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Energy Division Compliance Report Filing Cover Sheet

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PACIFIC GAS AND ELECTRIC COMPANY
2021 ANNUAL ELECTRIC RELIABILITY REPORT
(Per Decision 16-01-008)

July 15, 2022

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Executive Summary

PG&E's electric service reliability performance in 2021 was challenged by several weather events, including severe winter storms, and extreme summer heat waves. Given the continued and growing threat of extreme weather and wildfires, PG&E utilized its Community Wildfire Safety Program to further reduce wildfire risks and help keep our customers and the communities we serve safe. This includes our Public Safety Power Shutoff (PSPS) program during the 2021 wildfire season for all electric lines located in or that pass through High Fire-Threat Districts (HFTDs). In addition, the reliability metrics were negatively affected as PG&E implemented Enhanced Powerline Safety Settings (EPSS) that include recloser disabling to further help reduce wildfire risk. These wildfire mitigation efforts have resulted in customers experiencing more and longer sustained outages. Furthermore, the COVID-19 virus continued to limit the deployment of restoration personnel in 2021. PG&E's electric system also experienced new and different stresses due to load shifts as Californians sheltered in place during most of the year. As a result, PG&E's reliability performance declined compared to 2020.

Electric utilities measure reliability in many ways: duration of customer outages; frequency of customer outages; average restoration time; counting only unplanned outages; counting planned outages; excluding unusual events such as major storms (typically referred to as Major Event Days or "MEDs"); or including or excluding certain types of outages, among other distinctions. This report explains the different measures and includes the various metrics required by CPUC Decision 16-01-008. For purposes of this Executive Summary, PG&E is focusing on metrics that include planned outages but exclude Major Event Days. These metrics are found in Section 3. These are common benchmark metrics across the electric utility industry, and PG&E also believes these metrics best reflect the typical customer's experience.

Table 1 below displays the electric reliability metrics SAIDI, SAIFI, MAIFI and CAIDI from 2012 through 2021.

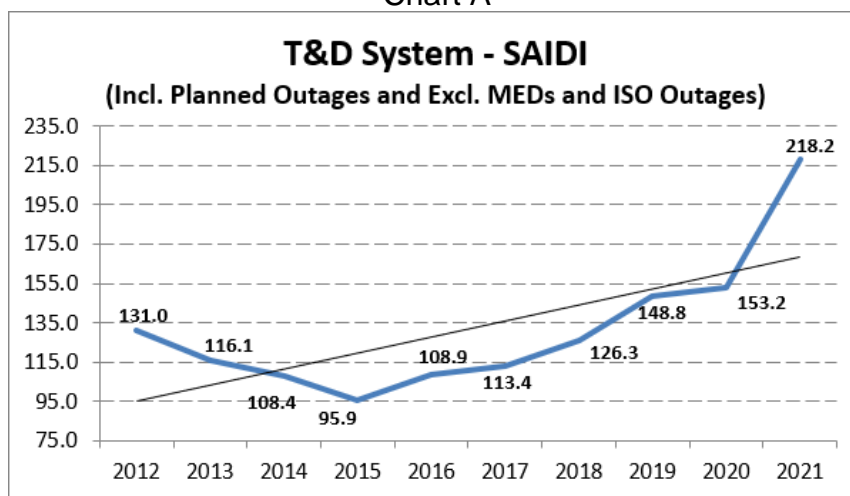
Table 1 – Combined Transmission and Distribution System Indices (2012-2021)
(Excludes MED and Independent System Operator (ISO) outages, and includes planned outages)

Year	Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI
2012	131.0	1.130	1.800	115.9
2013	116.1	1.070	1.527	108.5
2014	108.4	0.966	1.396	112.2
2015	95.9	0.871	1.594	110.1
2016	108.9	1.021	1.494	106.7
2017	113.4	0.958	1.489	118.3
2018	126.3	1.080	1.361	117.0
2019	148.8	1.128	1.282	131.9
2020	153.2	1.179	1.316	130.0
2021	218.2	1.318	1.320	165.5

Chart A below shows the amount of time the average PG&E customer experienced a sustained outage or outages each year in graphical form and includes a linear trend line:

2012-2021 Transmission & Distribution System SAIDI Performance Results

Chart A



(Includes Planned Outages, Excludes Major Event Days and ISO Outages)¹

Not surprisingly, similar trends are mirrored at the division level.

¹ See Table 115 as shown in Section 3.

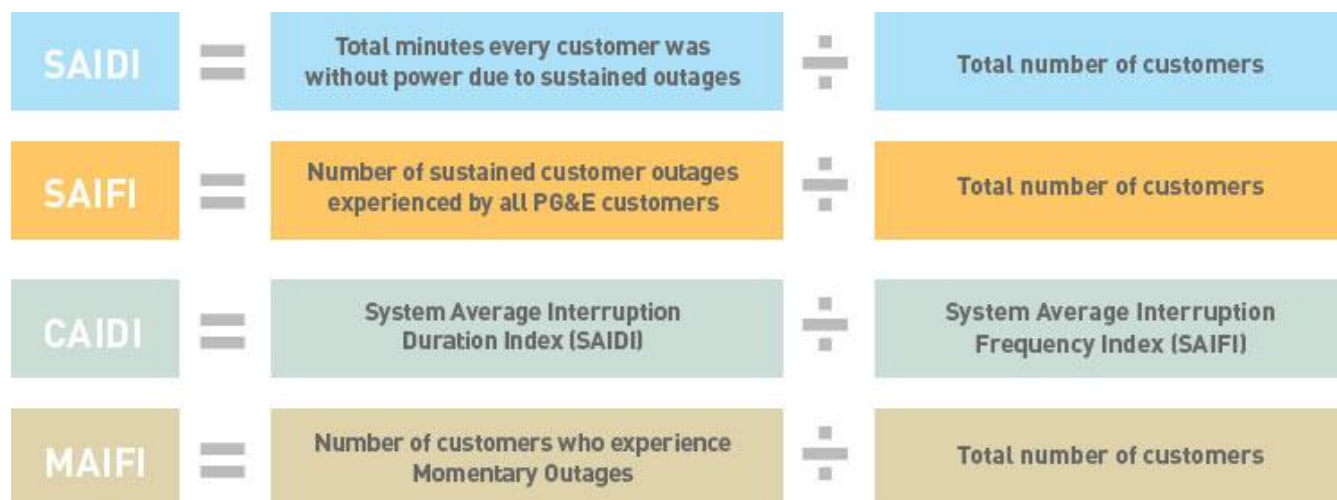
How PG&E Measures Reliability

PG&E uses four metrics commonly used in the electric utility industry to measure reliability for both unplanned and planned outages: the System Average Interruption Duration Index (SAIDI), the System Average Interruption Frequency Index (SAIFI), the Momentary Average Interruption Frequency Index (MAIFI), and the Customer Average Interruption Duration Index (CAIDI).

- SAIDI is the amount of time the average PG&E customer experiences a sustained outage or outages (being without power for more than five minutes) in a given year. **In 2021, PG&E's SAIDI was 218.2 minutes per customer.**
- SAIFI is the number of times the average PG&E customer experiences a sustained outage in a given year. **In 2021, PG&E's SAIFI was 1.318.**
- MAIFI² is the number of times the average customer is interrupted by momentary outages each year. Momentary outages are outages lasting 5 minutes or less. **In 2021, PG&E's MAIFI was 1.320.**
- CAIDI is the average duration of sustained outages. It is determined by taking the total outage minutes for all customer outages³ (SAIDI) and dividing it by the total number of customer outages (SAIFI). **In 2021, PG&E's CAIDI was 165.5 minutes.**

² PG&E's outage reporting tools were originally designed to track momentary outages as defined in D96-09-045. Under D.16-01-008, this method of tracking momentary outages corresponds to the MAIFI_E definition contained in the IEEE Guide for Electric Power Distribution Reliability Indices (IEEE 1366 standard), which counts multiple outage interruptions that occur close to each other in time as a single momentary outage event. This metric is equal to the total number of customer momentary interruption events divided by the total number of customers served and does not include the events immediately preceding a sustained interruption.

³ Measures sustained outage events and excludes momentary outage events.



What follows is the 2021 Electric Reliability Report for Pacific Gas and Electric Company as required by Decision 16-01-008. This report includes system reliability data based on the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 methodology, as required by D.16-01-008. The report includes very specific details, including reliability numbers for each of PG&E's 19 divisions. It also includes a list of worst performing circuits in Section 5.

Introduction

This is the 2021 Electric Reliability Report for Pacific Gas and Electric Company as required by Decision 16-01-008. This report includes system reliability data based on the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 methodology. This report consists of the following:

Section	Description
1.	System Indices for the Last 10 Years (2012-2021)
2.	Division Reliability Indices (2012-2021) Including and Excluding Major Event Days (MED)
3.	System and Division Indices Based on IEEE 1366 (2012-2021) Including Planned Outages and Including and Excluding MED
4.	Service Territory Map including Divisions
5.	Top 1% of Worst Performing Circuits (WPC) excluding MED
6.	Top 10 Major Unplanned Power Outage Events in 2021
7.	Summary List of MED per IEEE 1366
8.	Historical Ten Largest Unplanned Outage Events (2012-2021)
9.	The Number of Customer Inquiries on Reliability Data and the Number of Days per Response
10.	Appendix A – Definitions, Acronyms and Abbreviations

As noted in previous reports, PG&E implemented a new outage reporting system in 2015 that included the data conversion of its legacy (DART/OUTAGE) database. This new system consists of two main components that are typically referred to as PG&E's Integrated Logging and Information System (ILIS) and its Operations Database (ODB),

also called ILIS-ODB for short. ILIS models the actual electric switching operations reported during the circuit restoration process (which is useful for determining accurate customer outage minutes for calculating SAIDI and CAIDI). PG&E maintains account specific information for customers affected by outages that are recorded and stored in PG&E's ODB. This system tracks outages at various levels (generation, transmission, substation, primary distribution, and individual transformers) and the most current outage data was used to compile the information contained in this report.

Distribution operators log outage information in PG&E's ILIS tool, which uses minutes as the smallest time increment to record the outage start, switching operations, and outage end times. Smart Meters measure outage duration in seconds and are used to automatically report momentary outages beyond non-SCADA auto-reclosing devices. Momentary outages for SCADA related and other events are logged by distribution operators using the ILIS tool, which does not have the benefit of measuring the outage duration in seconds. Consequently, and although infrequent, it is possible that an outage duration is recorded as 5 minutes when the actual outage duration was up to 5 minutes and 59 seconds. In 2015, PG&E updated its reporting tools and process to help minimize this occurrence and allow the operator in these situations to log this event as a 6-minute sustained outage.

We have added a list of Definitions, Acronyms and Abbreviations at the end of Appendix A to help the reader who is not familiar with the jargon used in reliability reporting.

1. System Indices for the Last Ten Years

a. System Indices (2012-2021)

Table 2 lists the required SAIDI, SAIFI, MAIFI⁴, and CAIDI with MED Included and Excluded as directed in Appendix B of D.16-01-008⁵:

Table 2 – Combine Transmission and Distribution System Indices (2012-2021)
(Excludes planned and ISO outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2012	141.1	1.130	1.918	124.9	110.7	1.036	1.796	106.8
2013	117.0	1.070	1.633	109.3	95.8	0.969	1.523	98.9
2014	131.9	1.045	1.561	126.2	91.0	0.879	1.390	103.5
2015	131.8	0.967	1.812	136.3	80.7	0.787	1.585	102.5
2016	106.7	1.021	1.596	104.5	93.8	0.940	1.487	99.8
2017	357.8	1.466	2.295	244.1	97.3	0.878	1.487	110.8
2018	282.3	1.053	1.423	268.0	99.6	0.960	1.356	103.8
2019	1,363.3	1.872	1.780	728.2	117.7	1.009	1.270	116.6
2020	450.6	1.443	1.546	312.1	125.8	1.068	1.292	117.8
2021	588.3	1.688	1.876	348.5	182.8	1.178	1.309	155.2

Note: Includes Generation, Transmission, Substation, and Distribution related outages

⁴ Momentary outage events are either reported automatically or manually logged by control center operators typically based on outage information collected from Smart Meters, SCADA, or other devices.

⁵ Per D.16-01-008, this report excludes the August 14-15, 2021, load curtailment related outages initiated by CAISO due to the high demand on the electric power grid.

i. Distribution System Indices

Table 3 – Distribution System Indices (2012-2021)
(Excludes planned outages, transmission, substation, and generation related outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2012	120.1	0.959	1.627	125.2	96.3	0.882	1.526	109.2
2013	100.1	0.869	1.366	115.2	84.8	0.804	1.266	105.5
2014	119.7	0.926	1.275	129.2	85.2	0.780	1.125	109.2
2015	99.4	0.804	1.606	123.6	72.5	0.689	1.391	105.3
2016	95.5	0.896	1.401	106.6	83.1	0.819	1.304	101.5
2017	302.8	1.274	1.996	237.7	90.0	0.792	1.275	113.6
2018	263.4	0.905	1.211	291.1	90.7	0.842	1.154	107.6
2019	1,322.9	1.673	1.550	790.9	103.1	0.877	1.101	117.5
2020	417.9	1.237	1.364	338.0	111.2	0.933	1.146	119.2
2021	529.0	1.495	1.646	353.9	160.0	1.033	1.172	154.9

Note: PG&E defines its distribution system as line voltage less than 60 kilovolts (kV)

The MAIFI information is not included in Table 3 and Table 4 since non-SCADA automatic recording devices (Smart Meters) do not distinguish between transmission system outages or distribution system outages.

ii. Transmission System Indices

Table 4 – Transmission System Indices (2012-2021)
(Excludes planned outages, distribution, and generation related outages)
(Includes substation outages)

Year	Major Events Included			Major Events Excluded		
	SAIDI	SAIFI	CAIDI	SAIDI	SAIFI	CAIDI
2012	21.3	0.165	128.7	14.8	0.149	99.6
2013	13.1	0.168	77.7	11.7	0.160	72.6
2014	14.1	0.116	121.0	7.5	0.097	77.8
2015	32.1	0.160	201.0	7.8	0.095	82.7
2016	11.2	0.125	89.5	10.7	0.121	88.3
2017	54.9	0.191	286.9	7.3	0.085	85.4
2018	17.9	0.146	122.1	7.9	0.115	68.7
2019	40.2	0.198	202.7	14.5	0.131	110.5
2020	32.6	0.206	158.4	14.5	0.134	108.3
2021	59.0	0.192	307.9	22.5	0.143	156.7

Note: PG&E defines its transmission system as line voltage 60 kilovolts (kV) and above

b. Separate System Charts of SAIDI, SAIFI, MAIFI, and CAIDI for the past 10 years with linear trend line (MED Excluded)

i. SAIDI Performance Results (MED Excluded)

Chart 1: Transmission & Distribution System SAIDI Indices

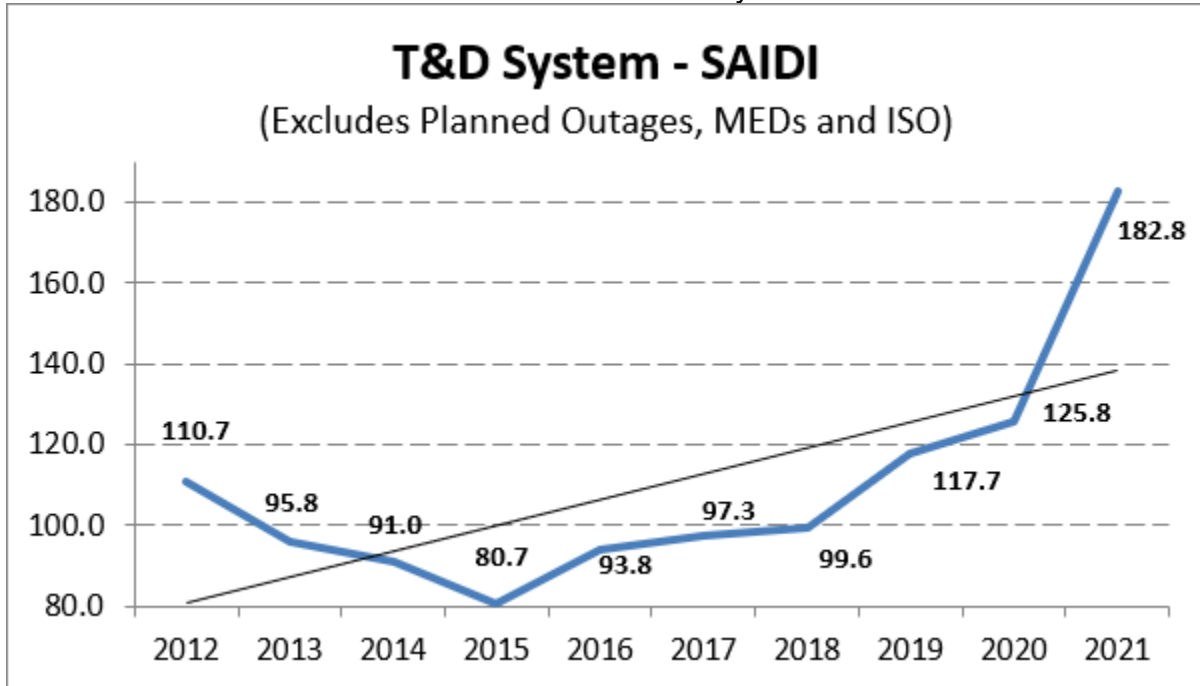


Chart 2: Distribution System SAIDI Indices

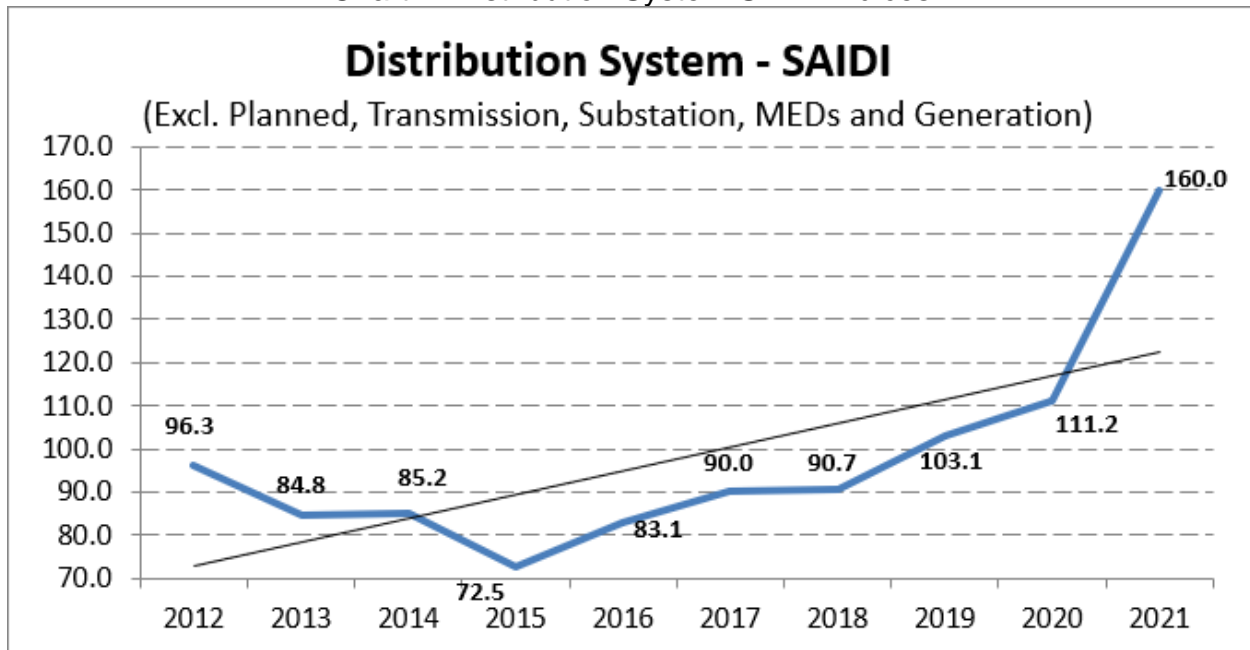
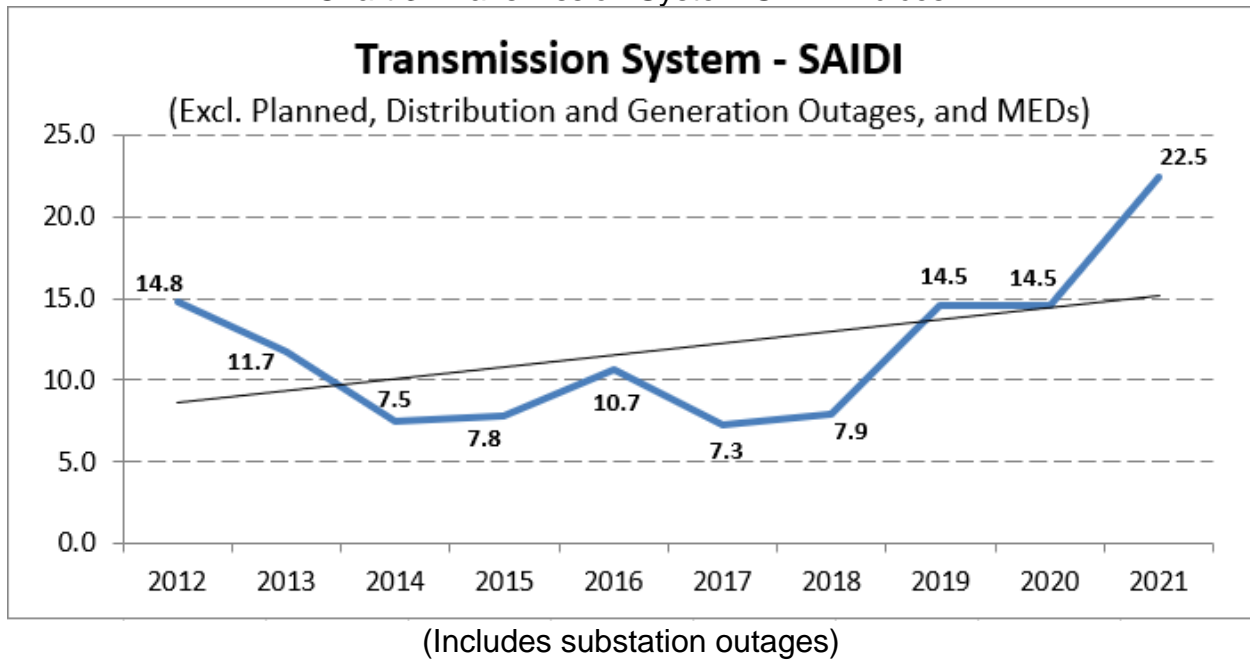


Chart 3: Transmission System SAIDI Indices



ii. SAIFI Performance Results (MED Excluded)

Chart 4: Transmission & Distribution System SAIFI Indices

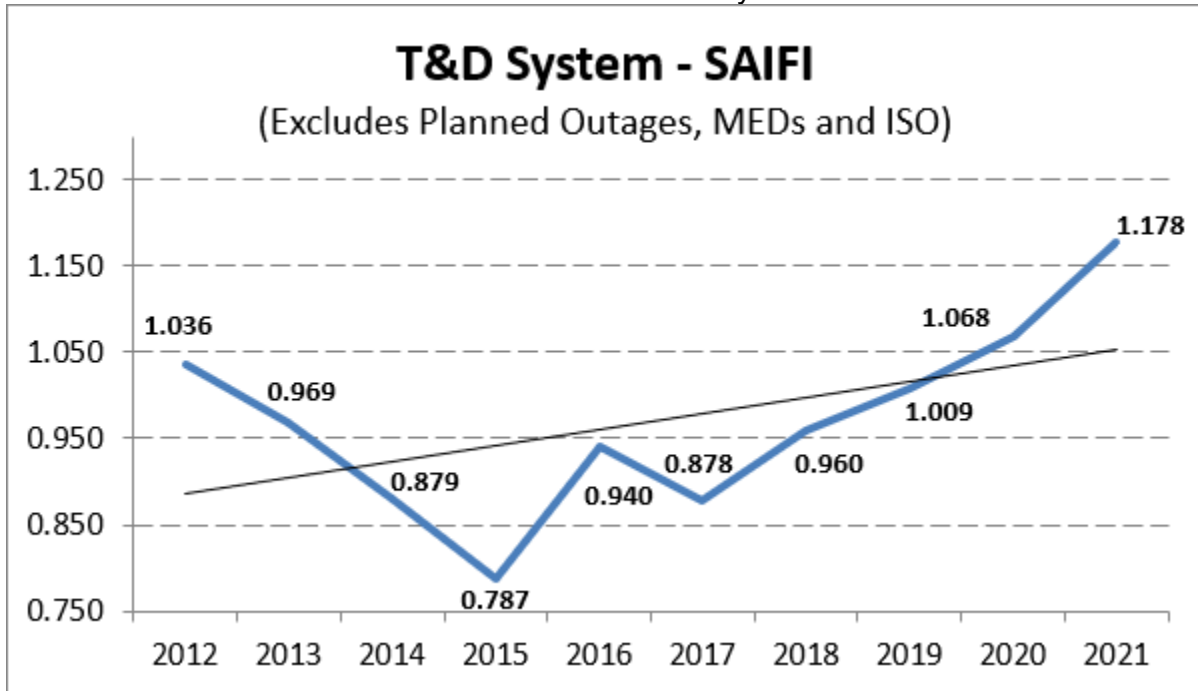


Chart 5: Distribution System SAIFI Indices

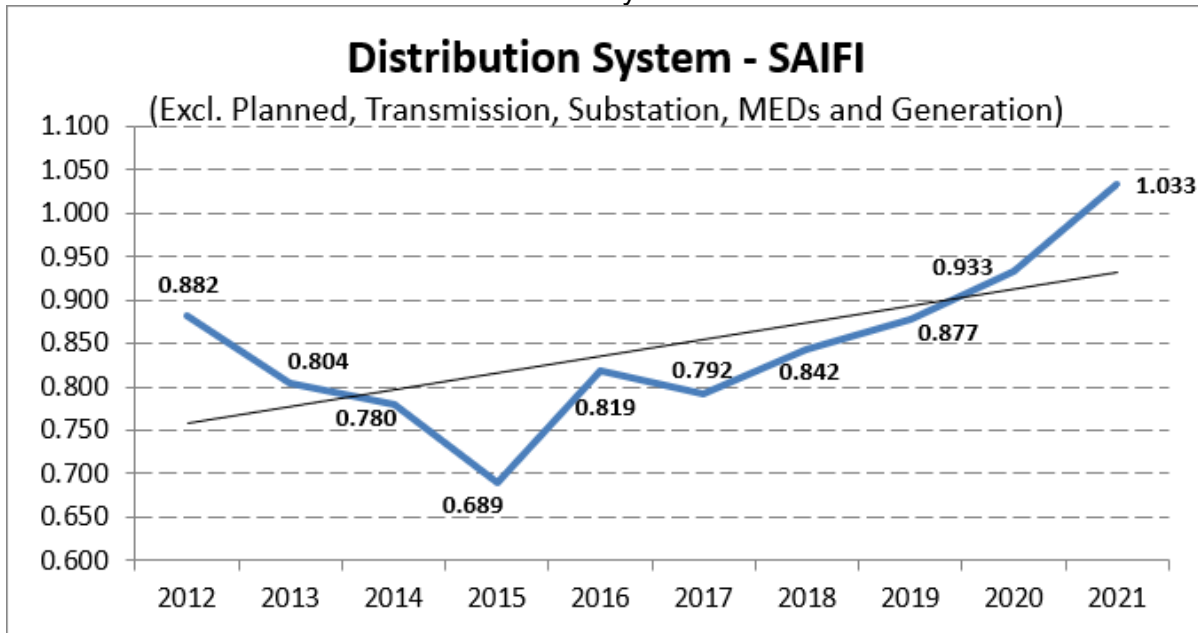
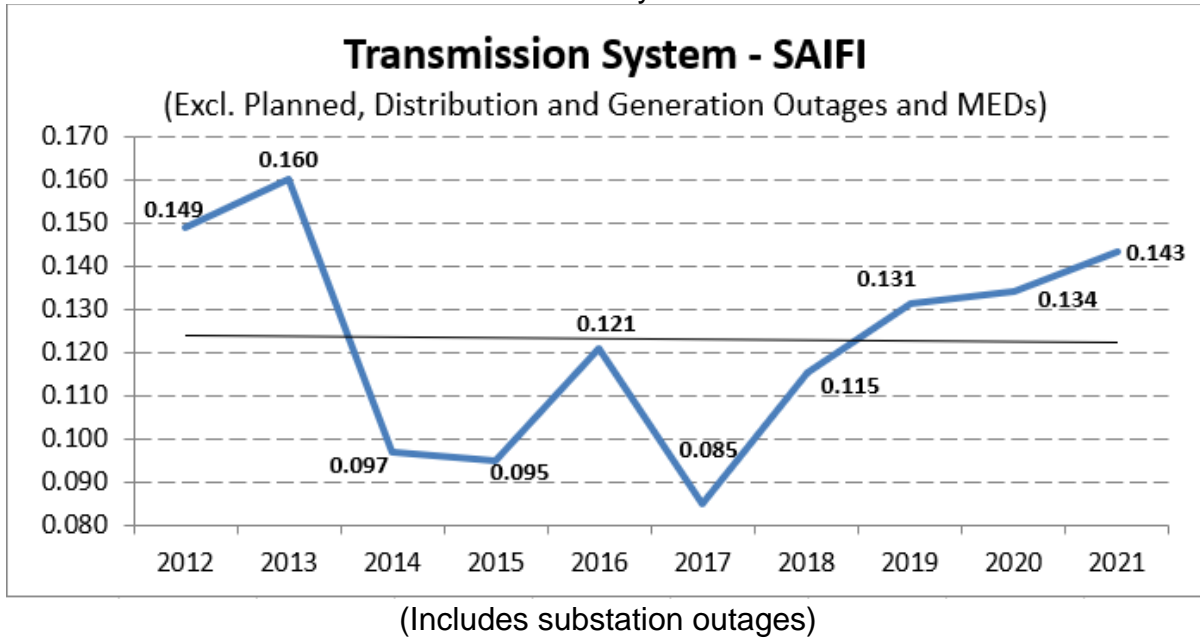
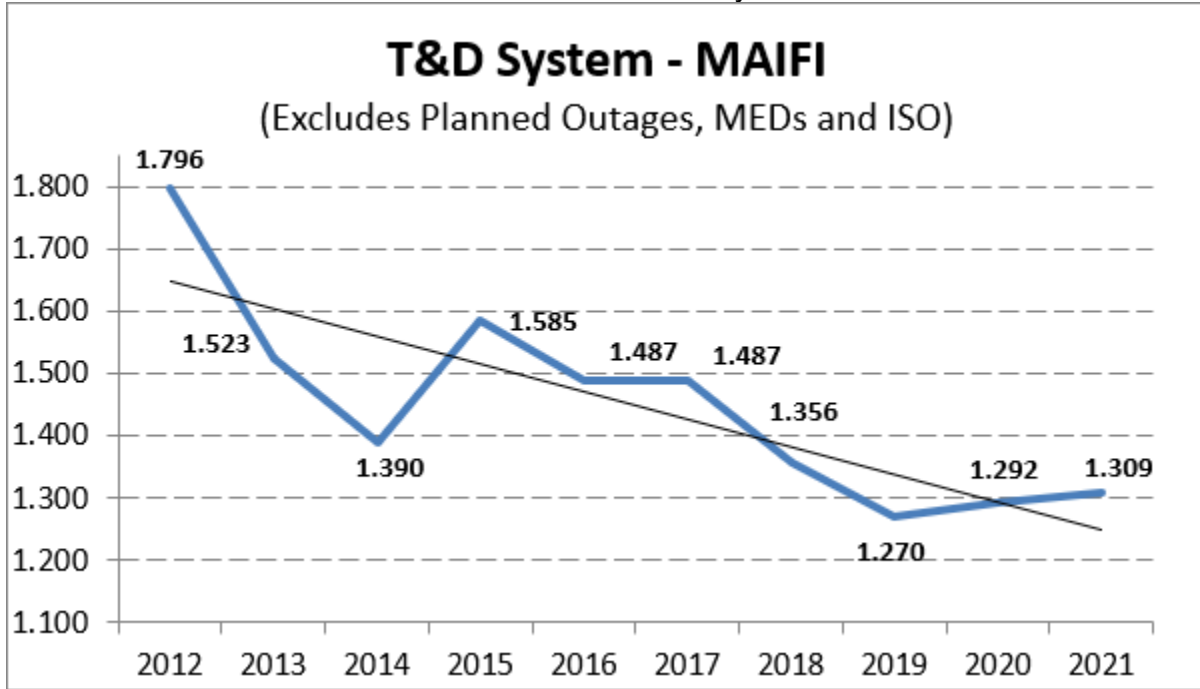


Chart 6: Transmission System SAIFI Indices



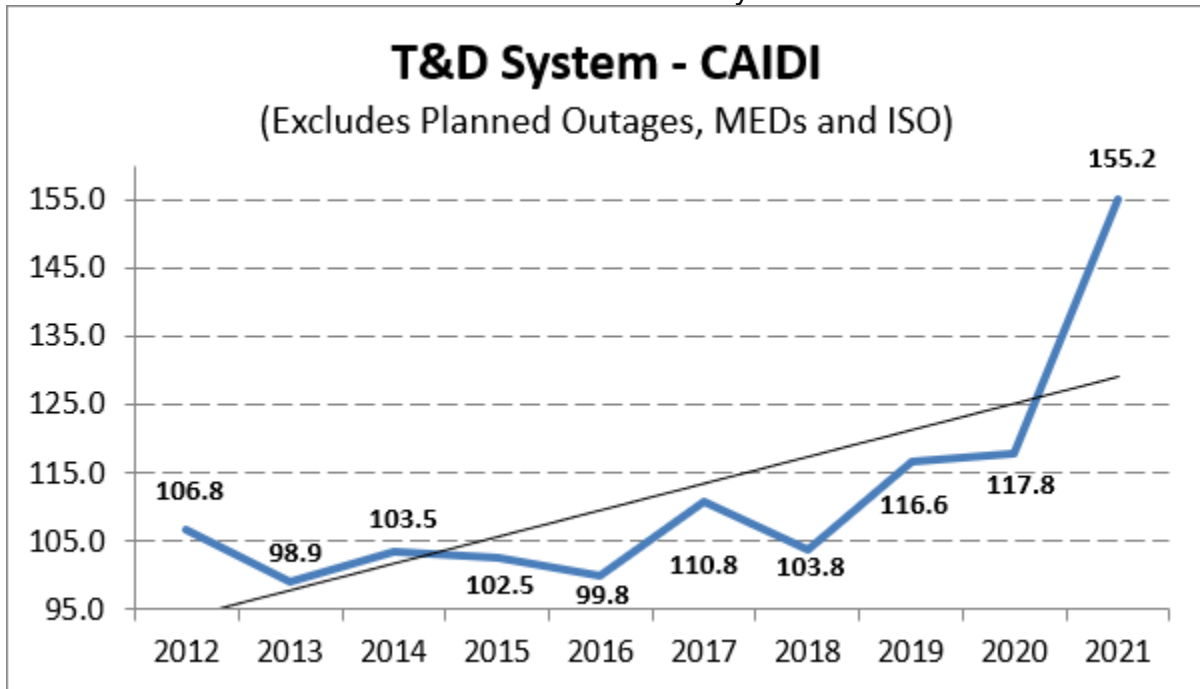
iii. MAIFI⁶ Performance Results (MED Excluded)

Chart 7: Transmission & Distribution System MAIFI Indices



iv. AIDI Performance Results (MED Excluded)

Chart 8: Transmission & Distribution System CAIDI Indices



⁶ See footnote 4.

Chart 9: Distribution System CAIDI Indices

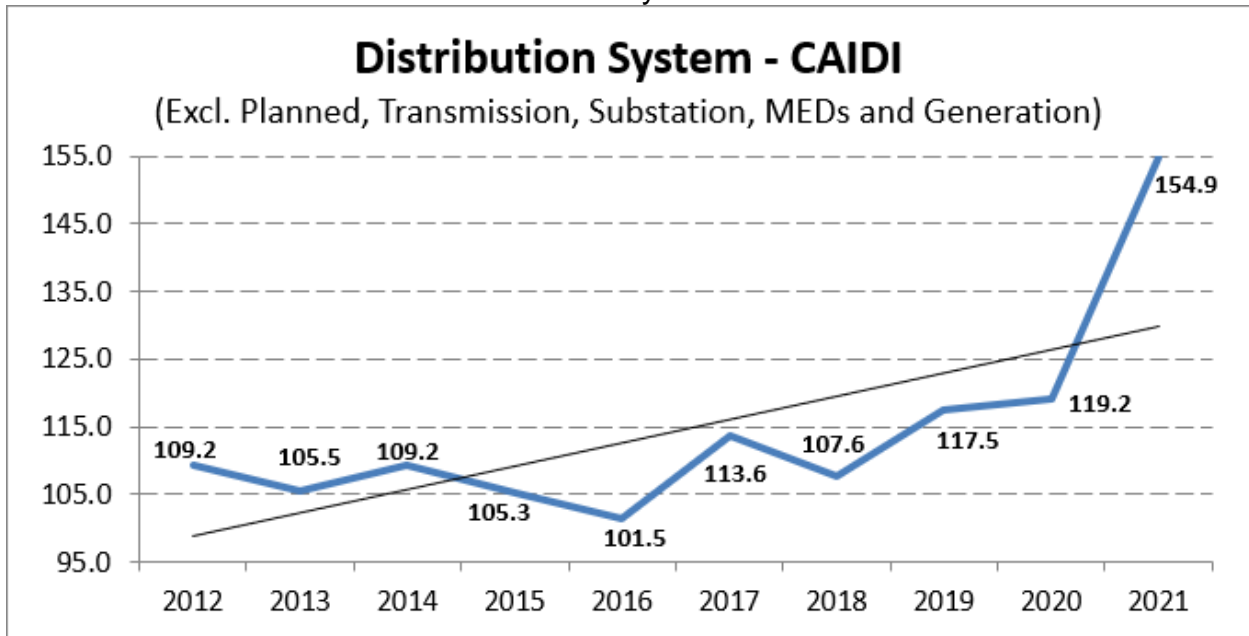
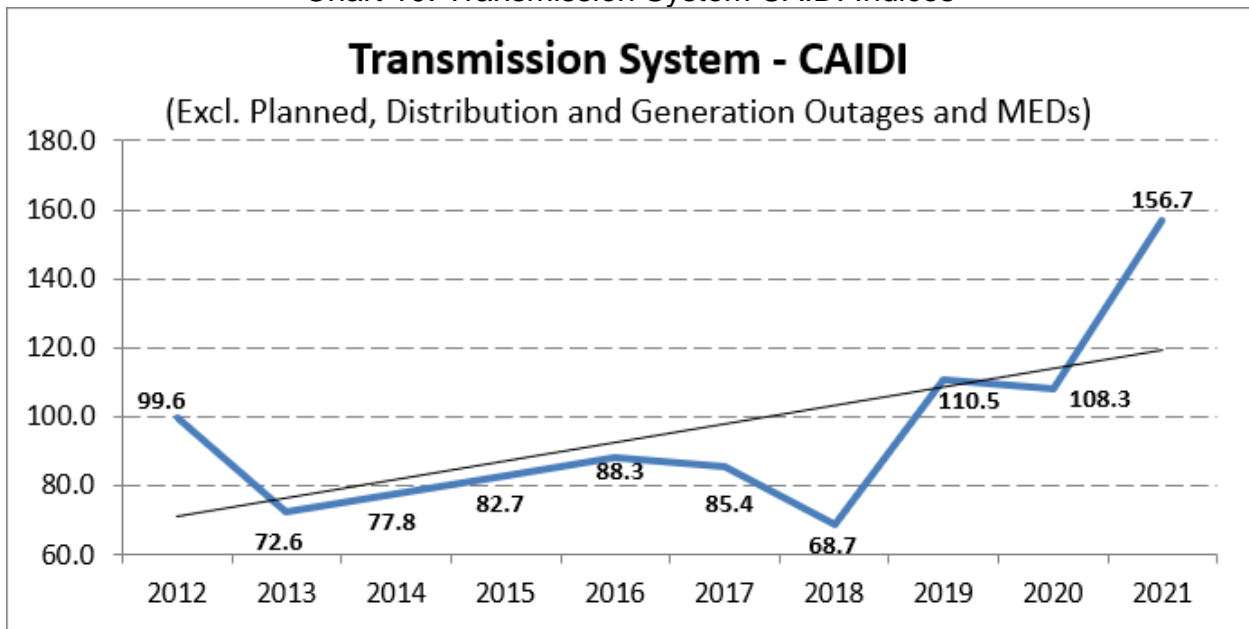


Chart 10: Transmission System CAIDI Indices



(Includes substation outages)

2. Division Reliability Indices for the past 10 years including and excluding MED

a. Division Reliability Indices for the past 10 years excluding ISO and planned outages and including Major Event Days

Table 5: Division Reliability Indices

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2012	152.0	1.317	2.362	115.5
CENTRAL COAST	2013	125.3	1.315	2.041	95.3
CENTRAL COAST	2014	199.3	1.351	2.133	147.5
CENTRAL COAST	2015	253.0	1.289	2.173	196.3
CENTRAL COAST	2016	188.6	1.637	2.730	115.2
CENTRAL COAST	2017	807.8	2.462	4.576	328.2
CENTRAL COAST	2018	186.8	1.598	2.502	117.0
CENTRAL COAST	2019	1,294.9	2.584	3.149	501.2
CENTRAL COAST	2020	395.9	2.129	1.888	185.9
CENTRAL COAST	2021	711.0	2.379	2.533	298.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2012	82.8	0.718	1.223	115.3
DE ANZA	2013	78.8	0.831	1.173	94.8
DE ANZA	2014	112.9	1.017	1.318	111.1
DE ANZA	2015	63.4	0.594	1.281	106.7
DE ANZA	2016	109.6	0.924	1.414	118.6
DE ANZA	2017	315.4	1.503	1.792	209.8
DE ANZA	2018	86.8	0.836	1.426	103.8
DE ANZA	2019	402.2	1.385	2.008	290.4
DE ANZA	2020	226.3	0.958	1.597	236.2
DE ANZA	2021	294.6	1.189	1.784	247.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2012	105.3	1.230	1.400	85.6
DIABLO	2013	83.1	1.023	1.297	81.3
DIABLO	2014	82.2	0.979	1.374	84.0
DIABLO	2015	83.7	0.985	1.873	85.0
DIABLO	2016	79.0	1.008	1.729	78.4
DIABLO	2017	140.7	1.218	2.138	115.5
DIABLO	2018	89.5	1.112	1.540	80.4
DIABLO	2019	612.7	1.601	1.855	382.7
DIABLO	2020	249.6	1.433	1.823	174.1
DIABLO	2021	163.6	1.430	1.671	114.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2012	110.7	1.372	1.347	80.7
EAST BAY	2013	117.3	1.010	1.266	116.2
EAST BAY	2014	81.1	0.847	1.515	95.8
EAST BAY	2015	59.6	0.723	1.179	82.5
EAST BAY	2016	128.2	1.205	1.242	106.4
EAST BAY	2017	147.3	1.217	1.983	121.1
EAST BAY	2018	87.6	0.990	1.131	88.4
EAST BAY	2019	459.7	1.346	1.216	341.6
EAST BAY	2020	222.4	1.116	1.647	199.3
EAST BAY	2021	238.5	1.679	1.629	142.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2012	100.1	1.066	2.359	94.0
FRESNO	2013	95.0	1.100	2.104	86.4
FRESNO	2014	81.6	1.002	1.781	81.5
FRESNO	2015	100.3	1.151	2.057	87.2
FRESNO	2016	85.1	1.127	1.975	75.5
FRESNO	2017	102.5	0.986	1.863	104.0
FRESNO	2018	113.9	1.046	1.415	108.9
FRESNO	2019	120.7	0.994	1.695	121.4
FRESNO	2020	116.9	1.136	1.452	102.9
FRESNO	2021	213.2	1.354	1.681	157.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2012	338.1	1.747	4.654	193.5
HUMBOLDT	2013	304.3	1.416	2.627	214.9
HUMBOLDT	2014	288.4	1.368	1.940	210.9
HUMBOLDT	2015	695.2	2.234	2.736	311.2
HUMBOLDT	2016	219.4	1.637	2.055	134.0
HUMBOLDT	2017	919.8	2.362	3.510	389.5
HUMBOLDT	2018	402.6	2.144	1.570	187.8
HUMBOLDT	2019	6,899.5	4.365	2.423	1,580.7
HUMBOLDT	2020	968.7	2.161	1.304	448.3
HUMBOLDT	2021	1,602.5	2.815	2.065	569.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2012	89.2	0.999	1.218	89.2
KERN	2013	91.3	1.073	1.226	85.1
KERN	2014	108.8	1.109	1.848	98.2
KERN	2015	92.0	0.947	1.925	97.1
KERN	2016	89.8	0.932	2.072	96.3
KERN	2017	138.9	1.072	1.958	129.6
KERN	2018	72.4	0.789	1.747	91.8
KERN	2019	162.0	1.325	2.079	122.2
KERN	2020	129.7	1.157	1.955	112.1
KERN	2021	179.3	1.397	1.855	128.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2012	95.4	1.010	1.658	94.4
LOS PADRES	2013	212.5	1.495	1.105	142.1
LOS PADRES	2014	186.6	1.238	1.354	150.7
LOS PADRES	2015	132.2	0.844	1.783	156.6
LOS PADRES	2016	114.1	1.172	1.672	97.4
LOS PADRES	2017	315.7	1.574	2.127	200.6
LOS PADRES	2018	141.8	1.277	1.153	111.1
LOS PADRES	2019	225.9	1.533	1.134	147.4
LOS PADRES	2020	198.1	1.296	0.915	152.9
LOS PADRES	2021	300.8	1.621	1.906	185.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2012	93.9	0.931	0.862	100.9
MISSION	2013	73.5	0.805	0.837	91.3
MISSION	2014	73.7	0.751	0.820	98.1
MISSION	2015	62.6	0.596	1.150	105.1
MISSION	2016	82.7	0.763	0.961	108.4
MISSION	2017	137.9	1.012	1.470	136.4
MISSION	2018	67.1	0.672	0.839	99.9
MISSION	2019	296.5	0.948	0.939	312.6
MISSION	2020	219.2	1.201	1.387	182.5
MISSION	2021	156.3	1.215	1.190	128.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2012	140.4	0.920	1.949	152.6
NORTH BAY	2013	114.0	0.996	1.730	114.5
NORTH BAY	2014	235.1	1.250	2.721	188.1
NORTH BAY	2015	135.4	1.059	2.161	127.9
NORTH BAY	2016	110.3	0.920	1.434	119.8
NORTH BAY	2017	733.3	1.761	2.810	416.5
NORTH BAY	2018	164.6	0.982	1.837	167.6
NORTH BAY	2019	3,518.1	3.182	2.272	1,105.7
NORTH BAY	2020	509.3	1.718	2.521	296.4
NORTH BAY	2021	352.5	1.627	2.285	216.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2012	514.0	1.886	2.947	272.6
NORTH VALLEY	2013	139.4	1.093	1.962	127.6
NORTH VALLEY	2014	173.2	1.177	1.778	147.2
NORTH VALLEY	2015	479.6	1.787	2.528	268.3
NORTH VALLEY	2016	175.1	1.265	2.173	138.4
NORTH VALLEY	2017	398.6	1.672	3.163	238.5
NORTH VALLEY	2018	4,287.0	1.629	1.393	2,631.8
NORTH VALLEY	2019	4,886.2	3.961	2.501	1,233.6
NORTH VALLEY	2020	1,979.0	2.563	1.654	772.2
NORTH VALLEY	2021	2,098.0	2.886	3.202	726.9

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2012	101.1	1.144	1.709	88.4
PENINSULA	2013	94.3	0.885	1.322	106.5
PENINSULA	2014	98.4	1.061	1.363	92.8
PENINSULA	2015	76.2	0.866	1.798	87.9
PENINSULA	2016	87.1	0.986	1.381	88.3
PENINSULA	2017	167.0	1.328	2.382	125.7
PENINSULA	2018	66.4	0.856	1.255	77.5
PENINSULA	2019	734.2	1.551	1.642	473.2
PENINSULA	2020	169.5	1.199	1.383	141.4
PENINSULA	2021	391.0	1.625	1.886	240.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2012	152.7	1.335	2.142	114.4
SACRAMENTO	2013	98.3	0.983	1.697	100.0
SACRAMENTO	2014	107.9	0.913	1.437	118.2
SACRAMENTO	2015	92.4	0.894	1.771	103.3
SACRAMENTO	2016	99.4	1.035	1.803	96.1
SACRAMENTO	2017	283.0	1.870	3.213	151.3
SACRAMENTO	2018	108.5	1.059	1.935	102.4
SACRAMENTO	2019	670.8	1.686	2.349	397.9
SACRAMENTO	2020	281.9	1.602	1.796	176.0
SACRAMENTO	2021	579.7	1.740	2.873	333.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2012	51.7	0.611	1.051	84.6
SAN FRANCISCO	2013	58.1	0.657	0.332	88.4
SAN FRANCISCO	2014	131.0	0.780	0.353	167.9
SAN FRANCISCO	2015	36.1	0.521	0.537	69.3
SAN FRANCISCO	2016	40.7	0.537	0.397	75.8
SAN FRANCISCO	2017	116.4	0.860	0.513	135.4
SAN FRANCISCO	2018	38.0	0.417	0.298	91.0
SAN FRANCISCO	2019	71.7	0.718	0.363	99.8
SAN FRANCISCO	2020	48.5	0.642	0.427	75.5
SAN FRANCISCO	2021	68.4	0.674	0.595	101.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2012	85.2	0.844	0.972	100.9
SAN JOSE	2013	99.7	0.962	1.037	103.7
SAN JOSE	2014	98.9	0.975	1.066	101.4
SAN JOSE	2015	75.6	0.763	1.151	99.1
SAN JOSE	2016	68.9	0.678	1.200	101.5
SAN JOSE	2017	179.8	1.241	1.807	144.8
SAN JOSE	2018	86.9	0.872	1.349	99.6
SAN JOSE	2019	275.7	1.083	1.422	254.6
SAN JOSE	2020	177.7	1.074	1.526	165.5
SAN JOSE	2021	171.7	1.004	1.248	170.9

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2012	243.2	1.481	3.224	164.2
SIERRA	2013	156.7	1.411	3.222	111.1
SIERRA	2014	194.8	1.411	2.349	138.1
SIERRA	2015	181.9	1.274	3.150	142.8
SIERRA	2016	174.3	1.252	1.864	139.2
SIERRA	2017	620.1	2.076	3.105	298.7
SIERRA	2018	399.2	1.450	1.431	275.3
SIERRA	2019	5,826.0	4.104	2.545	1,419.6
SIERRA	2020	2,345.1	2.626	1.917	892.9
SIERRA	2021	3,065.4	2.880	2.341	1,064.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2012	208.4	1.109	2.030	187.9
SONOMA	2013	181.7	1.119	2.536	162.3
SONOMA	2014	214.9	1.270	2.049	169.3
SONOMA	2015	119.1	0.868	1.992	137.3
SONOMA	2016	95.4	0.834	1.605	114.3
SONOMA	2017	1,850.1	1.951	2.885	948.3
SONOMA	2018	107.4	0.974	1.240	110.3
SONOMA	2019	3,871.1	2.540	1.661	1,523.9
SONOMA	2020	601.0	1.645	1.597	365.3
SONOMA	2021	396.0	1.738	1.860	227.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2012	166.1	1.166	2.095	142.4
STOCKTON	2013	115.6	1.462	2.137	79.1
STOCKTON	2014	123.9	0.843	1.444	147.0
STOCKTON	2015	124.5	1.035	2.243	120.3
STOCKTON	2016	100.0	0.994	1.777	100.6
STOCKTON	2017	271.1	1.627	1.924	166.6
STOCKTON	2018	224.8	1.152	1.994	195.1
STOCKTON	2019	1,579.9	2.366	1.904	667.7
STOCKTON	2020	661.0	1.595	1.549	414.4
STOCKTON	2021	1,119.6	2.003	2.395	558.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2012	147.7	1.311	4.168	112.6
YOSEMITE	2013	189.1	1.362	3.429	138.9
YOSEMITE	2014	135.6	1.290	2.669	105.2
YOSEMITE	2015	112.4	1.072	3.095	104.8
YOSEMITE	2016	129.9	1.234	2.156	105.2
YOSEMITE	2017	310.8	1.720	3.048	180.7
YOSEMITE	2018	177.4	1.465	1.834	121.1
YOSEMITE	2019	1,399.3	2.652	2.686	527.5
YOSEMITE	2020	783.7	1.944	1.588	403.2
YOSEMITE	2021	1,320.1	3.169	2.623	416.6

b. Division Reliability Indices for the past 10 years excluding planned outages, ISO outages and Major Event Days

Table 6: Division Reliability Indices

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2012	137.4	1.244	2.184	110.4
CENTRAL COAST	2013	119.7	1.291	1.958	92.7
CENTRAL COAST	2014	122.1	1.088	1.835	112.3
CENTRAL COAST	2015	102.0	0.847	1.844	120.4
CENTRAL COAST	2016	166.1	1.471	2.476	112.9
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
CENTRAL COAST	2019	203.6	1.470	2.231	138.5
CENTRAL COAST	2020	159.1	1.724	1.600	92.3
CENTRAL COAST	2021	289.2	1.643	1.904	176.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2012	74.6	0.668	1.109	111.7
DE ANZA	2013	77.0	0.821	1.138	93.8
DE ANZA	2014	89.3	0.890	1.213	100.3
DE ANZA	2015	51.2	0.476	1.171	107.6
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	97.9	0.985	1.150	99.4
DE ANZA	2018	84.0	0.789	1.402	106.4
DE ANZA	2019	91.3	0.873	1.657	104.6
DE ANZA	2020	83.1	0.711	1.213	117.0
DE ANZA	2021	121.0	0.787	0.987	153.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2012	98.8	1.186	1.363	83.3
DIABLO	2013	80.4	1.001	1.237	80.3
DIABLO	2014	66.1	0.892	1.220	74.1
DIABLO	2015	73.8	0.860	1.666	85.8
DIABLO	2016	76.5	0.995	1.694	76.9
DIABLO	2017	78.0	0.876	1.620	89.1
DIABLO	2018	78.3	1.004	1.496	78.0
DIABLO	2019	78.8	0.935	1.212	84.3
DIABLO	2020	110.8	1.206	1.621	91.9
DIABLO	2021	112.0	1.177	1.352	95.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2012	100.6	1.289	1.278	78.0
EAST BAY	2013	63.0	0.832	1.155	75.6
EAST BAY	2014	64.8	0.726	1.299	89.2
EAST BAY	2015	45.0	0.586	1.085	76.9
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.080	87.5
EAST BAY	2019	84.5	0.854	0.956	99.0
EAST BAY	2020	95.5	0.838	1.453	114.0
EAST BAY	2021	154.2	1.250	1.316	123.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2012	98.6	1.043	2.323	94.5
FRESNO	2013	92.4	1.068	2.063	86.5
FRESNO	2014	79.4	0.983	1.709	80.7
FRESNO	2015	70.0	0.849	1.829	82.4
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
FRESNO	2019	78.8	0.828	1.477	95.2
FRESNO	2020	86.5	0.865	1.352	100.0
FRESNO	2021	142.0	1.081	1.456	131.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2012	276.6	1.560	4.330	177.3
HUMBOLDT	2013	210.4	1.170	2.437	179.8
HUMBOLDT	2014	212.4	1.217	1.809	174.5
HUMBOLDT	2015	276.3	1.621	2.423	170.5
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	225.9	1.789	1.502	126.3
HUMBOLDT	2019	274.4	1.616	1.850	169.7
HUMBOLDT	2020	191.6	1.336	1.181	143.5
HUMBOLDT	2021	461.3	2.005	1.410	230.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2012	88.1	0.981	1.218	89.8
KERN	2013	87.5	1.027	1.133	85.2
KERN	2014	81.0	0.936	1.635	86.5
KERN	2015	80.4	0.862	1.850	93.2
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
KERN	2019	106.6	1.101	1.743	96.8
KERN	2020	114.6	1.060	1.831	108.1
KERN	2021	138.4	1.101	1.503	125.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2012	94.8	1.008	1.652	94.1
LOS PADRES	2013	86.7	0.726	0.960	119.5
LOS PADRES	2014	95.2	1.043	1.135	91.2
LOS PADRES	2015	72.2	0.687	1.408	105.1
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	130.5	1.195	1.010	109.3
LOS PADRES	2019	150.7	1.188	0.798	126.8
LOS PADRES	2020	139.3	1.141	0.836	122.1
LOS PADRES	2021	195.0	1.125	1.313	173.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2012	91.2	0.905	0.860	100.7
MISSION	2013	67.8	0.736	0.775	92.1
MISSION	2014	62.9	0.672	0.770	93.6
MISSION	2015	56.7	0.543	1.054	104.4
MISSION	2016	72.7	0.702	0.916	103.7
MISSION	2017	60.2	0.602	1.002	99.9
MISSION	2018	62.0	0.644	0.815	96.4
MISSION	2019	65.8	0.669	0.693	98.4
MISSION	2020	91.1	0.766	1.060	119.0
MISSION	2021	113.5	0.957	0.909	118.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2012	109.7	0.791	1.646	138.8
NORTH BAY	2013	101.8	0.910	1.455	111.9
NORTH BAY	2014	114.6	0.875	2.505	131.0
NORTH BAY	2015	97.4	0.904	1.977	107.8
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
NORTH BAY	2019	148.2	1.312	1.647	112.9
NORTH BAY	2020	143.3	1.235	2.093	116.0
NORTH BAY	2021	160.0	1.063	1.548	150.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2012	223.2	1.505	2.576	148.3
NORTH VALLEY	2013	118.9	1.035	1.904	114.9
NORTH VALLEY	2014	111.1	0.968	1.521	114.8
NORTH VALLEY	2015	132.8	1.062	1.930	125.0
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.1	1.364	1.325	137.2
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
NORTH VALLEY	2020	269.0	1.546	1.369	174.0
NORTH VALLEY	2021	427.7	1.752	2.185	244.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2012	86.8	0.999	1.528	86.9
PENINSULA	2013	70.1	0.785	1.114	89.4
PENINSULA	2014	77.1	0.898	1.164	85.9
PENINSULA	2015	60.5	0.752	1.601	80.4
PENINSULA	2016	78.8	0.905	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
PENINSULA	2019	88.5	0.816	0.983	108.4
PENINSULA	2020	85.5	0.855	1.042	100.0
PENINSULA	2021	161.2	1.068	0.944	150.9

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2012	130.1	1.194	1.969	108.9
SACRAMENTO	2013	93.0	0.937	1.566	99.2
SACRAMENTO	2014	94.4	0.807	1.258	117.0
SACRAMENTO	2015	80.1	0.799	1.556	100.3
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.0	1.021	1.825	98.9
SACRAMENTO	2019	98.9	0.866	1.574	114.3
SACRAMENTO	2020	173.6	1.350	1.499	128.6
SACRAMENTO	2021	155.4	1.122	1.864	138.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2012	47.0	0.570	1.008	82.6
SAN FRANCISCO	2013	52.0	0.604	0.302	86.1
SAN FRANCISCO	2014	41.5	0.457	0.235	90.8
SAN FRANCISCO	2015	33.9	0.504	0.501	67.2
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
SAN FRANCISCO	2020	43.9	0.582	0.386	75.5
SAN FRANCISCO	2021	49.4	0.530	0.499	93.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2012	80.6	0.793	0.945	101.6
SAN JOSE	2013	96.7	0.914	0.977	105.7
SAN JOSE	2014	76.0	0.806	1.026	94.4
SAN JOSE	2015	65.9	0.678	1.008	97.2
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
SAN JOSE	2019	81.5	0.747	1.253	109.1
SAN JOSE	2020	120.9	0.906	1.274	133.5
SAN JOSE	2021	95.4	0.763	0.905	125.1
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2012	182.4	1.322	2.906	137.9
SIERRA	2013	109.9	1.279	3.085	85.9
SIERRA	2014	142.2	1.210	2.128	117.5
SIERRA	2015	123.2	1.115	2.816	110.5
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
SIERRA	2019	167.5	1.151	1.482	145.6
SIERRA	2020	208.0	1.422	1.169	146.2
SIERRA	2021	342.1	1.672	1.013	204.6

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2012	117.9	0.897	1.730	131.5
SONOMA	2013	113.4	0.846	2.256	134.0
SONOMA	2014	113.7	0.899	1.587	126.6
SONOMA	2015	73.0	0.673	1.534	108.5
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
SONOMA	2019	145.7	1.070	1.233	136.1
SONOMA	2020	124.5	1.062	1.327	117.2
SONOMA	2021	166.3	1.257	1.399	132.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2012	91.1	0.993	1.972	91.8
STOCKTON	2013	106.5	1.427	2.025	74.6
STOCKTON	2014	105.9	0.749	1.309	141.4
STOCKTON	2015	96.1	0.874	1.947	109.9
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
STOCKTON	2019	175.3	1.276	1.130	137.4
STOCKTON	2020	131.8	1.187	1.268	111.0
STOCKTON	2021	176.2	1.151	1.471	153.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2012	140.8	1.272	4.088	110.7
YOSEMITE	2013	187.8	1.344	3.259	139.7
YOSEMITE	2014	117.6	1.226	2.446	96.0
YOSEMITE	2015	102.3	0.984	2.638	103.9
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.3	1.355	1.773	116.8
YOSEMITE	2019	160.4	1.470	1.603	109.1
YOSEMITE	2020	197.4	1.411	1.299	139.9
YOSEMITE	2021	434.4	2.180	1.804	199.3

c. Charts for Division Reliability Indices for the past 10 years

i. Charts for Division Reliability Indices for the past 10 years with linear trend line excluding ISO and planned outages and including MED

