Arkansas was the first state to announce a statewide Smart911 deployment in June 2012. By early 2013, it was announced that Smart911 was operational in 90% of Arkansas's PSAPs[12] However, in November of 2015, concerns were reported regarding implementation, usage rates and cost. One issue highlighted was that eight of Arkansas's 110 PSAPs were still not operational. Another issue was that only about 22,000 households, or less than 2 percent of Arkansas's population, had registered. The system reportedly cost $825,000 per year. As in Indiana, privacy was an issue raised regarding participation by citizens.[13]

Michigan completed its procurement for statewide Smart911 in the fiscal year beginning October 2016. Based on a map published by the State of Michigan in October of 2019, 67 of Michigan's 83 counties had in some way deployed Smart911[14]. The above referenced map does not specify how many of Michigan's 143 PSAPs currently have Smart911 implemented. Determining how many Michigan households have created profiles in Smart911 is difficult to quantify. However, information from Ottawa County, shows that as of November 2019, 10 percent of county residents have a Smart911 profile. The application has been available in Ottawa County since 2014. In Alpena County, a 911 dispatcher endorsed the product as useful, and possibly lifesaving, but stated that "…almost nobody is using it".[15]

Systems like the Manny Alert Act system can save lives. For example, one mother in Arkansas called 911 because of a cut to her child's face. During the call, the mother forgot to tell the telecommunicator that the child was dangerously allergic to latex. However, the mother had an emergency profile and the dispatcher was able to alert first responders to the issue.[16]

Other products are also currently available to consumers. For example, Apple's iPhone operating system allows individuals to enter health information and send the information to a PSAP or make it accessible to first responders at the scene.[17] Like Smart911 or conceptually the SRDB, Apple's application is dependent on individual participation. But unlike the concept for the SRDB, the health information is not integrated into existing public safety systems. Smart911, therefore, is used to assess use and feasibility of similar technology. It is also important to note that this specific software does not provide the automatic sharing of information directly and securely with first responders via CAD Mobile as described in Section IV.

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[11] https://www.chicagotribune.com/suburbs/post-tribune/opinion/ct-ptb-davich-smart-911-program-st-0624-story.html

[12] https://safety.smart911.com/smart911-blog/arkansas-leads-nation-smart911-deployment

[13] https://www.fox16.com/news/local-news/fox16-investigates-is-smart911-helpline-in-need-of-lifeline/

[14] Smart911 Status Map. https://www.michigan.gov/documents/msp/Smart911_5-8-17_562928_7.pdf

[15] Officials push Smart911 app. https://www.thealpenanews.com/news/local-news/2020/08/officials-push-smart911-app/

[16] https://safety.smart911.com/smart911-blog/arkansas-leads-nation-smart911-deployment

[17] https://support.apple.com/guide/iphone/create-and-share-your-medical-id-iphec639eb15/ios#:~:text=You%20can%20also%20allow%20your,(U.S.%20only%3B%20watchOS%206.2.

Database Funding

Per Legislative direction, this Study assumes that Cal OES manages the SRDB. Estimated costs, including costs for database management, are included in the Rough Order of Magnitude Estimate section of this Study. However, the mechanisms for funding, separate from actual costs, are a legislative issue. Cal OES already oversees the disbursement of the Emergency Telephone Users Surcharge from the State Emergency Telephone Number Account (SETNA). Eligible costs for SETNA funds are listed in the Revenue and Taxation Code Div 2, Part 20, Ch 7, Art 2, § 41136. The legislative intent for the funds specifies that it is to be used for any expenses related to the Warren 911 Emergency Assistance Act.[18] Therefore, two models of funding could be introduced. First, the Surcharge could be increased to allow for the database expenses, in which case, the database should be added to the Revenue and Taxation Code as an allowable cost. The database should also be referenced in an amendment to the Warren Act to ensure no confusion regarding legislative intent and application. Second, an entirely different funding source could be established specific to the database legislation, separate from SETNA or the Warren Act. The staff and funding requirements of Cal OES personnel to administer the database would be addressed in a budget request.

Access to Information

The Manny Alert Act specifies the intent that the information be used for emergency planning[19], but later limits the use of the information to actual responders on the scene of an emergency.[20] The feasibility of the database increases as the confidential, public safety applications increase. It is recommended that in any enacting legislation, emergency managers be allowed access to the database information in order to plan for emergencies, including evacuations. Information regarding special transport or communication needs could be vital in saving lives.

Existing Regulations

No existing regulatory obstacles to the database legislation have been identified. Cal OES is not subject to the federal HIPAA regulations, as they are not a health plan, a health care clearinghouse, or a health care provider.[21] Nor has Cal OES ever sought to be a voluntarily covered entity, according to information gathered from the Office. As discussed elsewhere in this report, and in compliance with the Study requirements, confidentiality of this sensitive and personal information is nonetheless a paramount concern.

Similarly, nothing has been identified in the Americans with Disabilities Act (ADA) that would prohibit the proposed database. Even aside from ADA requirements, because assisting those with disabilities is a primary purpose of the database, it must be accessible. Federal guidance exists on making websites accessible.[22] Some particular issues related to accessibility are found in the registration process. Not all

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[18] Gov Code Title 5, Div 2, Part 1, Ch 1, Art 6, §53100 *et seq*

[19] Gov Code Title 2, Div 1, Ch 7, Art 6.3, §8592.22 (c)

[20] Gov Code Title 2, Div 1, Ch 7, Art 6.3, § 8592.22 (b) (1)

[21] The definition of a HIPAA covered entity is found in 45 CFR 160.103

[22] U.S. Department of Justice, *Accessibility of State and Local Government Websites to People with Disabilities*: https://www.ada.gov/websites2.htm; ADA Best Practices Tool Kit for State and Local Governments, Chapter 5, Website Accessibility Under Title II of the ADA: https://www.ada.gov/pcatoolkit/chap5toolkit.htm (guidance also exists regarding 911 services in general and the ADA: ADA Best Practices Tool Kit for State and Local Governments, Chapter 4, 9-1-1 and Emergency

individuals registering in the database will be capable of entering their own data. Therefore, guidelines would be required to allow alternative registration methods to individuals in some cases.

Database Registration Process

To be feasible, the database must be useable; but it must also provide the most reliable information possible to first responders. To allow complete accessibility, in some instances third parties must be allowed to enter data for those wishing to register. However, unlimited third-party registration is not recommended. Parameters will have to be set to discourage unauthorized registration of individuals. Options include a checkbox in the required identity verification that the registration is being completed by a third party with the permission of the individual being registered. If that box is checked, the name and information of the person completing the form would be required. Another option is only allowing specific individuals such as immediate family members, social services workers, medical providers, or those with power of attorney to register another person. In some locations with similar systems, social services clients are now automatically registered by their caseworkers, and that is an option that could be considered moving forward.

Technological accessibility may be an issue for some individuals. In such situations, Cal OES could provide listings of public libraries, governmental offices, or other private institutions that provide public computer access.

Verification of Information

A major concern for first responders is the veracity and timeliness of the information within the database. The system inherently relies on the honor system[23], as there is no way to completely verify the identity of registrants. However, an option that may be considered is programming a verification with the California Department of Motor Vehicles (DMV). Without sharing any private information, the system could query DMV records to determine whether or not they have records matching the information entered. Failure to verify would not prohibit registration. But in the event of an emergency, first responders could be alerted that the information could not be verified.

In order to mitigate accuracy issues to some extent, it is recommended that the system send automatic notices to registrants at least once a year to remind them to review and update their information within the database. The system could be programmed to show dispatchers and first responders the date the information was entered and when it was last verified. Whether records that have not been updated within a particular timeline should or should not be purged will have to be determined.

The database will require legislation to minimize exploitation and should include civil and criminal penalties for intentional misuse of the system or data. Penalties for misuse of the 911 system already exist in the California Penal Code Part 1, Title 15, Chapter 2, Section 653y. Applicability of this section to the database would have to be determined, based on whether the database is part of the 911 system. Enacting legislation could be drafted to define it as part of the system or not. Whether or not the penalties

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Communications Services: https://www.ada.gov/pcatoolkit/chap4toolkit.htm). Many more resources, including specific Section 508 requirements, can be found in the Cal OES Office of Access and Functional Needs Library: https://www.caloes.ca.gov/cal-oes-divisions/access-functional-needs/afn-library.

[23] Gov Code Title 2, Div 1, Ch 7, Art 6.3, § 8592.22 (b) (2)

are appropriate for misuse of the database would also have to be considered. Legislation could include penalties specific to the database.

Liability

As with any database containing sensitive information, there are liability concerns created by its use. Therefore, liability waivers should be considered as part of the system.

Individuals registering should be provided a statement that best efforts are continuously utilized to protect their information, but that by registering they waive any liability and all claims against Cal OES, the State, answering PSAPs and their governing entities, first responders or any other authorized entities utilizing or having access to the information. Specific instances of misuse could be addressed by the penalty provision(s) discussed above, and/or the liability waiver could exclude intentional misuse of the system or information. Such a waiver should, however, also include any privacy violation claims.

Application to Legislative Trends

The 2020 session of the California Legislature had several bills related to law enforcement reform, including AB2054, The Community Response Initiative to Strengthen Emergency Systems Act (The C.R.I.S.E.S. Act), discussed above[24]. If dispatching alternative responders to traditionally law enforcement-type calls is eventually codified at the state level, the database may become vital. One way to implement alternative responses is to have individuals register in the database. Such registration would provide notification to the 911 first responder/public safety dispatcher at the time of a 911 call that alternative responders are appropriate. Again, safeguards should be considered to hinder attempts to misuse the database.

As also discussed above, databases such as the one proposed in the Manny Act are in use across the United States and becoming more common. The types and features vary. Voluntary registration databases for disaster response are similar to 911 self-registration databases. Cal OES has provided guidance for disaster planning databases.[25] Though Cal OES has discouraged the use of voluntary databases for disaster planning, the proposed Manny Alert Act system has some important differences, such as professional first responders utilizing the system, and 911 responses do not rely on volunteers. Cal OES is not taking a position for or against the self-registration database analyzed in this Study, merely presenting the feasibility of such a system.

Findings and Conclusions:

After collecting and analyzing the data related to the feasibility and utility of the SRDB, this Study has found that it is technically feasible to implement, operate and maintain a SRDB as intended by the Manny Alert Act in California. No existing regulatory obstacles to the database legislation have been identified. Additionally, this SRDB would be on trend with emerging 911 technologies and could work with the NG911 system as that transition continues. Other states have been successful in implementing similar systems statewide. However, adoption and usage rates by citizens in other jurisdictions researched as part of this Study have been very low when compared to the total population and long-term operational costs of the systems. For California, the challenge will be determining the specific functional requirements and

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[24] AB2054 proposed grant funding through CalOES to community organizations to provide non-law enforcement responders in certain types of areas and to certain types of calls.
http://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB2054
[25] California Office of Emergency Service's *Voluntary Disaster Registry Planning Guidance*, 2020.

technical specifications needed to publicly procure a system or service capable of fulfilling the Manny Alert Act statewide.

