CONTRA COSTA
HEALTH SERVICES

County of Contra Costa
EMERGENCY MEDICAL SERVICES
Memorandum

DATE: October 5, 2017

TO: FINANCE COMMITTEE
Supervisor Karen Mitchoff, District IV, Chair
Supervisor John Gioia, District I, Vice Chair

FROM: Patricia Frost, Director, Emergency Medical Services

SUBJECT: **Community Service Area EM-1 (Measure H) Update**

Information

Referral History:
On May 23, 2017, The Board of Supervisors requested an update on Measure H and funding for Emergency Medical Services (EMS) be presented to the Finance Committee to review if Measure H funding could be increased.

County Service Area (CSA) EM-1 was established by the Board of Supervisors in 1989, pursuant to the CSA law in effect at that time. That law enabled a Board of Supervisors to establish a CSA in the unincorporated area for the purpose of collecting parcel fees to support the provision of EMS. The law also enabled the Board to extend the CSA to include the territory of any incorporated city upon a city council resolution requesting annexation to the CSA. All Contra Costa cities did adopt such a resolution prior to the formation of the CSA, and therefore, CSA EM-1 was established countywide.

The impetus for establishing the CSA was the passage in a November 1988 advisory ballot measure – 'Measure H' – calling for a countywide benefit assessment to fund enhancements to the County's EMS system. The maximum to be charged a single-family residence would not exceed $10.00 annually. Maximum charges were also established for other parcel categories with charges on heavy industrial parcels up to $5,000. In 1988, 'Measure H' received a 71.6 % affirmative vote countywide.

Expanded paramedic services, one of the EMS enhancements to be funded under CSA EM-1, were already in place in the areas served by San Ramon Valley Fire Protection District. Since these services were funded through existing revenue sources, the Board of Supervisors proposed establishing a separate CSA EM-1 zone with lower charges covering the San Ramon Valley primary response area. Currently, CSA EM-1 charges in the San Ramon Valley primary response area (Zone A) are $3.94 per single-family residence or benefit unit. Charges in the rest of the county (Zone B) are $10.00 per single-family residence or benefit unit.

In 1996, Proposition 218 was passed amending the State constitution and making significant changes to local government financing. Under Proposition 218, parcel charges such as those imposed by CSA EM-1 must be supported by engineering reports and by an affirmative mailed-in vote of property owners representing a majority of the assessed valuation of the affected parcels. Proposition 218 eliminated all existing benefit assessments except, under a grandfather clause contained in the proposition, those that had been established by voter approval. By consensus among the parties supporting Proposition 218, assessments that had been subject to an advisory election were considered to be covered by the grandfathering clause so long as the governing body had demonstrated adherence to all terms of the advisory measure. Thus, the CSA EM-1 charges cannot be increased without a vote of the property owners.

Conclusion: CSA EM-1 (Measure H) provides high value limited funding for enhancement of the EMS system throughout Contra Costa County. The funds have no cost-of-living adjustments (COLA) attached and cannot be adjusted or increased. If the tax measure had included a COLA based on consumer price index (CPI) increases for Medical Care All Urban; Zone B charges would total $20.70/benefit unit and Zone A charges would total $8.17 resulting in a total of $9,692,236 of funding for EMS System Enhancement.

Language of the Measure H Advisory
Passed November 8, 1988 with 71.6% voter support.

*"Shall a **Countywide** Emergency Medical Services benefit assessment be established to finance **improvements in emergency medical and trauma care system** including expanded countywide paramedic coverage; improved medical communications and medical dispatcher training; and medical equipment and supplies and training for firefighter first responders, including training and equipment for fire services electing to undertake a specialized program of advanced cardiac care(defibrillation)"*

