ABARIS GROUP

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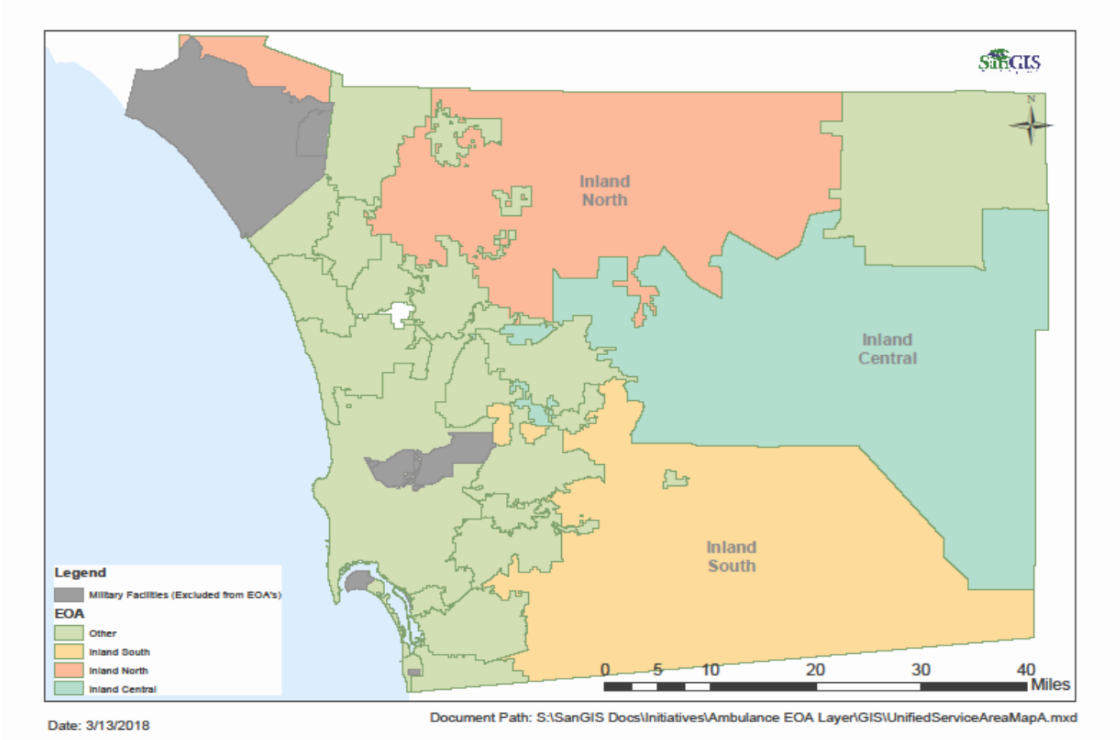
SAN DIEGO COUNTY

EMERGENCY MEDICAL SERVICES

CONSULTANT'S REPORT



Unified Service Area

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Section 1: Executive Summary

The County of San Diego requested The Abaris Group complete a needs assessment of the emergency ambulance services within the Unified Service Area (USA). This assessment included:

1. Community and stakeholder listening sessions,
2. Industry and leading practice research,
3. Recommendations to improve the emergency medical services (EMS) delivery,
4. Proposed evaluation criteria for measuring performance,
5. Proposed ambulance service delivery model and performance measurement and indicators, and
6. Drive time study.

The USA emergency ambulance service providers are currently meeting or exceeding the contract standards set within the current service areas. New areas are being added to the USA that are currently covered by mutual aid with no response time standard. In general, the attendees at the listening sessions spoke positively about the current system and performance. Recommendations to further enhance the service were received as well.

A national roll-up of EMS best practices and industry trends was completed for consideration of the Local EMS Agency (LEMSA) and USA stakeholders. As a system, these leading EMS practices should be evaluated for local applicability and value to the operating areas.

The recommendations provided by The Abaris Group focus around maintaining the current high level of service provided. Improvements to further integrate the EMS system are available. The final agreement for service should allow for future innovation as the state approves community paramedicine and other best practices.

Section 2: Overview

2.1 Scope of Work

The Abaris Group was contracted by the County of San Diego to coordinate, plan, advertise and conduct stakeholder and community feedback sessions, research and compile information and develop reports of findings and recommendations for the USA, which will be comprised of three distinct exclusive operating areas (EOAs) once implemented.

Section 3: Background Information

3.1 Community Profile[1]

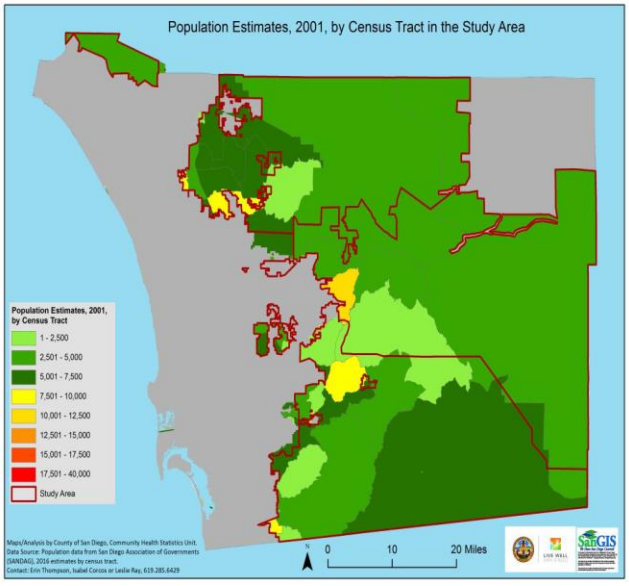
Location and Geography
The USA includes three regions that are identified as Inland North, Inland Central, and Inland South. Before the boundary adjustments, the backcountry consisted of multiple operating areas: Valley Center Service Area, Julian Service Area, Grossmont Healthcare District Zone 2 Rural and Otay Mesa Service Area, Ocotillo Wells, Anza Borrego State Park, and Surrounding Desert Communities Service Area. There are also six undesignated areas not included in the existing operating areas including De Luz, San Pasqual, Ramona, Sycamore Canyon, El Capitan Reservoir,

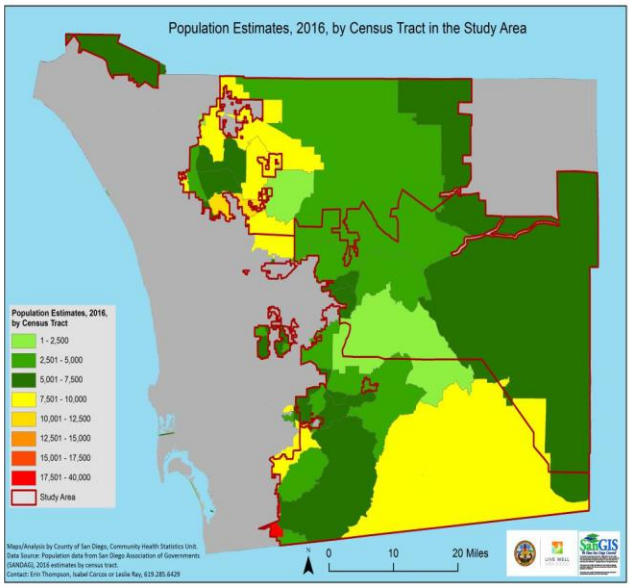
[1]https://www.sandiegocounty.gov/content/dam/sdc/hhsa/programs/phs/EMS/Other/Attachment%20A%20Improving%20EMS%20in%20San%20Diego%20County.pdf

and Southern Desert. Combined, the existing operating areas and six undesignated areas represent over 50 percent of the land mass of San Diego County. The USA is vast geographically with terrain from desert to mountains with winding roads and a dispersed population.

Population Trends

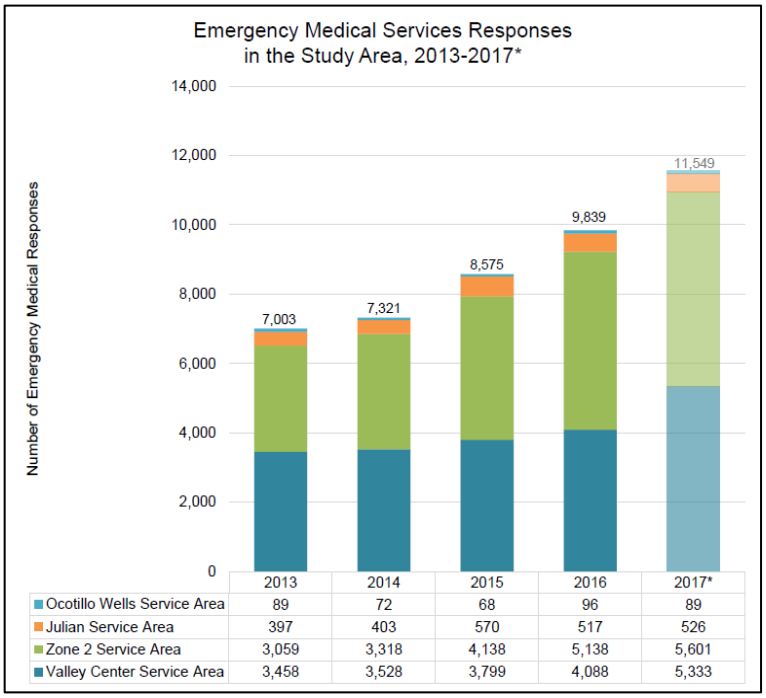
According to the report, "Improving Emergency Medical Services in San Diego County" the population density and distribution of the USA has experienced large population growth and changes in the last 15 years (see the figures below). It is reported that from "2001 to 2016, the overall population of San Diego County increased by approximately 15 percent, while the population of the USA increased nearly twice as much (27 percent) as the County over the same 15-year period."





EMS Responses

"Improving Emergency Medical Services in San Diego County" reported that when compared to other parts of San Diego County, the overall response volumes in the USA are relatively low. For example, the response volumes only make up five percent of the total responses. According to the figure to the right, the annual 9-1-1 responses for emergency medical assistance in the USA have increased from 7,003 in 2013 to a projected 11,549 responses in 2017.



Section 4: Listening Sessions

4.1 Introduction

The Abaris Group offered 13 listening sessions throughout the USA. Twelve of the sessions were conducted by The Abaris Group, and one was conducted by the San Diego County staff. The purpose of the listening sessions was to gather community and stakeholder input on emergency ambulance services in the USA. The listening sessions were scheduled for two hours in length and consisted of a short presentation, community member and stakeholder forum, and collection of feedback and input provided.

4.2 Marketing

Flyers
To advertise the listening sessions to the community, flyers were created for the USA which explained the goals and objectives of the sessions and provided the specific dates, times and locations of the 13 sessions. Flyers were posted in fire stations, library community boards, local post offices, markets, feed stores, and community centers.

The flyer can be viewed in Attachment 1: Unified Service Area Flyer.

Newspapers
The Abaris Group did extensive work to market the listening sessions throughout the County. After contacting nine different newspapers, five local newspapers were selected including The Alpine Sun, The East County Californian, The Village News Fallbrook, The Julian News, and The Ramona Sentinel for a total of six advertisements (one in each publication and two with The Julian News).

Examples of the newspaper advertisements are available in Attachment 2: Newspaper Ads.

Social Media
Six separate Facebook advertisements were created with specific zip codes. The targeted zip codes included: 91901, 91934, 91935, 91962, 92026, 92028, 92036, 92061, 92065, 92082, and 92086.

An example of the Facebook advertisement is included in Attachment 3: Facebook Advertisement.

Libraries
Aside from the libraries already participating in a listening session, The Abaris Group contacted several other branches and asked them to post a flyer on their community boards as well as print extras to place near their community handouts. Below is a list of the branches contacted:

- Pine Valley Branch
- Alpine Branch
- Julian Branch
- Jacumba Branch
- Crest Branch
- Descanso Branch
- Ramona Branch
- Potrero Branch

4.3 Complete Listening Sessions

The attendance numbers for each USA listening session are listed below:

- 6/13/2018 Pauma Valley - 7
- 6/13/2018 Valley Center - 5
- 6/14/2018 Warner Springs - 7
- 6/14/2018 Deer Springs - 9
- 6/14/2018 Fallbrook - 6
- 6/22/2018 Pine Valley - 5
- 6/22/2018 Jamul - 4
- 6/27/2018 Shelter Valley - 7
- 6/27/2018 Ramona - 8
- 6/28/2018 Alpine - 6
- 6/28/2018 Lake Cuyamaca - 9
- 6/28/2018 Julian - 13
- 6/28/2018 Jacumba - 7

Questions Asked
An important step in the process of issuing a request for proposal (RFP) for emergency ambulance service is determining the current system performance and potential improvements through input from community members and other stakeholders such as fire department and city government. The feedback captured is reviewed for applicability and possible inclusion in the RFP, which directly affects the future of emergency ambulance service in the USA.

Three questions were asked to help start the comments and input.

1. What do you like about your current emergency ambulance service?

2. What could be improved?

3. What might you like to see in the future?

4.4 Feedback

The feedback is summarized below and organized by topic area. All comments can be found in Attachment 4: Listening Session Comments.

Current Ambulance Service Strengths

Integration
The most common strength mentioned is the strong/seamless working relationships that have been built over time due to fire and ambulance provider cohabitation and the same work schedules. One person stated the importance of all resources being dispatched together. Some audience members suggested the good working relationships are due to the joint training led by the current providers. The ability of first responder agencies to access the volume purchasing power of the provider for equipment and maintenance was acknowledged as a benefit.

It was mentioned a few times that there are solid mutual aid relationships. One person praised the current providers' practice of move up and cover. Provider paramedic support on fire-related suppression calls for service was identified as a positive strength. Two audience members listed the consolidated dispatch for first responder and transport crews as another asset.

An additional strength is that most of the ambulances have automatic vehicle locators (AVL) and first responders and dispatchers can see their locations. Also, having all advanced life support (ALS) ambulances is appreciated by stakeholders because they do not require the first responder paramedic to move to the ambulance – down-staffing the fire engine for hours.
The transparent communication between line staff, field supervisors/captains, and managers/chiefs was listed as a current strength. There is an excellent rural system status plan

in place. There is real-time, data-driven decision making by software (i.e., First Watch) for both ambulance provider and fire first responders.

Local
Since GPS can be unreliable in the remote geography, having a local ambulance crew is of great value because the local provider knows the area the best. "Having ambulance stationed locally, allows for better community knowledge of patients…even follow up before someone calls 911."

Quality
Three attendees want to ensure that all ambulances provide ALS-level transport. One person mentioned the value of first responder ALS provided by the fire agencies, which is viewed as a huge improvement over basic life support (BLS). The Type I ambulances are well-liked due to the amount of internal space – everyone fits.

The current system is viewed as a progressive EMS system. There are dedicated mobile intensive care nurses (MICN) stationed at the hospitals. Electronic patient care record (ePCR) is standardized, e.g., Image Trend brand. The current agreements use First Watch for online compliance utility. Quality improvement is provided through the County, e.g., Pearls from the PAC. Stakeholders generally agreed that EMS is a part of everyone's job.

Response Times
Four comments suggested that the system status plan in place affords good response times and adequate ambulance coverage. A couple of attendees recommended improved response time requirement of fewer than 30 minutes and that some areas have a current response of six minutes. The future agreement should maintain the current unit staffing level and add another 12-hour unit to the Eastern USA. Air ambulance service works well in Inland-Central. Another strength shared is the year-round availability of ALS first response in Sunshine Summit and Shelter Valley areas. It was also mentioned that Pine Valley has good ambulance coverage.

A clear, formal comment made was "Do not decrease the level of service, move ambulance stations, or treat every call as an emergency (not appropriate)." There was concern that newly proposed response times could require more North County Fire resources to meet response time standard. The proposed system could shift North County Fire to be the closest provider (i.e., by default with limited services and a poor, backup system).

Suggested Improvements

Integration
Five people suggested that all areas need a solid move up and cover/deployment plan across zones. The closest ambulance should respond, even when the contracted provider can meet the response times standard. A concern was mentioned that the future provider should participate in a boundary drop approach to ensure the closest ambulance always responds, regardless of lines on a map.