Besides citizen adoption rates, there are some other factors to consider. Cost is detailed later in this Study, but funding for the SRDB and the personnel cost to run it is a major consideration that California will face. Verification of information and liability issues will need to be considered further based on the information in this section.

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Section IV Distribution of Manny Act Data to First Responders

An important aspect of this Study is exploring the feasibility of including Manny Alert Act Data in the 911 call workflow process. Additionally, this section discusses the feasibility of distributing Manny Act Data to first responders in the field to enable more informed decision making, based on the information provided by the citizen.

911 In California

Calls to 911 in California take place on a larger scale than anywhere else in the country. The numbers involved dwarf most other state systems, which makes comparisons with other states or systems difficult. However, other jurisdictions' experiences will be used to extrapolate and provide comparative analysis throughout this Study where applicable. The table below provides some number about 911 in California that will be utilized throughout this Study.

Statements of fact: 911 in California as of 2020	
California has the largest state population in the country	**39.51 Million**
Annually, Californians generate the most 911 calls in the country (about 50 calls per minute, 3000 calls per hour, 76,000 calls per day)	**27.3 Million** *911 Calls in 2019*
California has the most Public Safety Answering Points (PSAPs) of any statewide system in the country	**438 PSAPs**
California PSAPs that responded to the PSAP Survey	**279**
California has the most 911 call taking positions of any statewide system in the country	**3,261**
California has the most first responder agencies of any statewide system in the country	**1,600+ (estimated)**

Table 1 - 911 in California by the Numbers

Total 9-1-1 Calls in 2019	27,361,673
82% Wireless	22,419,645
13% Wireline	3,607,974
5% Voice over IP	1,236,804
< 1% Other including Telematics	34,929
< 1% Text to 9-1-1	62,321 (up from 28,014)
, 2020 California State 9-1-1 Advisory Board	

Table 2 - California 911 Calls 2019

Cal OES background and overview

The California Governor's Office of Emergency Services, Public Safety Communications (PSC) division serves the State of California by providing public safety communications to the state's first responders, and oversight of the 911 system. Established on September 19, 1947, the PSC is dedicated to the preservation and protection of human life and public safety by delivering reliable and dependable communication services, which keep the public connected during times of crisis.

The PSC is also responsible for the administration and oversight of the State Emergency Telephone Number Account (SETNA) used to fund 911 in California, and for the design and development of the statewide network that supports delivery of 911 calls to the state's 438 PSAPs. The PSC's mission is to ensure that quality telecommunications services and commodities are provided to all state agencies in the most cost-effective, efficient, and timely manner possible. This includes maximizing the use of state resources, and the consolidation and joint use of telecommunications systems and services where operationally, technically, and economically feasible. The PSC's 911 Emergency Communications Branch (CA 911 Branch), in concert with all public safety agencies in the state, is dedicated to providing its citizens and visitors the best emergency services possible.

Next Generation 911 (NG911) in California

The CA 911 Branch remains focused on enabling PSAPs to provide the fastest, most reliable, and cost-effective access to emergency services for any 911 caller in California from any communications device. Due to the aging technology of today's 911 system, the number of outages continues to increase, and the existing 911 system is becoming less and less reliable.

Modernizing California's outdated 911 funding formula is crucial to protecting our 911 system. The CA Legislature approved SB 96 / AB 96 which provides the updated SETNA funding model that will provide the revenue needed to implement NG911. NG911 will provide multi-layered redundancy and a common technology platform for alerts and warnings. For purposes of this Study, the advantages of NG911 include:
- Allowing agencies to re-route 911 calls to each other during disasters
- Providing a statewide common technology delivery system for alerts and warnings
- Ensuring emergency calls are quickly and accurately delivered – in three seconds or less
- Supporting text to 911 delivery into the PSAP
- Delivering increased location accuracy for wireless calls
- Allowing agencies to utilize state of the art mapping in order to better locate callers

The projected completion date for NG911 deployment in California is the end of calendar year 2021.

PSAP Survey

As described in the Methodology section, the major information gathering portion of this Study was done by a survey to all California PSAPs. The survey included questions pertaining to agencies the PSAPs serve, the technology used by the PSAP, and sought detail about each PSAP's CPE and CAD systems. The intent of the survey was to collect detailed information about key technology that could be used with any system developed based on the Manny Alert Act. Of the 438 surveys sent, 279 surveys were returned. Follow up questions regarding CAD information were sent to 60 PSAPs, 41 of which responded.

This section includes key responses from the survey, with tables showing the breakdowns of the responses received. These answers provide a framework for establishing the necessary infrastructure to incorporate a system as outlined by the Manny Alert Act within existing dispatching processes.

First Responders in California

As discussed above, California has the most PSAPs of any state in the U.S. Each PSAP serves a specific area like a town, city or county, answering the 911 calls that originate in that area and works most frequently with the field based first responder agencies in that area. However, 911, particularly NG911, technology allows for PSAPs to provide backup to other PSAPs who may be overwhelmed with a crisis or may not be functional for a variety of reasons. Therefore, a PSAP could work with responder agencies from across California. In order to ensure that a citizen's information is available to all appropriate responders, it was necessary to estimate the total number of agencies currently being dispatched in California.

This Study asked PSAP survey respondents to share information related to the field based first responder agencies they serve. The responses provided excellent data to analyze and use for the purposes of this feasibility Study. The information provided by the PSAP survey respondents is as follows:
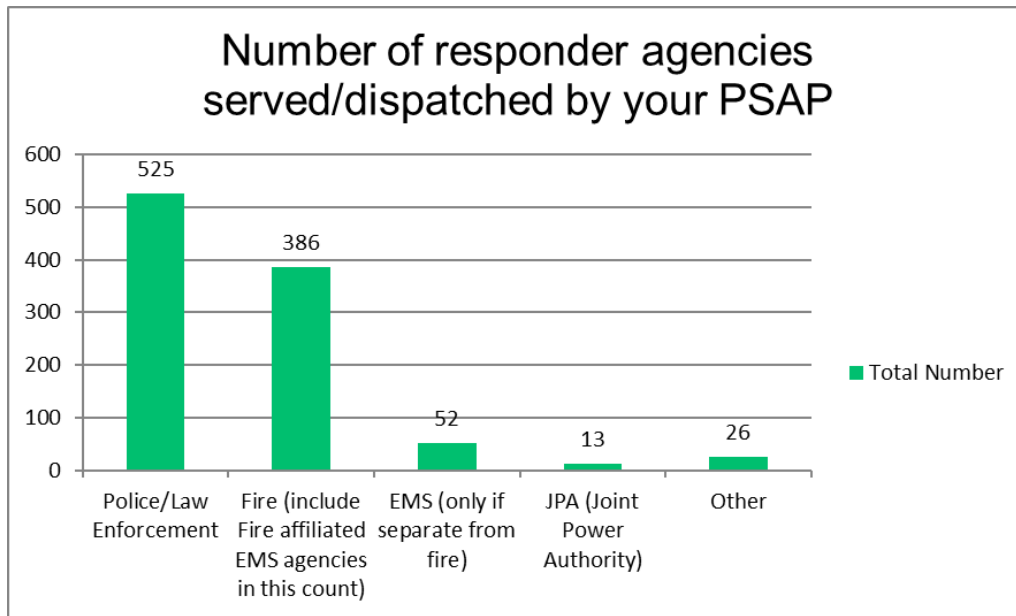
Figure 3 - PSAP Survey First Responder Agency Counts

While 100 percent participation from all California PSAPs was not achieved during the course of this Study, largely due to the COVID-19 pandemic, the responses that were supplied (279) are statistically significant and are used in this Study to extrapolate the number of field-based first responder agencies active statewide. Additionally, it is important to note that operationally, it is common for some field-based first responder agencies (typically Fire and EMS agencies) to be dispatched by more than one PSAP. This means there is likely some duplication and overlap between the numbers represented by the survey data above.

Field Based First Responder Agency Types	Total Number
Police/Law Enforcement	525
Fire (include Fire affiliated EMS agencies in this count)	386
EMS (only if separate from fire)	52

Field Based First Responder Agency Types	Total Number
JPA (Joint Power Authority)	13
Other	26
Total Reported Field Based First Responder Agency Count	**1002**
Extrapolation for feasibility	
Extrapolation Factor Formula: 279 PSAPs = 61.8% of 438 PSAPs 279 PSAPs reported 1,002 dispatch agencies 1,002 dispatch agencies = 61.8% of all agencies in California 100% - 61.8% = 38.2% of agencies unaccounted for by the survey + 25% contingency	1.63
1.63 x 1002 =	**Estimated 1,633**

Table 3 - First Responder Agency Extrapolation

For this Study, it is important to highlight that there are more than 1,600 first responder agencies in California because it begins to define how many agencies may need to have access to the Manny Alert Act data and how they interact with the 438 PSAPs across the state.

Things that can happen to a 911 call

Transferring 911 Calls

When a 911 call is received at the PSAP, many things may happen. Typically, the call gets answered, the caller provides information to the 911 first responder/public safety dispatcher and they then take the information received from the caller and begin to dispatch first responders to the scene of the emergency. In some instances, the call may have to be transferred to another PSAP. This is especially true with the rise in 911 calls coming from cellular phones. For example, callers who are near a county border may connect to a cell tower in the neighboring county, and the call would have to be transferred to the PSAP that dispatches emergency services in the caller's county.   A variety of other situations can require call transfers, but for the purposes of this Study, it is vital to understand how calls may traverse all of California's PSAPs. For the Manny Alert Act data to fulfill its intended purpose, the information must be available to all first responders who will handle the call and all emergency services who might be involved in the response. It, therefore, must be accessible to all PSAPs even if they were not the first entity to receive the 911 call.

In order to understand how 911 calls can flow between and among PSAPs in California, we asked the following questions on the survey. This data identifies specific instances among the respondents where a transfer of a 911 caller is routine. While this may seem counter intuitive, an example will help explain why this happens.