1. AIDI Performance Results (MED Included)

Chart 11: Division Reliability - AIDI Indices

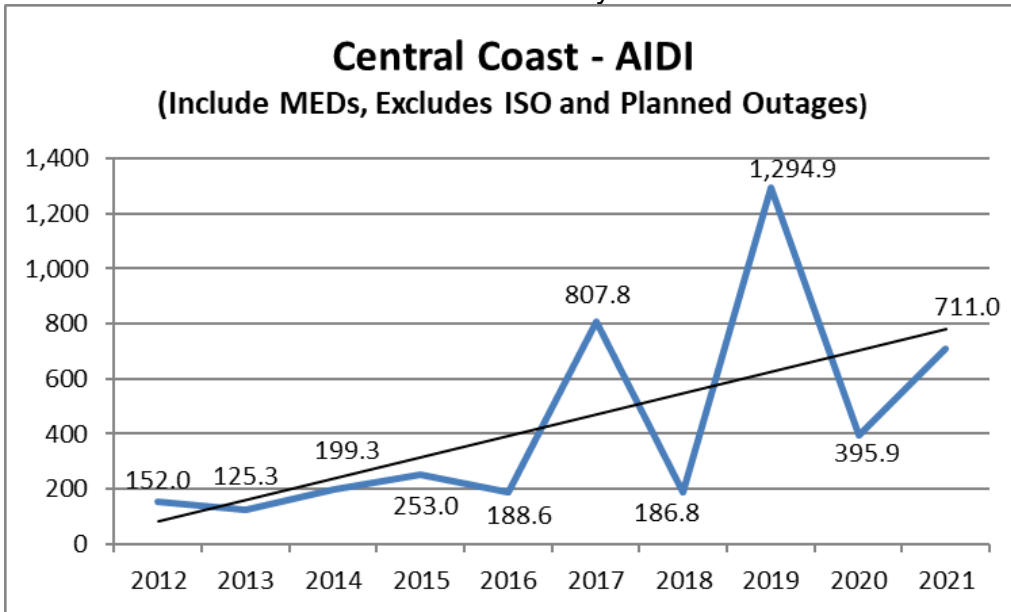


Chart 12: Division Reliability - AIDI Indices

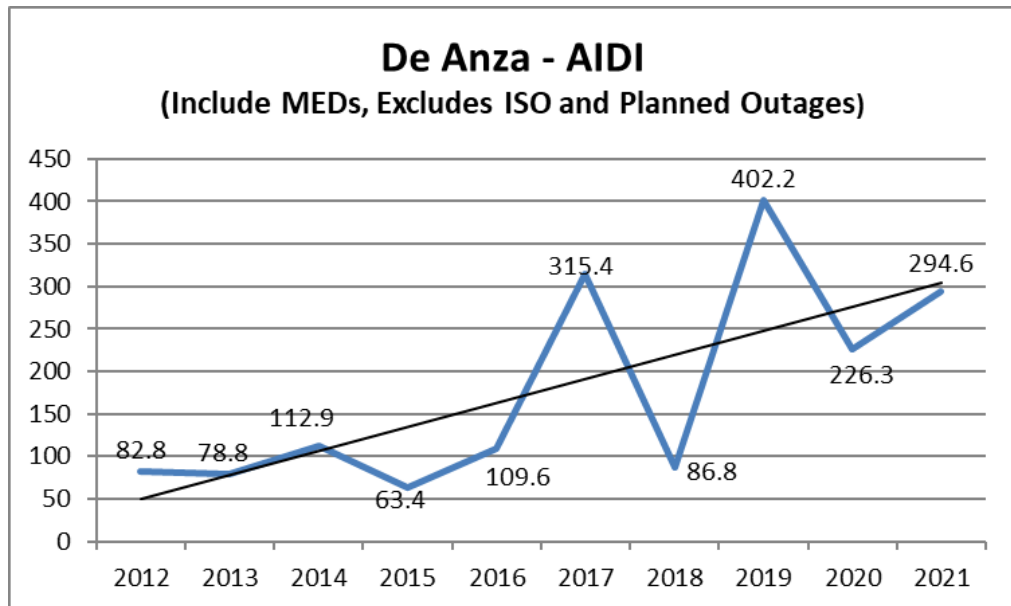


Chart 13: Division Reliability - AIDI Indices

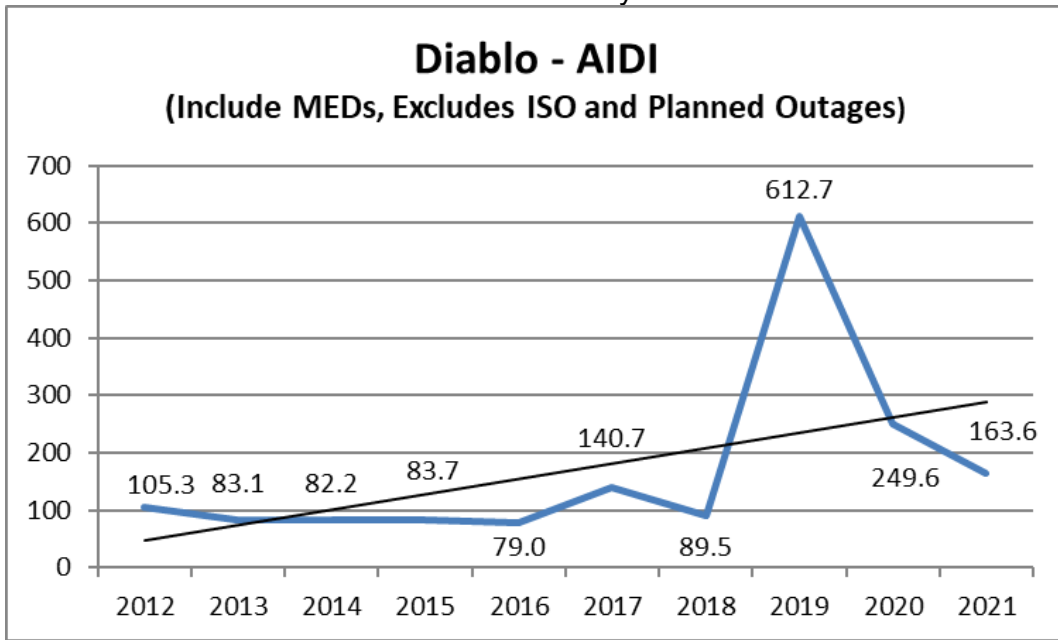


Chart 14: Division Reliability - AIDI Indices

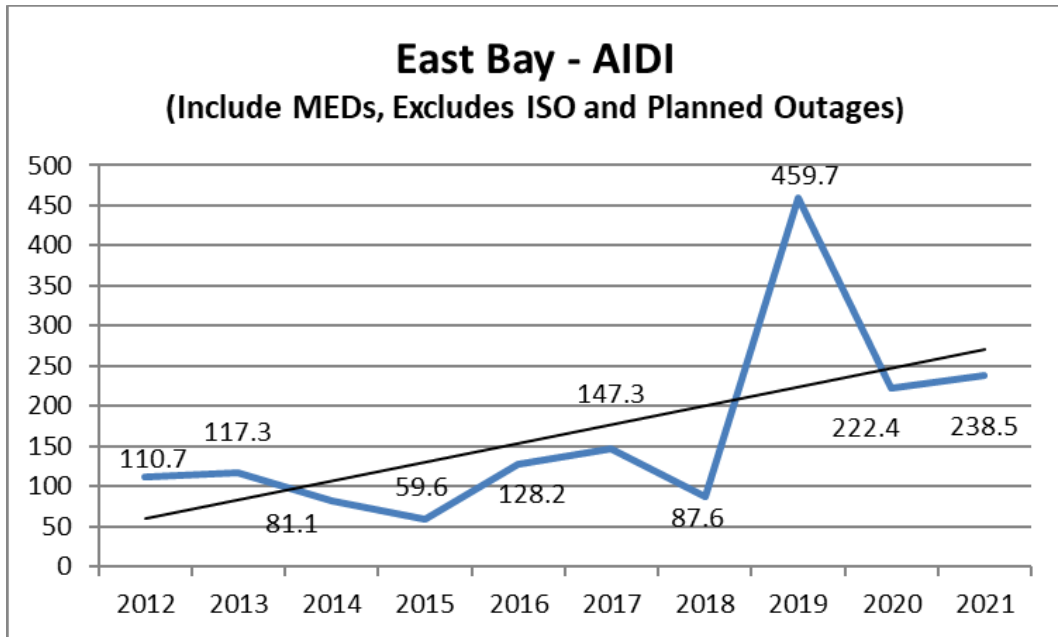


Chart 15: Division Reliability - AIDI Indices

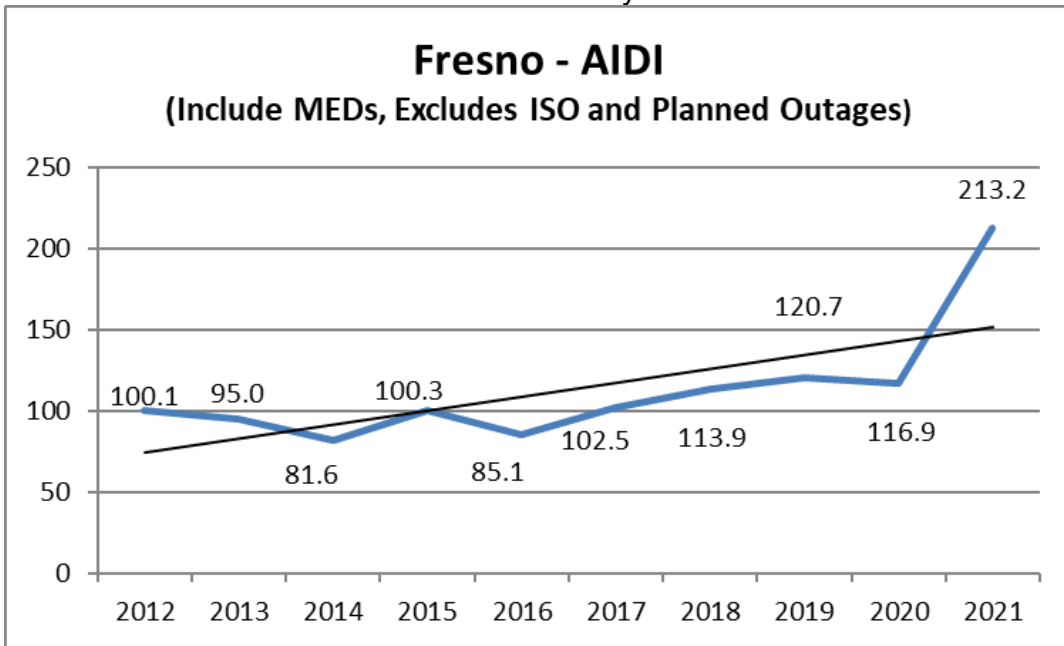


Chart 16: Division Reliability - AIDI Indices

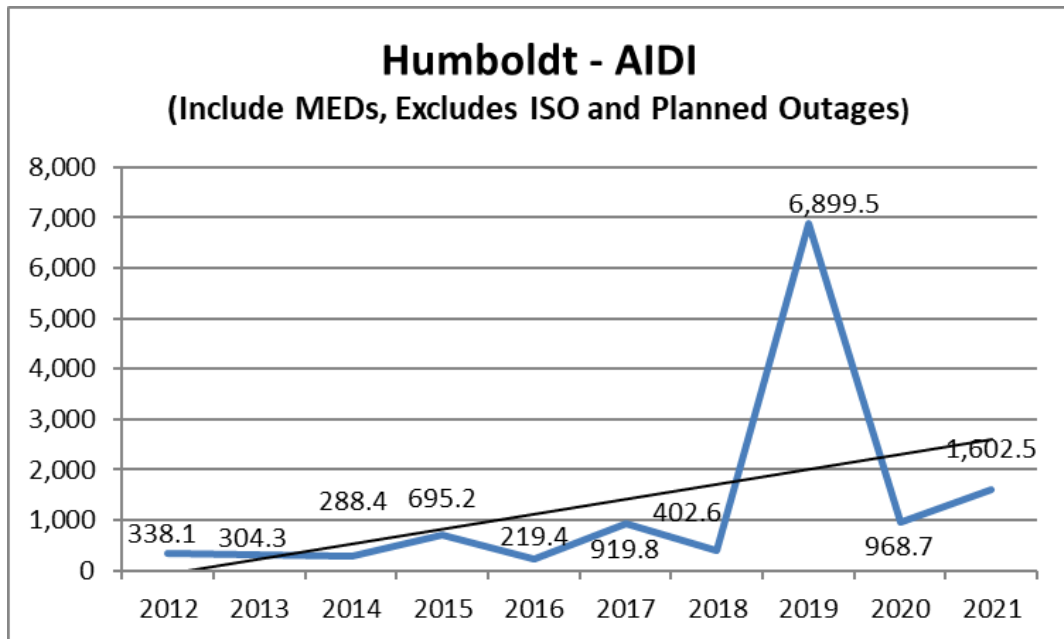


Chart 17: Division Reliability - AIDI Indices

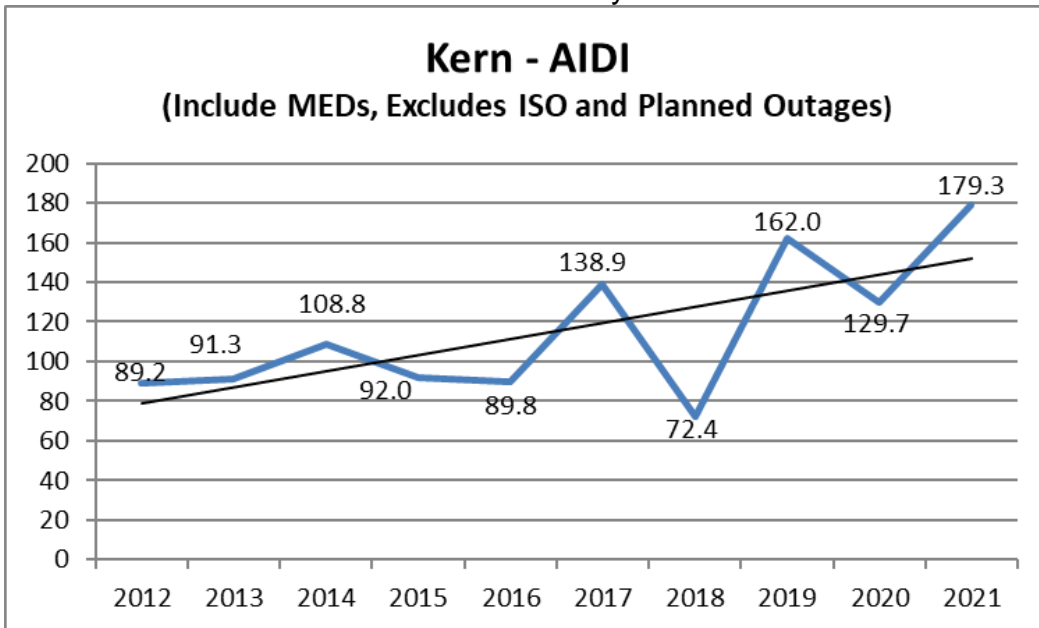


Chart 18: Division Reliability - AIDI Indices

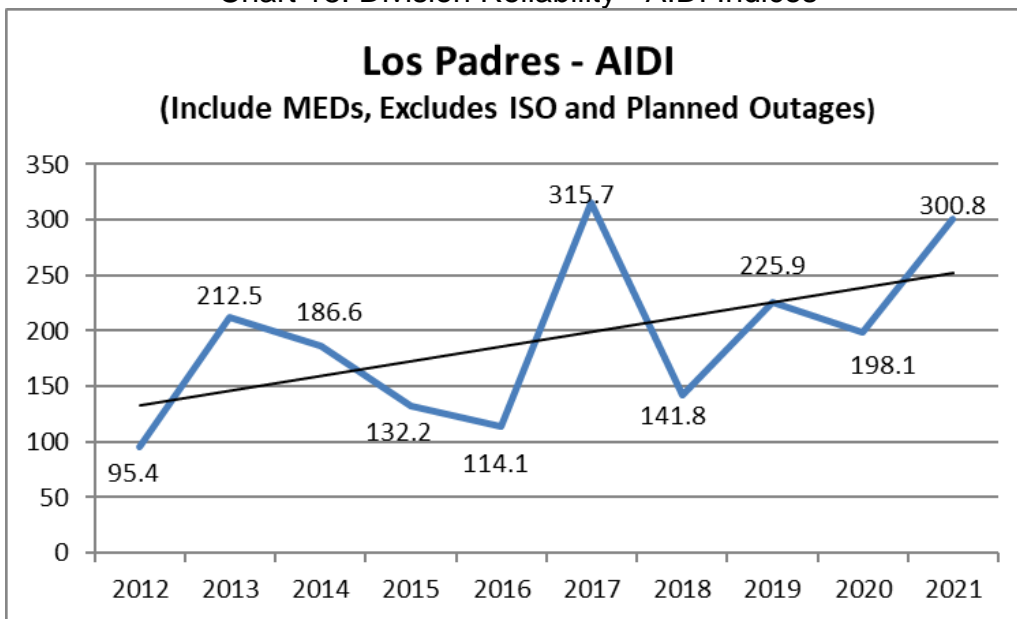


Chart 19: Division Reliability - AIDI Indices

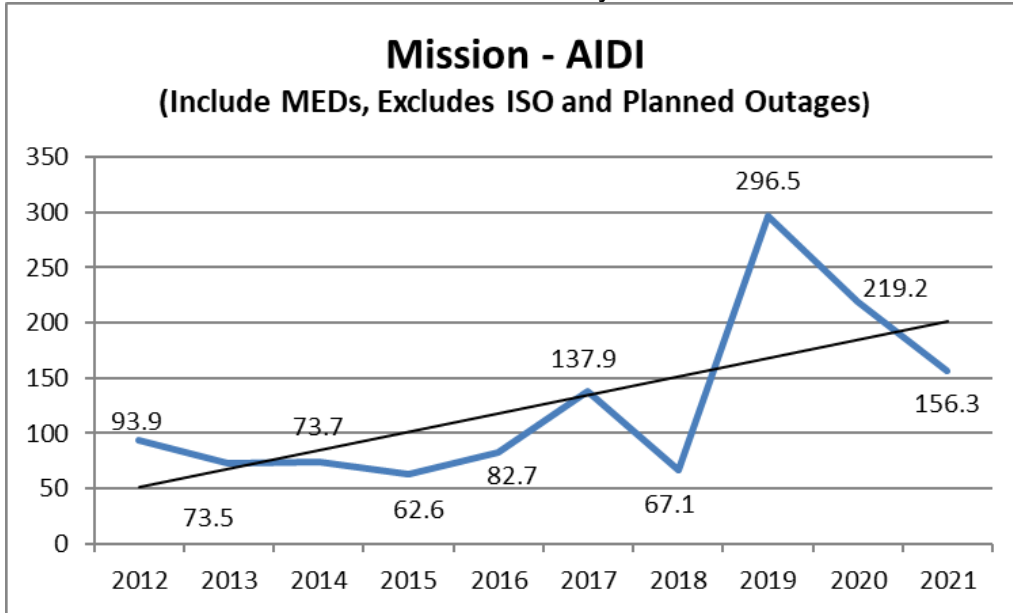


Chart 20: Division Reliability – AIDI Indices

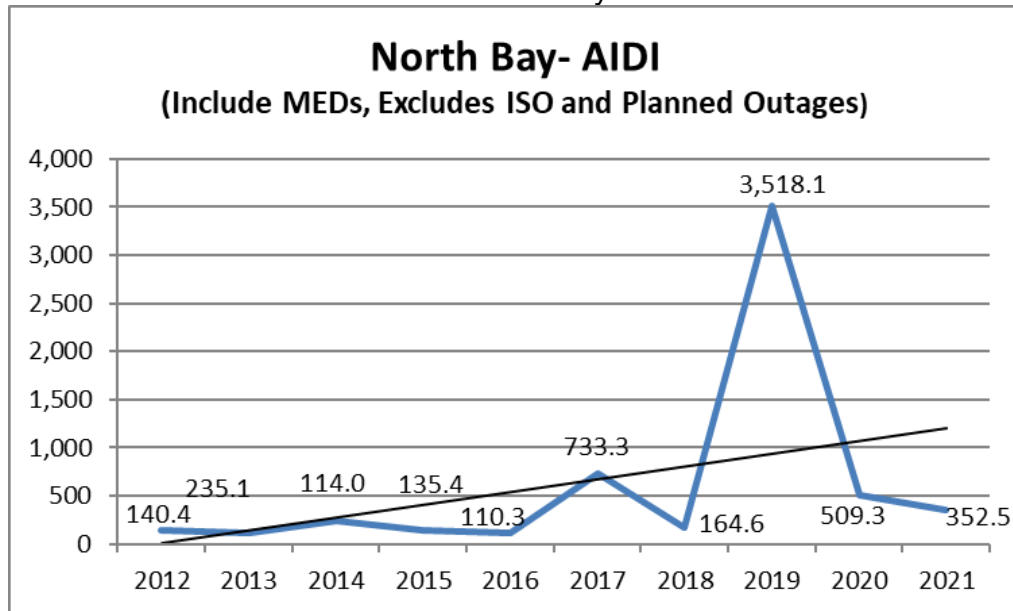


Chart 21: Division Reliability - AIDI Indices

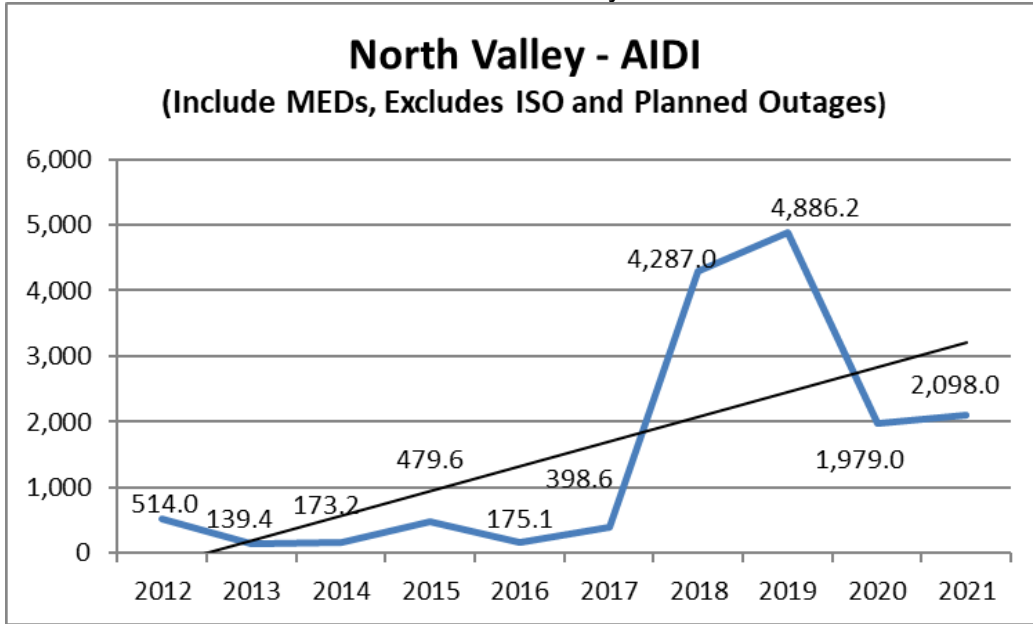


Chart 22: Division Reliability - AIDI Indices

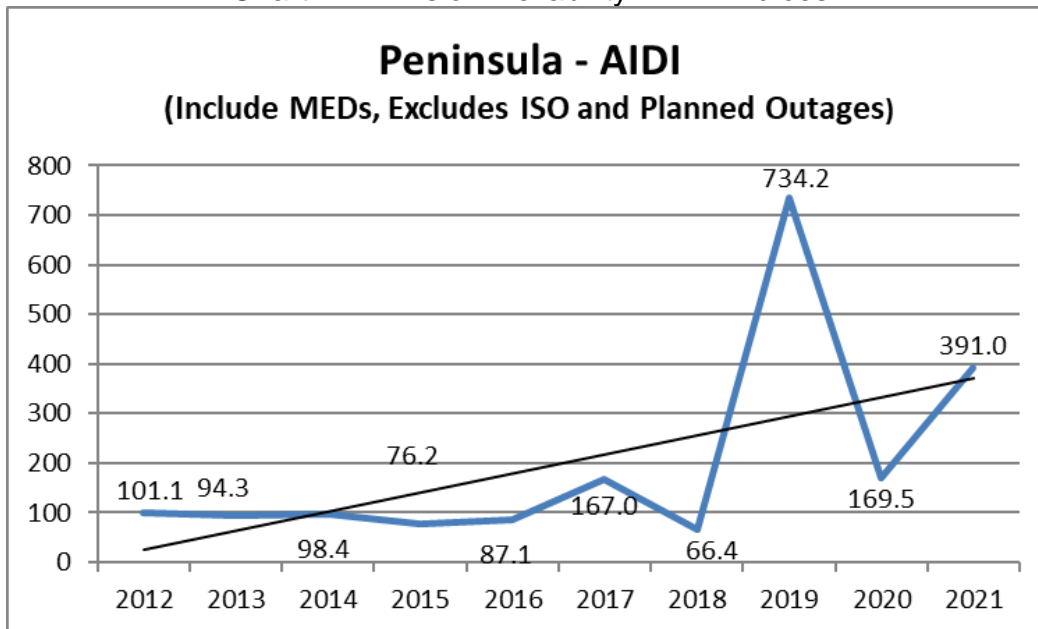


Chart 23: Division Reliability - AIDI Indices

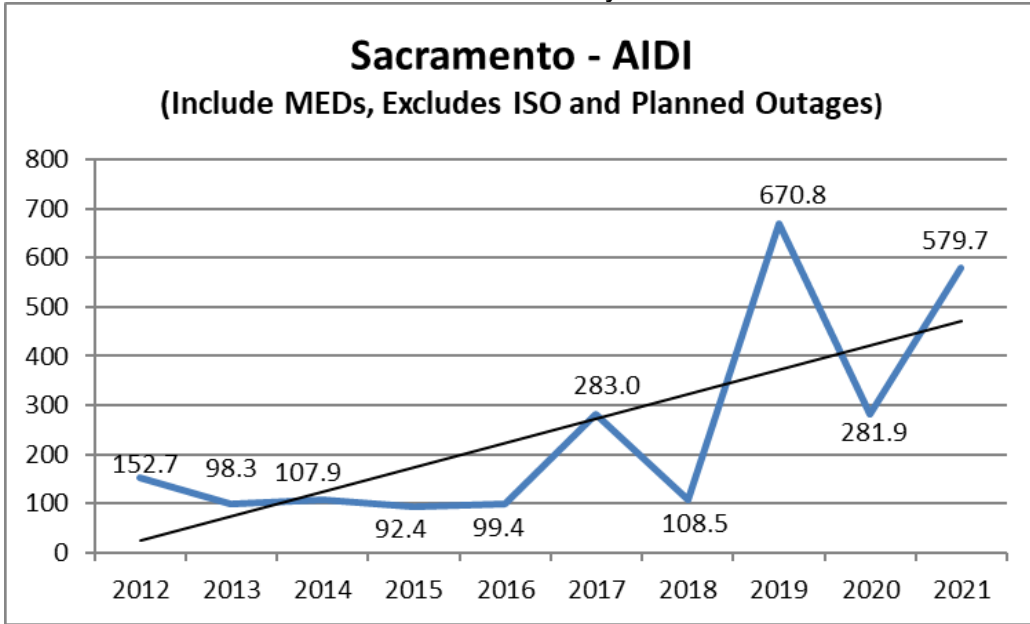


Chart 24: Division Reliability - AIDI Indices

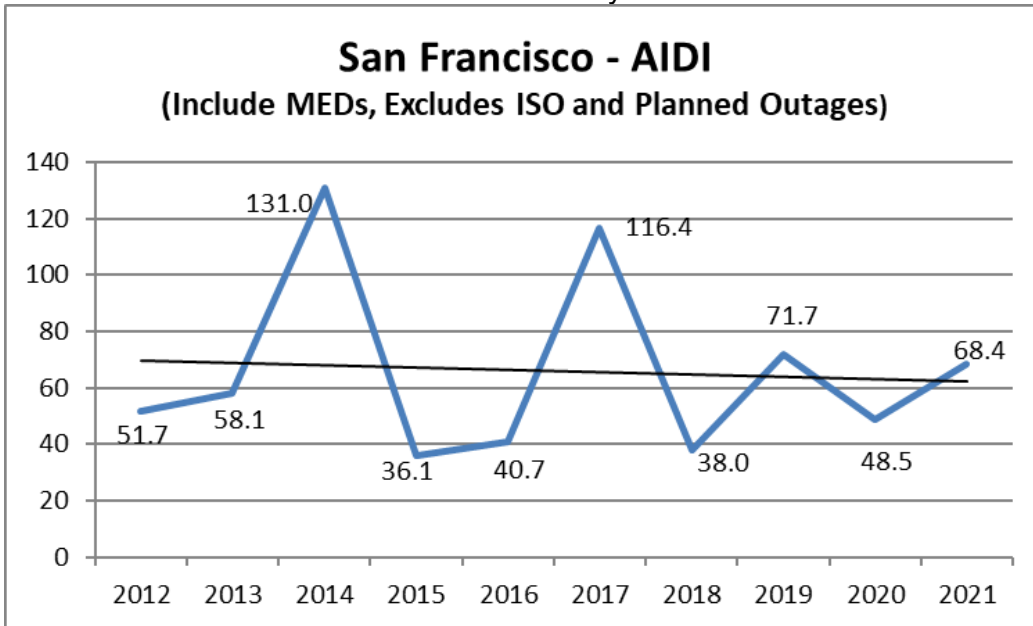


Chart 25: Division Reliability - AIDI Indices

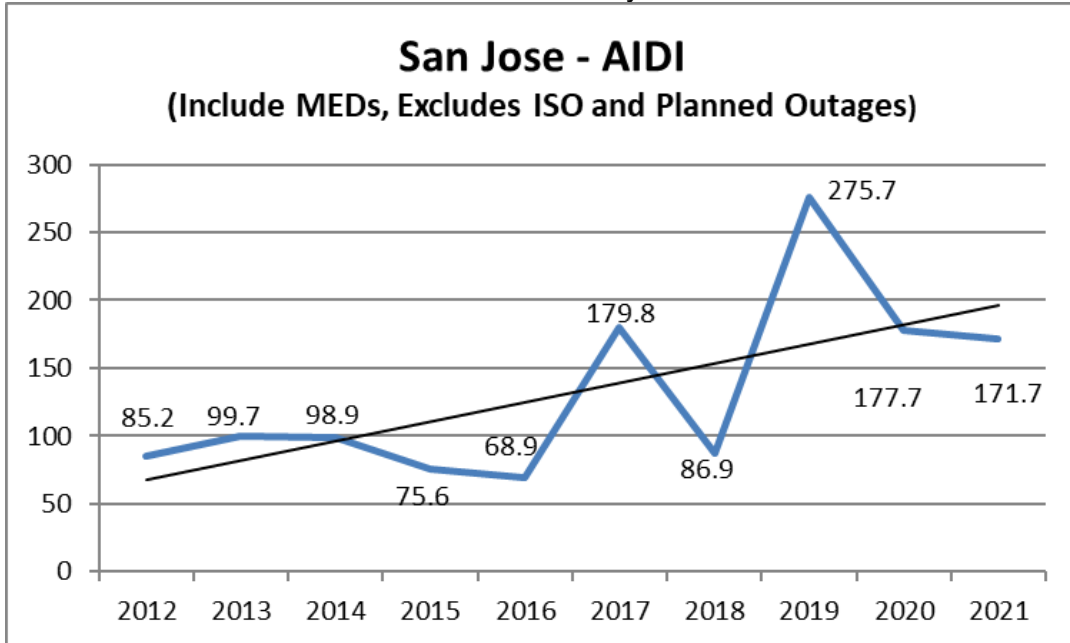


Chart 26: Division Reliability – AIDI Indices

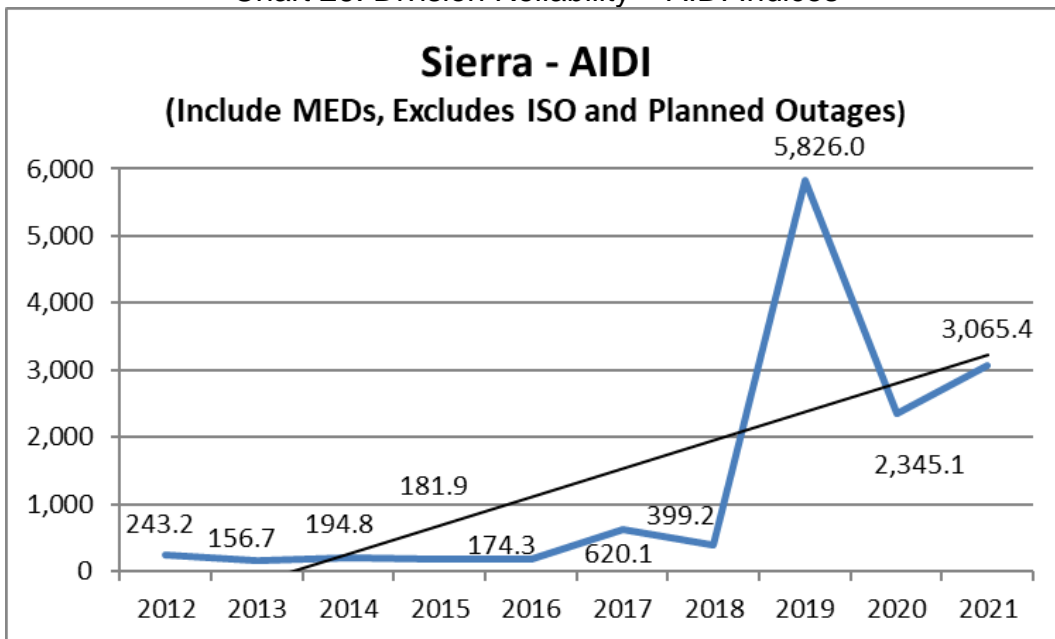


Chart 27: Division Reliability – AIDI Indices

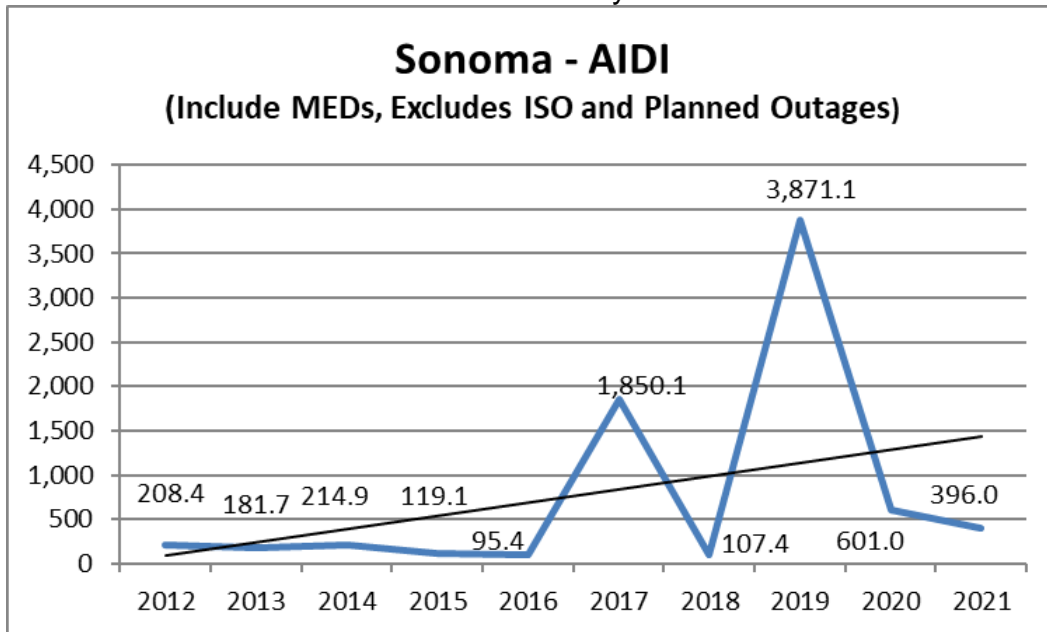


Chart 28: Division Reliability - AIDI Indices

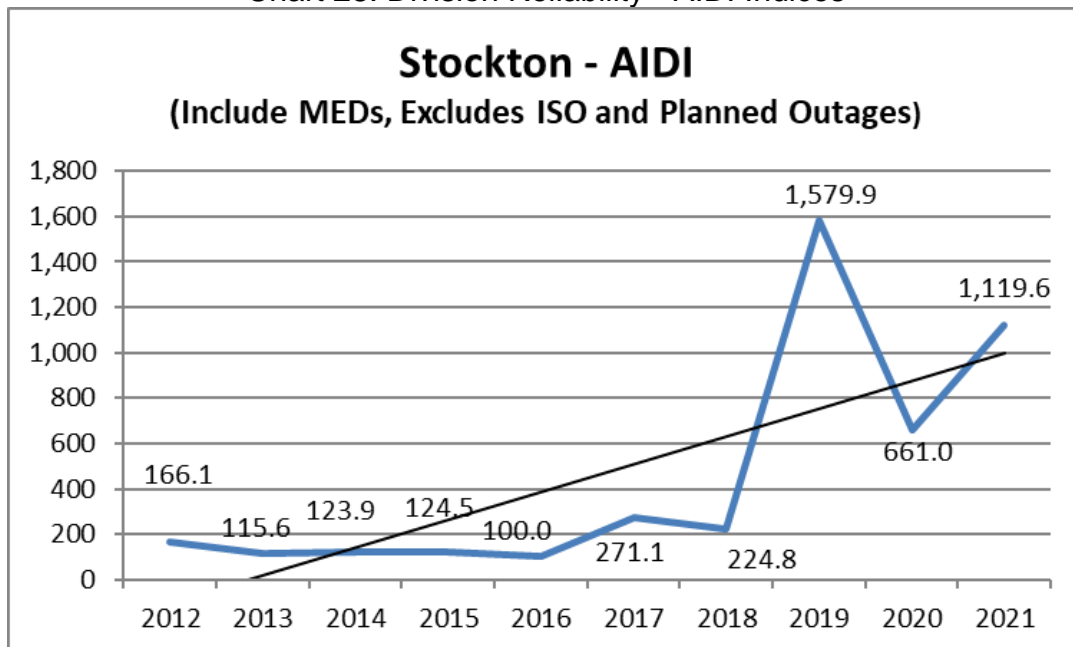
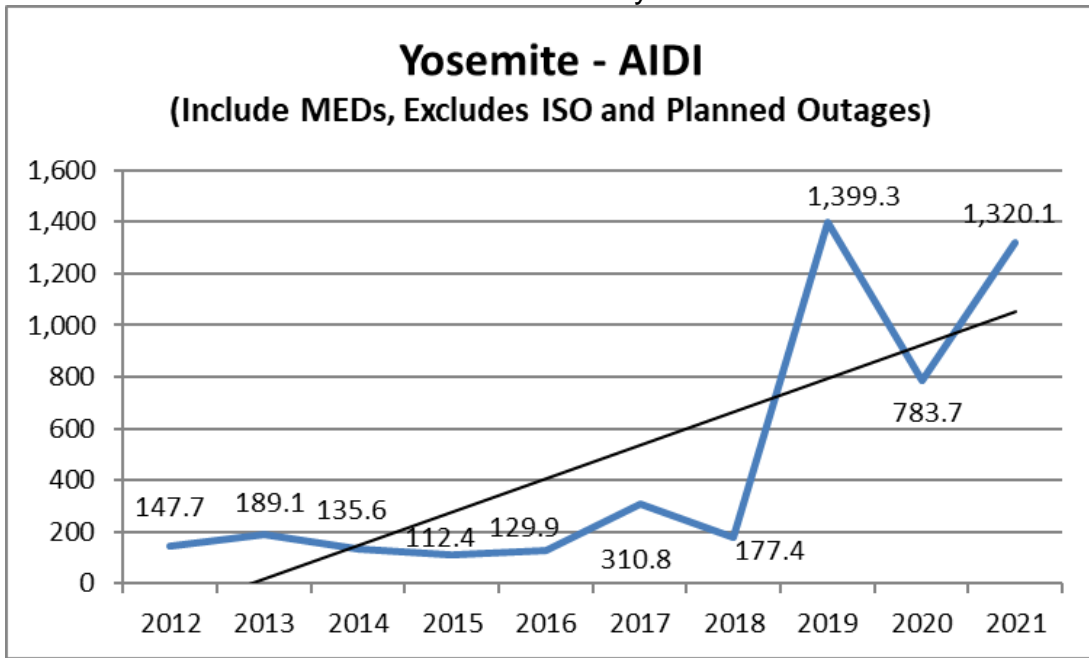


Chart 29: Division Reliability - AIDI Indices



2. AIFI Performance Results (MED Included)

Chart 30: Division Reliability - AIFI Indices

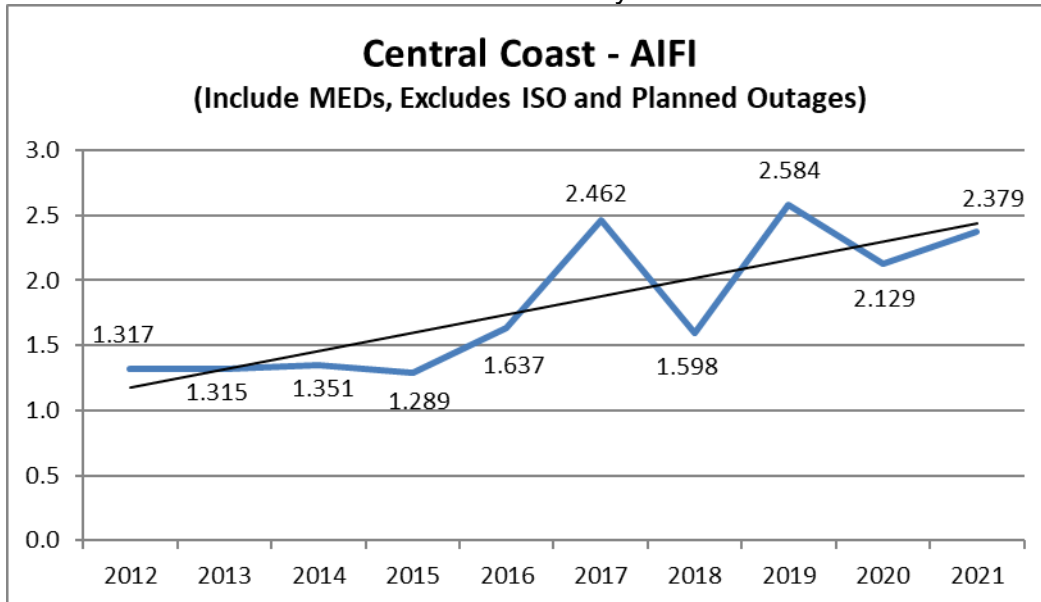


Chart 31: Division Reliability - AIFI Indices

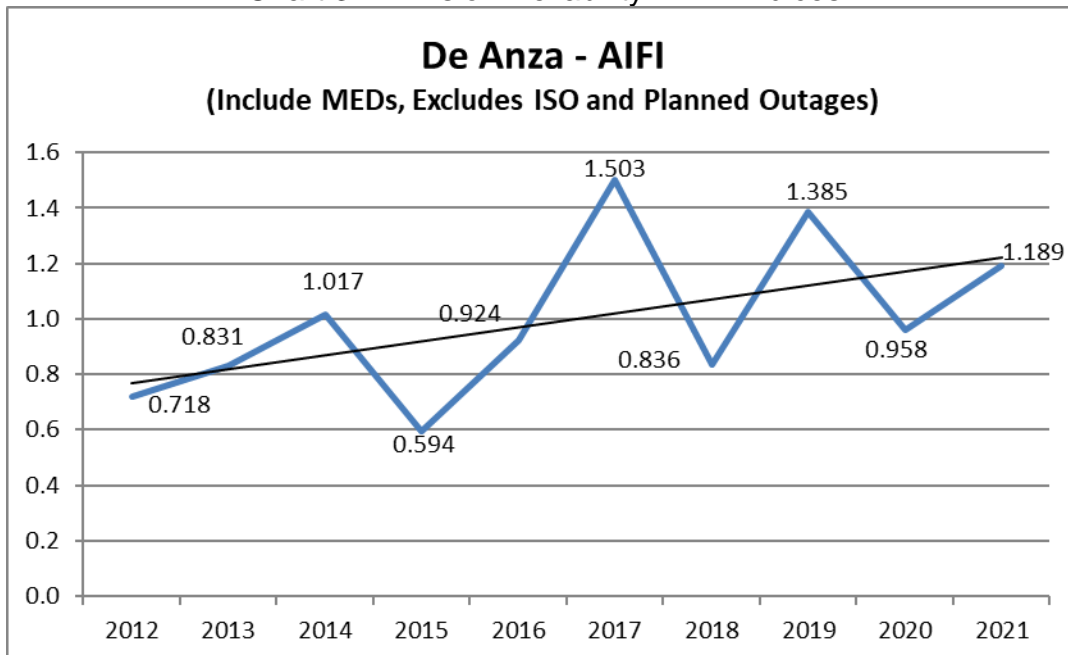


Chart 32: Division Reliability - AIFI Indices

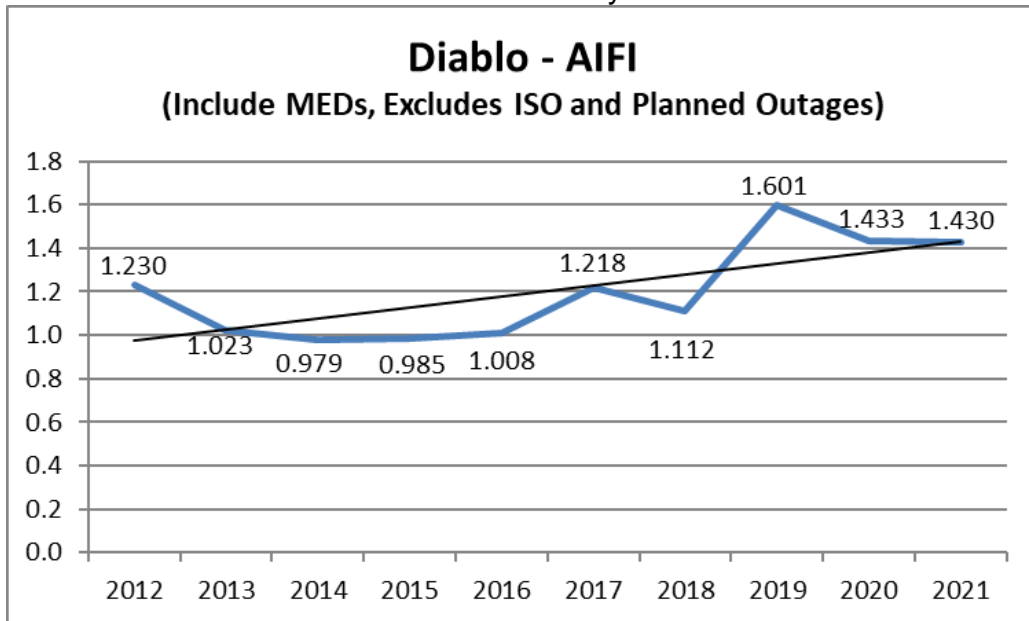


Chart 33: Division Reliability - AIFI Indices

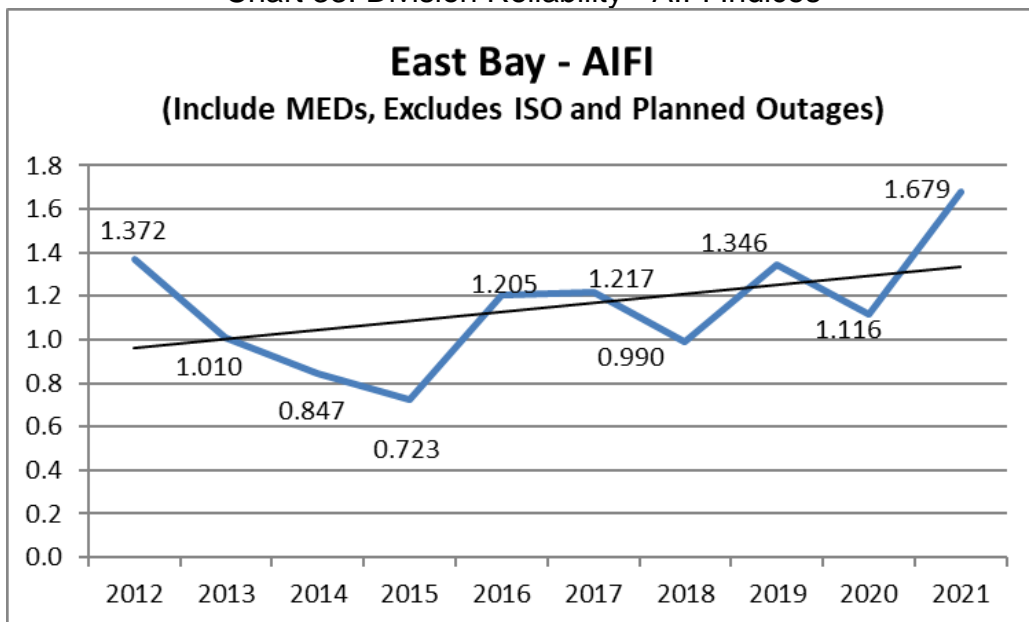


Chart 34: Division Reliability - AIFI Indices

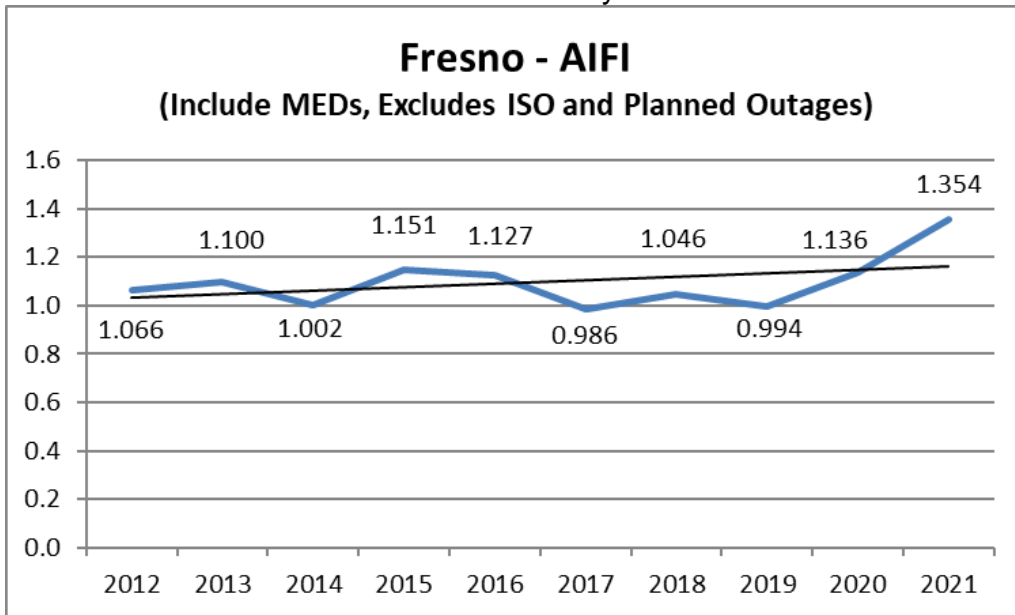


Chart 35: Division Reliability - AIFI Indices

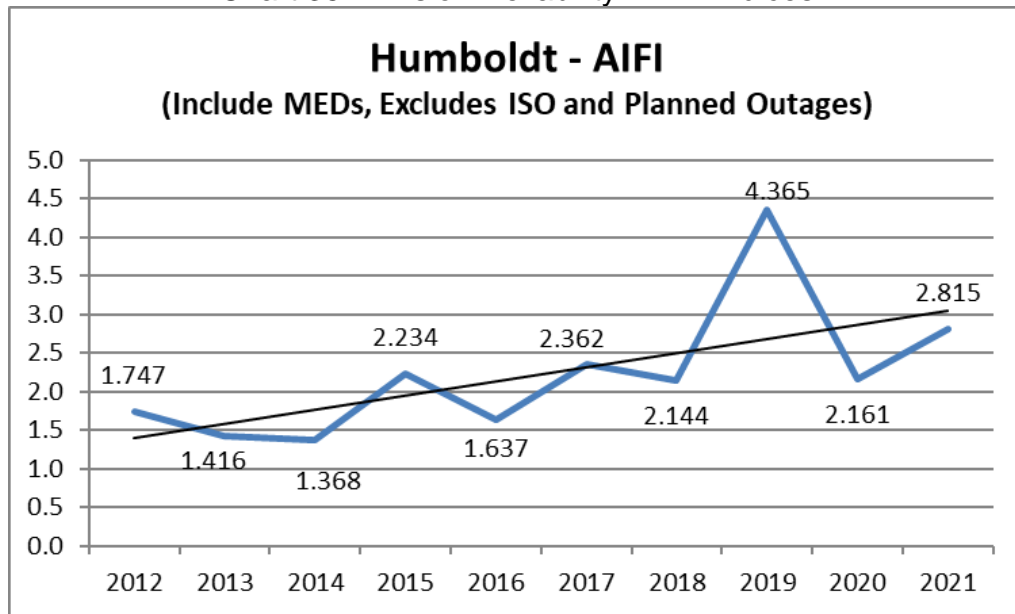


Chart 36: Division Reliability - AIFI Indices

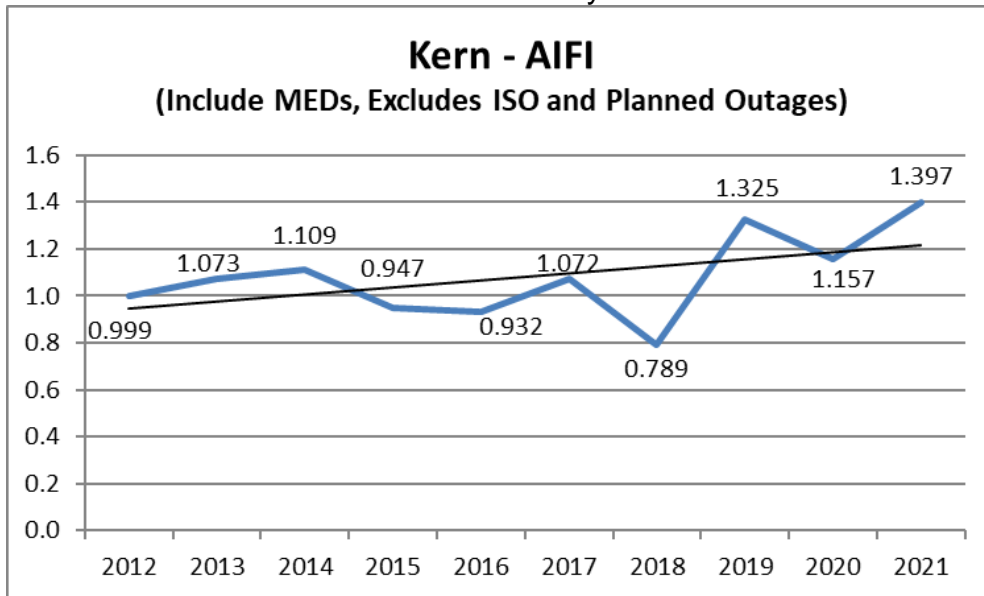


Chart 37: Division Reliability - AIFI Indices

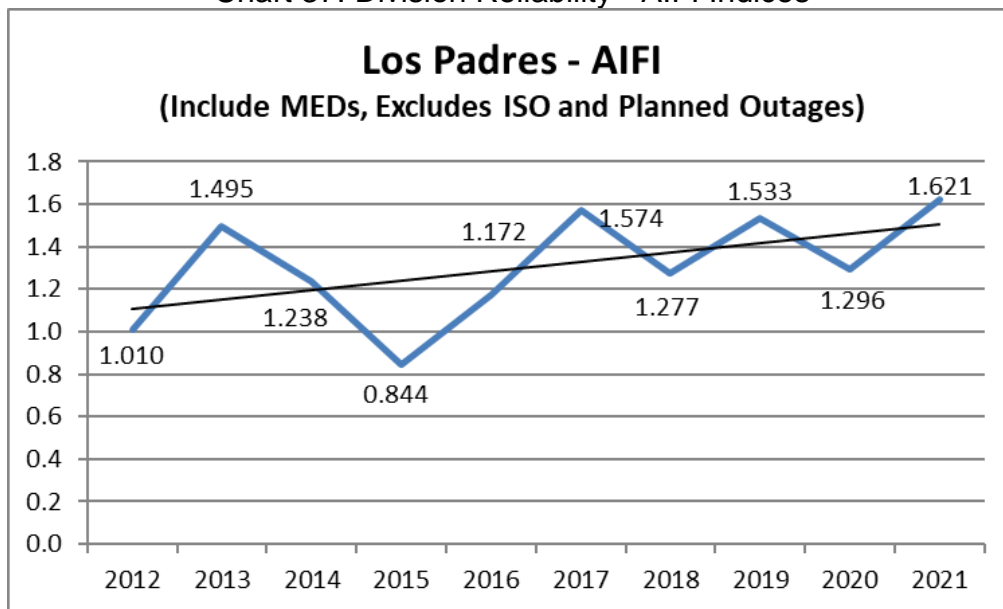


Chart 38: Division Reliability - AIFI Indices

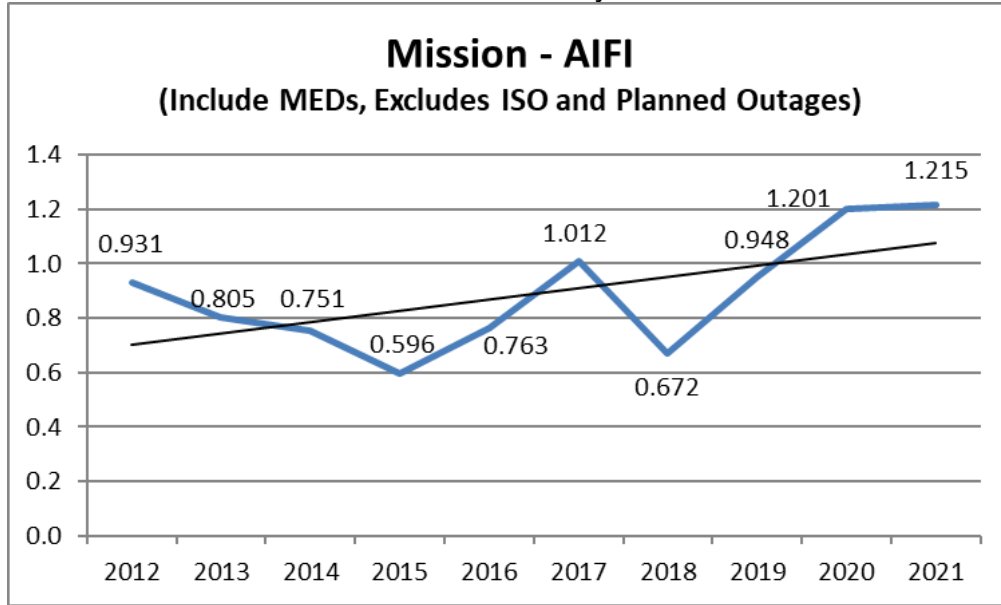


Chart 39: Division Reliability - AIFI Indices

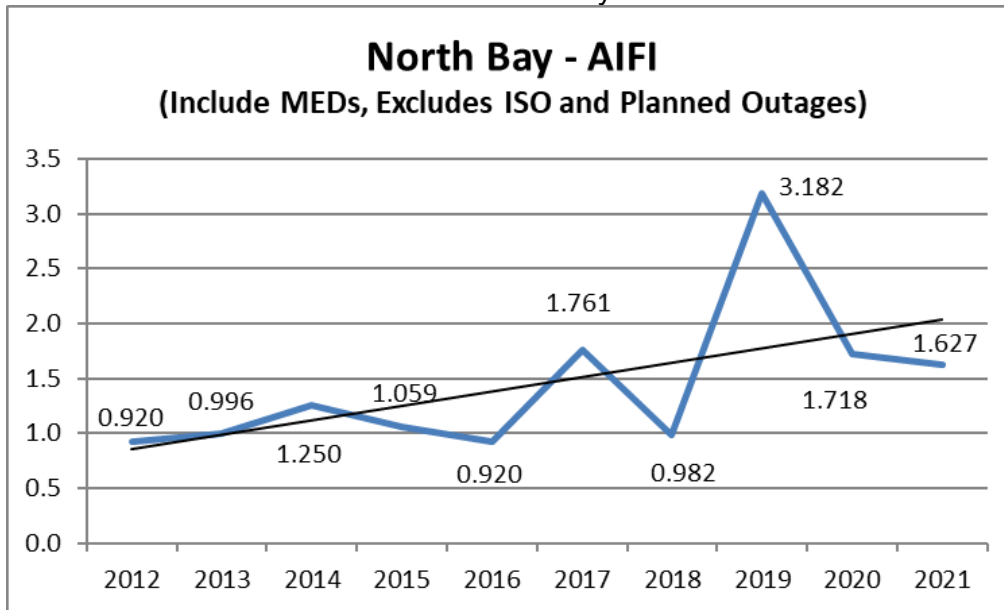


Chart 40: Division Reliability - AIFI Indices

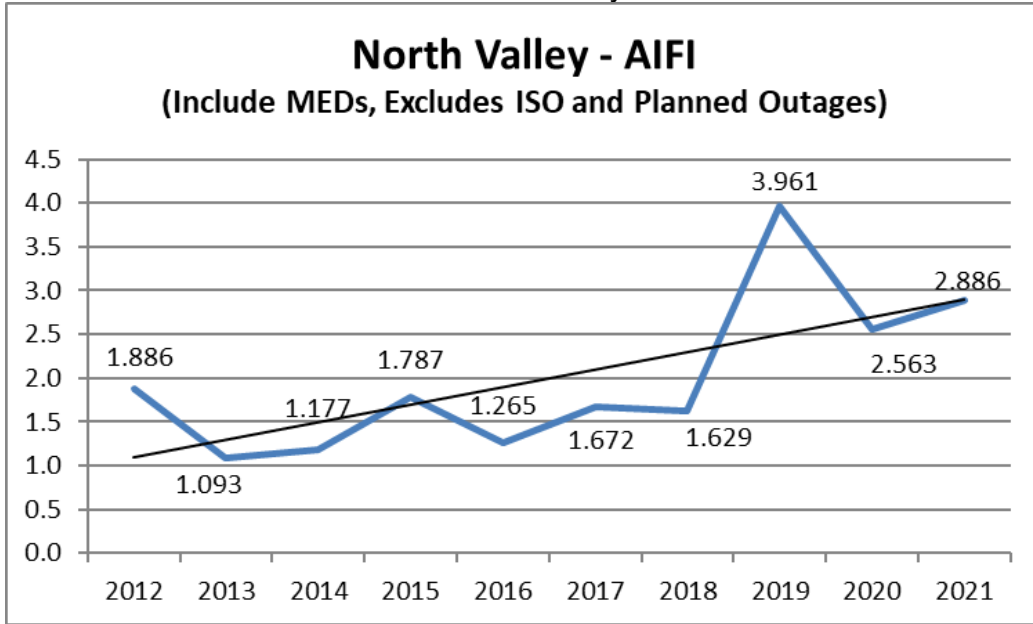


Chart 41: Division Reliability - AIFI Indices

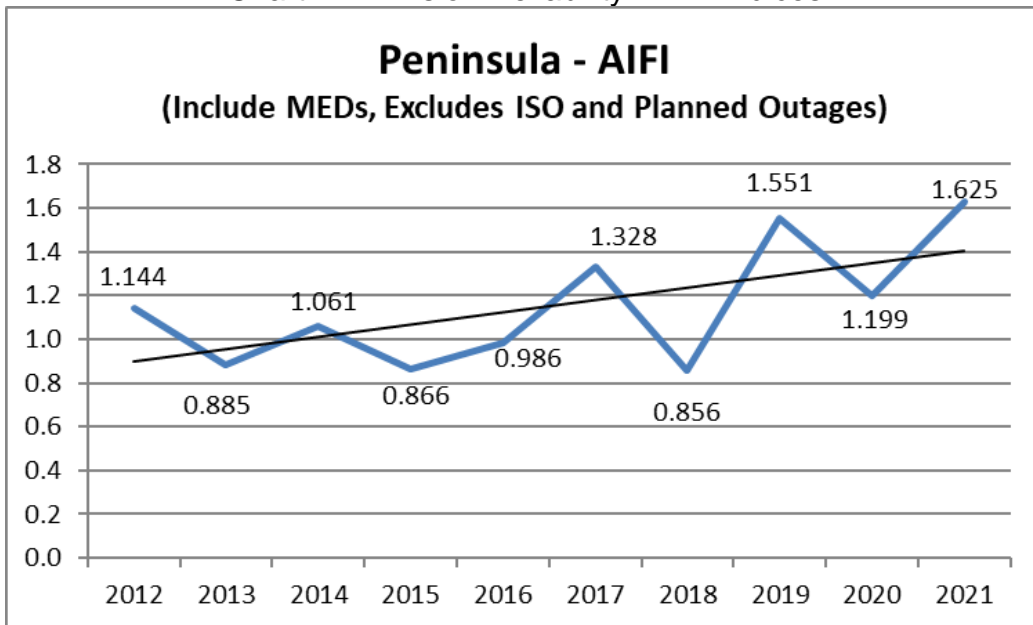


Chart 42: Division Reliability - AIFI Indices

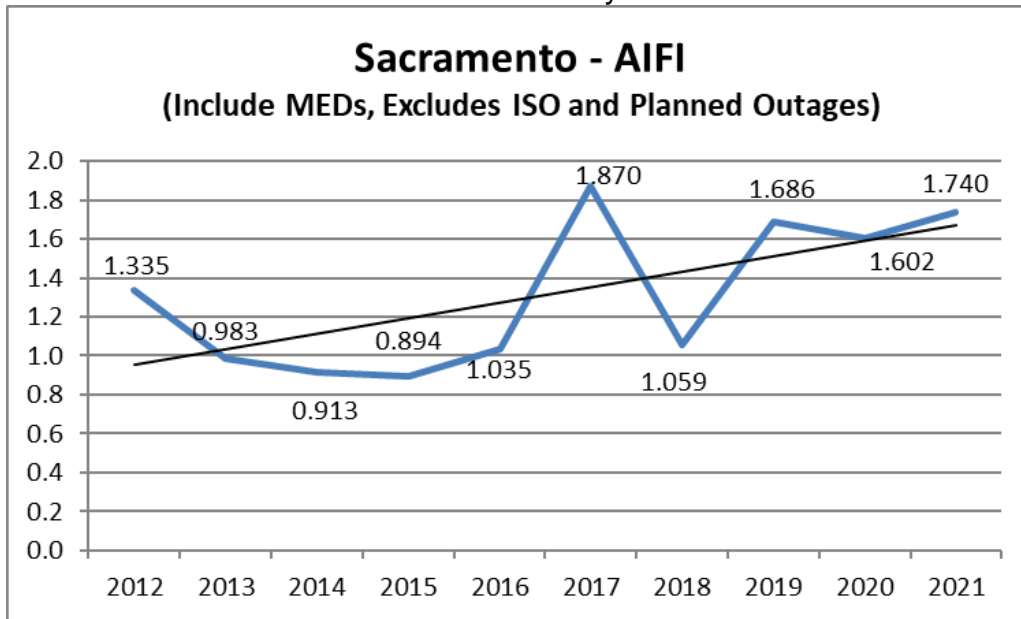


Chart 43: Division Reliability - AIFI Indices

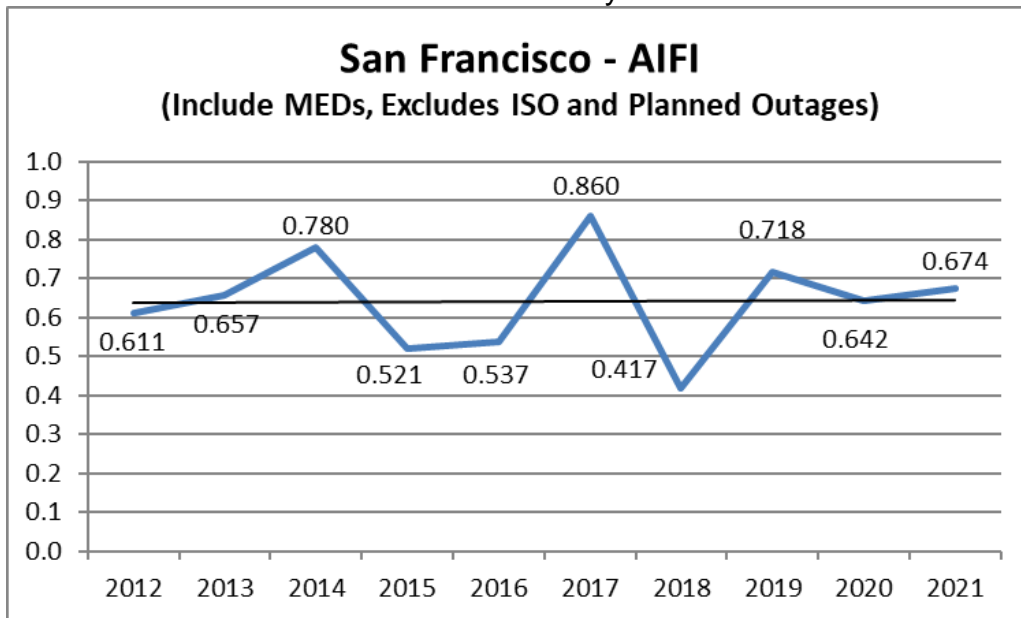


Chart 44: Division Reliability - AIFI Indices

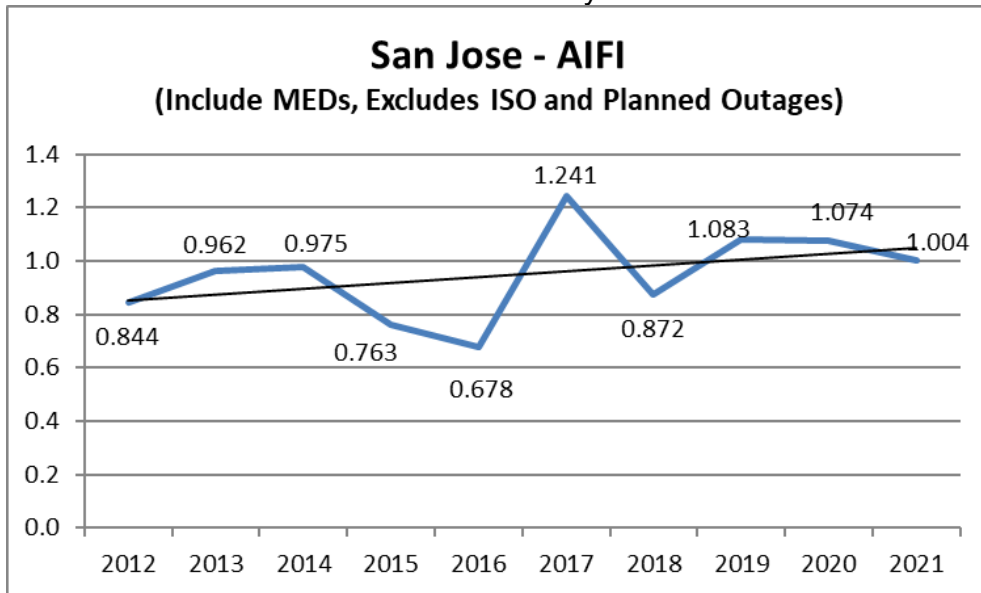


Chart 45: Division Reliability - AIFI Indices

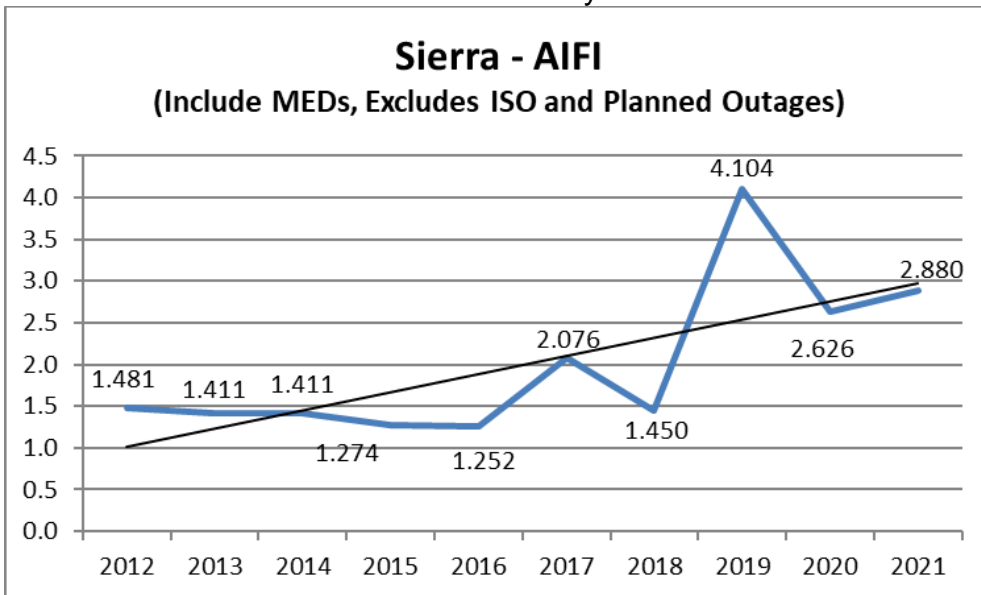


Chart 46: Division Reliability - AIFI Indices

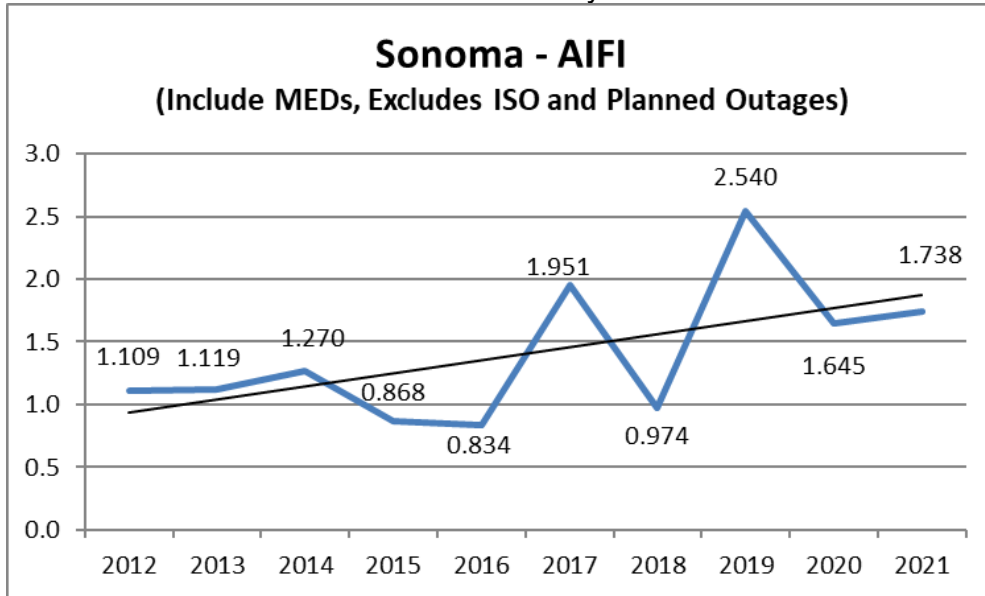


Chart 47: Division Reliability - AIFI Indices

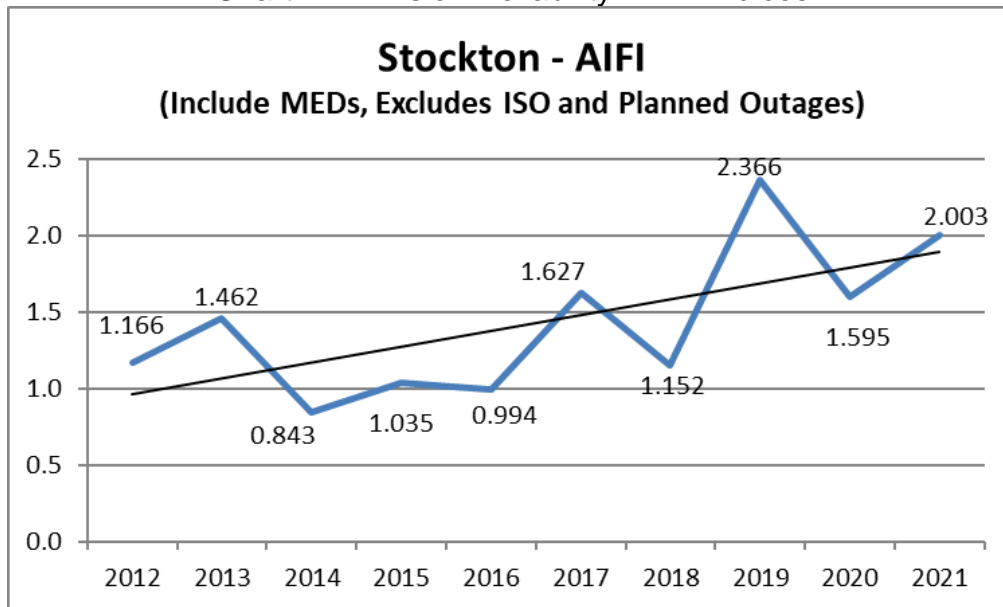
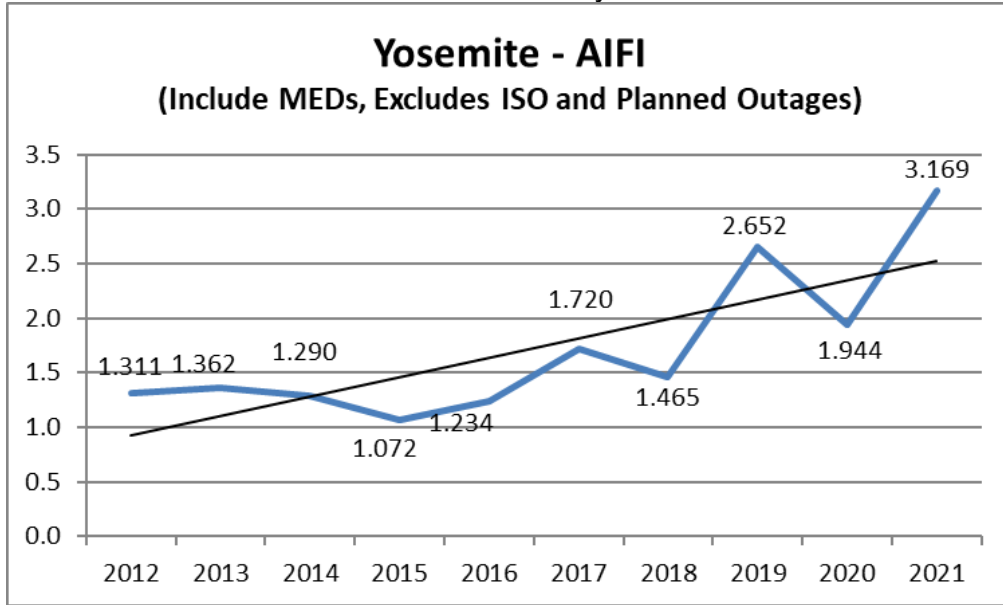


