

# EMERGENCY RESPONSE TIMES

## DOES YOUR ZIP CODE DICTATE YOUR CHANCE OF SURVIVAL?

### ***SUMMARY***

Where you live in the City of San Diego affects how long it takes an emergency response team to arrive on the scene when you need one. There is strong evidence to support that statement. Nineteen areas of the City have been identified as "gap" areas where emergency response times need to be improved. Of these, the six areas considered to be the most critical are Home Avenue (City Heights), Paradise Hills, College area, Skyline, Encanto and Stresemann/Governor Drive.

In San Diego, ambulances respond to 120,000 medical calls a year, an average of more than 300 times every day.<sup>1</sup> Most of the time, the ambulances are not needed, but must go anyway. Only fifteen percent of the calls are from really sick people, according to management of the City of San Diego's (City) ambulance provider, Rural/Metro. "The rest of them probably could have taken a car, in all reality."

Rural/Metro's ambulances are required to respond to all 9-1-1 calls under their contract with the City. Even if the caller says, "I need to refill my medicine" or "I need my temperature taken," the ambulance service must respond.

Does this present problems? Yes, the City has a situation where ambulances are being tied up for trivial matters when they may be needed for real emergencies elsewhere. In addition, San Diego's Fire-Rescue Department (Fire-Rescue), the other important emergency response agency, is not accredited by the Commission on Fire Accreditation International because of significant gaps in its service and response times.<sup>2</sup>

This situation could be improved by the following actions:

- Build additional fire stations, especially in areas where they are most needed and where response times are affected by location.
- Alter the City's contract with the emergency responder to allow more flexibility in responding to 9-1-1 calls.
- Shorten response times by providing fire and medical rescue units with the best equipment available to improve routing, taking into consideration traffic conditions, road closures and time of day.
- As a stop-gap measure, make CPR training available to the general public, especially in areas where response times need to be improved.

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<sup>1</sup><http://www.voiceofsandiego.org/2013/09/23/the-unneeded-ambulances/>

<sup>2</sup>Commission of Fire Accreditation International, Standards of Response Coverage, 2005

The number of calls during fiscal year 2013 is represented by the following table from the San Diego Fire-Rescue Department's web site.<sup>3</sup>

### Fire Incident Runs (FY 13)<sup>4</sup>

Fire	3,659	2.83%
Medical/Rescue	112,864	87.34%
Other	12,698	9.83%
Total	129,221	

### ***INTRODUCTION***

In the City of San Diego, all 9-1-1 medical calls require a response from Rural/Metro Ambulance, Inc. The City is divided into four emergency response zones, as shown on the map on the following page. Historically, over the years, the City has built fire stations in the center of new growth areas, but did not backfill with other stations and fully interconnect the fire station system to provide equitable response time performance to all substantially developed neighborhoods. Thus, response time gaps occurred and have accumulated over the last several decades of growth. According to Citygate Fire Service Standards Response Deployment Coverage Study for the City of San Diego Fire-Rescue Department, Vol. 1 (2/14/11), “This issue did not occur quickly and, given the size of what will be needed to improve a deployment system, improvements will take years.”<sup>5</sup>