A caller's 911 call is answered at a county PSAP operated by the County Sheriff. The 911 caller's house is on fire and they request the fire company. The Sheriff's office PSAP will often transfer that fire 911 caller to the county Fire Departments' PSAP so that dispatchers from the Fire Department can help direct the right fire resources to the scene of the emergency.
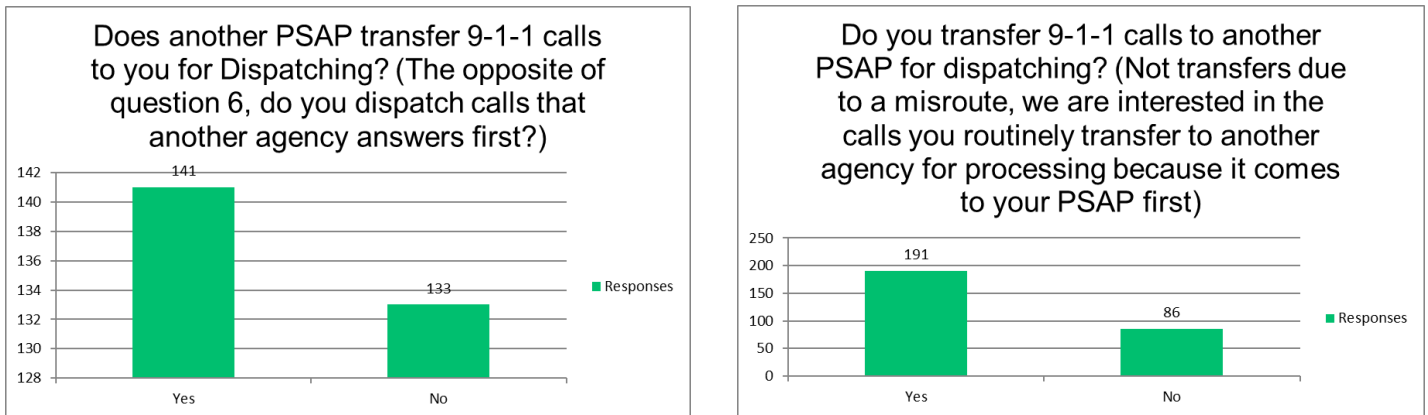
Figure 4 - PSAP Survey 911 Call Transfer Responses

These survey results demonstrate that a 911 call, and any data associated with it, will need to be portable and transferable from one PSAP system to another and from one field based First Responder agency to another. All while being secure, confidential, and timely.

911 Call Overflow

As mentioned above, PSAPs serve as backups for each other. If a PSAP suddenly receives more calls than it can answer at a given time (this may happen in unexpected emergency situations such as active shooters), calls that cannot be answered at the first PSAP can automatically roll to another PSAP to ensure that all callers receive a response.

We asked a question about PSAP backups on the survey and this is what the PSAPs told us:
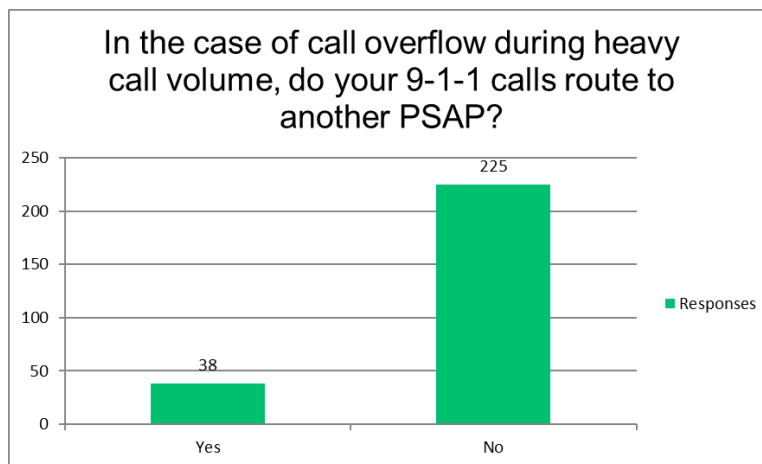
Figure 5 - PSAP Survey 911 Call Overflow Information

With the current transition to NG911 underway in California, the scenario portrayed by the survey responses above will likely reverse as rerouting calls to a different PSAP will be an automated function of the NG911 system.

Similarly, Manny Alert Act data will need to be as transportable and follow the same automated paths established by the NG911 system.

Calls can go to backup 911 centers

911 calls may also be sent directly to a backup PSAP (a PSAP which may or may not always be in operation) if the main or primary PSAP facility is unavailable. A scenario for utilizing a backup PSAP would include a primary PSAP closing for a brief period to perform disinfection or if the physical structure was threatened by a flood or fire.

We asked the PSAPs if they have a backup PSAP, and the graph and table below show that the majority of PSAPs that responded to our survey do not maintain a backup PSAP facility.
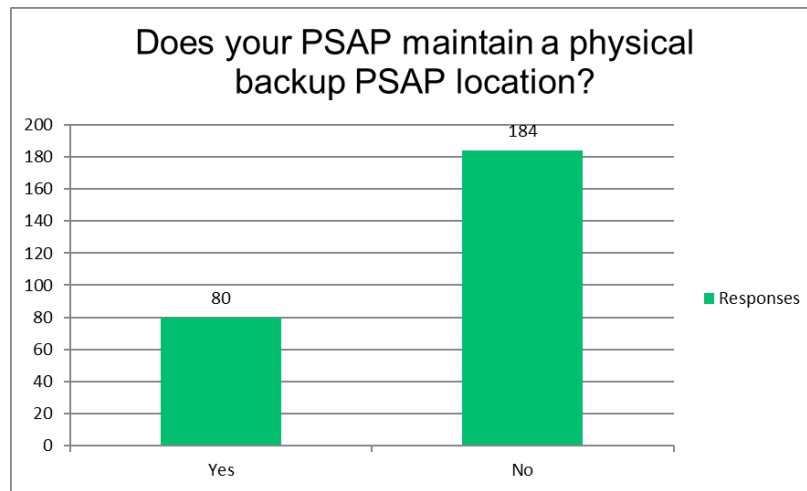
Figure 6 - PSAP Survey Backup PSAP Information

However, for purposes of ensuring availability of data for all 911 calls, it is vital to recognize that for those PSAPs who have backup centers, those backup centers do not always have the same types of equipment or systems that the primary PSAP uses. The graph and table below demonstrate that of the 80 PSAPs who said they had a backup PSAP location, radio consoles were the most consistently shared piece of equipment. It could be difficult for a PSAP to share Manny Alert Act data if they had to operate from a backup PSAP if the same capabilities are not present to answer and process a 911 call.

What types of equipment do you maintain at your backup center?
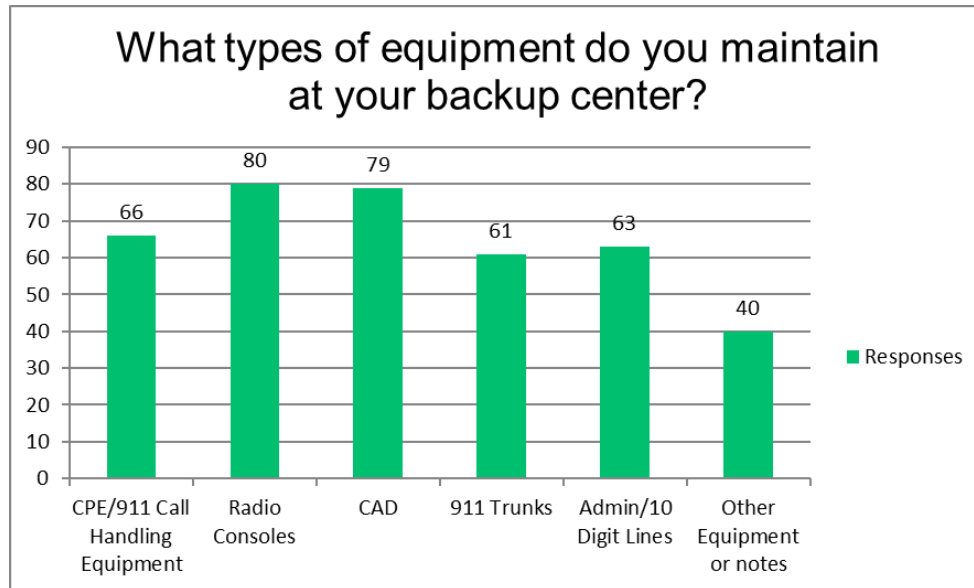
Figure 7 - PSAP Survey Backup PSAP Equipment

In order to ensure that the proposed system is functional with all PSAPs, the survey also asked how many call answering positions are available at backup PSAPs. Respondents reported a total of 481 positions in those backup PSAPs.

Existing Information Distribution Infrastructure

During this Study, multiple public safety technology applications were assessed to determine their viability in meeting the requirements of a Self-Registration Database (SRDB). Consideration had to be given as to how the SRDB will be constructed, maintained, and managed. The SRDB must also be accessible by the public to input their information and by first responders to retrieve any applicable information as part of any emergency response.

The applications considered to serve as the access and distribution platform for any transaction associated with the SRDB included, but were not limited to:

- Public Safety Land/Mobile Radio System (LMR)
- Call Processing Equipment (CPE)
- Computer Aided Dispatch (CAD)
- National Crime Information Center System (NCIC)
- California Law Enforcement Telecommunications System (CLETS)
- Direct inquiries from public safety mobile data system (MDS) devices
- California Department of Motor Vehicles (DMV) System or other state-run, public safety accessible system

While many of the platforms considered would be viable, secure, and could accommodate interactions associated with the proposed database, CAD provides the best platform to meet all of the requirements of the Manny Alert Act.

The Case for Computer Aided Dispatch (CAD)

CAD is the only platform that interfaces and integrates with multiple information databases, and it is already used to share information with first responders in the field, which is why it is the best and most feasible means of integrating SRDB information. Moreover, the CAD Mobile option explained below is the only identified means of securely transmitting information to the field. In more detail, the benefits of using CAD as the primary means of inquiry and delivery of the SRDB information are:

1. CAD is often the "starting point" for responding to any type of call for service – while the CPE system processes 911 and administrative calls, CAD delivers the call information, including 911 call mapping, to first responders. This data stream from the CPE to CAD includes the caller's location information, phone number, and the responding agency information.   After a call comes into CAD other critical information is attached or added to the call for service record for responders to see. That information can include a narrative of the caller's conversation with the 911 first responder, responding agency unit recommendations and assignments, and hazard and notification information. CAD is the repository and/or linkage point of all existing hazard and notification information. This type of information includes prior incidents at a location or received from a given phone number, history associated with reporting persons, call type protocols, and building pre-plans (such as floor plans, location of hazardous materials, water shut offs, etc.). Many of the services and applications CAD provides and/or interacts with are outlined in Figure 8 below[26]. Information from a SRDB could be another type of notification information interfaced with CAD to allow easy and timely access by first responders.