Chart 48: Division Reliability - AIFI Indices



3. MAIFI Performance Results (MED Included)

Chart 49: Division Reliability - MAIFI Indices

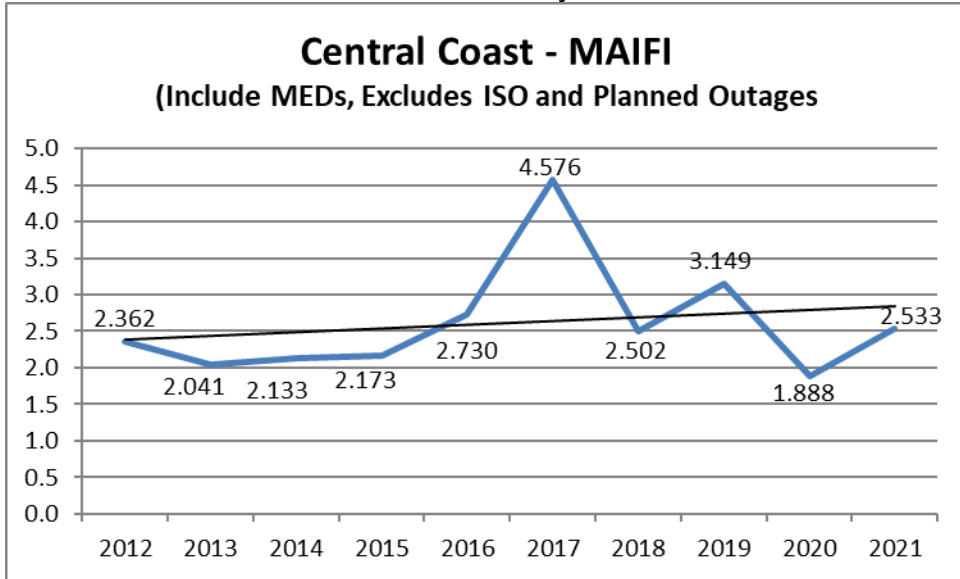


Chart 50: Division Reliability - MAIFI Indices

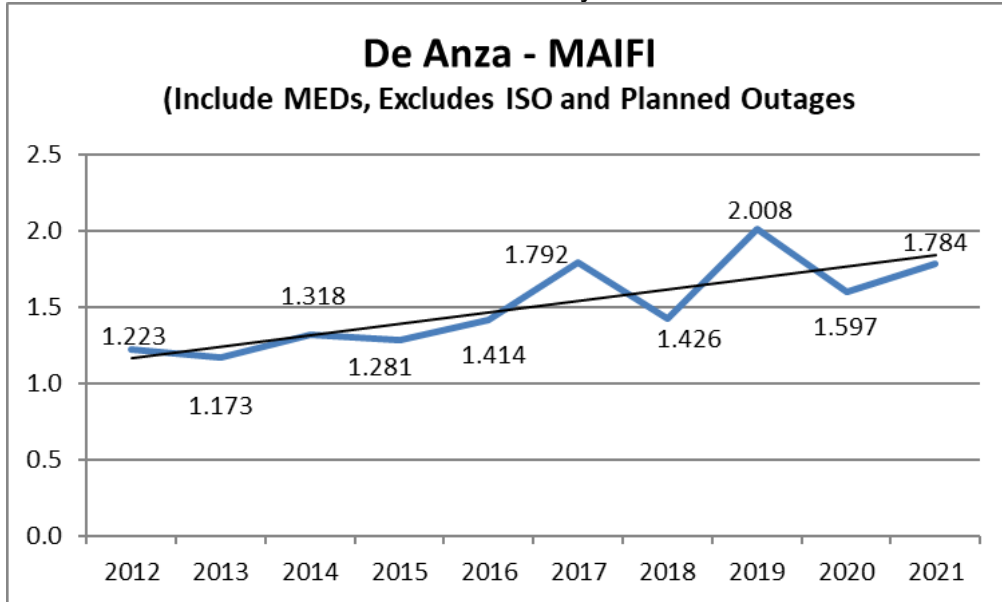


Chart 51: Division Reliability - MAIFI Indices

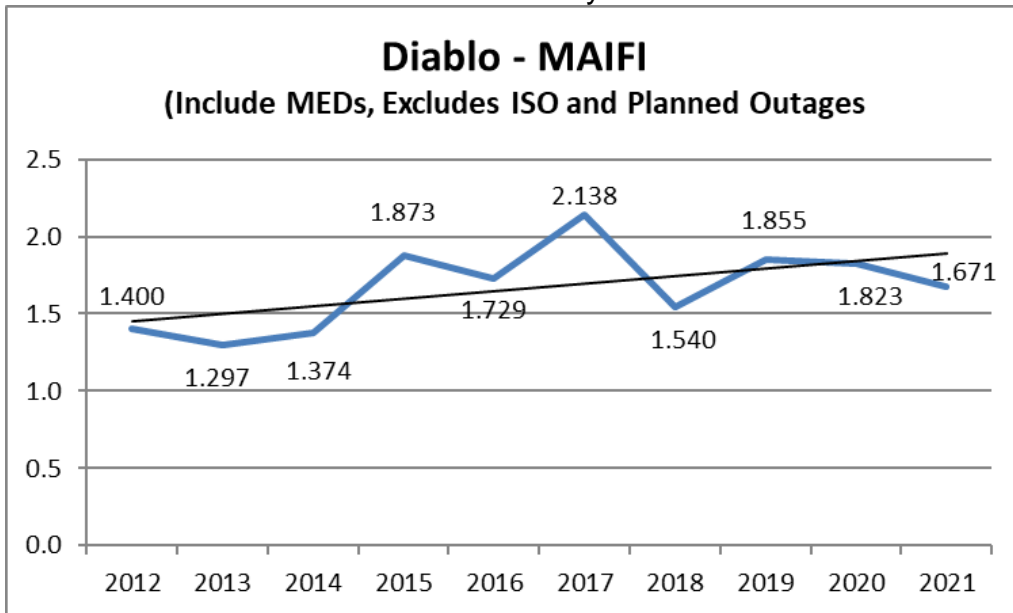


Chart 52: Division Reliability - MAIFI Indices

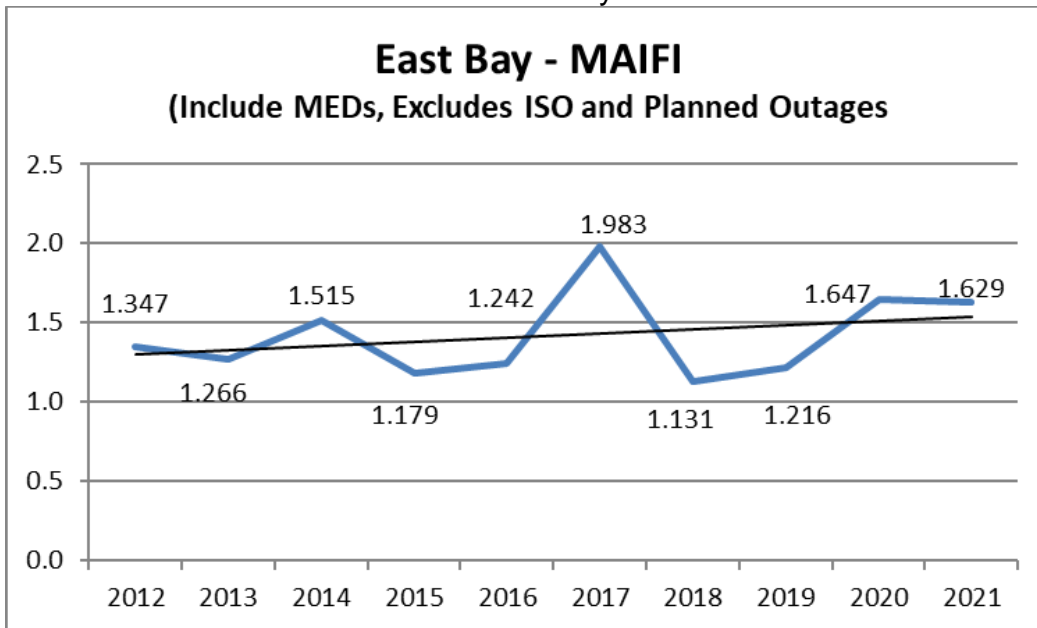


Chart 53: Division Reliability - MAIFI Indices

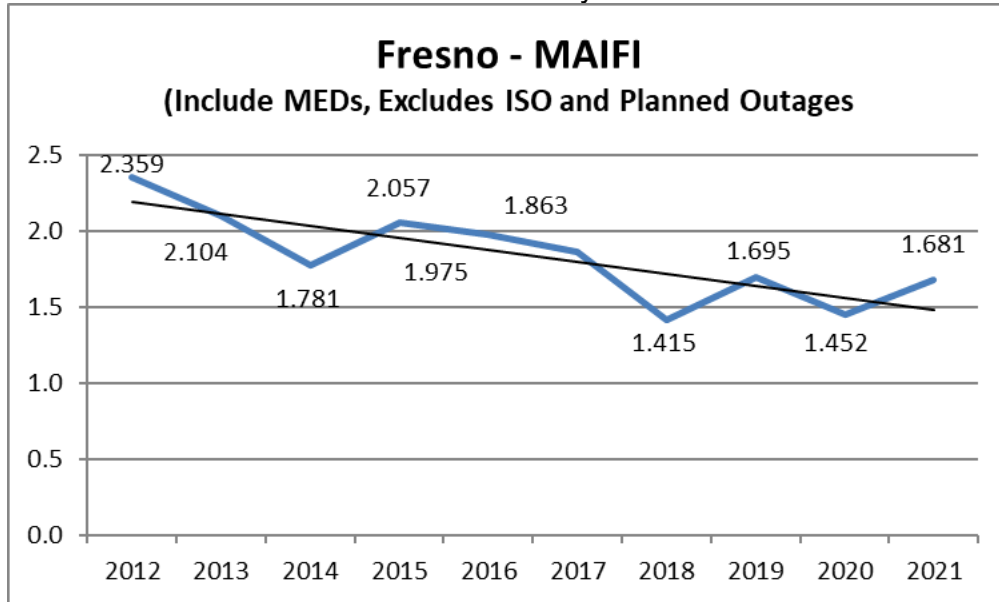


Chart 54: Division Reliability - MAIFI Indices

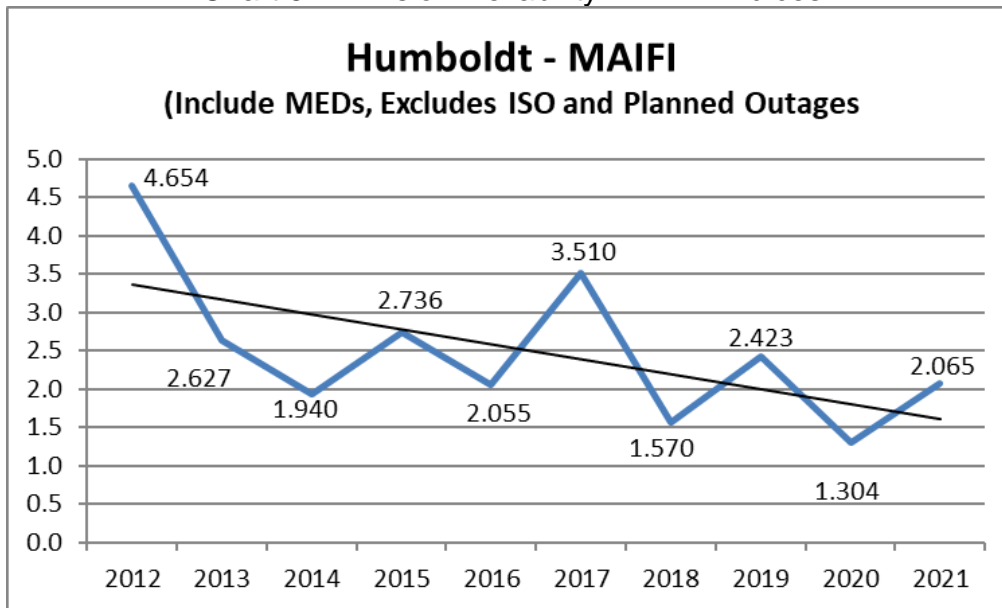


Chart 55: Division Reliability - MAIFI Indices

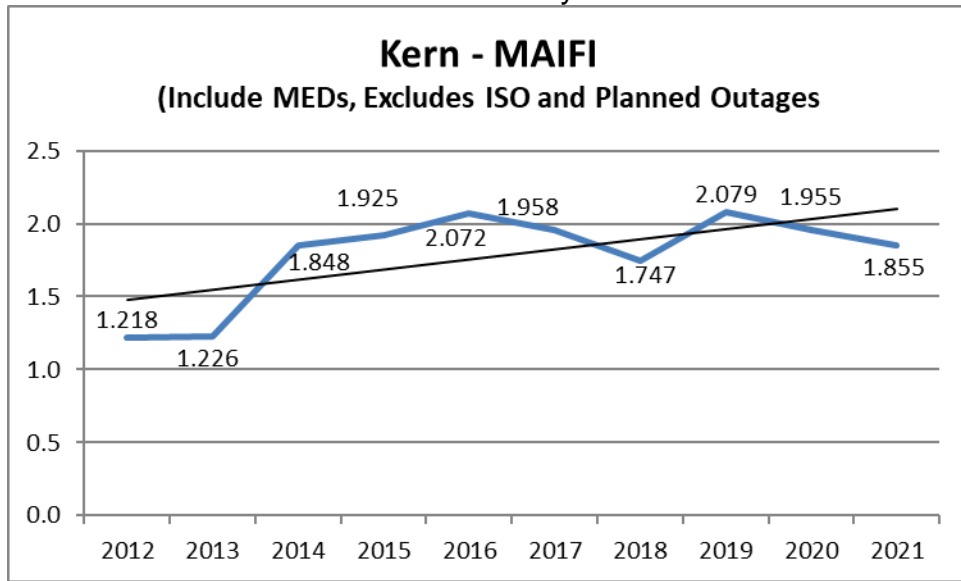


Chart 56: Division Reliability - MAIFI Indices

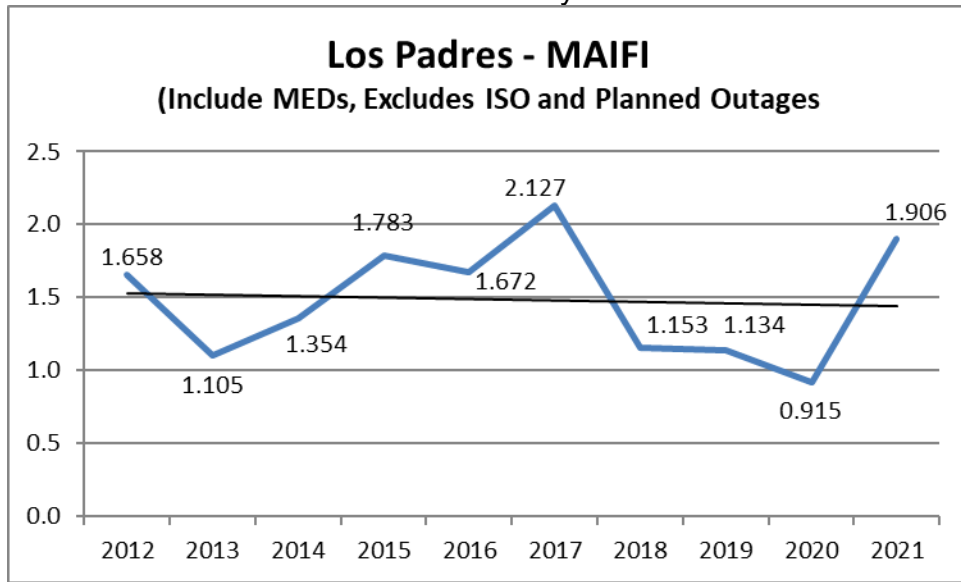


Chart 57: Division Reliability - MAIFI Indices

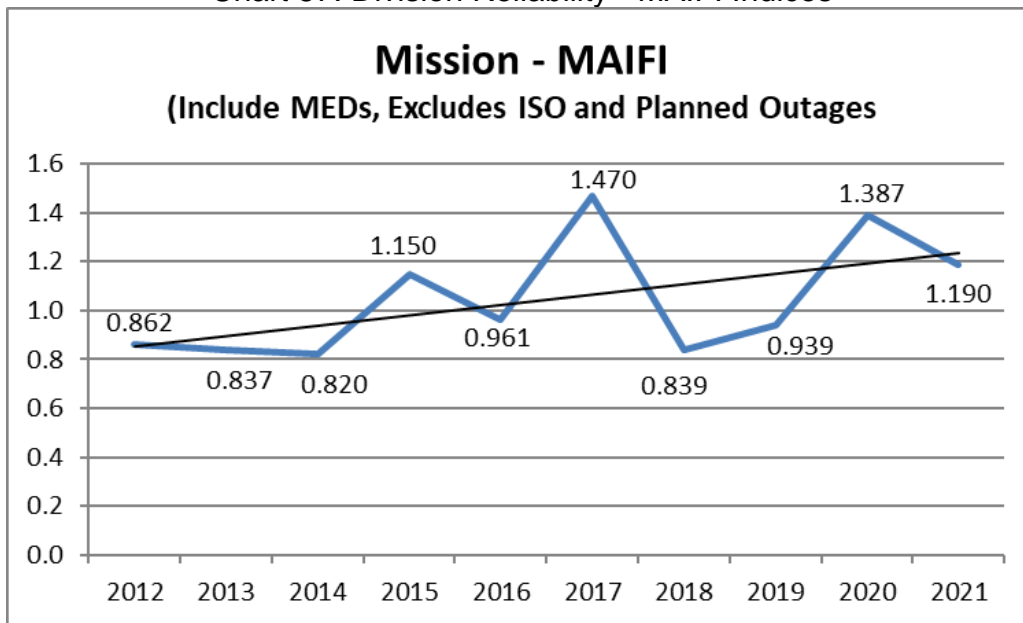


Chart 58: Division Reliability - MAIFI Indices

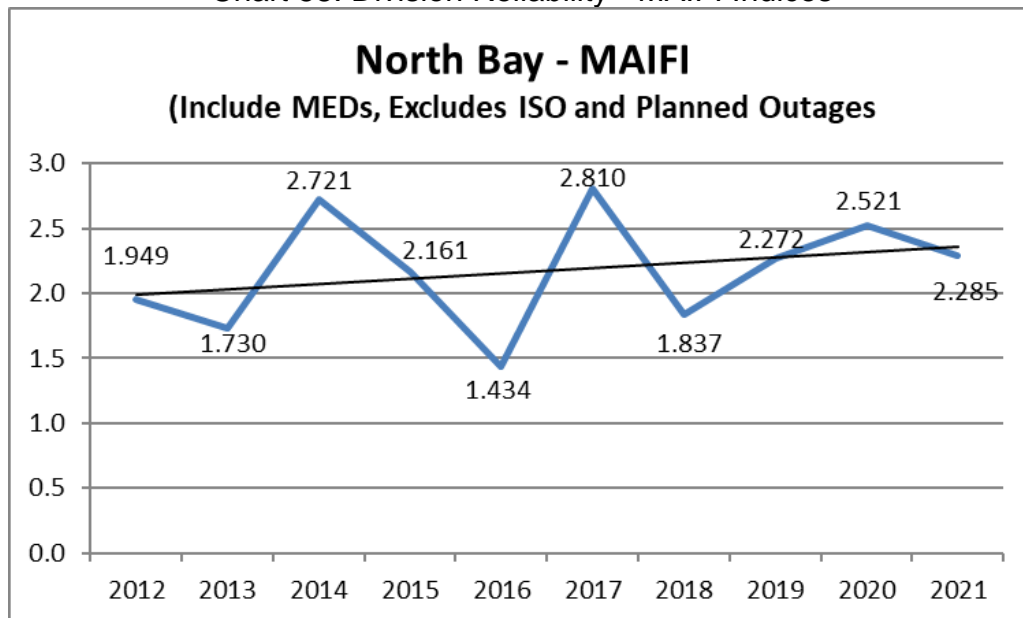


Chart 59: Division Reliability - MAIFI Indices

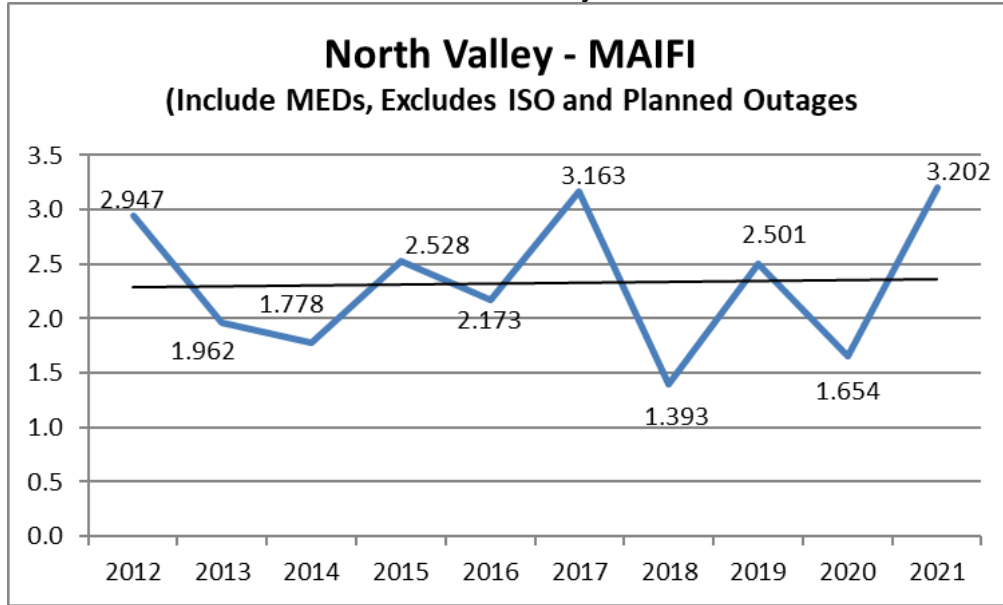


Chart 60: Division Reliability - MAIFI Indices

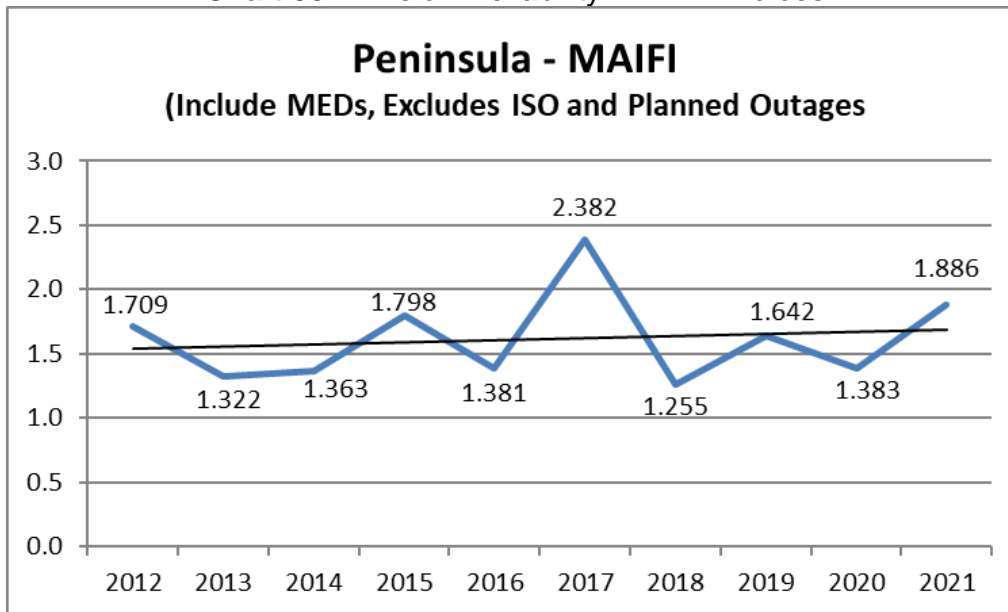


Chart 61: Division Reliability - MAIFI Indices

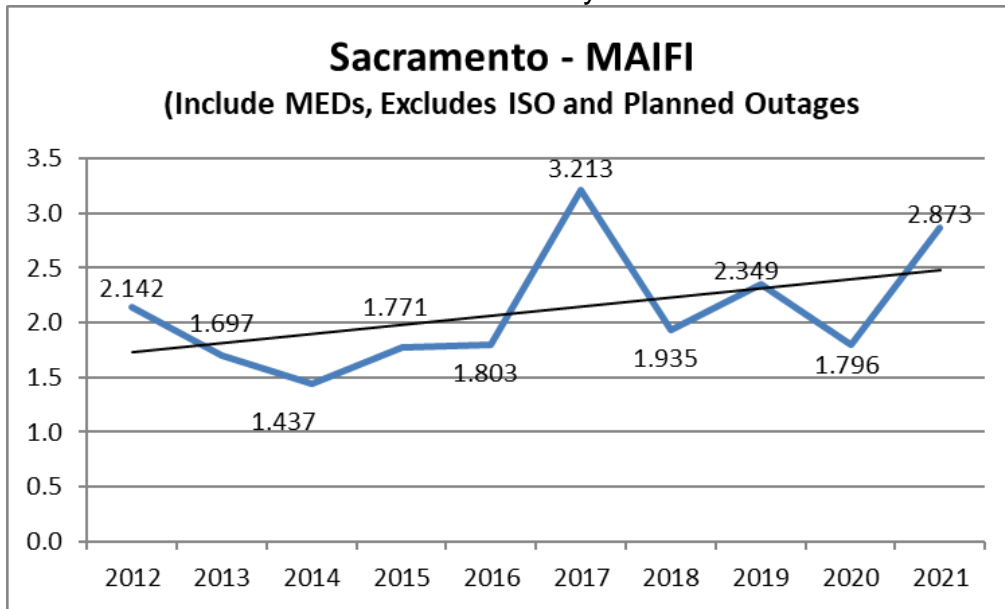


Chart 62: Division Reliability - MAIFI Indices

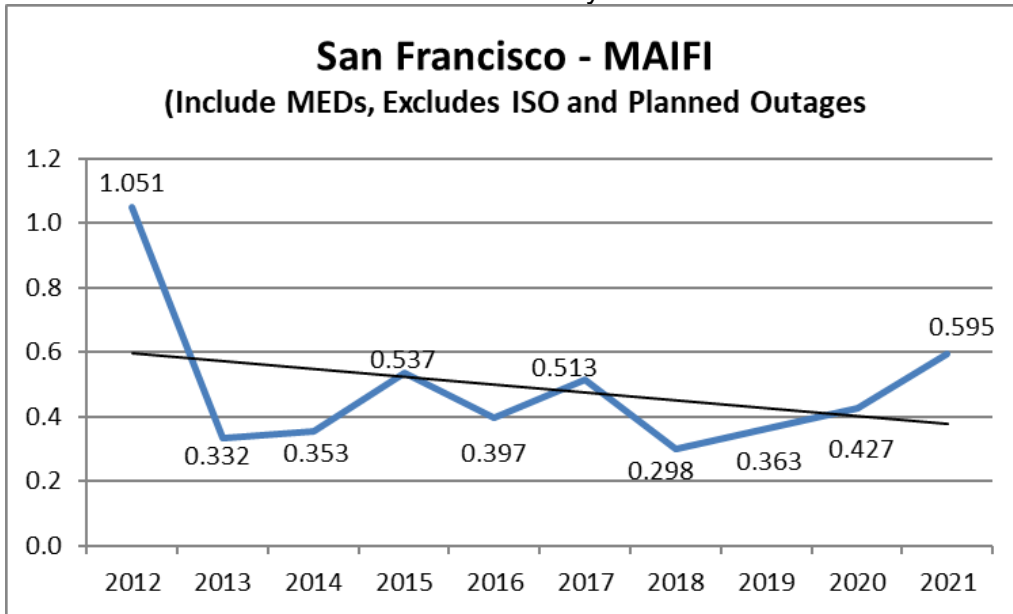


Chart 63: Division Reliability - MAIFI Indices

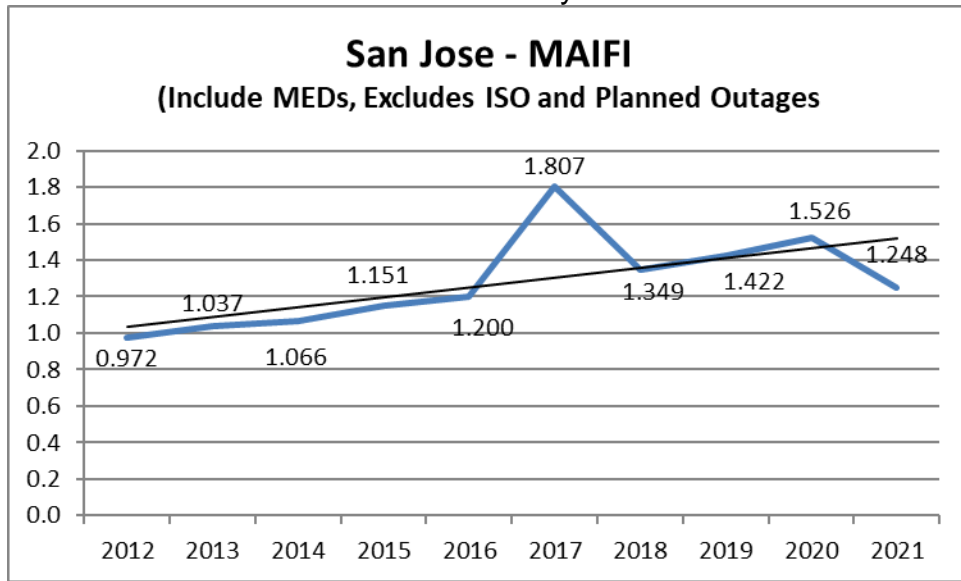


Chart 64: Division Reliability - MAIFI Indices

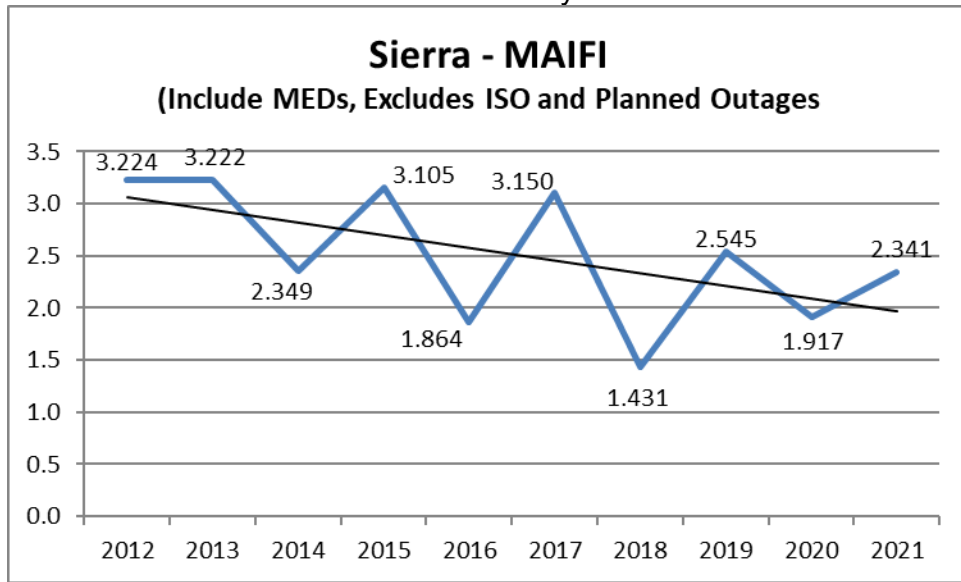


Chart 65: Division Reliability - MAIFI Indices

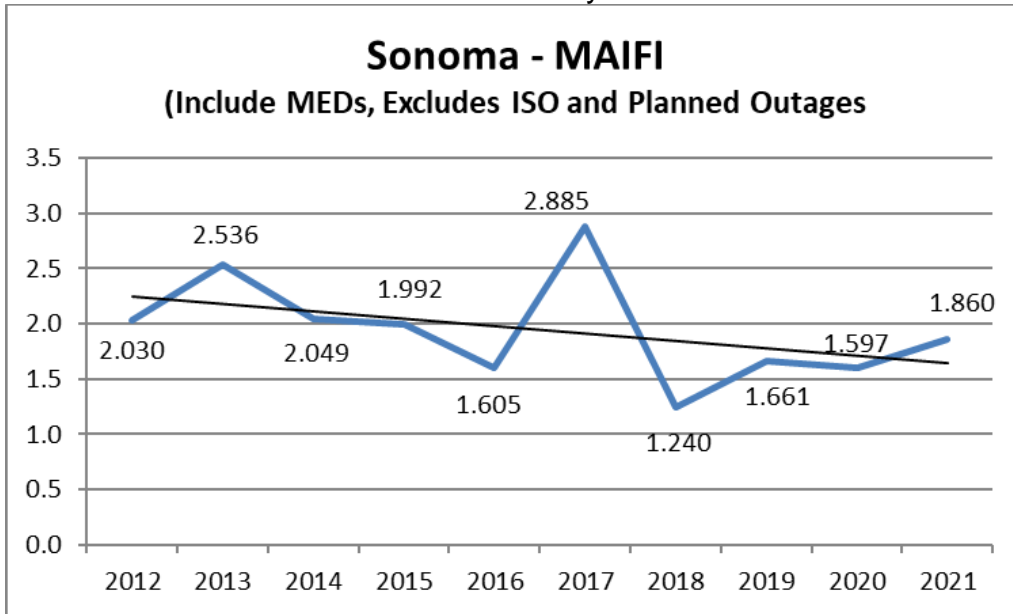


Chart 66: Division Reliability - MAIFI Indices

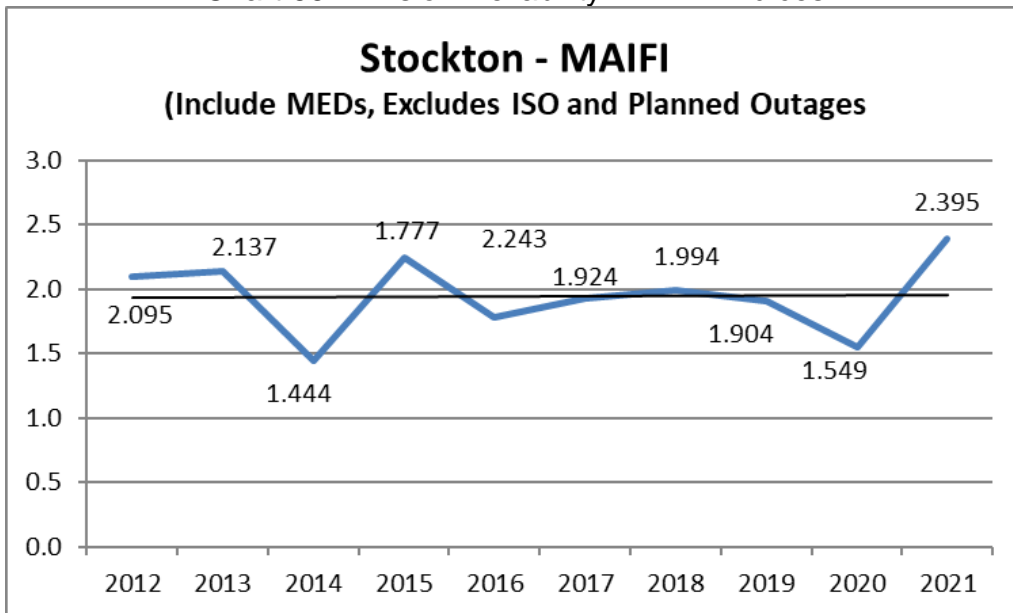
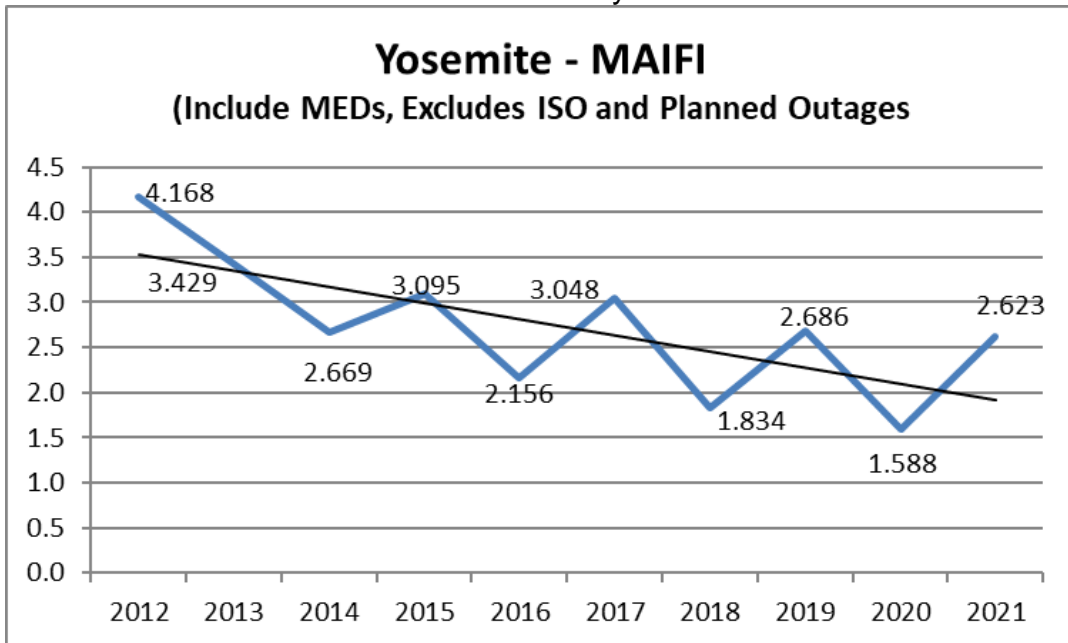


Chart 67: Division Reliability - MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 68: Division Reliability - CAIDI Indices