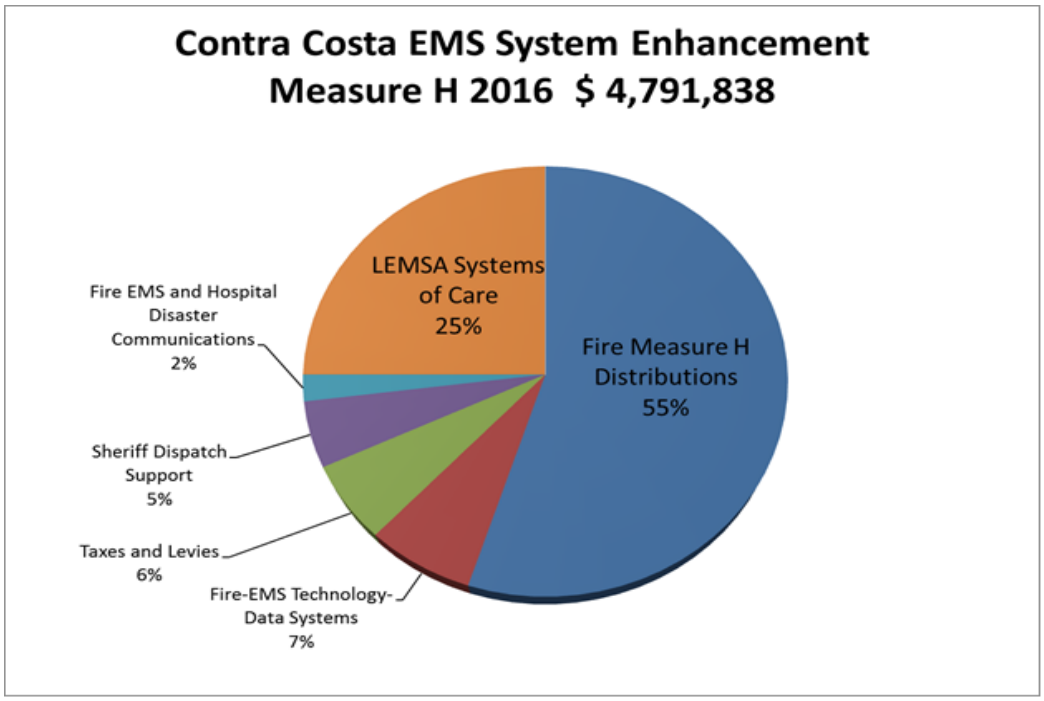
Background of Measure H Funding for EMS System Enhancement:

Initially, the Board of Supervisors used these funds to subsidize 9-1-1 private paramedic ambulance services expanding the availability of paramedic staffed ambulance services countywide. However, on May 18, 2004, the 9-1-1 private paramedic ambulance subsidy ended as part of the new ambulance contract with American Medical Response (AMR). Those funds were then reallocated by the Board of Supervisors creating a Fire First Responder Paramedic Fund. Fire First Responder Paramedic funding was restricted to "paramedic" first responder fire districts/departments only. From 2004 – 2008, qualifying Fire paramedic provider agencies received $30,000 per each "24-hour paramedic engine in service.". In 2009, fire station closures with the countywide economic downturn created unintended reductions in fire first responder paramedic funding.

On May 14th, 2013, the EMS Agency recommended and the Board of Supervisors subsequently approved an alternative population based allocation formula to reallocate the Fire First Responder Fund of $2,331,133 to preserving fire first medical response. Under this new allocation formula both BLS and ALS fire districts in Zone B benefitted. The new formula provides a 25% differential for fire paramedic service level agencies. Funds are approved by the Board of Supervisors once a year in Jan/Feb and distributed as illustrated in the chart below.

Agency[3]	Effective FY 2015-16 Full Implementation of Population Based Funding
Richmond (BLS)	$ 223,022
El Cerrito/Kensington (ALS)	$ 111,012
Pinole (ALS)	$ 49,437
Rodeo-Hercules (ALS)	$ 88,004
Crocket-Carquinez (BLS/volunteer)	$ 7,063
Moraga Orinda (ALS/Transport)	$ 92,748
East Contra Costa (BLS)	$ 226,125
Contra Costa Fire (ALS)	$ 1,533,722

In 2016, Measure H assessments raised 4.7 million dollars providing approximately 4.5 million dollars for EMS system enhancements after taxes and levies (6%) are deducted.



Program Elements Funded by Measure H

1. **Paramedic Ambulance Service Medical/Quality Oversight and Operational Area Emergency Ambulance Service Oversight:** Under Title 22 paramedic and EMT services are regulated by the local EMS Agency for medical control and quality improvement as part of a coordinated EMS System. Prehospital providers must abide to a myriad of state and local regulations, policies and procedures associated with providing 9-1-1 dispatch, EMT and paramedic first responder and ambulance services. The Contra Costa Health Services EMS Division serves as the Board of Supervisors designated local regulatory authority in compliance with the EMS Act.

2. **Fire First Responder BLS and ALS Support:** Currently 55% of all Measure H funds directly benefit Fire Agency first responder EMT and paramedic services countywide. Each fire district is responsible for utilizing their Measure H funds for qualified "enhancement" expenditures as defined in the Guidelines for Measure H available at http://cchealth.org/ems/pdf/Measure-H-Guidelines.pdf. The EMS Agency has received feedback from all fire agencies that Measure H funds do not cover the full cost of the services provided.