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[26] "Unified CAD Functional Requirements" – August 2012, APCO International, IJIS Institute, UCAD Project Committee, page 4
https://cdn.ymaws.com/www.ijis.org/resource/resmgr/Docs/Unified_CAD_Functional_Requi.pdf
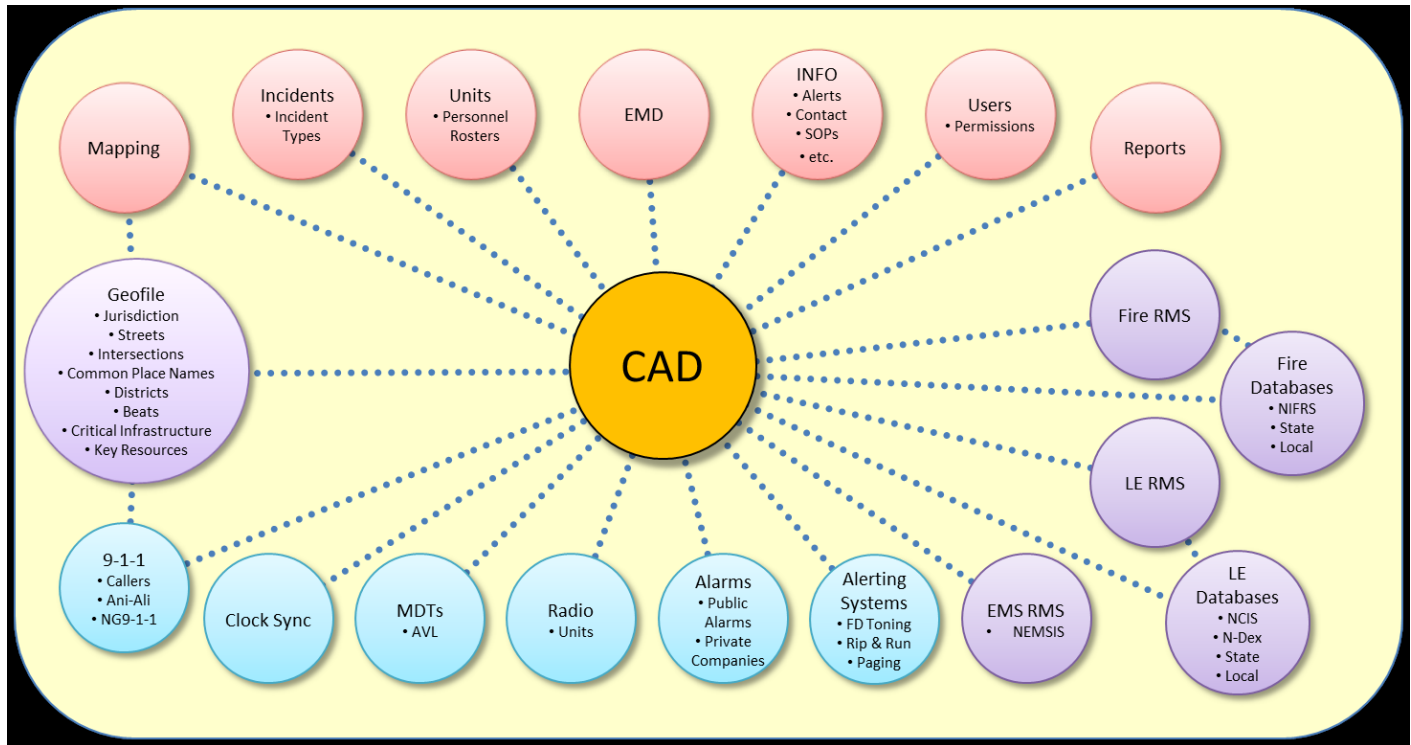
Figure 8 - CAD System Functional Components

2. CAD already interfaces with other systems like the one specified by the Manny Alert Act. Those include NCIC, CLETS, California DMV, and California Corrections System(s). Because CAD is designed to interface with these systems, it has the data fields, structure, and associated database and application elements required to access any citizen information system, and to collect, present, and store any entered information. The ways CAD commonly integrates with many key public safety systems is outlined in Figure 9[27].

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[27] "Unified CAD Functional Requirements" – August 2012, APCO International, IJIS Institute, UCAD Project Committee, page 3
https://cdn.ymaws.com/www.ijis.org/resource/resmgr/Docs/Unified_CAD_Functional_Requi.pdf
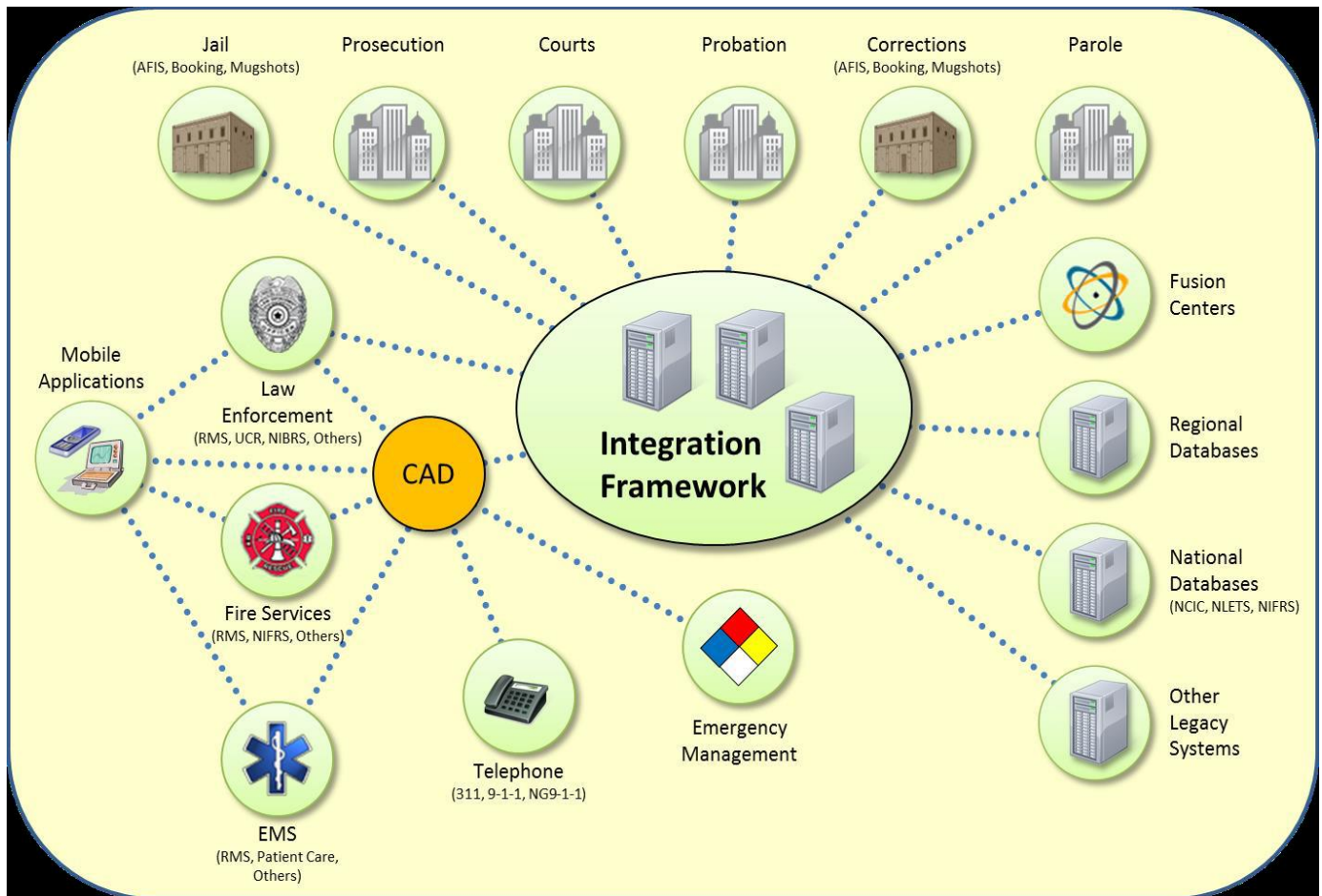
Figure 9 - Public Safety System Integration Framework

3. Next, CAD is a known system operated and managed by first responders who are trained to manage the documentation and flow of vast amounts of critical incident information. Responders need all the best information available to be situationally aware and make critical decisions in the field. Utilizing CAD, a system with which they are all familiar, will make the dissemination of SRDB data a smoother and more efficient process, similar to existing practices.

4. Another key aspect of the process flow is how best to integrate additional information into the already significant amounts of data received by 911 first responders/public safety dispatchers and sent to the field. All information must be rapidly reviewed and prioritized. Because CAD can automatically include SRDB information with the correct interfaces, first responders will not have to add an additional step to their procedures to access and include the information. This is an important consideration as overwhelming responders by requiring multiple information searches or processes could seriously negate the benefits of the SRDB data.

5. Finally, CAD Mobile is an optional/additional feature of CAD systems. The Mobile function supplies the CAD information directly to first responders' screens in the field. For example, if there is a hazard alert regarding flammable products stored at a specific address and firefighters are

dispatched to that address due to a 911 call about smoke, the firefighters can see the hazard alert on the device in their vehicle. Because the Manny Alert Act requires that SRDB information be confidential and shared only with those responding to a 911 call, this is the only identified option that securely and privately transmits that information. If 911 first responders/public safety dispatchers are the only ones who can see the information, they must either read it out over the radio, thus possibly making the information available to anyone with a scanner; or take the time to type out the information in a message to responders. The latter option takes time, risks typing errors, and requires messages to all the individual responders. For the field responders, they must know to look for a message regarding a specific call, and depending on response time, may get to a scene before the information can be transcribed. CAD Mobile can address many of those concerns and could automatically provide the confidential information in a secure manner within an existing and familiar system.

Note that for SRDB information to reach CAD systems, the information must either be in narrative form so that it can be added to narrative fields, or have SRDB-data matching fields within the current CAD system to receive the data.   Providing narrative form or matching fields within CAD will require customization, which will be a cost of implementing the SRDB.

Current CAD environment

In order to integrate the SRDB with existing CAD systems, a thorough understanding of what CAD systems are in use is necessary. The survey, therefore, asked about the types of CAD being used throughout California.

CAD Vendors in California PSAPs
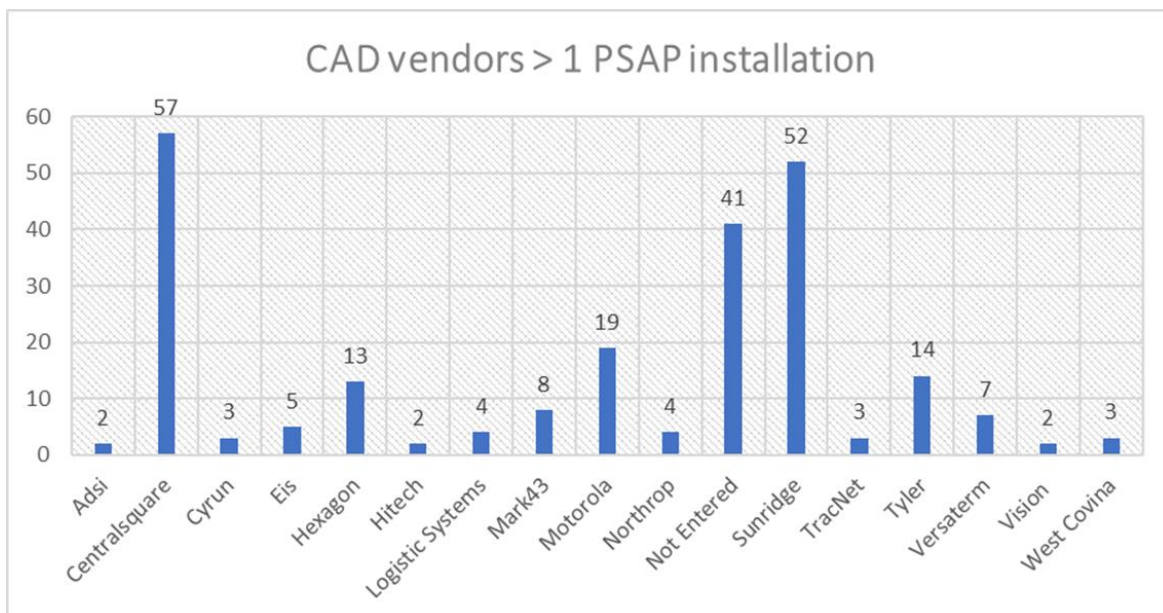
Figure 10 - PSAP Survey CAD Vendors by PSAP

California's PSAPs implemented their current CAD systems anywhere from 1986 to February of 2020 (Note: one new CAD application is scheduled to go live in October of 2020). There are approximately 2,703 CAD workstations presently in use, based on 175 responses to this survey item.