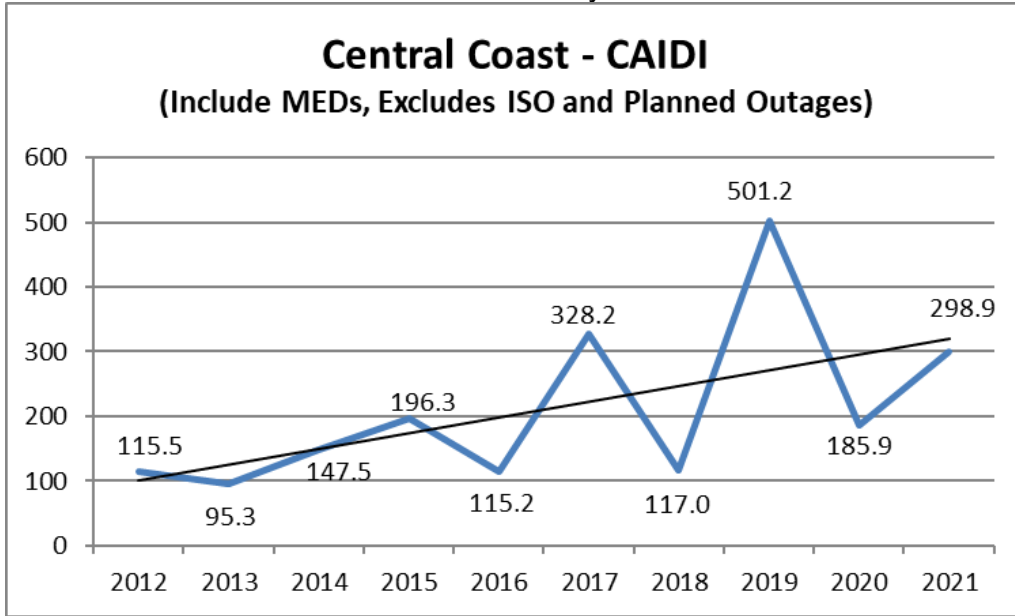


Chart 69: Division Reliability - CAIDI Indices

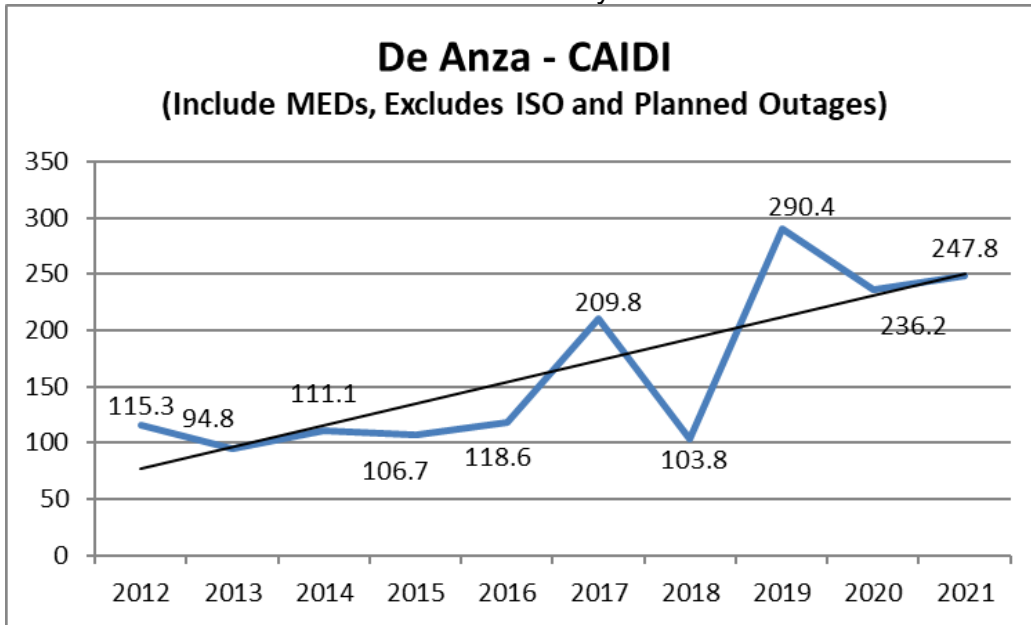


Chart 70: Division Reliability - CAIDI Indices

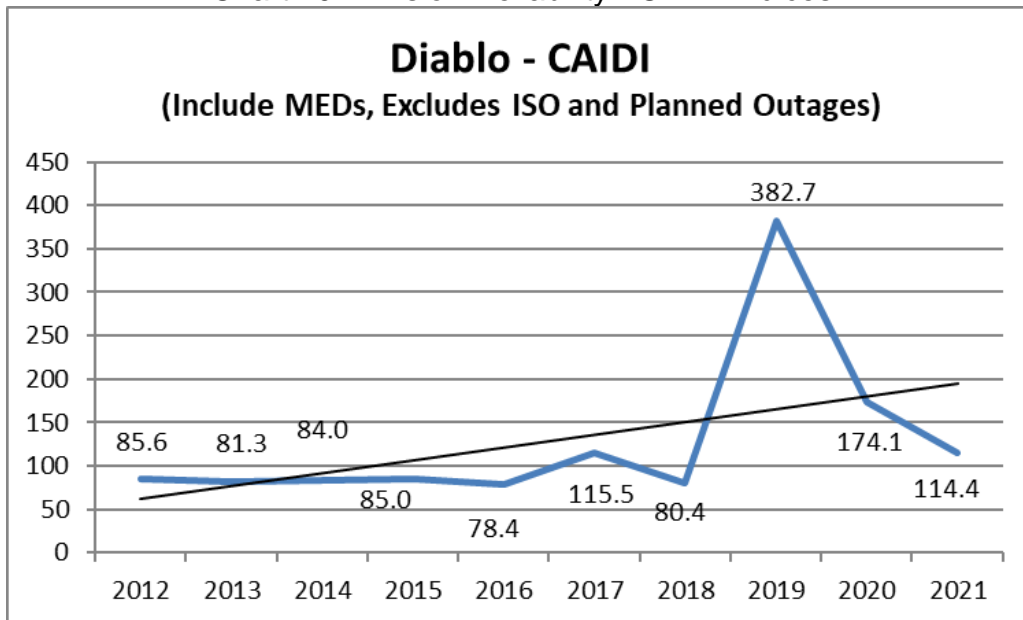


Chart 71: Division Reliability - CAIDI Indices

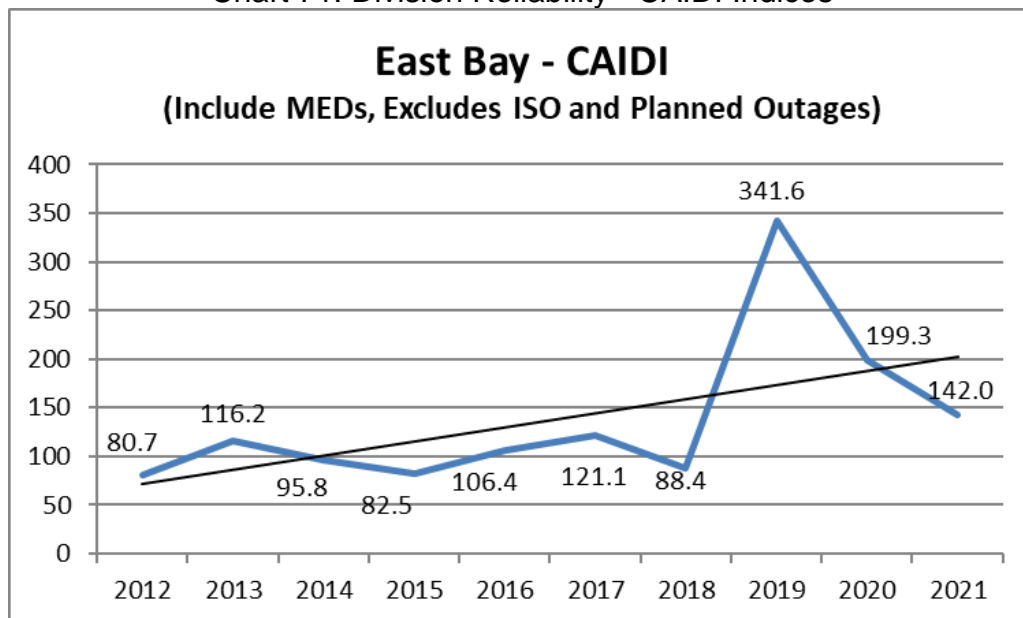


Chart 72: Division Reliability - CAIDI Indices

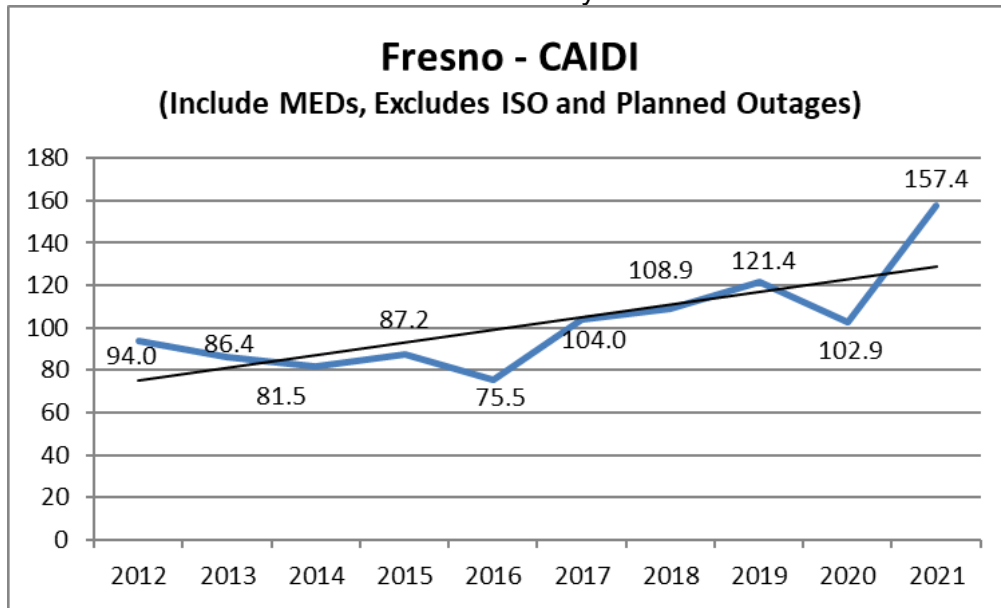


Chart 73: Division Reliability - CAIDI Indices

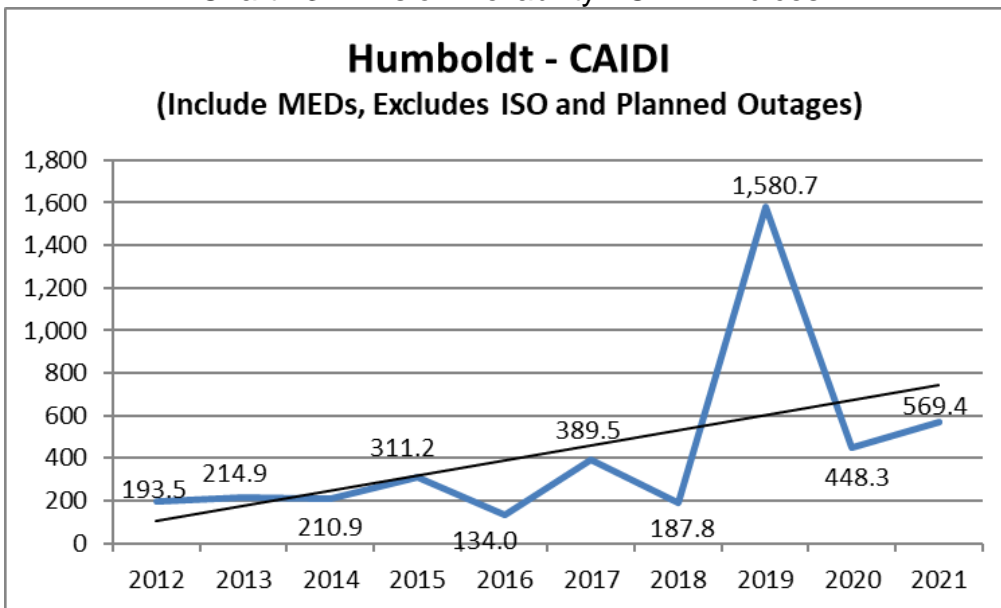


Chart 74: Division Reliability - CAIDI Indices

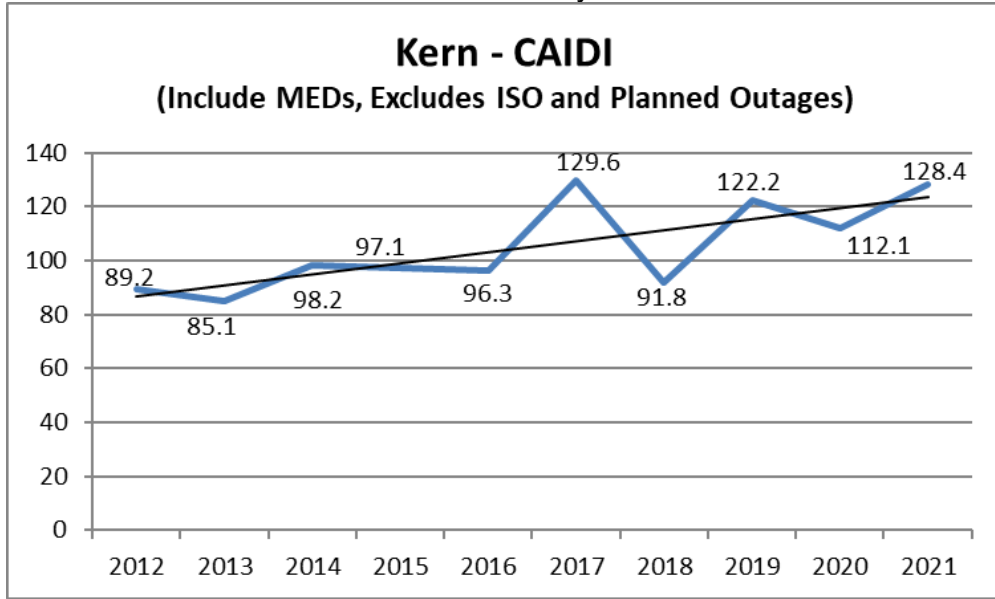


Chart 75: Division Reliability - CAIDI Indices

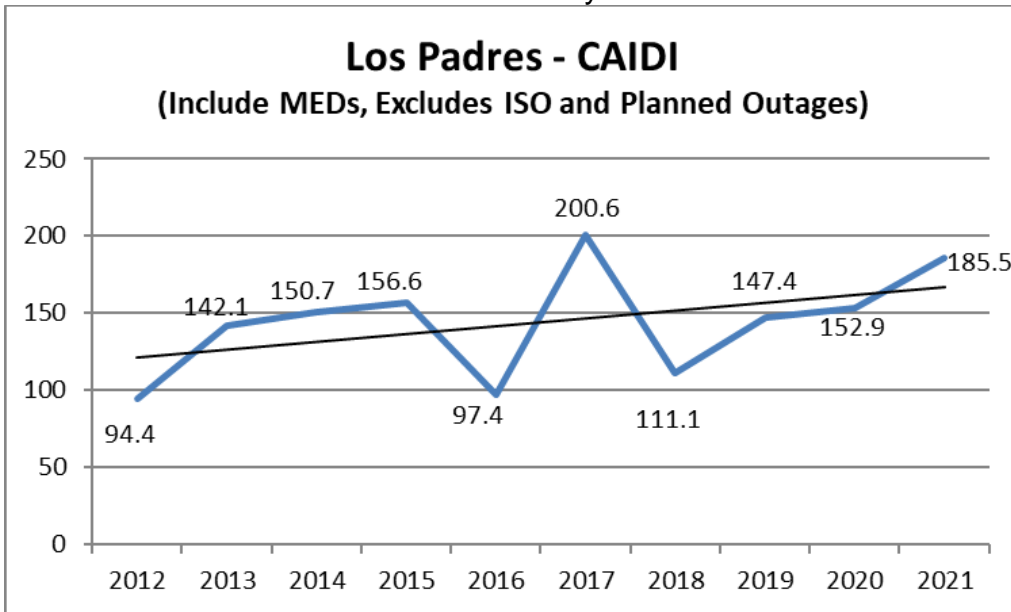


Chart 76: Division Reliability - CAIDI Indices

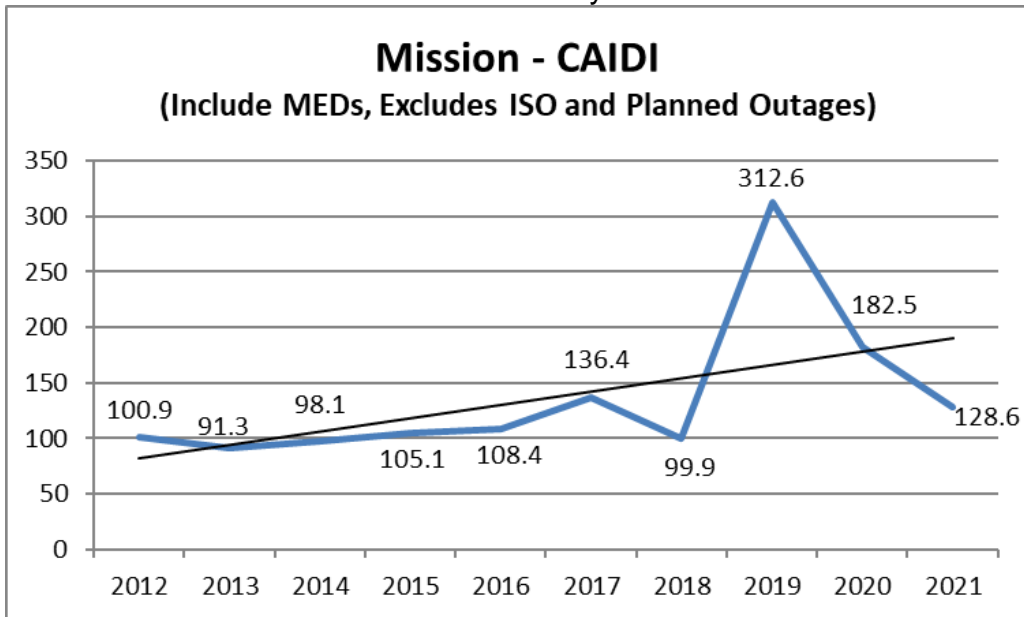


Chart 77: Division Reliability - CAIDI Indices

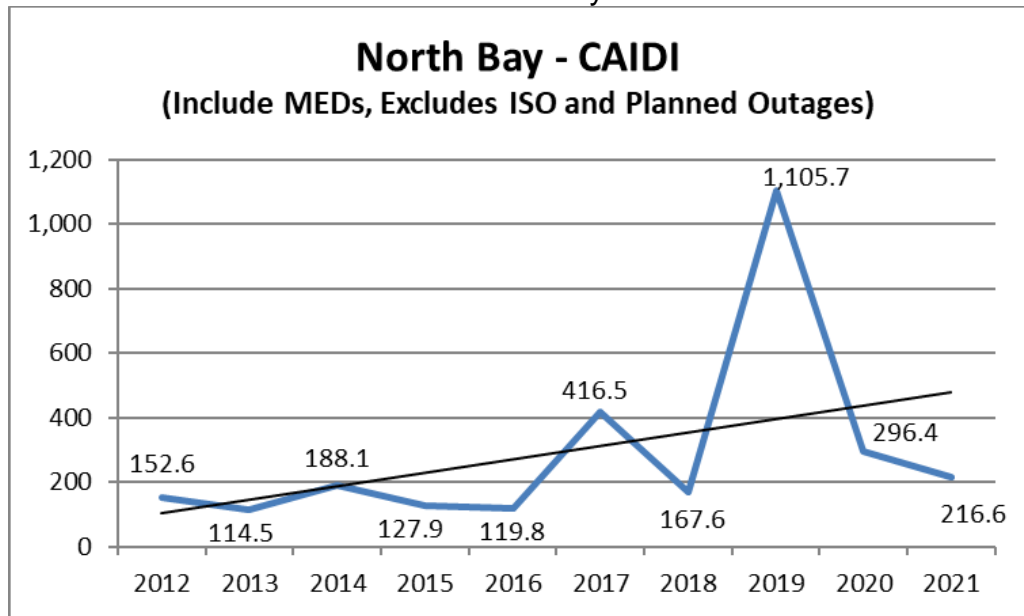


Chart 78: Division Reliability - CAIDI Indices

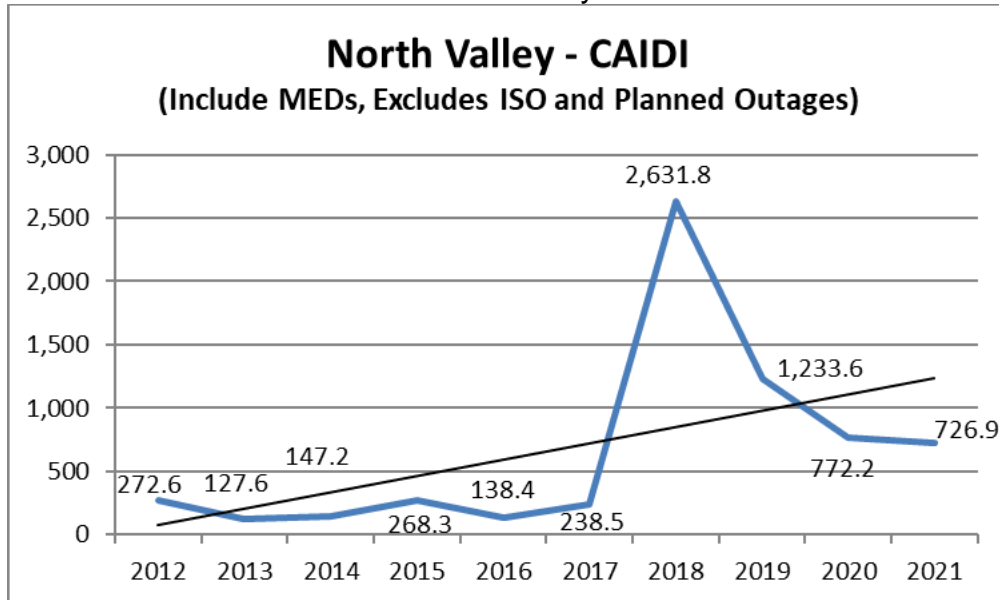


Chart 79: Division Reliability - CAIDI Indices

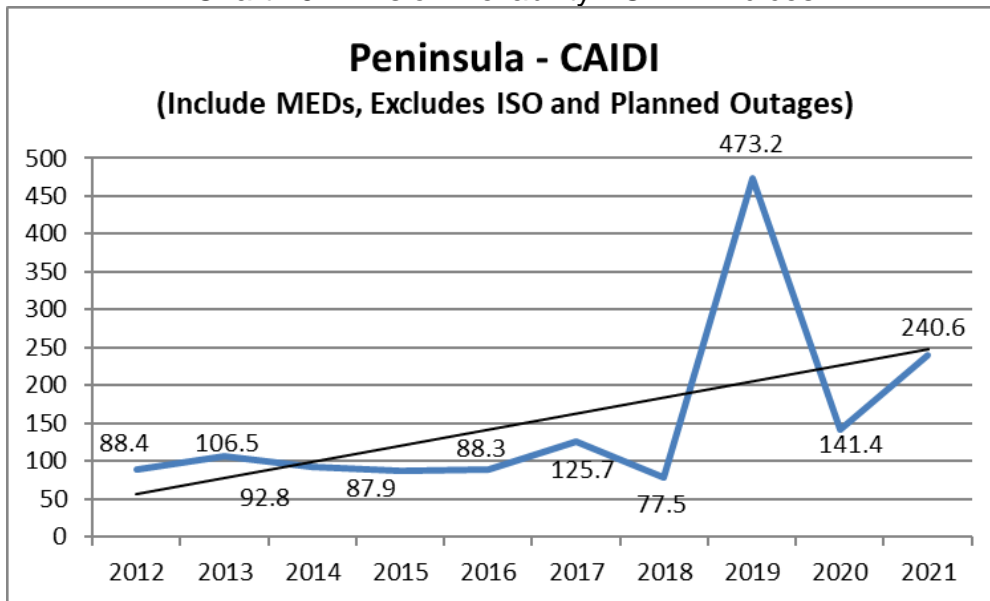


Chart 80: Division Reliability - CAIDI Indices

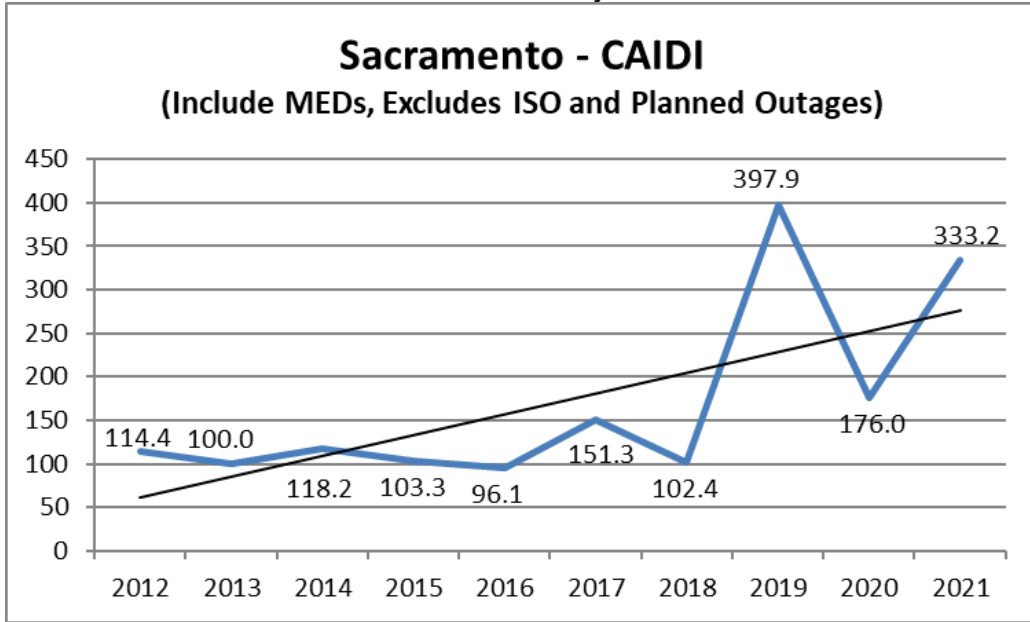


Chart 81: Division Reliability - CAIDI Indices

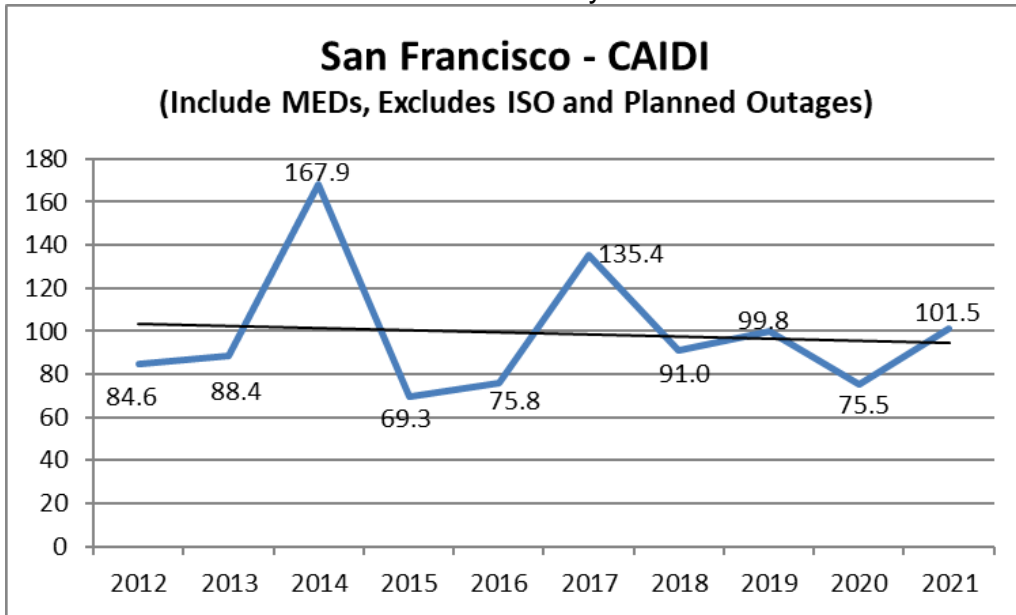


Chart 82: Division Reliability - CAIDI Indices

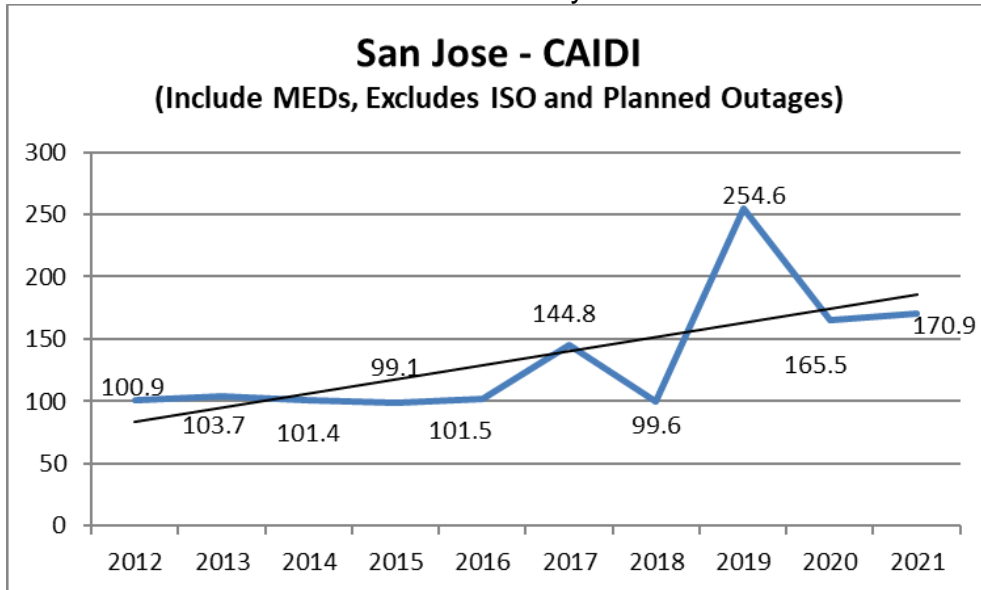


Chart 83: Division Reliability - CAIDI Indices

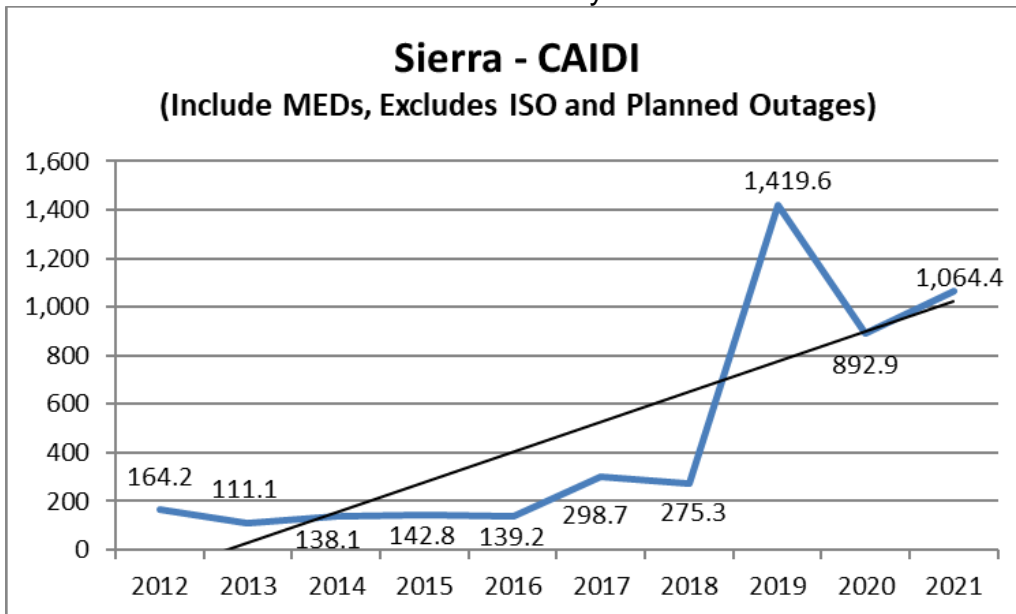


Chart 84: Division Reliability - CAIDI Indices

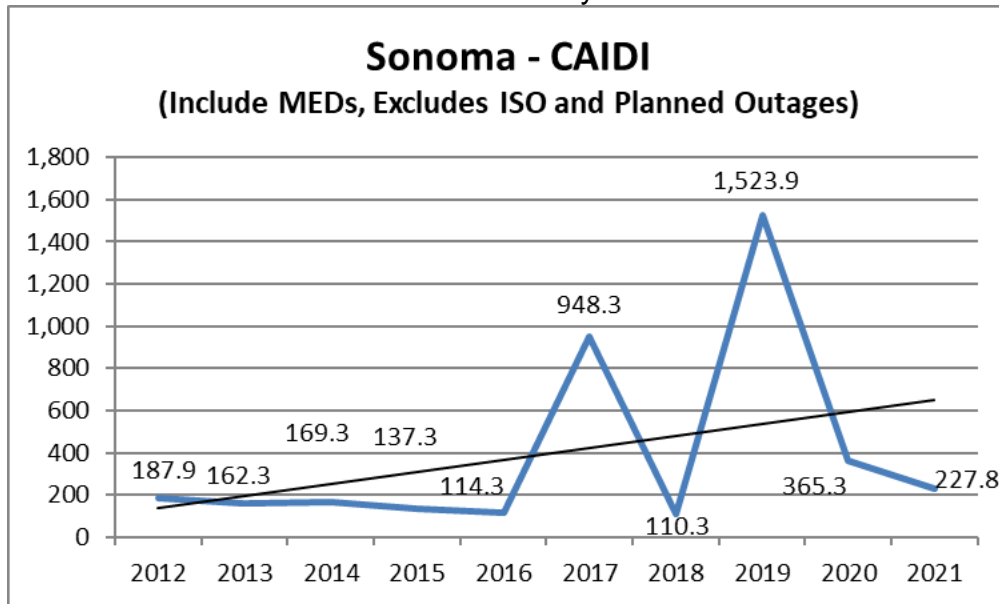


Chart 85: Division Reliability - CAIDI Indices

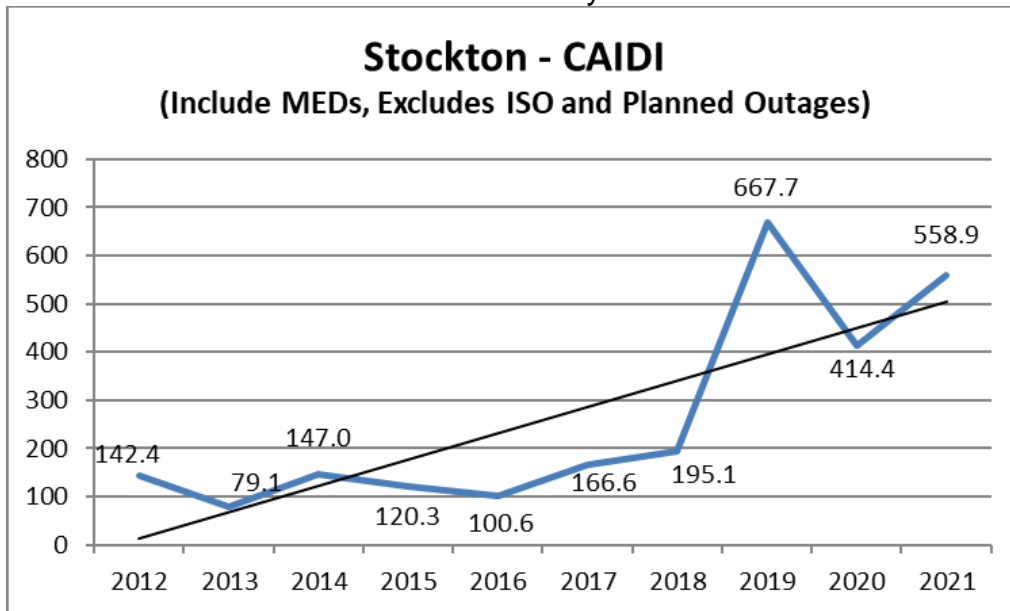
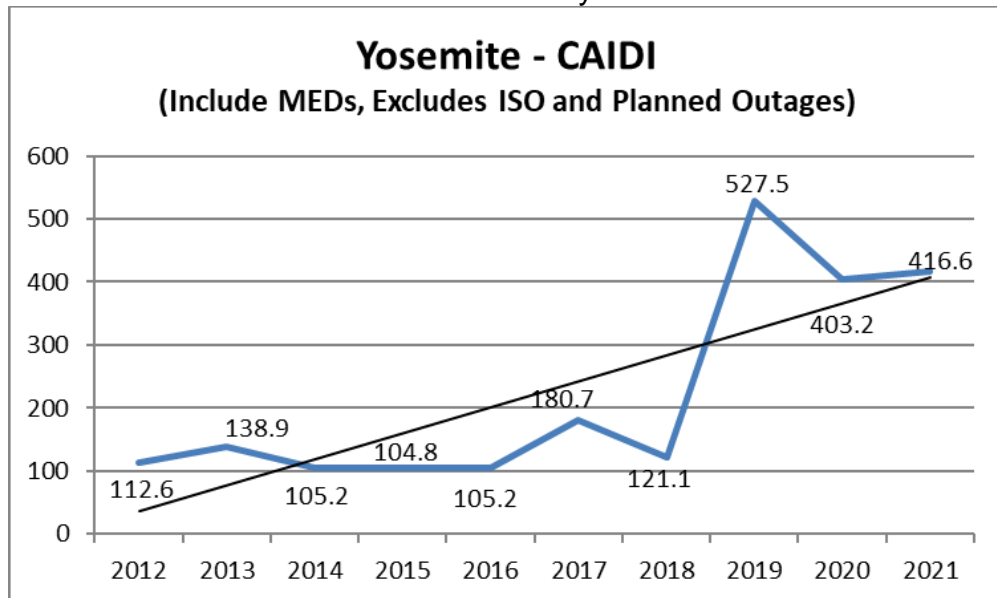


Chart 86: Division Reliability - CAIDI Indices



ii. Charts for Division Reliability Indices for the past 10 years with linear trend line excluding ISO, planned outages and MED

1. AIDI Performance Results (MED Excluded)

Chart 87: Division Reliability - AIDI Indices

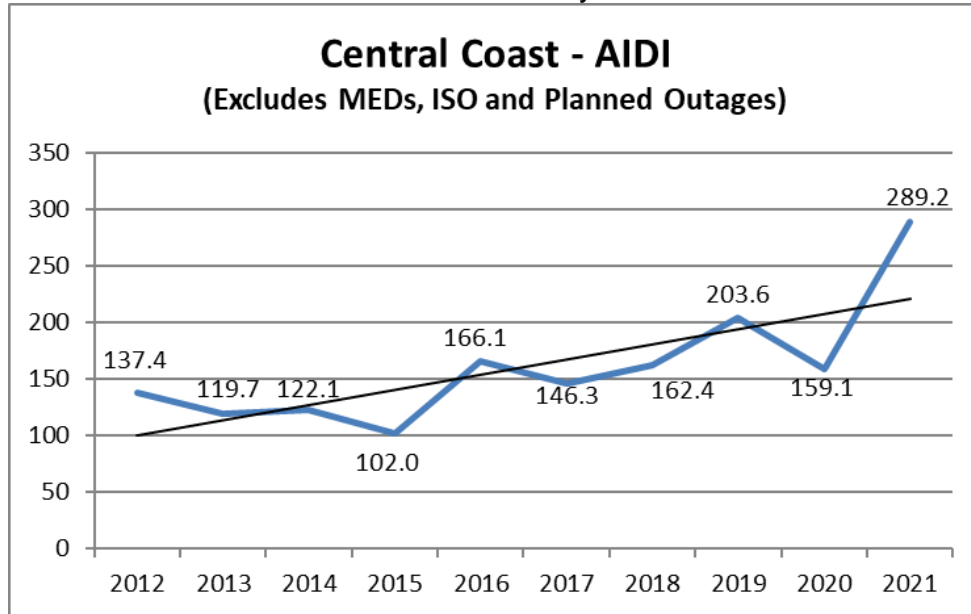


Chart 88: Division Reliability - AIDI Indices

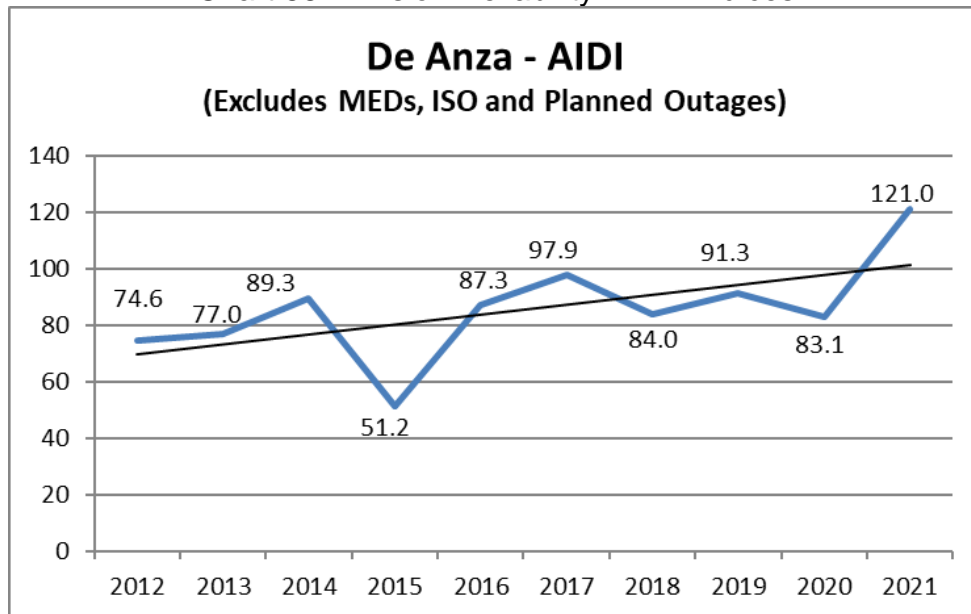


Chart 89: Division Reliability - AIDI Indices

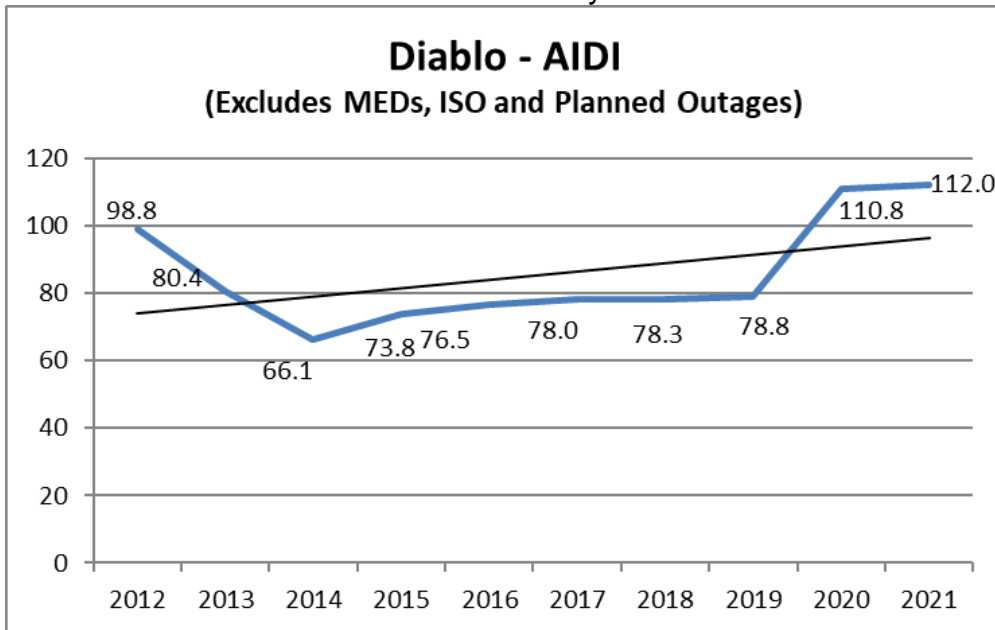


Chart 90: Division Reliability - AIDI Indices

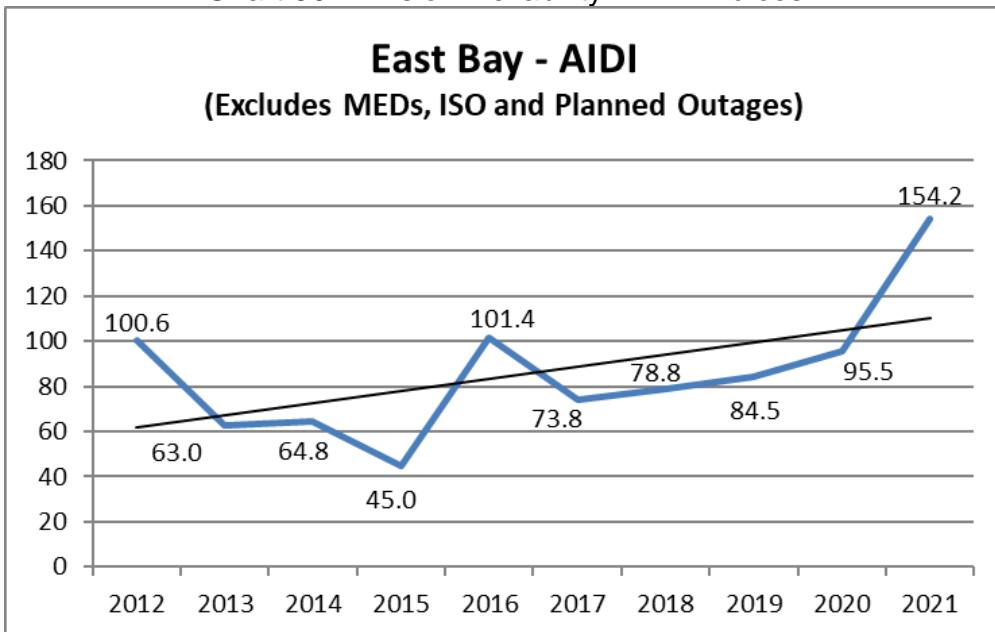


Chart 91: Division Reliability - AIDI Indices

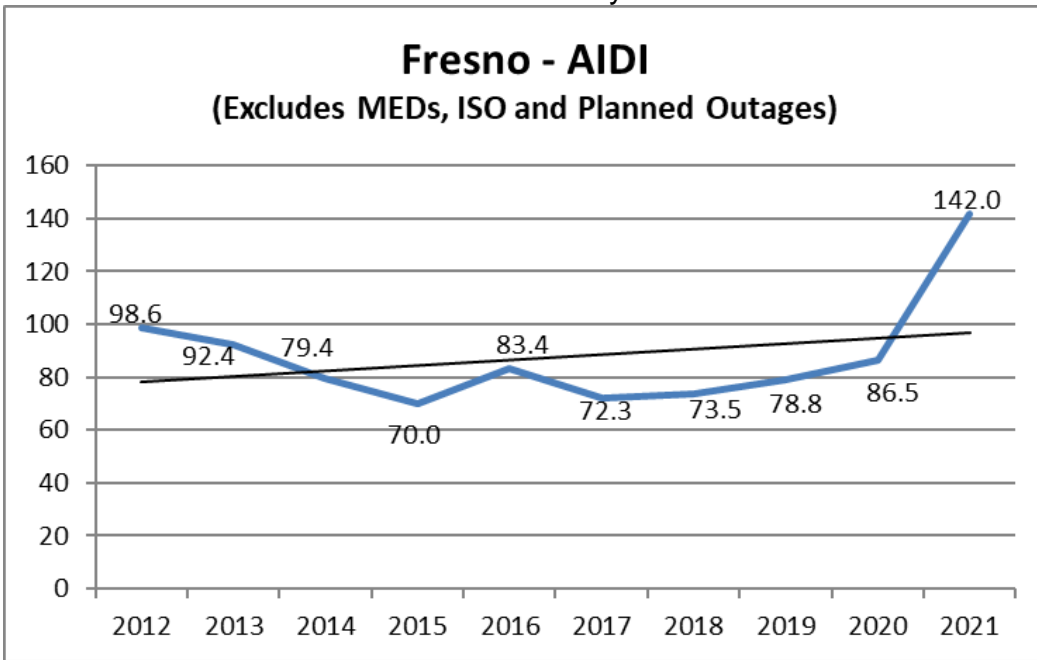


Chart 92: Division Reliability - AIDI Indices

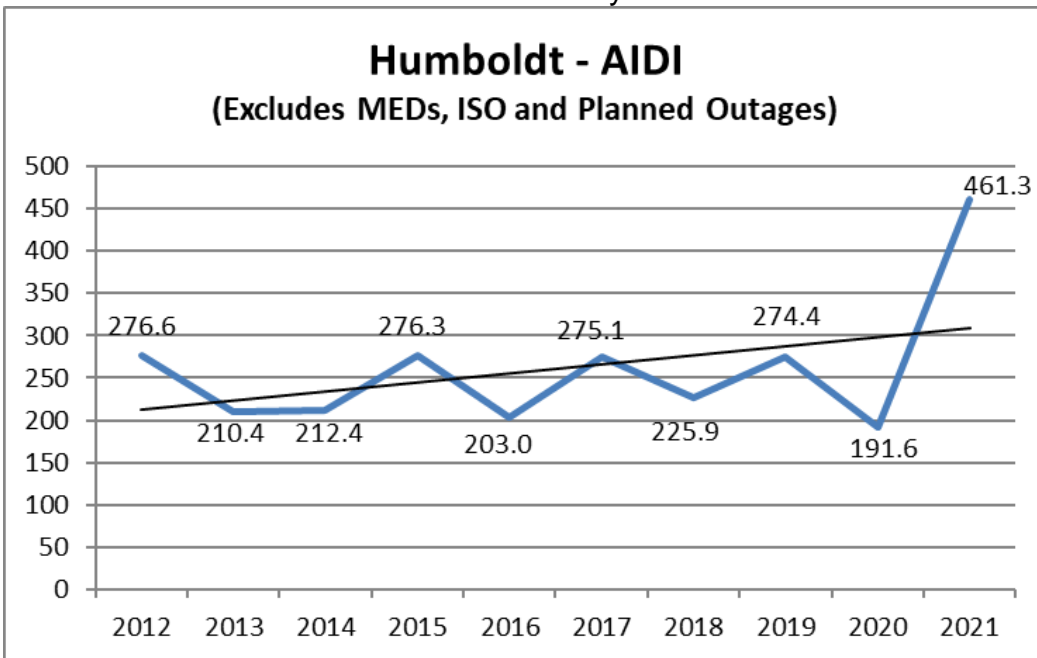


Chart 93: Division Reliability - AIDI Indices

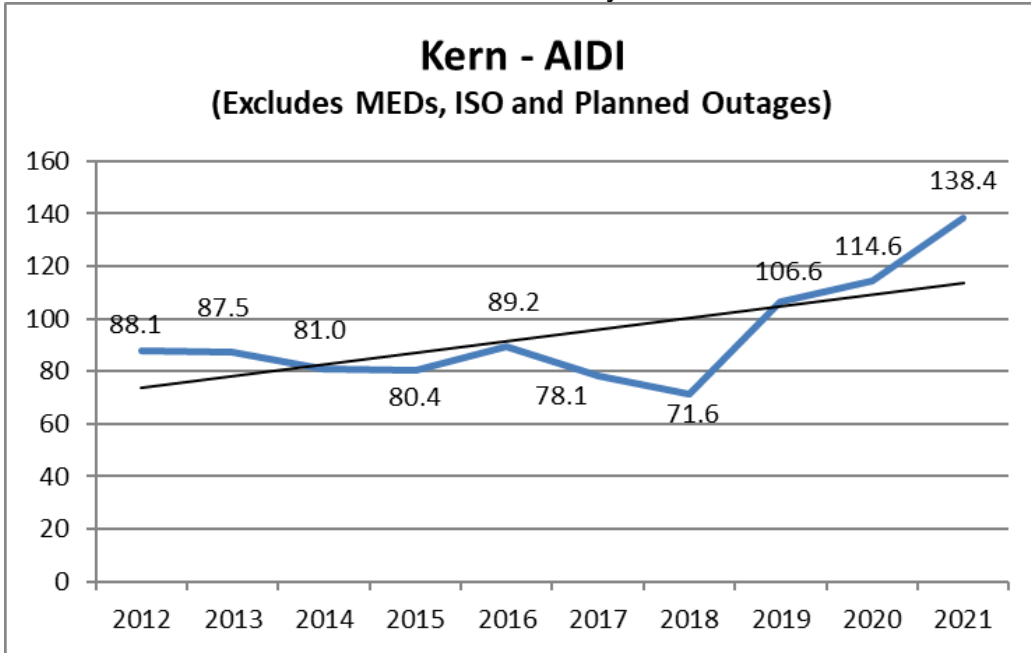


Chart 94: Division Reliability - AIDI Indices

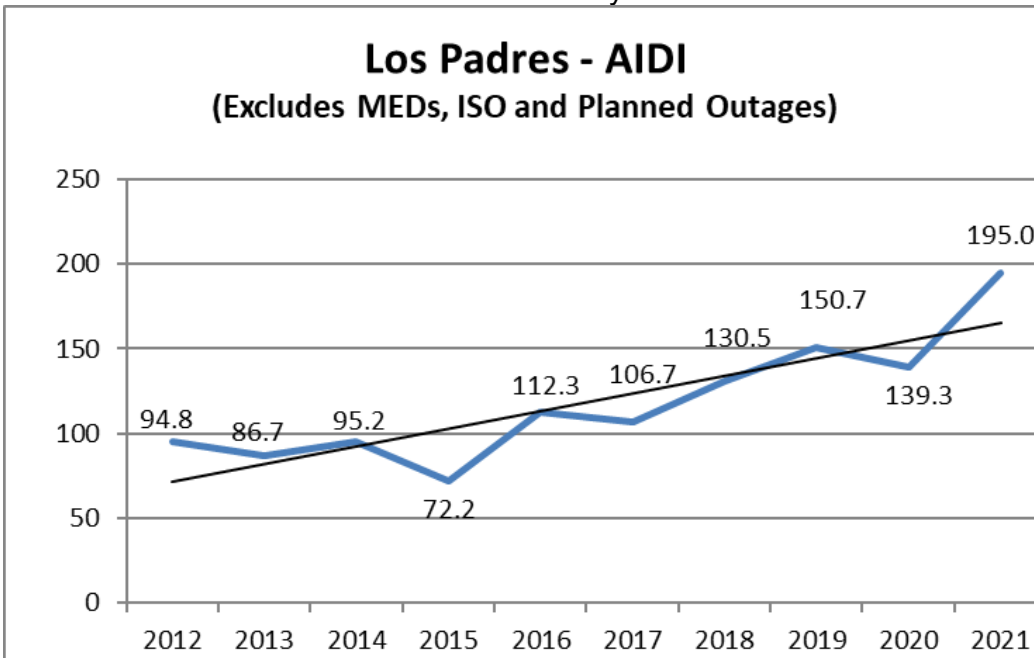


Chart 95: Division Reliability - AIDI Indices

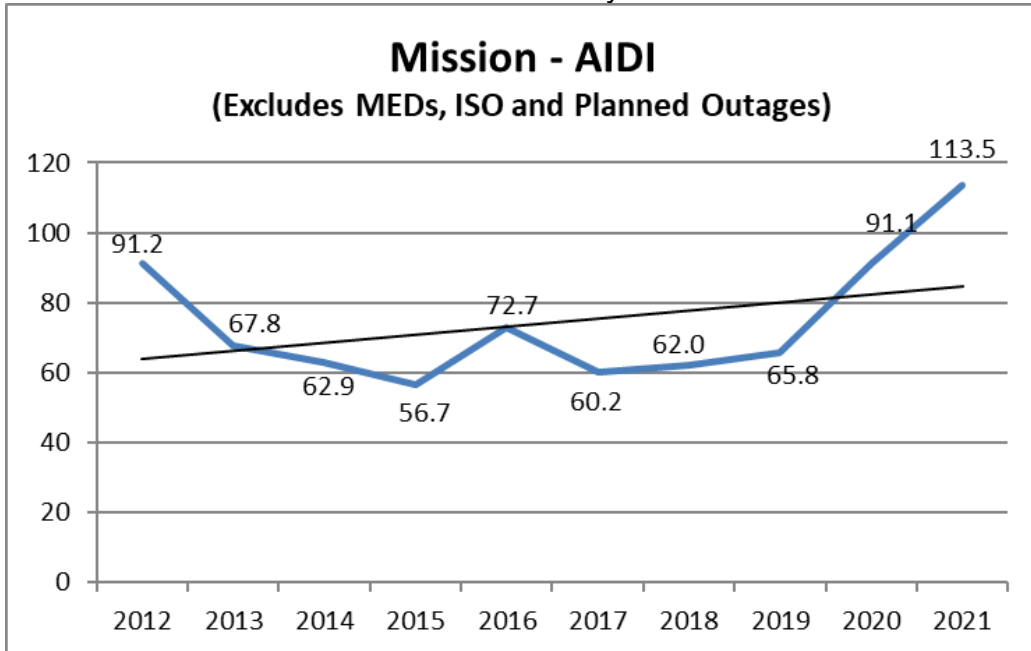


Chart 96: Division Reliability - AIDI Indices

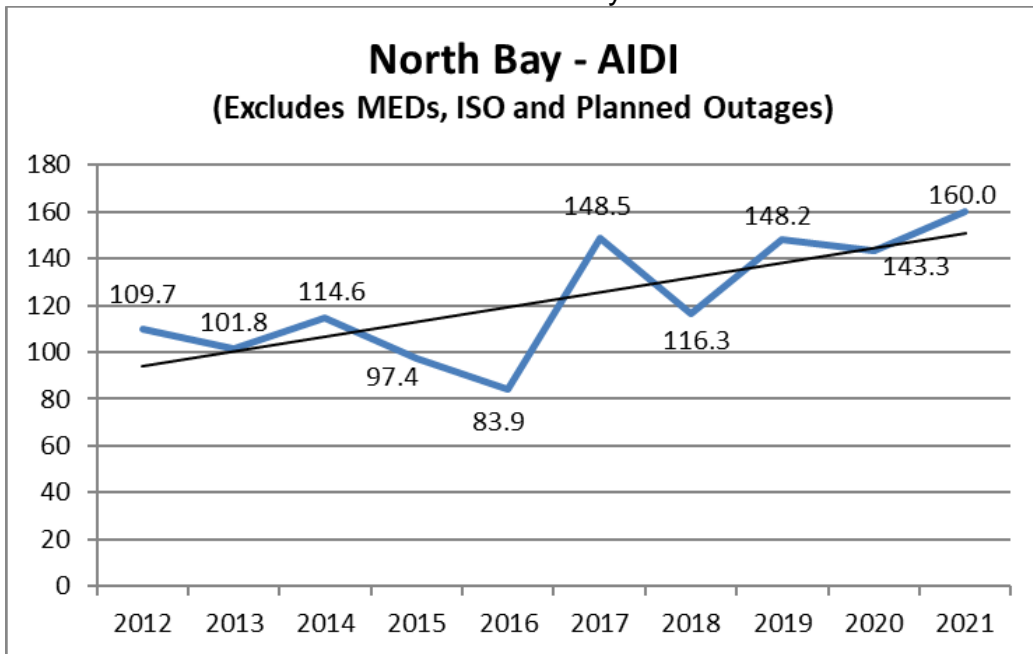


Chart 97: Division Reliability - AIDI Indices

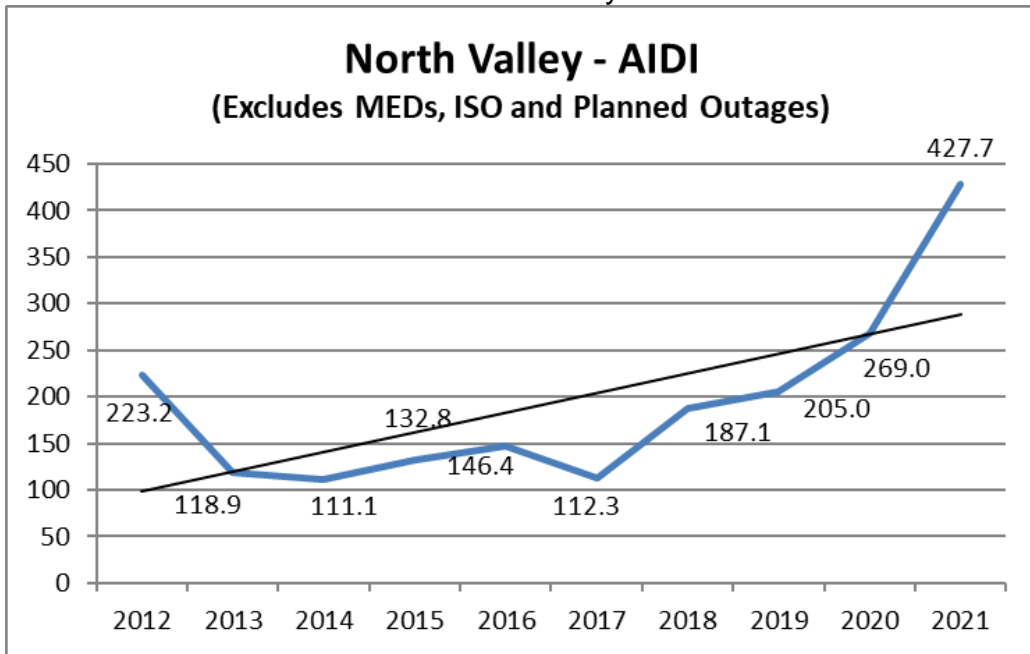


Chart 98: Division Reliability - AIDI Indices

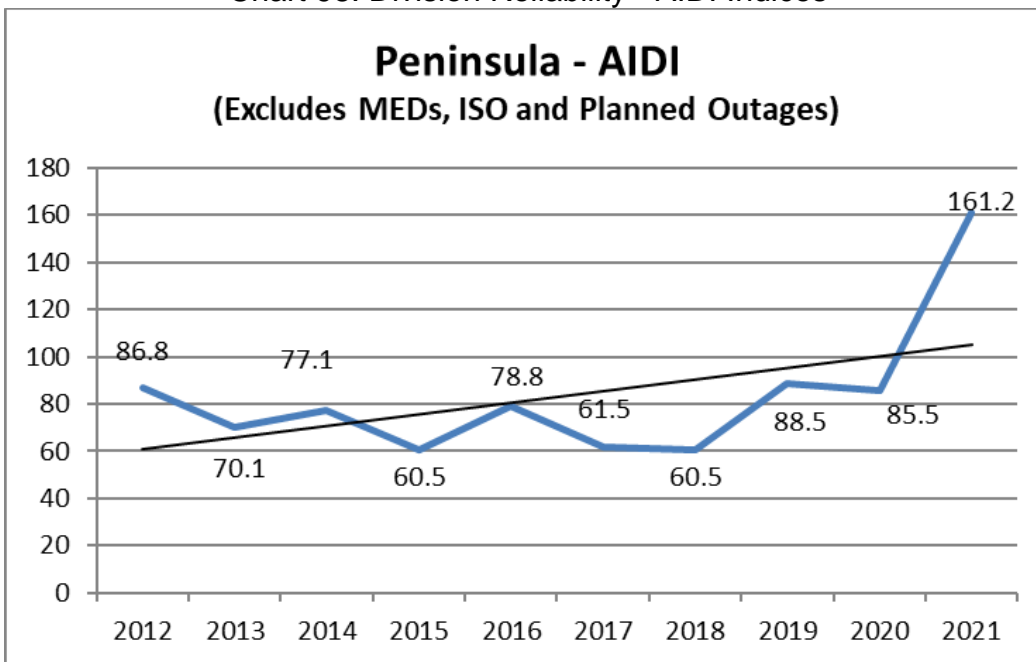


Chart 99: Division Reliability - AIDI Indices

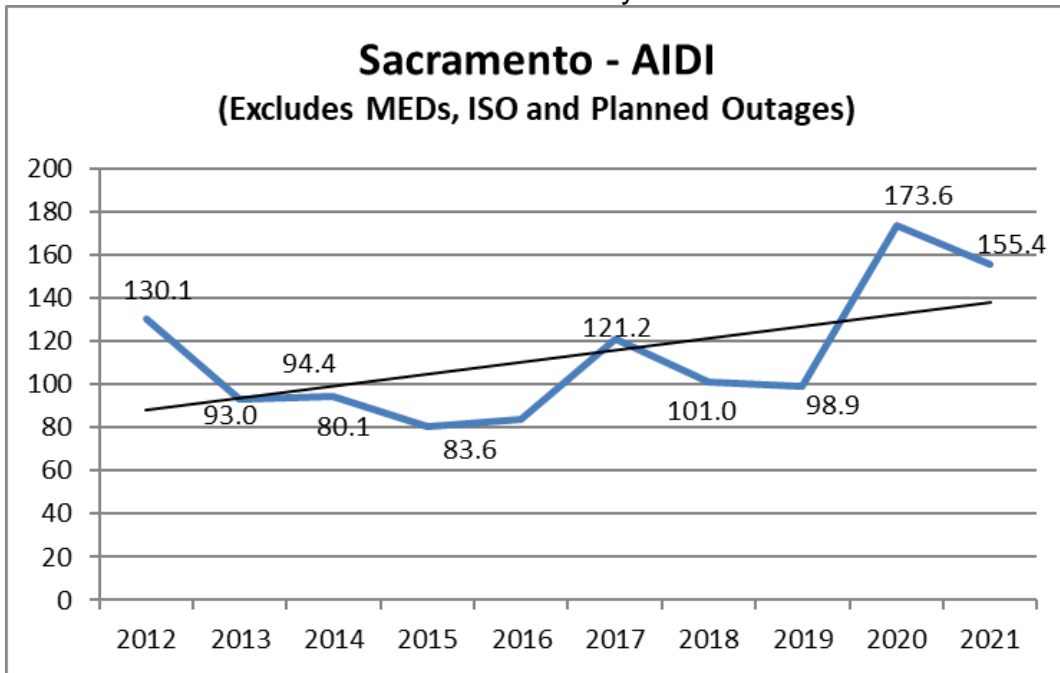


Chart 100: Division Reliability - AIDI Indices

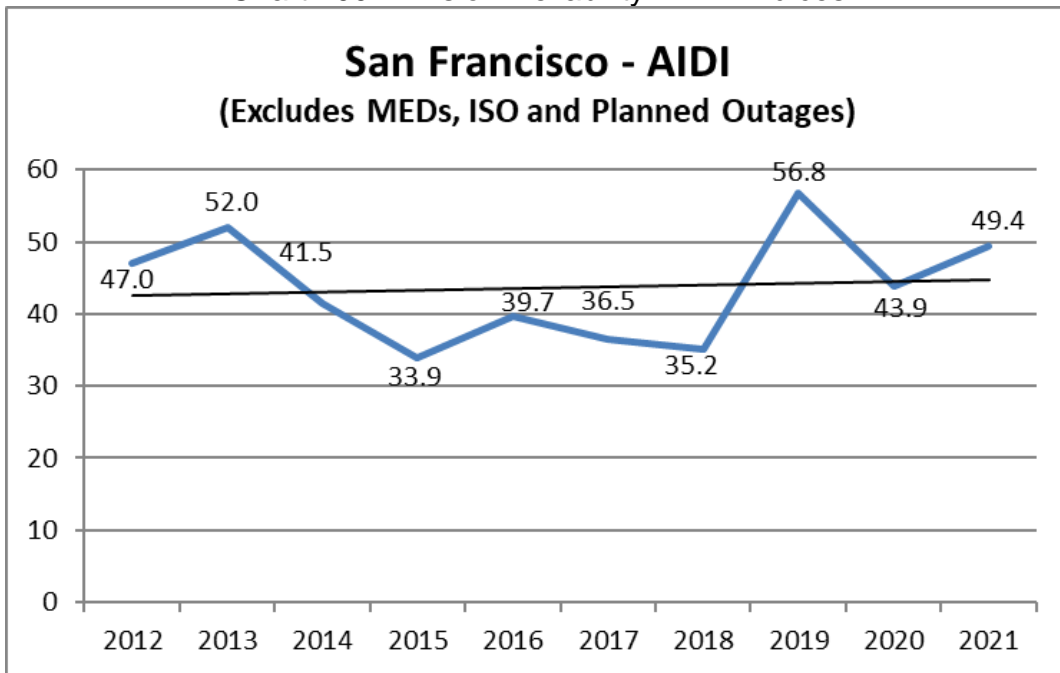


Chart 101: Division Reliability - AIDI Indices

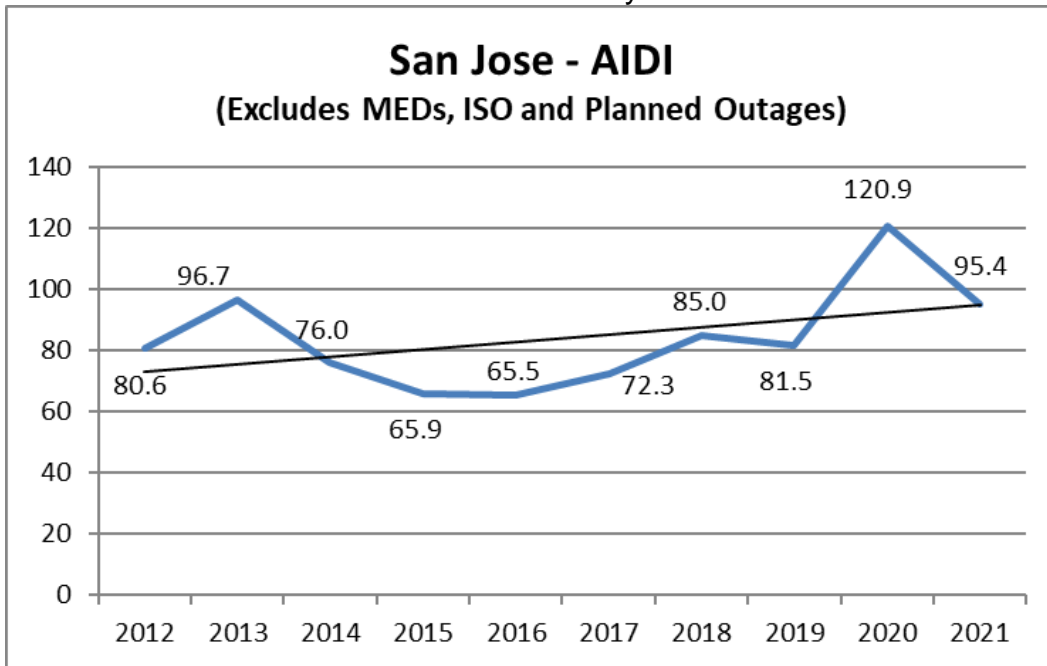


Chart 102: Division Reliability - AIDI Indices

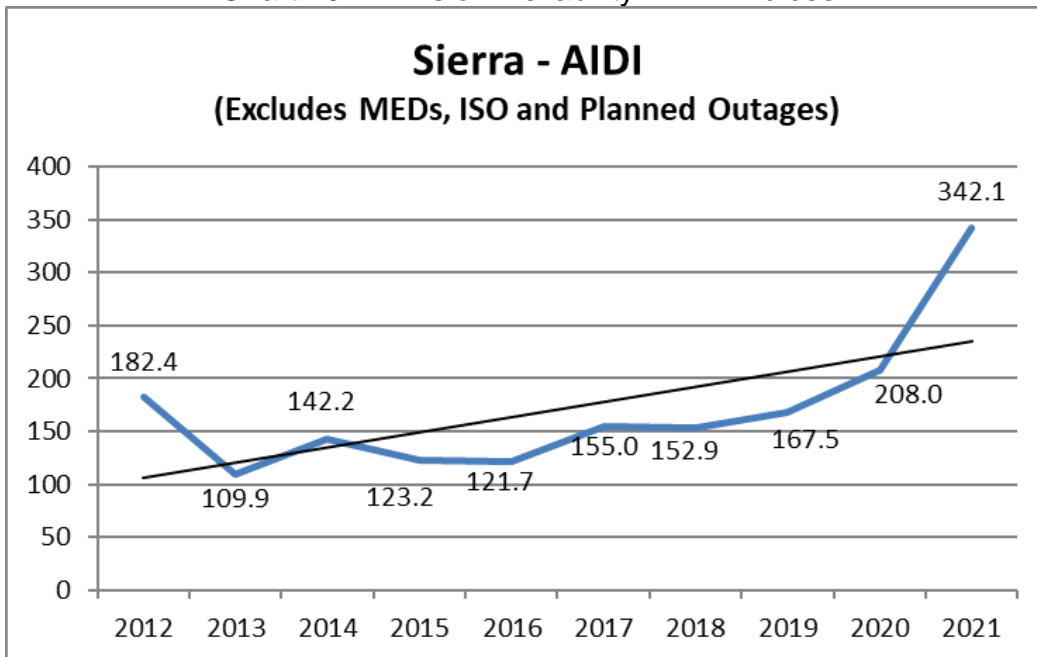


Chart 103: Division Reliability - AIDI Indices

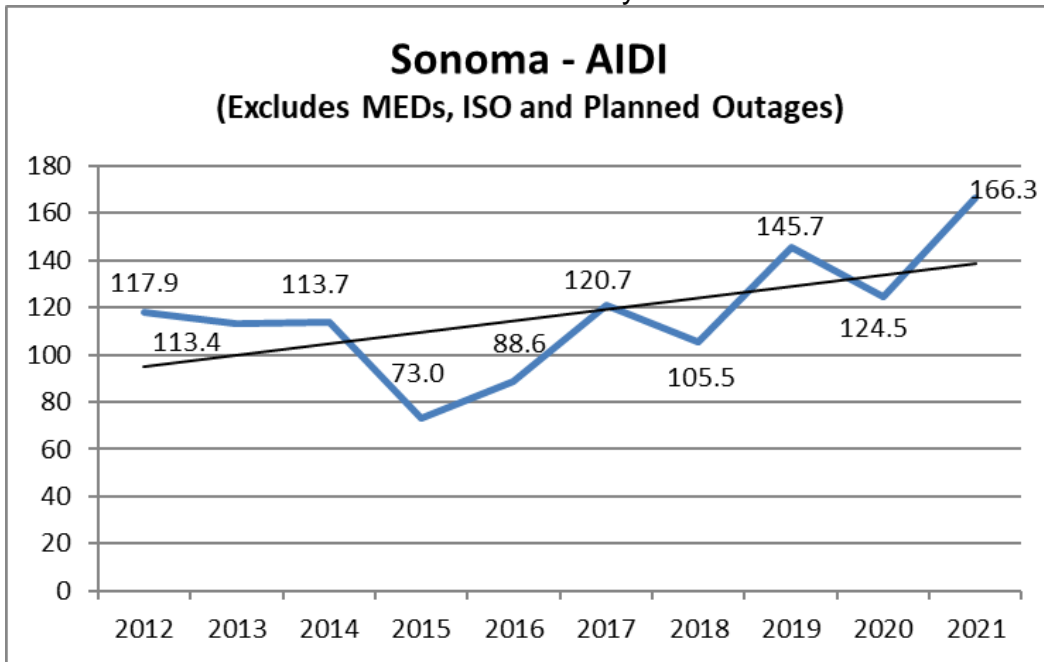


Chart 104: Division Reliability - AIDI Indices

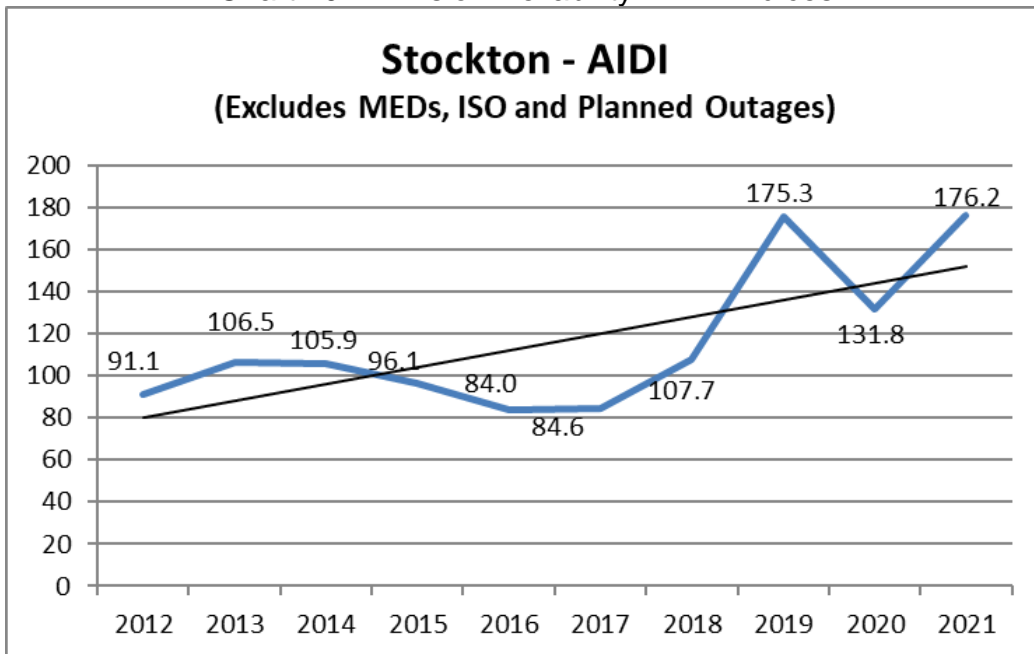
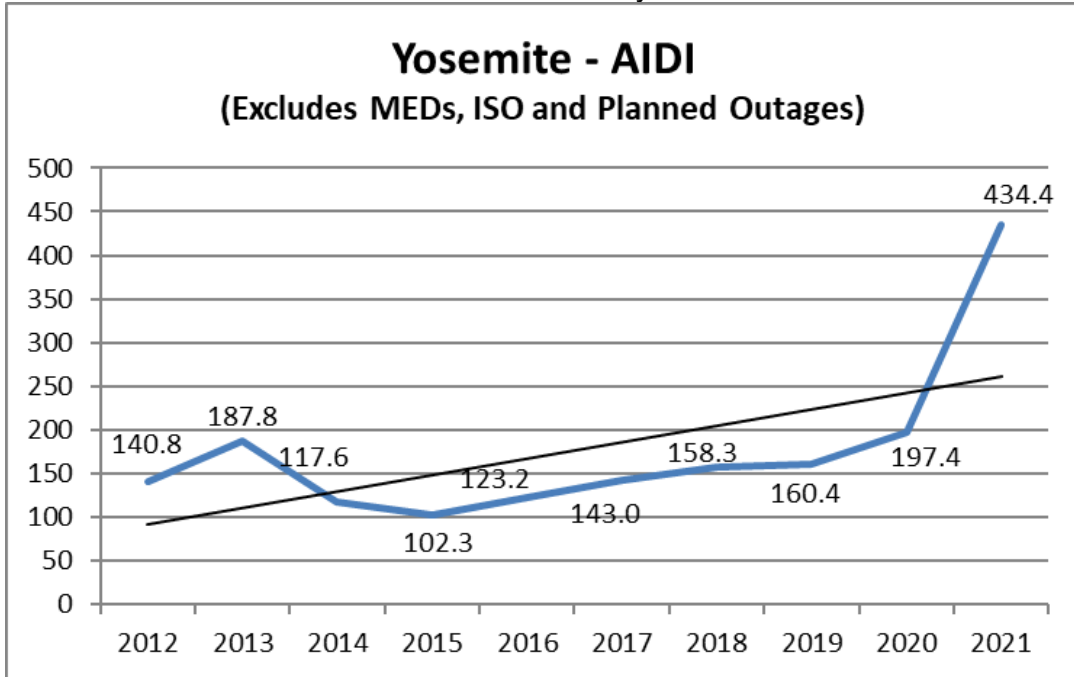


Chart 105: Division Reliability - AIDI Indices



AIFI Performance Results (MED Excluded)