3. **First Responder Fire and Law Medical Supplies, Equipment, Training:** Over the years Measure H allocations have provided enhancements through one-time funding for specialized medical supplies, equipment and training including sustaining and upgrading technology. Funding has supported advanced airway training, training manikins, Automated CPR devices (Auto-Pulse), specialized vascular access devices (EZIO), spinal immobilization equipment, mass casualty caches, oxygen concentrator equipment, cardiac/respiratory monitors, pediatric specialty equipment and narcotic control systems. Since moving to the population based funding methodology approved by the Board of Supervisors in 2013 each fire district/department is responsible for using their Measure H allocation to support and sustain these devices and training.

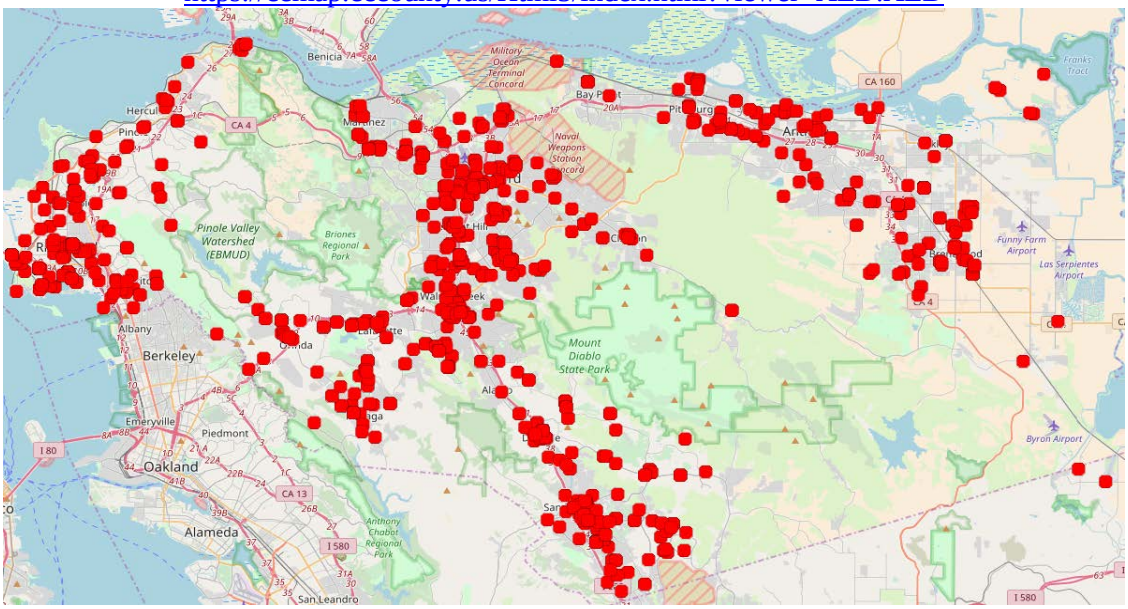
4. **Communications Sheriff's Dispatch:** Measure H provides an annual subsidy of $250,000 a year to support coordination of emergency operational area communications including dispatch services for tracking and coordinating ambulance communications during mass casualty events and disaster events. There is a written agreement in place with Sheriff's dispatch that caps the funding at $250,000 a year as there is no COLA provision available associated with Measure H.

5. **First Responder Fire, Law, and School Defibrillation Programs, Public Access Defibrillation and *Heart-Safe* Community Initiatives**: Measure H funds have periodically equipped fire and law response units countywide with automated electronic defibrillators AEDs. Measure H has also provided seed money to support AEDs in schools and Community CPR bystander training including EMS System/EMS Agency programs to coordinate volunteers and stakeholders.

   Since January 1, 2012, the EMS Agency *HeartSafe* Community partners have trained over **29,425** citizens in CPR. Since moving to the fire district population based funding model approved by the Board of Supervisors in 2013; the EMS Agency relies primarily on the County Emergency Ambulance Contract (now served by the Alliance) to support services. This countywide program could be greatly enhanced through more reliable funding. There are gaps in the availability of Public Access Defibrillation, School Defibrillation Programs and Law Enforcement AEDs

