



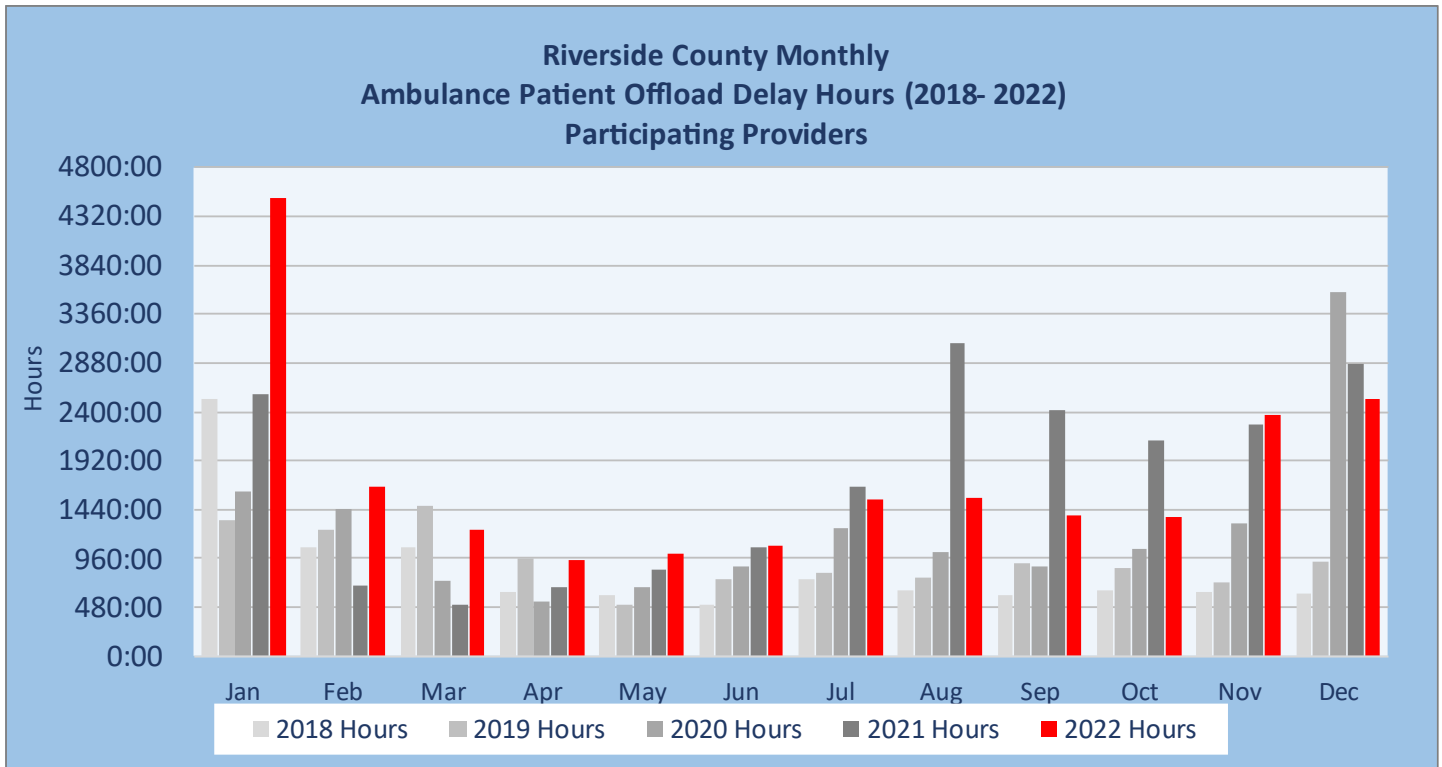
# Ambulance Patient Offload Time

December 2022

*Monthly  
Report*

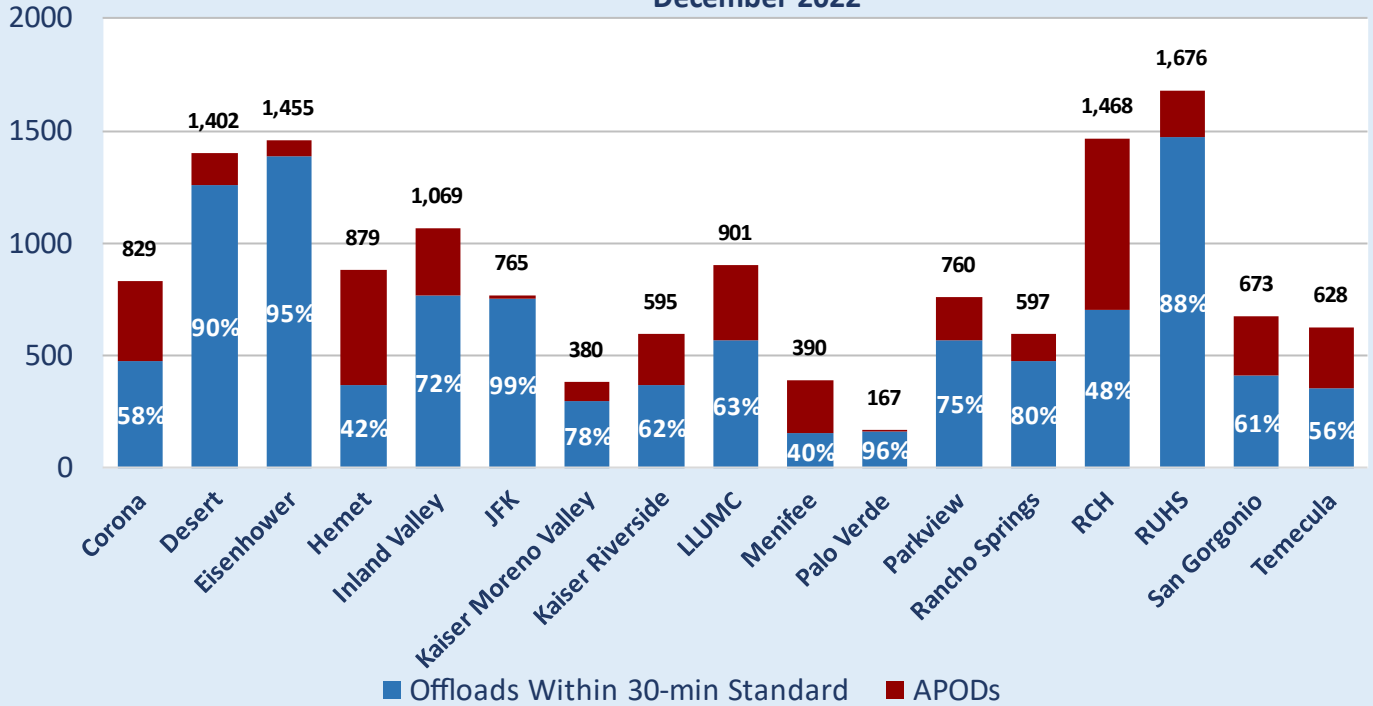
# RIVERSIDE COUNTY AMBULANCE PATIENT OFFLOAD TIME

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 have passed.