Key CAD Functionality Responses

Tables 4 and 5 display aggregated data from the survey responses to several questions about CAD and hazard alert functionality:

PSAP Survey Question	Answers
Does your CAD display hazard/alert information?	
Yes	165
No	10
Other	8
The responses here demonstrate that CAD is the predominant means to communicate critical information to first responders in the field	
Hazards & Alerts can be categorized by:	
Phone number call history	92
Hazards data	129
Location history data	153
Health history data	42
For any given call for service, most CAD systems can display both current and historical information. The responses here demonstrate that CAD systems today already share information with first responders similar to that envisioned by the Manny Alert Act	
CAD supports prioritization of hazards & alerts?	
Yes	121
In conjunction with the alert categories above, being able to prioritize alerts makes it less likely key information is missed	
Mobile Data Terminal (MDT) can see alert/hazard info?	
Yes	161
First responders must have access to the information in their vehicle(s) as part of the call for service	
CAD is premise-based?	
Yes	141
If interfacing with CAD, we need to know where the interface would occur. The responses show the predominant model is premise based (located at the PSAP)	
CAD is hosted/cloud-based?	
Yes	15
This is an indicator of CAD market direction and a potential mitigator for costs specific to premise based CAD systems	

Table 4 - PSAP Survey CAD Response Summary

PSAP Survey CAD Systems and Capabilities

Row Labels	CAD does Alerts/Hazards?	CAD can prioritize Alert/Hazards?	Can Mobile users see Alerts/Hazards?	Categorize by Phone Number Call History	Categorize by Hazards Data	Categorize by Location	Categorize by Health History Data
Adsi	2	2	1	2	1	2	
Atims	1				1	1	
Centralsquare	54	44	53	31	46	49	4
Cyrun	2		1		1	1	
Data911	1		1				
Eis	3	1	2				
End 2 End		1					
Fresno So	1		1	1	1	1	1
Hexagon	12	6	10	1	4	8	1
Hitech	2	2	2	1	1	2	1
Ipc	1		1			1	
Logistic Systems	2	1	1			1	
Mark43	6	5	6	4	5	6	4
Motorola	16	7	15	9	9	11	6
Nexio Inc	1	1	1		1	1	
Northrop	4	3	3	2	3	3	
Not Entered	2	2	2	1	1	2	
Omnigo	1	1					
Sunridge	45	30	40	31	36	39	14
Tyler	12	9	10	4	9	11	5
Versaterm	7	4	7	2	7	7	3
Vision	2		1		1	2	1
Wcsg	1					1	
West Covina	3	1	2	1	2	3	1
NASA							
PTS Solutions							
TracNet	2	1	1	1	1	1	1
Grand Total	**183**	**121**	**161**	**92**	**129**	**153**	**42**

Table 5 - PSAP Survey CAD Systems and Capabilities

The table above outlines responses from the survey related to specific CAD functions necessary to maximize the benefits of the SRDB data to meet the requirements of the Manny Alert Act. The survey questions helped define how hazard information is set up, administered, and displayed with the various CAD systems in use in the state. While the table itself shows responses based on the vendors providing an agency their solution, the summary outlines that a majority of the vendors provide a solution that tracks hazard and alert information, that a percentage of those allow that information to be prioritized by the agency, and that most of the systems push that hazard information out to field-based first responders via the associated mobile solution.

It also shows that while most systems can categorize and disseminate hazard information based on location, that most agencies advise that their system does not categorize that same information by phone number or health history (a key element related to the SRDB functionality as it will be based on a phone number as opposed to a location and that it may commonly include health-history information).

Stakeholder Input

A portion of this Study involved participation in a number of regional task force meetings, focus group sessions, and similar opportunities to get direct feedback from PSAP and first responder representatives.

These groups provided assistance in refining the survey, spreading awareness of this Study, and encouraging participation. The feedback from these sessions included the following:

- While the system would be accessible to all Californians and would increase public safety overall, the Manny Alert Act emphasizes services to older adults, individuals with disabilities, and other at-risk persons.
- Gauging the success of the implementation of the SRDB effort should be based on the usage rates of the specific population(s) the Manny Alert Act is meant to serve, not based on adoption rates of the entire population of the state.
- Participants provided information on similar efforts/applications already in use locally in California, not just products from known vendors, but also local systems that allow citizens to register similar information.
- Discussed types of information that could be useful, including medical conditions, number of residents, ingress/egress points within an address, weapons information, and other suggestions on important data to collect.
- Discussion, questions and suggestions as to how to develop the application, where it should reside and/or be accessed from, costs involved, and whether already developed applications are being considered.
- Discussions associated with how much information should be mandatory, and what information/how much information could be included as "optional" information.
- Suggestions on how to maintain current information, such as required verifications or email reminders.

Findings and Conclusions

Determining the feasibility of creating, deploying, and managing a SRDB for the purpose of sharing important information with first responders is the key mandate of the Manny Alert Act. The project team for this feasibility Study believe in the value of the database and the mandate. In discussing the survey and the feasibility effort with the state's PSAPs, it is evident that PSAPs share that belief. Positive aspects of such a system include:

- Having a repository of citizen self-registered data can save lives.
- The more sources of information, the better the response can be.
- First responders may be able to make positive changes to their approach based on this information.
- Knowledge of existing conditions can shorten the dispatch to patient care time and improve outcomes.

This feasibility Study also brought out insights, as part of the discussions, information gathering, and conferences about concerns and potential issues:
- Keeping the data current and useful is almost impossible to guarantee.

- Alternative existing solutions do not get the information directly to the responders in the field through secure and confidential means.
- Adding additional information to 911 calls may cause information overload for both 911 first responders and field responders. There is already a significant amount of hazard-related information being provided that must be assessed and processed.
- Having this additional information raises concerns about liability.   Varying situations will impact the consumption of hazard information, but the fact that the information exists may raise the standard of care.

Conclusions:

- ***From a PSAP perspective, it is operationally feasible to include Manny Act data as part of the 911 call workflow process if:***
  - the data remains accurate, concise, consistent and timely;
  - the data integrates into the 911 call workflow like other types of critical data relevant to emergency response;
  - data from the Manny Alert Act interfaces to current and future PSAP systems and applications; and
  - the data remains secure throughout the process.

- ***From a field responder perspective, it would be feasible to use Computer Aided Dispatch (CAD) systems, a common existing PSAP application, to distribute Manny Alert Act data to responders.***
  - Today, most California PSAPs surveyed use a CAD system to share critical data with first responders in the field when a 911 call is made.
  - CAD system features and functions satisfy the Manny Alert Act's requirements related to the security of citizen data and its distribution to first responders in the field at the time of an emergency 911 call.
  - CAD systems are not an eligible expense covered by the SETNA fund today. They are a local agency/jurisdictional expense.
  - Not all PSAPs use the same CAD system. The features and functionality of CAD are generally determined by the size of the PSAP and the number of first responder agencies they serve.

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Section V   Establish Rough Order Magnitude Operational Costs

A Rough Order of Magnitude estimate, often called a ROM estimate, is the first estimate in the life cycle of a project. Usually it is used for project screening, that is, to decide which among several projects to proceed with. It is also often used to estimate projects prior to funding being approved.

Accuracy of a ROM

According to the Project Management Body of Knowledge (PMBOK[28]), a ROM estimate has an accuracy of - 25 percent to + 75 percent. That means that if the estimate is $100,000, the range of acceptable outcomes would be considered $75,000 – $175,000.
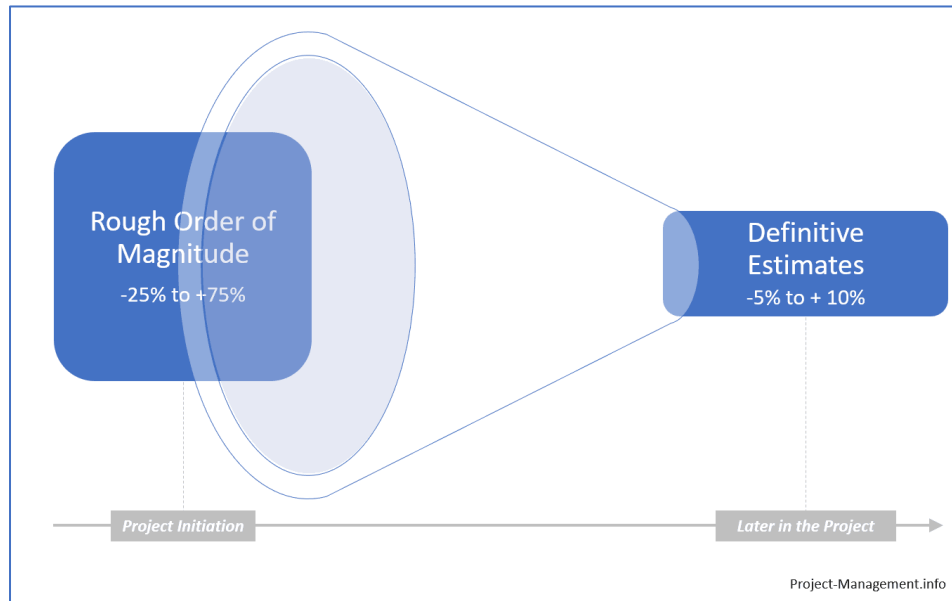
Figure 11 - Rough Order Magnitude (ROM) Estimation Ranges

ROM estimates are developed primarily using analogous techniques, meaning that cost information from previous projects can be used to determine an estimate for a new project. Applicable adjustment factors are applied, for example if a new plant will have five assembly lines and the old plant only had four, it is logical to assume that cost would be increased by 25 percent.

Alternatively, parametric estimating involves using a unit price, for example if we knew that the last ten houses built averaged $120/square foot, and a new house will be 1,000 square feet, the estimate would be $120 x 1,000 = $120,000. Both types of estimating are used in this Study.

This Study establishes Rough Order Magnitude Operational Costs for the following elements of the Manny Alert Act:
1. Self-Reporting Database System Estimated ROM Costs
2. CAD System Statewide Support Estimated ROM Costs
3. Cal OES Staffing Support Estimated ROM Costs

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[28] The PMI's Project Management Body of Knowledge refers to the rough order of magnitude as an initial estimate in the "estimate cost" process (source: PMBOK, 6th edition, part 1, ch. 7.2).

