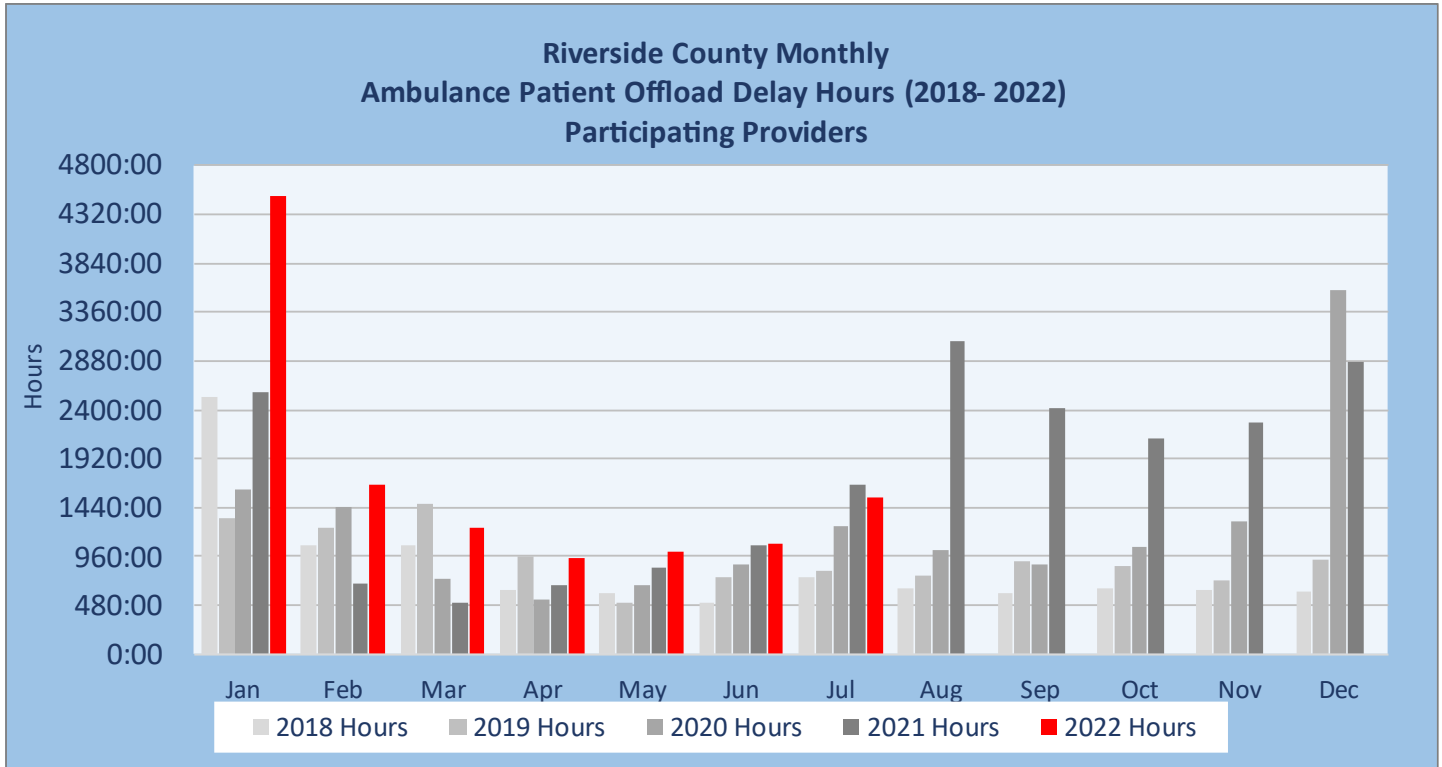# Ambulance Patient Offload Time
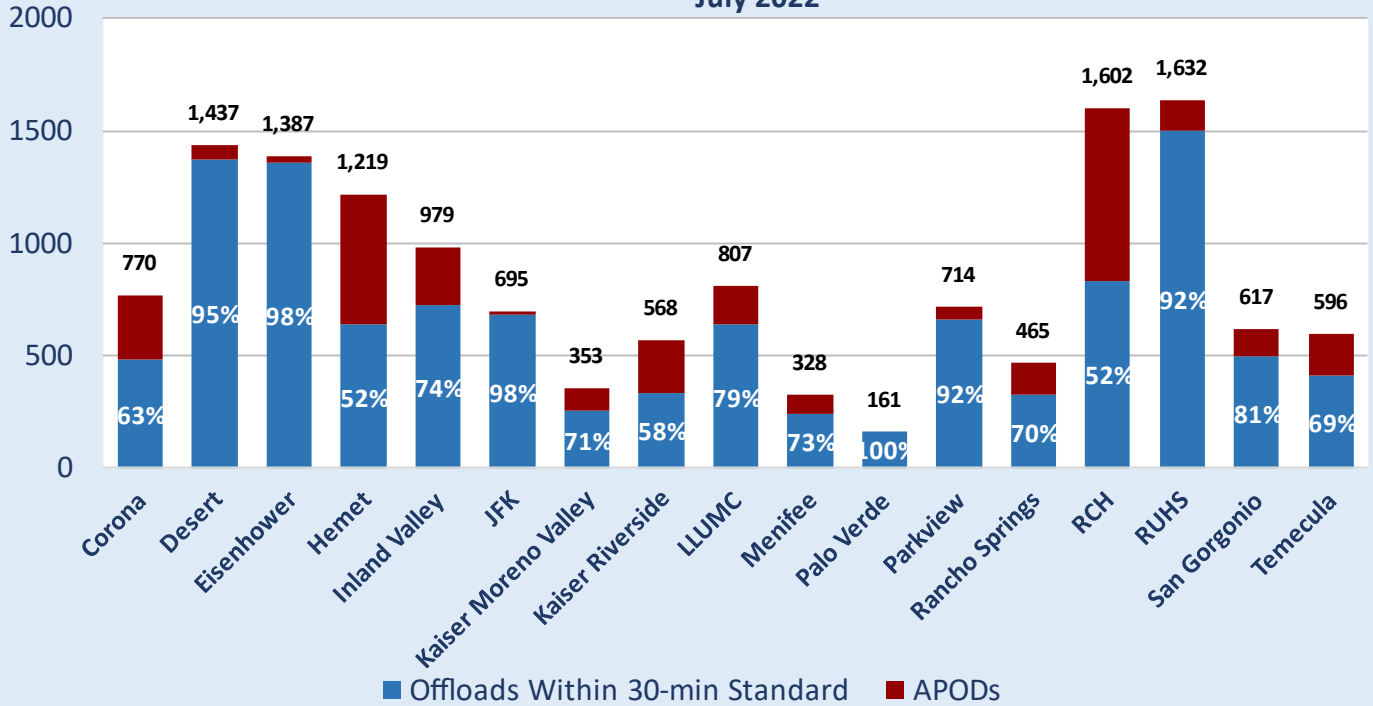
July 2022