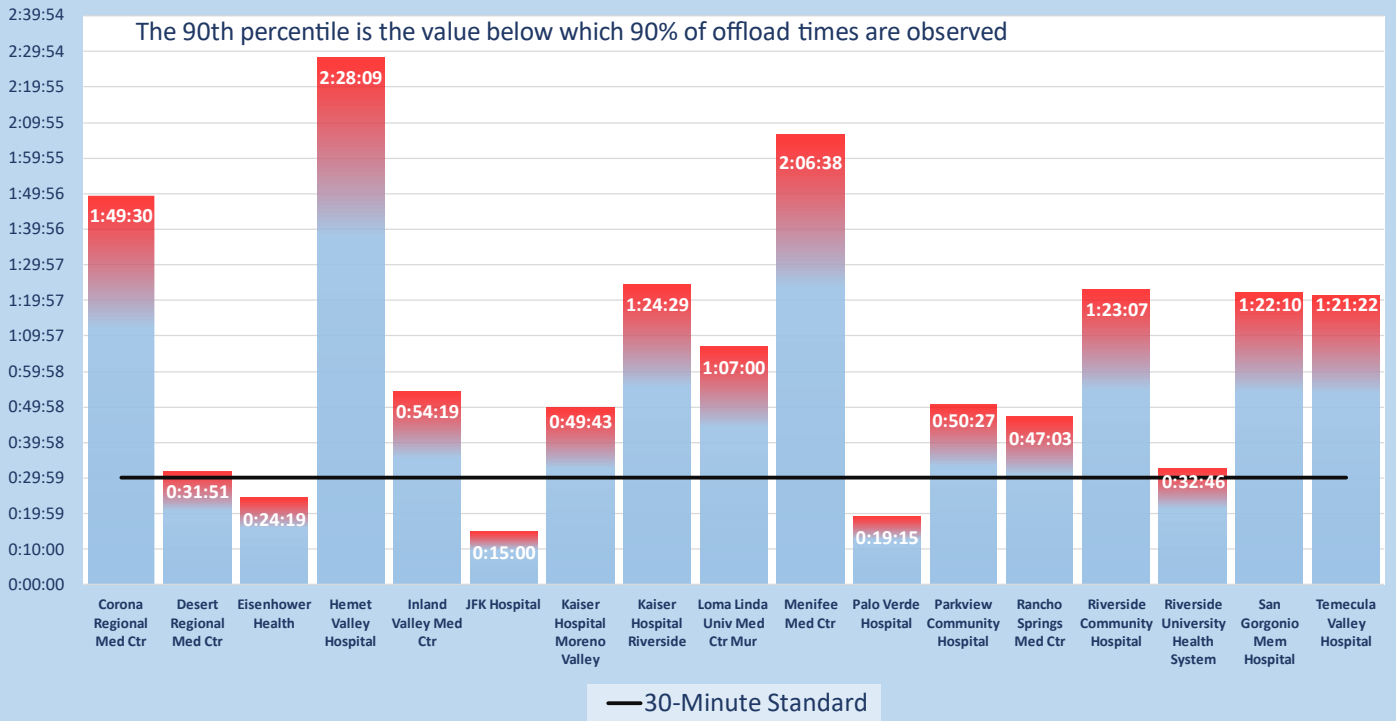


December 2022						
	ALS Transports	APOT	APOD Hours	APODs	APOD Compliance	APOT - 1
Corona Regional Med Ctr	829	631:00:28	311:17:47	351	57.7%	1:49:30
Desert Regional Med Ctr	1,402	423:10:33	98:41:09	147	89.5%	0:31:51
Eisenhower Health	1,455	333:19:04	14:18:09	70	95.2%	0:24:19
Hemet Valley Hospital	879	868:17:05	485:13:35	508	42.2%	2:28:09
Inland Valley Med Ctr	1,069	471:29:01	118:33:01	300	71.9%	0:54:19
JFK Hospital	765	104:52:46	3:03:39	10	98.7%	0:15:00
Kaiser Hospital Moreno Valley	380	164:52:43	44:38:20	83	78.2%	0:49:43
Kaiser Hospital Riverside	595	369:01:10	145:06:24	224	62.4%	1:24:29
Loma Linda Univ Med Ctr Mur	901	544:17:23	194:30:15	334	62.9%	1:07:00
Menifee Med Ctr	390	383:03:45	210:08:46	234	40.0%	2:06:38
Palo Verde Hospital	167	27:39:31	3:38:47	6	96.4%	0:19:15
Parkview Community Hospital	760	342:33:14	89:11:05	189	75.1%	0:50:27
Rancho Springs Med Ctr	597	257:39:10	58:22:47	119	80.1%	0:47:03
Riverside Community Hospital	1,468	997:49:28	401:53:50	768	47.7%	1:23:07
Riverside University Health System	1,676	560:56:47	32:36:51	207	87.6%	0:32:46
San Geronio Mem Hospital	673	439:19:25	173:17:24	260	61.4%	1:22:10
Temecula Valley Hospital	628	386:57:35	144:08:07	277	55.9%	1:21:22
<b>Grand Total</b>	<b>14,634</b>	<b>7306:19:08</b>	<b>2528:39:56</b>	<b>4087</b>	<b>72.1%</b>	<b>1:03:18</b>