Chart 106: Division Reliability - AIFI Indices

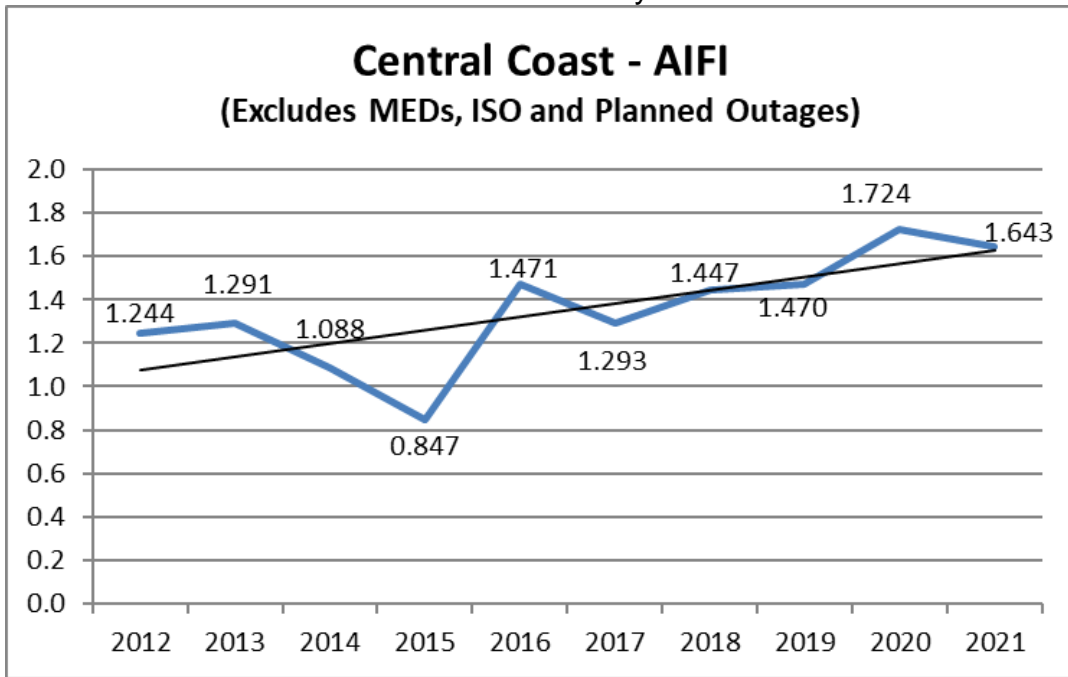


Chart 107: Division Reliability - AIFI Indices

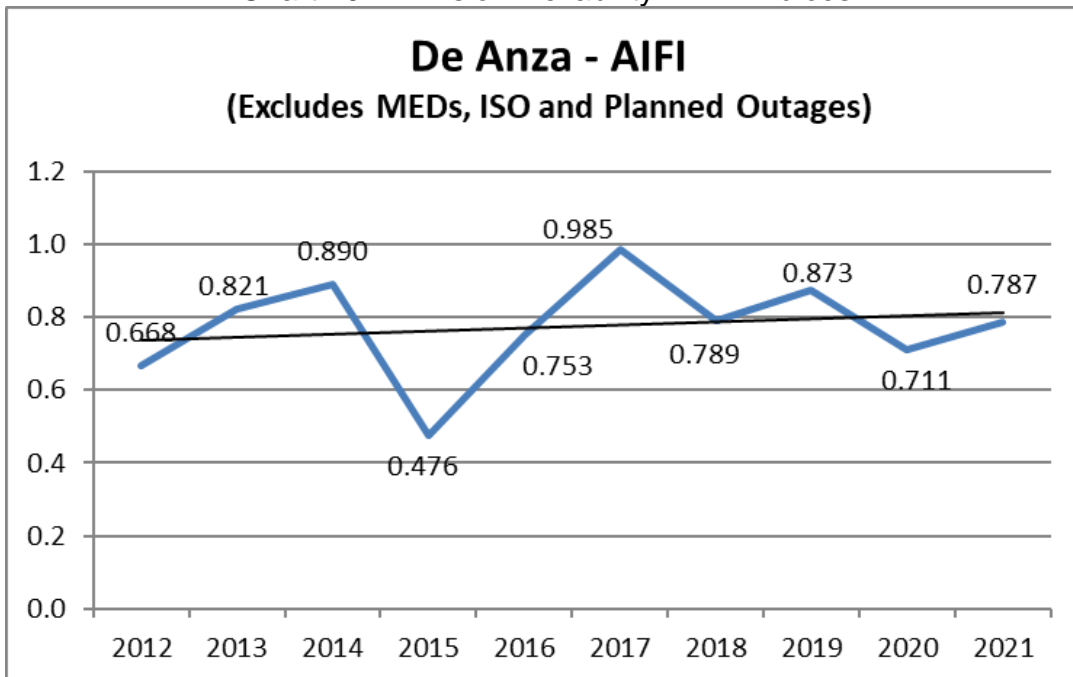


Chart 108: Division Reliability - AIFI Indices

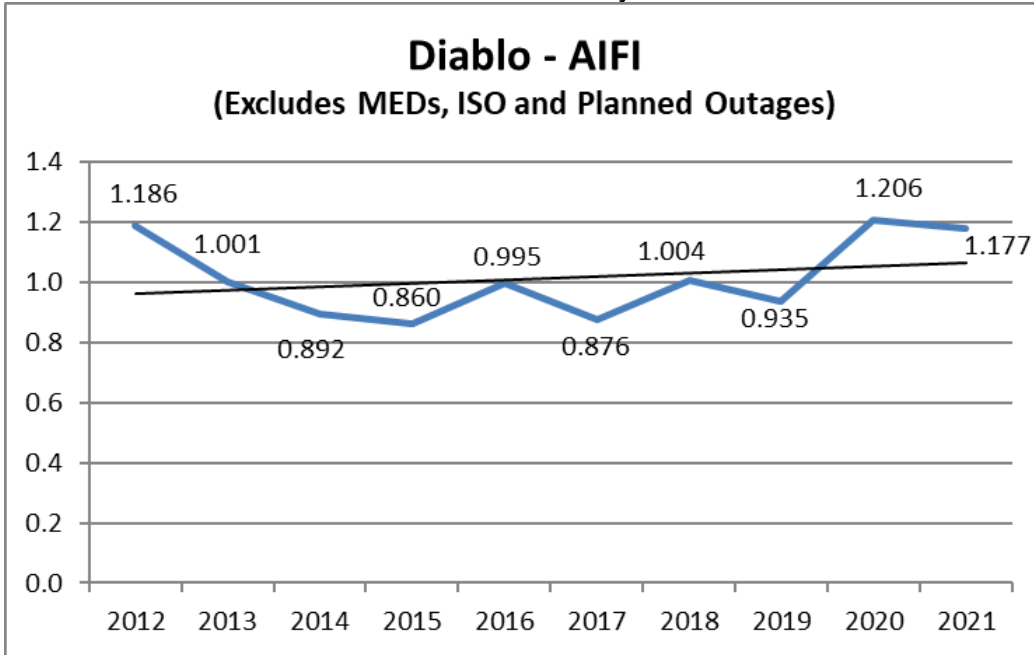


Chart 109: Division Reliability - AIFI Indices

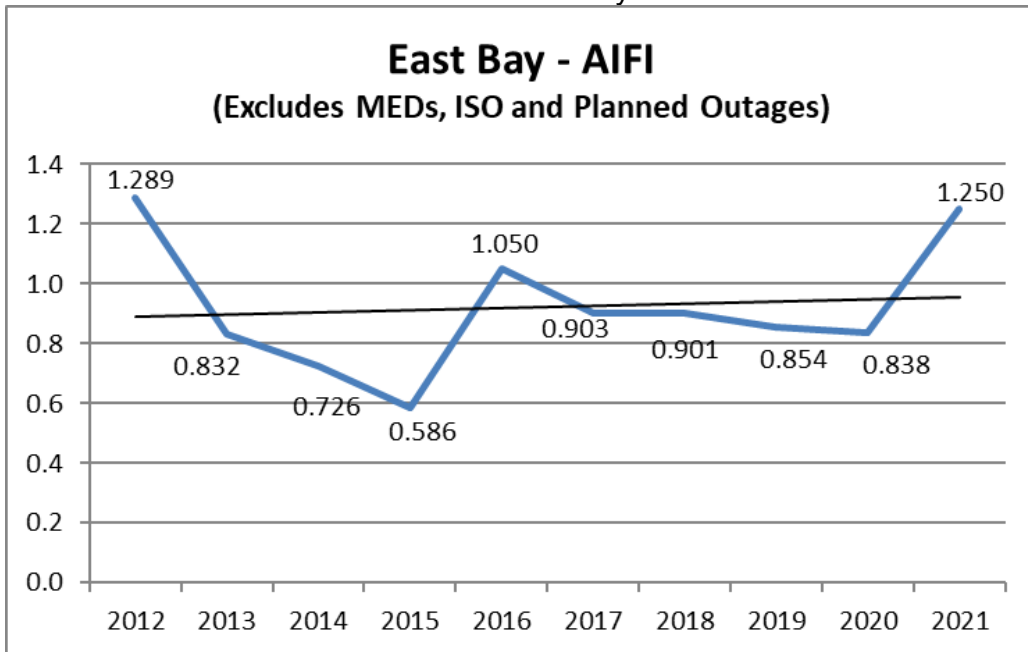


Chart 110: Division Reliability - AIFI Indices

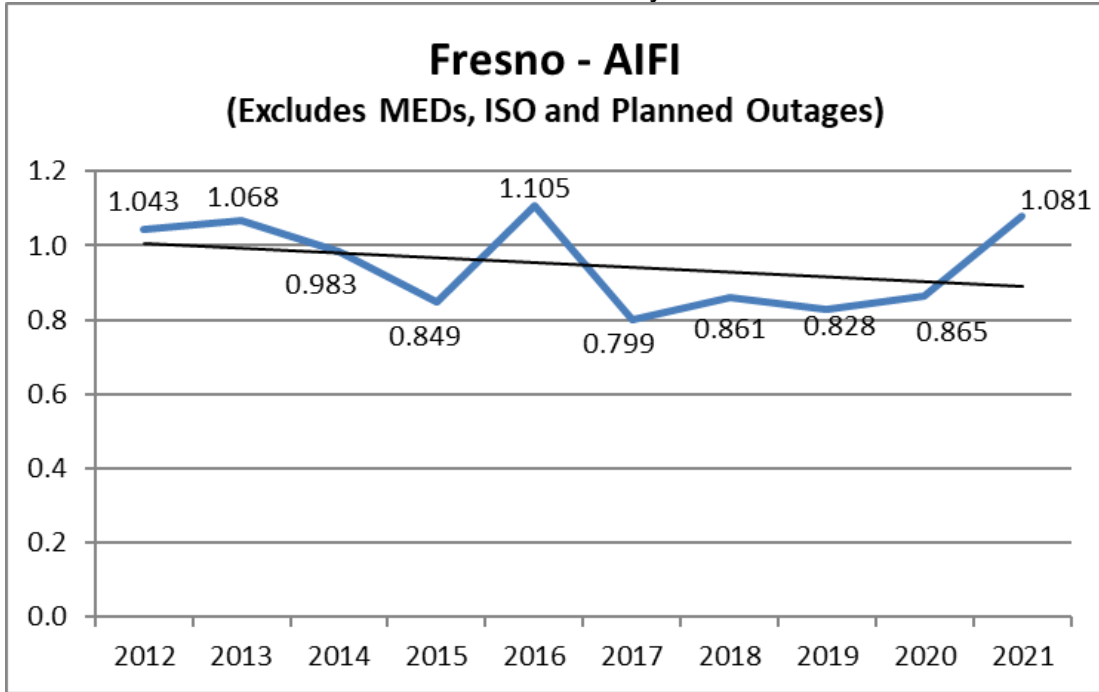


Chart 111: Division Reliability - AIFI Indices

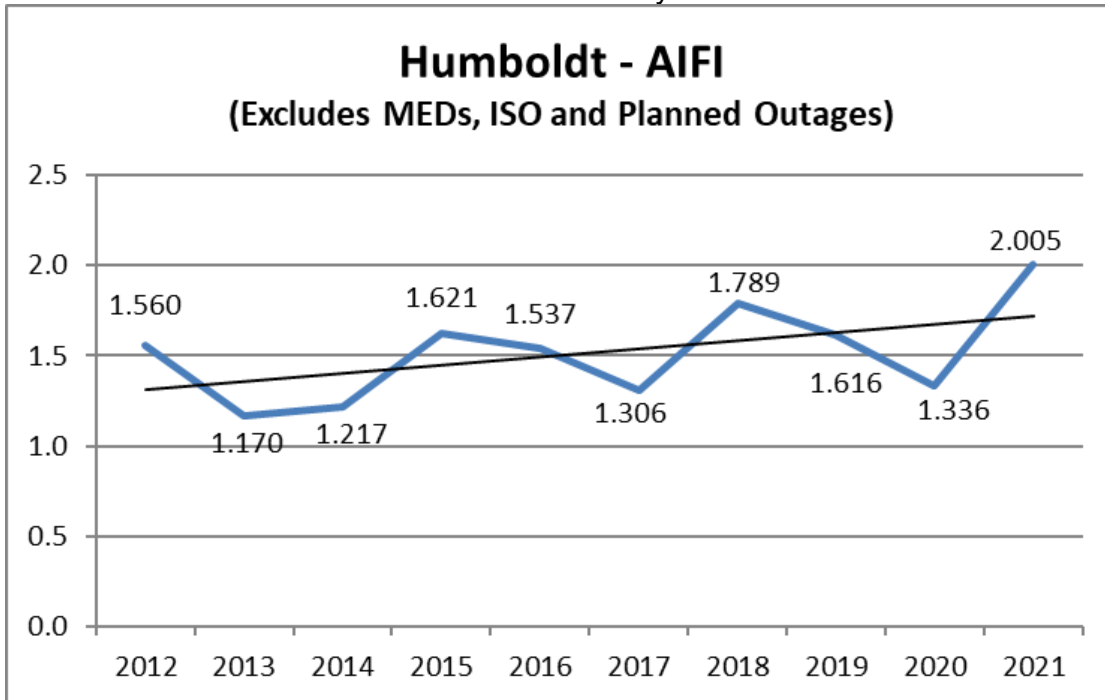


Chart 112: Division Reliability - AIFI Indices

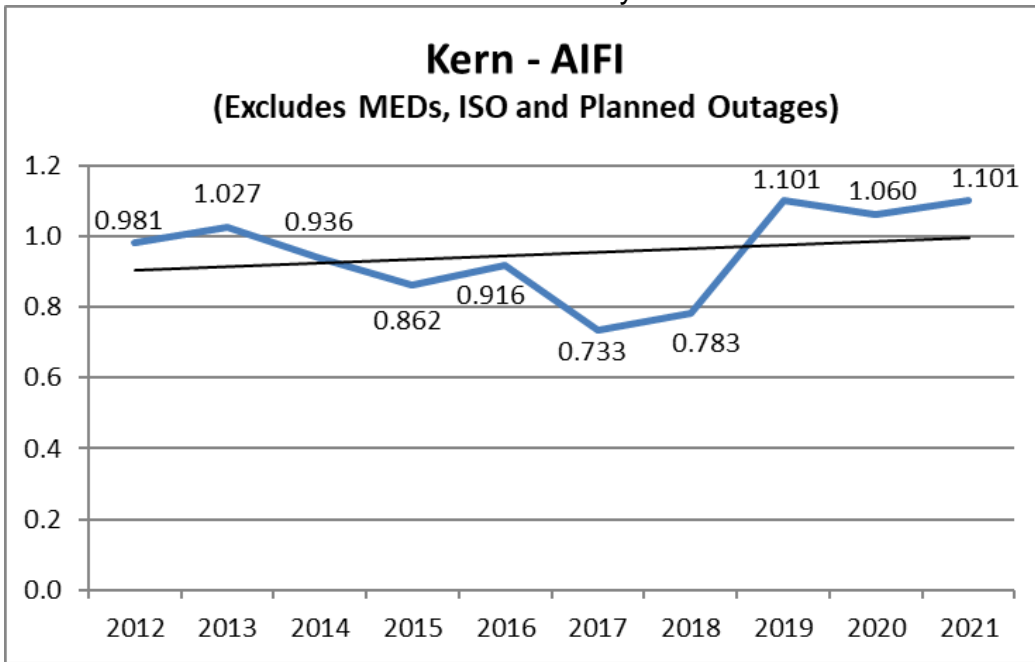


Chart 113: Division Reliability - AIFI Indices

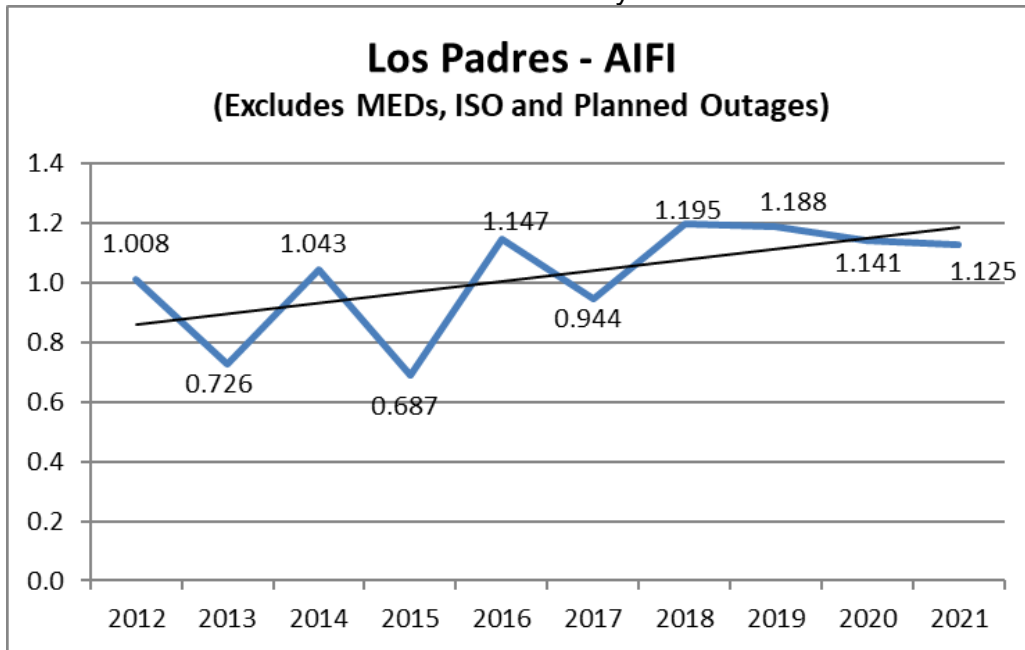


Chart 114: Division Reliability - AIFI Indices

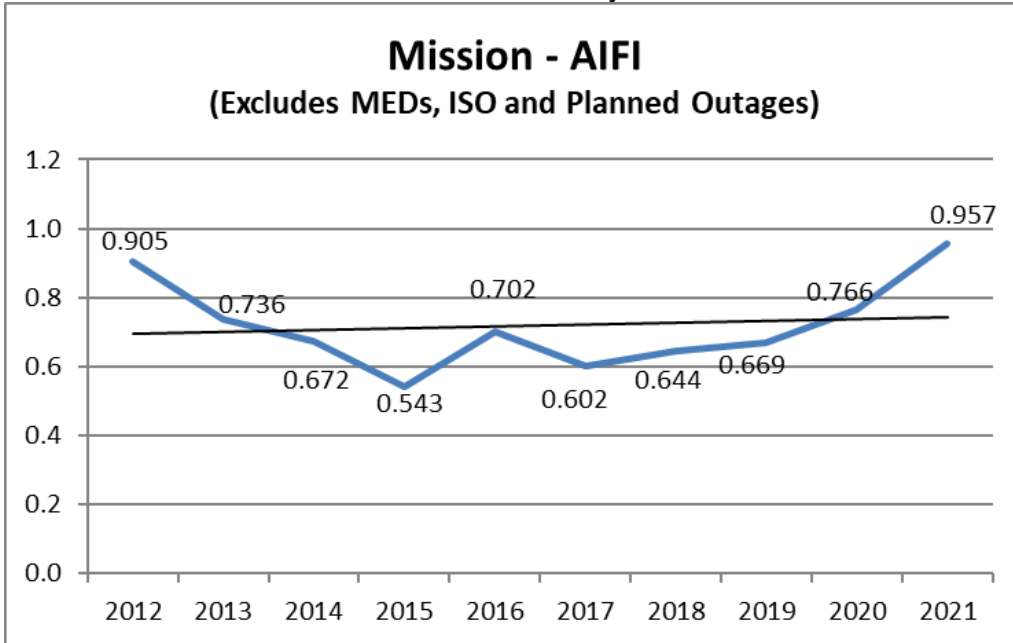


Chart 115: Division Reliability - AIFI Indices

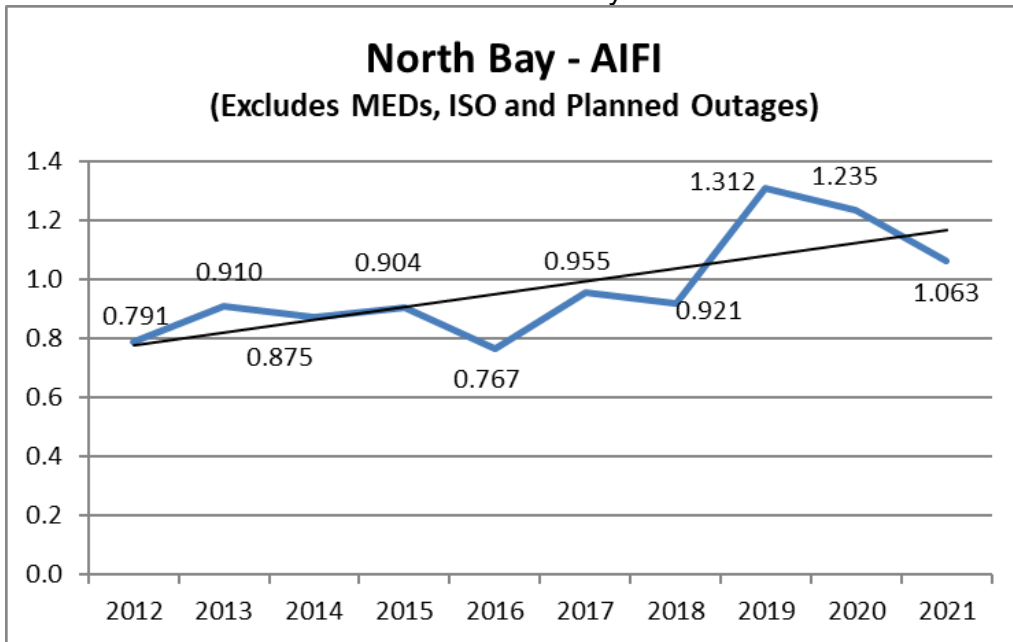


Chart 116: Division Reliability - AIFI Indices

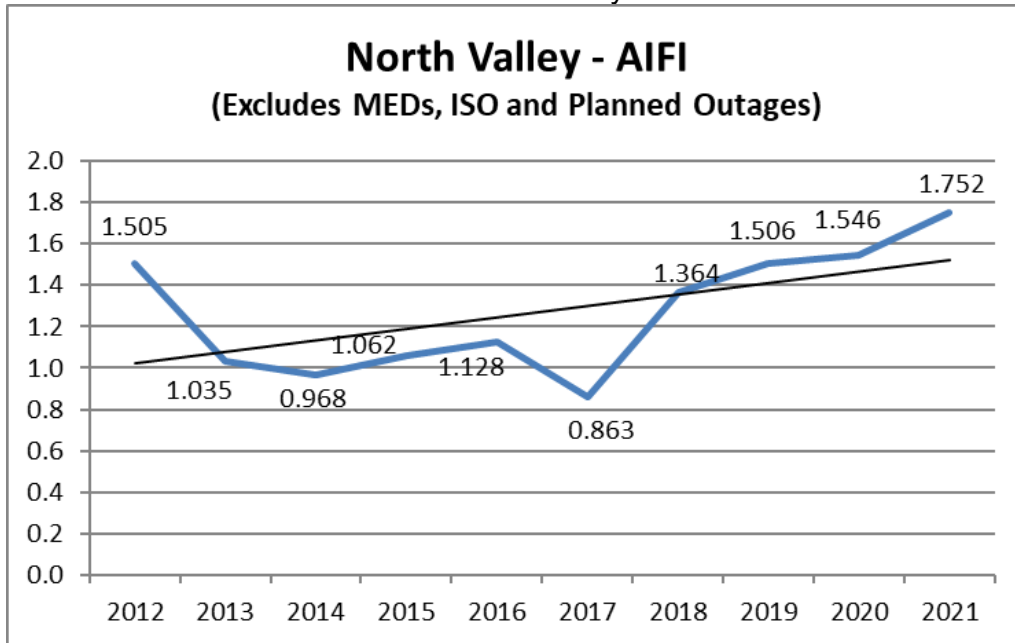


Chart 117: Division Reliability - AIFI Indices

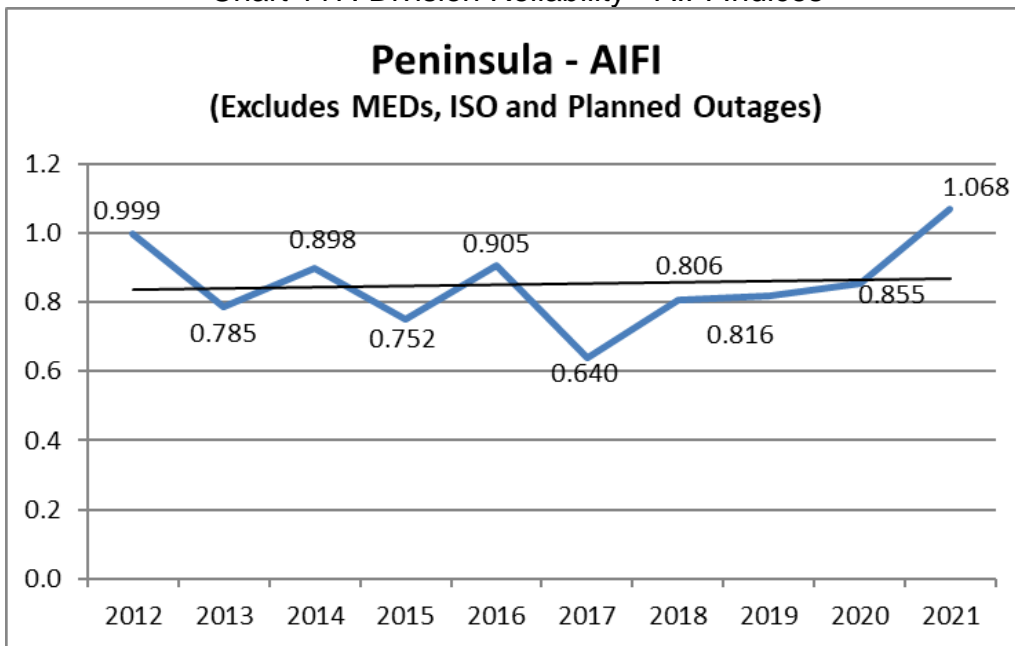


Chart 118: Division Reliability - AIFI Indices

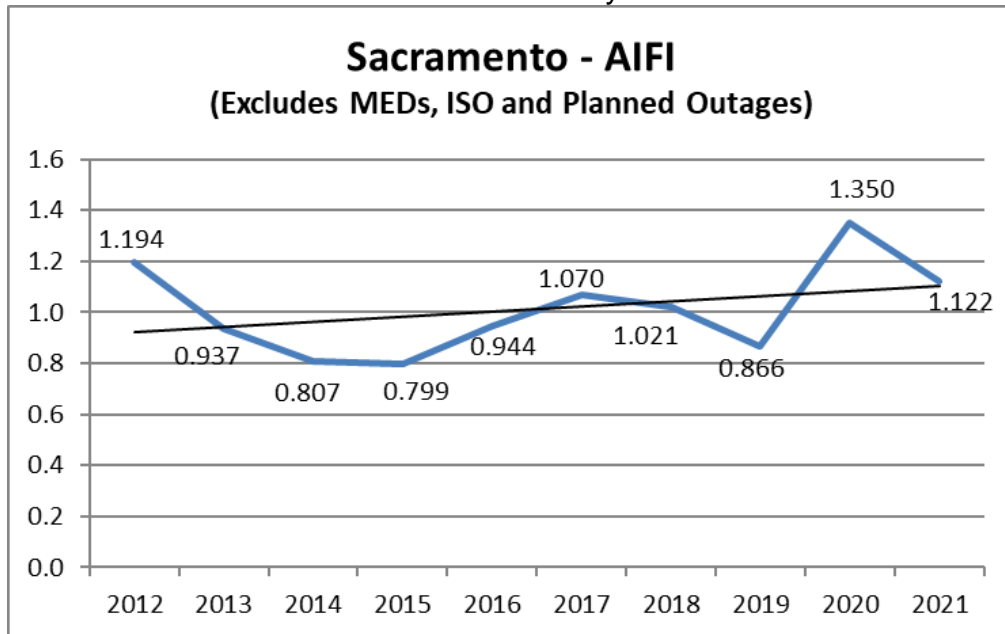


Chart 119: Division Reliability - AIFI Indices

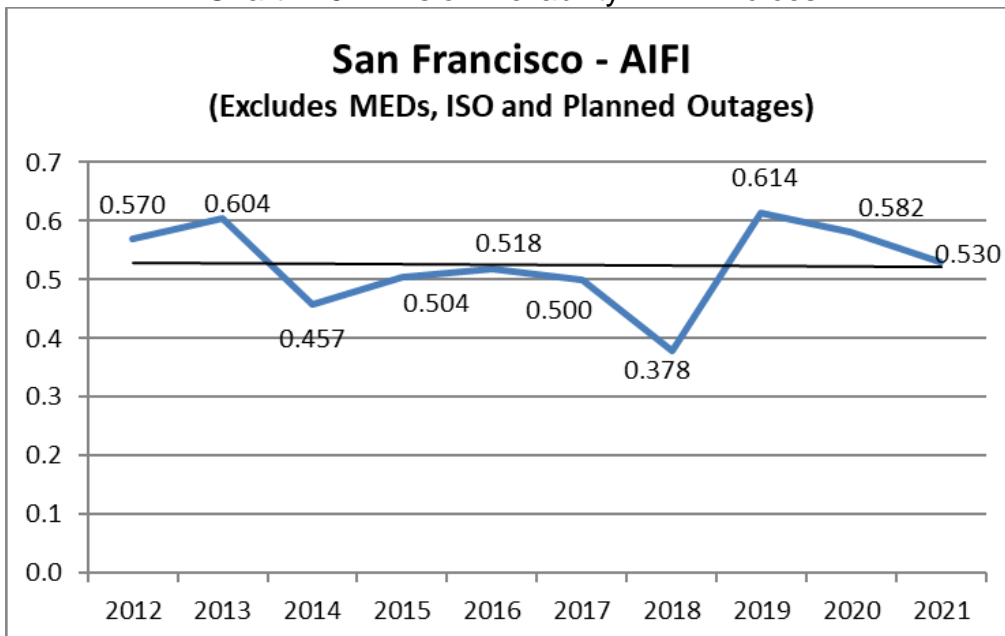


Chart 120: Division Reliability - AIFI Indices

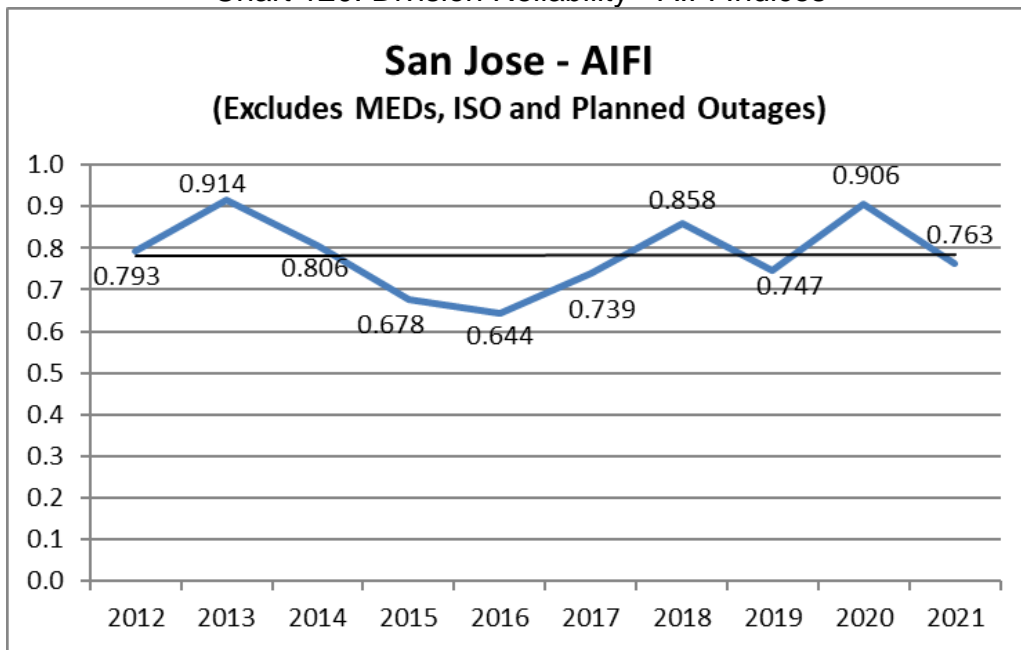


Chart 121: Division Reliability - AIFI Indices

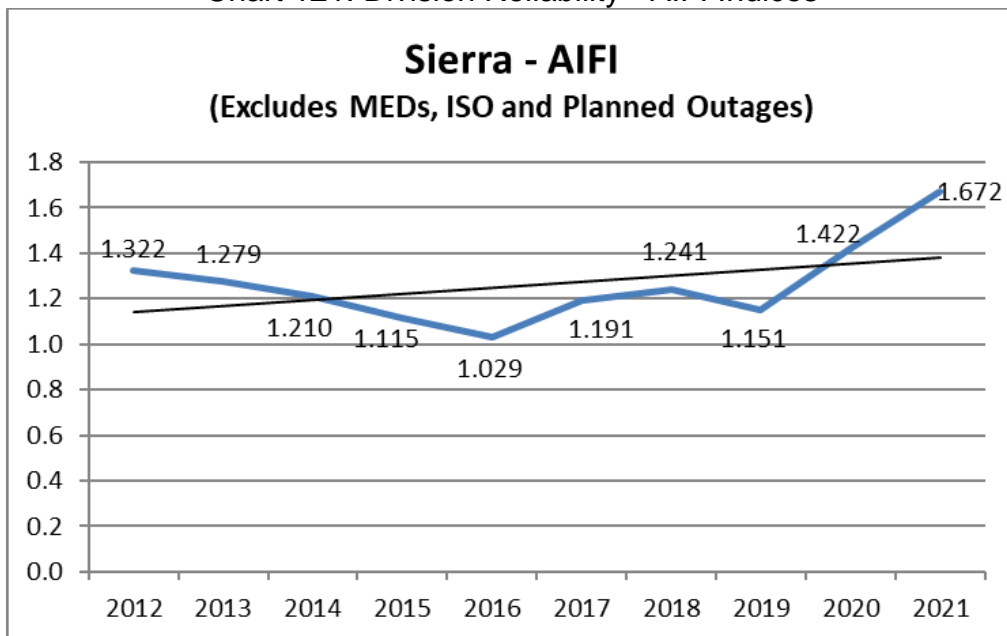


Chart 122: Division Reliability - AIFI Indices

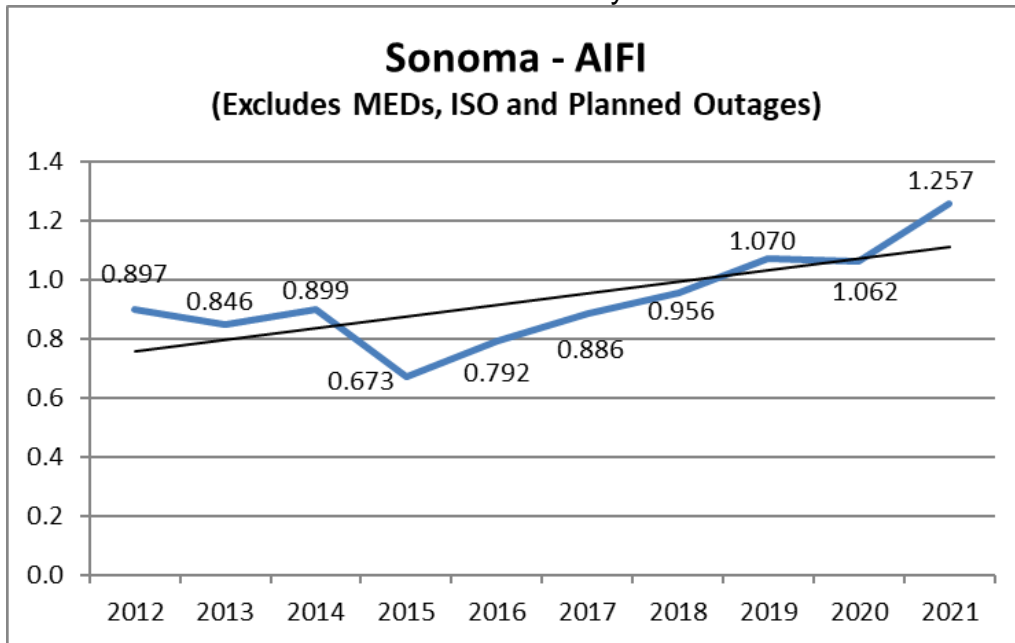


Chart 123: Division Reliability - AIFI Indices

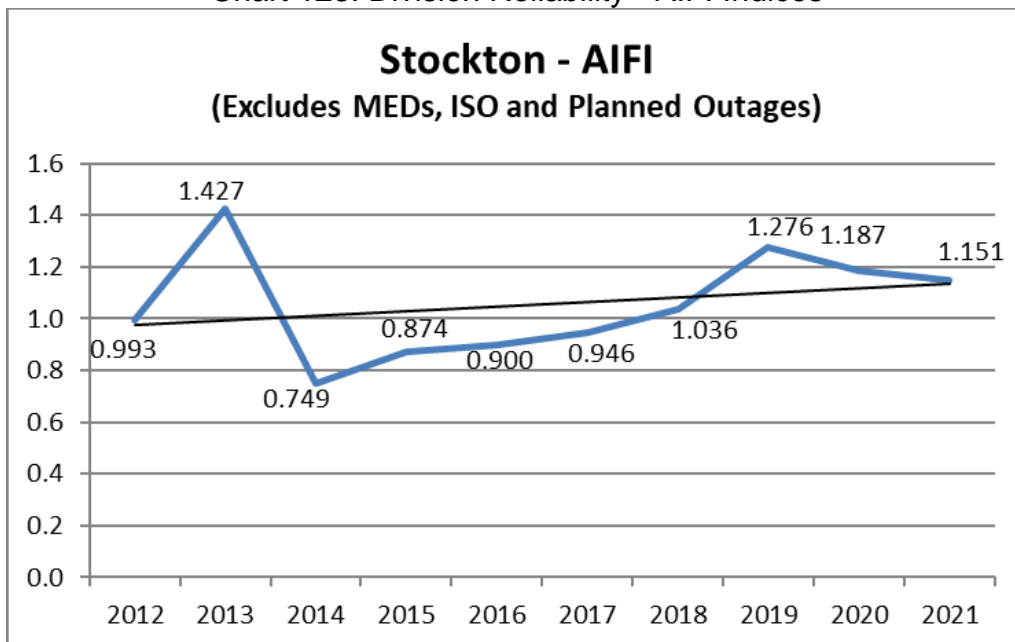
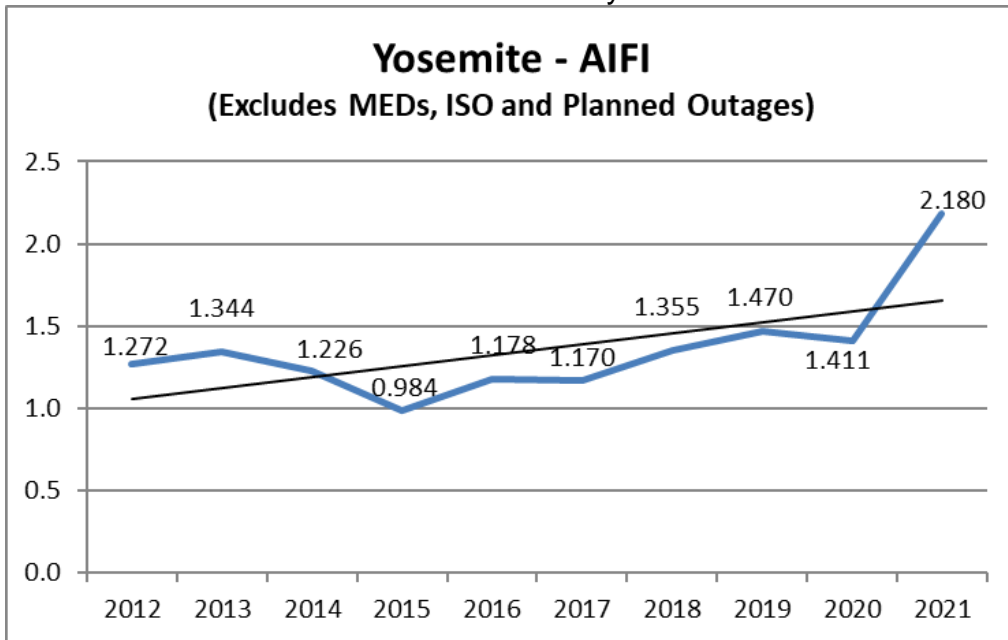


Chart 124: Division Reliability - AIFI Indices



2. MAIFI Performance Results (MED Excluded)

Chart 125: Division Reliability - MAIFI Indices

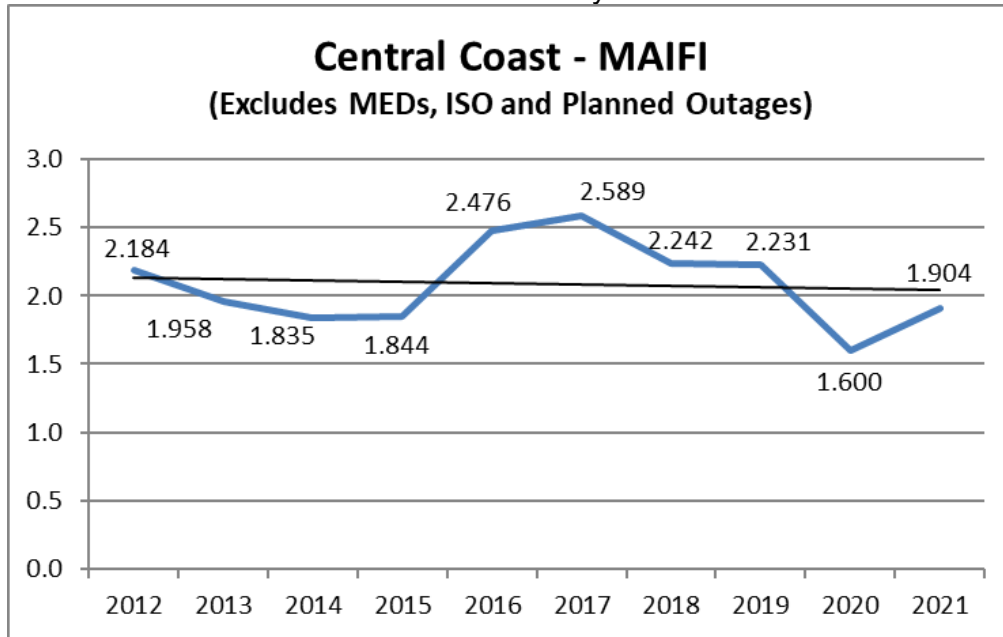


Chart 126: Division Reliability - MAIFI Indices

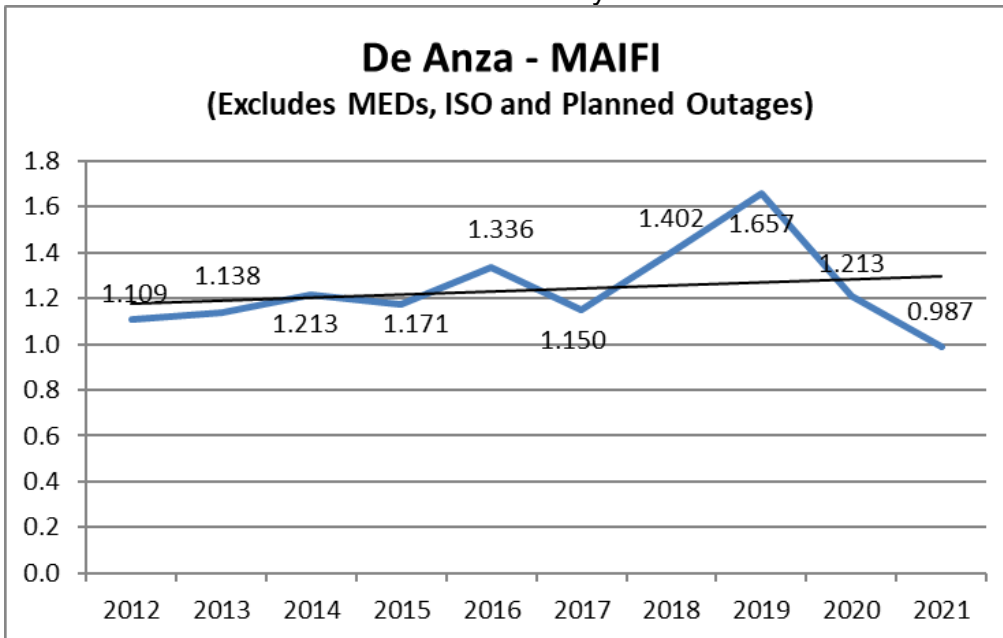


Chart 127: Division Reliability - MAIFI Indices

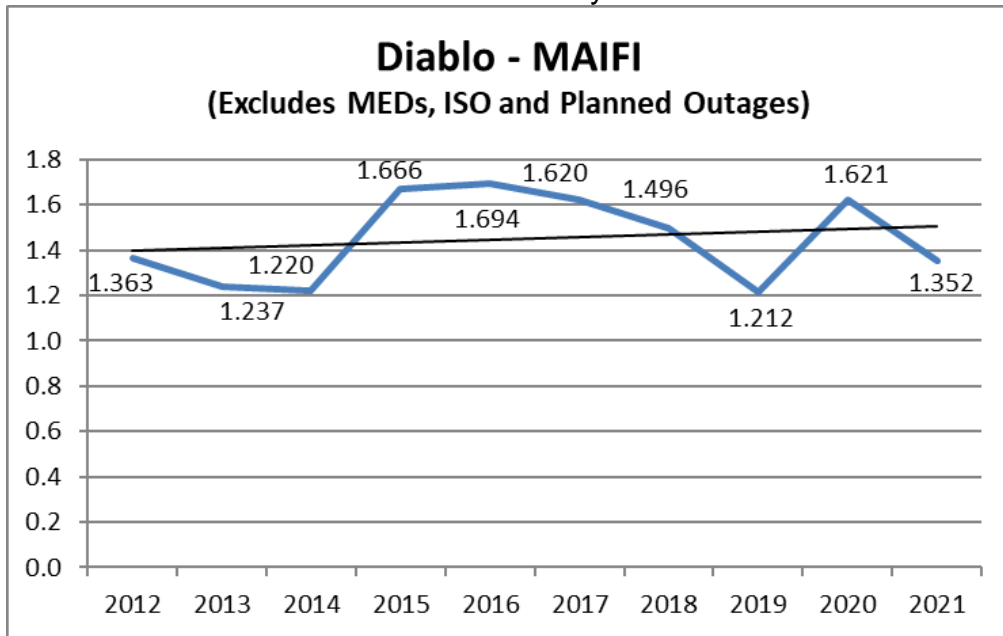


Chart 128: Division Reliability - MAIFI Indices

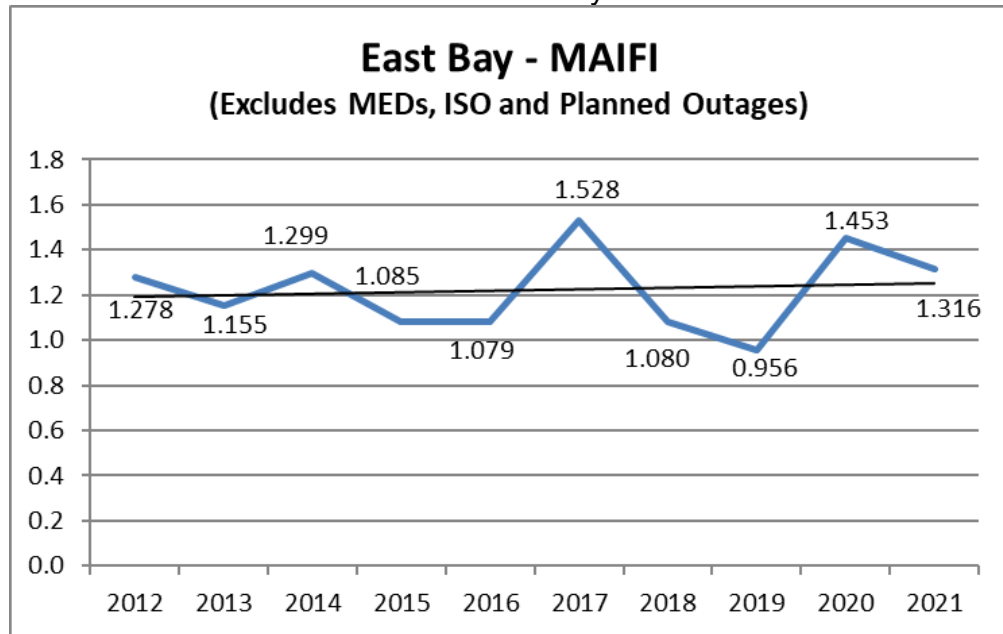


Chart 129: Division Reliability - MAIFI Indices

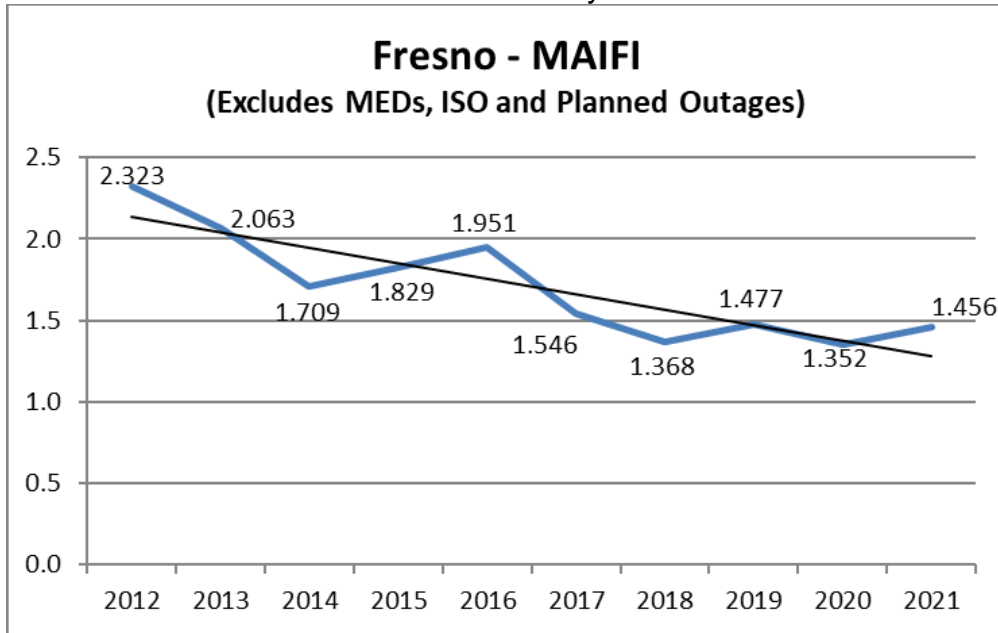


Chart 130: Division Reliability - MAIFI Indices

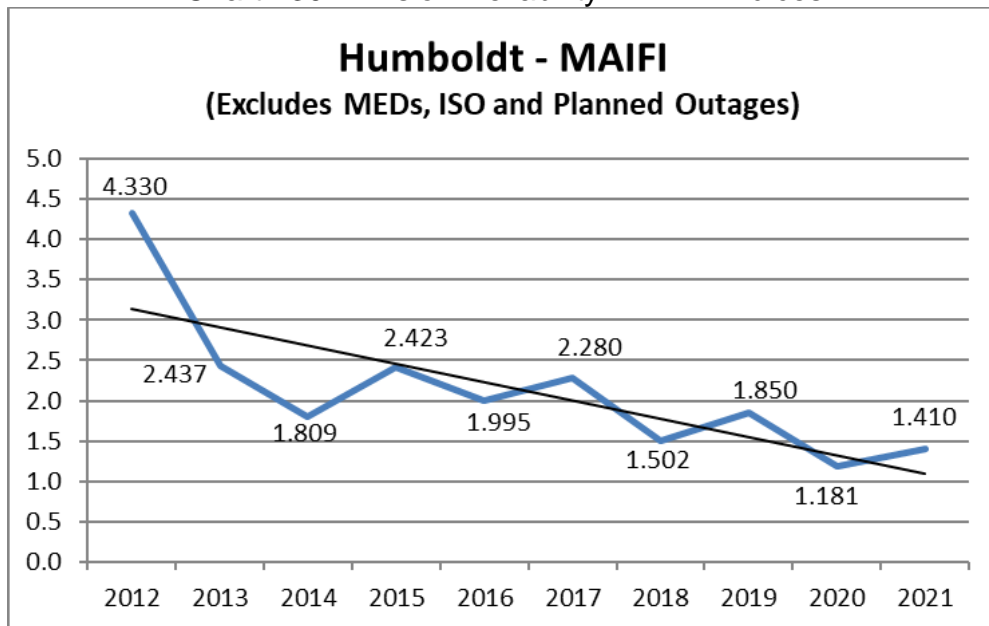


Chart 131: Division Reliability - MAIFI Indices

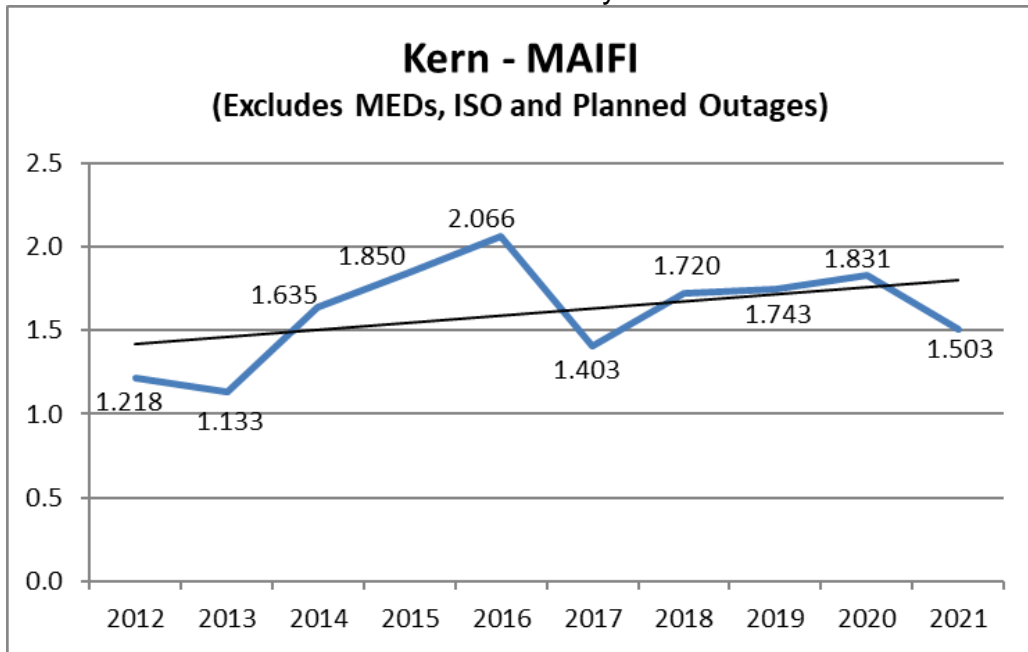


Chart 132: Division Reliability - MAIFI Indices

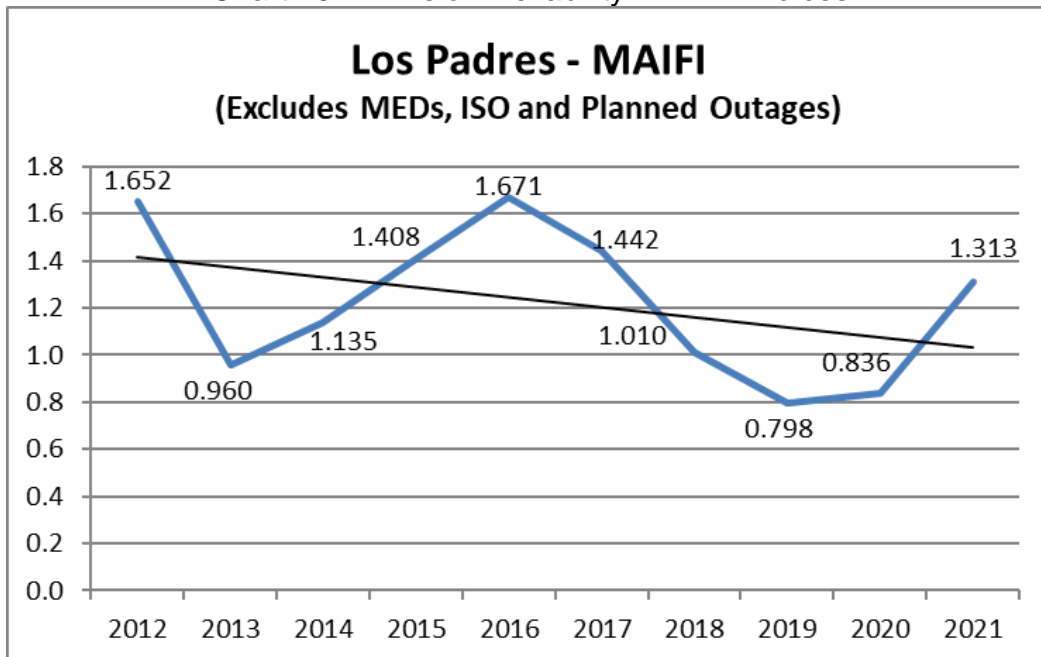


Chart 133: Division Reliability - MAIFI Indices

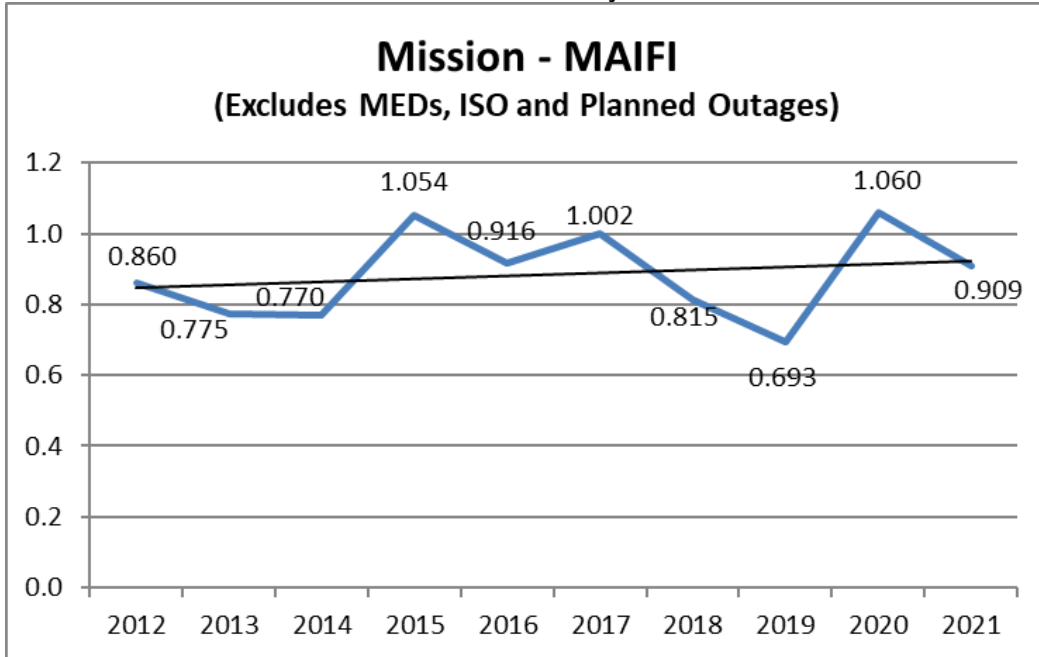


Chart 134: Division Reliability - MAIFI Indices

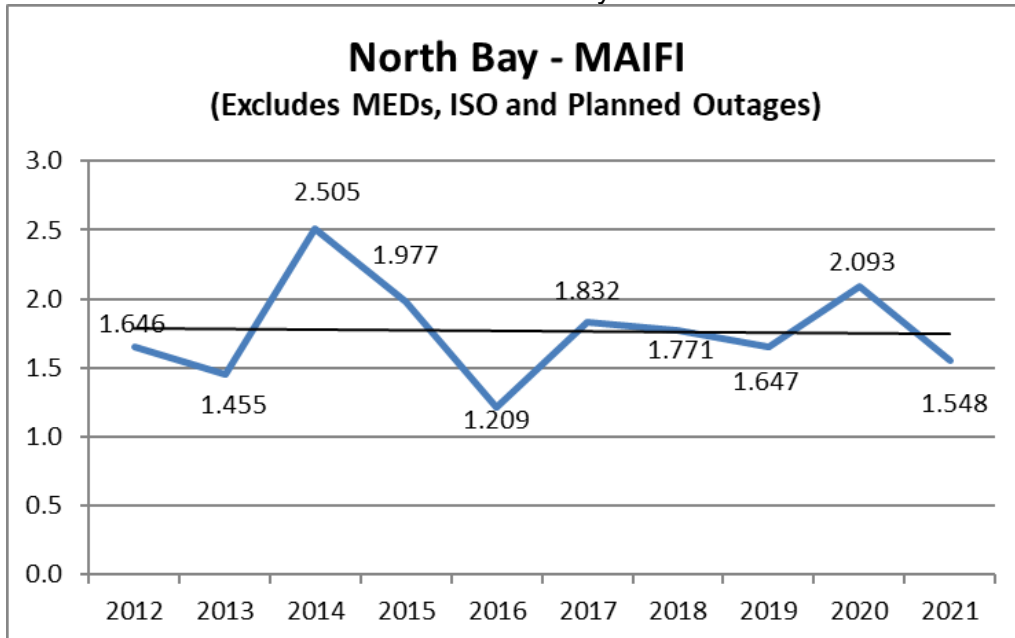


Chart 135: Division Reliability - MAIFI Indices

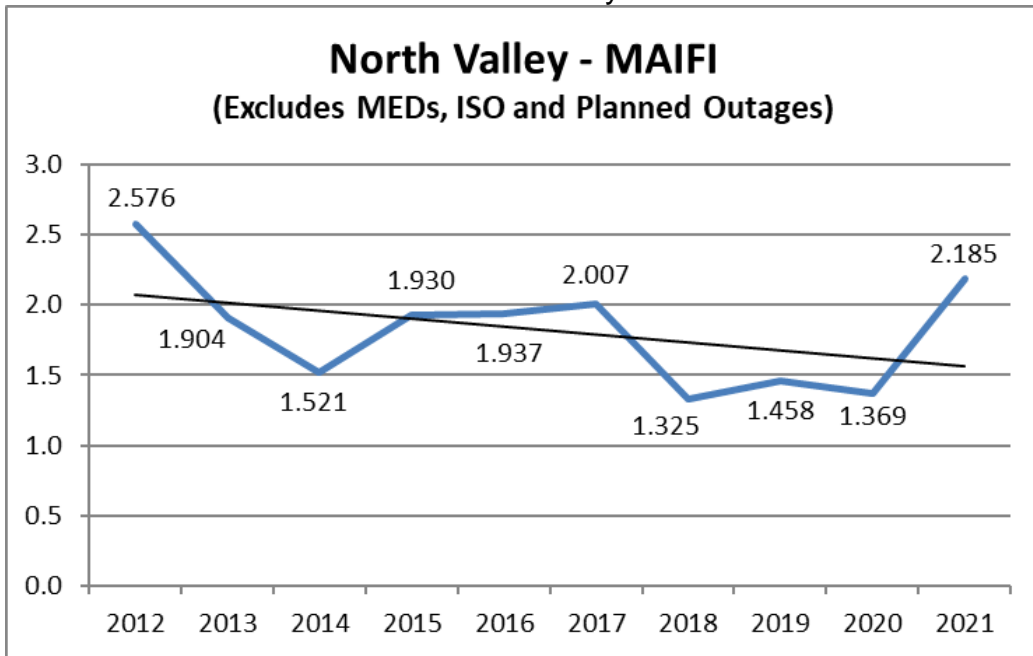


Chart 136: Division Reliability - MAIFI Indices

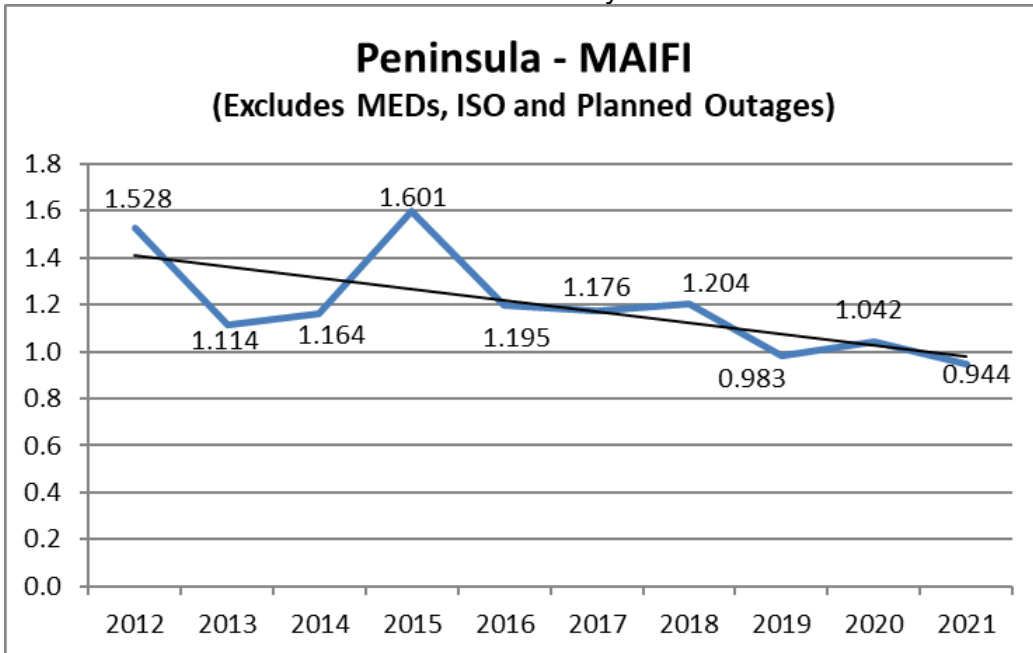


Chart 137: Division Reliability - MAIFI Indices

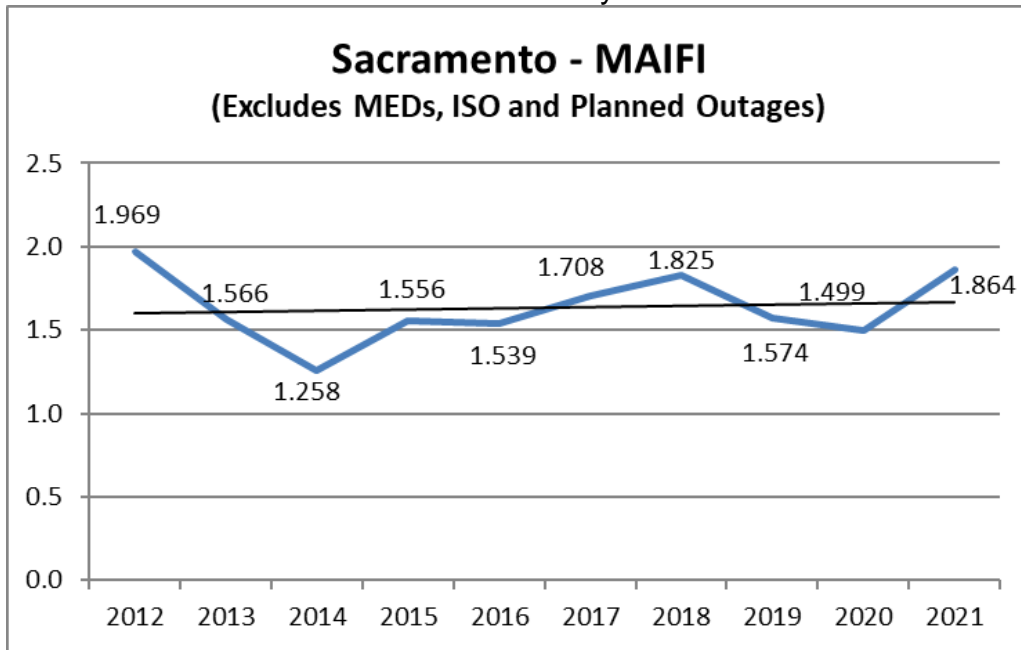


Chart 138: Division Reliability - MAIFI Indices

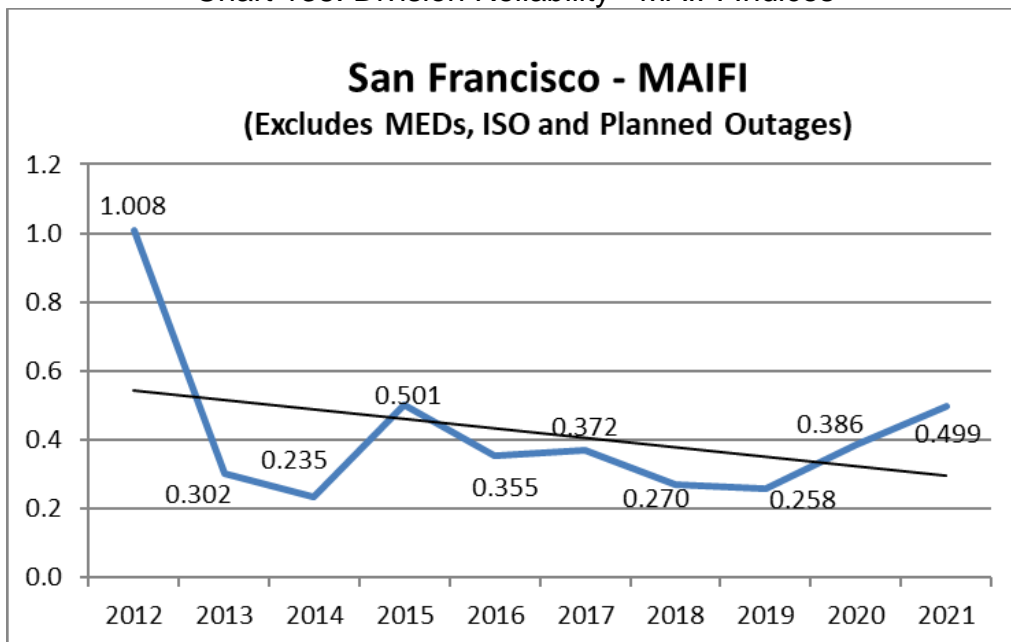


Chart 139: Division Reliability - MAIFI Indices

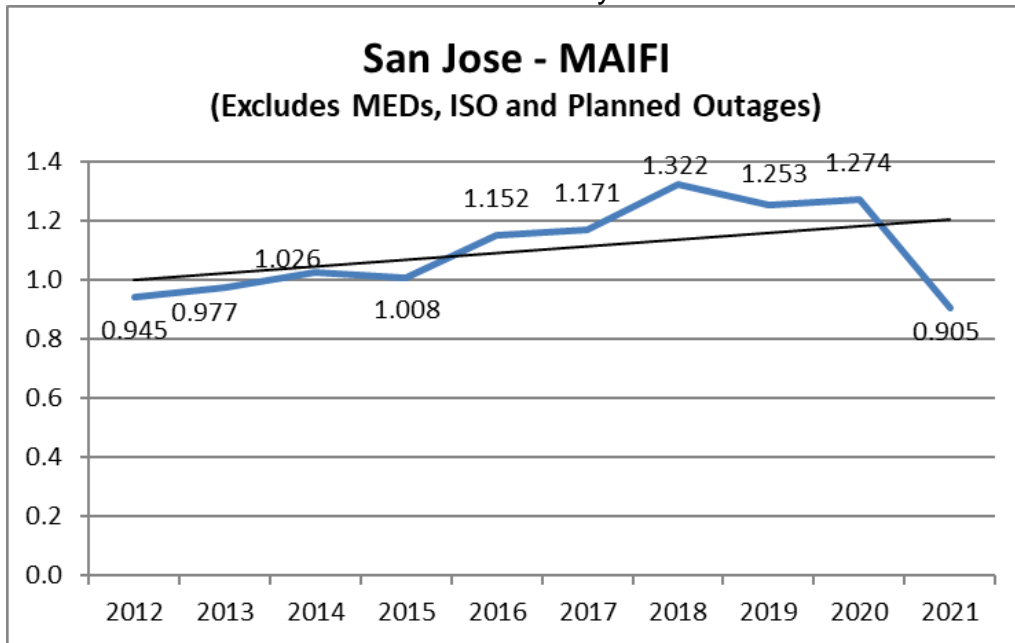


Chart 140: Division Reliability - MAIFI Indices

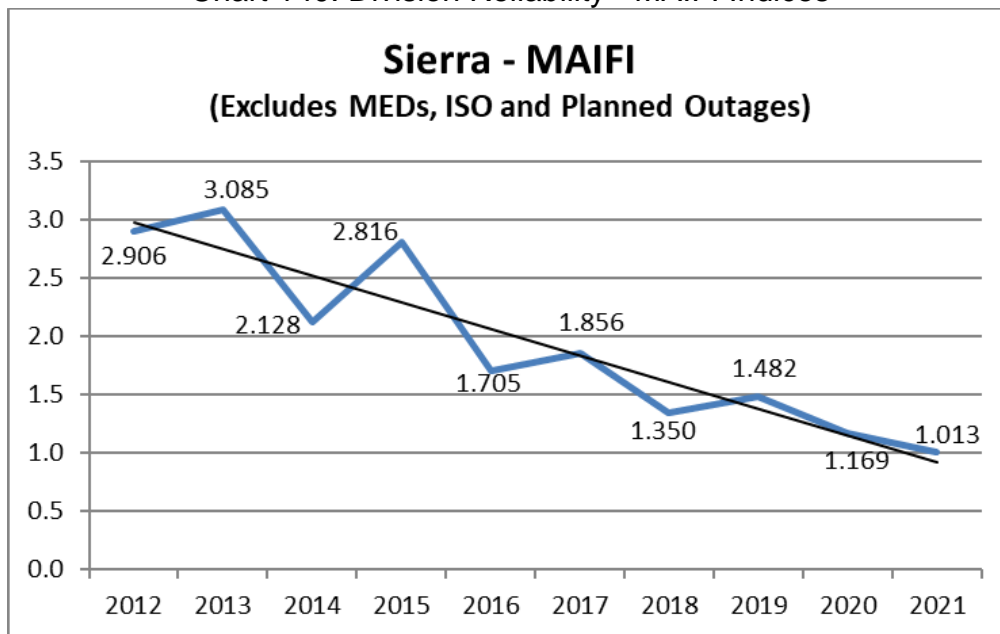


Chart 141: Division Reliability - MAIFI Indices

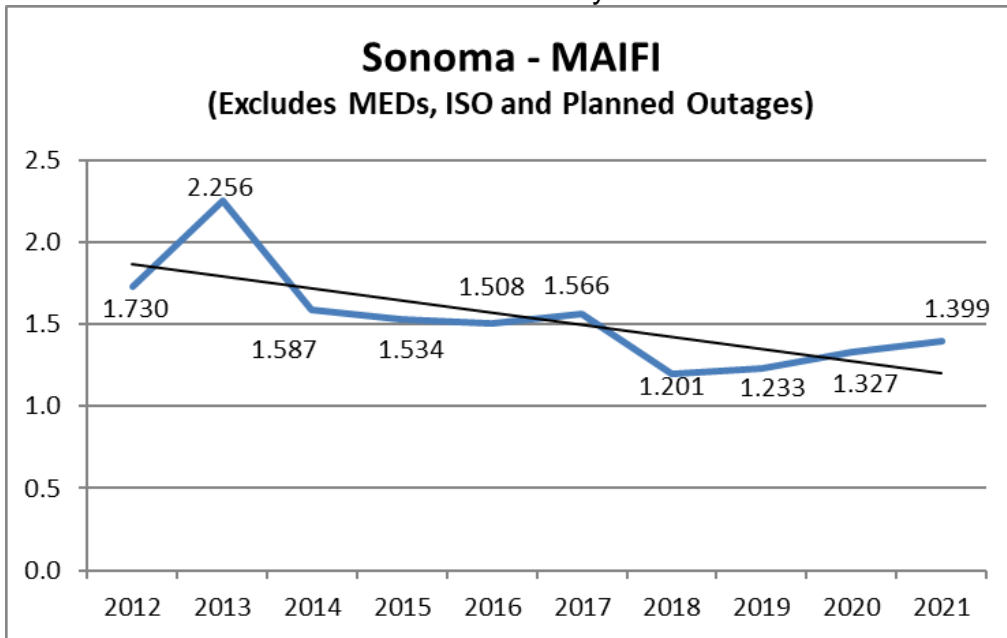


Chart 142: Division Reliability - MAIFI Indices

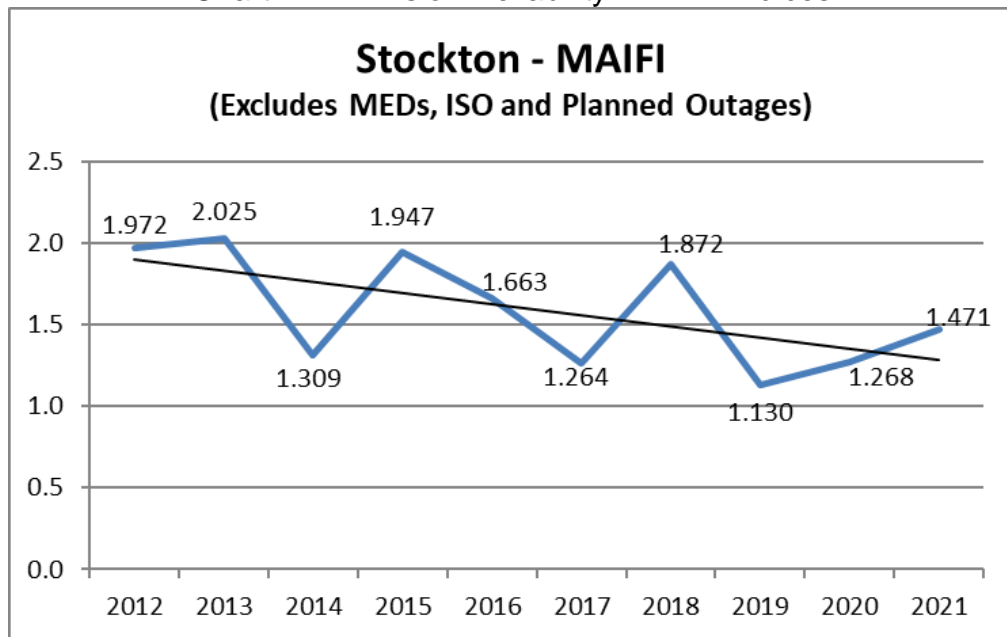
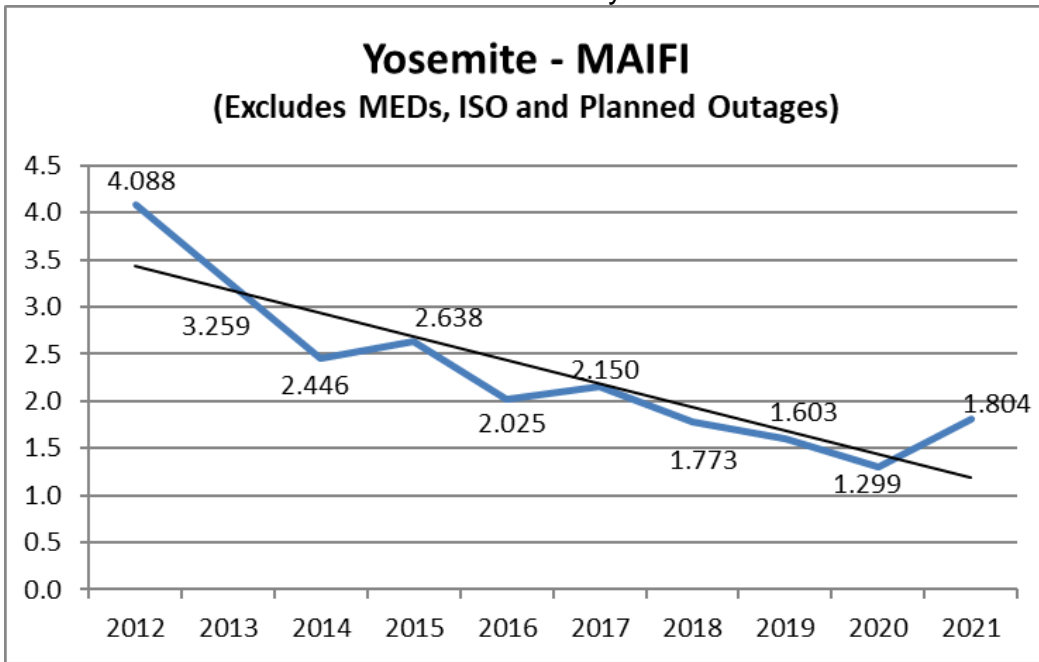


