# Ambulance Patient Offload Time
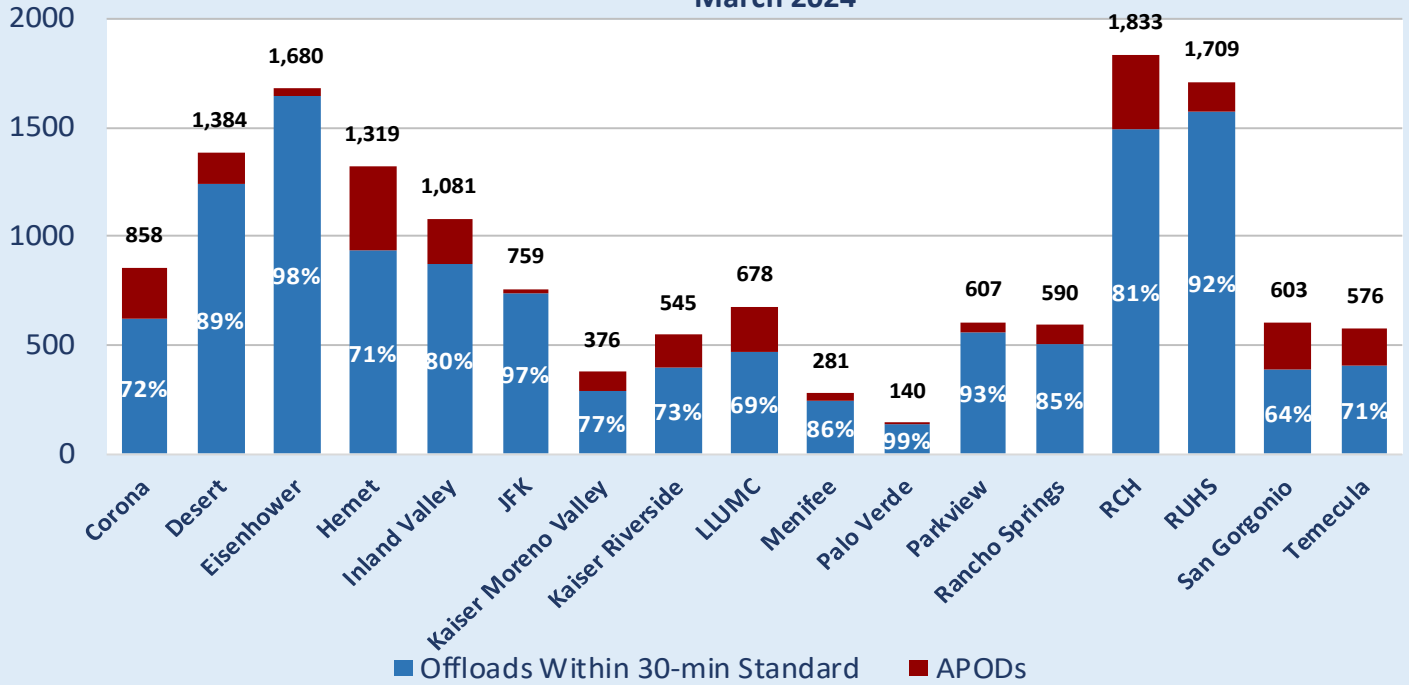
March 2024

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.
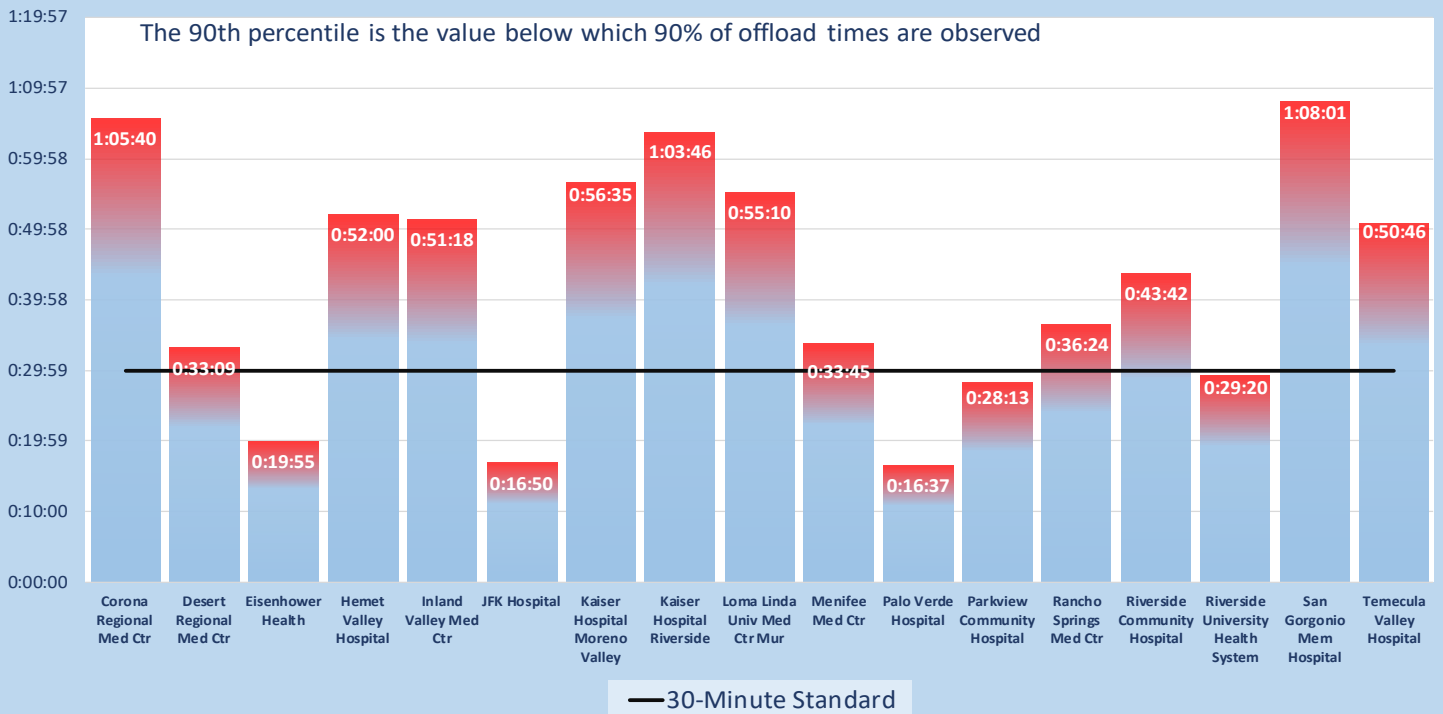