Another theme addressed by attendees was centered around using a consolidated dispatch for first responders and transport. It was suggested by three separate audience members that AVL should be required and utilized for up-to-date mapping of all units. Stakeholders mentioned some management challenges due to co-location, e.g., ambulance staff not reporting to the station fire captain. Two people suggested employing a readily available ambulance supervisor for the fire captain to interface with promptly and handle concerns at the lowest level. One person proposed seeking better management collaboration to improve gap response.

One attendee suggested allowing firefighters to drive ambulances. Another person brought up alternate transport options when an ambulance is not needed, e.g., ambulance supervisor transport instead.

Technology use/upgrades was another theme. For example, all transport units should have VHF and 800MHz radios for inter-agency communications (mobile and portable), standardize ePCR for better patient handoff (same software or middleware), and better integration of technology (e.g., telehealth). Finally, it was suggested to formally incorporate Riverside County EMS resources into San Diego County USA as part of a mutual aid deployment and response plan.

Quality
It was suggested to staff two paramedics on each ambulance, and one person stated his preference for the larger, box ambulances painted red or red/black (to match fire engines).

Response Times
Six people mentioned surge staffing capability, when needed, for special events, weekends, and holidays to improve response times. Others would like to see better/shorter response times, and an improvement in the current average response time of 14 minutes, altogether. The current and future contractor should meet the contract response times. It was suggested that the response time standard needs improvement in the Potrero area for both first response and ambulance. One stakeholder recommended using different response times based on need, e.g., ALS, BLS, emergency, non-emergency.

Multiple stakeholders suggested more ambulances are necessary to mitigate the long transport distances in the USA. Hour-long transport distances and bed delays were some of the barriers discussed related to improving response times. One solution offered was to add BLS ambulances to keep ALS ambulances in service.

To provide better coverage to the region, three people suggested an improved deployment/system status plan. Two attendees requested faster EMS (fire and transport) response times in areas with lower population density. Part of the current challenge is the loss of ALS first response when those resources are moved to cover large population centers leaving these areas uncovered. The future providers should be able to meet the need for four-wheel drive and bariatric ambulances when required. One person suggested it was more important to see more ambulances than more fire engines in the system. Another mentioned the closest ambulance should respond, not just the region's contracted ambulance provider. Dispatchers should have the flexibility to reassign units to higher priority calls, even when assigned to another (lower priority) call.

De Luz has an urban/rural split. One person suggested checking the current and projected population density for accuracy (i.e., census tract is larger than De Luz, alone). Publicly available benchmarking reports with comparisons to other counties should be performed on a monthly, consistent basis to ensure quality patient care. This process improvement would include response times, costs/response, costs if changing response times, etc.

Process
One recommendation regarding the RFP process was to avoid awarding all three regions to one provider. Others want to see a diverse group of stakeholders participate in the process, such as, at a minimum, Fire Chiefs' Association and Hospital Association representatives. Finally, an attendee suggested that public agencies should have a voice in the procurement process.

Fiscal
One person would like to see the County fund fire transport and first response to EMS.

Future System Innovations

Integration
Three attendees mentioned the future contract should offer mobile integrated healthcare/community paramedicine. The future provider should also offer joint training. Boundary drop approach to performance and patient care by two stakeholders, including Deer Springs Fire, who regularly interacts with a current USA provider. This would require AVL on all units.

Two people suggested that there should be a tiered dispatch/response, e.g., not all calls need two paramedics. Further, the contracts should allow for alternate destinations and non-medical transport. There needs to be an improved partnership with the LEMSA and Health and Human Services for non-paramedic advanced providers to care for the patient and evaluate treat-and-release programs. All first responder and ambulance equipment should be standardized to improve patient care and efficiency.

A future innovation recommended is to no longer provide hospital alerts by radio in favor of uploading the ePCR to the hospital for MICN report. Within future technology integration, it was recommended to add trend software for ePCR and a health information exchange (HIE) to connect providers and hospital in real-time to improve patient care. One attendee mentioned increased flexibility with healthcare navigation to properly direct patient destination and disposition.

Quality
Four stakeholders suggested expanding the scope of practice/standing orders, e.g., rapid sequence intubation, alternative pain analgesia due to longer response times and extended transport times. At least two people would like to see all agencies using the same ePCR (first response and transport). Along with this item, one suggestion was for the County to provide ePCR training for both first response and the ambulance provider.

Response Times
The attendees recommended maintaining the same level of ambulance services and units in the next RFP. One person suggested shorter response times; another mentioned adding an ambulance in Campo/Potrero area to reduce times. It was also mentioned that the Alpine area should have one response time standard. Another stakeholder suggested adding two minutes to the time of dispatch to accommodate for the lag in dispatching calls. One attendee would like to ensure that lower population areas will not receive lower standards than higher population areas.

To further decrease response times, hospital off-load delays should be mitigated or eliminated. To accomplish this, the provider would need to be able to reach a hospital representative when off-load times are bad; the MICN was recommended as the contact.

Process
Two people wanted assurance that the contracts will adapt as the population changes. Also, evaluate increasing service needs based on the aging population, not just on population density. Another stakeholder would like to see education on the EMS system incorporated into the procurement process, e.g., how it is used, why, when.

Fiscal
The future system should prioritize service delivery over the fiscal budget. Also, the County should ensure underbids are not accepted since that could lead to an under-resourced EMS system.

Section 5: Industry and Leading Practice Research

As an industry, EMS continues to evolve and improve. Starting as a "load-and-go" service with untrained attendants and using hearses (i.e., the only vehicle that could transport a person lying flat), modern EMS brings the emergency department (ED) to the patient through ALS paramedics and mobile healthcare equipment. Some EMS providers have implemented best practices to improve patient care in the pre-hospital environment. These industry trends can be organized into five categories – dispatch triage and awareness, alternate transportation and destination, high system user diversion, clinical benchmarks and standards, and primary and mobile healthcare (see chart below). Each best practice is focused on reducing 9-1-1 use, bringing the right patient to the right place, redirecting frequent users of the 911 system, establishing data-driven clinical standards, and offering mobile integrated healthcare (i.e., community paramedicine).

Location/Program	911 Dispatch Triage & Awareness	Alternate Transportation & Destination	High System User Diversion	Clinical Standards & Benchmarks	Primary & Mobile Healthcare
Fort Worth, Texas	✓		✓	✓	✓
Houston, Texas		✓			
Lake County, Florida	✓				
Las Vegas, Nevada		✓	✓		
Liberty County, Texas					✓
Louisville, Kentucky	✓		✓		
McKinney, Texas			✓		✓
Mesa, Arizona			✓		
San Antonio, Texas		✓			
San Diego, California		✓[1]	✓[1]		
San Francisco, California		✓	✓		
San Mateo County, California		✓			
Santa Barbara County, California		✓[1]			
Santa Cruz County, California				✓	
Seattle, Washington	✓				
Spokane, Washington		✓			
Toronto (Ontario), Canada	✓				
Tucson, Arizona			✓		

Location/Program	911 Dispatch Triage & Awareness	Alternate Transportation & Destination	High System User Diversion	Clinical Standards & Benchmarks	Primary & Mobile Healthcare
Western Eagle County, Colorado			✓		✓

Note: [1] Discontinued

5.1 9-1-1 Dispatch Triage and Awareness

Tele-Triage Services
The four programs listed below use advanced dispatch protocols administered by a healthcare professional (typically a nurse) to determine if 9-1-1 resources are necessary. If not, other transportation and appointments are coordinated to ensure the caller receives the appropriate level of care and treatment. The goal is to reduce the demand for 9-1-1 services while delivering the most appropriate care for the caller.

Comparison of Tele-nursing Programs				
Location	**Houston**	**Seattle**	**Richmond**	**Toronto**
Population (2011)	2,145,146	620,778	205,533	2,615,060
Runs/year[1]	300,000	136,000	40,880	240,000
Diversion rate	**1.83%**	**0.51%**	**8.04%**	**1.42%**
Diversions/year	5,475	700	3,285	3,398
Send-back rate	**75%**	**9%**	**83%**	**18%**
Final diversions/year	1,369	637	548	2,786
Final diversion rate	**0.46%**	**0.47%**	**1.34%**	**1.16%**
Net savings	**$328,562**	**$240,324**	**$30,660**	**$1,560,362**

Sources: http://www.philadelphiacontroller.org/publications/audits/04_21_09_tele_nursing%20report.pdf, US Census
Notes: [1] Runs/year are from 2006, except Toronto and (2011)

Dispatch Resource Triage
The King County (WA) dispatch center uses a contemporary dispatch triage process to determine which 9-1-1 resources to send for each call. Often, a basic life support (BLS) fire engine is sent as the first response to determine need. Then, after an assessment, a BLS or ALS ambulance may be requested if ambulance transport is warranted.

9-1-1 Awareness Campaigns
Other services are starting marketing and public service announcement campaigns about the proper reasons to call 9-1-1. This is typically referred to as "*Use them, don't abuse them.*"

5.2 Alternate Transportation and Destination

Mental Health Transportation
Many EDs find themselves with mental health patients who need a medical screening before transport to the proper behavioral health facility. This requirement impacts ED throughput. San Mateo County (CA) has paramedics who have completed additional training and can perform the mental health evaluation on scene. The same paramedic can place and document the application for 72-hour detention for evaluation and treatment form, transport the patient directly to the behavioral health facility or release to the police officer for transport. This program saves an ambulance ride to the hospital, an ED assessment, and a second ambulance ride from the hospital to the behavioral health facility.

Sobering Centers
Some cities have established sobering centers. The goal is to keep these patients from overusing the ambulance system and the EDs as well as provide law enforcement a better option. Two centers that have been very successful include San Francisco (CA) and Spokane (WA). Both have a medical practitioner (typically a nurse) on-site to assess and monitor any healthcare needs as many of the people brought to sobering centers have medical issues as well.

San Francisco Encounters by Referring Parties						
	2011		2010		2009	
Ambulance	1,878	36.3%	1,448	44.5%	1,128	43.5%
Mobile Assistance Patrol (MAP)	1,991	38.5%	1,227	37.7%	1,033	40.4%
Police	393	7.6%	286	8.8%	167	6.5%
ED Transfer (via MAP)	599	11.6%	116	3.6%	71	2.7%
Referred by Other	314	6.0%	177	5.4%	189	7.0%
Total Referrals	**5,175**	**100%**	**3,254**	**100%**	**2,588**	**100%**
Source: San Francisco Coordinated Case Management System						
Note: The number of EMS calls referred to MAP is not tracked currently						

Spokane 9-1-1 Diversions to Sobering Center by Referring Parties						
Referral Source	**2012***		**2011**		**2010**	
Fire Department	654	42%	635	35%	418	36%
Police Department	670	43%	944	52%	607	52%
Merchants/Private Citizens	218	14%	241	13%	142	12%
Total Referrals	**1,542**	**100%**	**1,820**	**100%**	**1,167**	**100%**
Note: * Projected using Jan-Jun 2012 data						

Taxi Cab Vouchers
Some EMS systems will provide vouchers for taxis as an alternate form of transportation. 9-1-1 dispatch center can offer this after proper screening or the field staff following assessment for any medical emergency conditions. This best practice requires significant quality assurance to prevent any adverse outcomes.

5.3 High System User Diversion

A number of EMS systems are focused on reducing 9-1-1 calls by frequent users of the EMS system. The goal is to prevent the calls from occurring by proactively managing chronic healthcare conditions. In Fort Worth (TX), the EMS system identified 21 people calling 9-1-1 two or more times per week for over 1,000 calls (>1%) annually. A Community Health Program intervention reduced 9-1-1 use by 86% in the first 12 months, saving $1.6 million in EMS and $7.4 million in ED charges. San Diego implemented a Resource Access Program (RAP) intervention that reduced EMS encounters by 38% in the first 30 days for 933 individuals that accounted for 3,347 (11%) of annual transport volume.

5.4 Clinical Standards and Benchmarks

As an industry, EMS is just starting to embrace data-driven decision making. Some procedures and tools have been proven ineffective or worse, detrimental, to patient care. MAST trouser application and unilateral use of c-spine precautions and other practices have changed due to clinical data. Fort Worth (TX) and Santa Cruz (CA) have both adopted clinical and operational standards with applicable benchmarks based on clinically proven data. Existing organizations that provide recommended standards include state EMS agencies, national EMS information system (NEMSIS), American Heart Association (AHA), National Health System (England), and Centers for Medicare and Medicaid Services (CMS). Clinical areas include cardiac arrest, STEMI, stroke, trauma, seizures, sepsis, pain management, respiratory distress, hypoglycemia, and patient safety. See Attachment 5 for national benchmarks and clinical standards adopted by Santa Cruz.

5.5 Primary and Mobile Healthcare

Community Paramedicine
Many states now allow paramedics to provide more than acute care during a 9-1-1 call. After completing additional training and education, these "community paramedics" will visit people before a condition reaches the need for 9-1-1 services. Some systems focus on follow-up after hospital discharge to prevent patients from being readmitted. Others look at high-risk hospice patients likely to call 9-1-1. California is currently permitting a number of pilot projects and, potentially, will approve the programs to become permanent as the results appear positive.

5.6 Medicare Healthcare Innovation Awards

Medicare has approved some innovation awards looking to improve care or reduce costs in healthcare, especially for EMS. There are now five (soon to be 10) that specifically involve EMS. They include:

Post-discharge and high system user support using community paramedics
Regional EMS Agency (REMSA), NV – $9.9 million

Post-discharge support using community paramedics
Prosser Public Hospital District, WA - $1.5 million

EMS in-home, follow-up care in medically underserved areas
Upper San Juan Health Service District, CO - $1.7 million

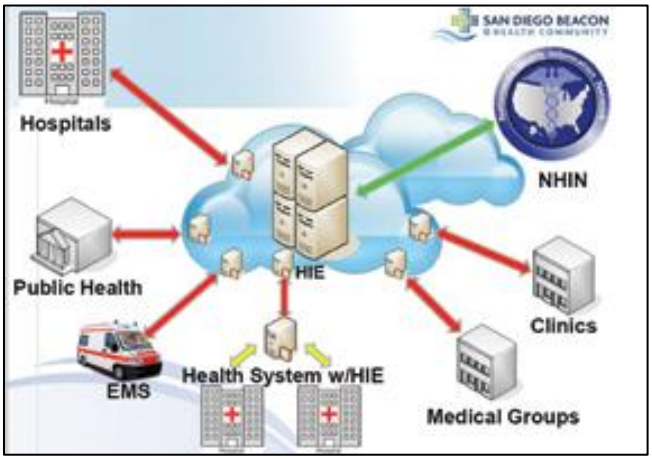
Provide hospital-at-home care
Icahn School of Medicine at Mount Sinai (NY) - $9.6 million

Fall prevention by EMS to reduce future 9-1-1 calls
Yale University (CT) – $7.2 million

Most of these award programs will become possible within California when the State approves community paramedicine following validation of the current pilot projects.

5.7 Beacon Community Program/San Diego Health Connect

San Diego (CA) received a $15M federal award to create an HIE for its community. The goals are to push historical healthcare information to EMS when encountering a 9-1-1 patient, improve pre-hospital care, reduce turnaround times, improve quality assurance, reduce hospital utilization, increased community surveillance, and upload EMS records for hospital access. Some counties are exploring the use of HIE for hospital and pre-hospital care.



The program has transitioned to San Diego Health Connect and is operational. The EMS component is called "SAFR" – with four elements:[2]

Search – When the field crew begins inputting patient data, the HIE automatically looks for a match. If one is located, it prompts the EMS provider to confirm the identity. Once validated, the provider has access to patient history, medications, allergies, and previous EMS encounters. The goal is improved prehospital clinical decision-making and patient care.

Alert – Transport crews can alert the ED through the system of the pending patient. The HIE will transmit, vital signs, electrocardiograms (EKGs), and narrative report as they are entered into the ePCR. This improves receiving hospital preparedness, transitions of care, and patient care.

File: The completed ePCR is automatically attached to the hospital's electronic health record with no need to print, fax, or email to the receiving facility. A better longitudinal patient record is created and available for future reference.