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.
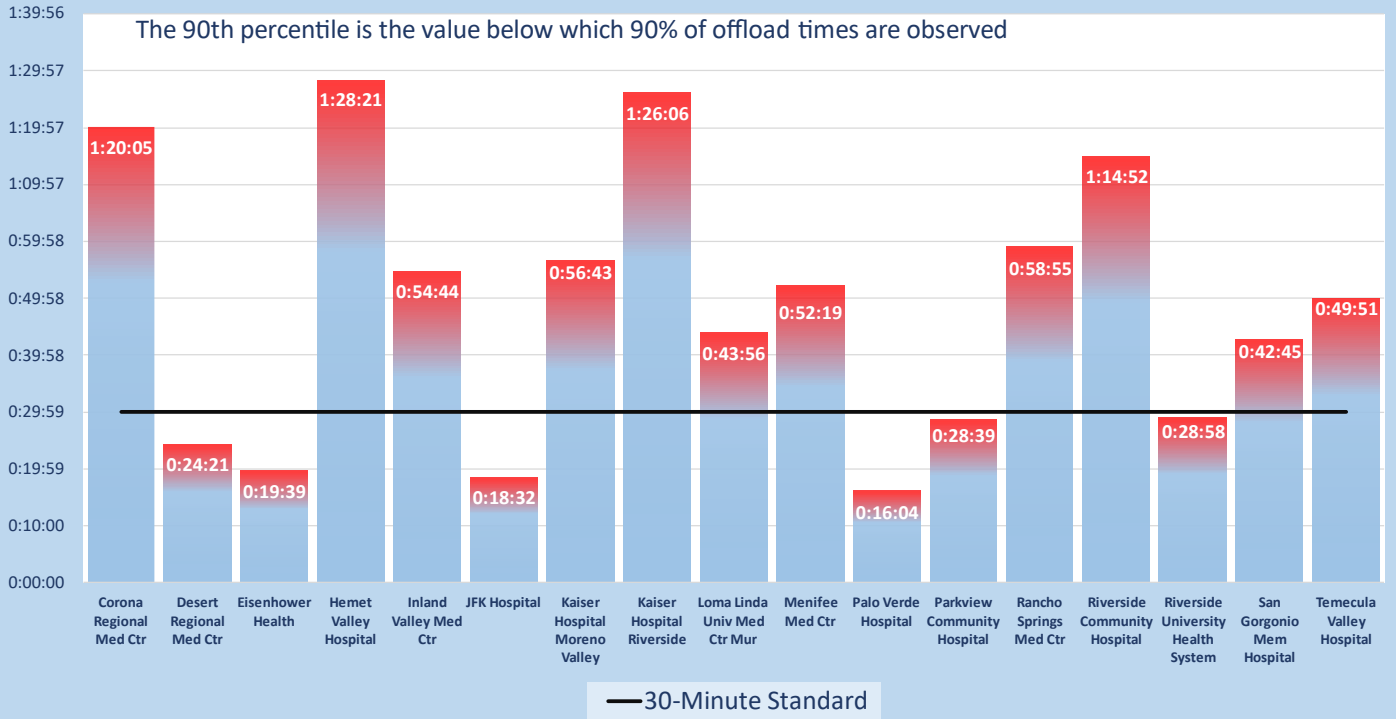

