



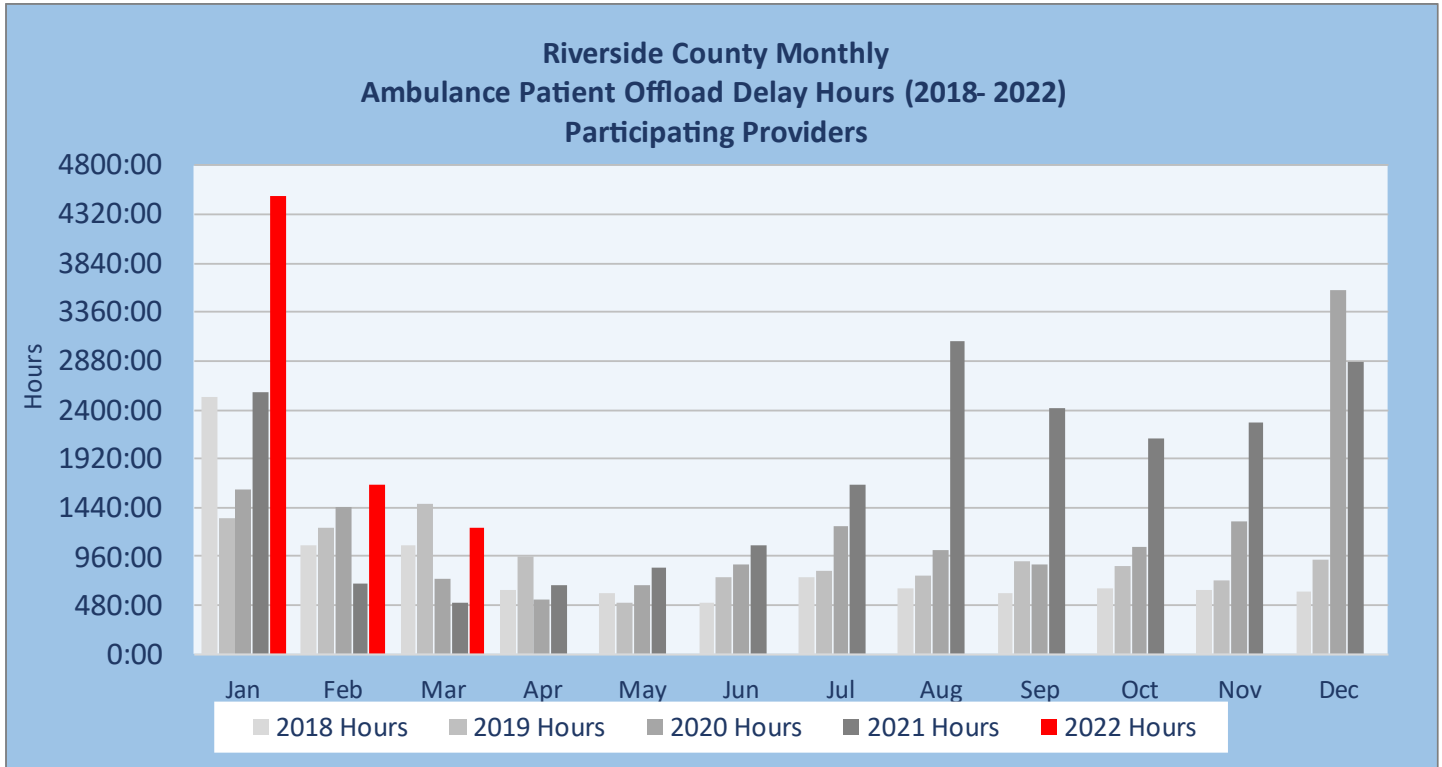
# Ambulance Patient Offload Time

March 2022

*Monthly  
Report*

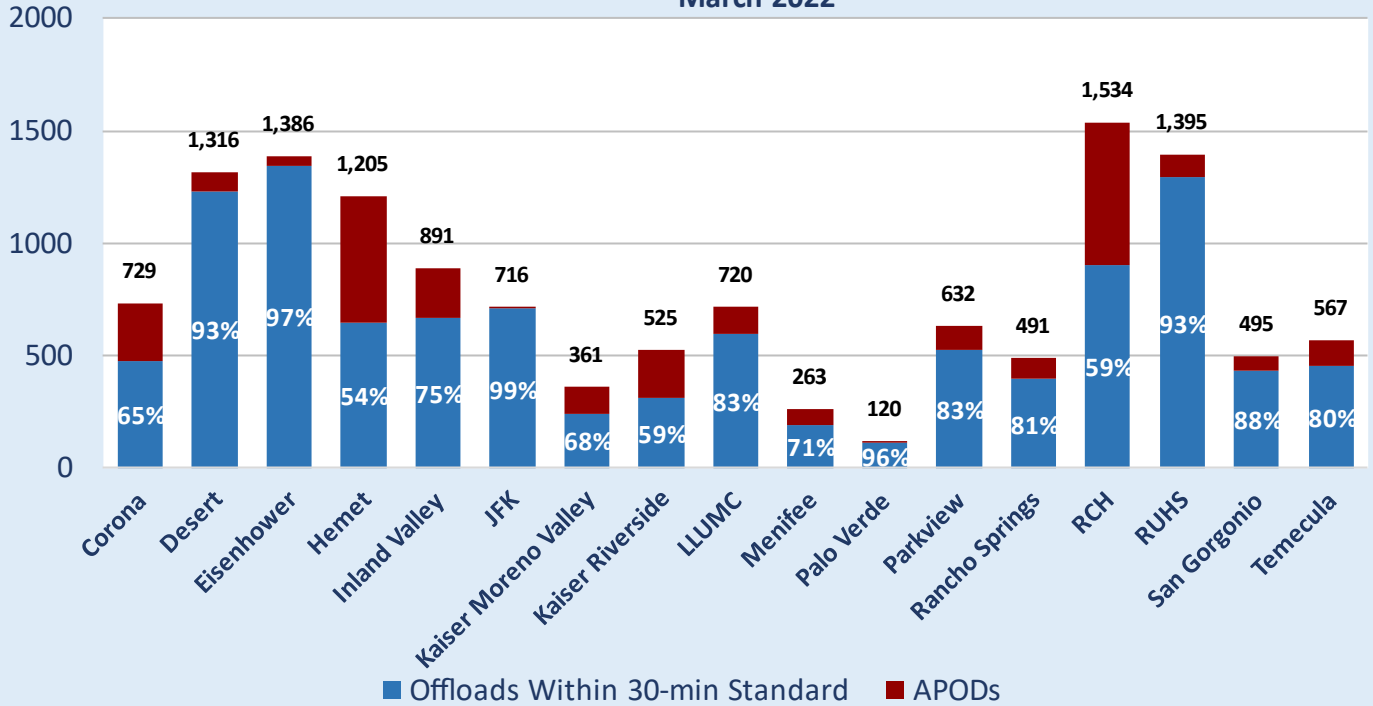
# RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD TIME

These charts represent total ambulance patient offload times (APOT) and delays (APOD) from hospitals within Riverside County. APOD includes delays greater than 30 minutes, and only the time after the first 30 minutes has passed.