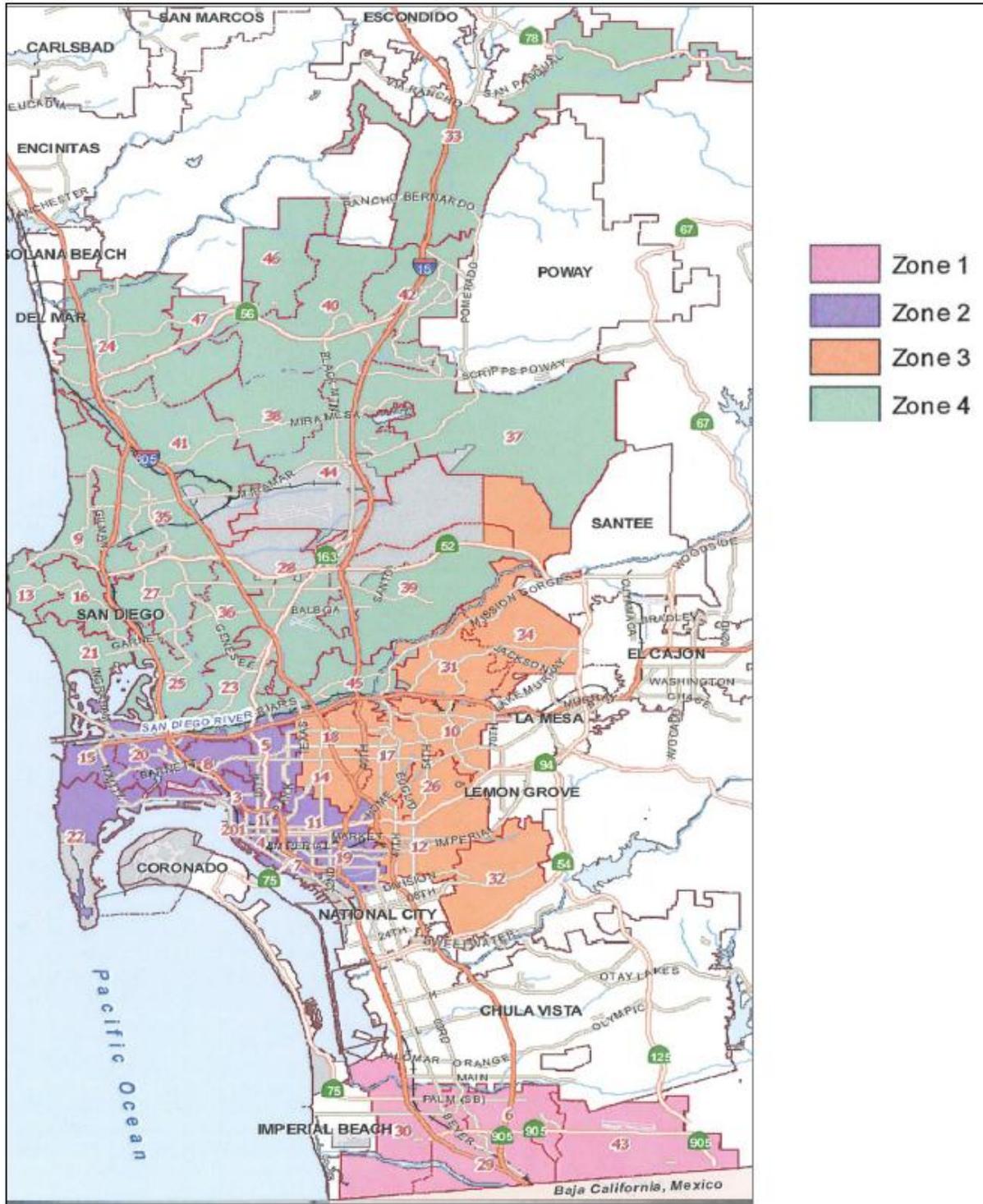
In addition to the four ambulance emergency response zones, San Diego Fire-Rescue Department (Fire-Rescue) is responsible for controlling and extinguishing all marine and shipboard fires in Mission Bay, large portions of San Diego Bay, and in the open ocean within three miles of the shoreline of the City. Other agencies in the San Diego area which share firefighting responsibilities for marine fire incidents are the U.S. Coast Guard, San Diego Harbor Police, and the United States Navy.

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<sup>3</sup><http://www.sandiego.gov/fire/about/index.shtml>

<sup>4</sup> <http://www.sandiego.gov/fire/about/index.shtml>

<sup>5</sup> <http://www.sandiego.gov/fire/pdf/citygate.pdf> page 10



*City of San Diego Ambulance Emergency Response Zones* (Source: City of San Diego)<sup>6</sup>

[Note: On-line viewers at [www.sdcounty.ca.gov/grandjury](http://www.sdcounty.ca.gov/grandjury) will be able to view a colorized version of the map outlining the zones; in order to hold production costs down; printed versions of the map are presented in grayscale.]