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



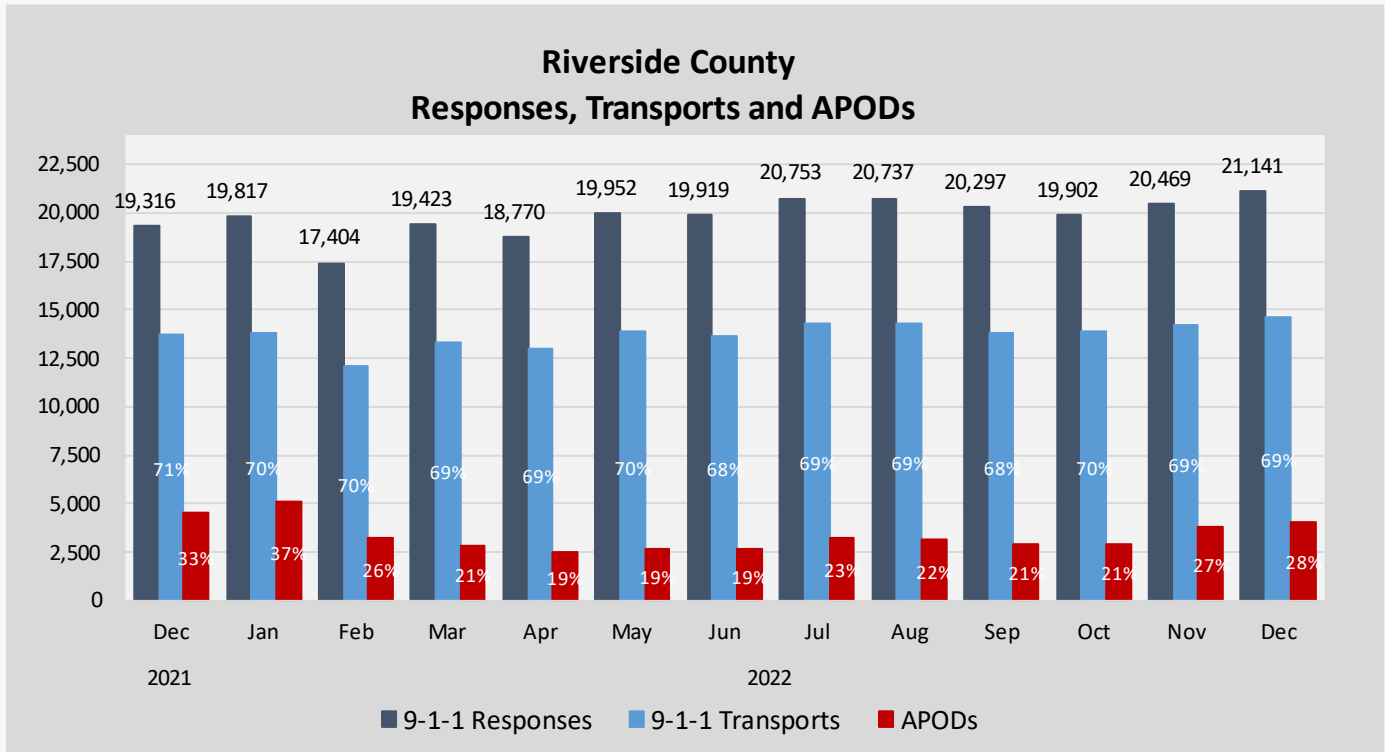
### Riverside County Hospitals APOT-1, 90th Percentile December 2022