Self-Reporting Database System Estimated ROM Costs

The cost elements used in this Study are meant for estimation of creating a Self-Reporting Database to align with the Manny Alert Act. Since the Act has only recently been enacted, the costs used in the ROM summarize the database expense for similar databases. The Study uses publicly available cost information as well as firsthand knowledge and experience with similar systems to identify the following cost elements included for a statewide SRDB.

- System to intake the Manny Alert Act data
- System to store the Manny Alert Act data securely
- System to retrieve the Manny Alert Act data
- Maintenance and support of the Manny Alert Act data/system
- Training and Public Education to obtain the Manny Alert Act data and keep it current

While researching financial information related to the costs of implementing/integrating to systems similar to that envisioned by the Manny Alert Act, there have been two (2) consistent themes:
1) There is almost complete consensus that more information available to first responders is beneficial, and that most agencies who are working with these types of applications believe they can provide value, improve response, and enhance situational awareness.
2) There are fairly consistent questions raised post implementation related to the cost expended on these systems compared to the rate of adoption/use within every given community.

In late 2016, the State of Michigan started a process to budget and plan for providing every PSAP in the state access to Smart911®. [29] The State paid $2.3 million to procure, set up, train, and pay the costs for PSAPs to implement Smart911 in their communities. Each PSAP desiring to continue leveraging the Smart911 application will have to pay yearly costs of $4,169 per workstation. The cost appears to be based primarily on the population served by the agency (or agencies) procuring the system.

State of Michigan Example ROM Costs	
Annual cost	$2,300,000 year 1
Number of PSAP positions	*unknown*
Population	9,987,000 (estimated)
Cost per population	$2,300,000/9,987,000 = **$0.23/person year 1**
Cost per PSAP position	**$4,196/position/year**

Table 6 - Michigan ROM Cost Examples

Based on the research, at the start of the Smart911 deployment in Michigan, there were 31 agencies, (25 counties, one (1) municipality, the Michigan State Police, and a (4) municipality regional dispatch center) that entered into contracts with or already had deployed Smart911[30].

Publicly available information from a similar deployment in Porter County Indiana provides us with the following data points for comparison.

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[29] Smart911 to become standard across Michigan. https://wbch.com/news/280189
[30] https://www.michigan.gov/documents/msp/Smart_911_Statewide_Deployment_FAQs_Final_478598_7.pdf

Porter County, IN Example ROM Costs	
Annual cost	$28,000
Number of PSAP positions	13 positions
Population	170,000 (estimated)
Cost per population	$28,000/170,000 = **$0.164/person/year**
Cost per PSAP position	$28000/13 = **$2,154/position/year**

Table 7 - Porter County Indiana ROM Cost Examples

In June of 2018, it was estimated that less than 5,000 Porter County households were using the Smart911 application.[31] A Porter County Commissioner remarked, "If we are going to continue to pay for it, we must have much better participation from our residents in order to justify the cost".[32]

Lake County, IN Example ROM Costs	
Annual cost	$41,700
Number of PSAP seats	35 positions
Population	450,000 (estimated)
Cost per population	$41,700/450,000 = **$0.0926/person/year**
Cost per PSAP position	$41,700/35 = **$1,192/position/year**

Table 8 - Lake County Indiana ROM Cost Examples

Using the datapoints in the examples for the Smart911 system and the self-reporting database development above, we can outline a pricing model based upon the same framework for California and estimate ROM costs for a statewide system as envisioned by the Manny Alert Act.

Manny Alert Act ROM Statewide SRDB System Costs	
Number of PSAP seats	**3,261**
Population	**39,510,000**, (estimated)
ROM Cost Population Factor low end	$.0926*39,510,000 = **$3,658,626**
ROM Cost Population Factor high end	$0.23*39,510,000 = **$9,087,300**
Cost per PSAP position low end	$1,192/position/yr. * 3,261 positions = **$3,887,112**
Cost per PSAP position high end	$4,196/position/yr. * 3,261 positions = **$13,683,156**
Statewide SRDB System Annual ROM cost range	**$3,656,626 - $13,683,156 per year (Average cost of $7,579,049)**

Table 9 - Statewide SRDB ROM Cost Range

The resulting ROM cost table blends the per position metric identified and the example costs detailed from the Smart911 system. This table summarizes the potential cost of a database that would achieve the Manny Alert Act.

CAD System Statewide Support Estimated ROM

CAD systems range from very simple applications used for record keeping to very complex systems supporting thousands of first responders in the field. While features and functions, sizes and scales can

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[31] 'What if' trumps privacy in choosing Smart911. https://www.chicagotribune.com/suburbs/post-tribune/opinion/ct-ptb-davich-smart-911-program-st-0624-story.html

[32] 'What if' trumps privacy in choosing Smart911. https://www.chicagotribune.com/suburbs/post-tribune/opinion/ct-ptb-davich-smart-911-program-st-0624-story.html

vary from PSAP to PSAP, there are common CAD system elements that can be used for our ROM analysis. They include;

- CAD System Software
- CAD System Infrastructure
- CAD System Interfaces
- CAD System Maintenance and Support
- Mobile CAD infrastructure
- Mobile CAD Application

Generally speaking, the public safety industry categorizes PSAPs based on size into tiers. The following table provides a breakdown of California's PSAPs by commonly recognized PSAP tiers as established by the National 911 Program. The higher the tier number, the smaller the PSAP (less positions) the lower the tier number the bigger the PSAP (more positions).

	Positions	# of PSAPs	AVG Positions per PSAP	Total Positions	% of PSAPs
Tier 3 PSAPs	1 to 4	197	avg 2.89	546	43.9%
Tier 2 PSAPs	5 to 49	237	avg - 10	2,388	55.1%
Tier 1 PSAPs	50 to 100+	4	avg - 84	327	~1%
		438		3,261	100%

Table 10 - PSAP Tiers in California

The table above establishes that the majority (99.9 percent) of the PSAPs in California are Tier 2 or Tier 3. This is as expected and reflects national trends. California PSAP tier designations are used in this Study to establish the CAD ROM cost estimates below. Tier 3 PSAPs would need to be investigated further to determine if any gaps exist in PSAP CAD systems due to age or lack of resources. The likelihood that a Tier 2 PSAP does not have a CAD system capable of supporting the SRDB is very low but would need to be verified beyond the PSAP survey done for this Study.

	Tier 3 CAD (1 to 4 seats)	Tier 2 CAD (5 to 49 Seats)	Tier 1 CAD (50 + seats)
CAD (base plus interfaces)	$200,000	$400,000	$4,000,000
CAD Implementation Services	$125,000	$250,000	$2,500,000
CAD HW/infrastructure	$150,000	$300,000	$3,000,000
CAD 5-year Maintenance	$250,000	$500,000	$5,000,000
TOTAL per PSAP	$725,000	$1,450,000	$14,500,000
Per Seat TOTAL	$75,000	$145,000	$250,000
Tier 3 PSAPs = 197, seats = 546	$40,950,000		
Tier 2 PSAPs = 237, seats = 2,388		$346,260,000	
Tier 1 PSAPs = 4, seats = 327			$81,750,000

	Tier 3 CAD (1 to 4 seats)	Tier 2 CAD (5 to 49 Seats)	Tier 1 CAD (50 + seats)
Mobile Distribution to First Responders	(50 licenses)	(100 licenses)	(1000 licenses)
Mobile Licenses for CAD	$100,000	$300,000	$1,400,000
Mobile Implementation Services	$100,000	$150,000	$500,000
Mobile HW/Infrastructure	$50,000	$100,000	$500,000
Mobile 5-year Maintenance	$200,000	$375,000	$2,000,000
TOTAL	$450,000	$925,000	$4,400,000
Per Seat TOTAL	$9,000	$9,250	$4,400
Tier 3 PSAPs = 197, seats = 546	$4,914,000		
Tier 2 PSAPs = 237, seats = 2,388		$22,089,000	
Tier 1 PSAPs = 4, seats = 327			$1,438,800
Potential Manny Alert Act Costs			
Interface to SRDB	$5,000	$10,000	$25,000
Yearly Maintenance	$1,000	$1,700	$4,000
Tier 3 PSAPs = 197	$1,182,000		
Tier 2 PSAPs = 237		$2,772,900	
Tier 1 PSAPs = 4			$116,000
Total PSAP CAD ROM Estimated Costs	$47,046,000	$371,121,900	$83,304,800
Grant Total ROM Estimated statewide CAD Costs over 5years			$501,472,700
Grant Total ROM Estimated statewide CAD Costs annual			$100,294,540

Table 11 - CAD ROM Estimated Costs

The interface costs include 911 ANI/ALI interface, emergency dispatch protocols (such as ProQA or Powerphone), State/NCIC interface, PSAP to PSAP interface, and records interfaces for Fire, EMS, and/or Law.

The costs represented here assume complete replacement of all existing PSAP CAD systems in the state and are a worst-case scenario. The reality is this demonstrates the current level of investment being carried at the local level and by individual PSAPs.

Next Gen CAD Directional Considerations:

Today, the CAD market is dominated by premise-based, client-server solutions. However, cloud-based and hosted solutions are a growing percentage of the market. Established solution providers are moving to cloud-based/hosted applications in keeping with the rising prominence and support for hosted cloud solutions. As these solutions emerge, they must provide the same functionality that have become standard in public safety. Besides the feature/function comparison, there are other competing considerations between cloud-based and hosted systems.

Any change to existing infrastructure and platform brings changes to personnel skill sets, software pricing models, and hardware and network management and expenditures. The current client server models have larger costs associated with the purchase of the software, while cloud-based/hosted systems have greater costs for subscription fees. Client-server based systems require more investment in premise-based hardware and infrastructure, while cloud-based/hosted solutions tend to require greater expenditures on network bandwidth. In some situations, cloud-based solutions require expansion of high bandwidth capacity to areas where such capacity did not previously exist, or to support a larger number of users. Other factors in considering client-server applications versus cloud-based/hosted applications include:

- Dedicated servers often require on-site administration and understanding. The agency controls upgrades, enhancements, and downtime.
- Cloud-based/hosted servers are more accessible and scalability is faster with less operational impact. However, scaling, upgrades, and maintenance require a joint effort between the client and the host/provider that must be carefully engineered to minimize downtime.
- In client server applications, dedicated servers can be upgraded with more memory, network cards, and memory disks. Client servers are within an agency's direct control, but the costs to maintain the servers are also the agency's responsibility.
- Technology changes and integration tends to be more rapid in the cloud/hosted environment.

Matching agency needs to the configuration is the most crucial aspect of choosing between computing platforms. The computing platform needs to complement the agency's operating procedures, be scalable, and cost-effective. These variables are critical evaluators when selecting between cloud-based or dedicated server solutions. Agencies often consider leveraging a hybrid approach, which combines dedicated servers and cloud-based/hosted applications. It is expected that vendors will need to be able to meet these varied needs and provide potentially blended solutions.