<sup>6</sup> <http://www.sdcta.org/Uploads/Documents/City%20of%20SD%20EMS%20Insourcing%202010-28-13%20SK.pdf>

## ***PROCEDURE***

The Grand Jury interviewed representatives of the following offices:

- City of San Diego Fire-Rescue Department
- Rural/Metro Ambulance, LLC
- City of San Diego Emergency Medical Services Program
- San Diego Police Department Communications Center.

The Grand Jury also reviewed reports from numerous sources:

- Audit Report: Performance Audit of Fire-Rescue's Emergency Medical Services, April 2011
- 2005 Commission on Fire Accreditation, San Diego Fire-Rescue Standards of Response Coverage, Citygate Associates, Inc.
- THE CITY OF SAN DIEGO REPORT TO THE CITY COUNCIL, Citygate Working Group Implementation Plan, June 29, 2011
- City of San Diego Memorandum extending EMS Contract, October 29, 2013
- Emergency Medical Services, An Analysis of EMS in the City of San Diego, San Diego County Taxpayers Association, October 2013.

## ***BACKGROUND***

The City of San Diego encompasses 331 square miles.<sup>7</sup> Meeting a twelve minute response time to medical emergencies requires that ambulances be strategically placed. From Rural/Metro management, the Grand Jury learned that the optimal placement of ambulances is at fire stations. Ambulance placement decisions are aided by use of a computer system called MARVLIS (Mobile Area Routing and Vehicle Location Information System). MARVLIS has a proven track record of helping emergency medical responders save time, money, and lives. The program delivers information predicting where and when ambulances will be needed the most. As reported by *Paramedics Plus*,<sup>8</sup> MARVLIS applies ambulance deployment science with mathematical precision to build a system status plan. It uses road impediments, dynamic service areas, demand densities and population and geography data to determine optimal ambulance placement to meet a specific response-time standard.<sup>9</sup>

Rural/Metro's contract with the City requires the company to respond to high-priority medical emergencies within 12 minutes, and to lesser emergencies within longer timelines. Rural/Metro built its entire ambulance deployment system on meeting those requirements.

Twenty-four of Rural/Metro's ambulances have a home base that does not change; they are stationed in fire stations in neighborhoods difficult to serve because of traffic or topography. These include Paradise Hills, Pacific Beach, San Ysidro and Rancho Bernardo.

Interestingly, there is no federal law regarding response times, and it appears that there are no state laws that pertain to response times, either. There are some contractual agreements between emergency medical services (EMS) providers and political subdivisions that stipulate response

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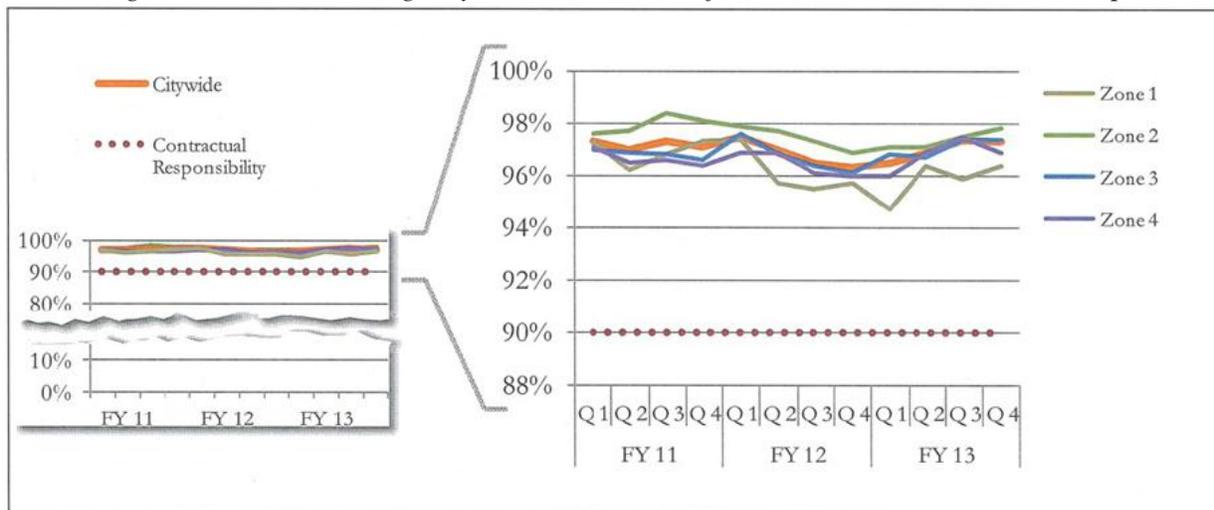
<sup>7</sup> <http://www.sandiegomagazine.com/San-Diego-Magazine/San-Diego-Covered/San-Diego-City-Information/>