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												Monthly	
	<div style="display: flex; justify-content: space-between; width: 100%;"> <span style="background-color: #c8e6c9; padding: 2px;">Low</span> <span style="background-color: #fff9c4; padding: 2px;"></span> <span style="background-color: #ffcdd2; padding: 2px;">High</span> </div>												Avg	
	2021 Dec	2021 Jan	2021 Feb	2022 Mar	2022 Apr	2022 May	2022 Jun	2022 Jul	2022 Aug	2022 Sep	2022 Oct	2022 Nov		2022 Dec
Corona Regional Med Ctr	771	680	685	729	720	709	757	770	803	767	779	778	829	752
Desert Regional Med Ctr	1263	1311	1121	1316	1288	1314	1365	1437	1381	1357	1399	1298	1402	1,327
Eisenhower Health	1402	1484	1284	1386	1350	1385	1268	1387	1338	1234	1294	1415	1455	1,360
Hemet Valley Hospital	1045	744	893	1205	1201	1326	1276	1219	1258	1135	1162	1146	879	1,115
Inland Valley Med Ctr	926	850	812	891	823	951	892	979	950	897	1041	972	1069	927
JFK Hospital	694	707	619	716	773	756	679	695	750	700	668	734	765	712
Kaiser Hospital Moreno Valley	334	369	314	361	304	321	346	353	387	375	323	364	380	349
Kaiser Hospital Riverside	578	603	506	525	513	570	521	568	568	539	549	529	595	551
Loma Linda Univ Med Ctr Mur	769	871	754	720	675	812	752	807	867	825	825	809	901	799
Menifee Med Ctr	341	318	238	263	237	234	264	328	291	285	293	276	390	289
Palo Verde Hospital	176	176	118	120	142	178	151	161	169	142	143	152	167	153
Parkview Community Hospital	730	872	607	632	523	637	659	714	682	745	726	768	760	697
Rancho Springs Med Ctr	548	552	436	491	430	483	499	465	499	521	475	557	597	504
Riverside Comm Hospital	1406	1236	1283	1534	1552	1614	1537	1602	1601	1528	1456	1506	1468	1,486
Riverside Univ Health System	1552	1825	1385	1395	1369	1534	1477	1632	1586	1581	1570	1711	1676	1,561
San Geronio Mem Hospital	603	630	541	495	524	547	651	617	636	604	566	622	673	593
Temecula Valley Hospital	591	611	533	567	549	531	549	596	559	545	582	556	628	569
<b>Riverside County Total</b>	<b>13729</b>	<b>13839</b>	<b>12129</b>	<b>13346</b>	<b>12973</b>	<b>13902</b>	<b>13643</b>	<b>14330</b>	<b>14325</b>	<b>13780</b>	<b>13851</b>	<b>14193</b>	<b>14634</b>	<b>13744</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.

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

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

## AMBULANCE DIVERSIONS

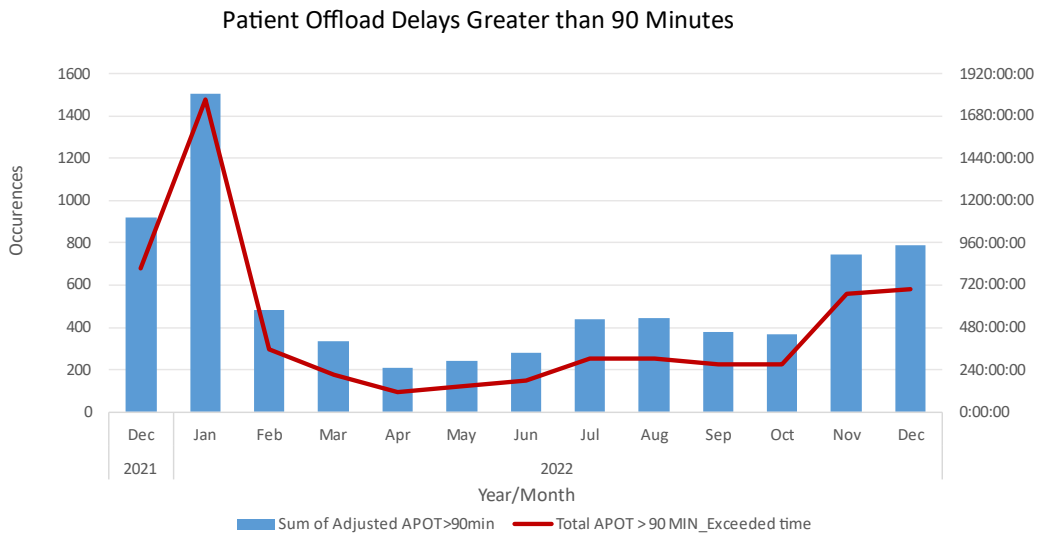
REMSA Policy 6103 (<https://www.remsa.us/policy/6103.pdf>) describes ground and air ambulance diversions to facilitate safe transport of patients to the closest alternate facility. Ambulance Diversions described here are those activated as a result of unusual circumstances at a facility limiting access 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		
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		Dec	
<b>INT</b>		1	1		1	3	1	1							<b>8</b>
John F. Kennedy Memorial Hospital						1									1
Menifee Valley Medical Center		1			1										2
Inland Valley Medical Center								1							1
Kaiser Permanente Moreno Valley Medical Center			1			1									2
Kaiser Permanente Riverside Medical Center						1	1								2
<b>STEMI</b>		1			1	1								1	<b>4</b>
John F. Kennedy Memorial Hospital					1	1									2
Riverside Community Hospital													1		1
Loma Linda University Medical Center--Murrieta		1													1
<b>Stroke</b>											1			1	<b>2</b>
Riverside Community Hospital													1		1
Rancho Springs Medical Center												1			1
<b>Trauma</b>	1	3	5		3	1	4	2	1	1	1		2	2	<b>24</b>
Riverside Community Hospital					1		3		1		1		2		8
Inland Valley Medical Center	1	2			2	1		2		1					9
Riverside University Health System		1	5				1								7
<b>Total</b>	<b>1</b>	<b>5</b>	<b>6</b>		<b>5</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>		<b>4</b>	<b>38</b>	