Reconcile: The hospital shares insurance information with the EMS provider to expedite accurate billing. The HIE also transforms the data into NEMSIS-compliant formatting for further analysis. Finally, the patient's final diagnosis is recorded at discharge and available for EMS providers to review and compare with their initial findings (e.g., did the patient have a stroke). The goal is improved overall care and population health.

The major health systems and EMS providers in the City of San Diego are participating. The implementation with the University of California, San Diego is complete, and it is underway with Kaiser, Scripps, and Sharp healthcare systems. Roughly 60 percent of EMS cases are being entered during the call, and approximately the same percentage have a record that the field provider can confirm, review, and use to improve the patient care delivered.

[2] https://ehrintelligence.com/news/onc-safr-guide-to-aid-ems-providers-in-health-data-exchange

Section 6: The Abaris Group Recommendations to Improve EMS Delivery

6.1 Recommended EMS Delivery Improvements

The current providers of emergency ambulance services are meeting the standards and criteria established in the agreements for service. One of the best strengths is the integrated public/private partnership for EMS delivery. This includes consolidated communications center that dispatches and monitors all EMS resources simultaneously using the same radio frequencies for some of the current operating areas. Besides coordinated call response, there is joint training between all system providers. These should be considered the base standard for future agreements.

Suggested service improvements would embrace additional EMS system integration. It should be noted that The Abaris Group was hired to conduct listening sessions and review current agreements for service. The following recommendations are based specifically on this information combined with our industry knowledge of best practice systems.

Consolidated fire/EMS dispatch – Many EMS systems have experienced gains in performance through centralizing the dispatch of first responder and ambulance transport units. Having one communications center simultaneously dispatching all units can reduce the time from 9-1-1 call to units responding by up to one minute (e.g., dispatch consolidation by Contra Costa County in 2016).3 One center eliminates the need to electronically or otherwise share call information and improves dispatcher-call taker coordination. When all crews use the same radio channel, it simplifies communication for sharing call location (e.g., fire crew can broadcast local knowledge to help the ambulance find the location) as well as greater crew safety (e.g., if power lines are involved with a traffic collision, the original dispatcher confirms all crews are aware of the danger and does not rely on the ambulance dispatcher to handle). The future providers should be required to maintain an appropriate level of mobile and portable radios on these integrated radio frequencies to function effectively with dispatch and first responders.

System-level quality improvement – The EMS system should be evaluated in its entirety, not as individual providers. Evaluation requires a single repository for all pre-hospital call data. It is most effectively done by selecting a single electronic patient care report (ePCR) system for all EMS providers. This option allows for the real-time transfer of data from first responders to ambulance crews and the most efficient approach to data capture. Some EMS systems utilize "middleware" to connect different software and extract necessary data fields to a centralized data warehouse. While not ideal and potentially adding significant manpower to accomplish, it may be an alternative approach. Once collected, reports can be generated to identify clinical care trends and potential deficiencies that can be the focus of future clinical training and education for all system providers.

Clinical Benchmarks and Standards – While it is important to arrive quickly, it is more critical that the patient care provided is high quality. EMS systems should establish clinical standards based on objective criteria from highly-respective organizations, such as AHA, CMS, NEMSIS, EMS Compass, and United Health System. EMS providers should only be held to clinical benchmarks that it can manage. System-level benchmarks that are impacted by all providers, such as bystander CPR, should be established as well. A consolidated database of ePCR data supports this process.

Boundary Drop – There are a number of ambulance providers in San Diego County and, where possible, these providers should work together. The contracted providers should participate in a mutual aid process that ensures the closest ambulance responds to every call, even if not necessarily inside the EOA (this is often referred to as "boundary drop"). Typically, this is easier to accomplish when the same dispatch center is responsible for all of the operating areas. Any boundary drop should be executed in a neutral and objective manner that does not favor any one provider participating in this approach to

[3] Chief Terrence Carey, Contra Costa County Fire Protection District, Washington County (OR) presentation, 7/25/18

service delivery. For example, a provider could position resources closer to its operating area's borders and unfairly "steal" calls in other EOAs. To mitigate this concern, the contract administrator should track the number of mutual aid calls performed and received on a regular basis by the contracted providers. Any unbalanced mutual aid levels can be addressed by requiring the contracted providers to shift ambulance post location(s) and system status planning. Through transparency, a boundary drop can be achieved between all providers, whether public or private. The mutual aid methodology may consider formally incorporating the Riverside County EMS system to ensure further the closest ambulance responds to expedite patient contact and care regardless of lines on a map.

Surge Capacity – Additional resources can further improve response times during expected periods of higher call volume (e.g., special events, summer weekends, holidays). It is reasonable to ask the contracted providers to staff more ambulances based on historical call volume when more calls for service can be predicted.

Flexibility – The provider agreements should allow for future system improvements during its term. This could include more refined triage of appropriate resources by the dispatch centers. It may not be necessary to send first responders and an ambulance to every call based on the level of urgency, on-scene medical staff, and the probability of transport. Reviewing the history of each call type determinant (e.g., medical priority dispatch system-MPDS) may lead to the optimized use of EMS resources. There are some community paramedic pilot projects in California with proven benefits for recent hospital discharges, high 9-1-1 system users, and other programs. When the State approves community paramedicine beyond the pilot period, the agreement should allow for this potential.

Section 7: Proposed Evaluation Criteria

7.1 Framework for New Response Time Standards

Response Time Standards

The current response time standards (see below) are consistent with most EMS systems in the United States. However, they do not take into account the value of first responder ALS when determining the ambulance standard. Minimal exemptions are recommended to simplify the contract compliance process.

Incident in urban zone	10 minutes	90% of applicable incidents or greater
Incident in rural zone	30 minutes	90% of applicable incidents or greater
Incident in desert zone	50 minutes	90% of applicable incidents or greater

While meeting the industry standard, response times are not based on data-driven, clinical research.[4,5,6] They started as an arbitrary number proposed in one high-performance, competitive ambulance bid that seemed appropriate for the public expectation of ambulance service. Since that time, some research studies have been completed that demonstrate there is no value

[4] Pons PT, Haukoos JS, Bludworth W, et al. Paramedic response time: Does it affect patient survival? Acad Emerg Med. 2005;12(7):594–600.
[5] De Maio V, Stiell I, Wells G, et al. Optimal defibrillation response intervals for maximum out-of-hospital cardiac arrest survival rates. Ann of Emerg Med. 2003;42(2):242–250.
[6] Pons P, Markovchick V. Eight minutes or less: Does the ambulance response time guideline impact trauma patient outcome? J Emerg Med. 2002;23(1):43–48.

beyond four minutes – when the brain starts to die following cardiac arrest. Response times are also the most expensive driver of ambulance costs with roughly 80 percent of budgets being devoted to unit hour costs (i.e., personnel and ambulance).

Progressive EMS systems are starting to look at ways to improve patient outcomes beyond quick response times. A new phrase, "*Pre-EMS*" has been coined to describe the important role of bystanders in the chain of survival. This includes bystander CPR (now APR), defibrillation, and bleeding control. From an economic point of view, it may save more lives to relax EMS response times and focus the limited financial resources on more training and education of bystanders to deliver care in the first four minutes following the medical emergency.

Moving forward, it is recommended that response times remain the same until the EMS system and all of its stakeholders are ready to commit to a wholesale change in EMS delivery through fiscal prioritization of Pre-EMS over quicker response times that are clinically unproven.

Clinical Standards
Hospitals have been held to clinical standards for decades. CMS penalizes and rewards hospitals for the care they provide based on a number of clinical criteria. To date, the pre-hospital environment has not been affected by this CMS requirement. To prove the value of EMS, it is important that systems adopt clinical standards that are data-driven to improve outcomes. This can include the length of time on scene during a stroke or heart attack as an example (see Section 5.4 for more examples). EMS systems should incorporate clinical standards beyond just measuring response times to demonstrate value. One recent competitively bid EMS system provides credits towards response time penalties based on the patient care provided (see Attachment 5). At a minimum, all EMS systems should at least start measuring ambulance service performance of clinical care to prove their "value." Examples of performance measures currently monitored in many systems that have proven clinical value include "door-to-needle" times for stroke patients and "door-to-balloon" times for heart attack patients.

Section 8: The Abaris Group Recommendations for Ambulance Service Delivery

8.1 Ambulance Service Delivery Model

The Abaris Group recommends an ambulance service delivery model that is driven by a combination of response times and clinical care provided. As an example, Santa Cruz County relaxed emergency response times, eliminated non-emergency response times, and set clinical goals that would provide sliding scale credits to response time penalties based on the level of care delivered (i.e., clinical report card of 90 percent = full penalty credit, 80 percent report card = 75 percent credit, etc.). The goal is not only timely ambulance arrival, but also excellent patient care. The model should empower an integrated public-private partnership to value the role of fire first responders in the role of patient care. One way this can be accomplished is allowing the ambulance providers to subcontract with the fire service to guarantee ALS response times and extending ambulance response times. All EMS resources should be dispatched simultaneously and tracked by a consolidated dispatch center. Ambulance rates should be regulated with reasonable automatic annual increases based on the change in costs; extraordinary changes in expenses should allow for the provider to request a manual rate review.

8.2 Performance Measurement and Indicators

Response times should be monitored using the industry acceptable "90 percent" standard. It is recommended that there be no penalty for the ten percent of late calls as this is expected in the normal course of EMS operations and is the most sustainable for rural providers. That said, calls that are significantly late should be subject to a penalty. These "outliers" are typically considered

200 percent of the response time standard in other systems.

The application of ePCRs in recent years affords a greater ability to measure clinical performance. It is possible to run reports using ePCR data on the clinical performance being delivered to EMS patients. For example, average length of time on scene for trauma, stroke, and heart attack patients can be easily measured. Systems should monitor overall performance as well as the individual performance of first response and transport providers. These results should regularly be reviewed to identify how the EMS system can become more efficient and effective at delivering patient care in the pre-hospital environment.

Section 9: Drive Time Study and Statements of Work Review

9.1 Drive Time Study

The County of San Diego has consolidated several previous ambulance response zones and undesignated areas in the backcountry into the three zones. Additionally, San Diego EMS has proposed revised USA response time requirements – 10 minutes for urban areas (no change); 16 minutes for rural areas (decrease from 30 minutes); 25 minutes for outlying areas (decrease from best effort or 45 minutes) and 45 minutes for the desert region (decrease from best effort or 50 minutes). If an ALS fire resource responds to a request for service, that may alter the response time requirement for the ALS ambulance.

Methodology
The Abaris Group utilizes Environmental Services Research Institute (ESRI) ArcGIS as its mapping platform. ESRI is generally considered the industry leader in geographic information services (GIS). For analyzing the estimated driving times, the ArcGIS Online, Drive-Time Analysis Tool was utilized. SanGIS or the LEMSA supplied most of the underlying structures and the fire station locations. The fire stations used for this drive time analysis were those that currently station an ALS ambulance.

Drive time analysis displays 24-hour average drive time predictions based on ESRI's Traffic Count Data within the underlying street database, which includes posted speed limits, traffic volume, etc. Using the ambulance stations as a starting point, the 16, 25 and 45-minute response time requirements were entered into the drive time analysis tool, and predictive drive time coverage is displayed projecting out from the individual stations. To approximate code three (i.e., lights and siren) driving, an additional 20 percent was added to each response time requirement, and those drive time estimates are displayed separately.

ESRI's Traffic Counts data tracks peak and low traffic volume by the number of vehicles that cross a certain point of a street location. Updated quarterly, the Traffic Counts database contains more than 1,000,000 points across the United States. Traffic Counts data includes average daily traffic volume, current and previous count type and cross street direction and distance.

Comprehensive Delivery System

It should be noted that the drive time analysis compiled by The Abaris Group did not consider the placement or response times of First Responder ALS (e.g., fire apparatus) and a small number of tribal government ALS transport units in the USA. Because of this, and in consideration of the robust service provided by other agencies in the USA, it is recommended that the County consider a "Level of Performance" model with a phased approach to facilitate the full utilization of a multi-faceted ALS system. Using such a model would include the County's proposed ALS response time metric in the more rural areas in a "Level of Performance" model, but would also

contain other metrics such as customer satisfaction, crew interaction with first responders, mutual aid usage ratios, ability to flex staffing levels to accommodate special events and other seasonal situations and metrics. Phasing response time compliance as a Level of Performance metric could include a multi-year 'roll up' to the transport units' response times proposed by the County. As part of a Level of Performance model, bidders for the RFPs may wish to propose a number of graduations, or trials, to collaboratively hone and improve EMS service delivery to meet the County's desired performance goals which would include response time standards as proposed.

Results – Normal Driving

Figure 1 displays the response time zones as proposed by the LEMSA. The legend lists the predictive drive time coverage, which will be displayed on subsequent maps.

It is worth noting that the station locations will dictate the amount of area that can be reached for any given response, and alternate stations or posting locations will shift the response coverage accordingly.

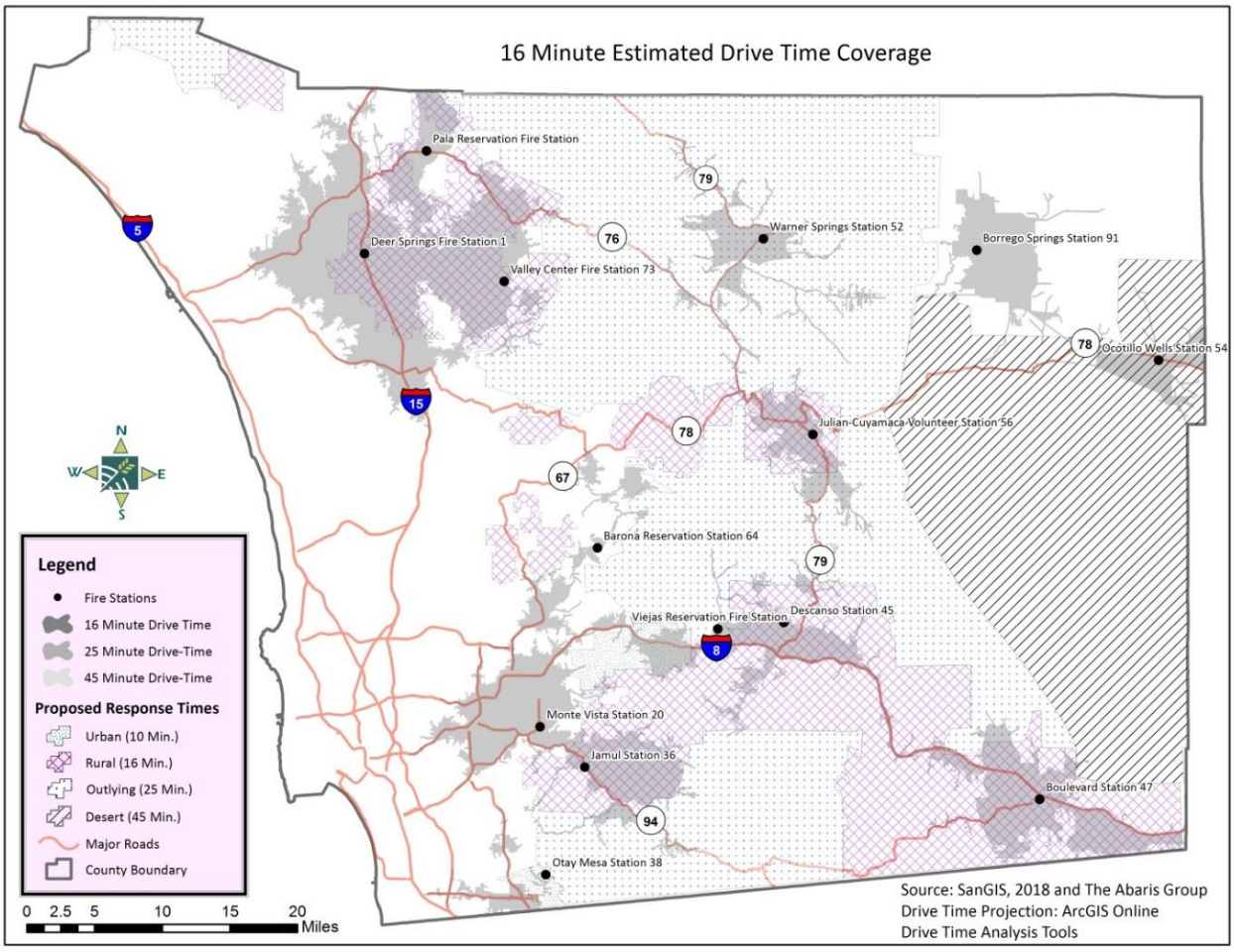


Figure 1

Figure 2 represents the first predictive drive time map, displaying the estimated area covered within a 16-minute drive time from each station. Drive times are greatly affected by the underlying road structure and are enhanced by a robust street system. Unfortunately, many of the areas under discussion have limited roadways, and once departing the main roads (county and state highways, etc.), there is little spread of the coverage area, and it tends to follow the highways. The 16-minute drive time estimate leaves several rural areas outside of coverage.