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Cal OES Staffing Support Estimated ROM Costs

The 911 Authority team in cooperation with Cal OES staff performed a ROM cost analysis for Cal OES to support the SRDB and other requisite systems. The cost analysis is based on the assumption that a statewide system would be procured and implemented. Staffing costs would increase to the maximum, year one costs would likely be lower as the service migrates from initial deployment into full operation.

Cost elements of this ROM include:

- Staff to support the SRDB system intake
- Staff to support the SRDB storage and security
- Staff to support the distribution of SRDB data to First Responders
- Staff to support CAD and contract management
- Staff to support training and public education

An example of changes to the organizational structure for Cal OES anticipated to support the Manny Alert Act statewide system are shown below on the right-hand side of the diagram.
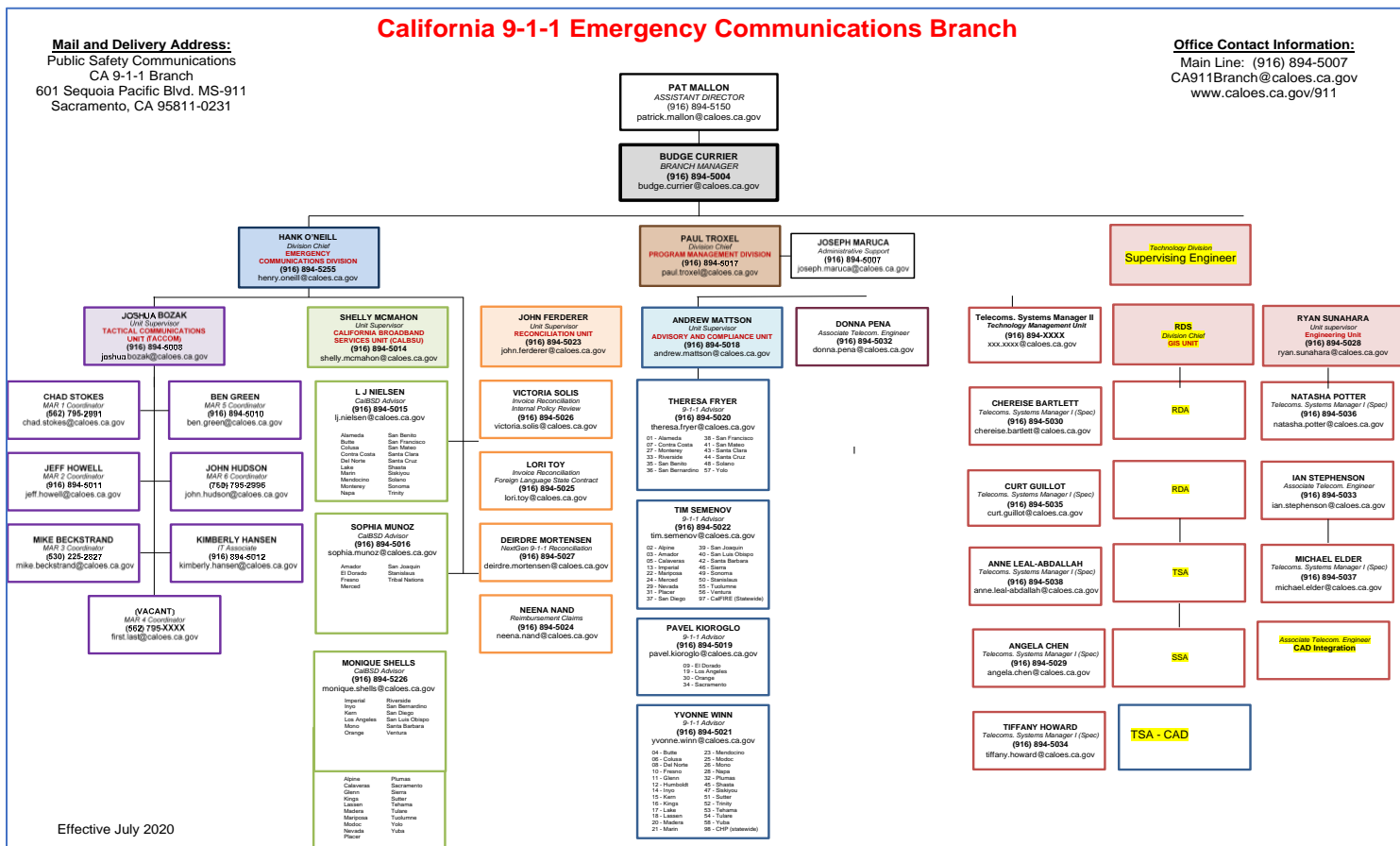

Figure 12 - Cal OES Organizational Chart with Manny Alert Act Support Function

Cal OES Staffing Analysis to Support the Manny Alert Act

Based on our analysis, staff support for the Manny Alert Act statewide system would likely grow to be upwards of 8 full time staff with varying skills sets and levels of experience. The table below provides example job titles, classifications and salary ranges for each of the anticipated support positions. The classification codes and salary ranges are current as of September 2020.

Class Code	CLASSIFICATION	EMPLOYEE	Top Salary in Range
3636	Supervising Telecommunications Engineer	Currently Vacant	$168,924
5737	Research Data Supervisor II	Currently Vacant	$100,224
5731	Research Data Analyst II	Currently Vacant	$81,252
5731	Research Data Analyst II	Currently Vacant	$81,252
5171	Telecommunications Systems Analyst II	Currently Vacant	$81,252
5171	Telecommunications Systems Analyst II	Currently Vacant	$81,252
5157	Staff Services Analyst	Currently Vacant	$64,320
3640	Associate Telecommunications Engineer	Currently Vacant	$124,524
		Total Salary	$783,000

Table 12 - Cal OES Manny Alert Act Staffing Details

Having established the basic support structure and the wages associate with each, we can apply the departmental overhead costs to the numbers to arrive at an estimate for staffing. Each of the fringe and overhead rates below are current and in use as of September 2020.

Cal OES Cost Category	Cost per Year
Salary	$783,000
Benefits @ 61.28%	$479,822
Overhead @45.2%	$353,916
Total Personnel Cost	$1,616,738
Total Operating Expense & Equipment for 8 staff	$448,000
Total Cal OES Budget Expense per year for 8 staff to support the Manny Alert Act system	$2,064,738 per year

Table 13 - Cal OES Staffing ROM Estimated Costs

Based on this staffing analysis, a qualified estimate of the costs to operate and maintain the SRDB and fulfill the requirements of the Manny Act by current Cal OES staff would be **$2,064,738/year or approximately $11M over 5 years with a 3 percent annual Cost of Living Adjustment (COLA).**

Section VI Summary and Conclusions

Determining the feasibility of creating, deploying, and managing a SRDB for the purpose of sharing important information with first responders is the key mandate of the Manny Alert Act. The project team for this feasibility Study believe in the value of the database and the mandate.

As discussed throughout this Study, the SRDB is feasible. Similar systems are in use today in other states and localities, even some in California. However, there is no system in operation today that would compare to a system for statewide use in California in terms of costs and purpose. While the SRDB is feasible, a lack of participation by the public, inaccuracy of data provided, overloading the current process with additional steps were all operational reasons cited for why a system like this still may not achieve its intended purpose.

Conclusions:

As detailed throughout this Study, the following conclusions have been drawn from data collection and subject matter expert analysis. A summary of the Study's findings and conclusions are as follows:

- ***It is technically feasible to implement, operate, and maintain a statewide self-registration database system as intended by the Manny Alert Act in California.***
  - o   Other states have implemented similar systems.
  - o   For California, it is a matter of determining the specific functional requirements and technical specifications needed to publicly procure a system or service capable of fulfilling the Manny Alert Act requirements statewide.
  - o   Adoption or usage rates by citizens in other jurisdictions with access to a similar system have been very low when compared to the total population and the long-term operational costs of the systems.

- ***From a PSAP perspective, it is operationally feasible to include Manny Act data as part of the 911 call workflow process if:***
  - o   the data remains accurate, concise, consistent and timely;
  - o   the data integrates into the 911 call workflow like other types of critical data relevant to emergency response;
  - o   data from the Manny Alert Act interfaces to current and future PSAP systems and applications; and
  - o   the data remains secure throughout the process.

- ***From a field responder perspective, it would be feasible to use Computer Aided Dispatch (CAD) systems, a common existing PSAP application, to distribute Manny Alert Act data to responders.***
  - o   Today, most California PSAPs surveyed use a CAD system to share critical data with first responders in the field when a 911 call is made.
  - o   CAD system features and functions satisfy the Manny Alert Act's requirements related to the security of citizen data and its distribution to first responders in the field at the time of an emergency 911 call.
  - o   CAD systems are not an eligible expense covered by the SETNA fund today. They are a local agency/jurisdictional expense.

- o Not all PSAPs use the same CAD system. The features and functionality of CAD are generally determined by the size of the PSAP and the number of first responder agencies they serve.

- *Rough Order Magnitude (ROM) costs for the different components of the system have been established by this Study. They are as follows:*
  - o Estimated ROM costs for a Self-Registration Database System = **$3,656,626 to $13,683,156**
  - o Estimated ROM costs for CAD system statewide support = **$100,294,540**
  - o Estimated ROM costs for Cal OES Staff support = **$2,064,738**

| **Total Annual Estimated ROM costs** | = **$116,042,434** |

- *The estimated ROM costs could be mitigated by other factors such as:*
  - o Innovations in cloud-based CAD computing
  - o Continued transition to NG911 for connectivity and data sharing among PSAPs
  - o Continued transition to cloud based Call Processing Equipment (CPE) for PSAPs
  - o Continued deployment of applications for PSAPs which can integrate with additional data repositories, like the Self-Registration Database for Manny Alert Act Data

Next Steps

This Study has taken an extensive look at the feasibility of implementing the SRDB system in California and determined it to be feasible from a technical and operational standpoint.

However, this Study has made assumptions that will require additional effort, coordination, research and expenditure in order to fulfill the vision of the Manny Alert Act. While the scope of this Study does not include the details necessary to implement the SRDB in total, there are actions that would follow from this Study should the Legislature decide to move forward with the implementation of the SRDB and authorize Cal OES to begin the process. An example high level task list of next steps is provided below for further consideration on what would happen next.

1. Cal OES would need to determine the specific technical and functional requirements of the SRDB application
   a. Example requirements are provided in Appendix A
2. Cal OES would need to develop a Request for Proposals (RFP) using the SRDB specific technical and functional requirements and release it to potential vendors
3. Cal OES would conduct a competitive procurement for the SRDB system
4. Cal OES would award the contract and begin implementation oversight and contract management
5. Cal OES would need to develop and implement a public education program to drive use and accuracy
6. Cal OES in coordination with the Legislature will need to address legislative and budgetary considerations raised by this Study in terms of privacy, security, funding and participation to name some examples
7. Cal OES would need to determine the specific technical and functional requirements for statewide CAD functionality to support the SRDB
   a. Example requirements are provided in Appendix A
8. Cal OES would need to develop an RFP using the SRDB-CAD specific technical and functional requirements and release it to potential vendors

9. Cal OES would need to conduct a competitive procurement for the statewide CAD functionality to support the SRDB
10. Cal OES would award the CAD contract and begin implementation oversight and contract management

Cal OES' mission is to protect lives and property, build capabilities, and support communities for a resilient California. The conceptual framework of the SRDB put forth in this Study is consistent with the Cal OES Strategic Plan which states:

Vision
The leader in emergency management and homeland security through dedicated service to all. We will realize our vision by building towards a safer and more resilient California, leveraging effective partnerships, developing our workforce, enhancing our technology, and maintaining a culture of continuous improvement.