Chart 143: Division Reliability - MAIFI Indices



3. CAIDI Performance Results (MED Excluded)

Chart 144: Division Reliability - CAIDI Indices

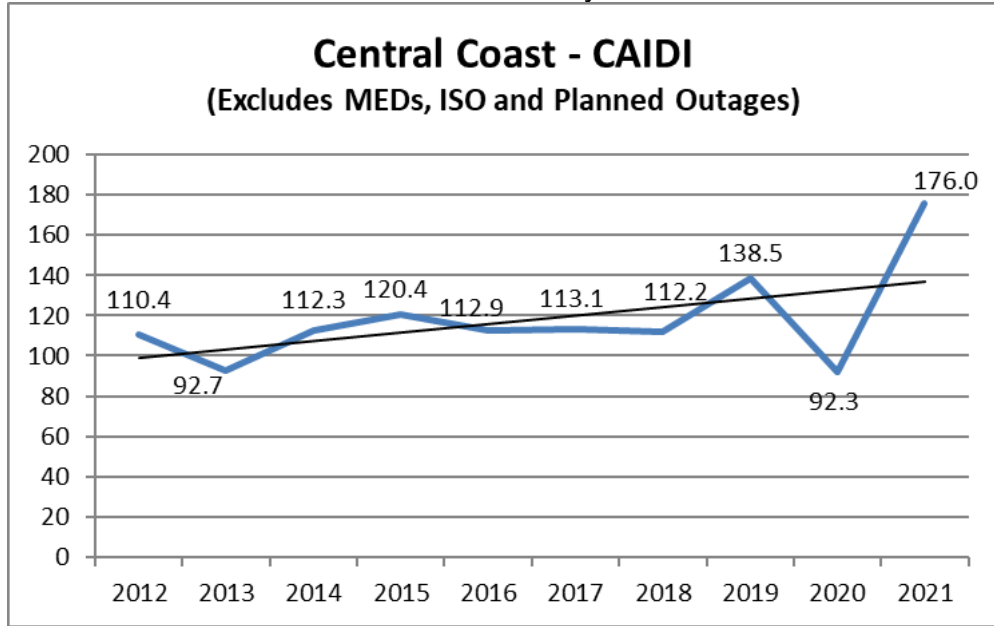


Chart 145: Division Reliability - CAIDI Indices

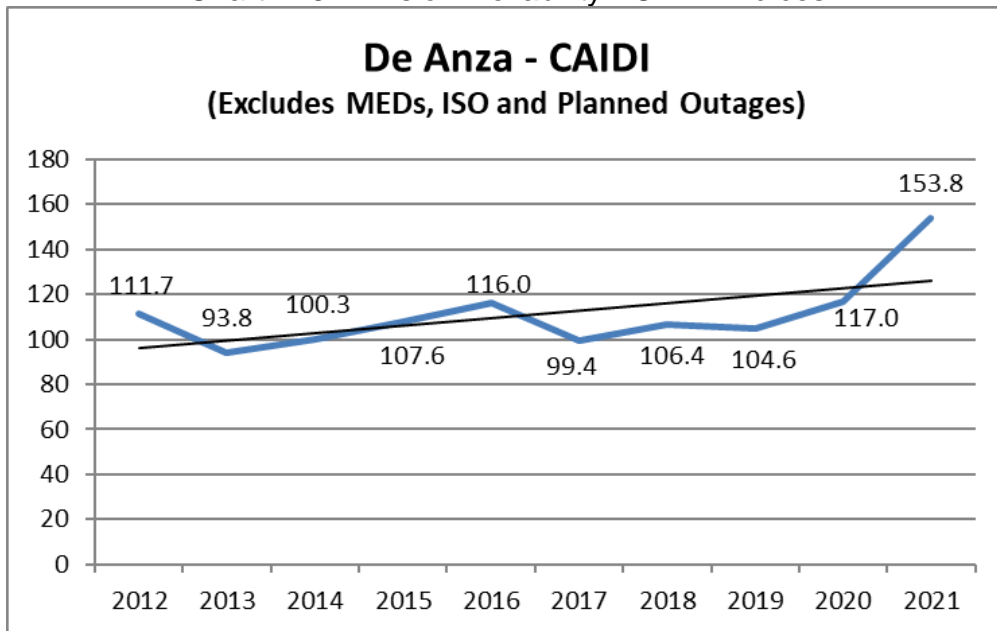


Chart 146: Division Reliability - CAIDI Indices

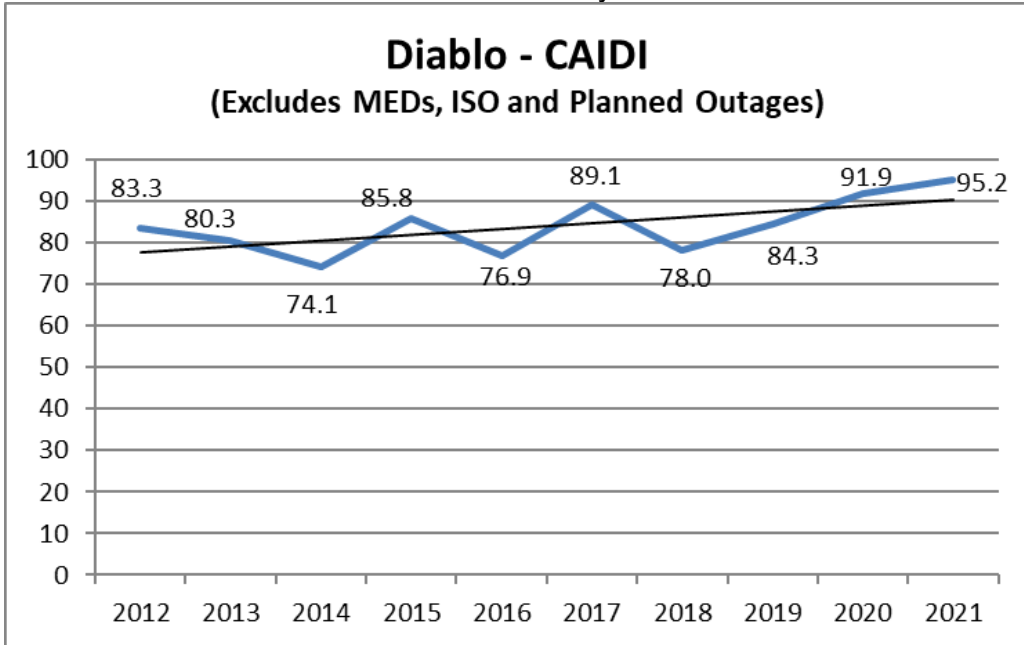


Chart 147: Division Reliability - CAIDI Indices

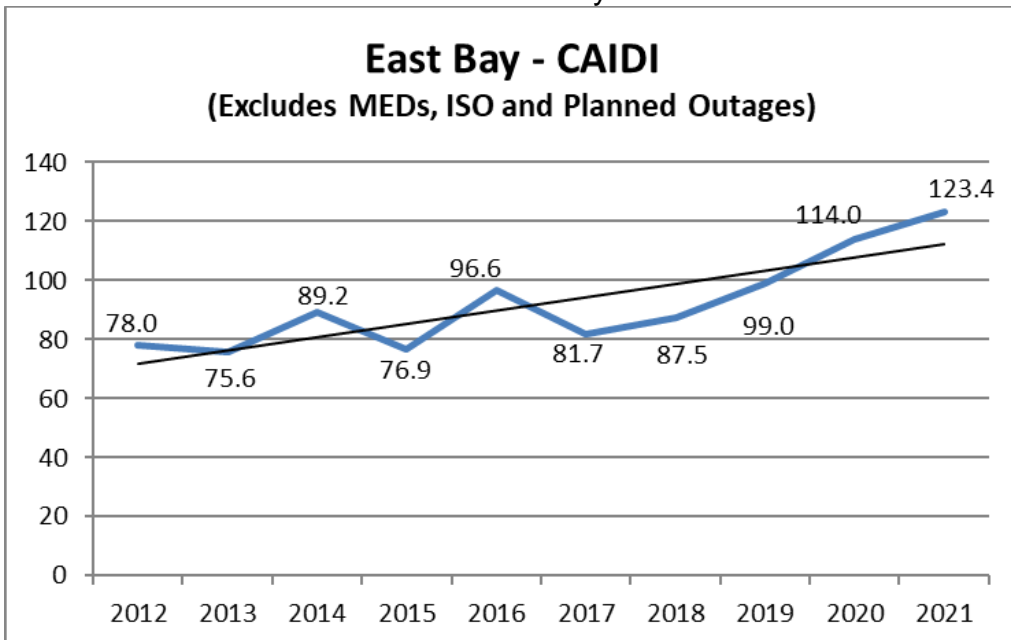


Chart 148: Division Reliability - CAIDI Indices

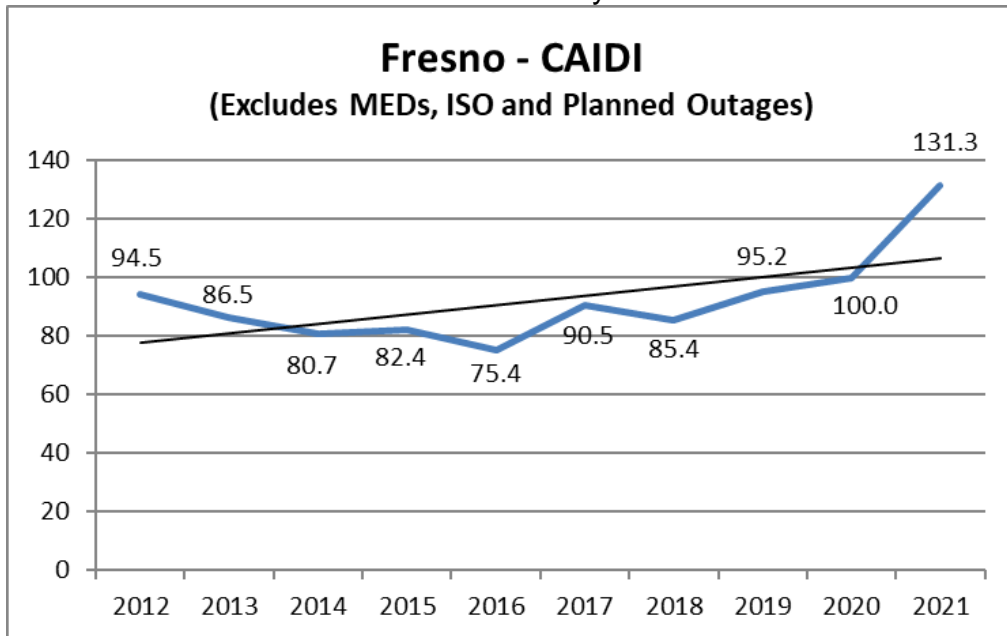


Chart 149: Division Reliability - CAIDI Indices

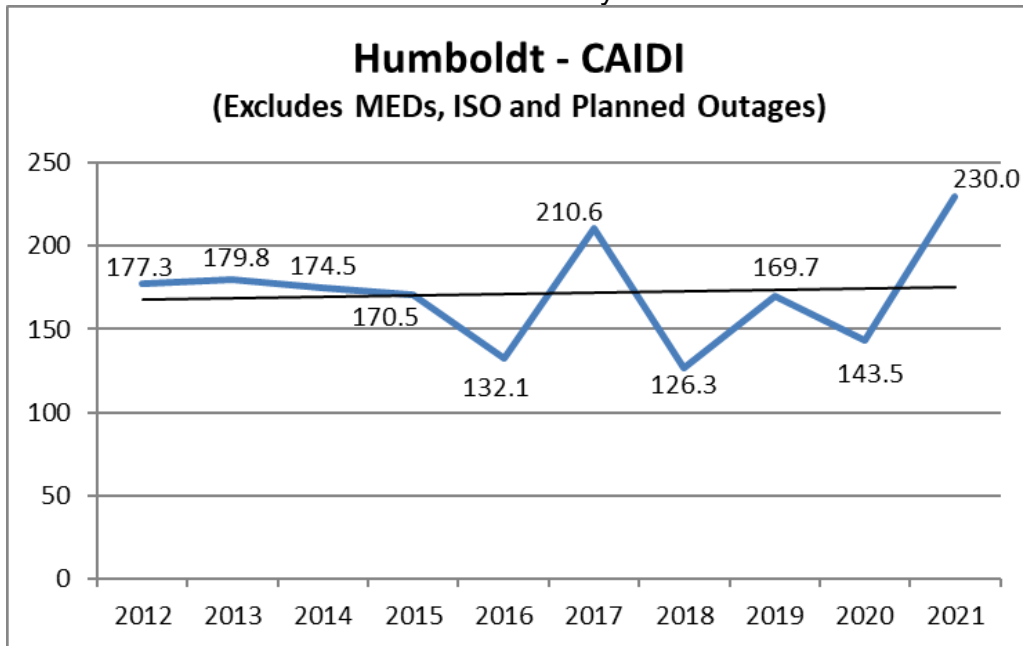


Chart 150: Division Reliability - CAIDI Indices

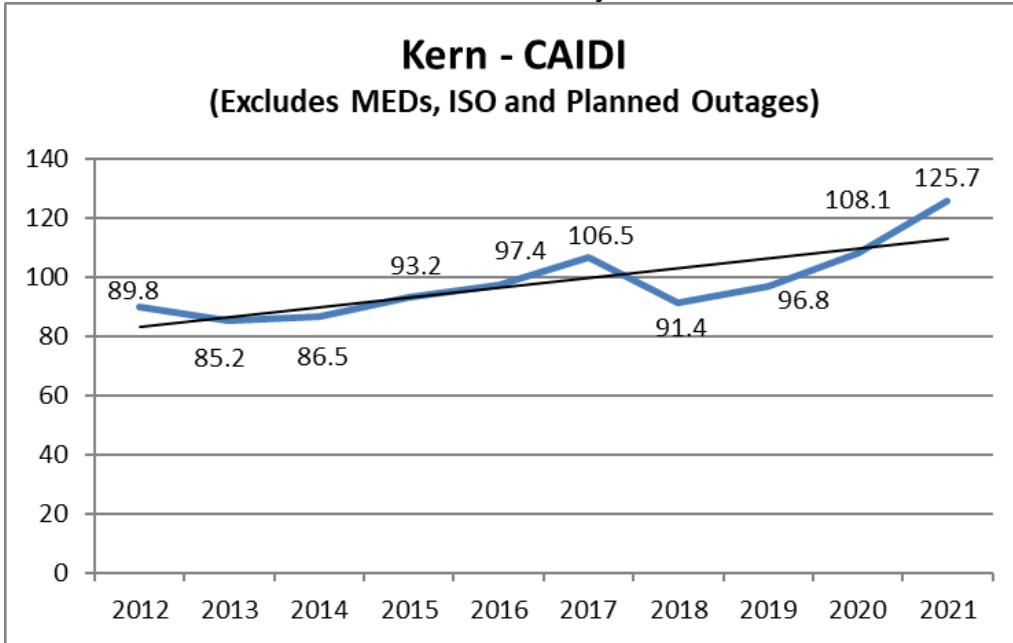


Chart 151: Division Reliability - CAIDI Indices

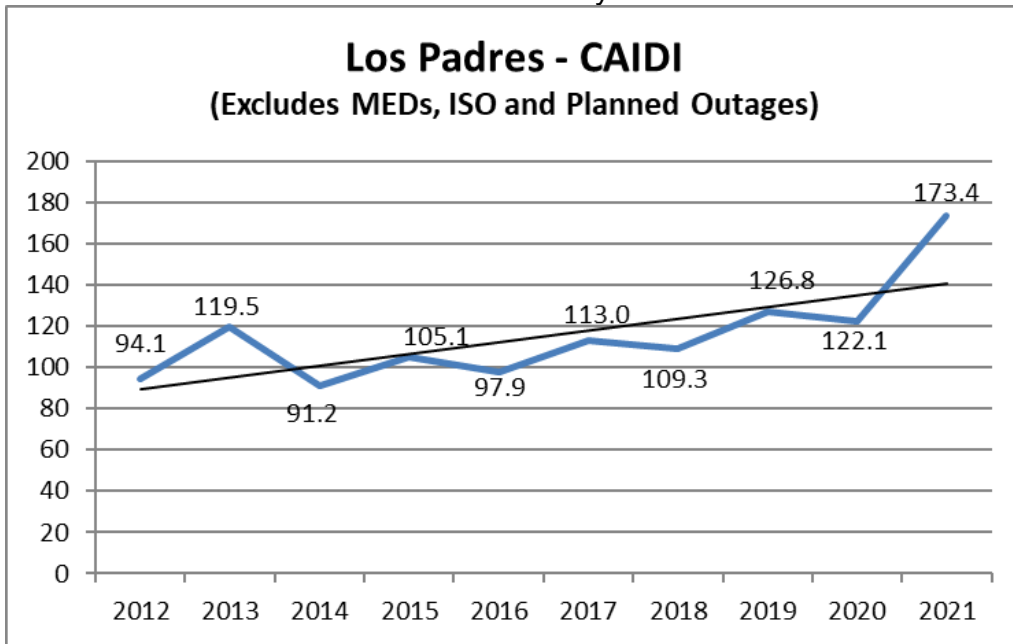


Chart 152: Division Reliability - CAIDI Indices

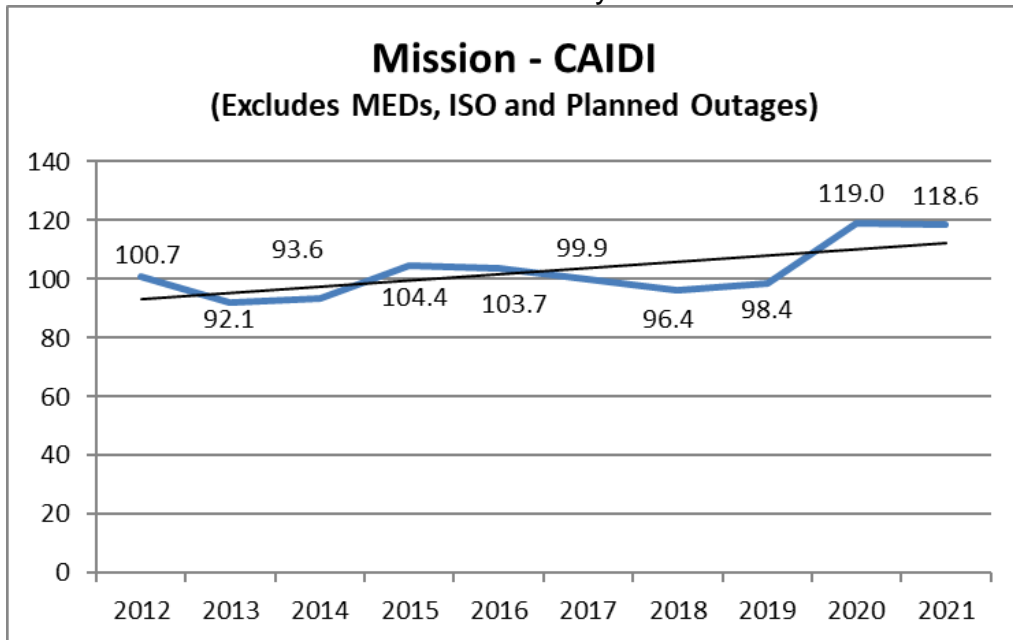


Chart 153: Division Reliability - CAIDI Indices

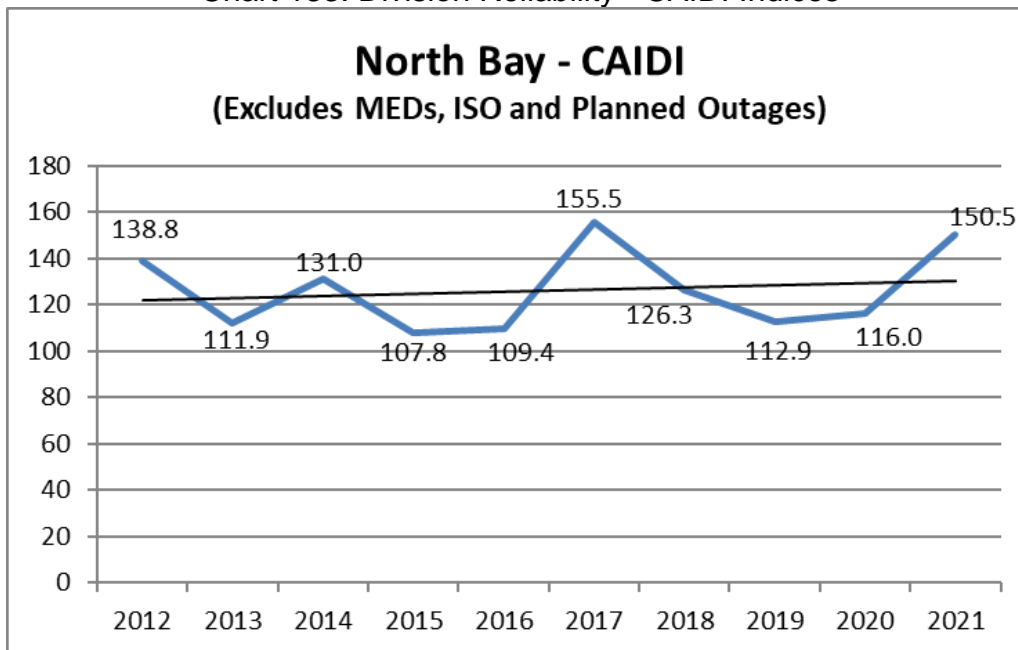


Chart 154: Division Reliability - CAIDI Indices

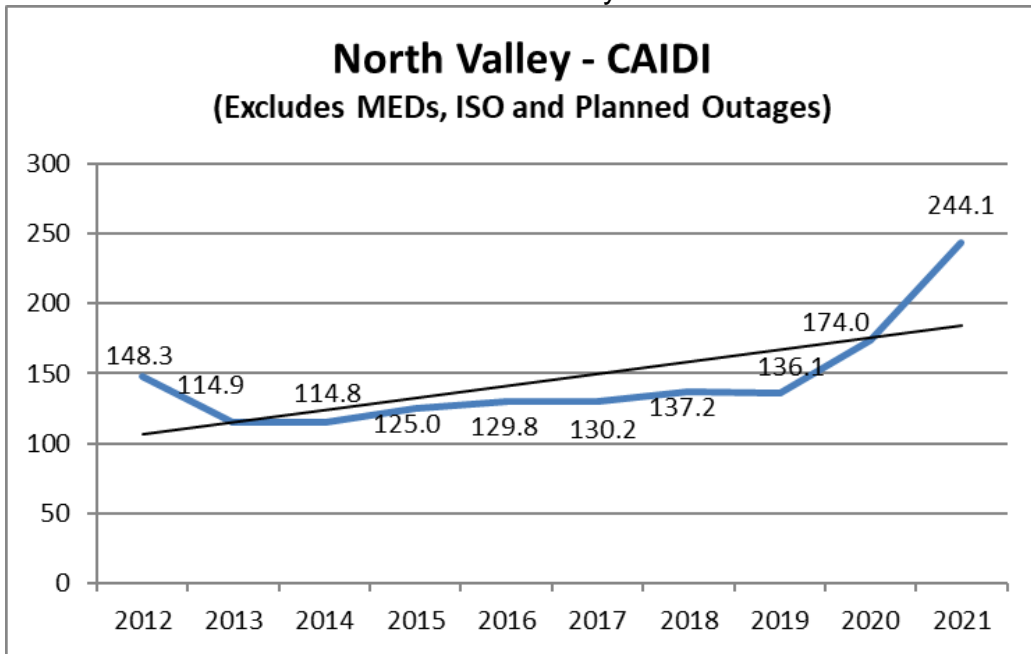


Chart 155: Division Reliability - CAIDI Indices

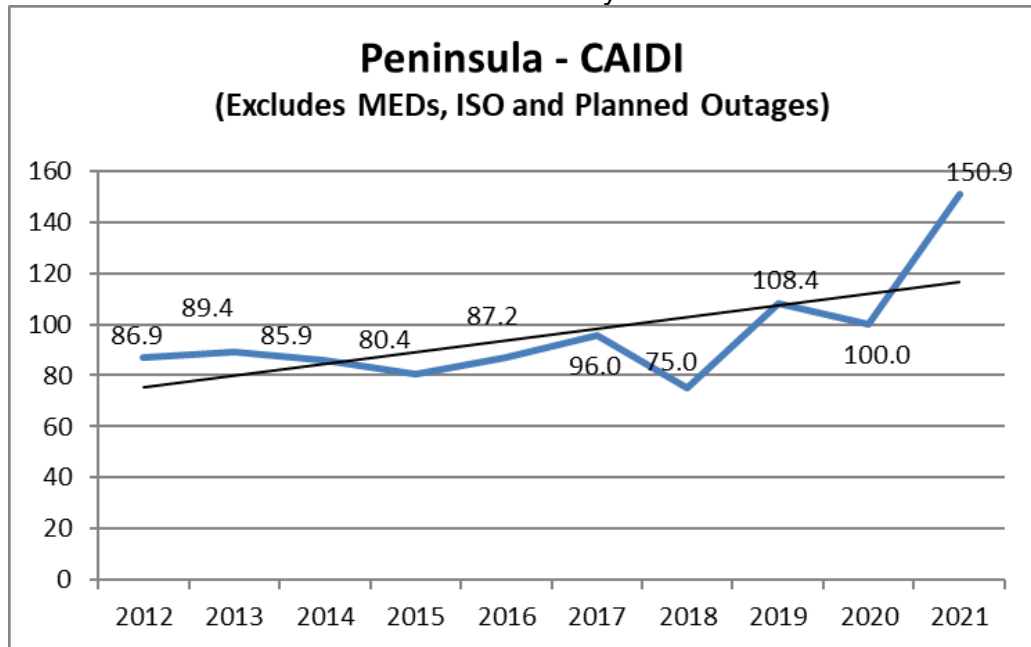


Chart 156: Division Reliability - CAIDI Indices

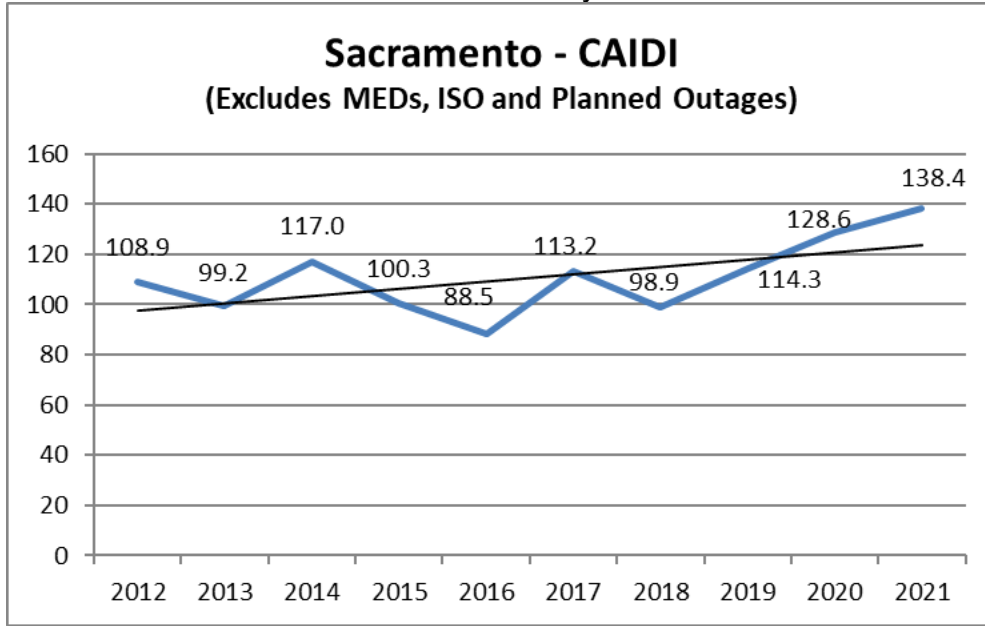


Chart 157: Division Reliability - CAIDI Indices

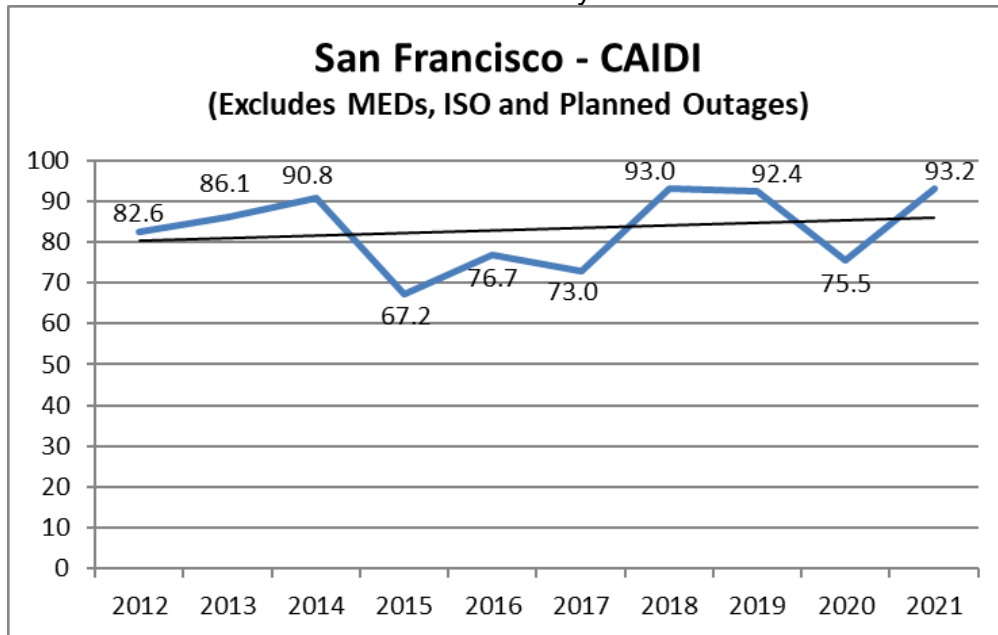


Chart 158: Division Reliability - CAIDI Indices

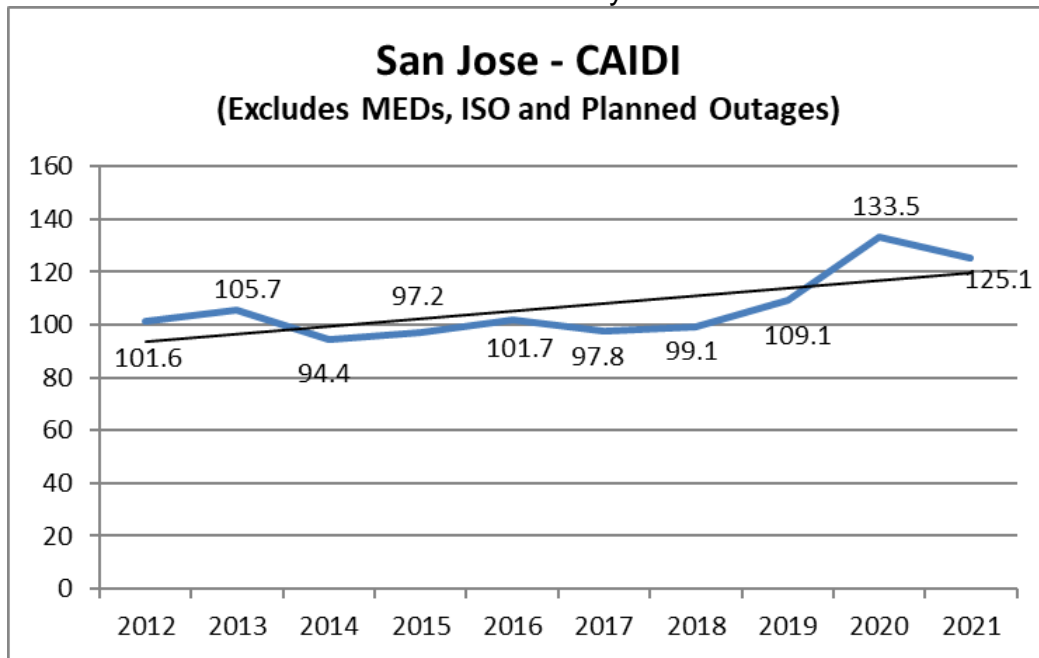


Chart 159: Division Reliability - CAIDI Indices

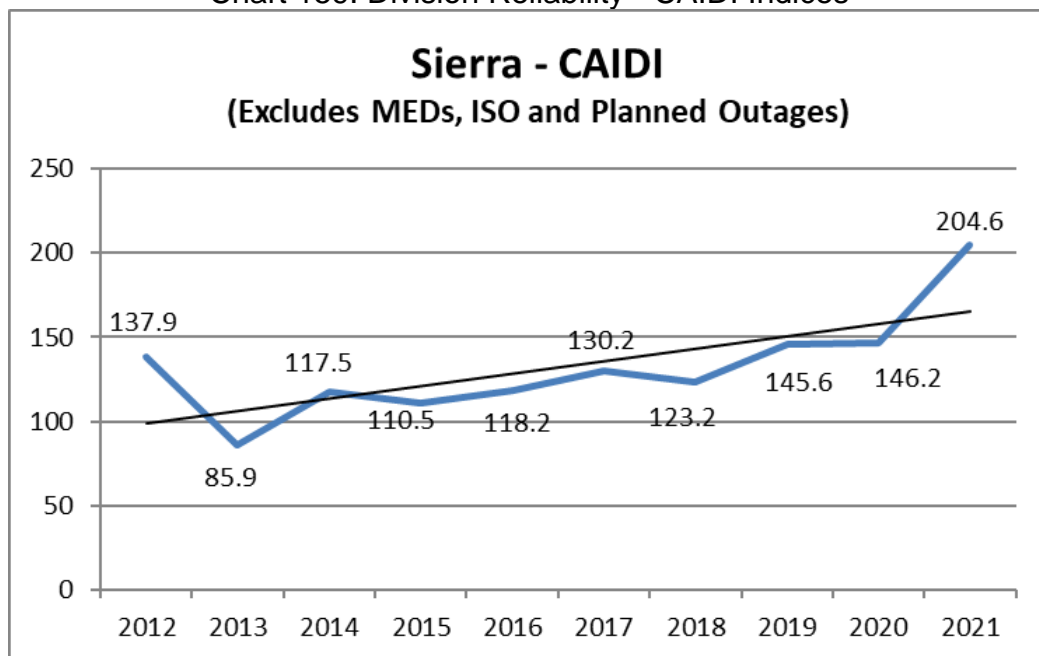


Chart 160: Division Reliability - CAIDI Indices\

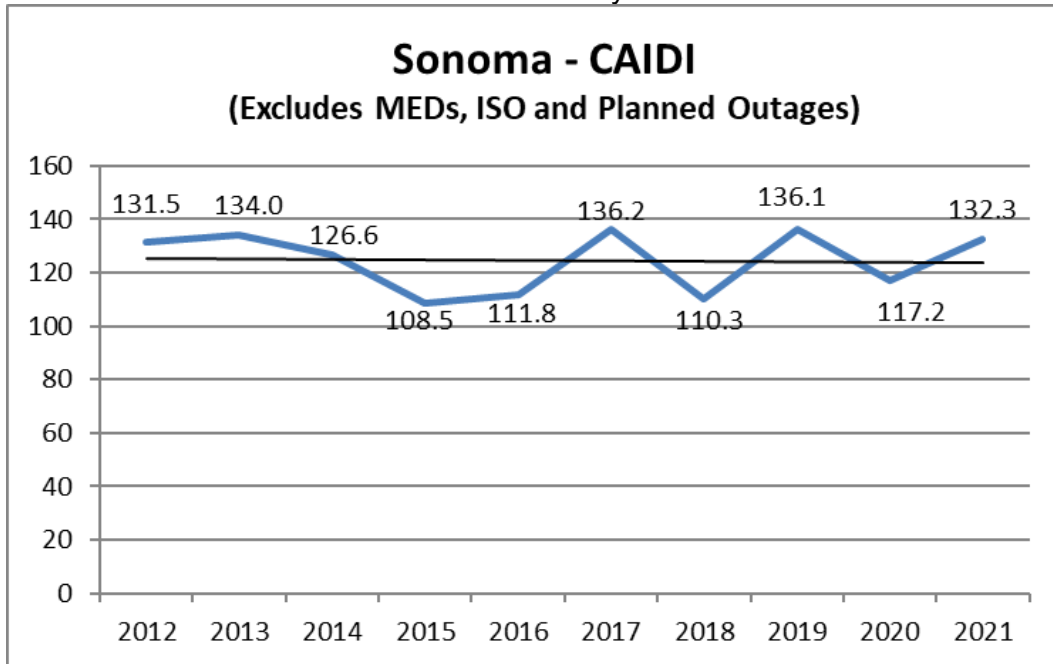


Chart 161: Division Reliability - CAIDI Indices

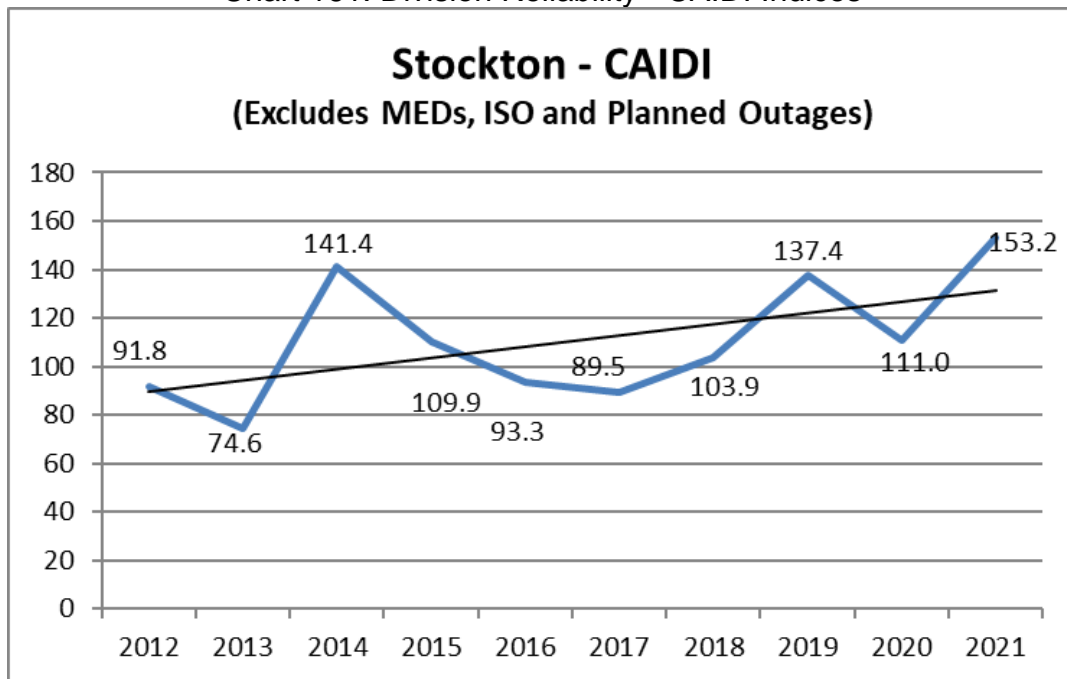
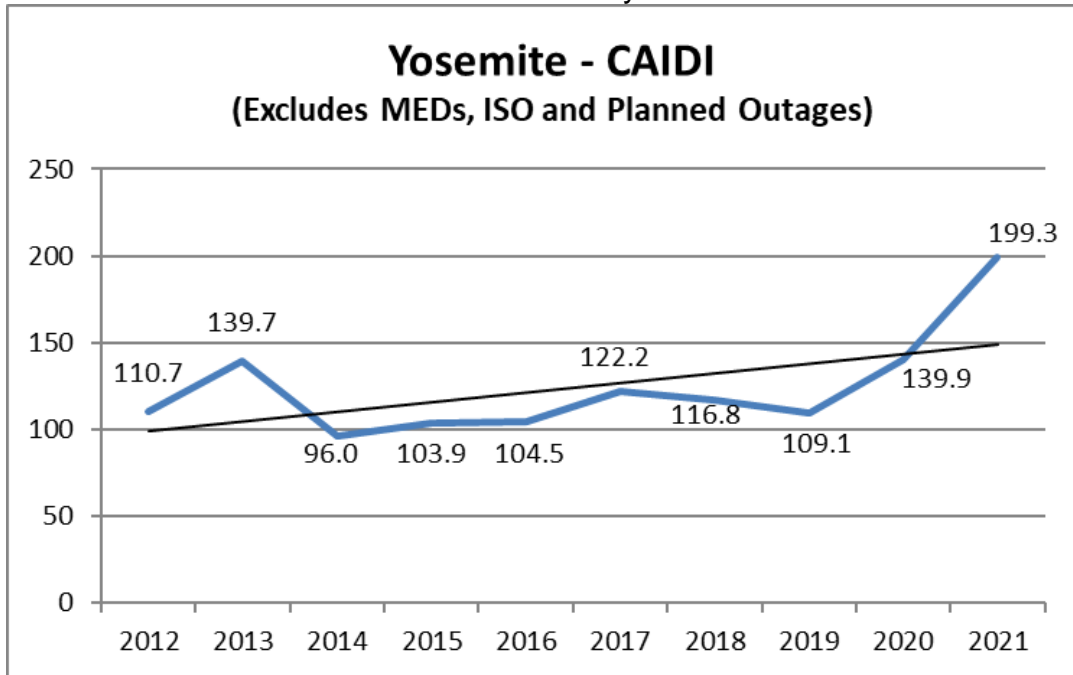


Chart 162: Division Reliability - CAIDI Indices



d. Division and System Reliability Indices Performance Variances (Five-Year Average)

This section contains additional division reliability information, as required by Decision 04-10-034, and Decision 16-01-008, Appendix B, footnote 6. This section explains threshold variations (unplanned outages only) in division and/or system reliability indices relative to the prior five-year averages (excluding major events, as defined per the IEEE 1366 methodology). This section also highlights the large outage events in each division that exceeded the reporting threshold.

Table 7 summarizes the 2021 division indices that meet the reporting requirement thresholds of 10 percent or more for the division, and 5 percent or more at the system level worse than the five-year rolling average of reliability performance per D. 04-10-034.⁷ An “X” indicates that the 2021 Division and system index exceeded the 10 percent and 5 percent threshold, respectively, and is thus discussed in detail in this section.

⁷ As in prior reports, PG&E does not interpret this reporting requirement as applying to those indices where 2021 reliability was better than the prior five-year average.

**Table 7 – 2021 Indices excluding Major Events
(Meeting the Reporting Requirement Thresholds)**

	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	X	X		X
CENTRAL COAST	X	X		X
DE ANZA	X			X
DIABLO	X	X		X
EAST BAY	X	X		X
FRESNO	X	X		X
HUMBOLDT	X	X		X
KERN	X	X		X
LOS PADRES	X		X	X
MISSION	X	X		X
NORTH BAY	X			X
NORTH VALLEY	X	X	X	X
PENINSULA	X	X		X
SACRAMENTO	X		X	X
SAN FRANCISCO	X		X	X
SAN JOSE	X			X
SIERRA	X	X		X
SONOMA	X	X		
STOCKTON	X			X
YOSEMITE	X	X		X

Table 8: Division and System Reliability Indices Performance Variances (Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2016	93.8	0.940	1.487	99.8
SYSTEM	2017	97.3	0.878	1.487	110.8
SYSTEM	2018	99.6	0.960	1.356	103.8
SYSTEM	2019	117.7	1.009	1.270	116.6
SYSTEM	2020	125.8	1.068	1.292	117.8
5-Year Average	16-20 Avg	106.8	0.971	1.378	110.0
SYSTEM	2021	182.8	1.178	1.309	155.2
	%Difference	71.1%	21.3%	-5.0%	41.1%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2016	166.1	1.471	2.476	112.9
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
CENTRAL COAST	2019	203.6	1.470	2.231	138.5
CENTRAL COAST	2020	159.1	1.724	1.600	92.3
5-Year Average	16-20 Avg	167.5	1.481	2.228	113.1
CENTRAL COAST	2021	289.2	1.643	1.904	176.0
	%Difference	72.7%	10.9%	-14.5%	55.6%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	97.9	0.985	1.150	99.4
DE ANZA	2018	84.0	0.789	1.402	106.4
DE ANZA	2019	91.3	0.873	1.657	104.6
DE ANZA	2020	83.1	0.711	1.213	117.0
5-Year Average	16-20 Avg	88.7	0.822	1.352	107.9
DE ANZA	2021	121.0	0.787	0.987	153.8
	%Difference	36.4%	-4.3%	-27.0%	42.5%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2016	76.5	0.995	1.694	76.9
DIABLO	2017	78.0	0.876	1.620	89.1
DIABLO	2018	78.3	1.004	1.496	78.0
DIABLO	2019	78.8	0.935	1.212	84.3
DIABLO	2020	110.8	1.206	1.621	91.9
5-Year Average	16-20 Avg	84.5	1.003	1.529	84.2
DIABLO	2021	112.0	1.177	1.352	95.2
	%Difference	32.6%	17.3%	-11.5%	13.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.080	87.5
EAST BAY	2019	84.5	0.854	0.956	99.0
EAST BAY	2020	95.5	0.838	1.453	114.0
5-Year Average	16-20 Avg	86.8	0.909	1.219	95.5
EAST BAY	2021	154.2	1.250	1.316	123.4
	%Difference	77.7%	37.5%	8.0%	29.2%

Division Reliability Indices
2016-2021
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
FRESNO	2019	78.8	0.828	1.477	95.2
FRESNO	2020	86.5	0.865	1.352	100.0
5-Year Average	16-20 Avg	78.9	0.892	1.539	88.5
FRESNO	2021	142.0	1.081	1.456	131.3
	%Difference	79.9%	21.2%	-5.4%	48.4%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	225.9	1.789	1.502	126.3
HUMBOLDT	2019	274.4	1.616	1.850	169.7
HUMBOLDT	2020	191.6	1.336	1.181	143.5
5-Year Average	16-20 Avg	234.0	1.517	1.761	154.3
HUMBOLDT	2021	461.3	2.005	1.410	230.0
	%Difference	97.1%	32.2%	-19.9%	49.1%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
KERN	2019	106.6	1.101	1.743	96.8
KERN	2020	114.6	1.060	1.831	108.1
5-Year Average	16-20 Avg	92.0	0.919	1.752	100.2
KERN	2021	138.4	1.101	1.503	125.7
	%Difference	50.4%	19.8%	-14.3%	25.5%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	130.5	1.195	1.010	109.3
LOS PADRES	2019	150.7	1.188	0.798	126.8
LOS PADRES	2020	139.3	1.141	0.836	122.1
5-Year Average	16-20 Avg	127.9	1.123	1.151	113.9
LOS PADRES	2021	195.0	1.125	1.313	173.4
	%Difference	52.4%	0.1%	14.0%	52.3%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2016	72.7	0.702	0.916	103.7
MISSION	2017	60.2	0.602	1.002	99.9
MISSION	2018	62.0	0.644	0.815	96.4
MISSION	2019	65.8	0.669	0.693	98.4
MISSION	2020	91.1	0.766	1.060	119.0
5-Year Average	16-20 Avg	70.4	0.677	0.897	104.0
MISSION	2021	113.5	0.957	0.909	118.6
	%Difference	61.3%	41.5%	1.3%	14.0%

Division Reliability Indices
2016-2021
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
NORTH BAY	2019	148.2	1.312	1.647	112.9
NORTH BAY	2020	143.3	1.235	2.093	116.0
5-Year Average	16-20 Avg	128.0	1.038	1.710	123.4
NORTH BAY	2021	160.0	1.063	1.548	150.5
	%Difference	25.0%	2.4%	-9.5%	22.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.1	1.364	1.325	137.2
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
NORTH VALLEY	2020	269.0	1.546	1.369	174.0
5-Year Average	16-20 Avg	184.0	1.281	1.619	143.6
NORTH VALLEY	2021	427.7	1.752	2.185	244.1
	%Difference	132.5%	36.7%	34.9%	70.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2016	78.8	0.905	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
PENINSULA	2019	88.5	0.816	0.983	108.4
PENINSULA	2020	85.5	0.855	1.042	100.0
5-Year Average	16-20 Avg	75.0	0.804	1.120	93.2
PENINSULA	2021	161.2	1.068	0.944	150.9
	%Difference	115.0%	32.8%	-15.7%	62.0%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.0	1.021	1.825	98.9
SACRAMENTO	2019	98.9	0.866	1.574	114.3
SACRAMENTO	2020	173.6	1.350	1.499	128.6
5-Year Average	16-20 Avg	115.7	1.050	1.629	110.1
SACRAMENTO	2021	155.4	1.122	1.864	138.4
	%Difference	34.3%	6.9%	14.4%	25.7%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
SAN FRANCISCO	2020	43.9	0.582	0.386	75.5
5-Year Average	16-20 Avg	42.4	0.519	0.328	81.8
SAN FRANCISCO	2021	49.4	0.530	0.499	93.2
	%Difference	16.4%	2.2%	52.0%	13.9%

Division Reliability Indices
2016-2021
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
SAN JOSE	2019	81.5	0.747	1.253	109.1
SAN JOSE	2020	120.9	0.906	1.274	133.5
5-Year Average	16-20 Avg	85.1	0.779	1.235	109.2
SAN JOSE	2021	95.4	0.763	0.905	125.1
	%Difference	12.1%	-2.1%	-26.7%	14.6%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
SIERRA	2019	167.5	1.151	1.482	145.6
SIERRA	2020	208.0	1.422	1.169	146.2
5-Year Average	16-20 Avg	161.0	1.207	1.513	133.4
SIERRA	2021	342.1	1.672	1.013	204.6
	%Difference	112.5%	38.5%	-33.0%	53.4%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
SONOMA	2019	145.7	1.070	1.233	136.1
SONOMA	2020	124.5	1.062	1.327	117.2
5-Year Average	16-20 Avg	117.0	0.953	1.367	122.7
SONOMA	2021	166.3	1.257	1.399	132.3
	%Difference	42.1%	31.8%	2.3%	7.8%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
STOCKTON	2019	175.3	1.276	1.130	137.4
STOCKTON	2020	131.8	1.187	1.268	111.0
5-Year Average	16-20 Avg	116.7	1.069	1.440	109.2
STOCKTON	2021	176.2	1.151	1.471	153.2
	%Difference	51.0%	7.7%	2.2%	40.4%
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.3	1.355	1.773	116.8
YOSEMITE	2019	160.4	1.470	1.603	109.1
YOSEMITE	2020	197.4	1.411	1.299	139.9
5-Year Average	16-20 Avg	156.5	1.317	1.770	118.8
YOSEMITE	2021	434.4	2.180	1.804	199.3
	%Difference	177.6%	65.6%	1.9%	67.7%

i. System and Division Performance Assessment

1. System Performance Assessment

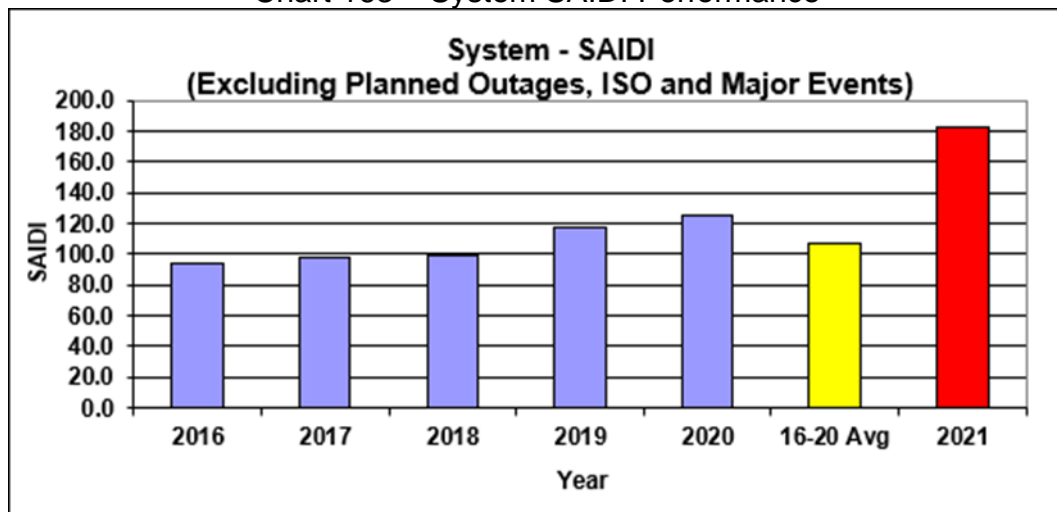
Table 9: System Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2016	93.8	0.940	1.487	99.8
SYSTEM	2017	97.3	0.878	1.487	110.8
SYSTEM	2018	99.6	0.960	1.356	103.8
SYSTEM	2019	117.7	1.009	1.270	116.6
SYSTEM	2020	125.8	1.068	1.292	117.8
5-Year Average	16-20 Avg	106.8	0.971	1.378	110.0
SYSTEM	2021	182.8	1.178	1.309	155.2
	%Difference	71.1%	21.3%	-5.0%	41.1%

System SAIDI Performance

The system's 2021 SAIDI performance of 182.8 was 76 customer-minutes (or 71.1%) higher than the previous 5-year average of 106.8 as shown in the table above and illustrated in the figure below.

Chart 163 – System SAIDI Performance



The higher-than-average 2021 system SAIDI was attributed to the following:

1. The January 4th winter storm event brought heavy rain, gusty wind, and snow at higher elevations throughout the system. This winter storm moved through the state with many areas receiving several inches of rain. Wind gusts across the territory ranged 35-55 mph with some areas receiving up to 60 mph gusts. Snow levels of about 2ft remained in areas located at higher elevation of above

- 4,000 – 5,000 ft such as the Northern Sierras. The outages on January 4th contributed 1.7 customer-minutes to the system's SAIDI performance.
2. The March 6th winter storm event started on March 4th and moved onshore across the Humboldt Coast, then through most of the state on March 5th and 6th. This system brought widespread valley rain and snowfall in the mountains. Northern Humboldt Coast received the highest amount of rainfall. The interior valleys also received heavy rain whereas the Northern and Sierra mountains received snowfall at elevations of 3000'. In addition, the eastern part of the valleys and foothills experienced breezy to gusty winds of 35 mph and lighter winds across the territory. Precipitation spread south and east overnight into March 6th, with rainfall totals between 0.50-1.00" in the Northern Sierra, and 0.10-0.75 near the Bay and Sacramento/Central Valley. The March 6th event contributed 1.9 customer-minutes to the system's SAIDI performance.
 3. The April 15th transmission pole fire on the Melones-Curtis 115 kV transmission line caused an outage to eight substations (Mi-Wuk, Spring Gap, Curtis, Peoria Flat, SPI Chinese Station, Tar Flat, Racetrack and Pinecrest) and de-energizing 13 distribution feeders. This event contributed 2.4 customer minutes to the system's SAIDI performance.
 4. The May 15th thunderstorms in the North Valley, Sierra, Stockton and Yosemite divisions that resulted in rain and lightning strikes. Flashover related outages occurred in the Bay area also as a result of rain. The outages on May 15th contributed 1.9 customer-minutes to the system's SAIDI performance.
 5. The June 17th – 19th event brought a prolonged heat wave featuring widespread triple-digit temperatures that ranged from 105-112F across the Central Valley with mid-90s to 105°F for intermediate and inland Bay Area valleys. This resulted in high electric loads and heat-related outage activity. This event contributed 5.1 customer-minutes to the system's SAIDI performance.
 6. July 10th was the third consecutive day of heat across the interior region, with hot temperatures continuing through July 12th. Temperatures rose to 105-115 degrees. This event contributed 1.6 customer minutes to the system's SAIDI performance.
 7. On July 13, 2021, PG&E experienced an outage on its Bucks Creek 1101 12kV overhead distribution line near Cresta Dam. Upon arrival at Fuse 17733, up the hill from Cresta Dam, PG&E's troubleman observed that two fuses had operated, a tree leaning against the line, and a fire near the base of the tree, which would become the Dixie Fire. The fire spread over 500 acres in North

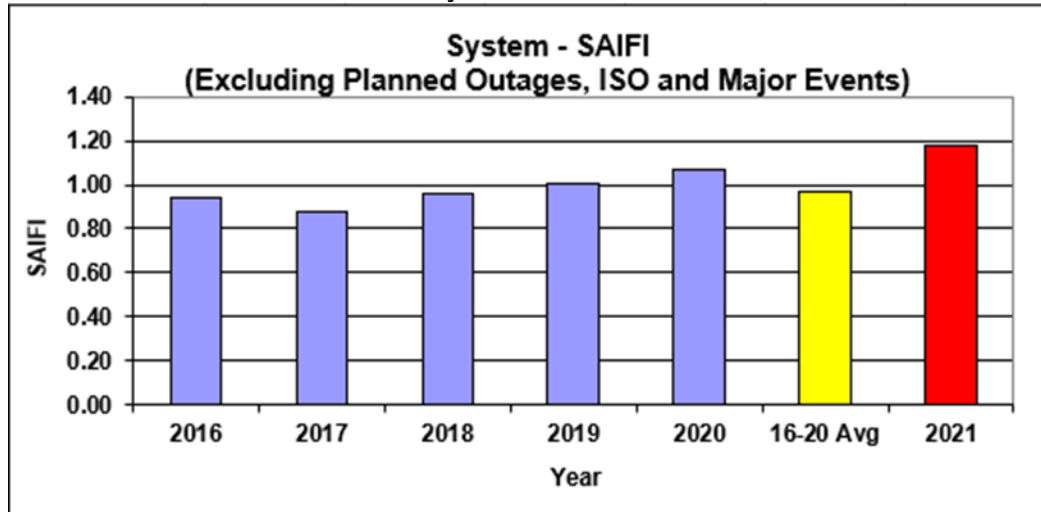
- Valley division and rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fire remains under investigation. The resulting outages contributed 1.8 customer minutes to the system's SAIDI performance on July 20th, 2021.
8. July 30th was the second day of high temperatures across the PG&E service territory. Temperatures as high as 105°F were recorded in the Central Valley and representing 5-10 degrees above average. Several large outages were experienced on distribution feeders serving high fire threat areas and utilizing EPSS enabled devices to help prevent wildfires. In addition, a burnt insulator problem on the Crazy Horse - Salinas 115 kV transmission line caused a very large outage to three substations (Gonzales, Camphora and Soledad), and de-energizing 9 distribution feeders. These events contributed 1.7 customer minutes to the system's SAIDI performance on July 30th, 2021.
 9. Distribution outages on August 3rd involving; (a) the de-energization for fire fighter safety (Dixie Fire), (b) malfunctioning equipment, (c) a broken cross arm and (d) 3 outages involving EPSS enabled circuits. These outages on August 3rd, contributed 1.9 customer-minutes to the system's SAIDI performance.
 10. The August 26th – 28th forest fire (Washington Fire) event that spread over 500 acres in Yosemite division and required sections of transmission and distribution lines be de-energized at the request of Cal Fire. The Washington fire started on August 26th, 2021, rendering the unavailability of 4-115 kV transmission lines to fight the fire and resulting in the loss of power to six substations (Peoria, Curtis, Miwuk, Spring gap, Pinecrest and Tar Flat). In addition, there were five EPSS related prolonged outages on the distribution system as well. These events contributed 8.0 customer minutes to the system's SAIDI performance on July 20th, 2021.
 11. The September 8th and 9th event resulted from late season heat with temperatures reaching 100-107°F across the interior and around 90°F in the Bay area resulted in high electrical loads causing heat related outages. The impact of this heat continued in the San Joaquin Valley and another weather system moved onshore across Northern California on September 9th, which produced lightning and flashover impact that continued into the next day September 10th, which became an MED. A total of 17 EPSS related outages on the distribution system also occurred on September 8th and 9th. The September 8th and 9th outage activity contributed 4.5 customer-minutes to the system's SAIDI performance.

12. The September 13th heat event brought high temperatures to the service territory. There was weak offshore flow this day that led to temperatures around 10 degrees above average. A total of twenty EPSS related prolonged outages occurred on the distribution system. This event contributed 5.6 customer-minutes to the system's SAIDI performance. This event contributed 1.2 customer-minutes to the system's SAIDI performance.
13. The September 18th–20th event was driven by a weather system that moved through Northern California resulting in lightning and flashovers causing several outages. This system was then followed immediately by strong north to northeast winds, and critical fire weather conditions leading to the execution of PSPS along the western Sacramento Valley/Northern Coastal Range, as well as across the elevated terrain of Kern and Santa Barbara Counties. A total of 16 EPSS related prolonged outages occurred during this period. This became the tenth largest outage event and contributed 5.6 customer-minutes to the system's SAIDI performance.
14. The October 18th -22nd wind event consisted of a succession of 3 weather systems that resulted in wind and flashover related outages during this period. The first system moved through the state on October 17th and 18th, largely impacting San Francisco Bay area divisions with wind and flashover related outages. The second system moved onshore across the North Coast on October 19th causing wind and flashover related outages, with flashover outages continuing into the 20th across Northern California divisions. A third system swept across the entire state October 21st and continued into the 22nd producing additional flashover outages. A total of 53 EPSS related outage occurred during this period.
15. The December 28th event resulted from a major winter storm and an "atmospheric river" event produced significant mountain snowfall, gusty southerly winds and moderate to heavy rainfall. Low to mid elevation snowfall impacts occurred across Humboldt, North Valley, Sierra, and Stockton divisions. December 25th, 26th, 27th, 29th were major event days. A total of 3 EPSS related outages also occurred on the 28th. This event contributed 2.3 customer-minutes to the system's SAIDI performance.

System SAIFI Performance

The system's 2021 SAIFI performance of 1.178 was 0.207 customer-interruptions (or 21.3%) higher than the previous 5-year average of 0.971 as shown in the table above and illustrated in the figure below.