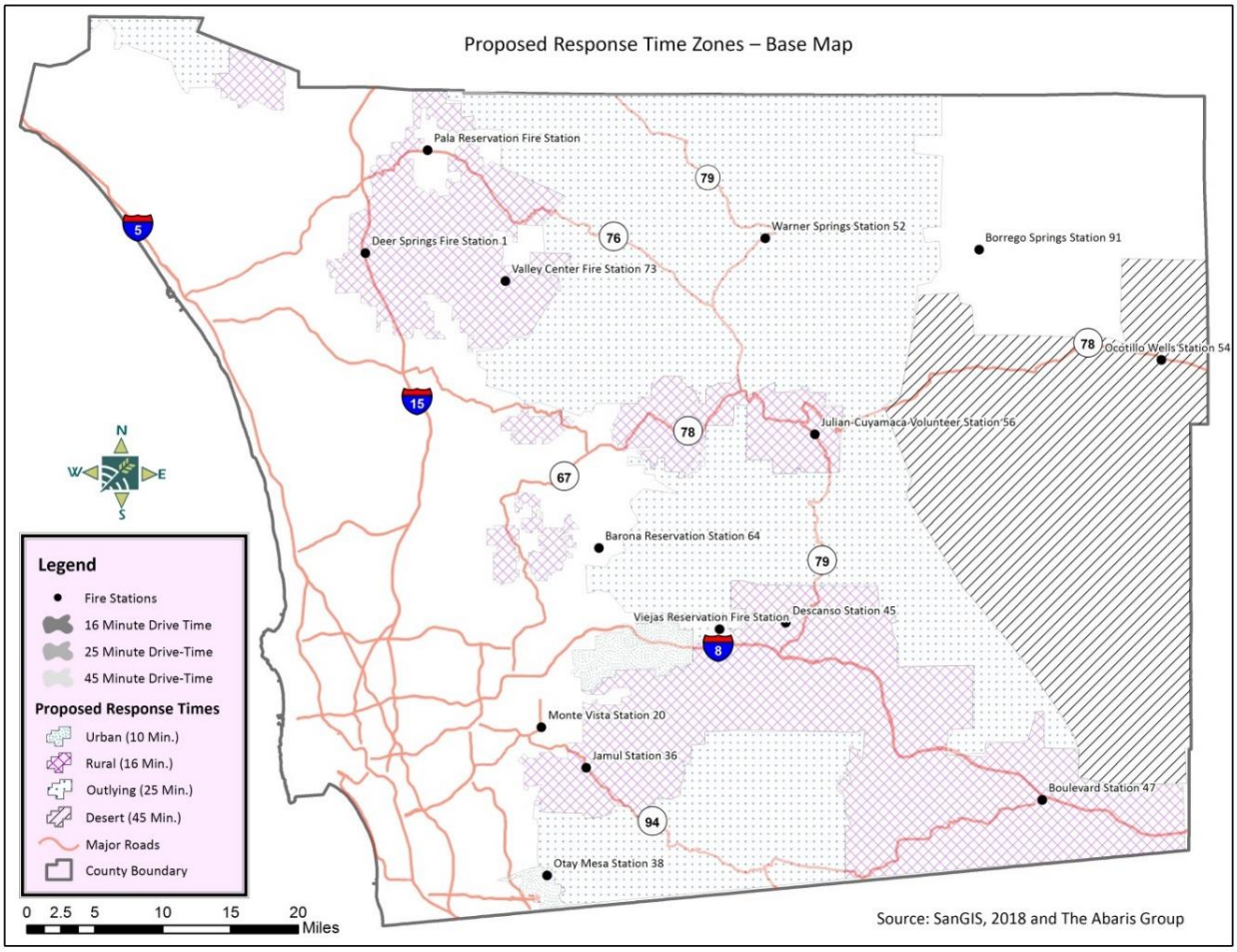


Figure 2

Figure 3 represents the 25-minute drive time estimate. As noted, the estimated 25-minute coverage extends to most of the rural (16-minute) areas but leaves much of the outlying response area outside of this drive time coverage.

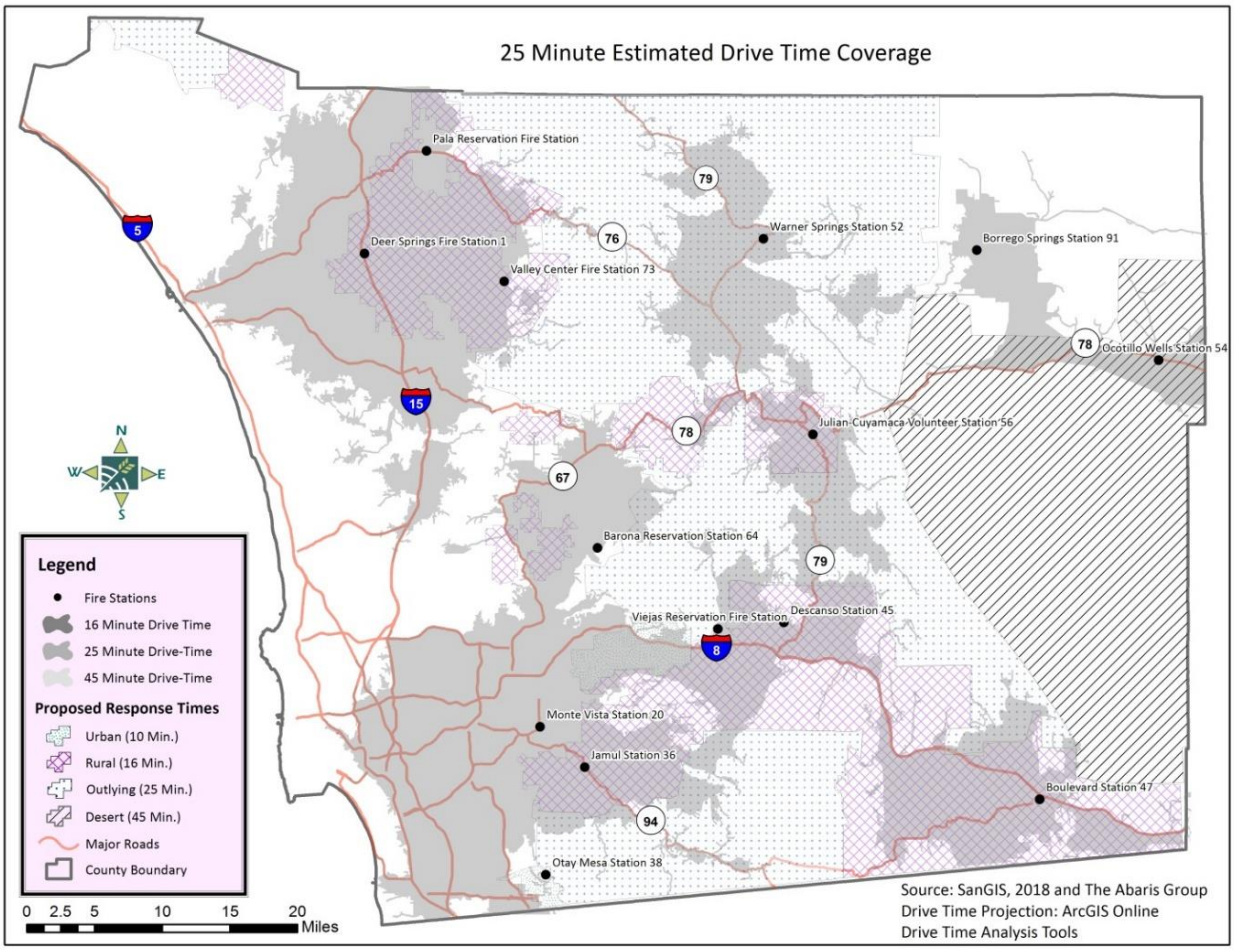


Figure 3

Figure 4 displays the estimated drive time coverage for 45 minutes. Even at this length of time, many areas of the outlying response area remain outside of the 45-minute coverage, and only a modest portion of the desert zone falls within this drive time estimate.

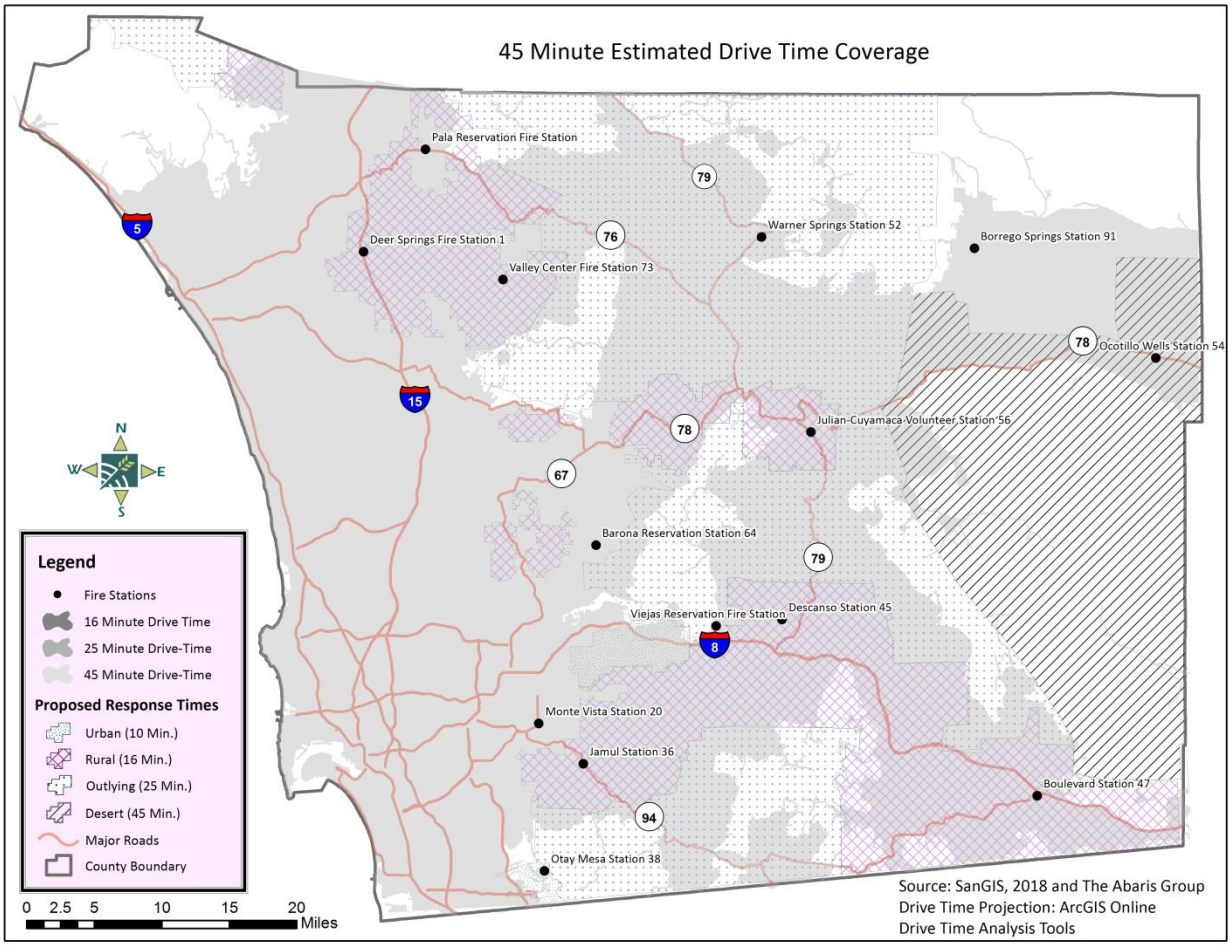


Figure 4

Figure 5 displays each of the drive time estimates (16, 25 and 45-minute) combined. As noted previously, several areas remain outside of these drive time estimates and suggest that either repositioning of existing ambulance locations, additional ambulance resources, or required response times may need to be adjusted to ensure that providers can achieve a 90 percent compliance with response time standards.

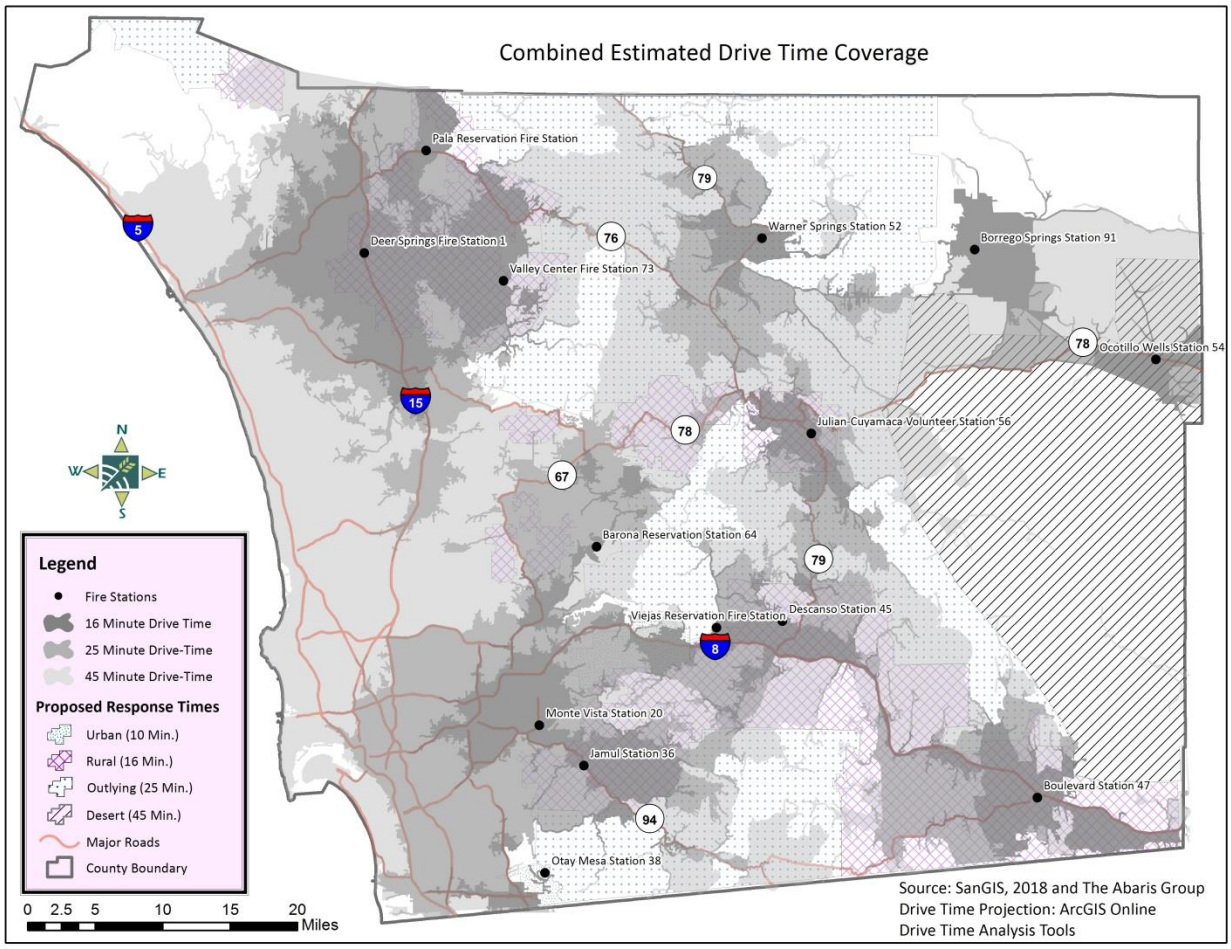


Figure 5

Results – Code Three Driving

The Abaris Group developed maps to approximate the coverage possible during a code three response and the additional areas that may fall within such a response. To do so, each drive time was adjusted to an additional 20 percent increase in drive time and the adjusted drive time was plotted using the ArcGIS Drive-Time Analysis tool previously described. Table 1 depicts the adjusted times.