<sup>8</sup> <http://www.paramedicsplus.com/innovation.php>

<sup>9</sup> Ibid

times, and some political subdivisions codify these contractual agreements into ordinances. Most of the contractual agreements or ordinances are directed at private EMS providers, as are the City's. Most communities have established response standards of eight minutes or less, 90 percent of the time, for Advanced Life Support (ALS) service.<sup>10</sup> San Diego's Rural/Metro Ambulance response performance is represented in the following compliance report.<sup>11</sup>

*San Diego Rural/Metro Emergency Ambulance Transfer 12 Minute Contractual Compliance*



Source: City of San Diego Emergency Medical Services Quarterly Compliance Reports

[Note: On-line viewers of this report [www.sdcounty.ca.gov/grandjury] will be able to view a colored version of the graphic; printed versions are presented in grayscale to minimize printing costs.]

In 1997, the City established a partnership with Rural/Metro to form San Diego Medical Services (SDMS) Enterprise, LLC.<sup>12</sup> Fire-Rescue is responsible for providing emergency medical service within the City. Historically, the City had contracted directly with private ambulance services to provide paramedic-level service.

Under this arrangement, the City is responsible for maintaining the communications infrastructure for the 9-1-1 call system, providing first responder units with paramedic and emergency medical technicians (EMT) for high priority responses, and making dedicated Fire-Rescue and other City personnel available for operational, administrative, and managerial duties.

Rural/Metro is responsible for purchasing and maintaining the ambulances, staffing the significant majority of the deployed ambulances, billing and collecting for transport services, and maintaining the SDMS financial records. SDMS reimburses both the City and Rural/Metro for the cost of services provided.

<sup>10</sup> EMSWORLD.com April 1, 2004 Gary G. Ludwig

<sup>11</sup> <http://www.sdcta.org/Uploads/Documents/City%20of%20SD%20EMS%20Insourcing%2010-28-13%20SK.pdf>

<sup>12</sup> Ibid

On an annual basis, SDMS responds to 120,000 medical emergency calls in the City of San Diego and County Service Area (CSA) 17, which encompasses Del Mar, Solana Beach, Encinitas, Elfin Forest, 4S Ranch and the community of Rancho Santa Fe.

Medical emergency calls are classified into four different priorities of dispatch, determined through a series of questions that the 9-1-1 dispatcher asks of the caller. The priorities, ambulance modes, and required response times specified in the current EMS agreement documentation are:

- Priority 1: Potentially Life Threatening Emergency Response: With lights/siren, 12 minutes;
- Priority 2: Non-Life Threatening Emergency Response: With lights/siren, 12 minutes;
- Priority 3: Urgent Requests: No lights/no siren, 15 minutes;
- Priority 4: Unscheduled Non-Emergency Requests: No lights/no siren, 30 minutes<sup>13</sup>

The San Diego Police Department receives 9-1-1 calls first, and transfers medical calls to Fire-Rescue. Eighty-seven percent of Fire-Rescue dispatches are for medical calls. The time for the Police Department to transfer the call to the Fire-Rescue Department is not included in the response time figures used by the Fire-Rescue Department.