Riverside County Monthly
Ambulance Patient Offload Delay Hours (2018- 2022)
Participating Providers

July 2022						
	ALS Transports	APOT	APOD Hours	APODs	APOD Compliance	APOT - 1
Corona Regional Med Ctr	770	466:27:12	185:33:03	288	62.6%	1:20:05
Desert Regional Med Ctr	1,437	308:43:23	11:24:24	65	95.5%	0:24:21
Eisenhower Health	1,387	274:19:14	5:07:06	31	97.8%	0:19:39
Hemet Valley Hospital	1,219	855:21:45	355:07:12	583	52.2%	1:28:21
Inland Valley Med Ctr	979	422:55:38	107:15:46	252	74.3%	0:54:44
JFK Hospital	695	108:04:04	3:25:46	12	98.3%	0:18:32
Kaiser Hospital Moreno Valley	353	173:28:47	57:21:58	101	71.4%	0:56:43
Kaiser Hospital Riverside	568	362:12:22	149:30:25	238	58.1%	1:26:06
Loma Linda Univ Med Ctr Mur	807	333:17:08	60:33:48	169	79.1%	0:43:56
Menifee Med Ctr	328	163:15:16	46:04:36	88	73.2%	0:52:19
Palo Verde Hospital	161	20:42:00	0:00:00	0	100.0%	0:16:04
Parkview Community Hospital	714	215:32:40	10:47:31	57	92.0%	0:28:39
Rancho Springs Med Ctr	465	228:00:05	67:52:23	138	70.3%	0:58:55
Riverside Community Hospital	1,602	1003:50:07	364:57:45	773	51.7%	1:14:52
Riverside University Health System	1,632	486:54:21	15:09:37	133	91.9%	0:28:58
San Gorgonio Mem Hospital	617	246:34:30	39:53:30	120	80.6%	0:42:45
Temecula Valley Hospital	596	270:34:07	57:16:02	186	68.8%	0:49:51
Grand Total	14,330	5940:12:39	1537:20:52	3234	77.4%	0:49:13