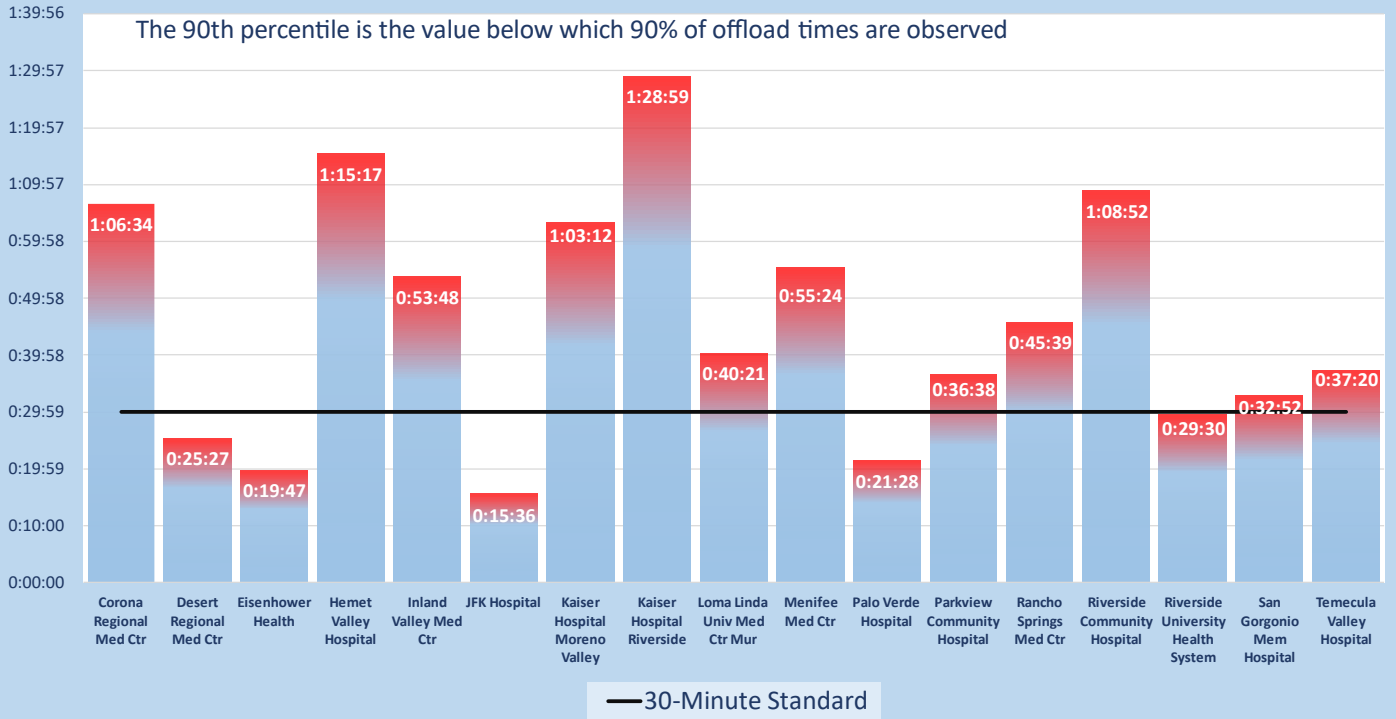


March 2022						
	ALS Transports	APOT	APOD Hours	APODs	APOD Compliance	APOT - 1
Corona Regional Med Ctr	729	391:18:22	128:22:19	252	65.4%	1:06:34
Desert Regional Med Ctr	1,316	298:12:21	22:28:33	87	93.4%	0:25:27
Eisenhower Health	1,386	272:46:40	9:03:40	39	97.2%	0:19:47
Hemet Valley Hospital	1,205	785:54:18	286:41:10	556	53.9%	1:15:17
Inland Valley Med Ctr	891	380:18:04	94:41:05	226	74.6%	0:53:48
JFK Hospital	716	96:09:01	1:19:45	5	99.3%	0:15:36
Kaiser Hospital Moreno Valley	361	188:39:38	63:23:06	117	67.6%	1:03:12
Kaiser Hospital Riverside	525	339:52:06	141:51:37	214	59.2%	1:28:59
Loma Linda Univ Med Ctr Mur	720	264:46:28	41:55:36	124	82.8%	0:40:21
Menifee Med Ctr	263	123:41:10	29:01:52	75	71.5%	0:55:24
Palo Verde Hospital	120	20:15:47	0:29:09	5	95.8%	0:21:28
Parkview Community Hospital	632	233:59:47	30:56:16	109	82.8%	0:36:38
Rancho Springs Med Ctr	491	193:44:24	41:04:30	94	80.9%	0:45:39
Riverside Community Hospital	1,534	893:22:25	307:11:43	631	58.9%	1:08:52