Diversions by HH:MM	2021			2022									Total		
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		Dec	
<b>INT</b>		0:41	1:13		1:09	5:31	0:56	1:39							
John F. Kennedy Memorial Hospital						3:33									
Menifee Valley Medical Center		0:41			1:09										
Inland Valley Medical Center								1:39							
Kaiser Permanente Moreno Valley Medical Center			1:13			0:37									
Kaiser Permanente Riverside Medical Center						1:21	0:56								
<b>STEMI</b>		2:21			10:16	15:51									<b>0:28</b>
John F. Kennedy Memorial Hospital					10:16	15:51									0:28
Riverside Community Hospital															0:28
Loma Linda University Medical Center--Murrieta		2:21													
<b>Stroke</b>											7:57				<b>0:27</b>
Riverside Community Hospital															0:27
Rancho Springs Medical Center											7:57				
<b>Trauma</b>	0:19	4:15	5:54		6:44	1:04	3:12	3:21	0:49	2:38	0:24				<b>3:41</b>
Riverside Community Hospital					2:44		1:51		0:49		0:24				3:41
Inland Valley Medical Center	0:19	3:01			4:00	1:04		3:21		2:38					
Riverside University Health System		1:14	5:54				1:21								
<b>Total</b>	<b>0:19</b>	<b>7:17</b>	<b>7:07</b>	<b>0:00</b>	<b>18:09</b>	<b>22:26</b>	<b>4:08</b>	<b>5:00</b>	<b>0:49</b>	<b>2:38</b>	<b>8:21</b>	<b>0:00</b>		<b>4:36</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.