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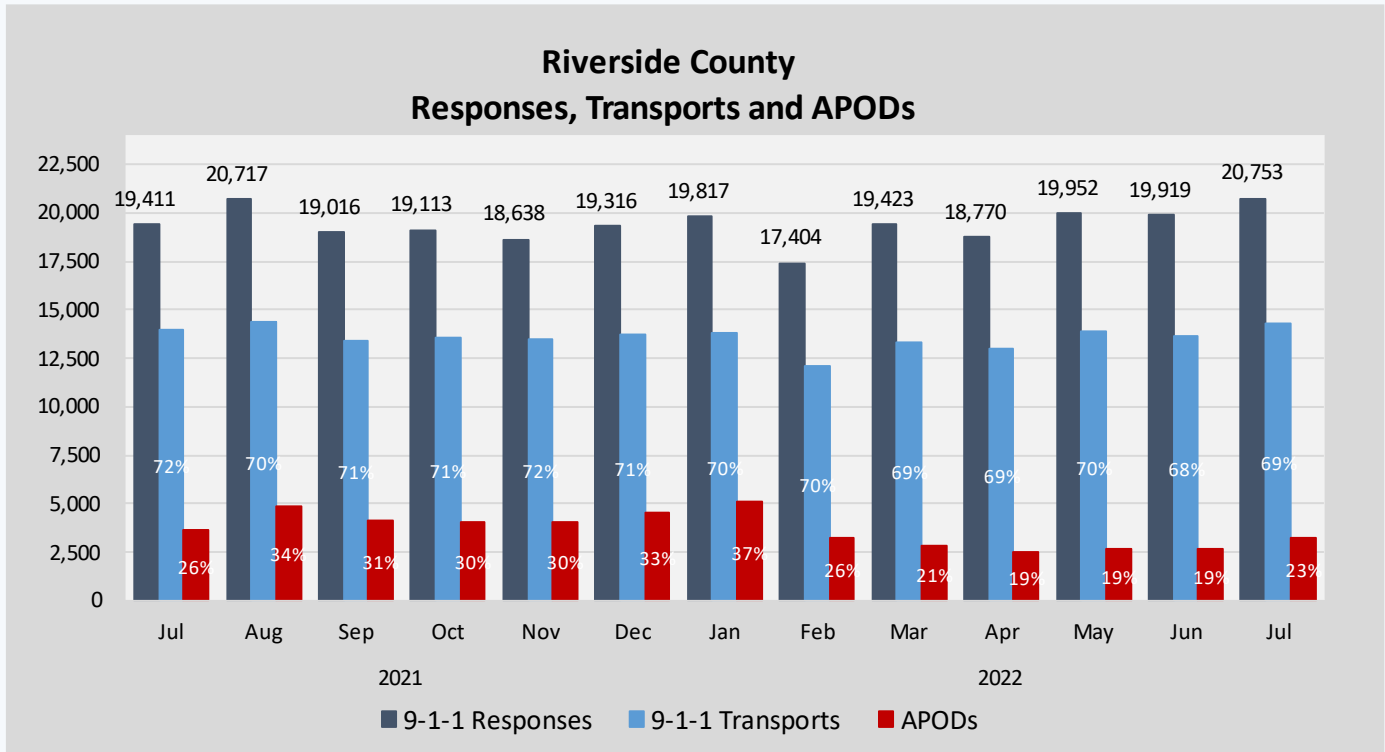## Transports, APODs and % Compliance
July 2022

Bar chart showing Transports, APODs and % Compliance for Riverside County Hospitals, July 2022. Y-axis from 0 to 2000.

Hospital	Total	% Compliance
Corona	770	63%
Desert	1,437	95%
Eisenhower	1,387	98%
Hemet	1,219	52%
Inland Valley	979	74%
JFK	695	98%
Kaiser Moreno Valley	353	71%
Kaiser Riverside	568	58%
LLUMC	807	79%
Menifee	328	73%
Palo Verde	161	100%
Parkview	714	92%
Rancho Springs	465	70%
RCH	1,602	52%
RUHS	1,632	92%
San Gorgonio	617	81%
Temecula	596	69%

■ Offloads Within 30-min Standard ■ APODs

Riverside County Hospitals
APOT-1, 90th Percentile
July 2022

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

Hospital	APOT-1 90th Percentile
Corona Regional Med Ctr	1:20:05
Desert Regional Med Ctr	0:24:21
Eisenhower Health	0:19:39
Hemet Valley Hospital	1:28:21
Inland Valley Med Ctr	0:54:44
JFK Hospital	0:18:32
Kaiser Hospital Moreno Valley	0:56:43
Kaiser Hospital Riverside	1:26:06
Loma Linda Univ Med Ctr Mur	0:43:56
Menifee Med Ctr	0:52:19
Palo Verde Hospital	0:16:04
Parkview Community Hospital	0:28:39
Rancho Springs Med Ctr	0:58:55
Riverside Community Hospital	1:14:52
Riverside University Health System	0:28:58
San Gorgonio Mem Hospital	0:42:45
Temecula Valley Hospital	0:49:51