Proposed Response Time Code 3 Adjustments	
Proposed Response Time (in minutes)	Adjusted (20%) Increase
16	19.2
25	30
45	54

Table 1

Figure 6 represents the 16-minute drive time estimate using the adjusted drive time of 19.2 minutes. The coverage increase is modest, with the Deer Springs and Monte Vista areas showing the largest increase in coverage.

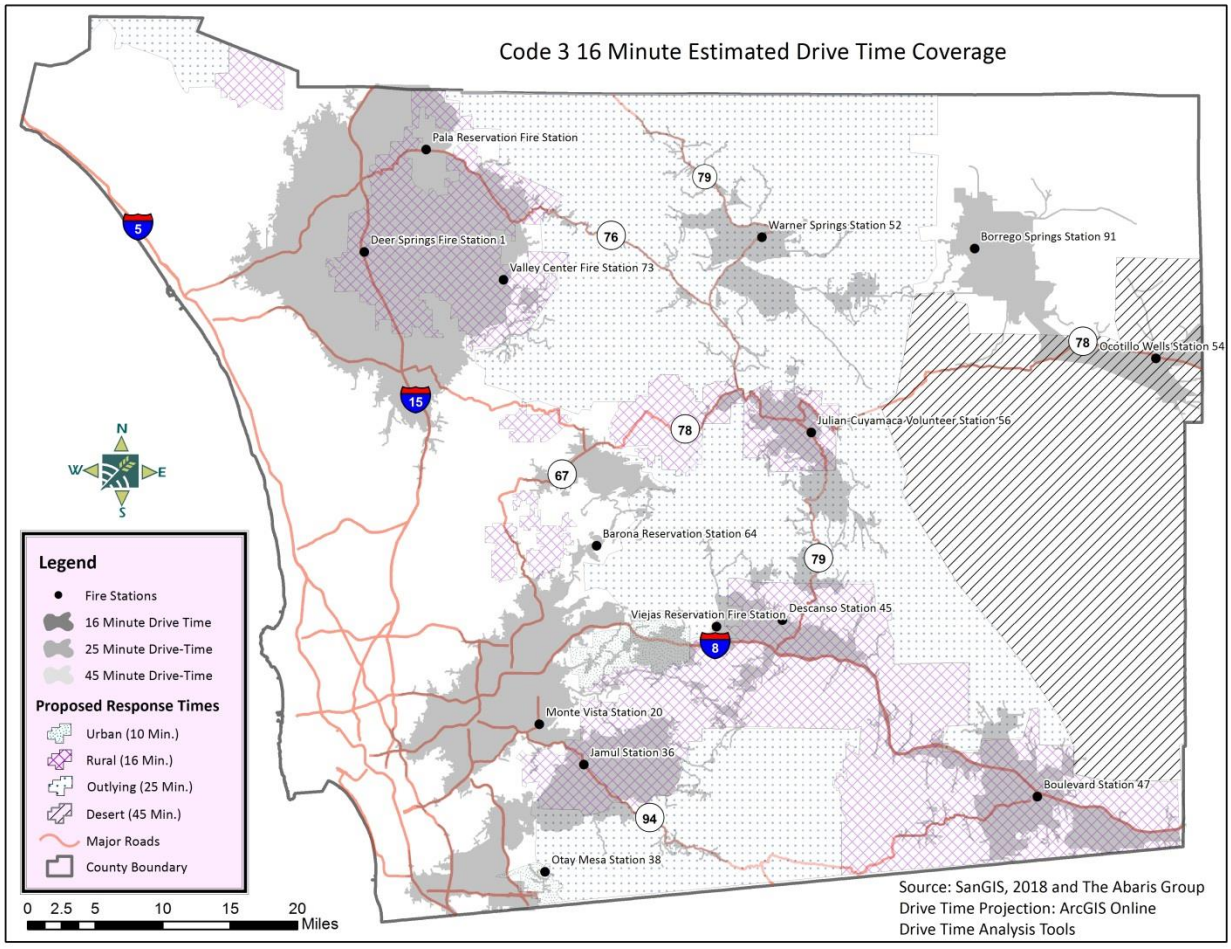


Figure 6

Figure 7 displays the estimated 25-minute response time coverage driving code three. While there is a substantial increase in some areas of the USA, many of the outlying areas remain outside this drive time coverage.

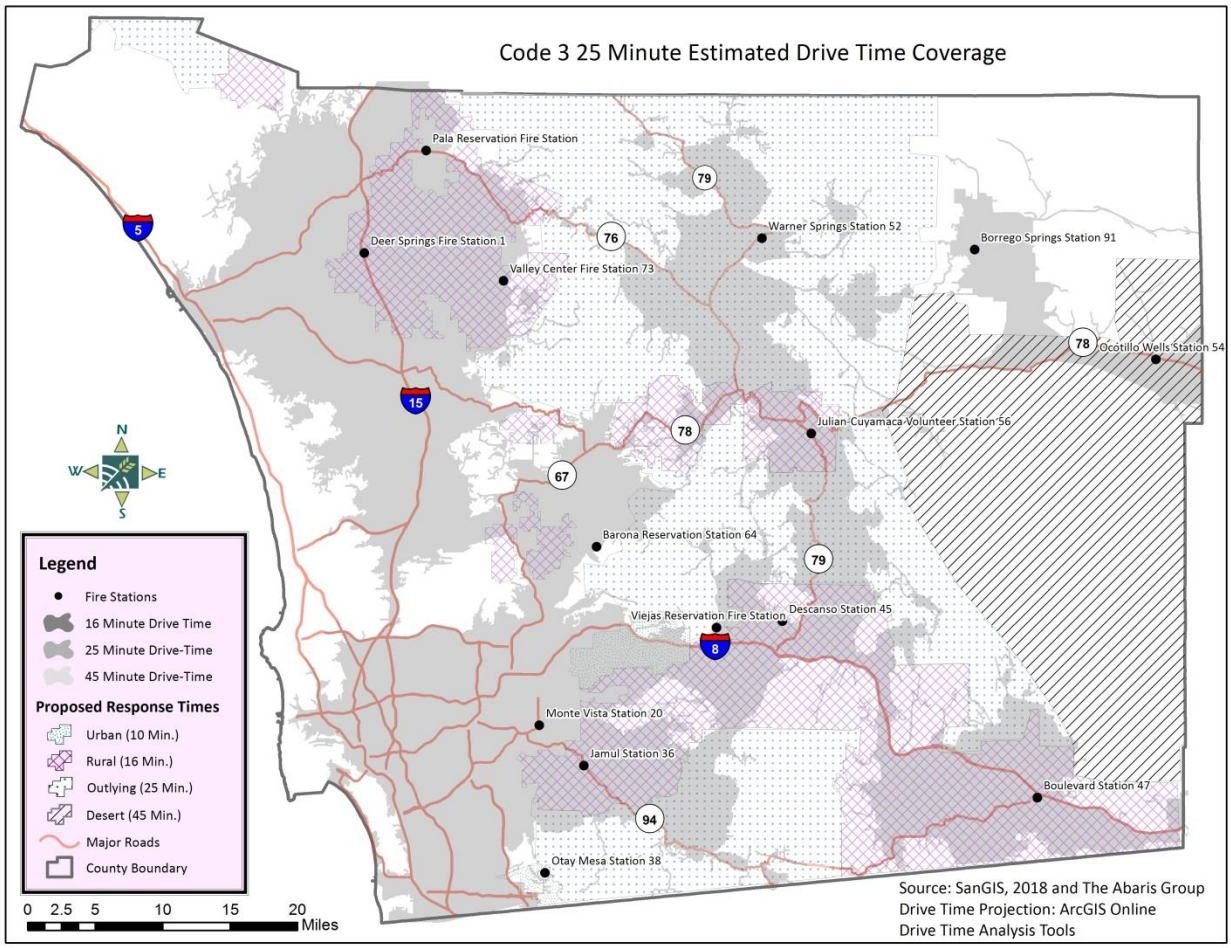


Figure 7

Figure 8 displays the estimated 45-minute response time coverage while driving code three. This coverage extends to most of the areas within the USA; however, the majority of the desert area remains outside the 45-minute coverage.

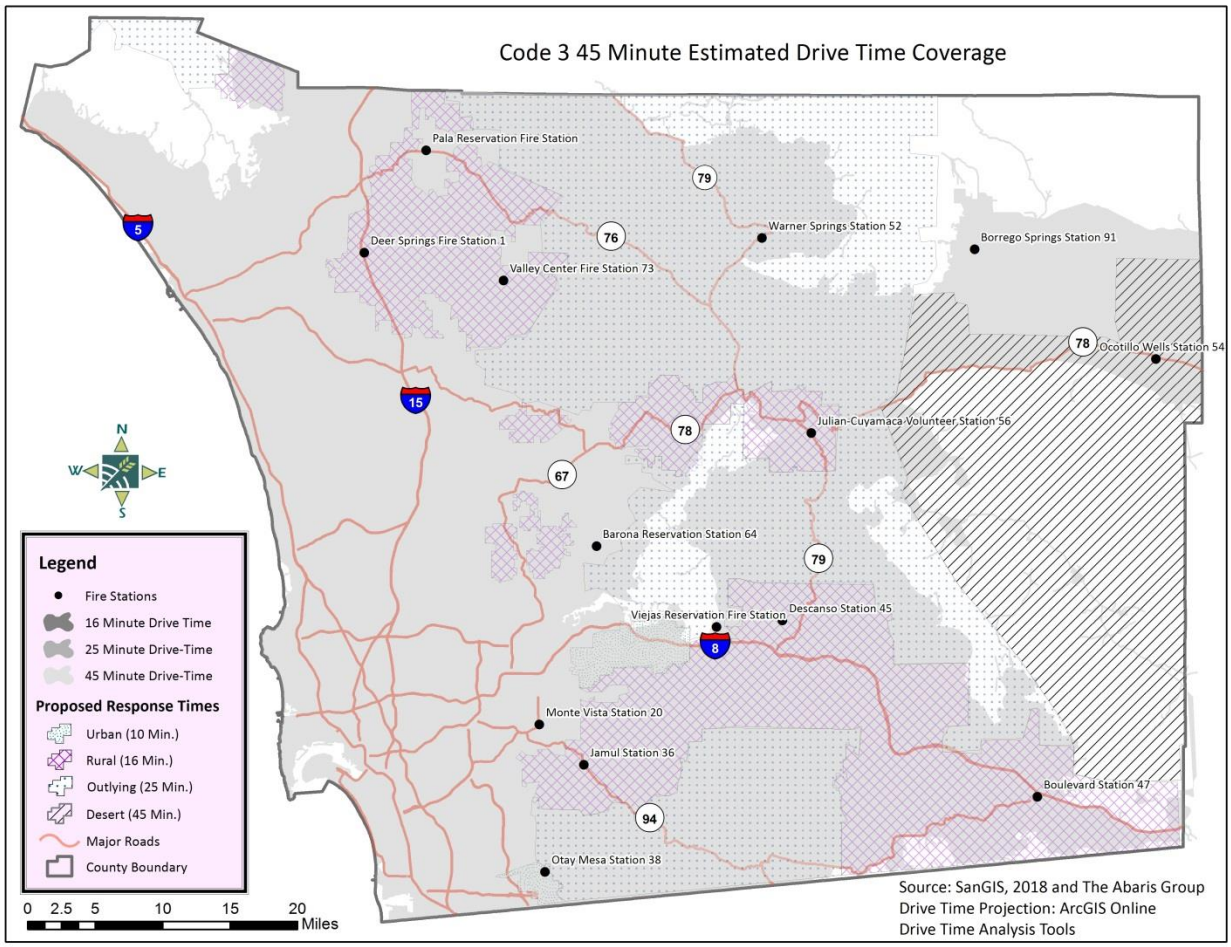


Figure 8

Figure 9 represents all of the estimated drive time coverages during a code three response. It is clear from this map that several areas within the rural, outlying and desert areas fall outside their respective response time requirements. These maps represent best estimates of both routine driving and emergency responses within the USA, utilizing the industry standard for geographic information services.

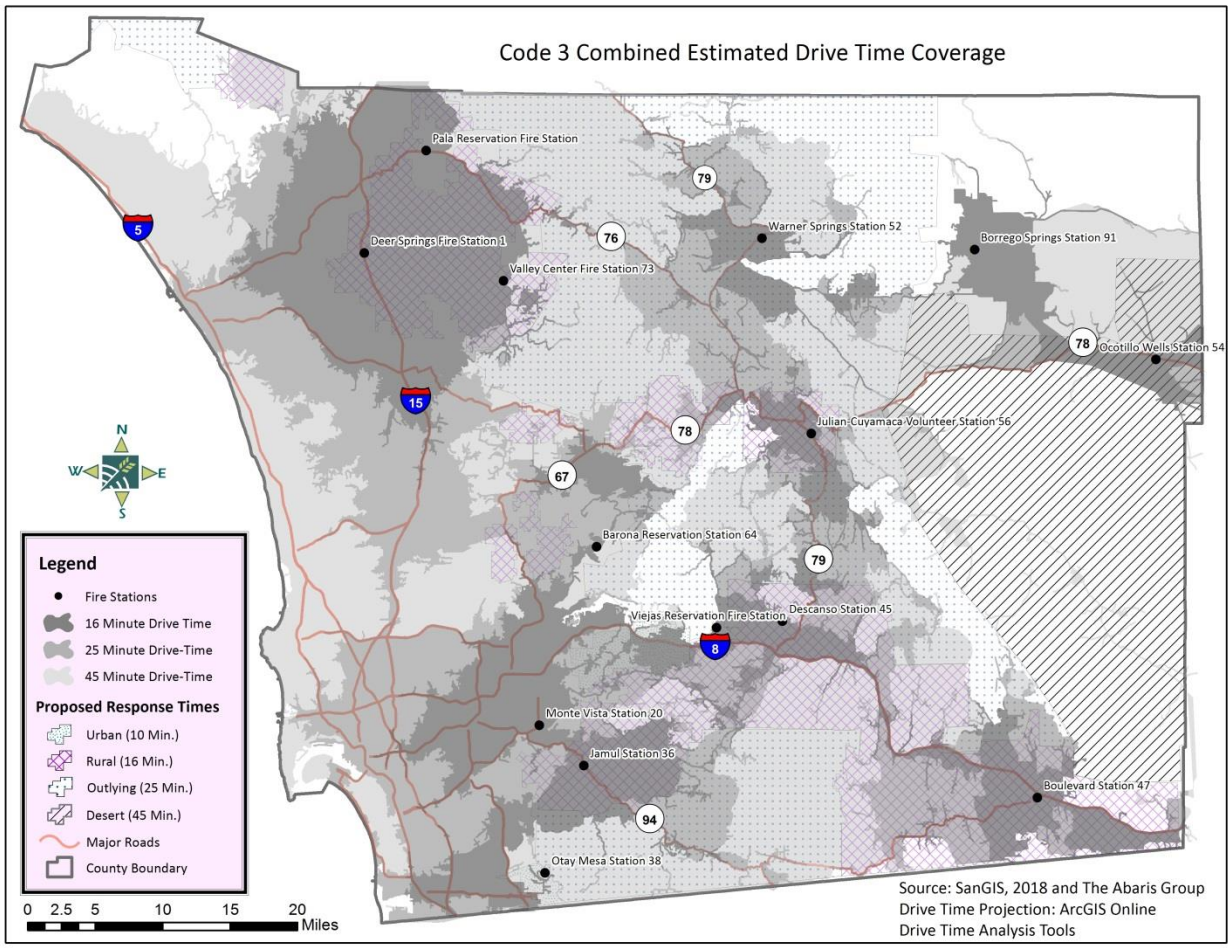


Figure 9

Conclusion

A review of the USA operating areas and response times was appropriated. The County should be commended for undertaking a restructuring of the backcountry EMS service delivery system that guarantees a response time standard where some areas have none today. Serving areas with sparse population spread over vast geographic regions presents an extremely difficult EMS regulatory challenge, as it requires balancing public expectation with fiscal reality. These are the most difficult regions of the country to serve, as a contracting provider must balance the need to meet contractual obligations with budgetary reality. While any response time requirements are achievable, the cost per ambulance transport may be unreasonable to the community and elected officials. Without alternate relief mechanisms (e.g., ALS first response extensions to the ambulance response requirement), LEMSA may have difficulty contracting for these services at an acceptable price. Adjustments to the ambulance posting locations may provide marginally better service delivery, particularly to the rural areas, as these appear to be the most difficult areas to serve within the proposed response times.