Riverside County Monthly Ambulance Patient Offload Delay Hours (2019 - 2024) Participating Providers
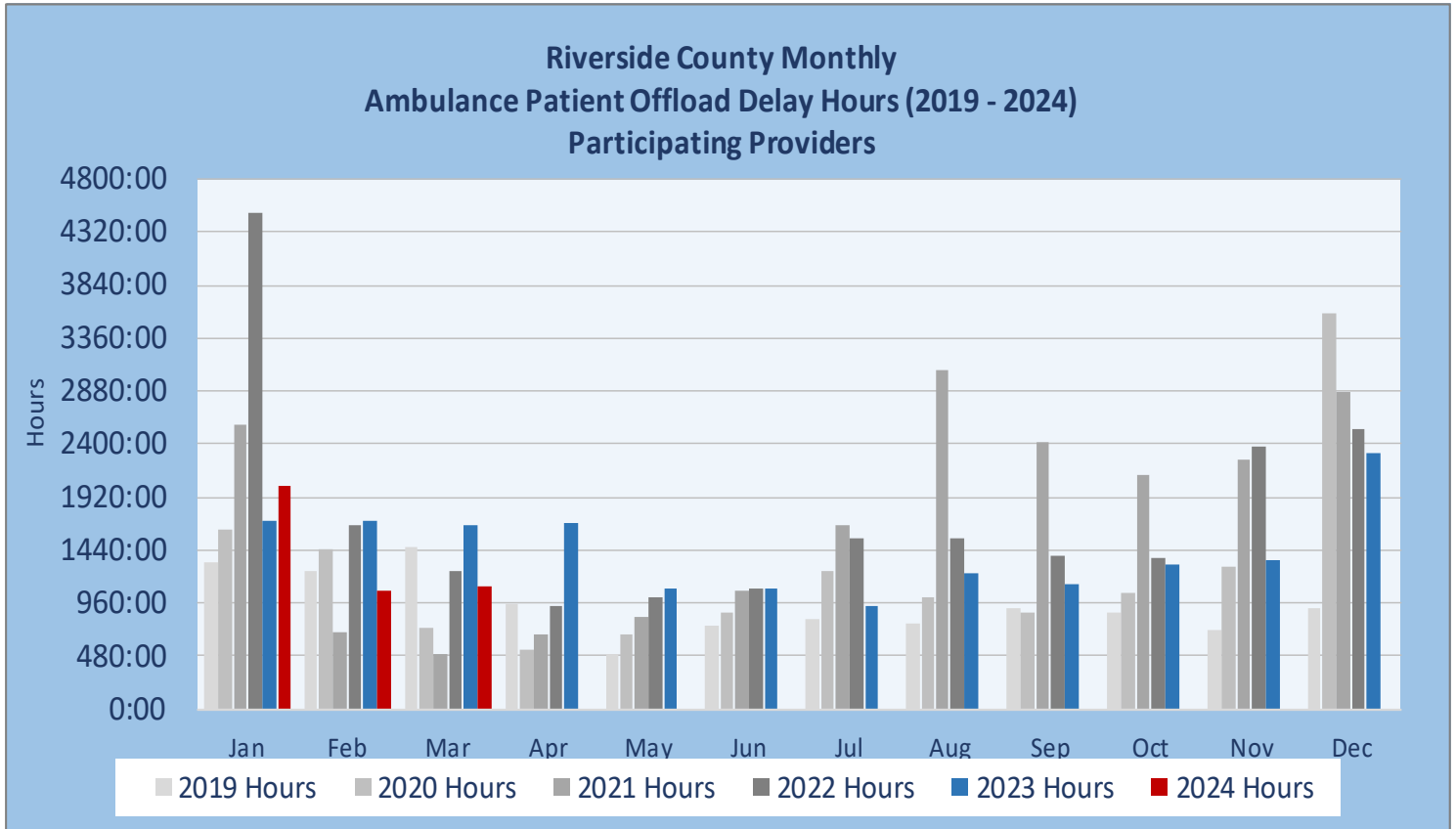
March 2024						
	ALS Transports	APOT	APOD Hours	APODs	APOD Compliance	APOT - 1
Corona Regional Med Ctr	858	441:34:55	143:58:54	241	71.9%	1:05:40
Desert Regional Med Ctr	1,384	414:16:43	74:06:06	146	89.5%	0:33:09
Eisenhower Health	1,680	342:52:08	6:29:19	33	98.0%	0:19:55
Hemet Valley Hospital	1,319	660:43:24	163:45:24	386	70.7%	0:52:00
Inland Valley Med Ctr	1,081	432:55:38	111:20:36	212	80.4%	0:51:18
JFK Hospital	759	116:16:18	5:12:05	21	97.2%	0:16:50
Kaiser Hospital Moreno Valley	376	165:33:07	40:43:17	88	76.6%	0:56:35
Kaiser Hospital Riverside	545	270:52:18	91:25:27	148	72.8%	1:03:46
Loma Linda Univ Med Ctr Mur	678	338:52:53	80:50:53	212	68.7%	0:55:10
Menifee Med Ctr	281	96:09:52	8:09:36	39	86.1%	0:33:45
Palo Verde Hospital	140	18:35:04	0:03:58	1	99.3%	0:16:37