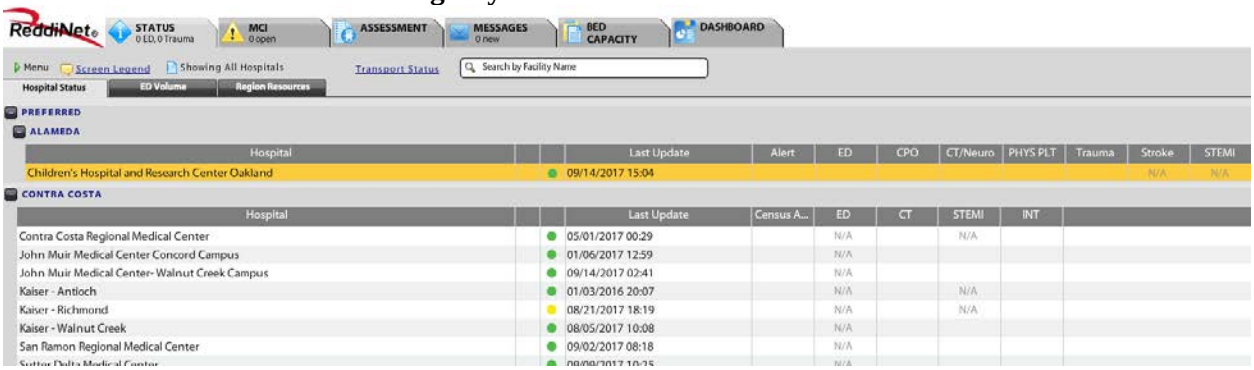
Contra Costa AED Locations

https://ccmap.cccounty.us/Html5/index.html?viewer=AED.AED



6. **Fire-EMS and Disaster Emergency Communication Networks:** Over the years Measure H funding established, upgraded and sustained a variety of critical radio, dispatch and emergency situational status management platforms. Today these tools are essential to coordinated emergency response between dispatch, first responders, law, emergency and non-emergency ambulance providers, hospitals, skilled nursing facilities and ambulatory care centers in mass casualty and disaster. Examples of communication upgrades include ReddiNet, First Watch, EBRCS intra-operable radios, ATRUS (AED registry) and PulsePoint (CPR bystander app). While Measure H provided early seed money for these critical emergency communication tools, platforms and networks there is insufficient Measure H funding to support upgrade and enhancement. This results in a heavy reliance on the shrinking availability of state and federal competitive grants to upgrade critical communication infrastructure leaving the EMS System less resilient in emergencies and disasters.

ReddiNet Emergency Communication Network



7. **Prehospital Electronic Medical Health Record Platforms and Data Management Systems:** All prehospital first responders, ambulance providers and air medical providers are now required under statute to use an electronic patient care data system and submit data to the local EMS Agency and State to comply with statewide data submission requirements. Over the years statutory mandates have increased, associated with prehospital data management and reporting. The EMS Agency's statutory responsibilities for quality and medical oversight of all patient care delivered in the field requires all Fire, Ambulance and Hospital providers to participate.

   Recent legislation also requires EMS system providers to ready their pre-hospital electronic patient care systems for bi-directional health information exchange with hospitals[1]. Current medical information technology known to improve patient outcome such as Code Stat, Physio-Control 12 lead transmission system and First Pass (Prehospital Quality Improvement Clinical Performance Management System) are supported with funding from Measure H. At present there are no sources of funding to meet the goal of bi-directional exchange by 2018.

   The EMS Agency actively sought grant funding for bi-directional health information exchange in 2015. Our application was praised by representatives of the Office of the National Coordinator, but the grant went to the San Diego County BEACON project. It is estimated that funding bi-directional health information exchange for the Contra Costa EMS System County-wide may require $ 750,000 to $1.5 million dollars of investment to achieve. The EMS Agency intends to apply for a new competitive grant from CMS sometime in 2018. Without funding, the goal of countywide prehospital and hospital bi-directional health information exchange will not be achieved.

[1] All prehospital EHRs must be compliant with new state EMS Data system requirements as specified in the January 5, 2016 California EMSA letter at: http://www.emsa.ca.gov/Media/Default/PDF/EMS%20Data%20System%20Requirements %202016%20.pdf

8. **EMS Systems of Care:** Measure H most important fiscal contribution over the years has been in providing seed funding to support the design, development and optimization of Contra Costa County's well-respected systems of care. In 2004, Contra Costa County had only one system of care: Trauma. As of 2017, the Contra Costa EMS System has four highly respected Systems of Care in addition to Trauma: STEMI (high risk heart attack); Stroke, Cardiac Arrest; and EMS for Children. EMS Systems of Care represent bystander, dispatch, pre-hospital first responder, transport, emergency department and specialty intervention workflows known to improve patient outcomes. The quality of our systems of care supports participation in the CDC Cardiac Arrest Registry for Enhanced Survival (CARES), American Heart Association (AHA) Mission Lifeline Program, California Department of Public Health (CDPH) State Registry and partnerships with CMS focused on improving patient outcomes.
    a. Trauma System of Care: http://cchealth.org/ems/feature-trauma.php
    b. STEMI System of Care: http://cchealth.org/ems/stemi.php
    c. Stroke System of Care: http://cchealth.org/ems/stroke.php
    d. EMS for Children: http://cchealth.org/ems/emsc.php
    e. Cardiac Arrest: http://cchealth.org/ems/cardiac-arrest.php

    The EMS Agency is responsible for the State and Federal regulatory compliance associated with systems of care medical and quality oversight. The EMS Agency uses hospital designation fees to fund the hospital oversight portion supporting coordinated service delivery between the hospital and prehospital providers.