Recommendations

1. Use Level of Performance model to allow providers to innovate for improved response time models more consistent with proposed County policy.
2. Consider alternate ambulance posting locations to provide better service delivery
3. Offer a 90 to 180-day suspension of contract compliance penalties to allow providers to adjust posting and response configurations to meet challenging compliance requirements
4. Allow defined ALS fire response times to extend the ambulance response time requirement
5. Complete a comprehensive analysis of historical call data for existing versus proposed response time capability to corroborate The Abaris Group's ESRI ArcGIS assessment

9.2 Current Operational Statements of Work

As part of the review process, The Abaris Group examined the statements of work within the current agreements for emergency ambulance services. The agreements are consistent with the majority of recommended components, including performance, rate increases, insurance, and call exemptions, other minimum standards. There are a few additional components worth considering.

Level of staffing vs. performance – One to four ambulances depending on the region are required at all times per the current agreements. That is considered a "level of staffing" standard. However, there is also a requirement to perform within the response times provided at least 90 percent of the time – known as a "level of performance" standard. In the experience of The Abaris Group, only one standard is appropriate per service area; most EMS systems utilize the level of performance as it specifies a quality goal.

Integrated EMS system – The response time standards are only for transport. That is, the ambulance standard does not change if an ALS first responder arrives. This is inconsistent with most high-performance EMS systems that value the ALS first responder by allowing the ambulance response time standard to be extended. This value can reduce ambulance hours, providing savings that can be redirected to the ALS first responder agencies. It should be noted that the transport response times proposed in the recent EMS study/Board Letter would offer this advantage.

Response Times – Throughout the existing agreements, the response time standards are applied to all calls, regardless of priority. Most EMS systems have a longer response time for non-emergency calls. A few no longer require specific response times for these calls – because it is not an emergency. This practice is safer for the responders as well as the public and should be considered for the USA. The agreements also require out-of-chute ambulance times to match first responder times. This is unnecessary as response times track from the time of dispatch to time of arrival, which already includes out-of-chute times.

Performance period – The current agreement requires a monthly review. The Abaris Group also recommends that the contract administrator be able to request a 30-day floating performance period to ensure adequate response times during any period.

Staffing – There is a requirement for two paramedics (Zone 2) when there is no first responder ALS or one EMT-II (Anza-Borrego) in the current agreement. It is recommended that one paramedic per ambulance be the minimum standard for all USA regions.

Dispatch – Within Zone 2, the current provider is required to provide dispatch services, either directly or through subcontract. As recommended earlier, a consolidated dispatch center is the optimal solution for an integrated EMS system for better dispatch throughput and greater transparency between all agencies.

Exemptions – Sometimes, providers are going to arrive late due to no fault of their own. When this happens, the provider is entitled to an exemption for that call. However, exemptions should only be permitted when it is truly outside of the provider's ability to reasonably predict. The current agreements include an exemption for traffic unrelated to the call and train/trolley delay. The provider should be able to staff appropriately and position ambulances strategically to mitigate typical traffic patterns and known train schedules.

Outlier liquidated damage – Many high-performance EMS systems are not imposing a penalty when late to a call, unless the ambulance is excessively late, i.e., an outlier. Being late is acceptable up to 10 percent of the time per the contract. Most contracts define an outlier as 150 to 200 percent of the required response time standard.

Personal protective equipment – The current agreement requires appropriate clothing to protect the staff, which is appropriate. However, some of the examples include turnouts and flash gear; both items would most likely be beyond the training of the single-role EMT and paramedic on the ambulance.

Dedicated ambulance – The detention center in Otay Mesa has a dedicated ambulance based on the current agreement. It is partially subsidized (i.e., $50,000/month) plus a contracted rate per transport paid by the detention center for the 400-500 transports per year. To avoid any potential impropriety and unwanted federal attention, it is important that the subsidy and transport payments cover the full cost of the dedicated ambulance. Otherwise, it could be inferred that the County is using Medicare and MediCal revenue from other 9-1-1 calls within the contracted region to subsidize this dedicated ambulance.

Ambulance Fleet – The current agreement specifies that Type I or III ambulances (i.e., box-style) are required; however, there is no mileage or age cap. It is recommended that a mileage limitation is established to ensure ambulances are replaced (or put on a new chassis) on a regular basis to mitigate unplanned maintenance issues. Many EMS systems use 250,000 to 300,000 miles. This is particularly important in the USA due to the significant geography covered and extended hospital transport times. Beyond newer ambulances, a certain minimum number of reserve stocked ambulances should be required for unplanned maintenance and surge capacity. A typical range is 120 to 140 percent of peak ambulance deployment.

Termination – The standard County contract template allows for "termination for convenience" at any time. Most ambulance providers need a certain minimum length of time to depreciate capital expenses and secure bank/private-financing. Typically, this is five years. It could be a barrier to entry for smaller ambulance providers and favor national providers that are self-funded. Termination for cause should remain and is appropriate.

Contract – There appears to be no definition mentioned for when a provider is in breach of contract, and there are no penalties for non-compliance with the 90 percent response time standard.

Section 10: Attachments

Attachment 1: Unified Service Area Flyer

Listening Sessions on Ambulance Services For San Diego County's Rural Communities We Need Your Input

You are invited to attend one of the listening sessions listed below to provide input on ambulance services in communities in the unincorporated area of San Diego County. The County of San Diego has retained The Abaris Group, an Emergency Medical Services (EMS) consulting firm, to conduct the listening sessions.

All the sessions will cover similar material, so you are encouraged to attend the session that best fits your schedule.

If you cannot attend and would like to provide input, please call or email using the contact information below.

Wednesday, June 13th
CAL FIRE Rincon Station #70
1:00-3:00 PM
16971 Highway 76, Pauma Valley

Wednesday, June 13th
CAL FIRE Valley Center Station #71
6:30-8:30 PM
14946 Vesper Road, Valley Center

Thursday, June 14th
Co. Fire Sta. #52 (Warner Springs)
10:00AM-12:00 PM
31049 Highway 79, Warner Springs

Thursday, June 14th
Deer Springs FPD Fire Station #11
1:00-3:00 PM
8709 Circle R Drive, Escondido

Thursday, June 14th
Fallbrook Utility District
6:30-8:30 PM
990 E. Mission Road, Fallbrook

Friday, June 22nd
Pine Valley County Library
1:00-3:00 PM
28804 Old Highway 80, Pine Valley

Friday, June 22nd
Jamul Intermediate School
6:00-8:00 PM
14545 Lyons Valley Road, Jamul

Wednesday, June 27th
Co. Fire Sta. #53 (Shelter Valley)
1:00-3:00 PM
7260 Great Southern Overland Stage Route, Julian

Wednesday, June 27th
Co. Fire Station #85 (Intermountain)
6:00-8:00 PM
25858 Highway 78, Ramona

Thursday, June 28th
Alpine County Library
10:00AM-12:00 PM
1752 Alpine Boulevard, Alpine

Thursday, June 28th
Lake Cuyamaca Restaurant
1:00-3:00 PM
15027 Highway 79, Julian

Thursday, June 28th
Julian County Library
6:00-8:00 PM
1850 Highway 78, Julian

Thursday, June 28th
Jacumba County Library
6:00-8:00 PM
44605 Old Highway 80, Jacumba Hot Springs

Please contact Mike Williams at The Abaris Group
with questions or input, or to request special accommodations for a session
888-EMS-0911 or mwilliams@abarisgroup.com

Attachment 2: Newspaper Ads

SALARIES
from page A-1

students in three high schools, six middle schools and 17 elementary schools.

Superintendent Ritter made $237,580, plus $38,195 in benefits. The three assistant superintendents each made between $154,535 and $181,050.

In Murrieta Valley Unified School District, there were 22,978 students and three high schools, four middle schools and 11 elementary schools.

Superintendent Patrick Kelley took home $211,345, plus $34,135 in benefits. There were four assistant superintendents, with salaries between $187,169 and $185,647.

Lake Elsinore Unified School District had 22,039 students attending school in the district, which covers Lake Elsinore, Wildomar and surrounding areas. There were three high schools, four middle schools, two K-8 schools and 12 elementary schools.

Superintendent Douglas Kimberley was paid $239,208, and an additional $46,457 in benefits. Five assistant superintendents were paid between $167,933 and $195,881.

There are 21,710 students across the vast district of Hemet Unified School District, which covers Hemet and a swath of land extending south and east to the San Diego County line. The communities of Idyllwild, Mountain Center, Anza, Aguanga and others are included in the district. There were four high schools, four middle schools, three K-8 schools and 12 elementary schools.

Superintendent Barry Lee Kayzell was paid $187,782, plus $24,592 in benefits; however, four other employees – two assistant superintendents, a deputy superintendent and a director – each received higher salaries than the superintendent. Assistant Superintendent for Business Services Vincent Christakos made $223,801, as well as $57,734 in benefits.

Menifee Union School District has 11,676 students, three middle schools and nine elementary schools.

Superintendent Fernie Kennedy took home $213,769, as well as $44,375 in benefits. Two assistant superintendents made $138,999 and $146,805.

In San Jacinto Unified School District, 11,220 students attended school in the district. There was one high school, two middle schools and seven elementary schools.

Superintendent Diane Perez made $217,987 and $58,742 in benefits. Three assistant superintendents were paid between $161,331 and $173,813.

In Perris Union High School District, they had 10,796 students, and there were three high schools.

Superintendent Jonathan Greenberg, who retired midyear, made $211,733 and $30,645 in benefits. His successor, Grant Bennett, earned $181,055 and $37,797 in benefits. There was just one assistant superintendent, who earned $210,530 and $33,205 in benefits.

Fallbrook Union Elementary School District saw 5,006 students attend school in the district, which has one middle school, two K-8 schools and five elementary schools across Fallbrook and Camp Pendleton.

Superintendent Candace Singh made $252,152 and $37,798 in benefits. An assistant superintendent and two associate superintendents earned between $172,810 and $194,389.

At Bonsall Unified School District, there were 2,859 students at one high school, one middle school and three elementary schools.

Superintendent Justin Cunningham earned $234,736 and $46,708 in benefits, though he retired in 2017. The new superintendent, David Jones, was hired with a base salary of $165,000. There was just one assistant superintendent, who earned $149,114.

There were 2,264 students and just one comprehensive high school, plus two alternative schools, in the region's smallest school district, Fallbrook Union High School District.

Superintendent Pedroza earned $225,674 and $26,259 in benefits. There was only one assistant superintendent, who made $149,399.

The office of Fallbrook Union High School District is located at 2234 S. Stage Coach Lane, north of Warrior Stadium. Courtesy photo

"Craig's massages are some of the most healing bodywork you will find. His hands and his intuition combine to bring an incredible experience of tension relief. It's as if his hands can hear what muscles need attention. Go see him, you'll be so happy you did!"
– Tim Knutson, Murrieta


- Relaxation
- Deep Tissue
- Hot Stone Massage
- Rehabilitation
- Reflexology
- Aromatherapy
- Health Counseling

Craig Lozzi Laurel Lozzi
760-533-3505
407 Potter Street, Ste. D, Fallbrook
www.transcendenttouch.net
clozzi@sbcglobal.net
TRANSCENDENT TOUCH HEALING MASSAGE

Congregate Meals
At the Community Center M-F at 11am
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- Bridge
- Mah Jong
- Bingo
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- Board Games
- Yoga & Fitness
- Line Dancing
- Music
- Watercolor Class
- Lunch M-F 11:15am
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SPECIAL THANKS TO
Hank & Patty Hanewald, Major Market, Jamal Rabb Pabbit Designs, Inc. Steven Allen Photography, Karen Estes, Teddie Borges, Rob Eldon, Heather Engellandt, Cameron Schuyler, Fluid Foundation, Christine Eastman, Ganoa Printers, Highfalinded, Special Blend, Indica Roots, New Leaf, The Tones, Kingsland, Kaleo of Pepper, Marion Asher, Pete and Antoinette Benton, Dan Kelly, Selecta Ravish, Legacy Brewery, On Point Promotions, Lucent Records

EXTRA SPECIAL THANKS TO
Carlos & Frankie Estrella and the entire Estrella Family
for donating their beautiful venue, and for their continued generosity.

We Need Your Input!

You are invited to attend one of the listening sessions listed below to provide input on ambulance services in communities in the unincorporated area of San Diego County. The County of San Diego has retained The Abaris Group, an Emergency Medical Services (EMS) consulting firm, to conduct the listening sessions.

All the sessions will cover similar material, so you are encouraged to attend the session that best fits your schedule. If you cannot attend and would like to provide input, please call or email using the contact information below.

Friday, June 22nd
Pine Valley County Library
1:00-3:00 PM
28804 Old Highway 80, Pine Valley

Friday, June 22nd
Jamul Intermediate School
6:00-8:00 PM
14545 Lyons Valley Road, Jamul

Wednesday, June 27th
Co. Fire Sta. #53 (Shelter Valley)
1:00-3:00 PM
7260 Great Southern Overland Stage Route, Julian

Wednesday, June 27th
Co. Fire Station #85 (Intermountain)
6:00-8:00 PM
25858 Highway 78, Ramona

Thursday, June 28th
Alpine County Library
10:00 AM-12:00 pm
1752 Alpine Boulevard, Alpine

Thursday, June 28th
Lake Cuyamaca Restaurant
1:00-3:00 PM
15027 Highway 79, Julian

Thursday, June 28th
Julian County Library
6:00-8:00 PM
1850 Highway 78, Julian

Thursday, June 28th
Jacumba County Library
6:00-8:00 PM
44605 Old Highway 80, Jacumba Hot Springs

Please contact Mike Williams at The Abaris Group with questions or input, or to request special accommodations for a session
888-EMS-0911 or mwilliams@abarisgroup.com

CALSPORTS

SOCCER STARS

CONTINUED FROM PAGE 1

of living in Iraq.

"Too many terrorist attacks were happening in our community caused mostly by religious divisions," he said. "Everyone was fighting and it ends up with a group saying do you want to join us or we will kill you. I always remember this one event, always. I was in our house which was a multiple-story building. I was looking out the window and then everything shook and we all started running down and we have no idea what is going on. We realized that a bomb landed really close to our building. We thought maybe the whole building was going to crumble, we didn't know."

Both families waited patiently for the phone call about their application. When it came, Abdulazeez said it made all the uncertainty worth it.

"We waited for three years," he said. "We kept checking in with people at the U.N. and nothing, we were just waiting for three and a half years for that damn phone call. And then the phone call comes and damn that was a good day."

Abdulazeez said that arriving in America provided a new set of hurdles.

"So we got done with that long journey, but now really the journey just begins – all that was just to get to a point where we were restarting," he said. "My parents, and I could never fully thank them for this, both of my parents went to college in Iraq and had very successful jobs. They both sacrificed all of that."

Both boys said that after arriving in America, aspects of assimilating were difficult, like the language and cultural boundaries, but their lives were radically changed for the better when they came into contact with a nonprofit organization named Yalla.

Yalla caters to refugee and immigrant children by using soccer as a way to create a community and spur their interest in academics. The students involved with the program practice with the soccer club Mondays and Tuesdays and go into the Yalla center to do homework and study Tuesdays and Thursdays. The staff is mostly made up of college students who volunteer their time.