Parkview Community Hospital	607	177:21:01	6:30:35	45	92.6%	0:28:13
Rancho Springs Med Ctr	590	201:00:48	28:09:49	86	85.4%	0:36:24
Riverside Community Hospital	1,833	738:55:18	167:15:38	343	81.3%	0:43:42
Riverside University Health System	1,709	528:36:13	17:09:55	133	92.2%	0:29:20
San Gorgonio Mem Hospital	603	349:08:59	105:00:38	219	63.7%	1:08:01
Temecula Valley Hospital	576	266:01:31	54:46:38	168	70.8%	0:50:46
Grand Total	**15,019**	**5559:46:10**	**1104:58:48**	**2521**	**83.2%**	**0:40:53**

Riverside County Hospitals
Transports, APODs and % Compliance
March 2024

Bar chart legend: ■ Offloads Within 30-min Standard ■ APODs

Hospital	Total	% Compliance
Corona	858	72%
Desert	1,384	89%
Eisenhower	1,680	98%
Hemet	1,319	71%
Inland Valley	1,081	80%
JFK	759	97%
Kaiser Moreno Valley	376	77%
Kaiser Riverside	545	73%
LLUMC	678	69%
Menifee	281	86%
Palo Verde	140	99%
Parkview	607	93%
Rancho Springs	590	85%
RCH	1,833	81%
RUHS	1,709	92%
San Gorgonio	603	64%
Temecula	576	71%