According to personnel at the San Diego Police Department Communications Center, which the Grand Jury visited on February 5, 2014, there were 1.2 million calls made to the 9-1-1 Center in 2013. Of those calls, 580,000 were considered emergencies of some sort, while the other 640,000 were classified as non-emergency.

So where does the City need to put fire stations? According to the Citygate Report, in order to improve service in the identified gap areas, in priority order, the following table provides that information.<sup>14</sup>

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<sup>13</sup>[http://www.sandiego.gov/auditor/reports/fy11\\_pdf/audit/11-017.pdf](http://www.sandiego.gov/auditor/reports/fy11_pdf/audit/11-017.pdf)

<sup>14</sup>[http://www.citygateassociates.com/Fire\\_San\\_Diego\\_County\\_Study.html](http://www.citygateassociates.com/Fire_San_Diego_County_Study.html)

Citygate Priority	FRS Eligible	Sites@ 5-min to 90%	Additive Population Per Gap 5-min	Additive Calls per Gap 5-min
1	NO	Home Ave	10,271	683
2	NO	Paradise Hills (Double)	11,486	787
3	NO	College	6,729	403
4	NO	Skyline	19,803	1,384
5	YES	Encanto	9,715	710
6	NO	Stresemann/Governor	8,670	597
7	NO	Mission Bay/Pacific Beach	19,011	1,935
8	NO	UCSD (Double)	10,248	1,283
9	YES	Liberty Station	2,117	1,127
10	YES	University City	4,753	456
11	NO	Torrey	11,946	567
12	NO	Serra Mesa	15,646	1,553
13	NO	Mira Mesa	1,437	393
14	YES	East Otay	634	140
15	YES	Scripps Miramar	4,867	160
16	YES	San Pasqual	21	130
17	YES	Linda Vista	6,371	501
18	YES	Black Mountain Ranch	1,384	51
19	YES	Mission Valley (Double)	16,174	1,517
	<b>9 FRS's</b>	<b>Total:</b>	<b>161,283</b>	<b>14,377</b>

#### Fast Response Squad (FRS)

Of these 19 sites, Citygate believes six are the most critical. Taking into consideration all the factors, improved response times in these six sites would improve service to 66,674 residents and help to improve on the 4,564 delayed response time incidents. They are:

- Home Avenue
- Paradise Hills
- College Area
- Skyline
- Encanto
- Stresemann/Governor

“It is known that there is a need for major rebuilding and building of new fire houses in this County. There has been a recent approval of a 120 million dollar bond by the City Council of San Diego, of which more than \$36 million is designated to create improved services to these areas.”<sup>15</sup>

Because response times in certain parts of the City are slower than others, the Grand Jury has concluded that more effort should be devoted to make the general public aware of the importance

<sup>15</sup> Channel 7 news NBC 9/23/13

of knowing how to perform CPR. This is especially true in areas of the City where response times for medical emergencies are greatest. It would be very useful for the City of San Diego to promote a vigorous public awareness campaign aimed at providing CPR classes to areas that need them the most, and encouraging non-profit organizations such as the American Heart Association and the American Red Cross to participate in the effort. The areas where response times are most critical are the ones most in need of CPR training. Unfortunately, CPR classes are quite expensive. There can be several approaches to accomplishing this goal:

- The City Council could approve funds to pay for citizens' instruction.
- Volunteers could be recruited from many sources, including local nursing alumni associations and certified hospital workers.
- The San Diego Community College District could be encouraged to include in its health and nursing curriculum a community service requirement to teach a certain number of hours of CPR in the low-income neighborhoods they serve.

In addition, automated external defibrillators (AEDs) should be available in police cars and at many easily accessible public venues with a person assigned the responsibility for testing the equipment on a regular basis. AEDs correct irregular heart rhythms which can be life threatening.

The CPR training classes can be held at any convenient location, from hospitals, churches, and recreation halls to parks. The classes should include written materials including a booklet in various languages that explains the course and procedures, and hands-on demonstrations.

When it comes to finding CPR training classes that are affordable for the communities that need them, the Grand Jury found that there are some online alternatives to help with this task. Although they may not be the best choice, they are alternatives.