Chart 164 – System SAIFI Performance



The higher-than-average 2021 system SAIFI was attributed to the following:

1. The January 4th winter storm event brought heavy rain, gusty wind, and snow at higher elevations throughout the system. The outages on January 4th contributed 0.011 customer-interruptions to the system SAIFI.
2. The March 10th lightning storm event brought over 300 strikes of lightning incidents along with rain. The March 10th contributed 0.009 customer-interruptions to the system SAIFI.
3. The May 15th thunderstorms in the North Valley, Sierra, Stockton and Yosemite divisions resulted in rain and lightning strikes. Flashovers occurred in the Bay area as a result of rain and caused multiple outages. This event contributed 0.011 customer-interruptions to the system's SAIFI.
4. The June 17th - 19th event brought a prolonged heat wave featuring widespread triple-digit temperatures that ranged from 105-112F across the Central Valley with mid-90s to around 105°F for intermediate and inland Bay Area valleys. This event represents the sixth largest outage of the year and contributed 0.038 customer-interruptions to the system's SAIFI.
5. The Aug 7th - 9th heat event brought high temperatures to the valley. Outages in Sierra division occurred due to the River Fire and the high electric loads resulted in heat-related outage activity. The EPSS circuits contributed 12

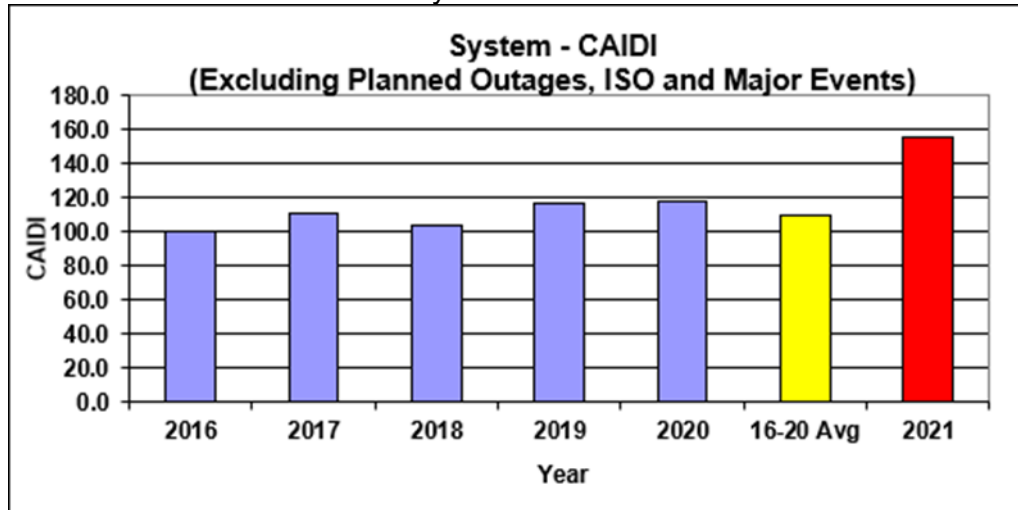
outages on the distribution system. This event contributed 0.016 customer-interruptions to the system's SAIFI.

6. The August 26th – 28th Washington Fire event spread over 500-acres in Yosemite division and required sections of transmission and distribution lines to be de-energized at the request of Cal Fire. This event contributed 0.017 customer-interruptions to the system's SAIFI.
7. The September 8th and 9th event resulting from late season heat with temperatures reaching 100-107°F across the interior and around 90°F in the Bay area led to high electrical loads causing heat related outages. This event contributed 0.016 customer-interruptions to the system's SAIFI.
8. The September 18th–20th event was driven by a weather system that moved through Northern California resulting in lightning and flashovers causing several outages. This event represents the tenth largest outage event and contributed 0.025 customer-interruptions to the system's SAIFI.
9. The September 25th–26th event was mainly due to EPSS related outages not related to weather. These events contributed 0.015 customer-interruptions to the system's SAIFI.
10. The October 18th -22nd wind event consisted of 3 weather systems that resulted in wind and flashover related outages and contributed 0.049 customer-interruptions to the system's SAIFI.

System CAIDI Performance

The system's 2021 CAIDI performance of 155.2 was 45.2 customer-minutes (or 41.1%) higher than the previous 5-year average of 110.0 as shown in the table above and illustrated in the figure below.

Chart 165 – System CAIDI Performance



The higher-than-average 2021 system CAIDI was attributed to the following:

Weather-Events:

1. The January 29th winter storm event brought showers and snow along the Sierra Crest. It was the 5th consecutive day of this snowstorm event. Parts of Sacramento Valley and Central Valley received an additional 0.10-0.25 inch of rain with southern parts receiving as much as an additional 0.25-0.50 inch of rain.
2. A winter storm event started on March 4th and moved onshore across the Humboldt Coast, then through most of the state on the 5th and 6th. This system brought widespread valley rain and snowfall in the mountains. Northern Humboldt Coast received most of the rainfall.
3. July 30th was the second day of high temperatures across the PG&E territory. Temperatures as high as 105°F were recorded in the Central Valley that were from 5-10 degrees above average. Several large outages were experienced on distribution feeders serving high fire threat areas and utilizing EPSS enabled devices to help prevent wildfires. A burnt insulator problem on the Crazy Horse - Salinas 115 kV transmission line caused a very large outage to three substations (Gonzales, Camphora and Soledad) and de-energizing 9 distribution feeders.
4. The August 26th – 28th forest fire (Washington Fire) event that spread over 500 acres in Yosemite division and required sections of transmission and distribution lines be de-energized at the request of Cal Fire. The Washington fire started on August 26th, 2021, rendering the unavailability of 4-115 kV transmission lines to fight the fire which resulted in loss of power

to six substations (Peoria, Curtis, Miwuk, Spring gap, Pinecrest and Tar Flat). In addition, there were five EPSS related prolonged outages on the distribution system.

5. The September 8th and 9th outage event resulted from late season heat with temperatures reaching 100-107°F across the interior and around 90°F in the Bay area, which resulted in high electrical loads causing heat related outages. The impact of this heat continued in the San Joaquin Valley and another weather system moved onshore across Northern California on September 9th, which produced lightning and flashover impact that continued into the next day September 10th, which became an MED. A total of 17 EPSS related outages on the distribution system also occurred on September 8th and 9th.
6. The September 13th heat event brought high temperatures to the service territory that resulted in twenty prolonged EPSS related outage events.
7. The October 18th -22nd wind event consisted of 3 weather systems that resulted in wind and flashover related outages during this period.
8. The December 28th event resulted from a major winter storm and an “atmospheric river” event produced significant mountain snowfall, gusty southerly winds and moderate to heavy rainfall. Low to mid elevation snowfall impacts occurred across Humboldt, North Valley, Sierra, and Stockton divisions. December 25th, 26th, 27th, 29th were major event days. A total of 3 EPSS related outages also occurred on the 28th.

The above weather-related events resulted in additional prolonged outages that contributed 8.8 minutes to the overall CAIDI performance.

Non-Weather-Related Events:

1. April 15th – A transmission pole fire on the Melones-Curtis 115 kV transmission line caused an outage to eight substations (Mi-Wuk, Spring Gap, Curtis, Peoria Flat, SPI Chinese Station, Tar Flat, Racetrack and Pinecrest) de-energizing 13 distribution feeders.
2. July 20th – Per Cal Fire request, the Bucks Creek 1103 circuit (Dixie fire) needed to be de-energized for fire fighter safety.
3. July 24th – A 3rd party car pole accident knocked a distribution main line pole to the ground that resulted in a breaker level outage on the Oakland X-1106

circuit.

4. August 3rd – Per Cal Fire request, a set of distribution line fuses on the Big Meadows 2101 circuit (Dixie fire) needed to be de-energized for fire fighter safety.
5. August 7th – A 3rd party car pole accident knocked a distribution main line pole to the ground that resulted in a recloser level outage on the Mariposa 2102 circuit.
6. August 8th – A broken insulator on the 17 kV distribution line caused a recloser level outage on the Stanislaus 1702 circuit.
7. August 20th – A vegetation outage caused a recloser level outage on the Rob Roy 2104 circuit.
8. September 15th-17th, – A transmission level forced outage was initiated to mitigate a relay coordination issue thereby losing power to Arana, cliff Drive, Paul Sweet, Rio Del Mar, Rob Roy, Roland, Sea Cliff, and Soquel substations.

These non-weather-related outages contributed an additional 7.75 minutes to the overall system CAIDI.

2. Central Coast Division Performance Assessment

Central Coast Division Performance

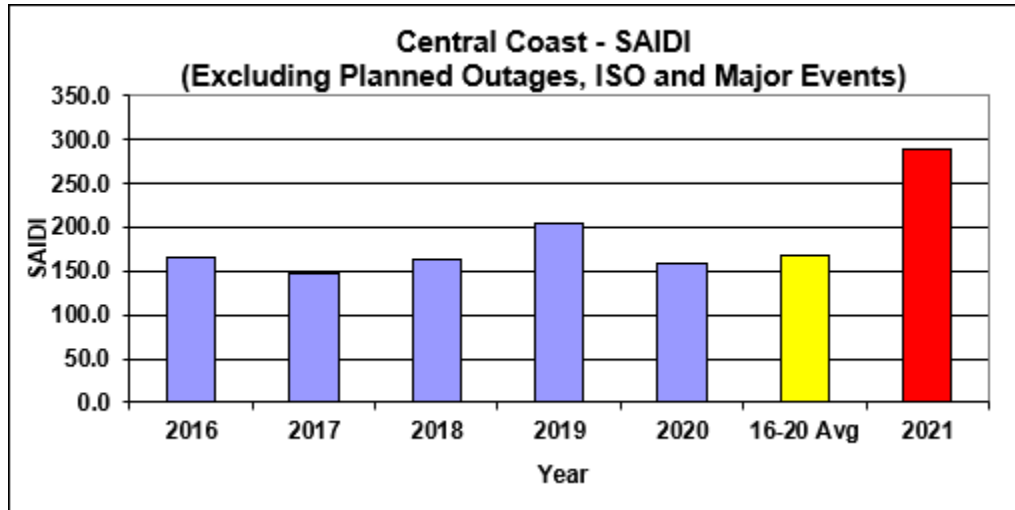
Table 10: Central Coast Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2016	166.1	1.471	2.476	112.9
CENTRAL COAST	2017	146.3	1.293	2.589	113.1
CENTRAL COAST	2018	162.4	1.447	2.242	112.2
CENTRAL COAST	2019	203.6	1.470	2.231	138.5
CENTRAL COAST	2020	159.1	1.724	1.600	92.3
5-Year Average	16-20 Avg	167.5	1.481	2.228	113.1
CENTRAL COAST	2021	289.2	1.643	1.904	176.0
	%Difference	72.7%	10.9%	-14.5%	55.6%

Central Coast Division SAIDI Performance

Central Coast Division’s 2021 SAIDI performance of 289.2 was 121.7 customer-minutes (or 72.7%) higher than the previous 5-year average of 167.5 as shown in the table above and illustrated in the figure below.

Chart 166 – Central Coast Division SAIDI Performance



The higher-than-average 2021 Central Coast Division SAIDI was attributed to the following:

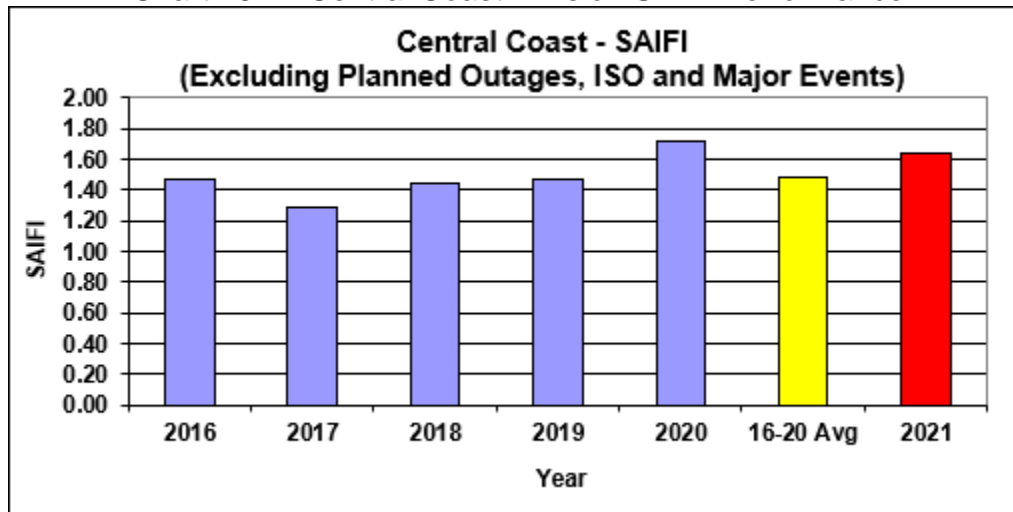
1. The EPSS installed in the summer of 2021 on the distribution line equipment contributed 64.0 customer-minutes to the division's SAIDI performance.
2. On August 6th, a splice failure on the primary overhead conductor served from the Los Ositos 2103 circuit caused a breaker level outage that contributed 7.6 customer-minutes to the division's SAIDI performance.
3. On August 5th, a transmission pole fire on King City-Coburn #1 60kV transmission line caused an outage to the Jolon and Los Ositos substations. This outage contributed 6.8 customer-minutes to the division's SAIDI performance.
4. On July 30th, a burnt insulator problem on the Crazy Horse - Salinas 115 kV transmission line caused a very large outage to three substations (Gonzales, Camphora and Soledad) and de-energizing 9 distribution feeders. This outage contributed 9.8 customer-minutes to the division's SAIDI performance.
5. On September 11th, a broken distribution pole resulted in a recloser level outage on the Watsonville 2101 feeder. This outage contributed 3.0 customer-minutes to the division's SAIDI performance.
6. On December 24th, a circuit breaker at the Oil Fields substation failed and caused a breaker level outage. This outage contributed 2.7 customer-minutes to the division's SAIDI performance.
7. On December 18th, an underground elbow failure on the Paul Sweet 2109 feeder caused an outage. This outage contributed 2.3 customer-minutes to the division's SAIDI performance.

8. On September 5th, a broken distribution pole resulted in a recloser level outage on the Soledad 2101 feeder. This outage contributed 4.0 customer-minutes to the division's SAIDI performance.
9. On July 1st, a 3rd party vehicle hit a distribution pole and broke the pole causing a breaker level outage on the Gabilan 2102 feeder. This outage contributed 2.1 customer-minutes to the division's SAIDI.
10. On August 5th, a section of the deteriorated overhead primary conductor broke and fell on the ground causing a circuit breaker level outage on the Los Ositos 2103 feeder. This outage contributed 1.9 customer-minutes to the division's SAIDI performance.
11. On August 5th, a broken distribution pole resulted in a recloser level outage on the Soledad 2101 feeder that contributed 4.0 customer-minutes to the division's SAIDI performance.
12. On March 6th, an overhead splice failure caused a recloser level outage on the Prunedale 1107 feeder. This outage contributed 1.7 customer-minutes to the division's SAIDI performance.

Central Coast Division SAIFI Performance

Central Coast Division's 2021 SAIFI performance of 1.643 was 0.162 customer-interruptions (or 10.9%) higher than the previous 5-year average of 1.481 as shown in the table above and illustrated in the figure below.

Chart 167 – Central Coast Division SAIFI Performance



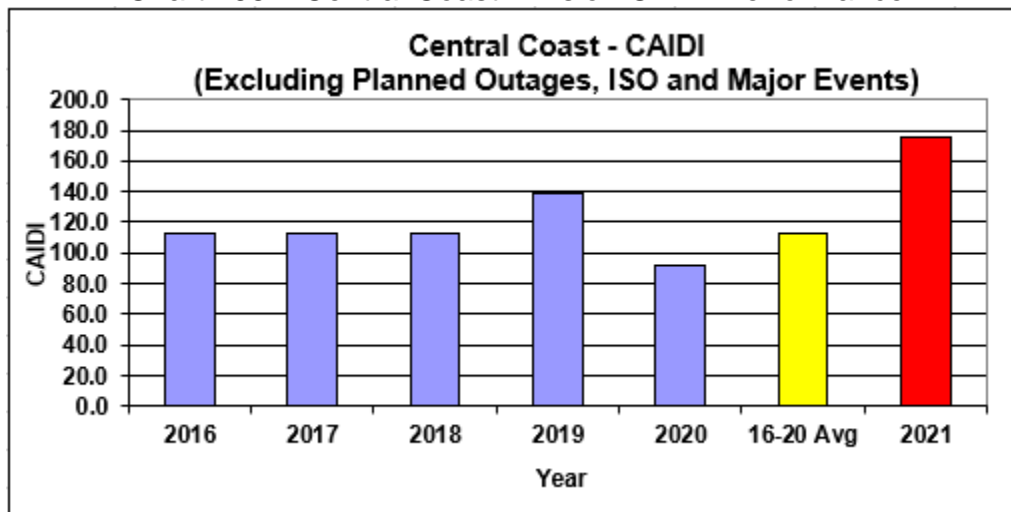
The higher-than-average 2021 Central Coast SAIFI was attributed to the following:

1. On August 5th, a transmission pole fire on King City-Coburn #1 60kV transmission line caused an outage to the Jolon and Los Ositos substations. This outage contributed 0.014 customer-interruptions to the division's SAIFI.

Central Coast Division CAIDI Performance

Central Coast Division's 2021 CAIDI performance of 176.0 was 62.9 (or 55.6%) minutes higher than the previous 5-year average of 113.1 as shown in the table above and illustrated in the figure below.

Chart 168 – Central Coast Division CAIDI Performance



The higher-than-average 2021 Central Coast Division CAIDI was attributed to the following outages experienced on August 14th:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 28.3 minutes to the division's CAIDI performance.
2. On August 6th, a splice failure on the primary overhead conductor served from the Los Ositos 2103 circuit caused a breaker level outage that contributed 2.9 minutes to the division's CAIDI performance.
3. On August 5th, a transmission pole fire on King City-Coburn #1 60kV transmission line caused an outage to the Jolon and Los Ositos substations. This outage contributed 2.9 minutes to the division's CAIDI performance.
4. On July 30th, a burnt insulator problem on the Crazyhorse - Salinas 115 kV transmission line caused a large outage to three substations (Gonzales, Camphora and Soledad) and de-energizing 9 distribution feeders. This outage contributed 3.9 minutes to the division's CAIDI performance.
5. On September 11th, a broken distribution pole resulted in a recloser level

- outage on the Watsonville 2101 feeder. This outage contributed 1.5 minutes to the division's CAIDI performance.
6. On December 24th, a circuit breaker level outage occurred at the Oil Fields substation and resulting in breaker damage. This outage contributed 0.8 minutes to the division's CAIDI performance.
 7. On December 18th, an underground elbow failure on the Paul Sweet 2109 feeder caused an outage. This outage contributed 1.3 minutes to the division's CAIDI performance.
 8. On September 5th, a broken distribution pole resulted in a recloser level outage on the Soledad 2101 feeder. This outage contributed 0.6 minutes to the division's CAIDI performance.
 9. On July 1st, a 3rd party vehicle hit a distribution pole and broke the pole causing a breaker level outage on the Gabilan 2102 feeder. This outage contributed 0.1 minutes to the division's CAIDI performance.
 10. On August 5th, a section of the deteriorated overhead primary conductor broke and fell on the ground causing a circuit breaker level outage on the Los Ositos 2103 feeder. This outage contributed 0.2 minutes to the division's CAIDI performance.
 11. On August 5th, a broken distribution pole resulted in a recloser level outage on the Soledad 2101 feeder that contributed 1.2 minutes to the division's CAIDI performance.
 12. On March 3rd, an overhead splice failure caused a recloser level outage on the Prunedale 1107 feeder. This outage contributed 0.8 minutes to the division's CAIDI performance.
 13. On April 10th, a 3rd party metallic balloon caused an overhead jumper to burn which resulted in a breaker level outage on the Industrial Acres 0412 feeder. This outage contributed 0.4 minutes to the division's CAIDI performance.
 14. On February 24th, a tree branch tree fell into a distribution line resulting in a recloser level outage on the Green Valley 2102 feeder. This outage contributed 0.4 minutes to the division's CAIDI performance.
 15. On June 22nd, a line recloser on the Laureles 1111 feeder operated upon detecting a fault due to an unknown cause. This outage contributed 0.6 minutes to the division's CAIDI performance.
 16. On January 22nd, a tree branch fell on the primary overhead line fed from Rob Roy 2104 feeder and caused a recloser level outage. This outage contributed 0.5 minutes to the division's CAIDI performance.

These outages contributed 51.9 minutes to the division’s overall CAIDI performance.

3. De Anza Division Performance Assessment

De Anza Division Performance

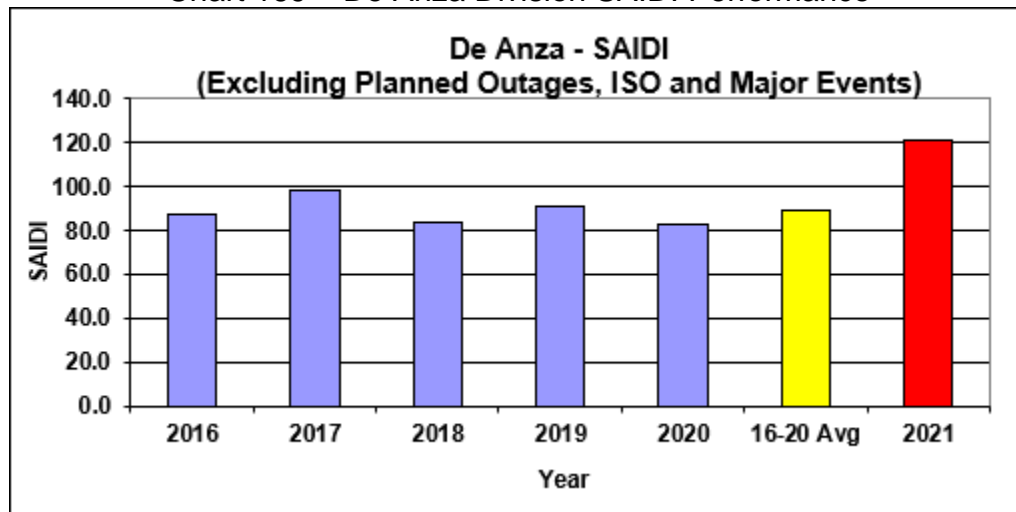
Table 11: De Anza Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2016	87.3	0.753	1.336	116.0
DE ANZA	2017	97.9	0.985	1.150	99.4
DE ANZA	2018	84.0	0.789	1.402	106.4
DE ANZA	2019	91.3	0.873	1.657	104.6
DE ANZA	2020	83.1	0.711	1.213	117.0
5-Year Average	16-20 Avg	88.7	0.822	1.352	107.9
DE ANZA	2021	121.0	0.787	0.987	153.8
	%Difference	36.4%	-4.3%	-27.0%	42.5%

De Anza Division SAIDI Performance

De Anza Division’s 2021 SAIDI performance of 121.0 was 32.3 customer-minutes (or 36.4%) higher than the previous 5-year average of 88.7 as shown in the table above and illustrated in the figure below.

Chart 169 – De Anza Division SAIDI Performance



The higher-than-average 2021 De Anza Division SAIDI was attributed to the following:

1. On August 28th, a tree fell into the distribution bringing down 3 spans of wire on the Los Gatos 1106 feeder. This resulted in a recloser level outage also

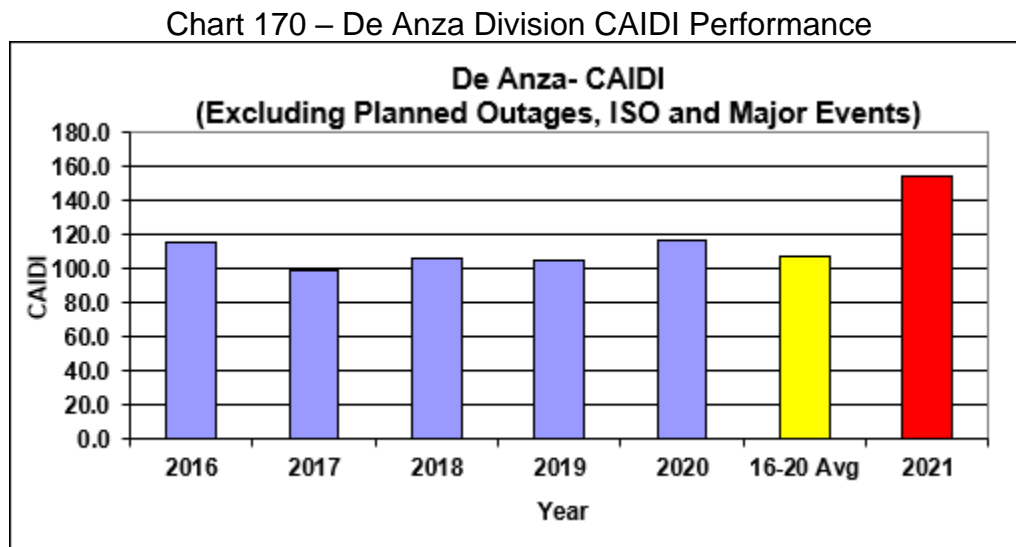
enabled with EPSS. This outage contributed 10.7 customer-minutes to the division's SAIDI performance.

2. On September 9th, a recloser level outage occurred on the Los Gatos 1106 feeder due to an unknown cause and EPSS was enabled on that recloser. This incident contributed 7.5 customer-minutes to the division's SAIDI performance.
3. On August 23rd, a broken jumper on the primary distribution line served by the Los Gatos 1106 feeder caused a recloser level outage that was EPSS enabled. This outage that contributed 7.5 customer-minutes to the division's SAIDI performance.

EPSS installed on the distribution line equipment in the summer of 2021 contributed 25.7 customer-minutes to the division's SAIDI performance.

De Anza Division CAIDI Performance

De Anza Division's 2021 CAIDI performance of 153.8 was 45.9 (or 42.5%) minutes higher than the previous 5-year average of 107.9 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 De Anza Division CAIDI was attributed to the following outages:

1. On August 28th, a tree fell into the distribution bringing down 3 spans of wire on the Los Gatos 1106 feeder. This resulted in a recloser level outage enabled with EPSS. This outage contributed 12.4 minutes to the division's CAIDI performance.

2. On September 9th, a recloser level outage occurred on the Los Gatos 1106 feeder due to an unknown cause and EPSS was enabled on that recloser. This outage contributed 8.6 minutes to the division's CAIDI performance.
3. On August 23rd, a broken jumper on the primary distribution line served by Los Gatos 1106 feeder caused a recloser level outage. EPSS was enabled on that recloser. This outage contributed 8.0 minutes to the division's CAIDI performance.
4. On August 15th, a tree fell on the distribution overhead line and caused a recloser level outage on the Los Gatos 1106 feeder. EPSS was enabled on that recloser. This outage contributed 7.7 minutes to the division's CAIDI performance.

The above outages contributed 38.1 minutes to the division's overall CAIDI performance.

5. Diablo Division Performance Assessment

Diablo Division Performance

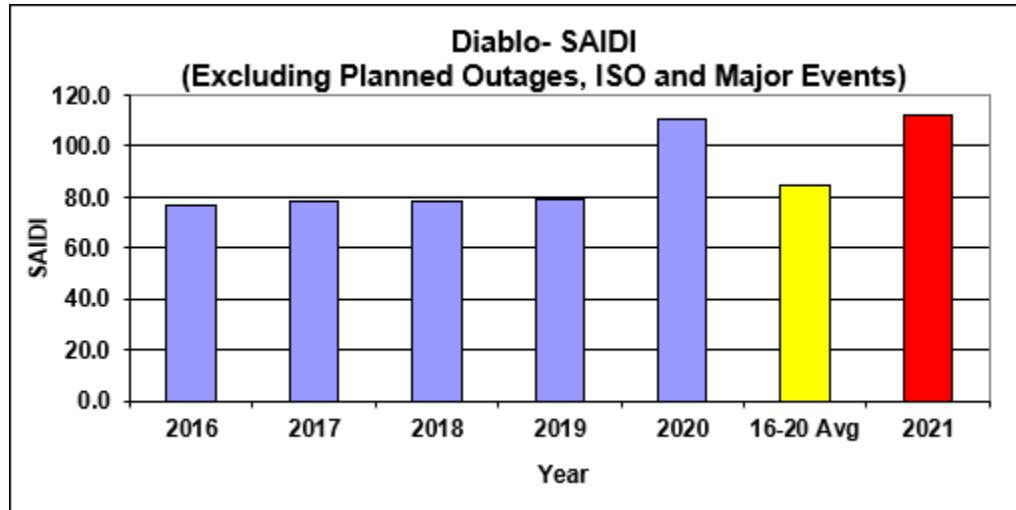
Table 12: Diablo Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2016	76.5	0.995	1.694	76.9
DIABLO	2017	78.0	0.876	1.620	89.1
DIABLO	2018	78.3	1.004	1.496	78.0
DIABLO	2019	78.8	0.935	1.212	84.3
DIABLO	2020	110.8	1.206	1.621	91.9
5-Year Average	16-20 Avg	84.5	1.003	1.529	84.2
DIABLO	2021	112.0	1.177	1.352	95.2
	%Difference	32.6%	17.3%	-11.5%	13.0%

Diablo Division SAIDI Performance

Diablo Division's 2021 SAIDI performance of 112.0 was 27.6 customer-minutes (or 32.6%) higher than the previous 5-year average of 84.5 as shown in the table above and illustrated in the figure below.

Chart 171 – Diablo Division SAIDI Performance



The higher-than-average 2021 Diablo Division SAIDI was attributed to the following:

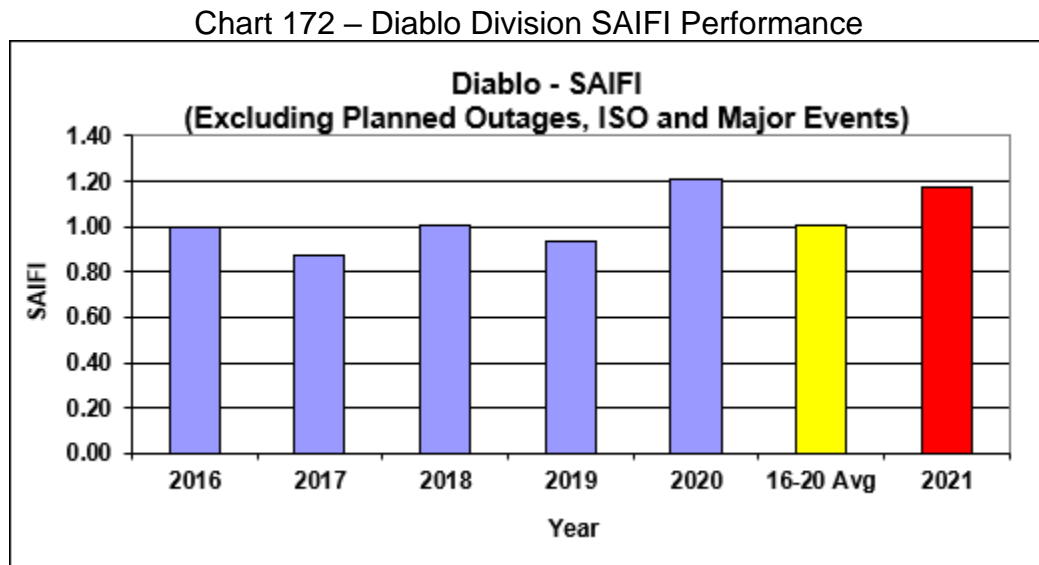
1. On July 5th, a 3rd party vehicle hit a pole and broke it causing an outage on the Brentwood 2112 feeder. This incident contributed 3.9 customer-minutes to the division's SAIDI performance.
2. On September 13th, a breaker malfunctioned due to inadequate settings resulting in miscoordination on Clayton 2212 circuit. This outage contributed 3.6 customer-minutes to the division's SAIDI performance.
3. On September 28th, a 3rd party vehicle hit a pole and broke it causing an outage on the Moraga 1104 feeder that contributed 3.1 customer-minutes to the division's SAIDI performance.
4. On September 5th, a broken cutout on the Fairview 2207 feeder caused a recloser level outage. This outage contributed 2.6 customer-minutes to the division's SAIDI performance.
5. On October 8th, an underground transformer burned and failed on the Clayton 2212 feeder causing a breaker level outage. The reclosing relay at the breaker was cutout to help mitigate wildfire risk. This outage contributed 2.5 customer-minutes to the division's SAIDI performance.
6. On October 13th, an underground transformer failed on the Research 2101 feeder causing a breaker level outage. The reclosing relay at the breaker was cutout to help mitigate wildfire risk. This outage contributed 2.2 customer-minutes to the division's SAIDI performance.
7. On August 27th, an underground 3-way splice failed causing a breaker level outage on the Clayton 2217 feeder. This outage contributed 2.0 customer-

minutes to the division's SAIDI performance.

The above outages contributed 20.0 customer-minutes to the division's SAIDI performance.

Diablo Division SAIFI Performance

Diablo Division's 2021 SAIFI performance of 1.177 was 0.174 customer-interruptions (or 17.3%) higher than the previous 5-year average of 1.003 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Diablo Division SAIFI was attributed to the following:

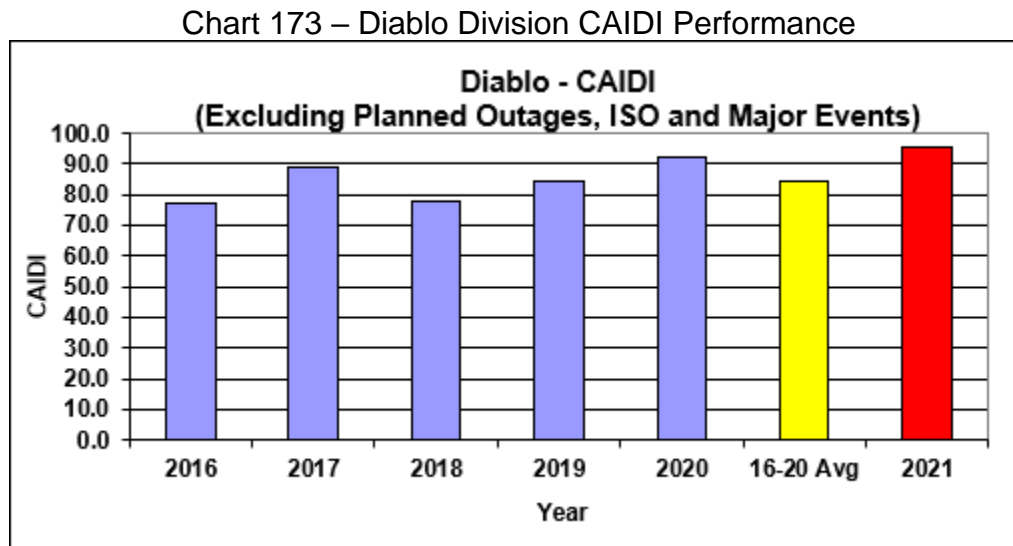
1. On August 27th, an underground 3-way splice failed causing a breaker level outage on the Clayton 2217 feeder. This outage contributed 0.011 customer-interruptions to the division's SAIFI performance.
2. On March 25th, a 3rd party metallic balloon contacted the primary distribution line served by Kirker 2103 feeder and caused a recloser level outage. This outage contributed 0.029 customer-interruptions to the division's SAIFI performance.
3. On March 17th, an outage on the Contra Costa 2116 feeder occurred due to an unknown cause. This outage contributed 0.023 customer-interruptions to the division's SAIFI performance.
4. On July 17th, an underground transformer failed on the Kirker 2103 feeder causing an interrupter level outage. This outage contributed 0.020 customer-

interruptions to the division's SAIFI performance.

The above outages contributed a total of 0.083 customer-interruptions to the division's SAIDI performance.

Diablo Division CAIDI Performance

Diablo Division's 2021 CAIDI performance of 95.2 was 11.0 (or 13%) minutes higher than the previous 5-year average of 84.2 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Diablo Division CAIDI was attributed to the following:

1. On July 5th, a 3rd party vehicle hit a pole and broke it causing an outage on the Brentwood 2112 feeder. This incident contributed 2.7 minutes to the division's CAIDI performance.

8. East Bay Division Performance Assessment

East Bay Division Performance

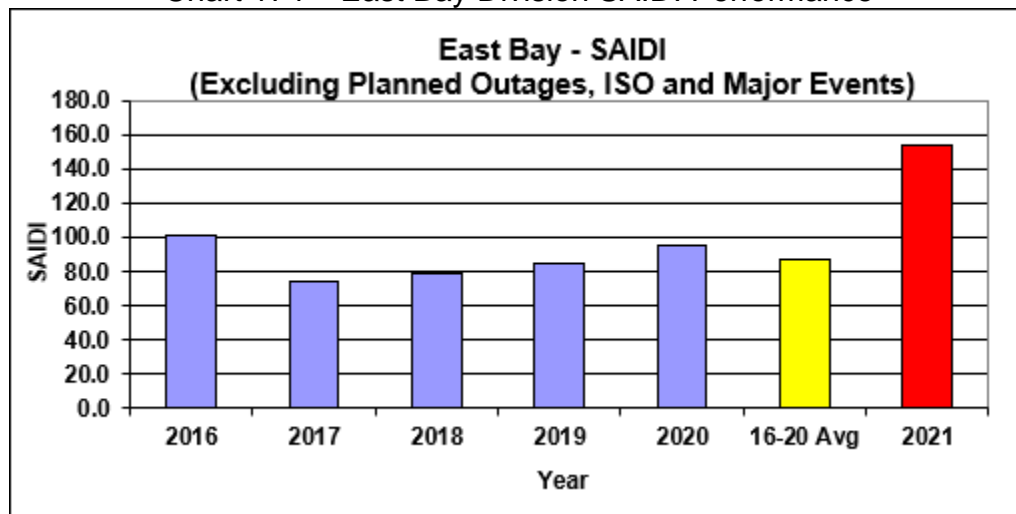
Table 13: East Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2016	101.4	1.050	1.079	96.6
EAST BAY	2017	73.8	0.903	1.528	81.7
EAST BAY	2018	78.8	0.901	1.080	87.5
EAST BAY	2019	84.5	0.854	0.956	99.0
EAST BAY	2020	95.5	0.838	1.453	114.0
5-Year Average	16-20 Avg	86.8	0.909	1.219	95.5
EAST BAY	2021	154.2	1.250	1.316	123.4
	%Difference	77.7%	37.5%	8.0%	29.2%

East Bay Division SAIDI Performance

East Bay Division's 2021 SAIDI performance of 154.2 was 67.4 customer-minutes (or 77.7%) higher than the previous 5-year average of 86.8 as shown in the table above and illustrated in the figure below.

Chart 174 – East Bay Division SAIDI Performance



The higher-than-average 2021 East Bay Division SAIDI was attributed to the following:

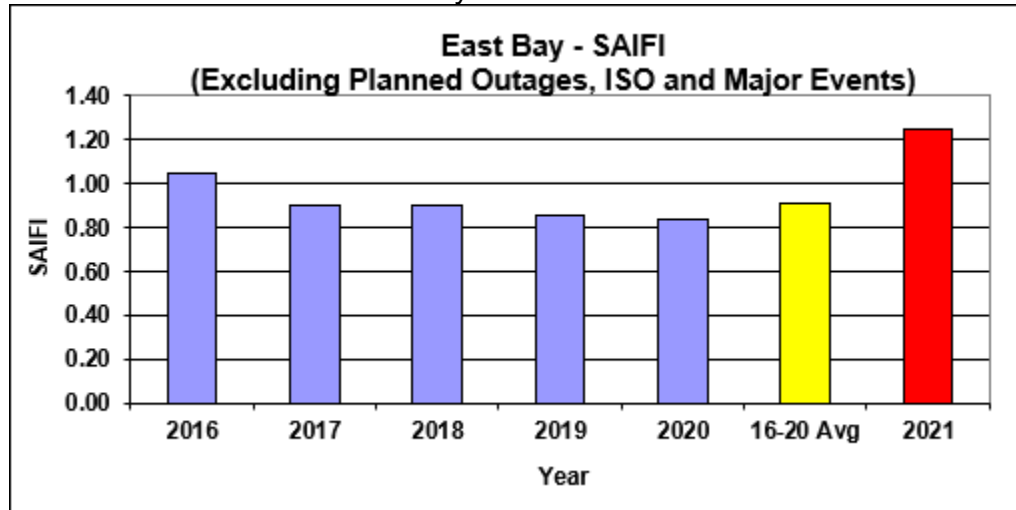
1. On July 24th, a 3rd party vehicle broke a pole and caused a breaker level outage on the Oakland X-1106 feeder. This outage contributed 3.6 customer-minutes to the division's overall SAIDI performance.
2. On July 25th, a pole fire caused a breaker level outage on El Cerrito G-1101 feeder that contributed 5.7 customer-minutes to the division's overall SAIDI performance.
3. On September 19th, a broken pole caused a breaker level outage on Wall 0401

- feeder and during the process of switching to facilitate load transfer to mitigate this outage, an operating error caused another outage on El Cerrito G-1101 feeder. These outages contributed 7.2 customer-minutes to the division's overall SAIDI performance.
4. On September 19th, a pole fire caused a breaker level outage on Richmond R-1130 feeder that contributed 3.0 customer-minutes to the division's overall SAIDI performance.
 5. On September 19th, a broken crossarm caused an interrupter level outage on Richmond R-1125 feeder that contributed 3.0 customer-minutes to the division's overall SAIDI performance.
 6. On July 13th, a section of overhead 12 kV wire served from El Cerrito G-1111 feeder broke and fell on top of 4kV primary wire served from Barrett-0402 circuit, thereby tripping the El Cerrito G-1111 feeder breaker. This outage contributed 5.6 customer-minutes to the division's overall SAIDI performance.
 7. On August 8th, a pole fire caused an outage on the Richmond R-1128 feeder that contributed 3.0 customer-minutes to the division's overall SAIDI performance.
 8. On September 19th, a pole fire caused an outage on the Richmond R-1126 feeder that contributed 2.1 customer-minutes to the division's overall SAIDI performance.
 9. On October 18th, a flashed insulator caused a breaker level outage on Oakland J-1116 feeder. This outage contributed 2.1 customer-minutes to the division's overall SAIDI performance.
 10. On September 18th, a fire pole caused a breaker level outage on the Richmond R-1127 feeder that contributed 2.0 customer-minutes to the division's overall SAIDI performance.
 11. On November 21st, a broken primary wire caused a breaker level outage on the Berkeley F-1105 distribution feeder that contributed 2.2 customer-minutes to the division's overall SAIDI performance.

East Bay Division SAIFI Performance

East Bay Division's 2021 SAIFI performance of 1.25 was 0.341 customer-interruptions (or 37.5%) higher than the previous 5-year average of 0.909 as shown in the table above and illustrated in the figure below.

Chart 175 – East Bay Division SAIFI Performance



The higher-than-average 2021 East Bay Division SAIFI was attributed to the following:

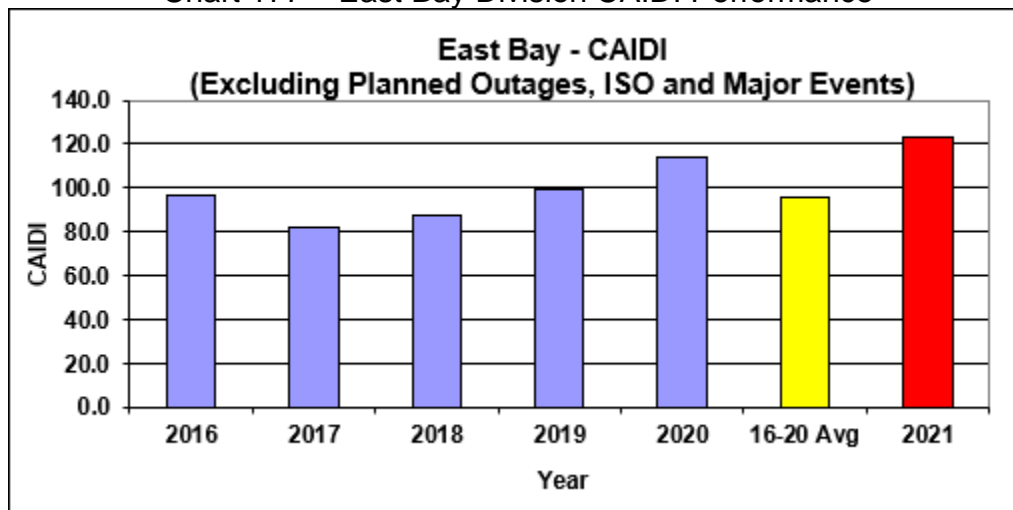
1. On July 24th, a 3rd party vehicle broke a pole and caused a breaker level outage on the Oakland X-1106 feeder. This outage contributed 0.010 customer-interruptions to the division's SAIFI performance
2. On July 25th, a pole fire caused a breaker level outage on El Cerrito G-1101 feeder. This outage contributed 0.014 customer-interruptions to the division's SAIFI performance.
3. On September 19th, a broken pole caused a breaker level outage on Wall 0401 feeder and during the process of switching to facilitate load transfer to mitigate this outage, an operating error caused another outage on El Cerrito G-1101 feeder. These outages contributed 0.052 customer-interruptions to the division's SAIFI performance.
4. On September 19th, a pole fire caused a breaker level outage on Richmond R-1130 feeder. This outage contributed 0.012 customer-interruptions to the division's SAIFI performance.
5. On September 19th, a broken crossarm caused an interrupter level outage on Richmond R-1125 feeder that contributed 0.003 customer-interruptions to the division's SAIFI performance.
6. On July 13th, a section of overhead 12 kV wire served from El Cerrito G-1111 feeder broke and fell on top of 4kV primary wire served from Barrett-0402 circuit, thereby tripping the El Cerrito G-1111 feeder breaker. This outage contributed 0.017 customer-interruptions to the division's SAIFI performance.
7. On August 8th, a pole fire caused an outage on the Richmond R-1128 feeder

- that contributed 0.013 customer-interruptions to the division’s SAIFI performance.
8. On September 19th, a pole fire caused an outage on the Richmond R-1126 feeder. This outage contributed 0.006 customer-interruptions to the division’s SAIFI performance.
 9. On October 18th, a flashed insulator caused a breaker level outage on Oakland J-1116 feeder. This outage contributed 0.021 customer-interruptions to the division’s SAIFI performance.
 10. On September 18th, a pole fire caused a breaker level outage on the Richmond R-1127 feeder. This outage contributed 0.007 customer-interruptions to the division’s SAIFI performance.
 11. On November 21st, a broken primary wire caused a breaker level outage on the Berkeley F-1105 distribution feeder. This outage contributed 0.020 customer-interruptions to the division’s SAIFI performance.

East Bay Division CAIDI Performance

East Bay Division’s 2021 CAIDI performance of 123.4 was 27.9 minutes (or 29.2%) higher than the previous 5-year average of 95.5 as shown in the table above and illustrated in the figure below.

Chart 177 – East Bay Division CAIDI Performance



The higher-than-average 2021 East Bay Division CAIDI was attributed to the above mentioned 11 outages (covered in the SAIDI performance section) and that contributed 17.0 minutes to the division’s overall CAIDI performance.

9. Fresno Division Performance Assessment

Fresno Division Performance

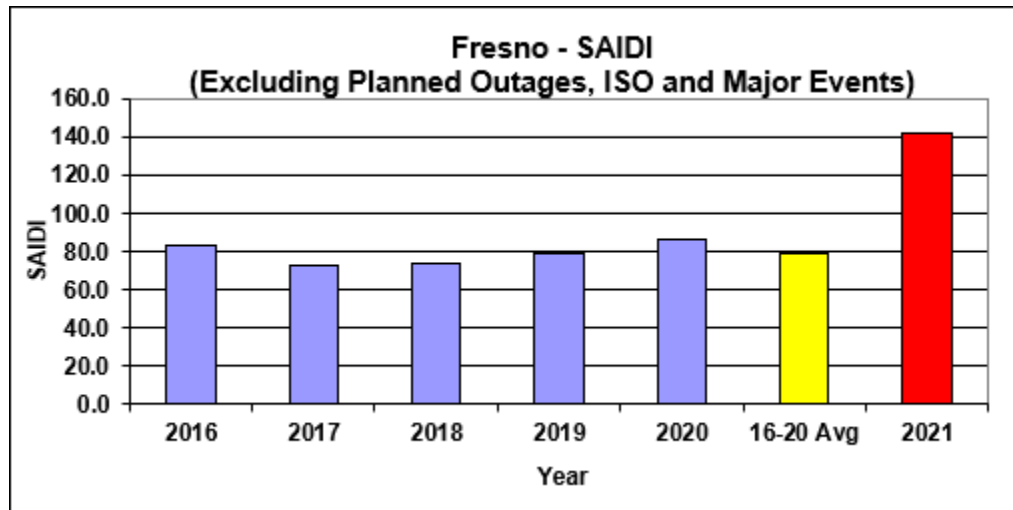
Table 14: Fresno Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2016	83.4	1.105	1.951	75.4
FRESNO	2017	72.3	0.799	1.546	90.5
FRESNO	2018	73.5	0.861	1.368	85.4
FRESNO	2019	78.8	0.828	1.477	95.2
FRESNO	2020	86.5	0.865	1.352	100.0
5-Year Average	16-20 Avg	78.9	0.892	1.539	88.5
FRESNO	2021	142.0	1.081	1.456	131.3
	%Difference	79.9%	21.2%	-5.4%	48.4%

Fresno Division SAIDI Performance

Fresno Division's 2021 SAIDI performance of 142.0 was 63.1 customer-minutes (or 79.9%) higher than the previous 5-year average of 78.9 as shown in the table above and illustrated in the figure below.

Chart 178 – Fresno Division SAIDI Performance



The higher-than-average 2021 Fresno Division SAIDI was attributed to the following:

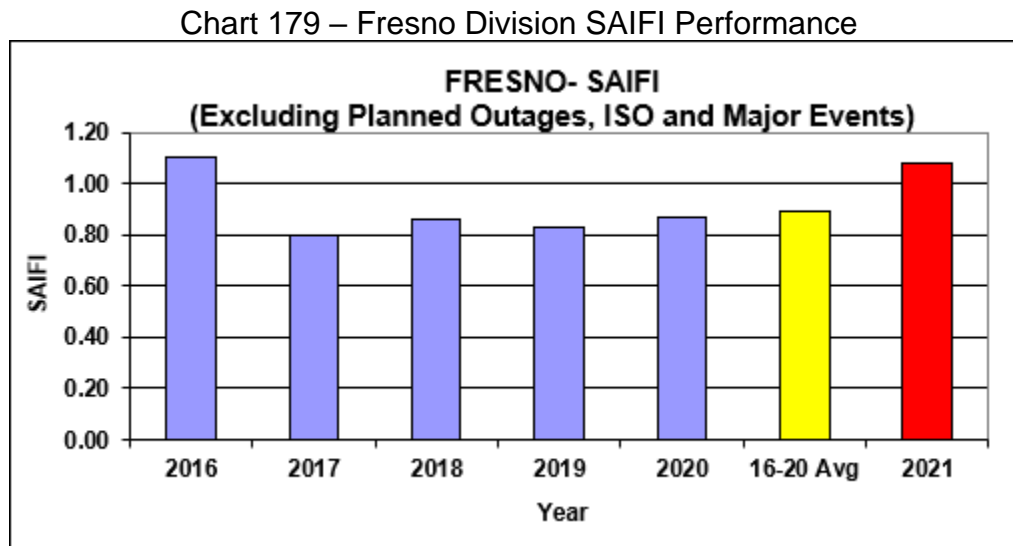
1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 9.5 customer minutes to the division's SAIDI performance.
2. On January 20th, a 3rd Party vehicle broke a pole and caused a breaker level outage on the Figarden 2110 feeder. This outage contributed 2.8 customer-minutes to the division's SAIDI.
3. On January 29th, a tree fell on to the primary line causing a recloser level outage

- on the Auberry 1101 feeder that contributed 2.7 customer-minutes to the division's SAIDI.
4. On June 19th, a 3rd party vehicle broke a transmission pole on Reedley-Orosi 70kV transmission line and caused a breaker level outage on Reedley 1104 feeder. This event also caused loss of power to Sand Creek and Dunlap substations as well as an outage on the Orosi 1104 breaker due to lack of capacity during switching. This outage contributed 6.7 customer-minutes to the division's SAIDI.
 5. On June 30th, an underground splice failed and caused a breaker level outage on the Corcoran 1108 feeder that contributed 2.2 customer-minutes to the division's SAIDI.
 6. On June 20th, an underground splice failed and caused a breaker level outage on the Figarden 2102 feeder that contributed 1.8 customer-minutes to the division's SAIDI.
 7. On July 4th, a flashover occurred at a line recloser due to a squirrel and caused a breaker level outage on the Auberry 1101 feeder. This outage contributed 1.8 customer-minutes to the division's SAIDI.
 8. On March 4th, an outage occurred at the Sanger substation due to a leaky substation transformer bushing. This outage contributed 1.7 customer-minutes to the division's SAIDI.
 9. On October 8th, a broken cross arm caused a breaker level outage on the Barton 1110 feeder that contributed 1.4 customer-minutes to the division's SAIDI.
 10. On July 12th, a failed switch caused a breaker level outage on the Woodward 2102 feeder that contributed 1.2 customer-minutes to the division's SAIDI.
 11. On June 19th, a flashover occurred in a section of the primary underground cable and caused a breaker level outage on the Figarden 2109 feeder. This event contributed 1.1 customer-minutes to the division's SAIDI.
 12. On October 8th, a wire down event as well as a pole fire event caused a breaker level outage on the Reedley 1110 feeder. This outage contributed 1.0 customer-minutes to the division's SAIDI.
 13. On December 19th, a 3rd party vehicle caused a wire down event that resulted in a breaker level outage on the Rainbow 1106 feeder. This event contributed 1.0 customer-minutes to the division's SAIDI.
 14. On April 22nd, the Auberry 1101 feeder breaker was forced open to repair a damaged section of the transmission line conductor on the Wishon -

Coppermine 70 kV transmission line. This outage contributed 0.9 customer-minutes to the division's SAIDI.

Fresno Division SAIFI Performance

Fresno Division's 2021 SAIFI performance of 1.081 was 0.189 customer-interruptions (or 21.2%) higher than the previous 5-year average of 0.892 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Fresno Division SAIFI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 0.015 customer-interruptions to the division's SAIFI performance.
2. On January 20th, a 3rd Party vehicle broke a pole and caused a breaker level outage on the Figarden 2110 feeder. This outage contributed 0.009 customer-interruptions to the division's SAIFI performance.
3. On January 29th, a tree fell on to the primary line causing a recloser level outage on the Auberry 1101 feeder that contributed 0.002 customer-interruptions to the division's SAIFI performance.
4. On June 19th, a 3rd party vehicle broke a transmission pole on the Reedley-Orosi 70kV transmission line and caused a breaker level outage on Reedley 1104 feeder. This event also caused loss of power to Sand Creek and Dunlap substations as well an outage on the Orosi 1104 breaker due to lack of capacity during switching. This outage contributed 0.016 customer-interruptions to the

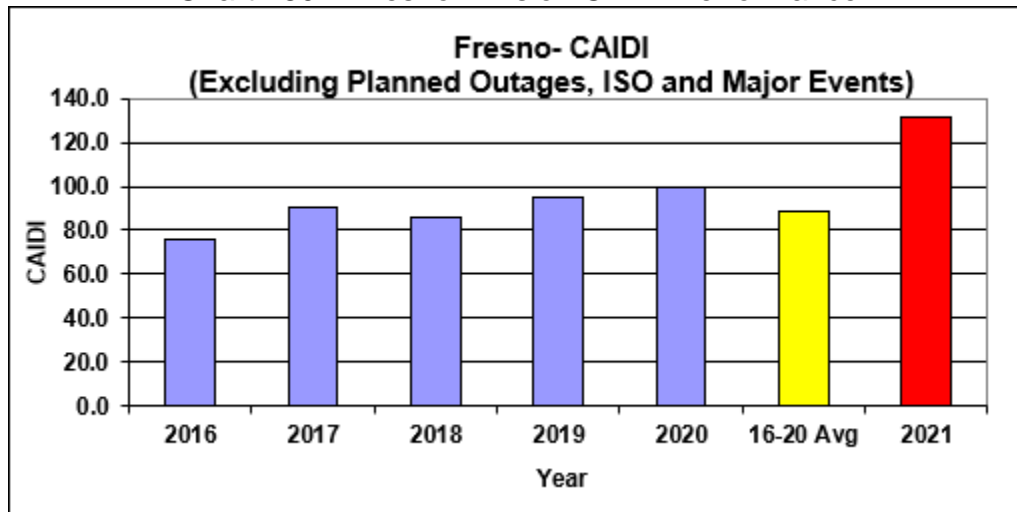
division's SAIFI performance.

5. On June 30th, an underground splice failed and caused a breaker level outage on the Corcoran 1108 feeder that contributed 0.006 customer-interruptions to the division's SAIFI performance.
6. On June 20th, an underground splice failed and caused a breaker level outage on the Figarden 2102 feeder that contributed 0.011 customer-interruptions to the division's SAIFI performance.
7. On July 4th, a flashover occurred at a line recloser due to a squirrel and caused a breaker level outage on the Auberry 1101 feeder. This outage contributed 0.007 customer-interruptions to the division's SAIFI performance.

Fresno Division CAIDI Performance

Fresno Division's 2021 CAIDI performance of 131.3 was 42.8 minutes (or 48.4%) higher than the previous 5-year average of 88.5 as shown in the table above and illustrated in the figure below.

Chart 180 – Fresno Division CAIDI Performance



The higher-than-average 2021 CAIDI performance was mainly due to the following:

1. EPSS on the distribution line equipment installed in the summer of 2021 contributed 7.1 minutes to the division's CAIDI performance.
2. On January 20th, a 3rd Party vehicle broke a pole and caused a breaker level outage on the Figarden 2110 feeder.
3. On January 29th, a tree fell on to the primary line causing a recloser level outage on the Auberry 1101 feeder.

4. On June 19th, a 3rd party vehicle broke a transmission pole on Reedley-Orosi 70kV transmission line and caused a breaker level outage on the Reedley 1104 feeder. This event also caused loss of power to Sand Creek and Dunlap substations as well an outage on Orosi 1104 breaker due to lack of capacity during switching.
5. On June 30th, an underground splice failed and caused a breaker level outage on the Corcoran 1108 feeder
6. On June 20th, an underground splice failed and caused a breaker level outage on the Figarden 2102 feeder.
7. On July 4th, a flashover occurred at a line recloser due a squirrel and caused a breaker level outage on the Auberry 1101 feeder.
8. On March 4th, an outage occurred at the Sanger substation due to a leaky substation transformer bushing.
9. On October 8th, a broken cross arm caused a breaker level outage on the Barton 1110 feeder.
10. On July 12th, a failed switch caused a breaker level outage on the Woodward 2102 feeder.

These outages contributed 12.7 minutes to the division's overall CAIDI performance.

10. Humboldt Division Performance Assessment

Humboldt Division Performance

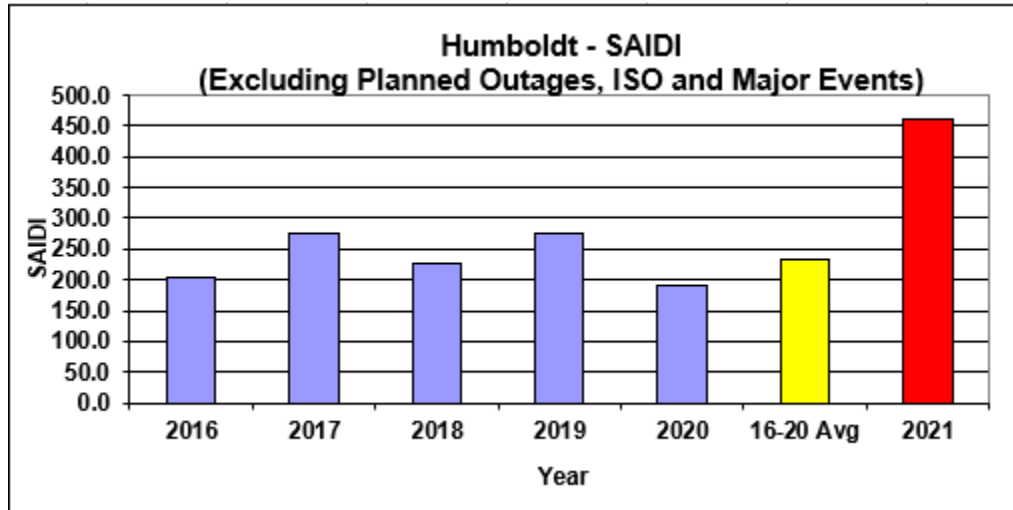
Table 15: Humboldt Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2016	203.0	1.537	1.995	132.1
HUMBOLDT	2017	275.1	1.306	2.280	210.6
HUMBOLDT	2018	225.9	1.789	1.502	126.3
HUMBOLDT	2019	274.4	1.616	1.850	169.7
HUMBOLDT	2020	191.6	1.336	1.181	143.5
5-Year Average	16-20 Avg	234.0	1.517	1.761	154.3
HUMBOLDT	2021	461.3	2.005	1.410	230.0
	%Difference	97.1%	32.2%	-19.9%	49.1%

Humboldt Division SAIDI Performance

Humboldt Division's 2021 SAIDI performance of 461.3 was 227.3 customer-minutes (or 97.1%) higher than the previous 5-year average of 234.0 as shown in the table above and illustrated in the figure below.

Chart 181 – Humboldt Division SAIDI Performance



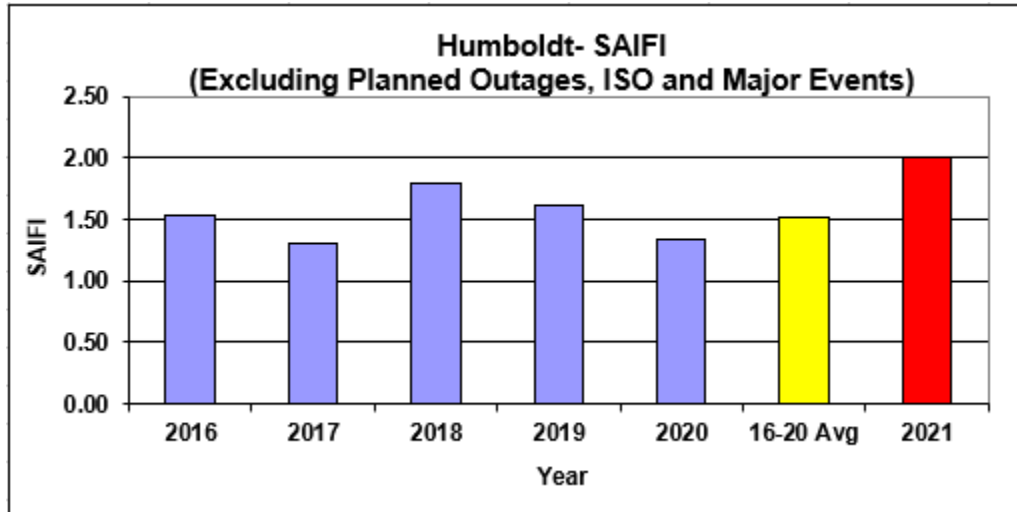
The higher-than-average 2021 Humboldt Division SAIDI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 72.2 customer minutes to the division’s SAIDI performance.
2. On December 28th, an unknown cause resulted in a transmission relay operation and loss of power to the Garberville and Fruitland substations. This outage contributed 52.3 customer-minutes to the division’s SAIDI.
3. On March 30th, a tree fell into the Laytonville-Willits 60kV transmission line causing loss of power to the Garberville substation. This outage contributed 5.6 customer-minutes to the division’s SAIDI.
4. On January 10th, a failed overhead splice caused a recloser level outage on the Eel River 1102 feeder. This outage contributed 7.1 customer-minutes to the division’s SAIDI.
5. On March 9th, a tree fell into the Laytonville-Covelo 60kV transmission line and caused a loss of power to the Covelo substation. This outage contributed 6.9 customer-minutes to the division’s SAIDI.

Humboldt Division SAIFI Performance

Humboldt Division’s 2021 SAIFI performance of 2.005 was 0.488 customer-interruptions (or 32.2%) higher than the previous 5-year average of 1.517 as shown in the table above and illustrated in the figure below.

Chart 182 – Humboldt Division SAIFI Performance



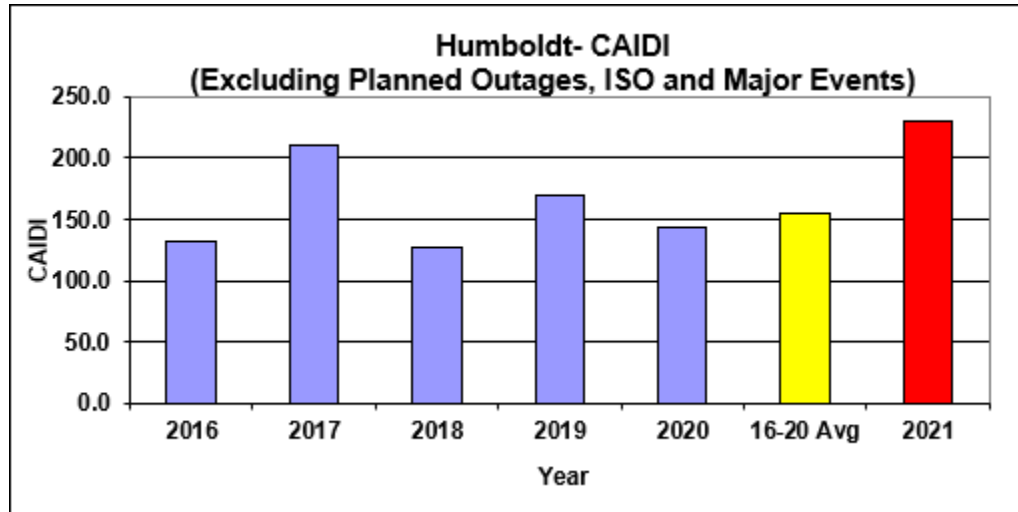
The higher-than-average 2021 Humboldt Division SAIFI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 0.104 customer-interruptions to the division’s SAIFI performance.
2. On December 28th, an outage due to an unknown cause resulted in a transmission relay operation and loss of power to the Garberville and Fruitland substation. This outage contributed 0.028 customer-interruptions to the division’s SAIFI performance.
3. On March 30th, a tree fell into the Laytonville-Willits 60kV transmission line causing loss of power to the Garberville substation. This outage contributed 0.023 customer-interruptions to the division’s SAIFI performance.
4. On August 10th, a failed overhead splice caused a breaker level outage on the Arcata 1122 feeder. This outage contributed 0.024 customer-interruptions to the division’s SAIFI performance.
5. On December 6th, a 3rd party vehicle broke a pole and caused a breaker level outage on the Humboldt Bay 1102 feeder. This outage contributed 0.020 customer-interruptions to the division’s SAIFI performance

Humboldt Division CAIDI Performance

Humboldt Division’s 2021 CAIDI performance of 230.0 was 75.7 minutes (or 49.1%) higher than the previous 5-year average of 154.3 as shown in the table above and illustrated in the figure below.

Chart 183 – Humboldt Division CAIDI Performance



The higher-than-average 2021 CAIDI performance was mainly due to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 25.4 minutes to the division’s CAIDI performance.
2. On December 12th, an outage due to an unknown cause resulted in a transmission relay operation and loss of power to the Garberville substation. This outage contributed 23.2 minutes to the division’s overall CAIDI.