Abdulazeez said he was lucky to find Yalla within a week of moving to the U.S.

"Yalla basically adopted me," he said. "When I came here was sort of lost. I knew I wanted to play soccer but I never had the chance cause I was traveling from place to place with my family looking for safety."

Baraka also said Yalla redirected his life trajectory.

"Before Yalla, I didn't know what life was in a way," he said. "I was just a kid who played playstation all day with no breaks. I cared about my grades but I wasn't that committed. Yalla is always pushing me to test my limits. Like, I wasn't going to take AP classes next year but I was like, 'let me push myself and see what I could accomplish.' That's what Yalla taught me."

Baraka and Abdulazeez have excelled at soccer and aspire to become professional players, which is not that far out of reach. Both of them had tryouts with the Tijuana Xoloitzcuintles' junior team and received positive feedback.

Patrick Foley, a retiree who volunteers at Yalla, said that it is not lost on the boys that many of their opportunities have been paved by their parents decision to immigrate here.

"They are very aware and often talk about how much their parents sacrificed for them," he said. "It's inspiring and it's also a motivating factor because they do not want to let their parents down, they gave up so much so they could have a chance in this country and they are not going to do anything to jeopardize that."

Baraka reflected on how his love of soccer could only have blossomed here.

"In Iraq, I wanted to play soccer, but we couldn't go out much," he said. "My Dad used to only take me out like twice a month because we were afraid of getting shot or something. They've worked extremely hard. I will repay them one day. My dad right now works everyday for 9 hours and my mom got her dream. She wanted to become a medical assistant and now she is one."

Baraka's father owned a successful jewelry store in Iraq that he had to give up. When he arrived in America after a couple of years he tried to open a jewelry store here, but Baraka said it did not work out.

"We didn't have the budget to make it work," he said. "I was actually pretty bummed he had to let it go, but he said, 'don't worry, we will try again.' He is very positive in that way -- just cause you fail once doesn't mean you dont keep trying. I will help him out to do it in the future, you can count on that."

At the CGI summit Abdulazeez will focus on ways to help the homeless population here in the U.S. and Baraka is aiming to aid refugees in making a smooth transition, like himself.

Foley, who was instrumental in helping them craft the applications that resulted in their selection, said that spending time with kids like Baraka and Abdulazeez gives him hope for the future of our country.

"I was retired, sitting on the beach," he said. "I was sending picture to my friends of my feet sticking out of the sand and on my way home I was listening to the radio and heard what then-candidate Trump was saying about Muslims. Then I read another article about Yalla and I thought, 'I have to do this.' It was such a perfect connection. I feel compelled to stand with any group that is being demonized. These kids remind me of a quote by Walt Whitman, 'The United States is a teeming nation of nations.'"

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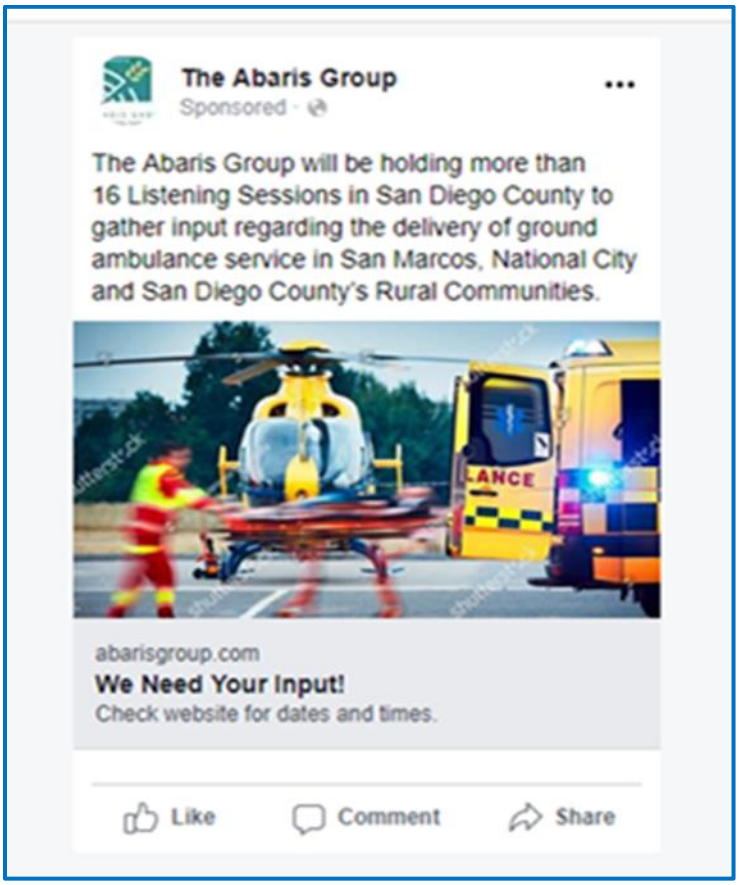

Attachment 4: Listening Session Comments

Date	Time	Zone	Subzone	Type	Topic	Comment
6/13/2018	13:00	USA	Inland-North	Current	integration	Good working relationship
6/13/2018	18:30	USA	Inland-North	Current	integration	Like colocation of ambulance with fire (i.e., Deer Springs) at no charge - "same page" - Provides for cohesion, morale, streamline training - Better working relationship
6/13/2018	18:30	USA	Inland-North	Current	integration	Same dispatch for 1st response and transport
6/13/2018	18:30	USA	Inland-North	Current	integration	Most ambulances have AVL and fire can see their location
6/14/2018	10:00	USA	Inland-North	Current	integration	Co-located fire/EMS
6/14/2018	13:00	USA	Inland-North	Current	integration	Relationships are strong/seamless
6/14/2018	13:00	USA	Inland-North	Current	integration	Solid mutual aid
6/14/2018	13:00	USA	Inland-North	Current	integration	Transparent communications - On scene - Supervisors - Chief/Managers
6/22/2018	13:00	USA	Inland-South	Current	integration	Working relationship with fire and ambulance provider
6/22/2018	13:00	USA	Inland-South	Current	integration	Cohabitation in station
6/22/2018	13:00	USA	Inland-South	Current	integration	Same work schedule between fire and provider
6/22/2018	13:00	USA	Inland-South	Current	integration	Joint training with training provided by provider
6/22/2018	18:00	USA	Inland-South	Current	integration	Dispatch in same center. Example Monte Vista ECC Zone 2 same frequency
6/22/2018	18:00	USA	Inland-South	Current	integration	Provider paramedic support on fire-related suppression calls for service
6/22/2018	18:00	USA	Inland-South	Current	integration	Real time data driven decisions by First Watch for both provider and fire
6/27/2018	18:00	USA	Inland-Central	Current	integration	Like ALS ambulances… don't lose 1st responder paramedic to ambulance
6/27/2018	18:00	USA	Inland-Central	Current	integration	Good interoperability - fire and all transport agencies
6/28/2018	13:00	USA	Inland-Central	Current	integration	Like when Mercy Ambulance does move up and cover
6/28/2018	13:00	USA	Inland-Central	Current	integration	Building relationships through fire/EMS cohabitation

Date	Time	Zone	Subzone	Type	Topic	Comment
6/28/2018	10:00	USA	Inland-South	Current	integration	Ambulance automatic aid and mutual aid between providers and CSA 69 units
6/28/2018	10:00	USA	Inland-South	Current	integration	Cohabitation in station
6/28/2018	10:00	USA	Inland-South	Current	integration	Working relationship with fire and ambulance provider
6/28/2018	10:00	USA	Inland-South	Current	integration	Joint training with training provided by provider
6/28/2018	10:00	USA	Inland-South	Current	integration	Rural system status plan
6/28/2018	10:00	USA	Inland-South	Current	integration	Fire ability to enter into side contracts with provider for equipment use cost and housing
6/28/2018	18:00	USA	Inland-Central	Current	integration	Cohabitation in station
6/28/2018	18:00	USA	Inland-Central	Current	integration	Fire and provider relationship building
6/28/2018	18:00	USA	Inland-South	Current	integration	Collaborative, regional, co-located with county fire stations.
6/28/2018	18:00	USA	Inland-South	Current	integration	Monte Vista dispatch works well
6/28/2018	18:00	USA	Inland-South	Current	integration	Of critical importance to be housed together with county fire facilities and dispatched together, should be a cornerstone of this RFP. This is beneficial to the communities and to the current fire department and provider.
6/14/2018	10:00	USA	Inland-North	Current	local	Having ambulance stationed locally - Allows for better community knowledge of patients… even follow up before someone calls 911
6/28/2018	13:00	USA	Inland-Central	Current	local	Like ambulance crew being local… they know the area best, GPS is unreliable
6/13/2018	18:30	USA	Inland-North	Current	quality	Like Type I ambulances (due to amount of space… everyone fits)
6/14/2018	10:00	USA	Inland-North	Current	quality	Quality assurance, e.g., County-provided Pearls for PACC
6/14/2018	13:00	USA	Inland-North	Current	quality	Dedicated MICN @ hospitals
6/14/2018	13:00	USA	Inland-North	Current	quality	First Watch
6/14/2018	13:00	USA	Inland-North	Current	quality	Always ALS transport
6/22/2018	18:00	USA	Inland-South	Current	quality	Same electronic patient care reporting example Image Trend
6/27/2018	13:00	USA	Inland-Central	Current	quality	Keep ALS services in place (X2)
6/27/2018	18:00	USA	Inland-Central	Current	quality	Like ALS assessment engines - huge improvement over BLS
6/28/2018	13:00	USA	Inland-Central	Current	quality	Progressive EMS system in the County

Date	Time	Zone	Subzone	Type	Topic	Comment
6/28/2018	13:00	USA	Inland-Central	Current	quality	Everyone knows EMS is part of the job
6/28/2018	18:00	USA	Inland-South	Current	quality	Like that ALS on most fire units in the area now.
6/13/2018	13:00	USA	Inland-North	Current	response	Good response times
6/13/2018	13:00	USA	Inland-North	Current	response	Available
6/14/2018	10:00	USA	Inland-North	Current	response	ALS 24/7/365 in Summit and Shelter Valley
6/14/2018	18:30	USA	Inland-North	Current	response	30-minute response time today - Concern that new proposed response times could require more North County Fire resources - Proposed system could require North County Fire to become closest (i.e., default) provider
6/14/2018	18:30	USA	Inland-North	Current	response	Treat every call as an emergency (not appropriate)
6/22/2018	13:00	USA	Inland-South	Current	response	Good ambulance coverage area in Pine Valley
6/22/2018	18:00	USA	Inland-South	Current	response	Adequate ambulance coverage with system status
6/27/2018	13:00	USA	Inland-Central	Current	response	Don't move ambulance stations
6/27/2018	18:00	USA	Inland-Central	Current	response	Air ambulance works well
6/28/2018	10:00	USA	Inland-South	Current	response	Look to improve response time requirement of less than 30 minutes. Current average response of 6 minutes
6/28/2018	10:00	USA	Inland-South	Current	response	Keeping current unit availability such as provider Mercy 7 and add 12-hour unit to eastern area
6/28/2018	18:00	USA	Inland-Central	Current	response	Current system adequate. Do not decrease service
6/28/2018	18:00	USA	Inland-South	Current	response	Like to have the ambulance stationed at Boulevard. Improvement for coverage of entire area rather than having in in Campo as it was previously stationed. Seems like the medical calls for the area support having it in Boulevard.
6/13/2018	18:30	USA	Inland-North	Future	fiscal	Ensure not underbid, which could lead to under-resourced EMS system
6/28/2018	18:00	USA	Inland-Central	Future	fiscal	More concern over service delivery than budget
6/13/2018	18:30	USA	Inland-North	Future	integration	Boundary drop is necessary (important to Deer Springs FPD) - Current: 30-minute first response - Add more resources?

Date	Time	Zone	Subzone	Type	Topic	Comment
6/14/2018	13:00	USA	Inland-North	Future	integration	Move from radio to ePCR upload to hospital for MICN report
6/14/2018	18:30	USA	Inland-North	Future	integration	Alternate destinations
6/14/2018	18:30	USA	Inland-North	Future	integration	Non-medical transport
6/14/2018	18:30	USA	Inland-North	Future	integration	Increased flexibility with healthcare navigation
6/14/2018	18:30	USA	Inland-North	Future	integration	Tiered dispatch/tiered response -> Not all calls need 2 paramedics
6/14/2018	18:30	USA	Inland-North	Future	integration	Mobile integrated healthcare
6/27/2018	18:00	USA	Inland-Central	Future	integration	Automatic aid agreements/like to see boundary drop
6/27/2018	18:00	USA	Inland-Central	Future	integration	Joint training (X2)
6/27/2018	18:00	USA	Inland-Central	Future	integration	Equipment standardization
6/28/2018	13:00	USA	Inland-Central	Future	integration	AVL on all units to allow for boundary drops
6/28/2018	13:00	USA	Inland-Central	Future	integration	Community paramedicine
6/28/2018	10:00	USA	Inland-South	Future	integration	Alternate transport destinations for non-critical patients. Use of urgent care clinics
6/28/2018	10:00	USA	Inland-South	Future	integration	Community paramedic needs survey for the rural areas
6/28/2018	10:00	USA	Inland-South	Future	integration	Improved partnership with LEMSA
6/28/2018	18:00	USA	Inland-Central	Future	integration	Add trend software for electronic patient care record and health information exchange to providers and hospital
6/28/2018	18:00	USA	Inland-Central	Future	integration	Automated Vehicle Locator (AVL) for up to date mapping
6/28/2018	18:00	USA	Inland-Central	Future	integration	Add Rescue ambulance for extrication capabilities
6/28/2018	18:00	USA	Inland-Central	Future	integration	Work with San Diego County LEMSA and Health and Human Services for non-paramedic advanced providers to care for patient and evaluate treat and release programs
6/28/2018	18:00	USA	Inland-South	Future	integration	Community would like to see some sort of urgent care services/emergency services in the area. County should look at this to see if it would reduce the number of calls/transports. This could take stress off of the system.
6/14/2018	10:00	USA	Inland-North	Future	process	Ensure contract adapts as population changes
6/22/2018	13:00	USA	Inland-South	Future	process	Periodic review during contract period evaluating population growth and service need

Date	Time	Zone	Subzone	Type	Topic	Comment
6/28/2018	13:00	USA	Inland-Central	Future	process	Like to see education on EMS system - How it's used? Why? When? Incorporate into procurement process
6/28/2018	18:00	USA	Inland-Central	Future	process	Evaluate increase service need based on aging population
6/14/2018	10:00	USA	Inland-North	Future	quality	Like all on same ePCR (Fire and EMS)
6/14/2018	10:00	USA	Inland-North	Future	quality	County-provided ePCR training for both fire and EMS
6/22/2018	18:00	USA	Inland-South	Future	quality	Advanced paramedic scope of practice in rural area Examples of RSI and alternative pain analgesia
6/22/2018	18:00	USA	Inland-South	Future	quality	Rural customized clinical protocols
6/27/2018	13:00	USA	Inland-Central	Future	quality	Expand scope of practice due to longer response times
6/27/2018	13:00	USA	Inland-Central	Future	quality	More standing order (due to communications challenges and extended transport times)
6/27/2018	18:00	USA	Inland-Central	Future	quality	ePCR standardization
6/28/2018	18:00	USA	Inland-Central	Future	quality	Paramedics on all provider units
6/28/2018	18:00	USA	Inland-South	Future	quality	Should have ALS everywhere.
6/14/2018	13:00	USA	Inland-North	Future	response	Wall times at hospitals are bad - like someone (e.g., MICN) to be reachable about when units can be released
6/22/2018	13:00	USA	Inland-South	Future	response	Add back the 2-minute dispatch buy time
6/22/2018	18:00	USA	Inland-South	Future	response	Ambulance in Campo/Potrero area
6/27/2018	13:00	USA	Inland-Central	Future	response	Don’t reduce ambulance services/units in the future
6/27/2018	18:00	USA	Inland-Central	Future	response	Shorter response times
6/28/2018	13:00	USA	Inland-Central	Future	response	Low population areas not receiving lower standards than high population areas
6/28/2018	13:00	USA	Inland-Central	Future	response	Build off of existing ambulance resources… don't step backwards
6/28/2018	13:00	USA	Inland-Central	Future	response	Improve hospital delay times
6/28/2018	10:00	USA	Inland-South	Future	response	All Alpine fire under one response time standard
6/14/2018	18:30	USA	Inland-North	Improvements	fiscal	Like to see County fund fire transport and first response to EMS
6/13/2018	13:00	USA	Inland-North	Improvements	integration	Like to see firefighters be able to drive ambulances