Riverside University Health System	1,395	401:23:14	10:56:40	100	92.8%	0:29:30
San Geronio Mem Hospital	495	169:04:31	17:18:37	59	88.1%	0:32:52
Temecula Valley Hospital	567	196:43:51	21:35:37	113	80.1%	0:37:20
<b>Grand Total</b>	<b>13,346</b>	<b>5250:12:07</b>	<b>1248:21:15</b>	<b>2806</b>	<b>79.0%</b>	<b>0:47:20</b>

### Riverside County Hospitals Transports, APODs and % Compliance March 2022



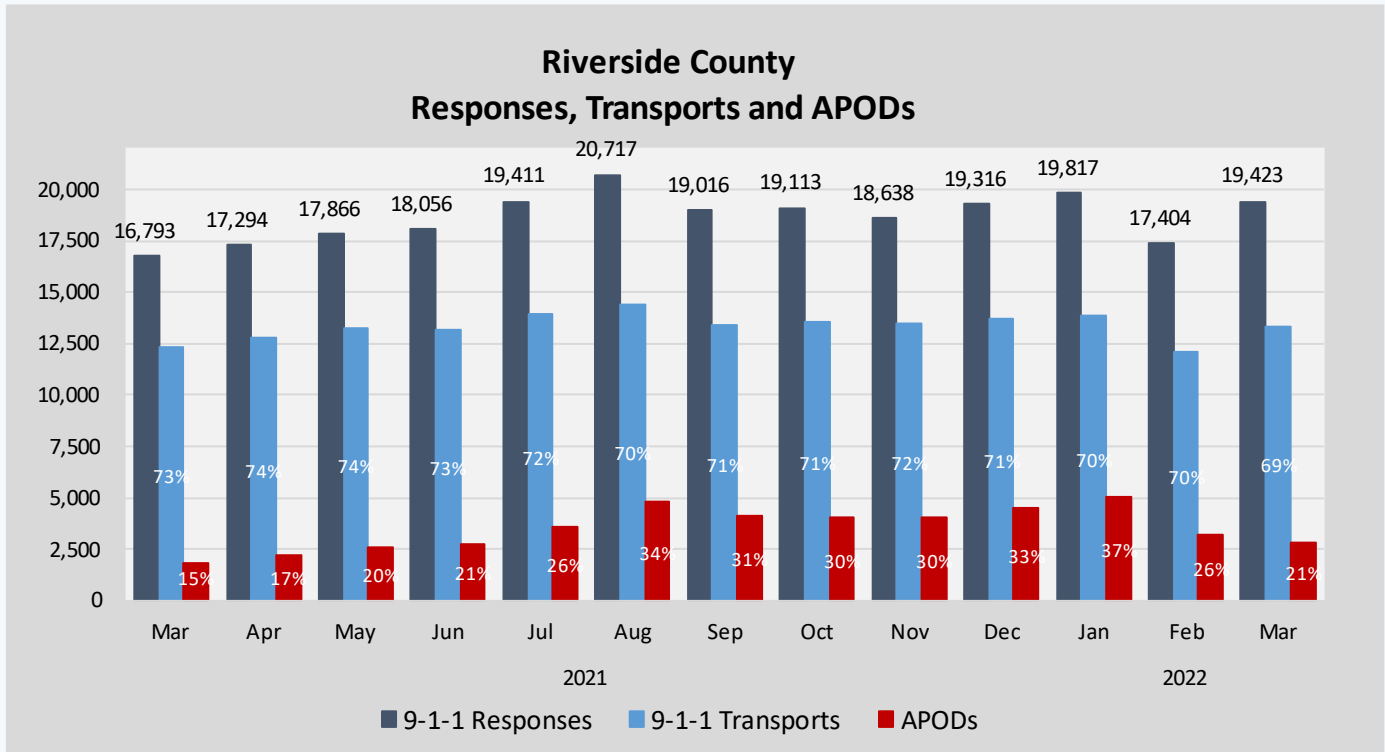
### Riverside County Hospitals APOT-1, 90th Percentile March 2022



Data for this report has been collected from ePCRs (electronic patient care records) via FirstWatch® and are available after they have been completed by the provider. There is, therefore, an inherent latency to the availability of these records. Due to this latency, subsequent reports may feature higher aggregate numbers than earlier reports for the same reporting period. The difference is insignificant (averaging less than .07%) and does not impact overall compliance.