Riverside County Hospitals
APOT-1, 90th Percentile
March 2024

The 90th percentile is the value below which 90% of offload times are observed

Hospital	90th Percentile
Corona Regional Med Ctr	1:05:40
Desert Regional Med Ctr	0:33:09
Eisenhower Health	0:19:55
Hemet Valley Hospital	0:52:00
Inland Valley Med Ctr	0:51:18
JFK Hospital	0:16:50
Kaiser Hospital Moreno Valley	0:56:35
Kaiser Hospital Riverside	1:03:46
Loma Linda Univ Med Ctr Mur	0:55:10
Menifee Med Ctr	0:33:45
Palo Verde Hospital	0:16:37
Parkview Community Hospital	0:28:13
Rancho Springs Med Ctr	0:36:24
Riverside Community Hospital	0:43:42
Riverside University Health System	0:29:20
San Gorgonio Mem Hospital	1:08:01
Temecula Valley Hospital	0:50:46

— 30-Minute Standard

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.

Riverside County
Responses, Transports and APODs

Month	9-1-1 Responses	9-1-1 Transports %	APODs %
Mar 2023	20,840	69%	24%
Apr	20,306	70%	23%
May	20,306	69%	20%
Jun	19,531	70%	19%
Jul	21,590	68%	15%
Aug	21,134	69%	17%
Sep	20,038	69%	17%
Oct	20,707	69%	19%
Nov	20,442	69%	18%
Dec	22,333	70%	23%
Jan 2024	21,553	70%	23%
Feb	20,303	68%	18%
Mar	22,009	68%	17%

Legend: ■ 9-1-1 Responses ■ 9-1-1 Transports ■ APODs
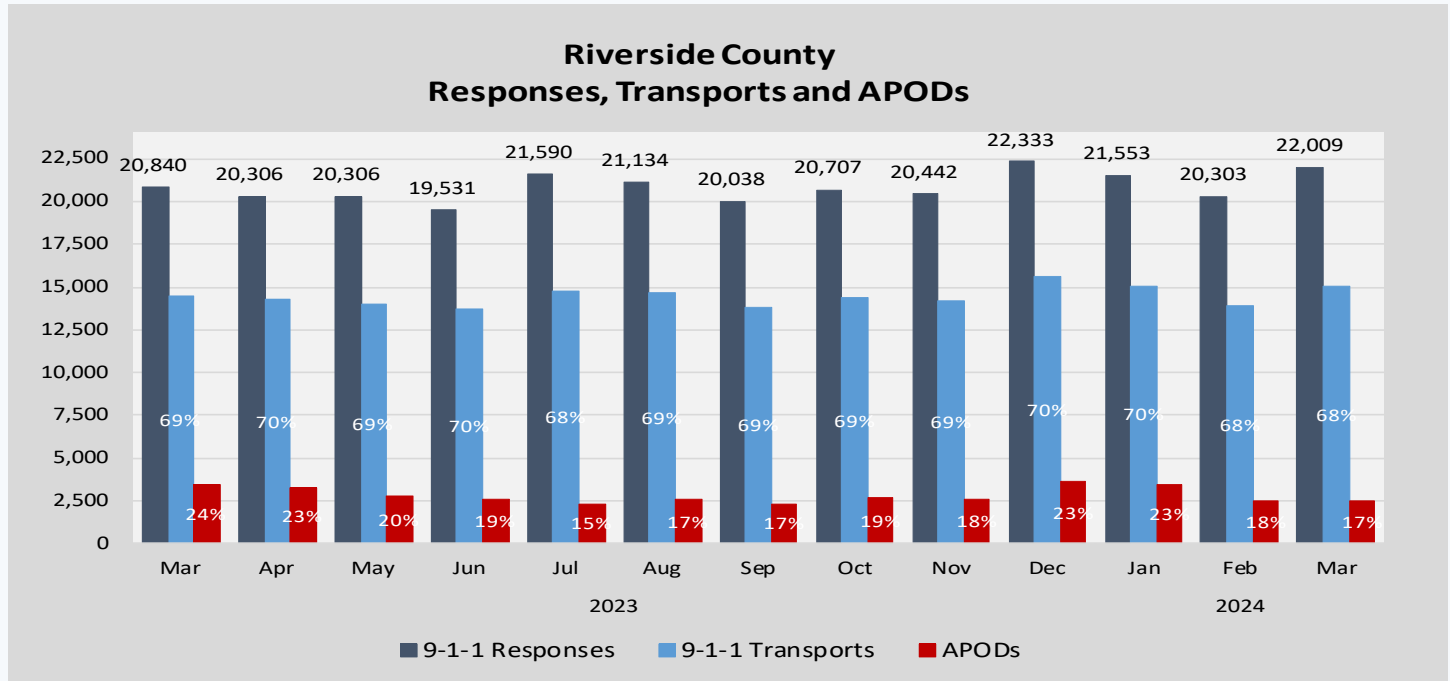
TRANSPORT VOLUME.