Specifically, Goal 6 of the Cal OES Strategic Plan is to:

"Strengthen capabilities in public safety communication services and technology enhancements."

As evidenced by the PSAP survey, in California today, each PSAP maintains their own Computer Aided Dispatch (CAD) system. This has created individual disparate systems that cannot share data and information between jurisdictions. In addition, each locality must maintain servers, databases, location information and support the equipment. By implementing a statewide CAD and SRDB strategy together, Manny Alert data and information and many other types can be shared between every agency in California. The direct benefits of implementing the Manny Alert Act as envisioned here include:

- Providing a Self-Registration Database that supports all Californians
- Providing law enforcement, fire departments, and emergency medical service personnel, with crucial information that promotes the safety of all individuals
- Providing standardized CAD functionality to all PSAPs
- Enabling local agencies to have increased situational awareness on resource availability
- Facilitating the transfer of information from one local agency to another, anywhere in the state
- Ensuring that all agencies have the same level of CAD functionality
- Ensuring that every CAD system in California can integrate new technology
- Could potentially save local agencies millions of dollars annually if funded through CalOES

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Appendix A: Example SRDB and CAD Requirements

The table below represents an example set of functional requirements for the SRDB system to interface to a CAD system for implementation of the statewide system. These requirements are examples only and provide a guide to Cal OES on the next steps in this process. This is not a complete specification or a complete set of requirements. Additional requirements definitions and proper project planning and management are required to represent a complete specification.

Spec ID	Spec Number	Description of Capability CAD Interface to Self-Registration Database	Availability
CAD Interface Self-Registration Database			
SRDB	1	The system supports interface communication between CAD and the SRDB.	Available, Not Available, Exception
SRDB	2	The system is capable of accepting emergency caller information and location data originating from SIP with location conveyance.	Available, Not Available, Exception
SRDB	3	The interface adheres to the level of security required to maintain HIPAA compliance related to a person's personal information.	Available, Not Available, Exception
SRDB	4	The interface adheres to the level of security required by the State and FBI CJIS Security rules.	Available, Not Available, Exception
SRDB	5	The interface adheres to the level of security required by the State for the submission of inquiries.	Available, Not Available, Exception
SRDB	6	The system can authorize individual workstations access to the SRDB application.	Available, Not Available, Exception
SRDB	7	The system can allow add/edit capabilities to the SRDB application.	Available, Not Available, Exception
SRDB	8	The system can restrict the communication capabilities to the SRDB to inquiry only.	Available, Not Available, Exception
SRDB	9	An authorized user can query the SRDB from the command line.	Available, Not Available, Exception
SRDB	10	The query data based on query of the SRDB is transferred appropriately to CAD call entry form (e.g. hyperlink to relevant record or records is written or is otherwise contained in relevant hazard information segment of CAD call entry/CFS form).	Available, Not Available, Exception
SRDB	11	The system will attach all data received as a component of a SRDB Inquiry to the CAD incident record.	Available, Not Available, Exception
SRDB	12	The system will attach streaming video data received as a component of a SRDB Inquiry to the CAD incident record.	Available, Not Available, Exception
SRDB	13	The system will attach fixed video data received as a component of a SRDB Inquiry to the CAD incident record.	Available, Not Available, Exception

Spec ID	Spec Number	Description of Capability CAD Interface to Self-Registration Database	Availability
CAD Interface Self-Registration Database			
SRDB	14	If available, the system will attach both fixed video data and streaming video data received as a component of a SRDB Inquiry to the CAD incident record.	Available, Not Available, Exception
SRDB	15	The system will automatically submit a telephone number inquiry to the SRDB during the manual entry of telephone number data into the system. (e.g. A user manually enters a telephone number into CAD incident record as opposed to having it auto-populated by a 911 data stream map.)	Available, Not Available, Exception
SRDB	16	The system provides a method to allow the training module to simulate the function of the SRDB interface.	Available, Not Available, Exception
SRDB	17	In the event of a lost CAD connection to the SRDB, there is a method to manually query the portal (e.g. via on-line query from secure web browser).	Available, Not Available, Exception
SRDB	18	The interface provides or supports an online interface from the CAD application to SRDB.	Available, Not Available, Exception
SRDB	19	The system has the ability to automatically attach the results of a Self-Registration inquiry to the CAD incident.	Available, Not Available, Exception
SRDB	20	The system will transfer CAD incident record attachments received as a component of a SRDB query to a Mobile Data Device.	Available, Not Available, Exception
SRDB	21	The Mobile Data system has the ability to display returned data from the SRDB inquiry associated with a call for service received from CAD (e.g. displayed by any unit dispatched onto the call from CAD).	Available, Not Available, Exception
SRDB	22	All queries to the SRDB that are generated based on a call for service (CFS) must be logged on the call and accessible.	Available, Not Available, Exception
SRDB	23	The system is able to specify security access permissions based on user.	Available, Not Available, Exception
SRDB	24	The system logs all transactions in a history file for viewing and reporting purposes, for authorized user(s).	Available, Not Available, Exception
SRDB	25	An authorized user can search for prior queries, by date / time range.	Available, Not Available, Exception
SRDB	26	An authorized user can search for prior queries by User ID.	Available, Not Available, Exception
SRDB	27	An authorized user can query the Portal database by telephone number.	Available, Not Available, Exception
SRDB	28	An authorized user can query the Portal database by person name.	Available, Not Available, Exception

Spec ID	Spec Number	Description of Capability CAD Interface to Self-Registration Database	Availability
CAD Interface Self-Registration Database			
SRDB	29	The system can disallow the automatic printing of Portal return information with the CAD system record.	Available, Not Available, Exception
SRDB	30	The system has the ability to be configured so that Portal query and response data can only be viewed by an authorized user.	Available, Not Available, Exception
SRDB	31	The system can be configured to never include Portal query and response data on sent reports.	Available, Not Available, Exception
SRDB	32	The system can be configured to never include Portal query and response data on printed reports.	Available, Not Available, Exception
SRDB	33	The system allows for the editing of the data string that is sent to the Self-Registration database in order to meet State transaction requirements.	Available, Not Available, Exception

The table below represents an example set of functional requirements for a CAD system for implementation of the SRDB system. These requirements are examples only and provide a guide to Cal OES on the next steps in this process. This is not a complete specification or a complete set of requirements. Additional requirements definitions and proper project planning and management are required to represent a complete specification.

Spec ID	Spec Number	Common CAD Requirements Description of Capability	Availability
Common Premise History			
CAD	1	The system provides a historic record of prior events at a specific location, including:	Available, Not Available, Exception
CAD	2	address point	Available, Not Available, Exception
CAD	3	Common place name (e.g. business names, locations, parks, landmarks, etc.)	Available, Not Available, Exception
CAD	4	intersection	Available, Not Available, Exception
CAD	5	X/Y coordinate	Available, Not Available, Exception
CAD	6	User defined ID	Available, Not Available, Exception
The premises history information displayed includes:			
CAD	7	Incident number	Available, Not Available, Exception
CAD	8	Incident type	Available, Not Available, Exception
CAD	9	Incident type description	Available, Not Available, Exception
CAD	10	Priority	Available, Not Available, Exception
CAD	11	Date/time	Available, Not Available, Exception
CAD	12	Location	Available, Not Available, Exception
CAD	13	The system automatically associates premises history information with individual locations.	Available, Not Available, Exception
Common Premises Information			

Spec ID	Spec Number	Common CAD Requirements Description of Capability	Availability
CAD	14	The system provides a premises information at a specific location, including:	Available, Not Available, Exception
CAD	15	address point	Available, Not Available, Exception
CAD	16	common place name	Available, Not Available, Exception
CAD	17	intersection	Available, Not Available, Exception
CAD	18	X/Y coordinate	Available, Not Available, Exception
The premises information should include:			
CAD	19	Premise type (e.g. Liquor store, gas station).	Available, Not Available, Exception
CAD	20	User ID.	Available, Not Available, Exception
CAD	21	Free text narrative.	Available, Not Available, Exception
CAD	22	Date of entry.	Available, Not Available, Exception
CAD	23	Date of last update.	Available, Not Available, Exception
CAD	24	Ability to attach ANY type of file (e.g., PDF, image, audio).	Available, Not Available, Exception
CAD	25	Telephone Number.	Available, Not Available, Exception
CAD	26	Location.	Available, Not Available, Exception
CAD	27	Ability to assign an expiration date.	Available, Not Available, Exception
CAD	28	Ability to select which disciplines can view the record (e.g., Fire, Law).	Available, Not Available, Exception
CAD	29	The system provides a method for maintaining (entry, updates, removal) the premises information in CAD.	Available, Not Available, Exception
Common Alerts / Hazard / Caution Notes			
CAD	30	The system provides alerts / hazard information based on a phone number associated with the call for service	Available, Not Available, Exception
CAD	31	The system provides a premises alerts / hazard information at a specific location, including:	Available, Not Available, Exception
CAD	32	address point	Available, Not Available, Exception
CAD	33	common place name	Available, Not Available, Exception
CAD	34	intersection	Available, Not Available, Exception
CAD	35	X/Y coordinate	Available, Not Available, Exception
CAD	36	street	Available, Not Available, Exception
The premises alerts / hazard information should include:			
CAD	37	User definable information type.	Available, Not Available, Exception
CAD	38	User ID.	Available, Not Available, Exception
CAD	39	Free text narrative.	Available, Not Available, Exception
CAD	40	Date of entry.	Available, Not Available, Exception
CAD	41	Ability to attach ANY type of file (e.g., PDF, image, audio).	Available, Not Available, Exception
CAD	42	Telephone Number.	Available, Not Available, Exception

Spec ID	Spec Number	Common CAD Requirements Description of Capability	Availability
CAD	43	Location.	Available, Not Available, Exception
CAD	44	Ability to assign an expiration date.	Available, Not Available, Exception
CAD	45	Ability to select which disciplines can view the record (e.g., Fire, Law).	Available, Not Available, Exception
CAD	46	The system can be configured so that hazard information on cross-discipline shared events can be set to allow a discipline access to the information or not based on hazard type (e.g. fire department may be able to see medical hazard but not a warrant alert).	Available, Not Available, Exception
CAD	47	The system provides a method to allow hazard information to be triggered based on a radius from the specified location, e.g. within 1 mile of the specified location.	Available, Not Available, Exception
CAD	48	The system provides a method to allow hazard information to be triggered based on a telephone number associated with the call for service.	Available, Not Available, Exception
CAD	49	Alerts / hazards / caution notes are available to the mobile device.	Available, Not Available, Exception

- Nothing Follows -