## APOT AND APOD TRENDS: *ROLLING ANNUAL REVIEW*

The first chart represents a summary of Riverside County’s total 9-1-1 ambulance (ALS) responses, transports, and total transports resulting in patient offload delay (APOD) for a rolling 12-months compared to the current month.



**TRANSPORT VOLUME.** Transport volume for each hospital over a 12 month period compared to the current month is described below. Each hospital can be categorized as a low to high volume facility relative to all facilities in the county. Hospitals are color coded ranging from low to high based on an average transports of the last 12 months.

Hospital	Transport Volume												2022 Mar	2022 Monthly Avg
	2021													
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb		
Corona Regional Med Ctr	680	624	757	747	832	800	735	792	812	771	680	685	729	742
Desert Regional Med Ctr	1242	1406	1417	1395	1424	1346	1262	1247	1281	1263	1311	1121	1316	1,310
Eisenhower Health	1272	1273	1220	1112	1187	1286	1213	1299	1348	1402	1484	1284	1386	1,290
Hemet Valley Hospital	1229	1286	1339	1302	1256	1214	1135	1199	1037	1045	744	893	1205	1,145
Inland Valley Med Ctr	829	847	943	910	946	953	886	958	882	926	850	812	891	895
JFK Hospital	574	577	639	627	639	670	634	634	658	694	707	619	716	645
Kaiser Hospital Moreno Valley	308	310	263	309	342	363	332	344	339	334	369	314	361	330
Kaiser Hospital Riverside	507	505	523	540	517	579	519	527	550	578	603	506	525	537
Loma Linda Univ Med Ctr Mur	630	589	652	639	730	666	694	658	714	769	871	754	720	699
Menifee Med Ctr	237	249	241	269	341	359	311	286	319	341	318	238	263	290
Palo Verde Hospital	110	147	148	143	169	162	157	168	176	176	176	118	120	152
Parkview Community Hospital	442	486	537	526	630	668	674	653	677	730	872	607	632	626
Rancho Springs Med Ctr	454	462	503	500	536	611	567	563	530	548	552	436	491	519
Riverside Comm Hospital	1406	1544	1456	1511	1546	1560	1461	1506	1454	1406	1236	1283	1534	1,454
Riverside Univ Health System	1388	1415	1514	1476	1607	1804	1619	1516	1529	1552	1825	1385	1395	1,540
San Geronio Mem Hospital	507	575	566	602	640	697	628	632	622	603	630	541	495	595
Temecula Valley Hospital	505	537	525	539	631	664	595	596	559	591	611	533	567	573
<b>Riverside County Total</b>	<b>12320</b>	<b>12832</b>	<b>13243</b>	<b>13147</b>	<b>13973</b>	<b>14402</b>	<b>13422</b>	<b>13578</b>	<b>13487</b>	<b>13729</b>	<b>13839</b>	<b>12129</b>	<b>13346</b>	<b>13342</b>

**COMPLIANCE.** Compliance is a frequency comparison between the total number of transports and those resulting in APOD. The table below shows compliance by hospital for the last 12 months compared to the current month.

														<i>Compliance</i>		
														High	Medium	Low
<b>APOT % Compliance by Hospital for the last 12 months</b>																
	2021												2022		Monthly Avg	
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar			
Corona Regional Med Ctr	75%	75%	73%	74%	76%	54%	67%	70%	67%	62%	42%	60%	65%	66%		
Desert Regional Med Ctr	88%	89%	85%	90%	92%	82%	84%	85%	88%	79%	78%	84%	93%	86%		
Eisenhower Health	99%	98%	97%	98%	98%	96%	95%	94%	94%	93%	91%	93%	97%	96%		
Hemet Valley Hospital	69%	70%	64%	62%	51%	49%	47%	48%	41%	39%	40%	46%	54%	52%		
Inland Valley Med Ctr	88%	85%	85%	82%	66%	52%	60%	61%	64%	63%	51%	65%	75%	69%		
JFK Hospital	99%	99%	98%	97%	98%	99%	97%	98%	98%	99%	98%	98%	99%	98%		
Kaiser Hospital Moreno Valley	85%	72%	72%	73%	56%	57%	66%	58%	56%	60%	57%	72%	68%	65%		
Kaiser Hospital Riverside	76%	71%	74%	63%	50%	53%	61%	58%	51%	56%	51%	63%	59%	60%		
Loma Linda Univ Med Ctr Mur	76%	74%	66%	69%	58%	52%	62%	62%	70%	66%	64%	77%	83%	68%		
Menifee Med Ctr	80%	75%	83%	72%	59%	51%	42%	54%	51%	46%	39%	58%	71%	60%		
Palo Verde Hospital	99%	100%	99%	100%	98%	99%	96%	95%	94%	97%	100%	95%	96%	97%		
Parkview Community Hospital	85%	77%	86%	78%	82%	68%	67%	72%	64%	62%	53%	73%	83%	73%		
Rancho Springs Med Ctr	93%	92%	94%	90%	84%	64%	69%	62%	70%	68%	51%	70%	81%	76%		
Riverside Community Hospital	80%	68%	56%	58%	54%	45%	46%	45%	46%	41%	41%	55%	59%	53%		
Riverside University Health System	92%	91%	89%	90%	82%	79%	80%	84%	85%	81%	76%	90%	93%	85%		
San Geronio Mem Hospital	86%	87%	85%	79%	80%	60%	74%	69%	66%	67%	55%	77%	88%	75%		
Temecula Valley Hospital	83%	84%	86%	86%	78%	63%	64%	76%	63%	59%	52%	62%	80%	72%		
<b>Riverside County Compliance</b>	<b>85%</b>	<b>83%</b>	<b>80%</b>	<b>79%</b>	<b>74%</b>	<b>66%</b>	<b>69%</b>	<b>70%</b>	<b>70%</b>	<b>67%</b>	<b>63%</b>	<b>74%</b>	<b>79%</b>	<b>74%</b>		