—— 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

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	2021 Jul	Aug	Sep	Oct	Nov	Dec	2022 Jan	Feb	Mar	Apr	May	Jun	Jul	Monthly Avg
Corona Regional Med Ctr	832	800	735	792	812	771	680	685	729	720	709	757	770	753
Desert Regional Med Ctr	1424	1346	1262	1247	1281	1263	1311	1121	1316	1288	1314	1365	1437	1,306
Eisenhower Health	1187	1286	1213	1299	1348	1402	1484	1284	1386	1350	1385	1268	1387	1,329
Hemet Valley Hospital	1256	1214	1135	1199	1037	1045	744	893	1205	1201	1326	1276	1219	1,135
Inland Valley Med Ctr	946	953	886	958	882	926	850	812	891	823	951	892	979	904
JFK Hospital	639	670	634	634	658	694	707	619	716	773	756	679	695	683
Kaiser Hospital Moreno Valley	342	363	332	344	339	334	369	314	361	304	321	346	353	340
Kaiser Hospital Riverside	517	579	519	527	550	578	603	506	525	513	570	521	568	544
Loma Linda Univ Med Ctr Mur	730	666	694	658	714	769	871	754	720	675	812	752	807	740
Menifee Med Ctr	341	359	311	286	319	341	318	238	263	237	234	264	328	295
Palo Verde Hospital	169	162	157	168	176	176	176	118	120	142	178	151	161	158
Parkview Community Hospital	630	668	674	653	677	730	872	607	632	523	637	659	714	667
Rancho Springs Med Ctr	536	611	567	563	530	548	552	436	491	430	483	499	465	516
Riverside Comm Hospital	1546	1560	1461	1506	1454	1406	1236	1283	1534	1552	1614	1537	1602	1,484
Riverside Univ Health System	1607	1804	1619	1516	1529	1552	1825	1385	1395	1369	1534	1477	1632	1,557
San Gorgonio Mem Hospital	640	697	628	632	622	603	630	541	495	524	547	651	617	602
Temecula Valley Hospital	631	664	595	596	559	591	611	533	567	549	531	549	596	582
Riverside County Total	**13973**	**14402**	**13422**	**13578**	**13487**	**13729**	**13839**	**12129**	**13346**	**12973**	**13902**	**13643**	**14330**	**13596**

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

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

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

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

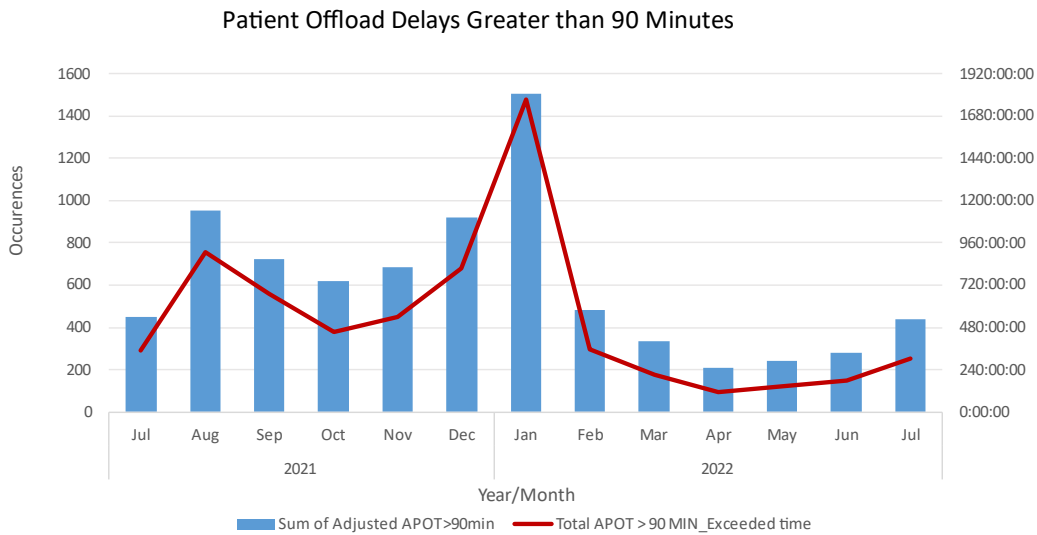REMSA Policy 6103 (https://www.remsa.us/policy/6103.pdf) describes ground and air ambulance diversions to facilitate safe transport of patients to the closest alternate facility. Ambulance Diversions described here are those activated as a result of unusual circumstances at a facility limiting access 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						Jul	Total
Diversion Category/Facility	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Total
INT		1	1	2	2		1	1		1	3	1	1	14
Corona Regional Medical Center				2										2
Desert Regional Medical Center			1		1									2
John F. Kennedy Memorial Hospital											1			1
Menifee Valley Medical Center		1					1			1				3
Inland Valley Medical Center					1								1	2
Kaiser Permanente Moreno Valley Medical Center								1			1			2
Kaiser Permanente Riverside Medical Center											1	1		2
STEMI	1		2		1		1			1	1			7
Desert Regional Medical Center			2		1									3
John F. Kennedy Memorial Hospital										1	1			2
Loma Linda University Medical Center--Murrieta	1						1							2
Stroke	1	1												2
Rancho Springs Medical Center	1													1
Riverside University Health System		1												1
Trauma	3	1	1	4	3	1	3	5		3	1	4	2	31
Riverside Community Hospital	1			2						1		3		7
Inland Valley Medical Center	1		1			1	2			2	1		2	10
Riverside University Health System	1	1		2	3		1	5				1		14
Total	5	3	4	6	6	1	5	6		5	5	5	3	54