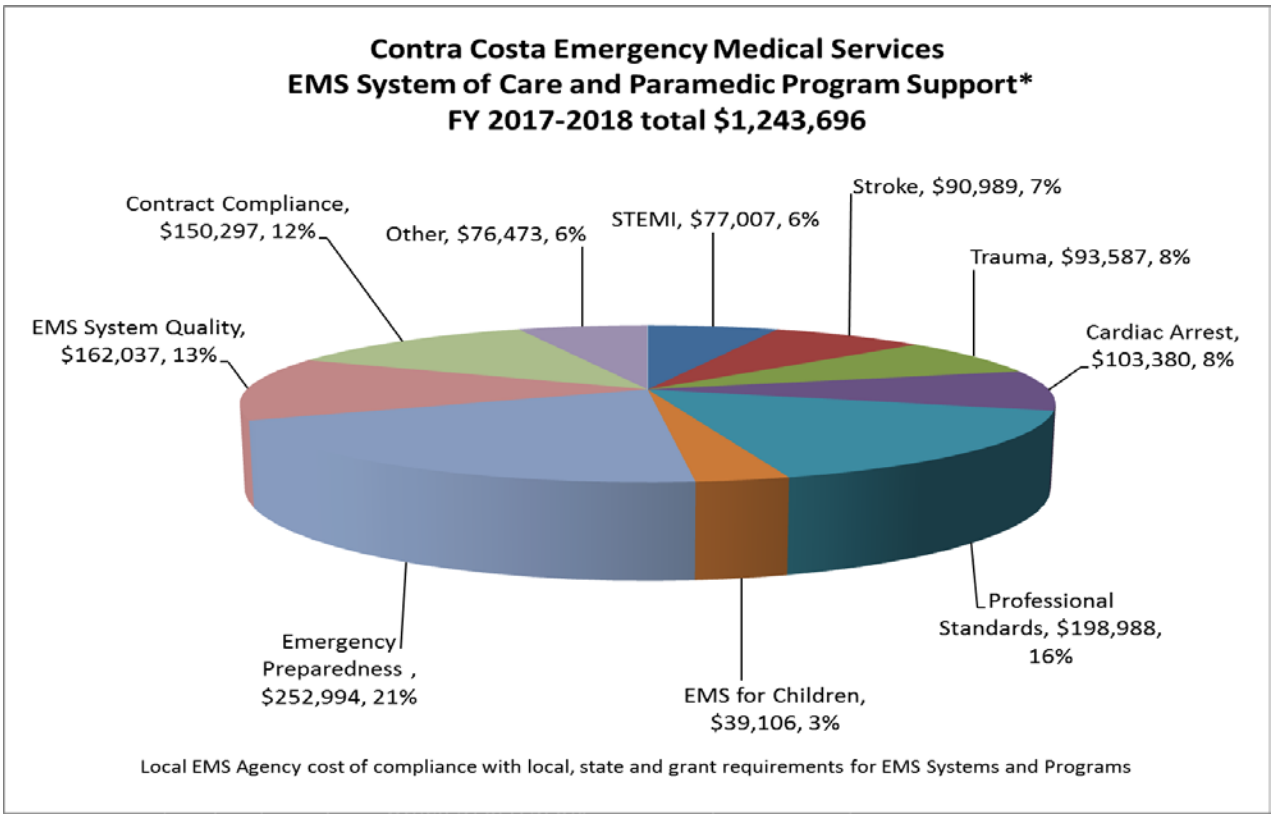
9. **Medical Health EMS System Disaster Preparedness:** Contra Costa Health Services Public Health and EMS Agency has been the EMS and health system leads supporting EMS medical health emergency and disaster preparedness. While this program has been primarily supported through state grants for public health and medical preparedness program (PHEP) and the Hospital Preparedness Program (HPP) funding has steadily declined associated with the HPP program supporting EMS. Initially EMS Agency staff supported the Regional Medical Health Coordinator (RDMHC) and Specialist (RDMHS) for Region II functions. In 2009 Region II coordination responsibilities transitioned to Alameda County EMS. Grant funding associated with the HPP and RDHMS program declined from a high of $1,823,612 in 2009 to less than $ 400,000 for the present HPP program in 2017. HPP funding is anticipated to further decline and possibly disappear as federal requirements for preparedness require local communities to build "resiliency".