**APOT-1.** APOT-1 is an Ambulance Patient Offload Time interval measure of the 90<sup>th</sup> percentile. This metric is a continuous variable measured in hours and minutes then aggregated and reported at the 90th percentile. The table below illustrates APOT-1 by hospital for the last 12 months compared to the current month

<b>APOT-1 (90th Percentile) for the last 12 Months</b>															
Hospital	2021												2022		Avg APOT-1
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
Corona Regional Med Ctr	0:45	0:44	0:44	0:49	0:44	1:29	1:02	0:53	1:03	1:16	2:51	1:21	1:07	1:08	
Desert Regional Med Ctr	0:34	0:32	0:40	0:31	0:29	0:48	0:42	0:40	0:33	0:53	1:00	0:44	0:25	0:39	
Eisenhower Health	0:16	0:18	0:19	0:18	0:18	0:21	0:21	0:24	0:24	0:26	0:29	0:25	0:20	0:21	
Hemet Valley Hospital	0:45	0:45	0:45	1:00	1:23	1:34	1:34	1:22	1:44	2:00	2:42	1:43	1:15	1:25	
Inland Valley Med Ctr	0:33	0:35	0:37	0:43	1:04	1:31	1:21	1:20	1:11	1:12	1:41	1:06	0:54	1:03	
JFK Hospital	0:18	0:16	0:17	0:18	0:17	0:17	0:17	0:18	0:16	0:16	0:16	0:16	0:16	0:16	
Kaiser Hospital Moreno Valley	0:41	1:00	1:02	1:07	1:34	1:42	1:16	1:12	1:22	1:10	1:25	0:59	1:03	1:11	
Kaiser Hospital Riverside	0:46	1:04	0:50	1:15	1:42	1:41	1:16	1:16	1:35	1:44	2:38	1:08	1:29	1:24	
Loma Linda Univ Med Ctr Mur	0:48	0:49	0:57	0:54	1:17	2:04	1:20	1:26	0:56	0:59	1:13	0:46	0:40	1:05	
Menifee Med Ctr	0:40	0:44	0:36	0:45	1:25	1:48	2:04	1:15	1:43	2:00	3:02	2:03	0:55	1:27	
Palo Verde Hospital	0:11	0:14	0:13	0:14	0:14	0:14	0:15	0:23	0:21	0:17	0:15	0:23	0:21	0:16	
Parkview Community Hospital	0:35	0:41	0:34	0:41	0:36	1:02	1:00	0:49	1:02	1:15	1:52	0:51	0:37	0:53	
Rancho Springs Med Ctr	0:26	0:27	0:26	0:29	0:37	1:18	1:06	1:30	1:16	1:09	2:35	0:58	0:46	1:00	
Riverside Comm Hospital	0:37	0:49	1:01	1:03	1:04	1:28	1:34	1:30	1:22	1:50	2:26	1:23	1:09	1:19	
Riverside Univ Health System	0:29	0:29	0:31	0:30	0:35	0:39	0:38	0:34	0:35	0:38	0:42	0:32	0:30	0:34	
San Geronio Mem Hospital	0:34	0:33	0:34	0:41	0:40	1:28	0:56	1:00	1:07	1:10	2:07	0:49	0:33	0:56	
Temecula Valley Hospital	0:37	0:37	0:33	0:34	0:42	1:01	0:57	0:44	1:05	1:10	1:41	1:04	0:37	0:52	
<b>Riverside County Compliance</b>	<b>0:35</b>	<b>0:38</b>	<b>0:41</b>	<b>0:44</b>	<b>0:50</b>	<b>1:11</b>	<b>1:03</b>	<b>1:01</b>	<b>1:03</b>	<b>1:11</b>	<b>1:37</b>	<b>0:56</b>	<b>0:47</b>	<b>0:56</b>	

## AMBULANCE DIVERSIONS

REMSA Policy 6103 (<https://www.remsa.us/policy/6103.pdf>) describes ground and air ambulance diversions to facilitate safe transport of patients to the closest alternate facility. Ambulance Diversions described here are those activated as a result of unusual circumstances at a facility limiting access to emergency care (*Internal Disaster - INT*) or a temporary outage in Specialty Care services (*STEMI, Stroke, Trauma*). The following tables provide diversion history by count of occurrences and total hours/minutes by facility for a rolling 12 months compared to the current month. *Hospitals not listed had no diversions during this evaluation period.*