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 facilties in the county. Hospitals are color coded ranging from low to high based on an average transports of the last 12 months.

Transport Volume: Low ——— High

Hospital	2023 Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2024 Jan	Feb	Mar	Monthly Avg
Corona Regional Med Ctr	802	783	783	782	911	896	785	812	779	845	873	762	858	821
Desert Regional Med Ctr	1403	1360	1364	1254	1369	1273	1199	1239	1292	1463	1325	1253	1384	1,321
Eisenhower Health	1474	1371	1316	1338	1365	1388	1423	1390	1473	1617	1649	1602	1680	1,468
Hemet Valley Hospital	1206	1206	1245	1167	1346	1330	1207	1146	1157	1051	1051	1094	1319	1,194
Inland Valley Med Ctr	952	995	977	926	1034	998	955	990	952	1039	968	914	1081	983
JFK Hospital	759	837	705	728	749	731	651	805	717	706	752	703	759	739
Kaiser Hospital Moreno Valley	383	348	376	349	351	375	319	339	365	412	392	370	376	366
Kaiser Hospital Riverside	561	567	572	530	557	585	552	551	603	597	616	524	545	566
Loma Linda Univ Med Ctr Mur	849	852	826	776	788	810	786	818	728	718	684	666	678	768
Menifee Med Ctr	323	307	270	303	301	297	332	345	360	490	415	312	281	334
Palo Verde Hospital	130	136	154	140	164	163	131	164	145	156	133	163	140	148
Parkview Community Hospital	790	704	643	612	655	608	587	595	585	650	714	596	607	642
Rancho Springs Med Ctr	555	513	477	466	529	560	540	571	589	729	673	519	590	562
Riverside Comm Hospital	1517	1515	1626	1650	1844	1798	1722	1851	1743	1919	1778	1798	1833	1,738
Riverside Univ Health System	1596	1642	1564	1576	1616	1671	1474	1630	1574	1882	1768	1534	1709	1,634
San Gorgonio Mem Hospital	586	594	561	543	591	595	548	520	576	677	622	559	603	583
Temecula Valley Hospital	569	514	555	566	566	565	606	585	552	624	657	525	576	574
Riverside County Total	**14455**	**14244**	**14014**	**13706**	**14736**	**14643**	**13817**	**14351**	**14190**	**15575**	**15070**	**13894**	**15019**	**14440**