10. **EMS Agency Personnel and Support**: Initially Measure H provided the primary source of funding for the EMS Agency to meet state requirements associated with establishing an EMS System under the EMS Act. Over time, EMS Agency statutory driven responsibilities required the need for more professional staff in response to service driven population growth and numerous federal and state mandates associated with the EMS System and prehospital care. Today, the EMS Agency is not only responsible for EMT and Paramedic medical and quality and systems of care oversight; recent regulatory requirements mandate the following programs:
    a. POLST (Physicians Orders for Life Sustaining Treatment)
    b. Prehospital continuing education provider and training program authorization and oversight
    c. Medical Health Operating Area Coordinator (MHOAC) Program
    d. Medical Reserve Corps (MRC) Program
    e. Emergency Department Pediatric Readiness Program
    f. Prehospital Health Information Exchange (HIE)
    g. Law Enforcement (LE) Naloxone (Narcan) Programs
    h. First Aid/CPR Provider Programs

i. CMS Emergency Preparedness Program engagement required under the new CMS EP rule as part of their condition of participation in MediCaid/MediCAL.
j. Expanded EMT and Paramedic investigation and discipline to comply with EMSA State Model Disciplinary Guidelines
k. Medical and Quality oversight of the Emergency Medical Dispatch System,
l. Designation of local hospitals as Stroke, STEMI, Trauma, Cardiac Arrest and Pediatric centers.

As the discipline of EMS has become increasingly sophisticated the EMS Agency role to support stakeholders has become more complex in response to unfunded state and federal mandates. Less than 25% of Measure H supports EMS Agency activities. The remaining costs are supported through fee recovery associated with ambulance permitting, EMT and Paramedic certification and hospital designation fees. The Health Services department is currently subsidizing a significant portion of Fire-EMS Provider regulatory costs associated with enhancements in EMS professional services and regulation. Additional funding to support these services is needed.

The Contra Costa EMS System has heavily relied on grant and state funding to support EMS System enhancement, particularly in the area of disaster preparedness and emergency communications. Dramatic reductions in available state and federal grant funding has occurred over the last five years and become increasingly "competitive". Other sources of funding such as SB12 (a.k.a. Maddy/Richie Funds) have been threatened. These funds support critical funding to sustain countywide EMS, Trauma and Emergency Care services. Alternative funding sources are needed to enhance of the Countywide Contra Costa EMS System.



Summary:

Measure H has provided a legacy of high value EMS System enhancement; however, critical funding gaps exist and need to be addressed. Current EMS funding gaps exist in the area of sustaining and upgrading data systems, dispatch, medical health and disaster preparedness to support bi-directional health information exchange with hospitals; Systems of Care support to improve Cardiac Arrest, EMS for Children, STEMI, Stroke and Trauma; and upgrades in disaster communications (e.g. EBRCS, WebEOC, Satellite, Telemedicine). While EMS stakeholders have options to charge and adjust first responder and ambulance patient care services delivered and qualify for programs such as GEMT the EMS Agency relies primarily on Measure H, periodic grant funding and Maddy funds to support the cost recovery associated with EMS System operations.

EMS System unfunded mandates, reduced reimbursement for services in addition to population driven demand increase costs: Today Prehospital care is both sophisticated and complex. With enhanced sophistication and complexity comes the obligation to fulfill additional unfunded mandates on both the federal and state level. The EMS Agency performs key functions essential supporting stakeholders in their compliance with state and federal regulatory mandates and it is not unusual for both EMS system stakeholders and the EMS Agency to be challenged by unfunded mandates driving the cost of EMS System compliance.

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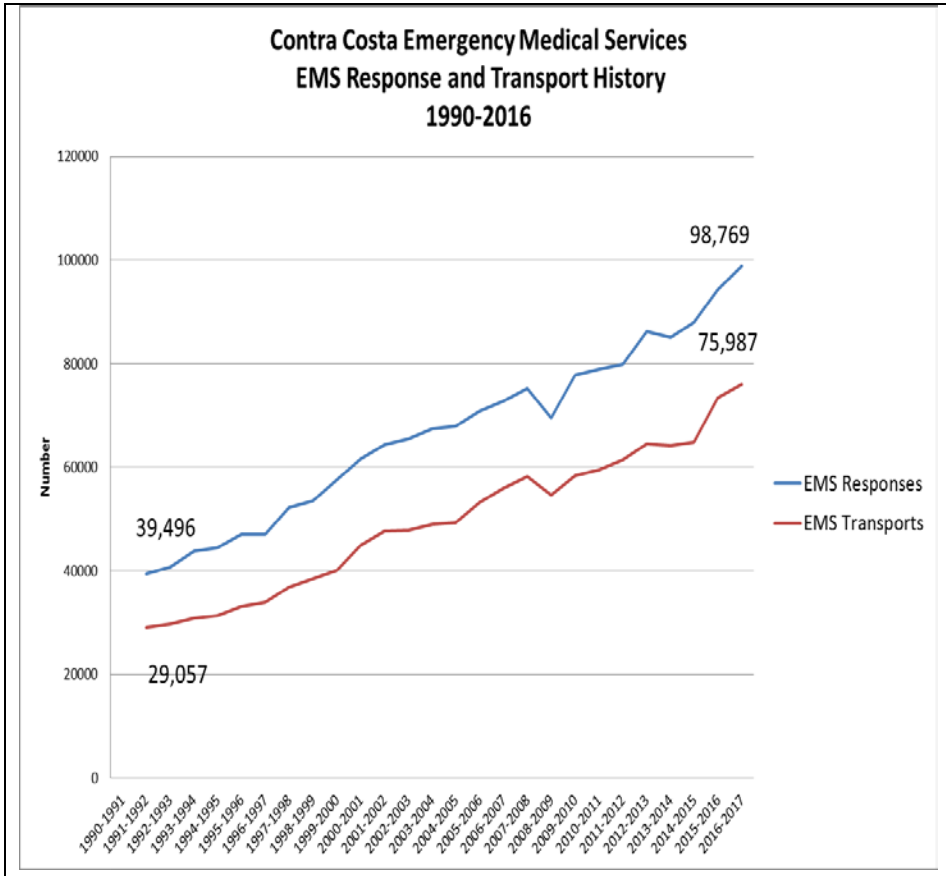