Diversions by Count	2021												2022		Total
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
<b>INT</b>	1	1	1	2		1	1	2	2		1	1	0	13	
Corona Regional Medical Center								2						2	
Desert Regional Medical Center							1		1					2	
Menifee Valley Medical Center						1					1			2	
Riverside Community Hospital			1											1	
Inland Valley Medical Center	1								1					2	
Kaiser Permanente Moreno Valley Medical Center												1		1	
Eisenhower Health		1												1	
Palo Verde Hospital				2										2	
<b>STEMI</b>					1		2		1		1		0	5	
Desert Regional Medical Center							2		1					3	
Loma Linda University Medical Center--Murrieta					1						1			2	
<b>Stroke</b>					1	1							0	2	
Rancho Springs Medical Center					1									1	
Riverside University Health System						1								1	
<b>Trauma</b>	2	1	2	5	3	1	1	4	3	1	3	5	0	31	
Riverside Community Hospital			1	1	1			2						5	
Inland Valley Medical Center	1			2	1		1			1	2			8	
Riverside University Health System	1	1	1	2	1	1		2	3		1	5		18	
<b>Total</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>4</b>	<b>6</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>0</b>	<b>51</b>	

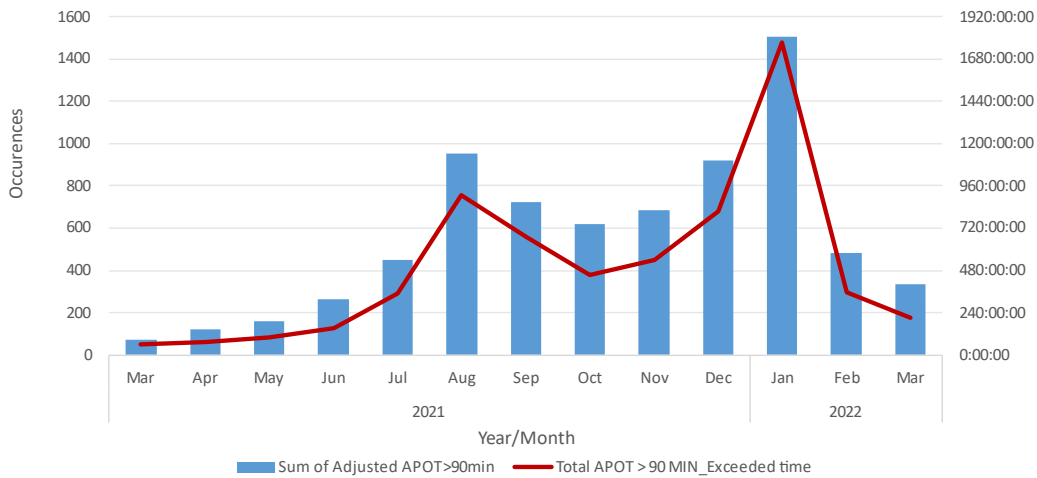
Diversions by HH:MM	2021												2022		Total
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar		
<b>INT</b>	0:09	0:14	3:32	18:05		1:56	3:16	20:19	1:03		0:41	1:13	0:00		
Corona Regional Medical Center								20:19							
Desert Regional Medical Center							3:16		0:27						
Menifee Valley Medical Center						1:56					0:41				
Riverside Community Hospital			3:32												
Inland Valley Medical Center	0:09								0:36						
Kaiser Permanente Moreno Valley Medical Center												1:13			
Eisenhower Health		0:14													
Palo Verde Hospital				18:05											
<b>STEMI</b>					4:11		13:42		0:19		2:21		0:00		
Desert Regional Medical Center							13:42		0:19						
Loma Linda University Medical Center--Murrieta					4:11						2:21				
<b>Stroke</b>					0:17	0:01									
Rancho Springs Medical Center					0:17										
Riverside University Health System						0:01									
<b>Trauma</b>	2:42	0:51	1:48	7:58	9:52	0:11	0:53	2:23	4:36	0:19	4:15	5:54	0:00		
Riverside Community Hospital			0:51	3:42	5:01			1:03							
Inland Valley Medical Center	0:13			1:51	0:50		0:53			0:19	3:01				
Riverside University Health System	2:29	0:51	0:57	2:25	4:01	0:11		1:20	4:36		1:14	5:54			
<b>Total</b>	<b>2:51</b>	<b>1:05</b>	<b>5:20</b>	<b>26:03</b>	<b>14:20</b>	<b>2:08</b>	<b>17:51</b>	<b>22:42</b>	<b>5:58</b>	<b>0:19</b>	<b>7:17</b>	<b>7:07</b>	<b>0:00</b>		



## AMBULANCE REDIRECTION

REMSA [Policy 6104](#) allows redirection of ambulances away from hospitals experiencing significant Ambulance Patient Offload Delays (APOD) to the next most appropriate facility. *Significant* APOD is defined as a patient remaining on an ambulance gurney for **90 minutes or greater after arrival at the hospital** (APOT < 90 min). Standard transfer of care is 30 minutes or less (APOT < 30 min). Until the transfer of care is complete (patient is removed from the gurney and hospital staff assume care of the patient), ambulance crews must remain at the hospital and continue care. While patients held on excessive APODs are generally those classified as lower acuity, approximately one-third of the County's ~600 daily 9-1-1 medical responses are determined by dispatch as critical, requiring immediate medical attention (e.g. cardiac arrest, stroke, traumatic injury). As a result, excessive, or multiple APODs within the same service area impact ambulance timeliness and availability in the field posing a direct risk to 9-1-1 patient safety. Ambulance redirection is one strategy to reduce the consequential backlog of EMS services which occurs when there are excessive ambulance delays at hospital emergency departments. Below is the countywide breakdown of APOD occurrences where ambulances were documented as held for greater than 90 minutes before the transfer of care for the last 12 months compared to the current month.