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
High — Low

APOT % Compliance by Hospital for the last 12 months													
	2023										**2024**		**Average**
	Mar	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	
Corona Regional Med Ctr	64%	63%	69%	77%	72%	77%	73%	76%	74%	69%	76%	78%	72%	72%
Desert Regional Med Ctr	88%	94%	94%	93%	91%	95%	98%	95%	91%	91%	90%	92%	89%	92%
Eisenhower Health	95%	97%	99%	98%	99%	99%	99%	99%	98%	95%	96%	97%	98%	98%
Hemet Valley Hospital	52%	60%	58%	54%	58%	56%	54%	44%	49%	42%	36%	48%	71%	52%
Inland Valley Med Ctr	75%	72%	79%	79%	78%	65%	63%	62%	68%	64%	61%	77%	80%	71%
JFK Hospital	99%	98%	99%	99%	99%	99%	99%	99%	100%	98%	98%	97%	97%	99%
Kaiser Hospital Moreno Valley	77%	79%	76%	75%	75%	77%	82%	74%	77%	75%	77%	77%	77%	77%
Kaiser Hospital Riverside	72%	72%	76%	75%	84%	77%	76%	81%	75%	70%	73%	84%	73%	76%
Loma Linda Univ Med Ctr Mur	81%	76%	75%	78%	79%	68%	70%	66%	65%	60%	61%	68%	69%	70%
Menifee Med Ctr	54%	58%	65%	62%	63%	64%	82%	83%	66%	48%	56%	81%	86%	67%
Palo Verde Hospital	98%	98%	97%	100%	98%	96%	98%	96%	97%	99%	95%	98%	99%	98%
Parkview Community Hospital	85%	84%	91%	93%	95%	97%	95%	96%	96%	92%	93%	96%	93%	93%
Rancho Springs Med Ctr	79%	76%	84%	82%	91%	77%	82%	81%	79%	71%	75%	85%	85%	81%
Riverside Community Hospital	46%	45%	62%	67%	96%	93%	94%	89%	95%	83%	81%	84%	81%	78%
Riverside University Health System	92%	95%	95%	94%	91%	95%	94%	91%	93%	87%	89%	91%	92%	92%
San Gorgonio Mem Hospital	66%	70%	69%	70%	65%	63%	68%	69%	63%	55%	57%	60%	64%	65%
Temecula Valley Hospital	72%	65%	78%	78%	78%	73%	71%	64%	66%	74%	59%	67%	71%	70%
Riverside County Compliance	**76%**	**77%**	**80%**	**81%**	**85%**	**83%**	**83%**	**81%**	**82%**	**77%**	**77%**	**82%**	**83%**	**81%**

APOT-1. APOT-1 is an Ambulance Patient Offload Time interval measure of the 90th 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

APOT-1 (90th Percentile) for the last 12 Months													
	2023										**2024**		**Avg**
Hospital	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**APOT-1**
Corona Regional Med Ctr	1:18	1:22	0:58	0:48	1:02	0:48	0:52	0:46	0:57	1:08	0:49	0:46	1:06	0:58
Desert Regional Med Ctr	0:37	0:25	0:25	0:27	0:30	0:24	0:20	0:23	0:29	0:30	0:32	0:29	0:36	0:28
Eisenhower Health	0:24	0:20	0:18	0:18	0:17	0:17	0:17	0:16	0:19	0:23	0:22	0:21	0:20	0:19
Hemet Valley Hospital	1:18	1:09	1:00	1:19	1:06	1:15	1:18	1:38	1:37	2:17	2:05	1:18	0:52	1:24
Inland Valley Med Ctr	0:57	1:01	0:47	0:52	0:53	1:19	1:26	1:21	1:11	1:34	1:35	1:01	0:51	1:08
JFK Hospital	0:14	0:15	0:15	0:14	0:14	0:15	0:15	0:16	0:16	0:17	0:17	0:19	0:17	0:15
Kaiser Hospital Moreno Valley	0:46	0:42	0:48	0:49	0:46	0:55	0:42	0:54	0:51	1:00	0:46	0:50	0:57	0:49
Kaiser Hospital Riverside	1:02	0:58	0:49	0:48	0:39	0:46	0:52	0:39	0:56	1:08	1:06	0:40	1:04	0:52
Loma Linda Univ Med Ctr Mur	0:38	0:50	0:53	0:45	0:43	0:58	0:51	0:54	1:24	1:27	1:25	0:54	0:55	0:58
Menifee Med Ctr	1:10	1:18	0:58	1:00	0:58	1:00	0:39	0:34	1:00	1:39	1:24	0:40	0:34	0:59
Palo Verde Hospital	0:21	0:19	0:15	0:15	0:17	0:18	0:15	0:17	0:19	0:13	0:15	0:20	0:17	0:17
Parkview Community Hospital	0:36	0:37	0:30	0:28	0:26	0:24	0:26	0:24	0:26	0:29	0:28	0:26	0:28	0:28
Rancho Springs Med Ctr	0:48	1:04	0:42	0:39	0:30	1:00	0:50	0:45	0:50	1:21	0:59	0:39	0:36	0:49
Riverside Comm Hospital	1:27	1:24	1:03	1:01	0:19	0:26	0:26	0:31	0:27	0:44	0:47	0:42	0:44	0:46
Riverside Univ Health System	0:29	0:28	0:27	0:29	0:29	0:26	0:27	0:29	0:28	0:34	0:32	0:30	0:29	0:29
San Gorgonio Mem Hospital	1:00	1:06	1:00	1:00	1:04	1:15	1:06	1:06	1:09	1:38	1:17	1:19	1:08	1:09
Temecula Valley Hospital	0:49	0:55	0:45	0:46	0:42	0:44	0:48	1:02	0:53	0:46	1:14	0:56	0:51	0:51
Riverside County Compliance	**0:53**	**0:52**	**0:44**	**0:44**	**0:39**	**0:43**	**0:42**	**0:43**	**0:46**	**0:57**	**0:54**	**0:43**	**0:41**	**0:46**