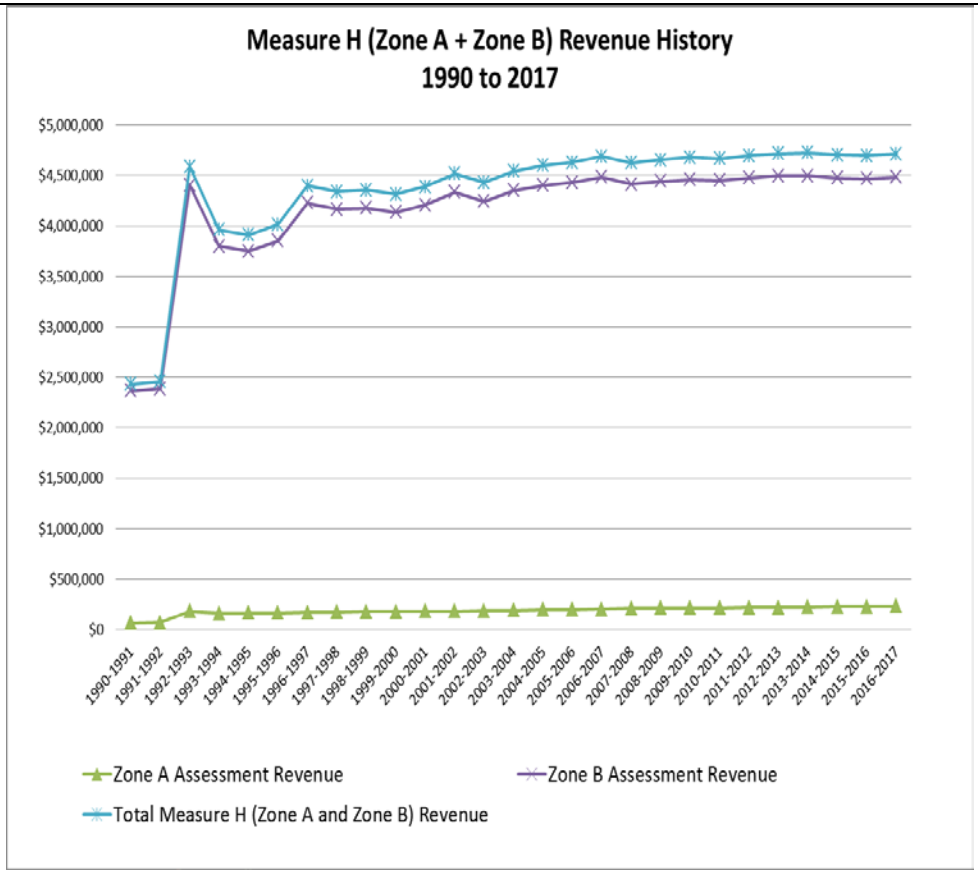

CSA EM-1 (Measure H) Revenue History

Fiscal Year	EMS Responses	EMS Transports	Zone A Assessment Rate	Zone B Assessment Rate	Zone A Assessment Revenue	Zone B Assessment Revenue	Total Measure H (Zone A and Zone B) Revenue	Levy and Use Code Fees	Available Funds	CPI Increases Medical Care All Urban	CPI All Urban Bay Area
1990-1991	**NA**	**NA**	$1.64	$5.48	$66,873	$2,365,795	$2,432,668	**NA**	**NA**		
1991-1992	39,496	29,057	$1.64	$5.48	$68,887	$2,389,217	$2,458,104	**NA**	**NA**	8.7	4.4
1992-1993	40,780	29,774	$3.94	$10.00	$181,547	$4,405,950	$4,587,497	**NA**	**NA**	7.4	3.3
1993-1994	43,774	30,886	$3.94	$10.00	$160,484	$3,801,300	$3,961,784	**NA**	**NA**	5.9	2.7
1994-1995	44,473	31,332	$3.94	$10.00	$164,188	$3,748,276	$3,912,464	**NA**	**NA**	4.8	1.6
1995-1996	46,969	33,056	$3.94	$10.00	$164,188	$3,853,526	$4,017,714	**NA**	**NA**	4.5	2.0
1996-1997	46,980	34,010	$3.94	$10.00	$170,643	$4,227,370	$4,398,013	**NA**	**NA**	3.5	2.3
1997-1998	52,143	36,877	$3.94	$10.00	$173,211	$4,164,993	$4,338,204	**NA**	**NA**	2.8	3.4
1998-1999	53,490	38,510	$3.94	$10.00	$176,788	$4,179,740	$4,356,528	**NA**	**NA**	3.2	3.2
1999-2000	57,568	40,081	$3.94	$10.00	$179,315	$4,134,573	$4,313,888	**NA**	**NA**	3.5	4.2
2000-2001	61,531	44,931	$3.94	$10.00	$183,014	$4,206,156	$4,389,170	$18,786	$4,370,384	4.1	4.5
2001-2002	64,391	47,625	$3.94	$10.00	$184,083	$4,334,861	$4,518,944	$19,036	$4,499,908	4.6	5.4
2002-2003	65,549	47,858	$3.94	$10.00	$186,480	$4,246,115	$4,432,595	$19,309	$4,413,286	4.7	1.6
2003-2004	67,480	48,958	$3.94	$10.00	$191,466	$4,353,031	$4,544,497	$19,608	$4,524,889	4.0	1.8
2004-2005	67,966	49,314	$3.94	$10.00	$198,615	$4,403,691	$4,602,306	$28,058	$4,574,248	4.4	1.2