Patient Offload Delays Greater than 90 Minutes

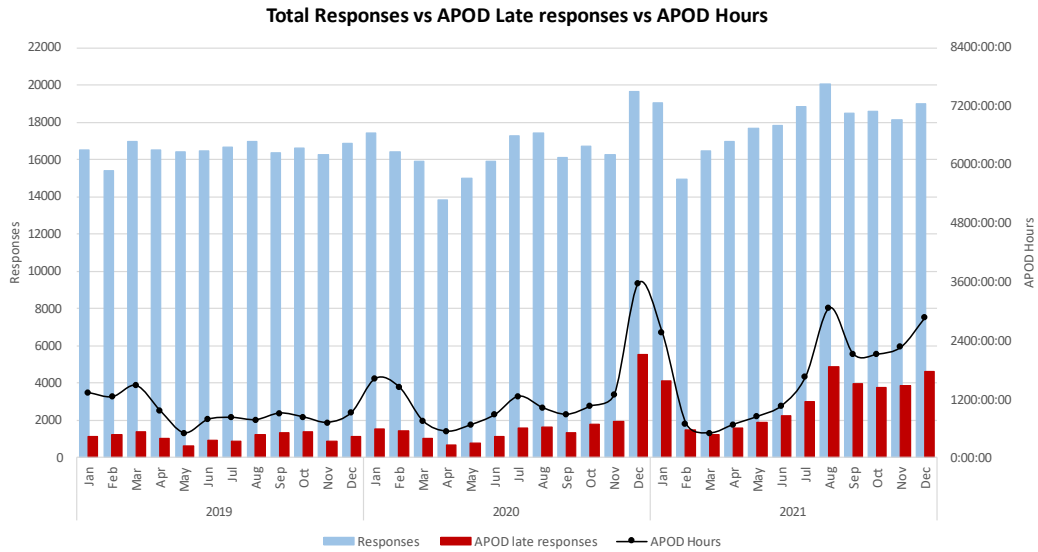


The table below shows the count of ambulances that held for greater than 90 minutes and total hours accumulated after 90 minute threshold by facility for the reporting month.

Facility	Total Time	
	APOT > 90 min (HR:MM:SS)	Total Incidents APOT > 90 min
Corona Regional Med Ctr	27:01:54	41
Desert Regional Med Ctr	0:30:43	2
Eisenhower Health	0:00:01	1
Hemet Valley Hospital	58:05:32	80
Inland Valley Med Ctr	6:38:33	22
JFK Hospital	0:00:00	0
Kaiser Hospital Moreno Valley	14:12:35	22
Kaiser Hospital Riverside	29:43:46	49
Loma Linda Univ Med Ctr Mur	3:33:12	10
Menifee Med Ctr	1:41:34	7
Palo Verde Hospital	0:00:00	0
Parkview Community Hospital	2:06:27	7
Rancho Springs Med Ctr	6:23:04	12
Riverside Community Hospital	59:37:44	78
Riverside University Health System	0:00:00	0
San Geronio Mem Hospital	1:25:53	4
Temecula Valley Hospital	0:00:00	0
<b>Grand Total</b>	<b>211:00:58</b>	<b>335</b>

# APOD IMPACT ON 9-1-1 AMBULANCE RESPONSES

The graph below displays APOD hours, AMR responses, and AMR APOD late responses. A response is classified as an APOD late response when the response time is beyond the response time standard and APOD hours were a direct cause. The classification (exemption) process individually matches specific ambulances out-of-service on APOD to the specific APOD late responses. More reports can be found at: <https://www.rivcoems.org/Documents/Reports-Current>