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	2023												2024	Total
Diversion Category/Facility	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
INT	2	1				2								5
Corona Regional Medical Center						1								1
Menifee Valley Medical Center	1													1
Temecula Valley Hospital		1												1
Inland Valley Medical Center						1								1
Riverside University Health System	1													1
STEMI			1											1
Riverside Community Hospital			1											1
Stroke					1	1								2
Parkview Community Hospital					1	1								2
Trauma	4		1	3	1		1			1				11
Riverside Community Hospital	3			2	1		1							7
Inland Valley Medical Center	1		1	1										3
Riverside University Health System										1				1
Total	6	1	2	3	2	3	1			1				19

Diversions by HH:MM	2023												2024
Diversion Category/Facility	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
INT	0:23	3:40	21:56				9:07						
Corona Regional Medical Center	0:23	3:40											
Menifee Valley Medical Center							9:03						
Temecula Valley Hospital		0:00											
Inland Valley Medical Center			21:56										
Riverside University Health System							0:04						
STEMI		3:39											
Riverside Community Hospital	0:23												
Stroke				4:00									
Parkview Community Hospital				4:00									
Trauma	1:09					0:08	10:22						
Riverside Community Hospital	1:09					0:08	10:22						
Inland Valley Medical Center		7:07		0:32	3:24	1:19		0:08			0:01		
Riverside University Health System		6:57			2:00	1:19		0:08					
Total	1:32	10:47	21:56	4:32	3:24	1:27	19:30	0:08	0:00	0:00	0:01	0:00	0:00

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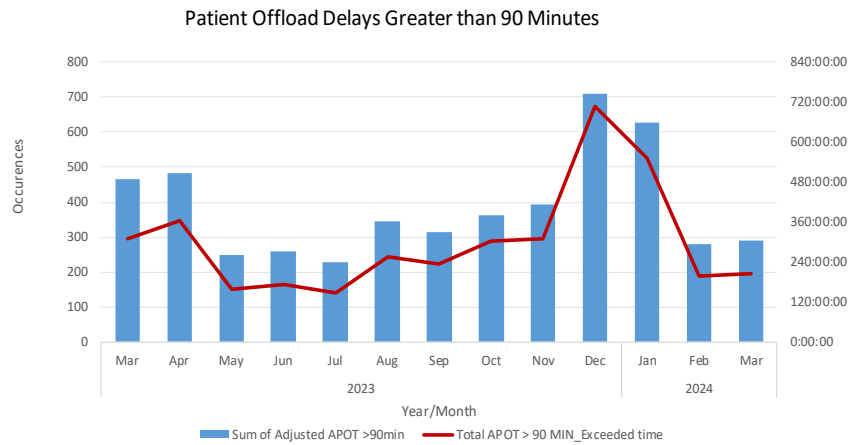
The table below shows the count of ambulances that held for greater than 90 minutes and total hours accumulated after 90-minute threshold by facility for the reporting month.

Facility	Total Time APOT>90 min (HR: MM: S)	Total Incidents APOT>90 min
Corona Regional Med Ctr	33:55:45	41
Desert Regional Med Ctr	12:23:13	13
Eisenhower Health	0:00:00	0
Hemet Valley Hospital	34:39:42	42
Inland Valley Med Ctr	21:41:00	35
JFK Hospital	0:00:00	0
Kaiser Hospital Moreno Valley	4:38:04	10
Kaiser Hospital Riverside	22:35:38	29
Loma Linda Univ Med Ctr Mur	13:03:34	20
Menifee Med Ctr	0:09:47	2
Palo Verde Hospital	0:00:00	0
Parkview Community Hospital	0:00:00	0
Rancho Springs Med Ctr	3:02:39	6
Riverside Community Hospital	35:51:20	51
Riverside University Health System	0:00:00	0
San Gorgonio Mem Hospital	18:05:18	27
Temecula Valley Hospital	3:44:21	12
Grand Total	**203:50:21**	**288**