### ***FACTS AND FINDINGS***

***Fact:*** Five neighborhoods within 9.5 square miles south and east of downtown have the highest risk for a delayed emergency response: The area around Home Avenue in City Heights, Paradise Hills, the College Area, Skyline and Encanto.

***Fact:*** The Fire-Rescue Department begins counting time when it is first notified of the call, and stops when the first unit arrives at the scene.

***Finding 01:*** There is a need to improve response times in some areas of the city.

***Fact:*** Travel times vary according to traffic, road conditions and time of day.

***Finding 02:*** Due to varying traffic and road conditions, Fire and Medical Rescue units should be outfitted with the best equipment to improve routing when possible.

***Fact:*** Currently Rural/Metro is required to respond to all 9-1-1 calls, regardless of whether they are a true emergency.

**Finding 03:** There could be a better use of ambulances for emergencies if there were better and more efficient means to screen medical emergency calls.

**Fact:** More widespread knowledge and competent use of CPR could help save lives, especially in areas where response times are slower and the need is greatest.

**Finding 04:** There are not enough free or affordable training resources in the areas that need CPR training the most.

**Fact:** Thirty-six million dollars have been allocated to improve emergency services in San Diego.

**Finding 05:** Application of some of these funds to establish strategically-placed additional fire stations in areas with slow response times would improve the response times.

### ***RECOMMENDATIONS***

**The 2013-2014 San Diego County Grand Jury recommends that the San Diego City Council:**

- 14-31:** Assign a high priority to placement of new fire stations in areas with slow emergency response times.
- 14-32:** Consider changing the contract with its ambulance service provider to avoid responses to 9-1-1 calls that are not real emergencies.
- 14-33:** Continue its efforts to equip all San Diego Police patrol cars with AEDs since quite often a police officer is the first responder on the scene.

**The 2013-2014 San Diego County Grand Jury recommends that the San Diego Police and San Diego Fire Departments:**

- 14-34:** Implement a vigorous campaign to educate the public on the correct use of 9-1-1.

**The 2013-2014 San Diego County Grand Jury recommends that the San Diego County Board of Supervisors:**

- 14-35:** Direct the San Diego County Health and Human Services Agency to install an AED apparatus in public places in the County of San Diego where crowds may gather such as schools and recreation centers.

**The 2013-2014 San Diego County Grand Jury recommends that the San Diego Community College District:**

- 14-36: Include as part of its curriculum a community service component which has students volunteer as instructors of basic CPR techniques and the use of an AED device in areas of the City with the slowest response times.**

***REQUIREMENT AND INSTRUCTIONS***

The California Penal Code §933(c) requires any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the agency. Such comment shall be made no later than 90 days after the Grand Jury publishes its report (filed with the Clerk of the Court); except that in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), such comment shall be made within 60 days to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code §933.05(a), (b), (c), details, as follows, the manner in which such comment(s) are to be made:

- (a) As to each grand jury finding, the responding person or entity shall indicate one of the following:
  - (1) The respondent agrees with the finding
  - (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.
- (b) As to each grand jury recommendation, the responding person or entity shall report one of the following actions:
  - (1) The recommendation has been implemented, with a summary regarding the implemented action.
  - (2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.
  - (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the grand jury report.
  - (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.
- (c) If a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the grand jury, but the response of the Board of Supervisors shall address only those budgetary or personnel matters over which it has some decision making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with Penal Code §933.05 are required from:

<b>Responding Agency</b>	<b>Recommendations</b>	<b>Due Date</b>
<b>San Diego City Council</b>	<b>14-31 through 14-33</b>	<b>07/28/14</b>
<b>San Diego Police Department</b>	<b>14-34</b>	<b>07/28/14</b>
<b>San Diego Fire Department</b>	<b>14-34</b>	<b>07/28/14</b>
<b>Board of Supervisors County of San Diego</b>	<b>14-35</b>	<b>07/28/14</b>
<b>San Diego Community College District</b>	<b>14-36</b>	<b>07/28/14</b>