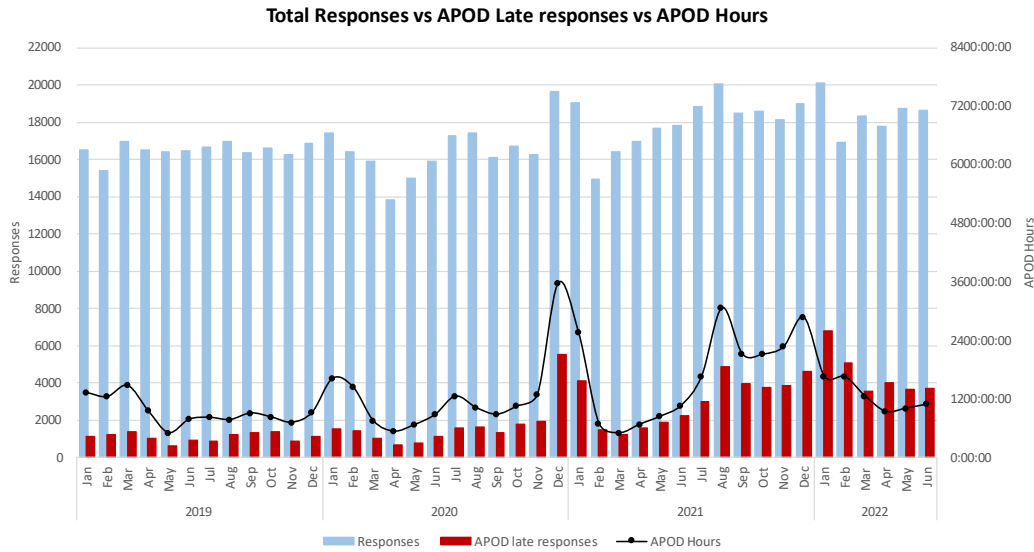


The table below shows the count of ambulances that held for greater than 90 minutes and total hours accumulated after 90 minute threshold by facility for the reporting month.

Facility	Total Time APOT > 90 min (HR: MM: S)	Total Incidents APOT > 90 min
Corona Regional Med Ctr	109:31:41	114
Desert Regional Med Ctr	32:39:28	32
Eisenhower Health	0:00:27	1
Hemet Valley Hospital	203:36:30	148
Inland Valley Med Ctr	10:01:40	29
JFK Hospital	0:24:41	1
Kaiser Hospital Moreno Valley	10:09:55	10
Kaiser Hospital Riverside	33:44:41	53
Loma Linda Univ Med Ctr Mur	60:00:30	56
Menifee Med Ctr	64:51:02	74
Palo Verde Hospital	0:36:49	2
Parkview Community Hospital	20:07:38	21
Rancho Springs Med Ctr	9:22:45	20
Riverside Community Hospital	68:56:18	120
Riverside University Health System	0:00:00	0
San Geronio Mem Hospital	51:29:58	61
Temecula Valley Hospital	19:48:11	48
<b>Grand Total</b>	<b>695:22:14</b>	<b>790</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>

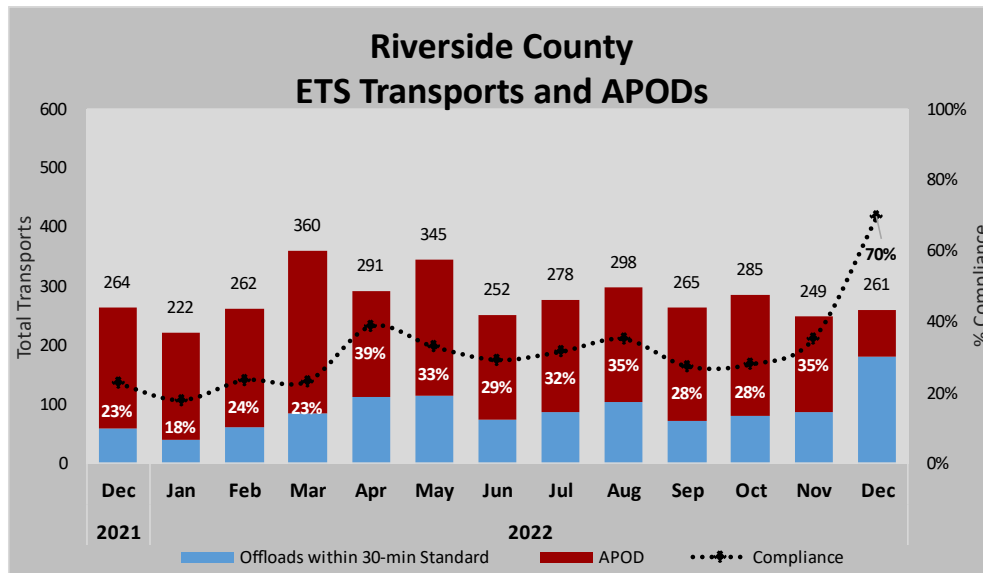


# EMERGENCY TREATMENT SERVICES

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.

December 2022 - Emergency Treatment Services						
	Total Offload			APOD		APOT-1
	Transports to ETS	Time	APOD Hours	APODs	Compliance	
<b>Emergency Treatment Services</b>	261	121:11:05	24:46:24	79	69.7%	0:47:09

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

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