Diversions by HH:MM	2021											2022	
Diversion Category/Facility	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
INT		1:56	3:16	20:19	1:03		0:41	1:13		1:09	5:31	0:56	1:39
Corona Regional Medical Center				20:19									
Desert Regional Medical Center			3:16		0:27								
John F. Kennedy Memorial Hospital											3:33		
Menifee Valley Medical Center		1:56					0:41			1:09			
Inland Valley Medical Center					0:36								1:39
Kaiser Permanente Moreno Valley Medical Center								1:13			0:37		
Kaiser Permanente Riverside Medical Center											1:21	0:56	
STEMI	4:11		13:42		0:19		2:21			10:16	15:51		
Desert Regional Medical Center			13:42		0:19								
John F. Kennedy Memorial Hospital										10:16	15:51		
Loma Linda University Medical Center--Murrieta	4:11						2:21						
Stroke	0:17	0:01											
Rancho Springs Medical Center	0:17												
Riverside University Health System		0:01											
Trauma	9:52	0:11	0:53	2:23	4:36	0:19	4:15	5:54		6:44	1:04	3:12	3:21
Riverside Community Hospital	5:01			1:03						2:44		1:51	
Inland Valley Medical Center	0:50		0:53			0:19	3:01			4:00	1:04		3:21
Riverside University Health System	4:01	0:11		1:20	4:36		1:14	5:54				1:21	
Total	14:20	2:08	17:51	22:42	5:58	0:19	7:17	7:07	0:00	18:09	22:26	4:08	5:00

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

Legend: Sum of Adjusted APOT>90min — Total APOT > 90 MIN_Exceeded time
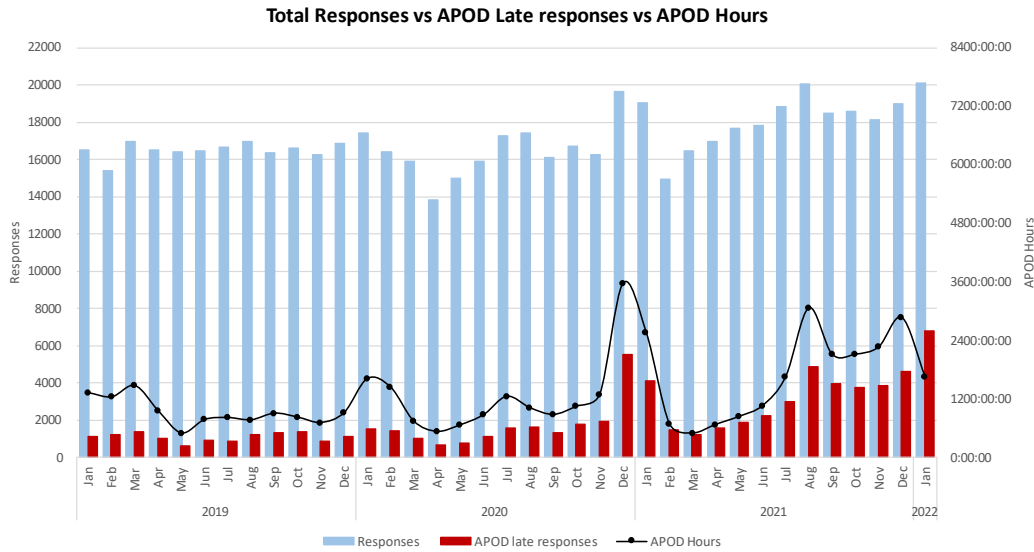
The table below shows the count of ambulances that held for greater than 90 minutes and total hours accumulated after 90 minute threshold by facility for the reporting month.