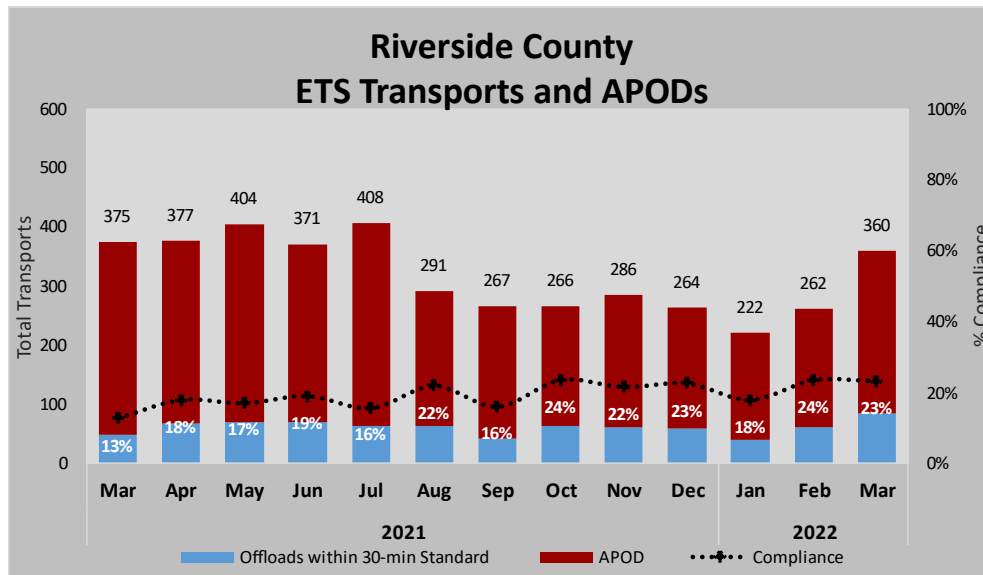


## EMERGENCY TREATMENT SERVICES

Transports to Emergency Treatment Services (ETS) comprise over 3% of overall transports. This is significant enough to impact the EMS system and, therefore, warrants reporting. However, transports to ETS do not meet the EMSA definitions for APOT (see page 6); therefore, they are not included with the previous APOT aggregates.

March 2022 - Emergency Treatment Services						
	Total Offload			APOD		APOT-1
	Transports to ETS	Time	APOD Hours	APODs	Compliance	
<b>Emergency Treatment Services</b>	360	345:26:15	184:41:55	276	23.3%	2:00:27

The chart below represents Riverside County's total number of ETS ambulance transports, patient offload delay (APOD), and percent compliance for the current month and a rolling 12 months prior.





# APOT AND APOD DEFINITIONS

## *9-1-1 Ambulance Response*

For the purpose of reporting patient offload time and delays, only ground transport units responding to 9-1-1 incidents are included in this report. To avoid duplicate response counts, this excludes all records from First Responder Fire agencies also arriving on scene as part of Riverside County's dual 9-1-1 medical response system. With the exception of ETS transports which are predominantly from local hospitals, it also excludes interfacility transports and other call types such as air ambulances.

## *APOT -1 Specifications*

Criteria: All 911 transports to a hospital emergency department for which the patient arrival and transfer dates and times are "logical and present."<sup>1</sup>

Method: Aggregate of all transfer times and reported at the 90<sup>th</sup> percentile (the value for which 90% of the times are shorter).

## *Ambulance Patient Offload Time (APOT)*

The Time interval between the arrival of an 9-1-1 patient at an Emergency Department (ED) and the time that patient is transferred from the ambulance gurney to a bed, chair, or other acceptable location, and the ED assumes responsibility of care.<sup>2</sup> The Clock Start (eTimes.11) is the time of patient arrival at the destination (hospital), and the Clock Stop (eTimes.12) is the time patient care is transferred.<sup>3</sup> REMSA obtains both times from the ePCR.

## *Ambulance Patient Offload Delay (APOD)*

Any delay in ambulance patient offload time (APOT) that exceeds the local ambulance patient offload time standard of 25/30 minutes (Riverside County EMS Agency applies a 30-minute standard). This shall also be synonymous with "non-standard patient offload time" as referenced in the Health and Safety Code.<sup>4</sup> If the transfer of care and patient offload from the ambulance gurney exceeds the 30-minute standard, it will be documented and tracked as APOD.<sup>5</sup> *The Riverside County ePCR system requires medics to enter an "APOD Reason" when APOT exceeds the 30-minute standard. While the number of APODs documented as non-ED-related is nominal, beginning in Week-1 of 2022, only delays identified as having an ED origin are counted against APOD compliance for a more precise metric.*

## *APOD Compliance*

Frequency comparison between the total number of transports and those resulting in APODs with an ED-related origin.

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<sup>1</sup> Ibid., APOT-1 Specifications.

<sup>2</sup> Health and Safety Code Division 2.5, Chapter 3, Article 1, Section 1797.120(b)

<sup>3</sup> Ambulance Patient Offload Time (APOT) Standardized Methods for Data Collection and Reporting, approved by EMS Commission 12/14/2016. [https://emsa.ca.gov/wp-content/uploads/sites/71/2017/09/APOT-Methodology\\_Guidance-2016.pdf](https://emsa.ca.gov/wp-content/uploads/sites/71/2017/09/APOT-Methodology_Guidance-2016.pdf)

<sup>3</sup> Ibid., APOT-1 Specifications

<sup>5</sup> REMSA Policy 4109, Transfer of Patient Care. <https://www.remsa.us/policy/4109.pdf>

<sup>7</sup> Calkins MM, Isaksen TB, Stubbs BA, Yost MG, Fenske RA (2016). Impacts of extreme heat on emergency medical service calls in King County, Washington, 2007-2012: relative risk and time series analyses of basic and advanced life support. *Environ Health*. doi: 10.1186/s12940-016-0109-0

<sup>8</sup> Sheridan SC, Kalkstein AM, Kalkstein LS (2009). Trends in heat-related mortality in the United States, 1975–2004. *Natural Hazards* 50:1, 145-160

<sup>9</sup> Guo Y, Gasparrini A, Armstrong BG (2017). Heat Wave and Mortality: A Multicountry, Multicommunity Study. *Environ Health Perspect*. 2017;125(8):087006. doi:10.1289/EHP1026