Date	Time	Zone	Subzone	Type	Topic	Comment
6/13/2018	18:30	USA	Inland-North	Improvements	integration	Colocation: leadership challenge due to not reporting to fire captain - Like to see readily available ambulance supervisor for station fire captain to interface with promptly
6/13/2018	18:30	USA	Inland-North	Improvements	integration	Alternate transport option when ambulance no needed - Could an ambulance supervisor transport instead?
6/13/2018	18:30	USA	Inland-North	Improvements	integration	Not all first responders and transport are done by consolidated dispatch (not all have AVL)
6/13/2018	18:30	USA	Inland-North	Improvements	integration	All transport units should have VHF and 800Mhz radios for inter-agency communications (mobile and portable)
6/14/2018	10:00	USA	Inland-North	Improvements	integration	Move up and cover/deployment plan needed
6/14/2018	10:00	USA	Inland-North	Improvements	integration	Could Riverside County EMS units come into San Diego as part of deployment plan?
6/14/2018	13:00	USA	Inland-North	Improvements	integration	Stronger mutual aid - EOA holding calls if able to serve within 30 minutes, even when there is a mutual aid ambulance closer - Like to see closest ambulance sent (e.g., first response provides seamless mutual aid
6/14/2018	13:00	USA	Inland-North	Improvements	integration	Move up and cover -> not seeing on transport side of EMS - Like to see ambulance boundary drop
6/14/2018	13:00	USA	Inland-North	Improvements	integration	Standardize ePCR -> provides better patient handoff - same software or "middleware" to appear the same
6/14/2018	13:00	USA	Inland-North	Improvements	integration	Consolidated fire/EMS dispatch - Offers better coordination, safety, response times, & information sharing
6/14/2018	18:30	USA	Inland-North	Improvements	integration	Ensure automatic aid for ambulance service is an option - Boundary drop is essential for ambulances - Closest ambulance for patient first, not revenue first
6/14/2018	18:30	USA	Inland-North	Improvements	integration	Like to see move up and cover cross zones
6/14/2018	18:30	USA	Inland-North	Improvements	integration	Need better integration of technology - e.g., telehealth

Date	Time	Zone	Subzone	Type	Topic	Comment
6/22/2018	18:00	USA	Inland-South	Improvements	integration	Seek improved management collaboration to improve gap response
6/27/2018	18:00	USA	Inland-Central	Improvements	integration	Like to see ambulances due more move up and cover
6/27/2018	18:00	USA	Inland-Central	Improvements	integration	Improved communication between fire paramedic/station captain and ambulance supervisors
6/28/2018	13:00	USA	Inland-Central	Improvements	integration	Request and provide mutual aid as needed to ensure best coverage - Same dispatch and communications (this area has it, but not all areas)
6/28/2018	10:00	USA	Inland-South	Improvements	integration	Single unified dispatch center
6/28/2018	10:00	USA	Inland-South	Improvements	integration	Automated Vehicle Locator (AVL) for up to date mapping
6/28/2018	18:00	USA	Inland-Central	Improvements	integration	Request and provide provider transport mutual aid
6/28/2018	18:00	USA	Inland-Central	Improvements	integration	Automated Vehicle Locator (AVL) for up to date mapping
6/14/2018	18:30	USA	Inland-North	Improvements	process	Recommend NOT awarding all 3 to 1
6/14/2018	18:30	USA	Inland-North	Improvements	process	Proposal review - Like to see diverse group of stakeholders participate - At a minimum, Fire Chiefs' Association and Hospital Association representatives
6/28/2018	13:00	USA	Inland-Central	Improvements	process	Public agencies like to have a voice in procurement process
6/22/2018	13:00	USA	Inland-South	Improvements	quality	Type III red/black ambulance
6/27/2018	18:00	USA	Inland-Central	Improvements	quality	Dual medic on transport
6/28/2018	18:00	USA	Inland-Central	Improvements	quality	Add Type 1 ambulance
6/13/2018	13:00	USA	Inland-North	Improvements	response	Special event surge staffing when needed
6/13/2018	13:00	USA	Inland-North	Improvements	response	Improve deployment/system status plan for region
6/13/2018	18:30	USA	Inland-North	Improvements	response	More ambulance resources in the system - Would status better with more units
6/13/2018	18:30	USA	Inland-North	Improvements	response	Meeting the need for four-wheel drive when required
6/13/2018	18:30	USA	Inland-North	Improvements	response	Meeting the need for bariatric unit when required
6/14/2018	10:00	USA	Inland-North	Improvements	response	Consider weekend float unit

Date	Time	Zone	Subzone	Type	Topic	Comment
6/14/2018	18:30	USA	Inland-North	Improvements	response	DeLuz has urban/rural split - Suggest checking DeLuz population density current and projected for accuracy (i.e., census tract is larger than just DeLuz)
6/14/2018	18:30	USA	Inland-North	Improvements	response	This RFP is an opportunity to change "every call is an emergency" - Different response times by type (e.g., ALS, BLS, emergency, non-emergency)
6/14/2018	18:30	USA	Inland-North	Improvements	response	Like to see benchmarking that is publicly available (e.g., monthly, consistent-basis) - Such as response times, costs/response, costs associated with changing response times (process improvement) - Include comparisons with other counties
6/22/2018	13:00	USA	Inland-South	Improvements	response	Look to improve response time requirement of less than 30 minutes. Current average response of 14 minutes
6/22/2018	13:00	USA	Inland-South	Improvements	response	Ability to add ambulance as necessary
6/22/2018	18:00	USA	Inland-South	Improvements	response	Response time gap improvement In the Potrero area for both fire and provider
6/27/2018	13:00	USA	Inland-Central	Improvements	response	Better response times
6/27/2018	13:00	USA	Inland-Central	Improvements	response	Better coverage
6/27/2018	18:00	USA	Inland-Central	Improvements	response	Shorter response times
6/27/2018	18:00	USA	Inland-Central	Improvements	response	More ambulances due to transport distance (e.g., 2-hours round trip) & bed delays
6/27/2018	18:00	USA	Inland-Central	Improvements	response	Closest ambulance better than zone ambulance
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Better EMS (Fire & Transport) in areas with lower population density - Bigger challenges when 1st response moved to cover large population centers leaving less population dense area uncovered/extended
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Have a plan for additional coverage during weekends/holidays/peak times of the year
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Ensure 1st response times are met even when fire engines moved to other areas (i.e., move up and cover)
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Contractor should meet contract response times

Date	Time	Zone	Subzone	Type	Topic	Comment
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Allow dispatch flexibility to reassign units to higher priority calls… even when assigned to another (lower priority) call
6/28/2018	13:00	USA	Inland-Central	Improvements	response	Like to see more ambulances than more fire engines in the system
6/28/2018	10:00	USA	Inland-South	Improvements	response	Decrease hospital wall time. Causing domino effect to get units back in service
6/28/2018	18:00	USA	Inland-Central	Improvements	response	Response times
6/28/2018	18:00	USA	Inland-Central	Improvements	response	System status deployment
6/28/2018	18:00	USA	Inland-Central	Improvements	response	Add additional ambulance
6/28/2018	18:00	USA	Inland-Central	Improvements	response	Upstaffing for events and population
6/28/2018	18:00	USA	Inland-Central	Improvements	response	Add BLS ambulance to keep ALS ambulance in service
6/28/2018	18:00	USA	Inland-Central	Improvements	response	Decrease hospital wall time. Causing domino effect to get units back in service
6/28/2018	18:00	USA	Inland-South	Improvements	response	Would like to have a new fire station in Jacumba and have heard that Mercy might put an airship/air ambulance at Jacumba airport – that would be great.
6/28/2018	18:00	USA	Inland-South	Improvements	response	Coverage gap in ALS services – Highway 94 west of Campo and east of Barrett Junction. This should be seriously scrutinized and looked at.
6/28/2018	18:00	USA	Inland-South	Improvements	response	Mercy looking at adding 12 car/pilot project in Potrero to address coverage gap noted above.

Attachment 5: National Benchmarks and Santa Cruz County Clinical Standards

EMS Standards, Core Measures, & Benchmarks								
Organization	**SCEMS**	**MedStar**	**EMSA**	**NEMSIS**	**Compass**	**NHS-UK**	**AHA**	**CMS**
Cardiac Arrest								
Response interval < 5 minutes for CPR/AED		●						
Bystander CPR rate	●	●		●			●	
Bystander AED rate	●	●		●			●	
Appropriate airway management		●						
End-tidal CO2 monitored				●			●	
Pit crew/focused CPR	●							
Transport to "Resuscitation Center"		●						
ROSC percentage	●	●	●	●		●		
Survival to discharge (e.g., overall, Utstein)	●	●	●	●		●		
Hypoglycemia								
Glucose recorded before treatment					●	●		
Hypoglycemia corrected through treatment					●			
Glucose recorded after treatment						●		
Correct disposition (e.g., transport, referral, home)						●		
Pain Management								
Offered pain meds prior to movement		●	●					●
Pain score decreased		●			●			●
Respiratory Distress (e.g., asthma, intubation)								
Mental Status		●						
Resp. rate, SpO2, PEFR recorded before treatment		●		●		●		
Oxygen administered (if appropriate)		●				●		
Bronchodilators for pediatrics with wheezing			●		●			
Beta2 agonist administration for adults		●	●			●		
Endotracheal intubation success rate		●	●	●				
End-tidal CO2 performed on any successful ET intubation		●		●				
Improvement after treatment								
Seizure								
Glucose recorded					●			
Received intervention as appropriate					●			
Seizure, Febrile								
Glucose recorded						●		
Sp02 recorded						●		
Anticonvulsant administration						●		
Temperature management						●		
Sepsis								
Protocol completed (HR, BP, resp, temp documented with fluid initiation, O2, hospital		●						
STEMI								
Recognition		●					●	
ASA administration	●	●	●	●		●	●	●
NTG administration		●				●	●	
Appropriate analgesia given		●				●	●	
Two pain scores recorded		●				●	●	
Sp02 recorded				●		●	●	
EKG acquired	●			●		●	●	
EKG acquired within X minutes (e.g., 5-10)		●					●	●
12L acquired		●	●	●			●	
12L transmitted		●					●	
Scene time (e.g., < 10 minutes)	●	●	●				●	
Transport to STEMI center rate (with notificatior	●	●	●	●		●	●	●
911-to-balloon time	●							

EMS Standards, Core Measures, & Benchmarks								
Organization	**SCEMS**	**MedStar**	**EMSA**	**NEMSIS**	**Compass**	**NHS-UK**	**AHA**	**CMS**
Stroke								
Time last seen normal	●	●		●		●	●	
Use of a prehospital stroke scale (e.g., NHS, FAST, MEND, CPSS, LAPSS, MASS)	●	●		●	●	●	●	
Blood glucose documented	●	●	●	●		●	●	
Blood pressure documented		●		●		●	●	
Appropriate O2/airway management		●						
Scene time (e.g., < 10 minutes)	●	●	●	●				
Transport to a stroke-capable facility (and alerte	●	●	●	●		●	●	
911-to-needle time	●							
Trauma								
Over-triage rate							●	
Under-triage rate							●	
PAM scale recorded	●							
Scene time (e.g., < 10 minutes)	●	●	●					
Trauma center destination	●	●	●		●			
NON-CLINICAL STANDARDS, CORE MEASURES, BENCHMARKS								
Efficiency Domain								
Cost per patient contact								
Cost per transport		●						
Cost per unit hour		●						
Employee turnover rate								
Patient Safety								
Drops per 1,000 patient contacts								
AMA to new call within X hours (e.g., 24-72)		●				●		
AMA to hospital within 24 hours								
Mission failures per X responses/miles		●						
Ambulance crashes per X responses/miles								
Chart Review (random, manager, MD)								
Protocol compliance rate (note: this can be overall or individual)								
Total Standards	**19**	**39**	**15**	**19**	**8**	**25**	**22**	**5**

Legend:

SCEMS = Santa Cruz EMS System
MedStar = MedStar Mobile Integrated Healthcare (Fort Worth, TX)
EMSA = California EMS Authority (2015)
NEMSIS = National EMS Information Systems (version 3.0)
Compass = EMS Compass produced by National Association of EMS Officials (NASEMSO)
NHS-UK = National Health Service-United Kingdom (version 1.31, 2016)
AHA = American Heart Association
CMS = Centers for Medicare and Medicaid Services (ED standards applicable to EMS)

Santa Cruz County Transport Report Card				
Criterion	**2016**	**Goal**	**Weighted Value**	**Score**
Cardiac Arrest				
End-tidal CO2 monitored	38.9%	90.0%	3.0%	1.30
Complete documentation (see System QI P&P)	75.0%	90.0%	3.0%	2.50
Respiratory Distress				
Mental Status assessed/documented	90.9%	90.0%	3.0%	3.00
bronchodilator administration for wheezing	72.0%	85.0%	3.0%	2.54
Airway Management				
End-tidal CO2 performed on any successful ET intubation	38.8%	90.0%	3.0%	1.29
Other confirmation techniques (e.g., visualize chords, chest rise, auscultation)	75.0%	90.0%	3.0%	2.50
Complete documentation (see System QI P&P)	75.0%	90.0%	3.0%	2.50
STEMI				
ASA administration	56.7%	90.0%	3.0%	1.89
Sp02 recorded	98.3%	95.0%	3.0%	3.00
12 LEAD EKG acquired within 5 minutes	35.0%	80.0%	3.0%	1.31
Scene time less than 15 minutes	16.7%	80.0%	3.0%	0.63
Transport to STEMI center rate (with notification)	96.7%	95.0%	3.0%	3.00
Complete documentation (see System QI P&P)	75.0%	90.0%	3.0%	2.50
Stroke				
Time last seen normal	0.0%	90.0%	3.0%	-
Use of a prehospital BEFAST stroke scale	58.9%	90.0%	3.0%	1.96
Scene time less than 15 minutes	18.7%	80.0%	3.0%	0.70
Complete documentation (see System QI P&P)	75.0%	90.0%	3.0%	2.50
Trauma				
PAM scale recorded	60.8%	90.0%	3.0%	2.03
Scene time less than 15 minutes	12.7%	50.0%	3.0%	0.76
Trauma center destination	29.8%	90.0%	3.0%	0.99
Complete documentation (see System QI P&P)	75.0%	90.0%	3.0%	2.50
Safety				
Employee injuries per 10,000 hours worked	1.11	1.00	2.0%	1.80
Employee turnover rate	36.7%	25.0%	8.0%	5.45
Protocol compliance rate per chart review (high acuity, AMA/RAS, & random)	75.0%	90.0%	10.0%	8.33
Patient Satisfaction (use standardized questions to allow inter-agency comparison)				
Communication by medics (patient and family)	96.0%	97.2%	3.0%	2.96
Care shown by the ambulance crew	95.0%	94.4%	2.0%	2.00
Skill and professionalism of our ambulance crew	94.3%	93.8%	2.0%	2.00
Cleanliness of ambulance	96.0%	94.1%	2.0%	2.00
Ride of the ambulance	80.0%	92.3%	2.0%	1.73
ePCR Submission Compliance				
At time of patient drop off (over 90 days)	75.0%	90.0%	2.0%	1.67
High acuity (ROSC, STEMI, Stroke, Trauma) cases at time of drop off	75.0%	95.0%	2.0%	1.58
Completed within 24 hours	75.0%	100.0%	2.0%	1.50
Total Standards			**100.0%**	**70.43**

Green: Meet/Exceed Goal
Orange: 0-20% Below Goal
Red: >20% Below Goal

Criteria
1) Measurable
2) Must be improvable
3) Reflect value to the patient

Note: 2016 numbers highlighted in blue are placeholders as not currently tracked

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