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 2024 - Emergency Treatment Services						
	Transports to ETS	Total Offload Time	APOD Hours	APODs	APOD Compliance	APOT-1
Emergency Treatment Services	374	166:39:10	25:11:32	115	69.3%	0:43:48

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.
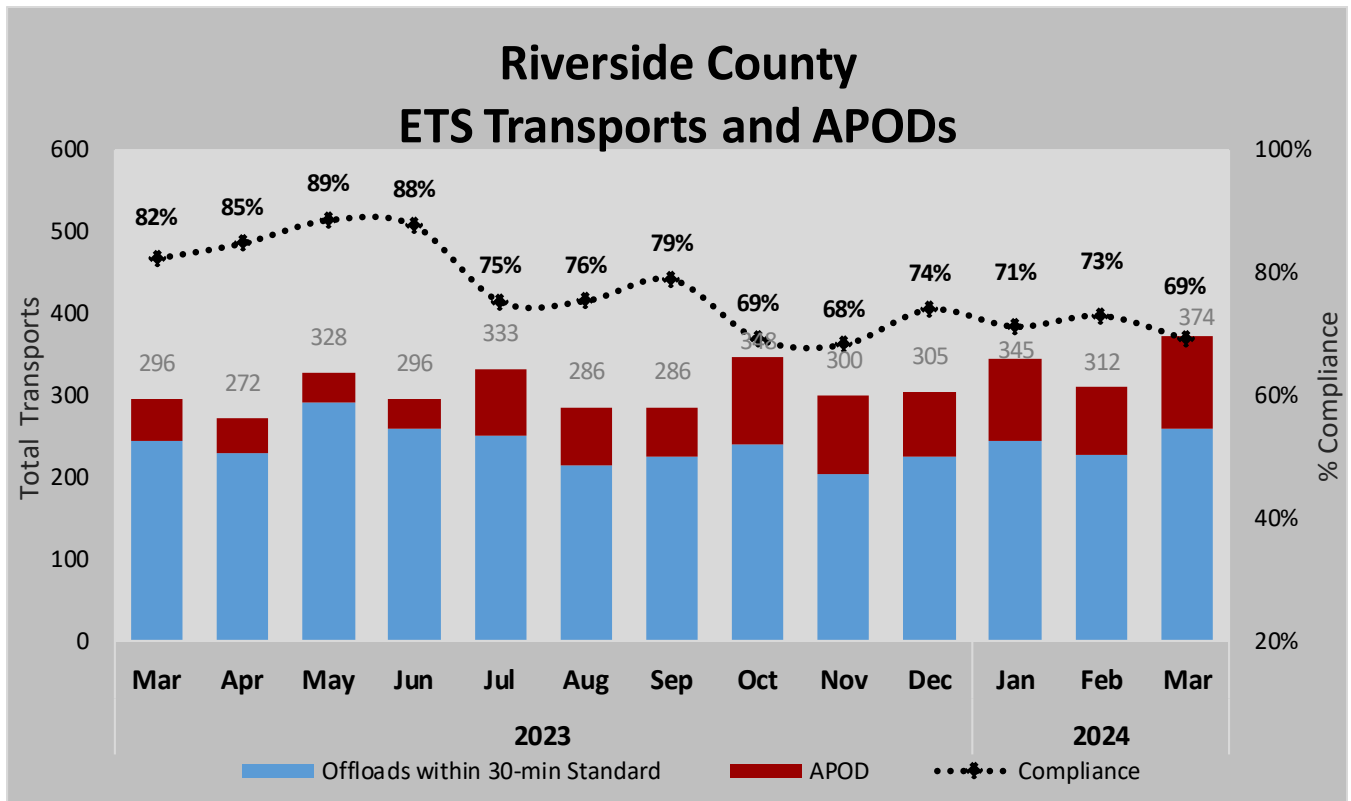
APOT AND APOD DEFINITIONS

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."[1]
Method: Aggregate of all transfer times and reported at the 90th 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.[2] 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.[3] 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.[4] 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.[5] *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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[1] Ibid., APOT-1 Specifications.

[2] Health and Safety Code Division 2.5, Chapter 3, Article 1, Section 1797.120(b)

[3] 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

[3] Ibid., APOT-1 Specifications

[5] REMSA Policy 4109, Transfer of Patient Care. https://www.remsa.us/policy/4109.pdf

[7] 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

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

[9] 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