2005-2006	70,867	53,179	$3.94	$10.00	$198,922	$4,429,758	$4,628,680	$28,455	$4,600,225	4.2	2.0
2006-2007	72,849	55,946	$3.94	$10.00	$204,064	$4,485,987	$4,690,051	$28,982	$4,661,069	4.0	3.2
2007-2008	75,209	58,213	$3.94	$10.00	$209,838	$4,415,486	$4,625,324	$30,190	$4,595,134	4.4	3.3
2008-2009	69,473	54,692	$3.94	$10.00	$214,182	$4,442,419	$4,656,601	$30,496	$4,626,105	3.7	3.1
2009-2010	77,872	58,292	$3.94	$10.00	$216,182	$4,462,228	$4,678,410	$30,572	$4,647,838	3.2	0.7
2010-2011	78,850	59,534	$3.94	$10.00	$217,739	$4,450,795	$4,668,534	$30,655	$4,637,879	3.4	1.4
2011-2012	79,833	61,390	$3.94	$10.00	$219,404	$4,478,438	$4,697,842	$30,736	$4,667,106	3.0	2.6
2012-2013	86,134	64,527	$3.94	$10.00	$220,490	$4,495,897	$4,716,387	$30,809	$4,685,578	3.7	2.7
2013-2014	85,034	64,133	$3.94	$10.00	$226,028	$4,498,377	$4,724,405	$30,915	$4,693,490	2.5	2.2
2014-2015	87,974	64,870	$3.94	$10.00	$227,644	$4,476,987	$4,704,631	$31,049	$4,673,582	2.4	2.8
2015-2016	94,278	73,381	$3.94	$10.00	$228,924	$4,468,326	$4,697,250	$31,189	$4,666,061	2.6	2.6
2016-2017	98,769	75,987	$3.94	$10.00	$230,573	$4,483,856	$4,714,429	$32,189	$4,682,240	3.8	3.0
Totals					$5,063,772	$112,403,148	$117,466,920			107.0	71.2

Measure H EMS System Investment by Population
Remarkable High Value Benefit to Contra Costa Citizens

Fiscal Year	CoCo Population	Total Measure H Revenue	Annual Measure H Investment Per Person	Daily Measure H Investment PerPerson
1990-1991	803,732	$2,432,688	$3.06	$0.01
1992-1993	803,732	$4,587,497	$5.71	$0.02
1999-2000	948,816	$4,313,888	$4.63	$0.01
2010-2011	1,024,809	$4,668,534	$4.58	$0.01
2016-2017	1,135,127	$4,714,429	$4.15	$0.01