



**CONFIRE**

## STAFF REPORT

**DATE: August 27, 2024**

**FROM: Nathan Cooke, Interim Director**

**BY: Damian Parsons, Finance/Administrative Director**

**TO: Administrative Committee**

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**SUBJECT: Analysis of Costs Associated with Fire Department  
Response to Emergency Communication Nurse System  
Designated Calls**

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### **Recommendation**

Accept the findings of the analysis of costs associated with fire department responses to Emergency Communication Nurse System.

### **Background Information**

The Consolidated Fire Agencies (CONFIRE) implemented the Emergency Communication Nurse System (ECNS) program on December 21, 2020, through a contractual agreement with Regional Emergency Medical Services Agency (REMSA) to provide California licensed nurses who were Emergency Medical Dispatch (EMD) trained to screen certain low acuity calls and direct them to appropriate treatment or transportation options, in lieu of a fire department response or ambulance transport.

An analysis was performed to estimate the potential cost savings for CONFIRE agencies by the ECNS program. The analysis is based on Computer Aided Dispatch system (CAD) data from fiscal year 2023-24. It includes Geographic Information System (GIS) mapping data to calculate distances from the nearest fire station to each call location. These distances were subtotaled by the responding agency to estimate potential savings based solely on vehicle operation costs. Other costs such as staffing, and overhead were excluded as they are unlikely directly impacted by the ECNS program.

The following table illustrates the potential savings for each CONFIRE agency.

Analysis of ECNS Costs/Savings by CONFIRE Agency

CONFIRE Agency	Total ECNS Eligible Calls	Approx. miles traveled responding to ECNS Eligible Calls	Estimated Vehicle Cost	Average number of ECNS calls that reach nurse and are not returned for urgent response.	Total miles reduced through ECNS redirect of calls	Approx savings in vehicle costs
Adelanto	296	1,215	\$ 3,645	139	569	\$ 1,706
AppleValley	651	1,232	\$ 3,696	305	577	\$ 1,730
Big Bear Fire	260	370	\$ 1,110	122	173	\$ 520
ChinoValleyFD	1,325	2,382	\$ 7,147	620	1,115	\$ 3,345
Colton	387	474	\$ 1,423	181	222	\$ 666
CrestForest	249	293	\$ 878	117	137	\$ 411
East Valley	2,318	3,101	\$ 9,304	1,085	1,451	\$ 4,354
Fontana	1,333	2,070	\$ 6,210	624	969	\$ 2,906
Hesperia	801	2,152	\$ 6,456	375	1,007	\$ 3,021
Loma Linda	250	308	\$ 923	117	144	\$ 432
MontclairFD	270	342	\$ 1,025	126	160	\$ 480
Mountain	193	376	\$ 1,127	90	176	\$ 528
Needles	128	312	\$ 935	60	146	\$ 438
North Desert	523	2,773	\$ 8,319	245	1,298	\$ 3,893
RanchoCucamonga	1,178	1,912	\$ 5,737	551	895	\$ 2,685
Redlands	639	916	\$ 2,747	299	429	\$ 1,286
Rialto	1,415	1,766	\$ 5,299	662	827	\$ 2,480
Running Springs	47	31	\$ 94	22	15	\$ 44
South Desert	642	2,295	\$ 6,886	300	1,074	\$ 3,223
Valley	3,296	4,403	\$ 13,209	1,543	2,061	\$ 6,182
VictorvilleFD	468	895	\$ 2,684	219	419	\$ 1,256
Total	16,669	29,618	\$ 88,854.22	7,801	13,861	\$ 41,583.78

### **Description of Table Elements:**

**Total ECNS Eligible Calls:** Calls that were identified as eligible to be transferred to an Emergency Communication Nurse (ECN) based on EMD determinant code. Not all calls that receive this designation will be transferred to an ECN. CONFIRE's goal is to reach a transfer rate of 60% or more. As of June 2024, the transfer rate was approximately 30%.

**Approximate miles traveled responding to ECNS calls:** Using the total number of eligible ECNS calls, the travel time from the closest fire station to each call location was measured using Lat/Lon coordinates from CAD. If more than one fire department resource was dispatched to the call and arrived on scene, the total miles from each unit was included.

**Estimated Vehicle Cost:** This was calculated as total miles traveled multiplied by \$3.00 per mile. The average cost per mile for a fire engine in California, influenced by factors like fuel, maintenance, depreciation, and equipment needs, is generally higher than that of standard vehicles. While there is no standardized cost, \$3.00 per mile is a commonly accepted estimate from various sources.

**Average number of ECNS calls that reach nurse and are not returned for urgent response:** Based on the last six months of ECNS data, approximately 22% of calls that were transferred to an ECN were referred back to the CONFIRE dispatcher for an urgent response. This may be done for a variety of reasons, but the intent is to exercise a high level of caution if there is any question as to the acuity of the patient's condition. Because these would result in a fire department response, these calls are removed from the cost savings side of the equation.

**Total Miles Reduced through ECNS redirect of calls:** This represents approximately 60% of the total eligible ECNS calls, minus the 22% of calls returned for urgent response. This reflects the estimated number of calls that currently receive an emergency response but would no longer require such a response if ECNS is used. Therefore, each call that no longer requires a fire department response represents a savings measured by reduced vehicle costs.

**Approximate savings in vehicle costs:** This is based on the total miles reduced above time \$3.00 per mile.

### **Assumptions and Limitations:**

- Given that ECNS is a new and expanding program, some estimates, like the 60% transfer rate to an ECN, are based on projections that staff believes are achievable with proper staffing. Additionally, calls returned for emergency response were averaged rather than analyzed individually.

- Travel distances were calculated from the closest fire station, not the actual location of responding units, as using the precise locations from CAD data in GIS software was impractical.
- Approximately 25% of transferred ECNS calls currently receive a fire department response due to the lack of alternative transportation, although CONFIRE is working on solutions. For this analysis, these calls were assumed to NOT require a fire response.

This analysis only evaluated one benefit of the ECNS program. In addition to the mitigation of unnecessary fire department responses, the ECNS program helps to avoid unnecessary ambulance transports and emergency room (ER) visits, which alleviates the strain on our emergency medical system as a whole and ensures that patients receive timely and appropriate care in the most suitable environment.

### **Fiscal Impact**

This analysis is for informational purposes. There is no fiscal impact.