Facility	Total Time APOT>90 min (HR: MM: S)	Total Incidents APOT>90 min
Corona Regional Med Ctr	50:54:38	63
Desert Regional Med Ctr	0:00:00	0
Eisenhower Health	0:00:00	0
Hemet Valley Hospital	98:03:36	118
Inland Valley Med Ctr	12:56:27	25
JFK Hospital	0:00:00	0
Kaiser Hospital Moreno Valley	13:43:28	18
Kaiser Hospital Riverside	33:10:05	54
Loma Linda Univ Med Ctr Mur	11:15:58	18
Menifee Med Ctr	10:52:44	13
Palo Verde Hospital	0:00:00	0
Parkview Community Hospital	1:32:23	3
Rancho Springs Med Ctr	13:59:58	17
Riverside Community Hospital	50:03:27	94
Riverside University Health System	0:00:00	0
San Gorgonio Mem Hospital	2:41:00	7
Temecula Valley Hospital	4:24:06	6
Grand Total	**303:37:50**	**436**

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
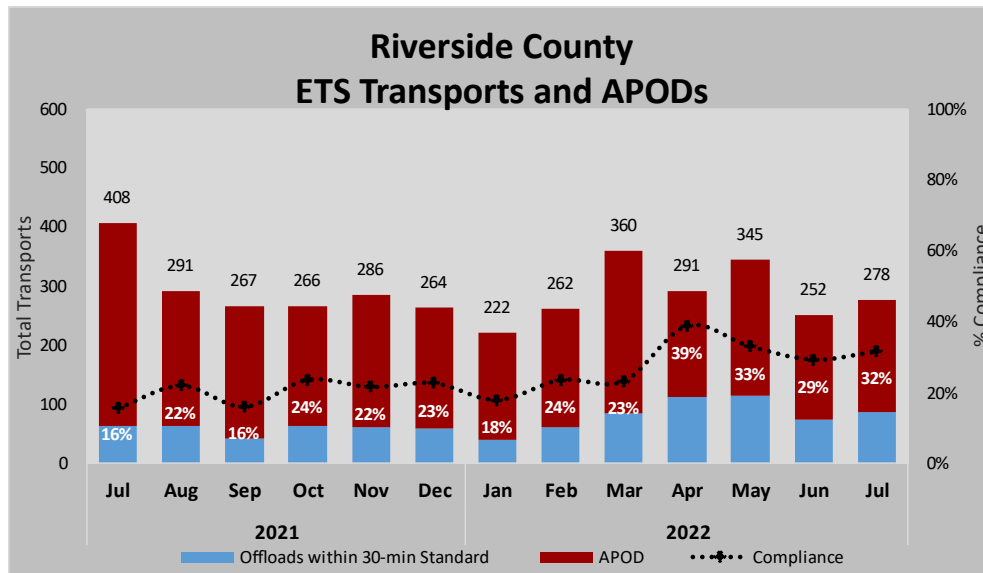

Total Responses vs APOD Late responses vs APOD Hours

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.

July 2022 - Emergency Treatment Services						
	Transports to ETS	Total Offload Time	APOD Hours	APODs	APOD Compliance	APOT-1
Emergency Treatment Services	278	182:36:19	58:58:28	190	31.7%	1:04:29

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.

Riverside County
ETS Transports and APODs

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

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