6. Kern Division Performance Assessment

Kern Division Performance

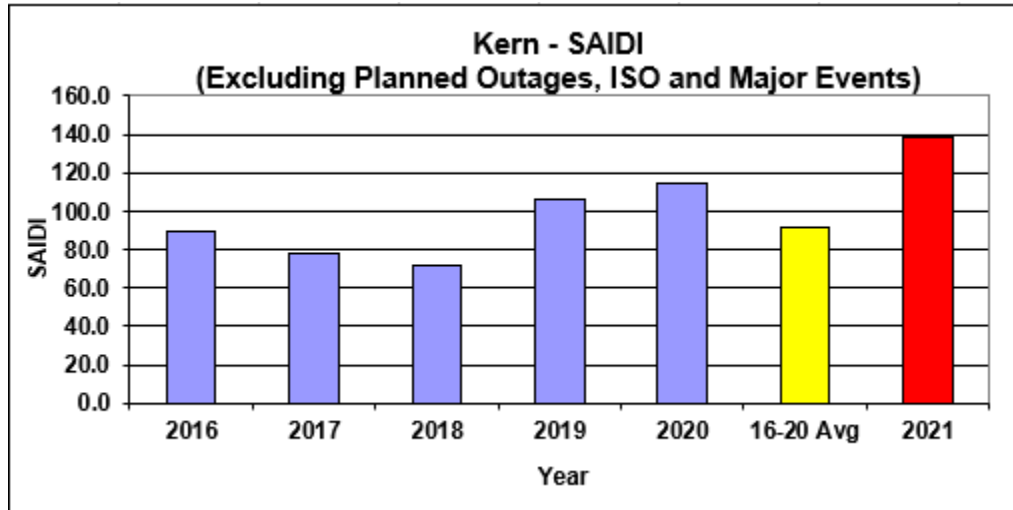
Table 16: Kern Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2016	89.2	0.916	2.066	97.4
KERN	2017	78.1	0.733	1.403	106.5
KERN	2018	71.6	0.783	1.720	91.4
KERN	2019	106.6	1.101	1.743	96.8
KERN	2020	114.6	1.060	1.831	108.1
5-Year Average	16-20 Avg	92.0	0.919	1.752	100.2
KERN	2021	138.4	1.101	1.503	125.7
	%Difference	50.4%	19.8%	-14.3%	25.5%

Kern Division SAIDI Performance

Kern Division’s 2021 SAIDI performance of 138.4 is 46.4 customer-minutes (or 50.4%) higher than the previous 5-year average of 92.0 as shown in the table above and illustrated below.

Chart 184 – Kern Division SAIDI Performance

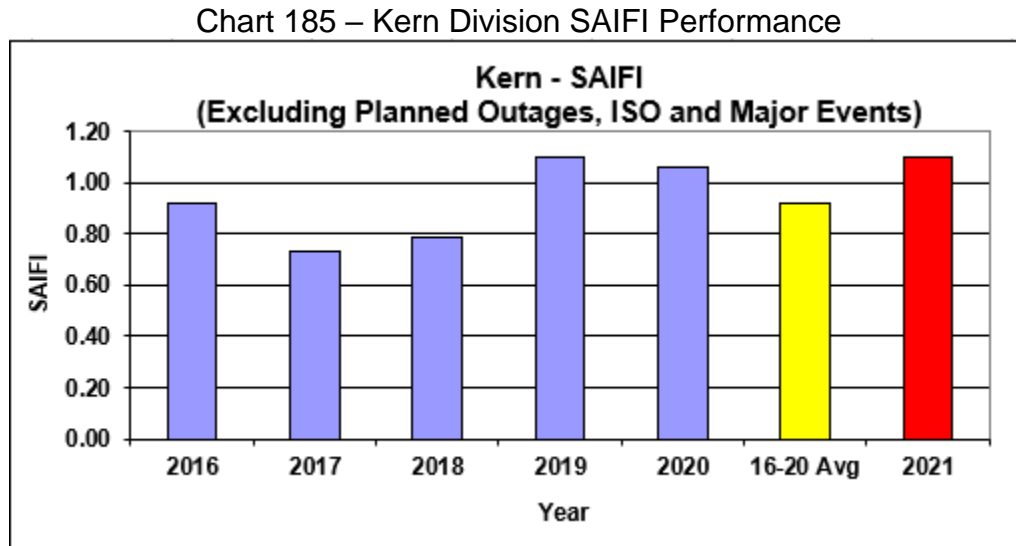


The higher-than-average 2021 SAIDI performance is due the following outage events:

1. On July 13th, a switch inside a pad mounted enclosure failed on the Tevis 21kV distribution circuit while a crew was working on the device, which caused the transmission breaker to operate. This outage contributed 8.6 customer-minutes to the division’s SAIDI.
2. On January 10th, a 3rd party vehicle hit a transmission pole and brought the wire down causing a substation level outage at the McFarland Substation. This outage contributed 5.1 customer-minutes to the division’s SAIDI.
3. On September 8th, a 3rd party vehicle hit a distribution pole carrying two feeders and brought the wire down on both feeders causing breaker level outages on the Bakersfield 1106 and Bakersfield 1116 feeders. This outage contributed 3.6 customer-minutes to the division’s SAIDI.
4. On September 20th, a PSPS outage on the Tejon 1102 feeder contributed 2.5 customer-minutes to the division’s SAIDI.
5. On February 7th, a 3rd party vehicle hit a transmission pole and brought the wire down causing a substation level outage at the McFarland Substation. This outage contributed 2.4 customer-minutes to the division’s SAIDI.
6. On February 7th, a 3rd party vehicle hit a transmission pole and brought the wire down causing a substation level outage at the Wasco Substation. This outage contributed 2.1 customer-minutes to the division’s SAIDI.

Kern Division SAIFI Performance

Kern Division's 2021 SAIFI performance of 1.101 is 0.182 customer-interruptions (or 19.8%) higher than the previous 5-year average of 0.919 as shown in the table above and illustrated below.



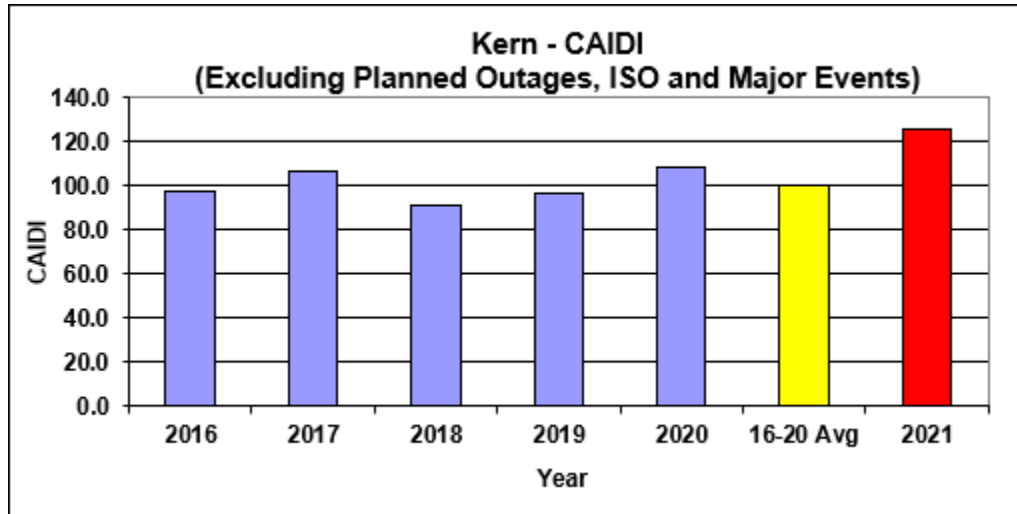
The higher-than-average 2021 SAIFI performance is due the following outage events:

1. On July 13th, a switch inside a pad mounted enclosure failed on the Tevis 21kV distribution circuit while a crew was working on the device, which caused the transmission breaker to operate. This outage contributed 0.031 customer-interruptions to the division's SAIFI.
2. On January 10th, a 3rd party vehicle hit a transmission pole and brought the wire down causing a substation level outage at the McFarland Substation. This outage contributed 0.023 customer-interruptions to the division's SAIFI.

Kern Division CAIDI Performance

Kern Division's 2021 CAIDI performance of 125.7 was 25.5 minutes (or 25.5%) higher than the previous 5-year average of 100.2 as shown in the table above and illustrated in the figure below.

Chart 186 – Kern Division CAIDI Performance



The higher-than-average 2021 CAIDI performance was due to the outages experienced as described below:

1. On July 13th, a switch inside a pad mounted enclosure failed on the Tevis 21kV distribution circuit while a crew was working on the device, which caused the transmission breaker to operate.
2. On January 10th, a 3rd party vehicle hit a transmission pole and brought the wire down causing a substation level outage at the McFarland Substation.
3. On September 8th, a 3rd party vehicle hit a distribution pole carrying two feeders and brought the wire down on both feeders causing breaker level outages on the Bakersfield 1106 and Bakersfield 1116 feeders.
4. On September 20th, a PSPS outage on the Tejon 1102 feeder.

These four outages contributed 10.2 minutes to the division's overall CAIDI.

7. Los Padres Division Performance Assessment

Los Padres Division Performance

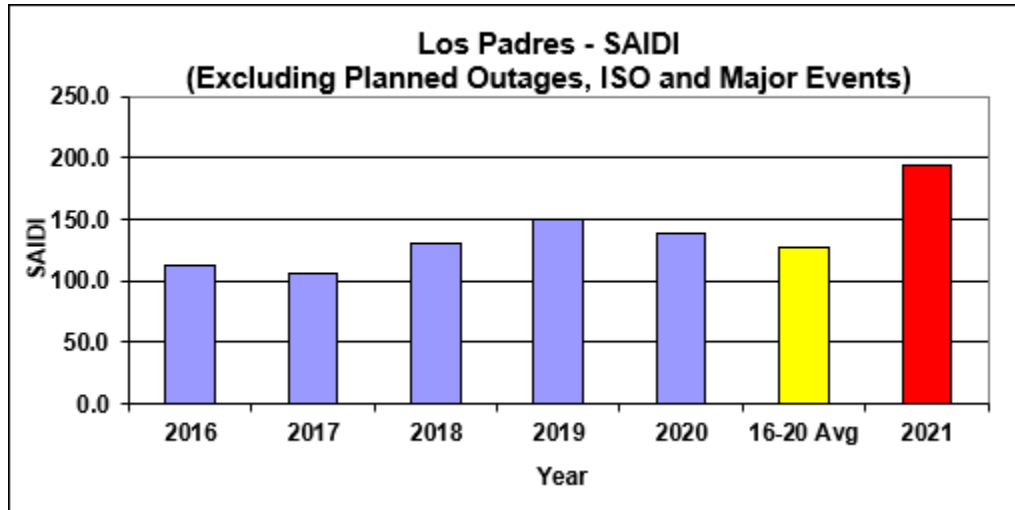
Table 17: Los Padres Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2016	112.3	1.147	1.671	97.9
LOS PADRES	2017	106.7	0.944	1.442	113.0
LOS PADRES	2018	130.5	1.195	1.010	109.3
LOS PADRES	2019	150.7	1.188	0.798	126.8
LOS PADRES	2020	139.3	1.141	0.836	122.1
5-Year Average	16-20 Avg	127.9	1.123	1.151	113.9
LOS PADRES	2021	195.0	1.125	1.313	173.4
	%Difference	52.4%	0.1%	14.0%	52.3%

Los Padres Division SAIDI Performance

Los Padres Division's 2021 SAIDI performance of 195.0 was 67.1 customer-minutes (or 52.4%) higher than the previous 5-year average of 127.9 as shown in the table above and illustrated in the figure below.

Chart 187 – Los Padres Division SAIDI Performance



The higher-than-average 2021 Los Padres Division SAIDI was attributed to the following:

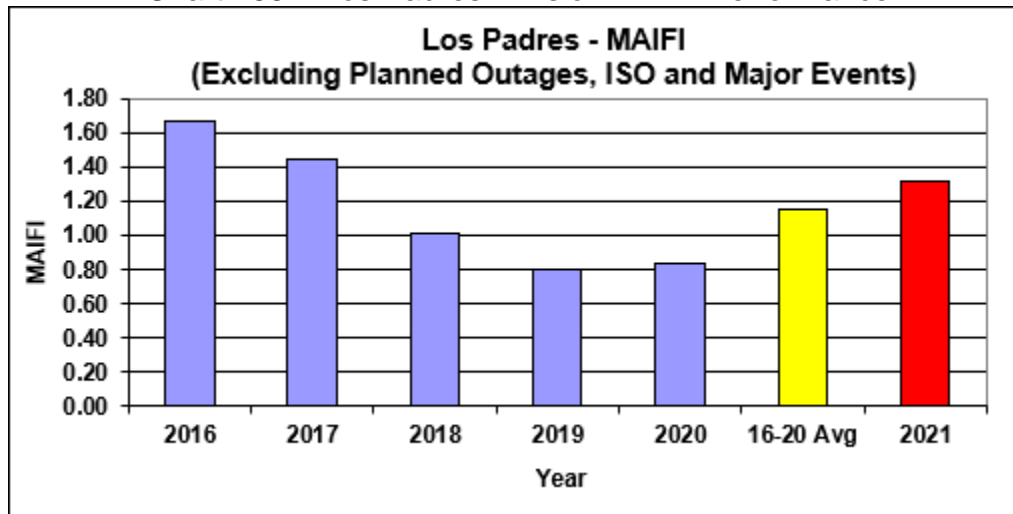
1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 46.7 minutes to the division's SAIDI performance.

Los Padres Division MAIFI Performance

Los Padres Division's 2021 MAIFI performance of 1.313 was 0.161 customer-interruptions (or 14.0%) higher than the previous 5-year average of 1.151 as

shown in the table above and illustrated in the figure below.

Chart 188 – Los Padres Division MAIFI Performance

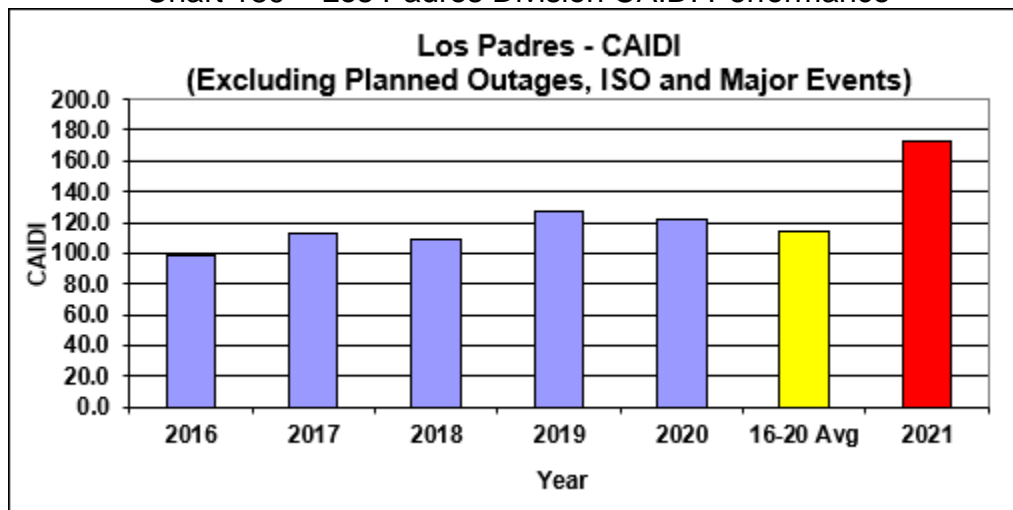


The higher-than-average 2021 Los Padres Division MAIFI was attributed to momentary outages on the distribution line serving Mesa substation. These outages contributed 0.036 customer-interruptions to the division's MAIFI performance.

Los Padres Division CAIDI Performance

Los Padres Division's 2021 CAIDI performance of 173.4 was 59.5 minutes (or 52.3%) higher than the previous 5-year average of 113.9 as shown in the table above and illustrated in the figure below.

Chart 189 – Los Padres Division CAIDI Performance



The higher-than-average 2021 Los Padres Division CAIDI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 27.6 minutes to the division’s overall CAIDI performance.

8. Mission Division Performance Assessment

Mission Division Performance

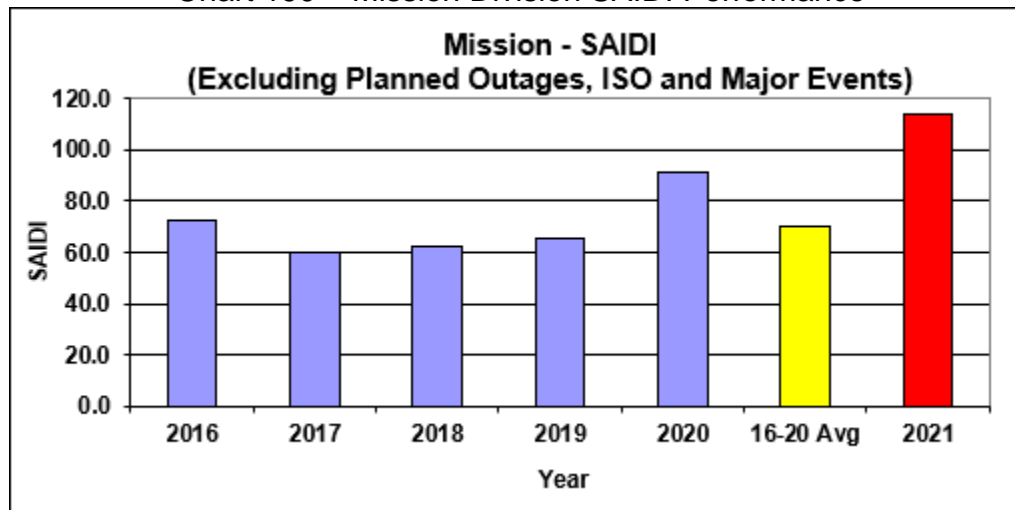
Table 18: Mission Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2016	72.7	0.702	0.916	103.7
MISSION	2017	60.2	0.602	1.002	99.9
MISSION	2018	62.0	0.644	0.815	96.4
MISSION	2019	65.8	0.669	0.693	98.4
MISSION	2020	91.1	0.766	1.060	119.0
5-Year Average	16-20 Avg	70.4	0.677	0.897	104.0
MISSION	2021	113.5	0.957	0.909	118.6
	%Difference	61.3%	41.5%	1.3%	14.0%

Mission Division SAIDI Performance

Mission Division’s 2021 SAIDI performance of 113.5 was 43.2 customer-minutes (or 61.3%) higher than the previous 5-year average of 70.4 as shown in the table above and illustrated in the figure below.

Chart 190 – Mission Division SAIDI Performance



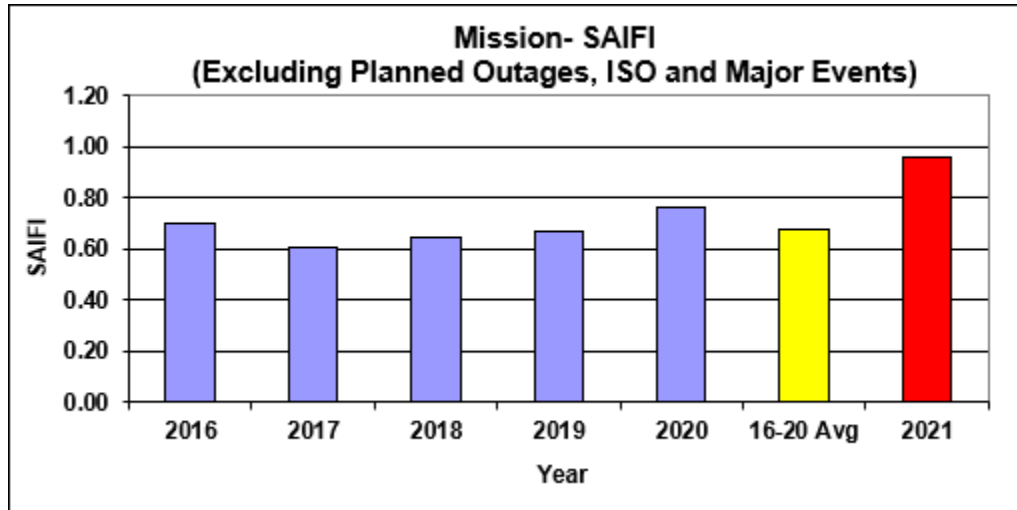
The higher-than-average 2021 Mission Division SAIDI was attributed to the following:

1. On May 15th, a flashed insulator caused a pole fire which resulted in a breaker level outage on the San Leandro 1100 feeder. This outage contributed 2.9 customer-minutes to the division’s SAIDI.
2. On October 20th, a flashed insulator caused a pole fire which resulted in a recloser level outage on the Newark 2103 feeder. This outage contributed 3.1 customer-minutes to the division’s SAIDI performance.
3. On June 19th, a substation level outage occurred on the Newark and Jarvis substations due to a transmission switch failure while restoring a planned outage on the Newark 115 kV bus. This outage contributed 16.5 customer-minutes to the division’s SAIDI performance.

Mission Division SAIFI Performance

Mission Division’s 2021 SAIFI performance of 0.957 was 0.281 customer-interruptions (or 41.5%) higher than the previous 5-year average of 0.677 as shown in the table above and illustrated in the figure below.

Chart 191 – Mission Division SAIFI Performance



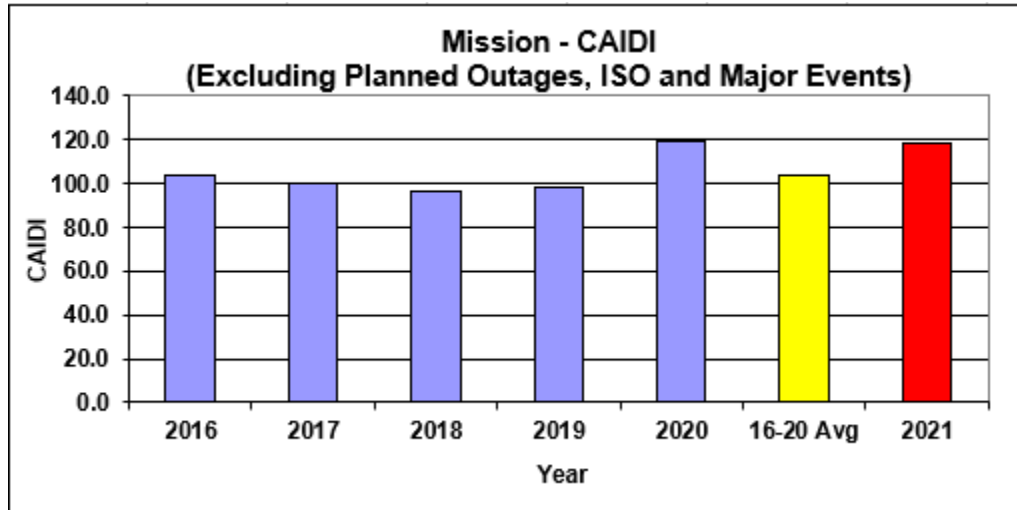
The higher-than-average 2021 Mission Division SAIFI was attributed to the following:

1. On June 19th, a substation level outage occurred on the Newark and Jarvis substations due to a transmission switch failure while restoring a planned outage on the Newark 115 kV bus. This outage contributed 0.126 customer-interruptions to the division’s SAIFI performance.

Mission Division CAIDI Performance

Mission Division's 2021 CAIDI performance of 118.6 was 14.6 minutes (or 14.0%) higher than the previous 5-year average of 104.0 as shown in the table above and illustrated in the figure below.

Chart 192 – Mission Division CAIDI Performance



The higher-than-average 2021 Mission Division CAIDI was attributed to the following:

1. On October 20th, a breaker level outage occurred on the Newark 1103 feeder while restoring a planned outage in the rain.
2. On October 20th, a flashed insulator caused a pole fire which resulted in a recloser level outage on the Newark 2103 feeder. This outage contributed 3.1 customer-minutes to the division's SAIDI performance.

These outages contributed 3.7 minutes to the division's overall CAIDI.

9. North Bay Division Performance Assessment

North Bay Division Performance

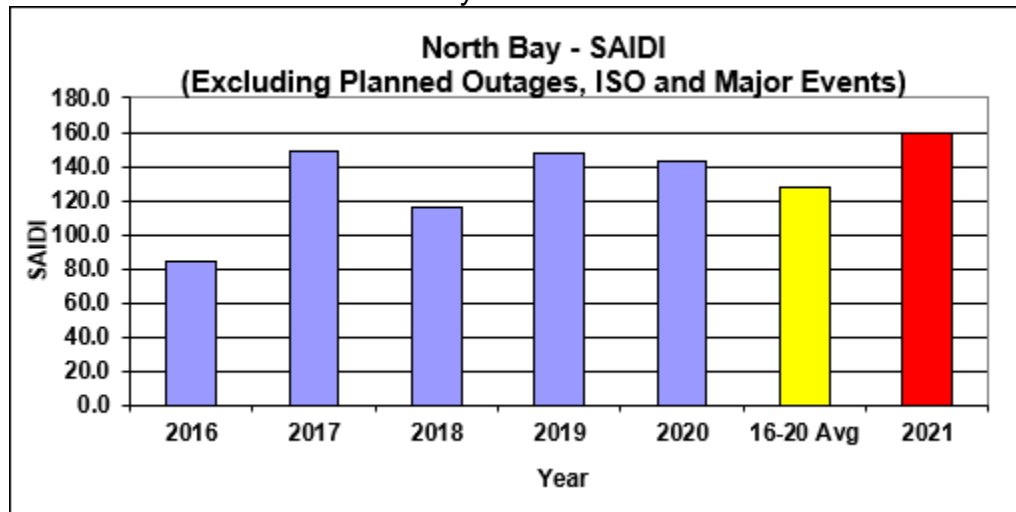
Table 19: North Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2016	83.9	0.767	1.209	109.4
NORTH BAY	2017	148.5	0.955	1.832	155.5
NORTH BAY	2018	116.3	0.921	1.771	126.3
NORTH BAY	2019	148.2	1.312	1.647	112.9
NORTH BAY	2020	143.3	1.235	2.093	116.0
5-Year Average	16-20 Avg	128.0	1.038	1.710	123.4
NORTH BAY	2021	160.0	1.063	1.548	150.5
	%Difference	25.0%	2.4%	-9.5%	22.0%

North Bay Division SAIDI Performance

North Bay Division's 2021 SAIDI performance of 160.0 was 32.0 customer-minutes (or 25.0%) higher than the previous 5-year average of 128.0 as shown in the table above and illustrated in the figure below.

Chart 193 – North Bay Division SAIDI Performance



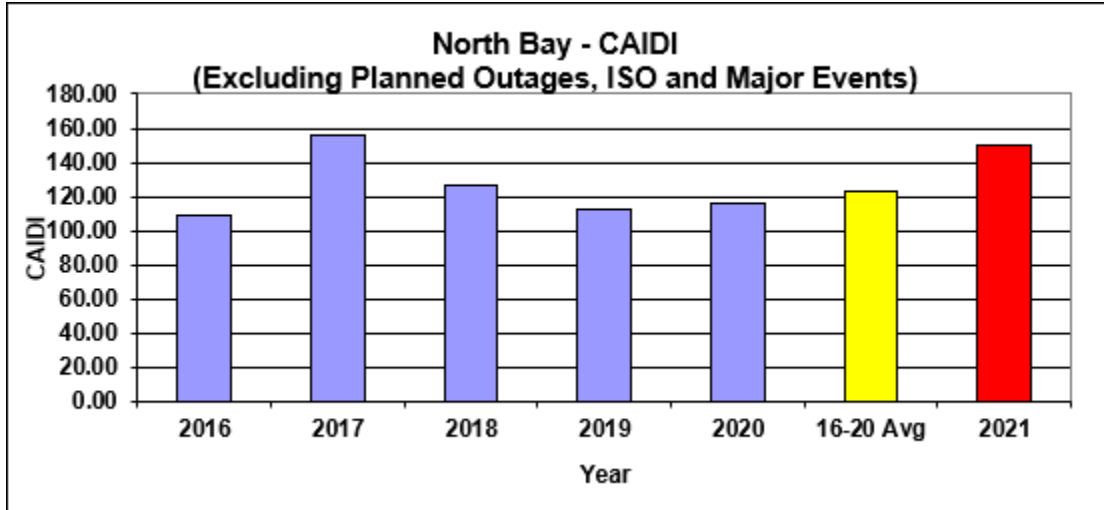
The higher-than-average 2021 North Bay Division SAIDI was attributed to the following outage events:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 19.0 minutes to the division's SAIDI performance.

North Bay Division CAIDI Performance

North Bay Division’s 2021 CAIDI performance of 150.5 was 27.1 minutes (or 22.0%) higher than the previous 5-year average of 123.4 as shown in the table above and illustrated in the figure below.

Chart 194 – Mission Division CAIDI Performance



The higher-than-average 2021 North Bay Division CAIDI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 15.6 minutes to the division’s overall CAIDI performance.

10. North Valley Division Performance Assessment

North Valley Division Performance

Table 20: North Valley Division Performance

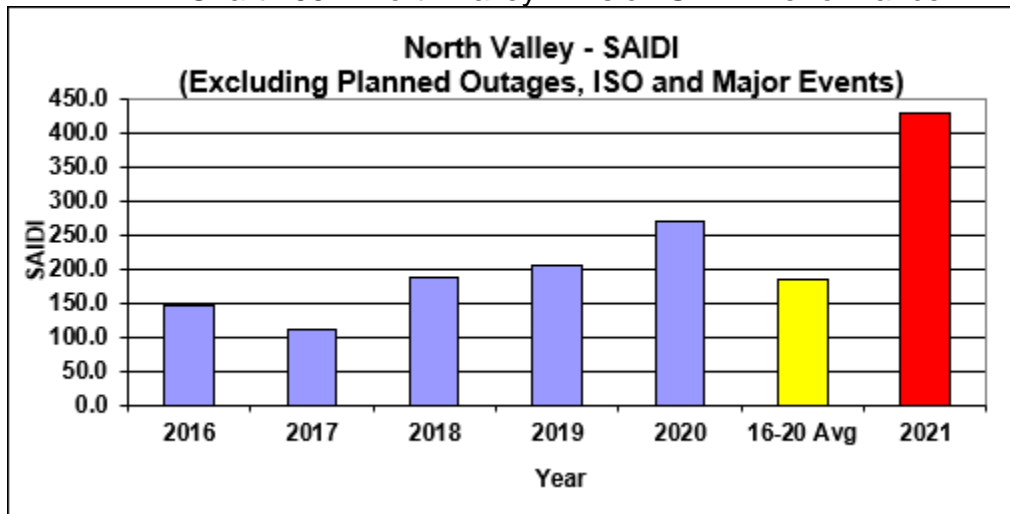
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2016	146.4	1.128	1.937	129.8
NORTH VALLEY	2017	112.3	0.863	2.007	130.2
NORTH VALLEY	2018	187.1	1.364	1.325	137.2
NORTH VALLEY	2019	205.0	1.506	1.458	136.1
NORTH VALLEY	2020	269.0	1.546	1.369	174.0
5-Year Average	16-20 Avg	184.0	1.281	1.619	143.6
NORTH VALLEY	2021	427.7	1.752	2.185	244.1
	%Difference	132.5%	36.7%	34.9%	70.0%

North Valley Division SAIDI Performance

North Valley Division’s 2021 SAIDI performance of 427.7 was 243.7 customer-minutes (or 132.5%) higher than the previous 5-year average of 184.0 as shown

in the table above and illustrated in the figure below.

Chart 195 – North Valley Division SAIDI Performance



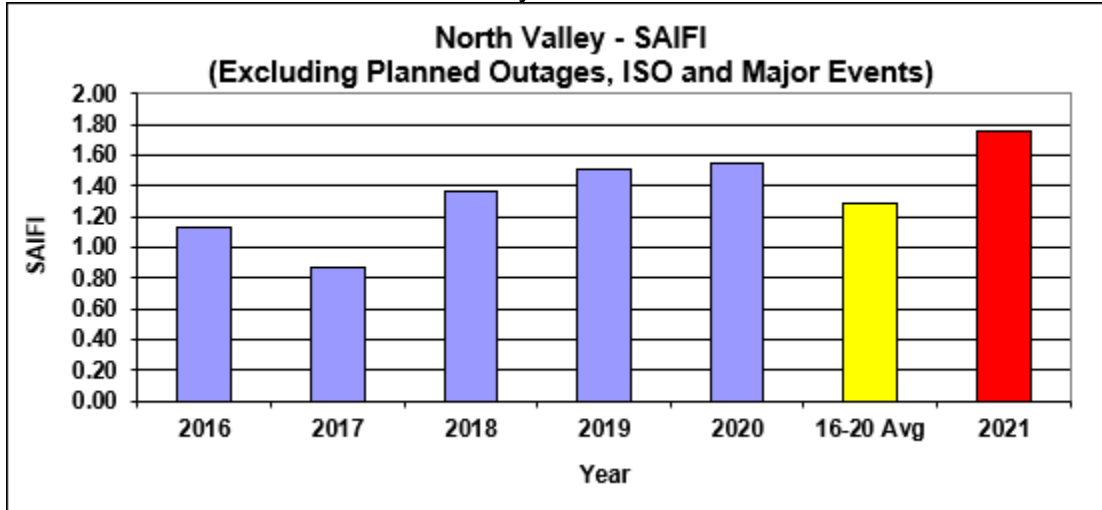
The higher-than-average 2021 North Valley Division SAIDI was attributed to the following outage events:

1. On July 13, 2021, PG&E experienced an outage on its Bucks Creek 1101 12kV overhead distribution line near Cresta Dam. Upon arrival at Fuse 17733, up the hill from Cresta Dam, PG&E's troubleman observed that two fuses had operated, a tree leaning against the line, and a fire near the base of the tree, which would become the Dixie Fire. The fire spread over 500 acres in the North Valley division and rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fire remains under investigation. These events contributed 130 customer minutes to the system's SAIDI performance on July 20th, 2021.

North Valley Division SAIFI Performance

North Valley Division's 2021 SAIFI performance of 1.752 was 0.471 customer-interruptions (or 36.7%) higher than the previous 5-year average of 1.281 as shown in the table above and illustrated in the figure below.

Chart 196 – North Valley Division SAIFI Performance



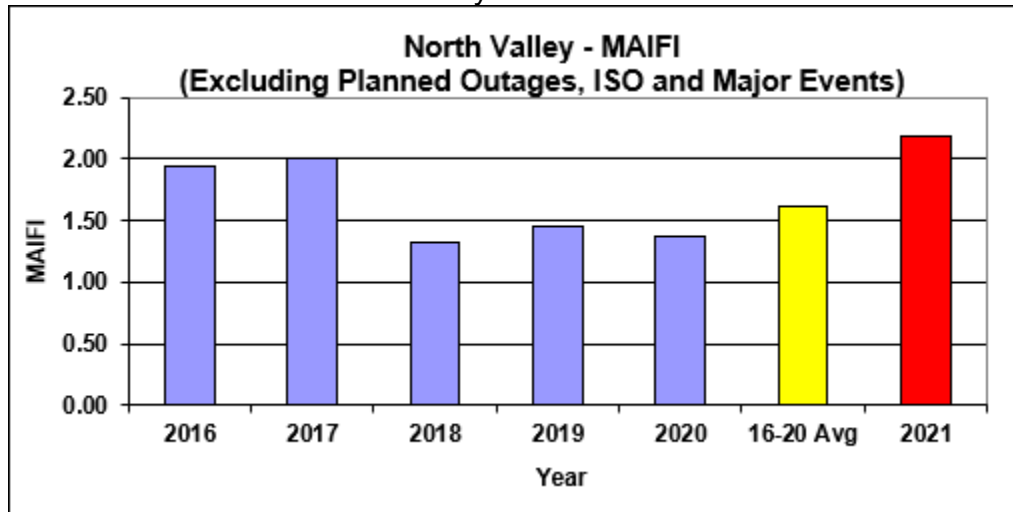
The higher-than-average 2021 North Valley Division SAIFI was attributed to the following:

1. The Dixie Fire related outage events contributed 0.034 customer-interruptions to the division’s SAIFI performance.

North Valley Division MAIFI Performance

North Valley Division’s 2021 MAIFI performance of 2.185 was 0.565 customer-interruptions (or 34.9%) higher than the previous 5-year average of 1.619 as shown in the table above and illustrated in the figure below.

Chart 197 – North Valley Division MAIFI Performance



The higher-than-average 2021 North Valley Division MAIFI was attributed to the following momentary outages:

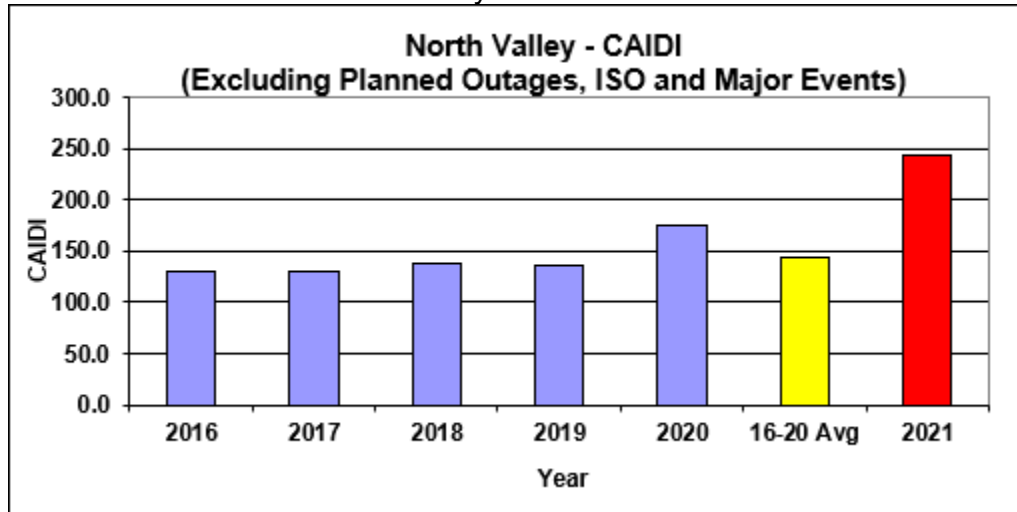
1. The loss of Corning substation resulting from a lightning strike on January 4th.
2. Two operations on a recloser located on the Cottonwood 1102 feeder while restoring service after a planned outage on June 14th.
3. On July 24th, a substation level operation at the Big Meadows substation while placing that substation on an alternate source due to the Dixie fire event.
4. On July 25th, a 3rd party vehicle hit a pole and caused multiple breaker level operations on the Chico B 1101 feeder.
5. On October 9th, a broken splice brought the distribution line down on the Chico B-1101 feeder that resulted in a breaker operation.
6. On July 21st, a strong wind event brought multiple transmission poles down causing an outage on the Butte-Sycamore Creek 115 kV transmission line that affected the Nord Substation.
7. On July 31st, a momentary outage occurred on to Sycamore Creek 1101 feeder due to an unknown cause which resulted in an operation by the breaker.
8. On December 12th, a momentary outage occurred on the Red Bluff 1104 feeder due to an unknown cause that resulted in an operation by the breaker.
9. On April 19th, a momentary outage occurred on to Wyandotte 1110 feeder due to an unknown cause that resulted in an operation by the breaker.
10. On March 19th, a momentary outage occurred on to Wyandotte 1103 feeder due to a malfunctioning recloser.
11. On April 19th, a momentary outage occurred on to Wyandotte 1107 feeder due to an unknown cause which resulted in an operation by the breaker.

These outages contributed 0.260 customer-interruptions to the division's MAIFI performance.

North Valley Division CAIDI Performance

North Valley Division's 2021 CAIDI performance of 244.1 was 100.5 minutes (or 70.0%) higher than the previous 5-year average of 143.6 as shown in the table above and illustrated in the figure below.

Chart 198 – North Valley Division CAIDI Performance



The higher-than-average 2021 North Valley Division CAIDI is attributed to the Dixie fire events that contributed 70.8 minutes to the division’s overall CAIDI.

11. Peninsula Division Performance Assessment

Peninsula Division Performance

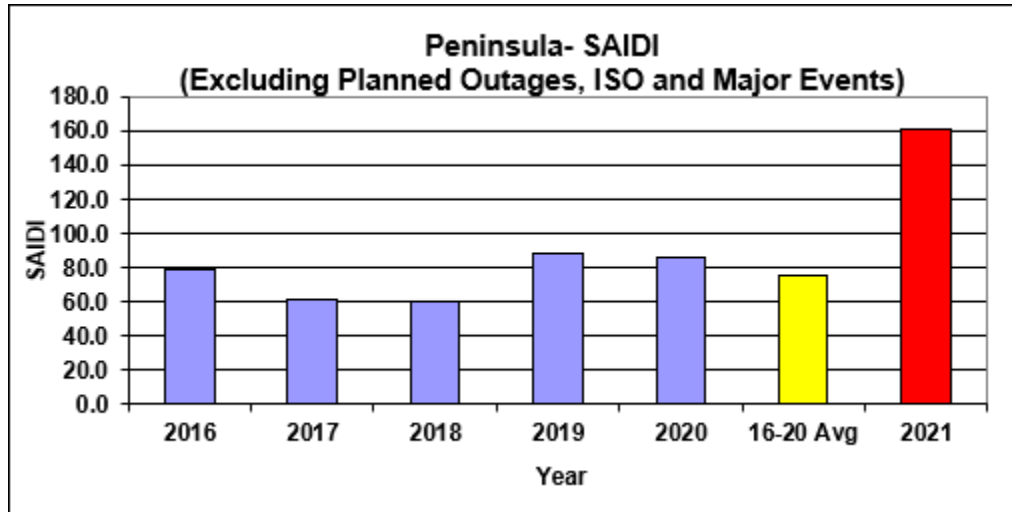
Table 21: Peninsula Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2016	78.8	0.905	1.195	87.2
PENINSULA	2017	61.5	0.640	1.176	96.0
PENINSULA	2018	60.5	0.806	1.204	75.0
PENINSULA	2019	88.5	0.816	0.983	108.4
PENINSULA	2020	85.5	0.855	1.042	100.0
5-Year Average	16-20 Avg	75.0	0.804	1.120	93.2
PENINSULA	2021	161.2	1.068	0.944	150.9
	%Difference	115.0%	32.8%	-15.7%	62.0%

Peninsula Division SAIDI Performance

Peninsula Division’s 2021 SAIDI performance of 161.2 was 86.2 customer-minutes (or 115.0%) higher than the previous 5-year average of 75.0 as shown in the table above and illustrated in the figure below.

Chart 199 – Peninsula Division SAIDI Performance

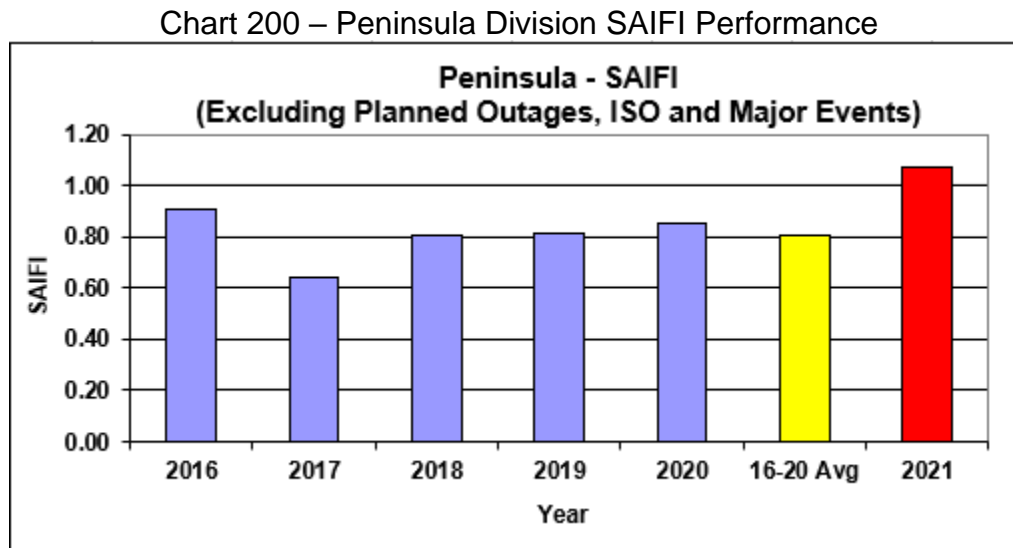


The higher-than-average 2021 Peninsula Division SAIDI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 43.1 minutes to the division's SAIDI performance.
2. On August 29th, an underground distribution transformer failure caused a fuse level outage on the Sneath Lane 1102 feeder. This event contributed 2.0 customer-minutes to the division's SAIDI performance.
3. On February 15th, a tree branch fell into our distribution line and caused a recloser level outage on the Belmont 1102 feeder. This event contributed 1.9 customer-minutes to the division's SAIDI performance.
4. On May 4th, a tree branch fell into the distribution line and caused a recloser level outage on the Bellehaven 1106 feeder. This event contributed 1.5 customer-minutes to the division's SAIDI performance.
5. On July 10th, a 3rd party vehicle broke a pole causing a breaker level outage on the Belmont 1110 feeder. This event contributed 1.5 customer-minutes to the division's SAIDI performance.
6. On May 19th, the feeder breaker on the Burlingame 403 caused an outage due to an unknown cause. This event contributed 1.4 customer-minutes to the division's SAIDI performance.
7. On October 8th, a jumper flashed and caused a recloser level outage on the SF Martin 1105 feeder. This event contributed 0.6 customer-minutes to the division's SAIDI performance.

Peninsula Division SAIFI Performance

Peninsula Division's 2021 SAIFI performance of 1.068 was 0.264 customer-interruptions (or 32.8%) higher than the previous 5-year average of 0.804 as shown in the table above and illustrated in the figure below.



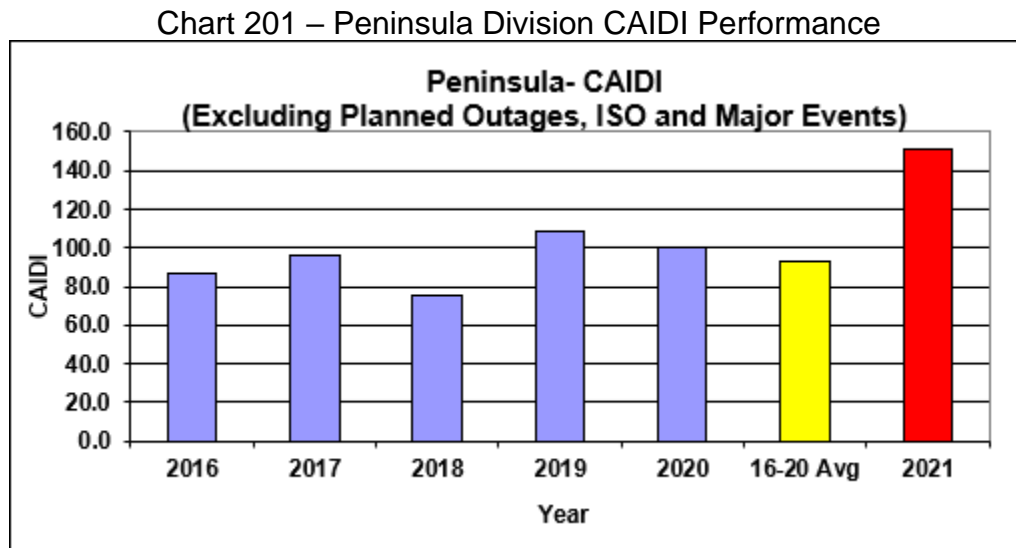
The higher-than-average 2021 Peninsula Division SAIFI was attributed to the following:

1. EPSS installed on the distribution line equipment in the summer of 2021 contributed 0.048 customer-interruptions to the division's SAIFI performance.
2. On August 29th, an underground distribution transformer failure caused a fuse level outage on the Sneath Lane 1102 feeder. This event contributed 0.004 customer-interruptions to the division's SAIFI performance.
3. On February 15th, a tree branch fell into the distribution line and caused a recloser level outage on the Belmont 1102 feeder. This event contributed 0.004 customer-minutes to the division's SAIDI performance.
4. On May 4th, a tree branch fell into the distribution line and caused a recloser level outage on the Bellehaven 1106 feeder. This event contributed 0.011 customer-interruptions to the division's SAIFI performance.
5. On July 10th, a 3rd party vehicle broke a pole causing a breaker level outage on the Belmont 1110 feeder. This event contributed 0.019 customer-interruptions to the division's SAIFI performance.
6. On May 19th, the feeder breaker on the Burlingame 403 caused an outage due to an unknown cause. This event contributed 0.004 customer-interruptions to the division's SAIFI performance.

- On October 8th, a jumper flashed and caused a recloser level outage on the SF Martin 1105 feeder. This event contributed 0.021 customer-interruptions to the division's SAIFI performance.

Peninsula Division CAIDI Performance

Peninsula Division's 2021 CAIDI performance of 150.9 was 57.7 minutes (or 62.0%) higher than the previous 5-year average of 93.2 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Peninsula Division CAIDI was attributed to the following:

- EPSS installed on the distribution line equipment in the summer of 2021 contributed 35.1 minutes to the division's CAIDI performance.
- On August 29th, an underground distribution transformer failure caused a fuse level outage on the Sneath Lane 1102 feeder. This event contributed 0.004 minutes to the division's CAIDI performance.

These outages contributed 36.6 minutes to the division's overall CAIDI.

12.Sacramento Division Performance Assessment

Sacramento Division Performance

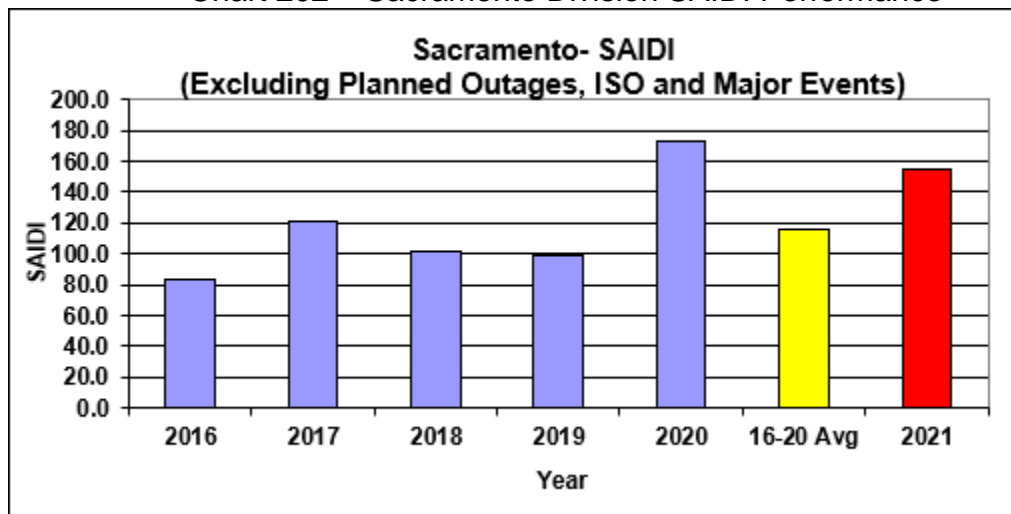
Table 22: Sacramento Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2016	83.6	0.944	1.539	88.5
SACRAMENTO	2017	121.2	1.070	1.708	113.2
SACRAMENTO	2018	101.0	1.021	1.825	98.9
SACRAMENTO	2019	98.9	0.866	1.574	114.3
SACRAMENTO	2020	173.6	1.350	1.499	128.6
5-Year Average	16-20 Avg	115.7	1.050	1.629	110.1
SACRAMENTO	2021	155.4	1.122	1.864	138.4
	%Difference	34.3%	6.9%	14.4%	25.7%

Sacramento Division SAIDI Performance

Sacramento Division’s 2021 SAIDI performance of 155.4 was 39.7 customer-minutes (or 34.3%) higher than the previous 5-year average of 115.7 as shown in the table above and illustrated in the figure below.

Chart 202 – Sacramento Division SAIDI Performance



The higher-than-average 2021 Sacramento Division SAIDI was attributed to the following outage events:

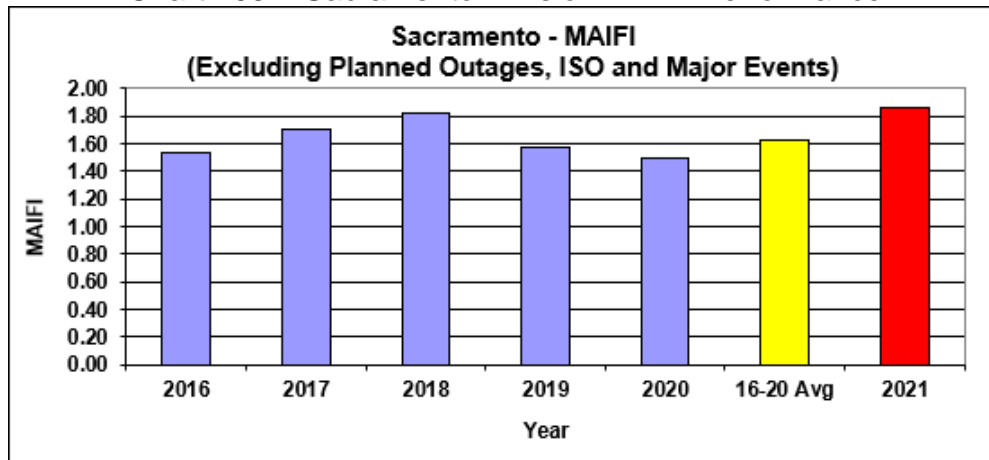
1. On May 31st, an overhead switch flashed and caused a breaker level outage on the Peabody 2105 feeder. This event contributed 5.7 customer-minutes to the division’s SAIDI performance.
2. On April 25th, a 3rd party vehicle broke a pole and caused a breaker level outage on the Peabody 2112 feeder. This outage contributed 10.1 customer-minutes to the system’s SAIDI performance.

- On June 18th, an underground elbow flashed and caused a breaker level outage on the Peabody 2108 feeder. This event contributed 8.6 customer-minutes to the division's SAIDI performance.

Sacramento Division MAIFI Performance

Sacramento Division's 2021 MAIFI performance of 1.864 was 0.235 customer-interruptions (or 14.4%) higher than the previous 5-year average of 1.619 as shown in the table above and illustrated in the figure below.

Chart 203 – Sacramento Division MAIFI Performance



The higher-than-average 2021 Sacramento Division MAIFI was attributed to the momentary outages on the transmission line serving Grant substation. The loss of Corning substation resulting from a January 4th lightning strike.

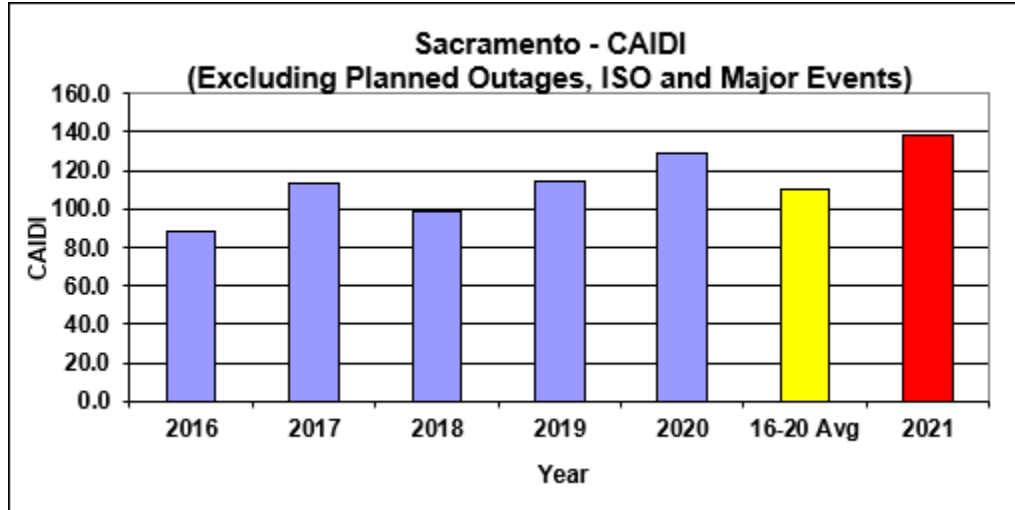
- On July 20th, a momentary outage occurred on to Peabody 2113 feeder due to an unknown cause that resulted in an operation of the breaker.
- On March 26th, a momentary outage occurred on to Peabody 2113 feeder due to an unknown cause that resulted in an operation of the breaker.
- On May 31st, a flashed insulator caused an operation on the Peabody 2105 feeder breaker.

These outages contributed 0.055 customer-interruptions to the division's MAIFI performance.

Sacramento Division CAIDI Performance

Sacramento Division's 2021 CAIDI performance of 138.4 was 28.3 minutes (or 25.7%) higher than the previous 5-year average of 110.1 as shown in the table above and illustrated in the figure below.

Chart 204 – Sacramento Division CAIDI Performance



The higher-than-average 2021 Sacramento Division CAIDI was attributed to the following:

1. On May 31st, an overhead switch flashed and caused a breaker level outage on the Peabody 2105 feeder.
2. On April 25th, a 3rd party vehicle broke a pole and caused a breaker level outage on the Peabody 2112 feeder
3. On June 18th, an underground elbow flashed and caused a breaker level outage on the Peabody 2108 feeder.

These outages contributed 13.5 minutes to the division’s CAIDI performance.

13. San Francisco Division Performance Assessment

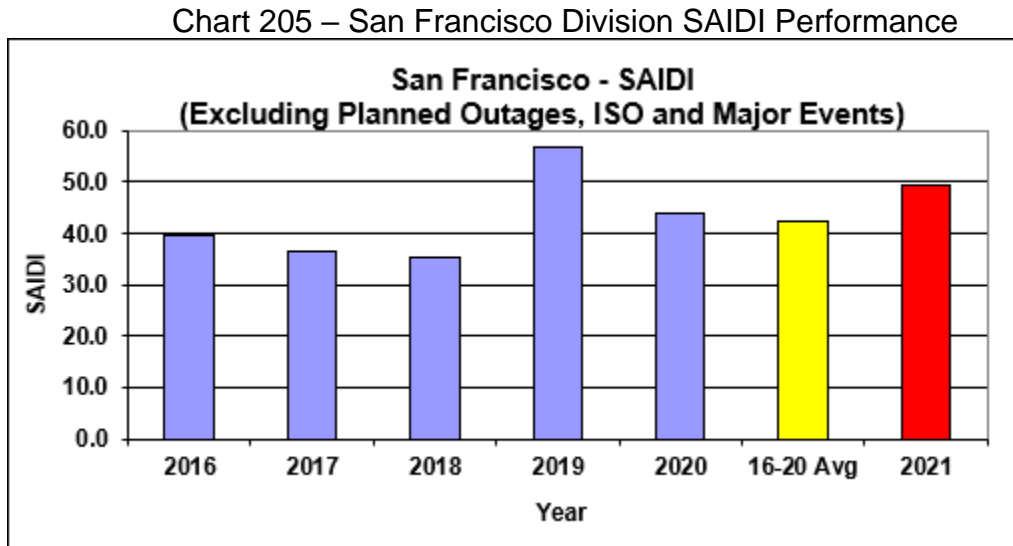
San Francisco Division Performance

Table 23: San Francisco Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2016	39.7	0.518	0.355	76.7
SAN FRANCISCO	2017	36.5	0.500	0.372	73.0
SAN FRANCISCO	2018	35.2	0.378	0.270	93.0
SAN FRANCISCO	2019	56.8	0.614	0.258	92.4
SAN FRANCISCO	2020	43.9	0.582	0.386	75.5
5-Year Average	16-20 Avg	42.4	0.519	0.328	81.8
SAN FRANCISCO	2021	49.4	0.530	0.499	93.2
	%Difference	16.4%	2.2%	52.0%	13.9%

San Francisco Division SAIDI Performance

San Francisco Division's 2021 SAIDI performance of 49.4 was 7.0 customer-minutes (or 16.4%) higher than the previous 5-year average of 42.4 as shown in the table above and illustrated in the figure below.



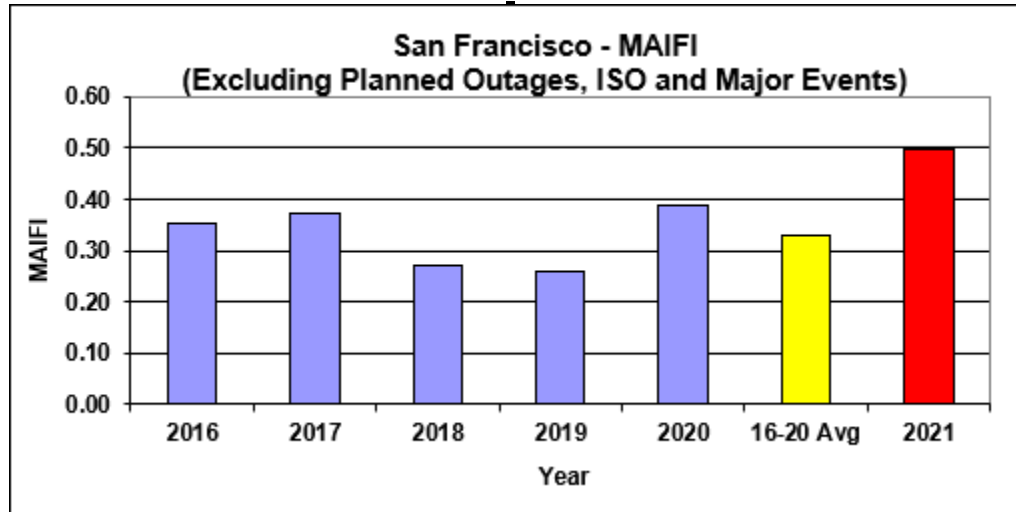
The higher-than-average 2021 San Francisco Division SAIDI was attributed to the following outage events:

1. On December 23rd, a broken overhead conductor caused a recloser level outage on the SF K-1101 feeder. This event contributed 2.5 customer-minutes to the division's SAIDI performance.
2. On March 3rd, a failed overhead bushing caused a fuse level outage on the SF H Martin-1108 feeder. This event contributed 2.0 customer-minutes to the division's SAIDI performance.

San Francisco Division MAIFI Performance

San Francisco Division's 2021 MAIFI performance of 0.499 was 0.171 customer-interruptions (or 52.0%) higher than the previous 5-year average of 0.328 as shown in the table above and illustrated in the figure below.

Chart 206 – San Francisco Division MAIFI Performance



The higher-than-average 2021 San Francisco Division MAIFI was attributed to the following:

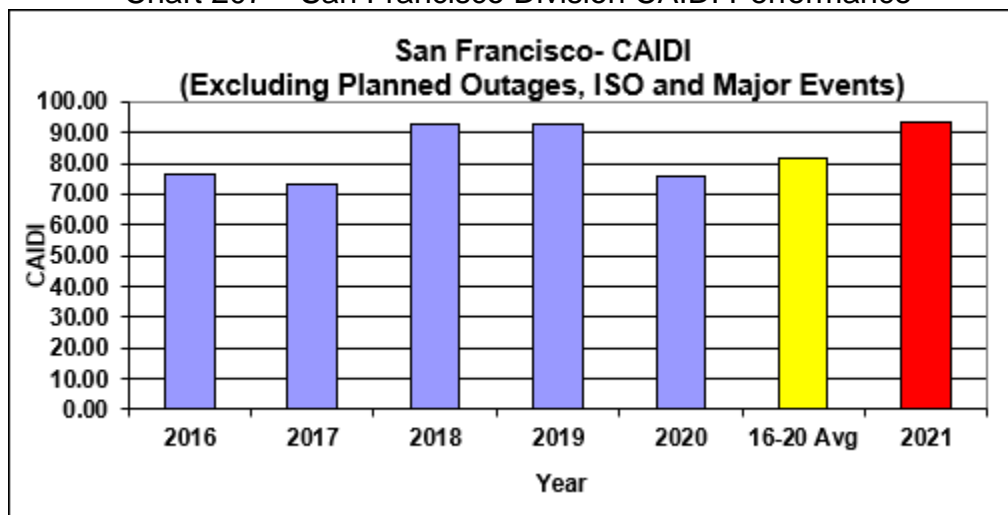
1. On August 5th, the SF E-1103 feeder circuit breaker operated due to an unknown cause.
2. On November 9th, the SF A substation lost power due to malfunctioning substation equipment located on the high side (115 kV) of the SF A transformer bank #1.
3. On October 10th, the SF A-1101 feeder circuit breaker operated due to an unknown cause.
4. On September 17th, the SF A-1109 feeder circuit breaker operated due to an unknown cause.
5. On August 31st, the SF K-1101 feeder circuit breaker operated due to an unknown cause.

These outages contributed 0.089 customer-interruptions to the division's MAIFI performance.

San Francisco Division CAIDI Performance

San Francisco Division's 2021 CAIDI performance of 93.2 was 11.4 minutes (or 13.9%) higher than the previous 5-year average of 81.8 as shown in the table above and illustrated in the figure below.

Chart 207 – San Francisco Division CAIDI Performance



The higher-than-average 2021 San Francisco Division CAIDI was attributed to the following:

1. On December 23rd, a broken overhead conductor caused a recloser level outage on the SF K-1101 feeder.
2. On March 3rd, a failed overhead bushing caused a fuse level outage on the SF H Martin-1108 feeder.

These two events contributed 4.6 minutes to the division’s CAIDI performance.

14. San Jose Division Performance Assessment

San Jose Division Performance

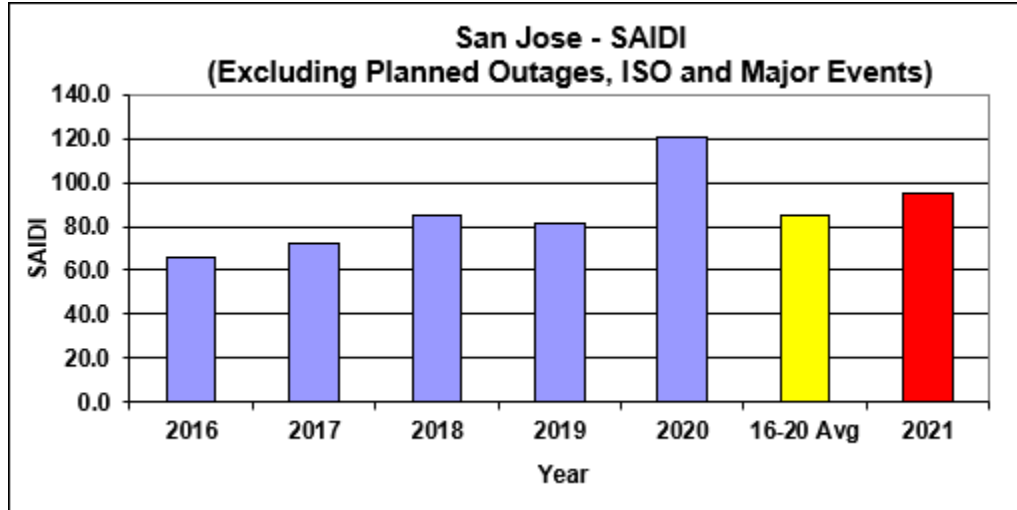
Table 24: San Jose Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2016	65.5	0.644	1.152	101.7
SAN JOSE	2017	72.3	0.739	1.171	97.8
SAN JOSE	2018	85.0	0.858	1.322	99.1
SAN JOSE	2019	81.5	0.747	1.253	109.1
SAN JOSE	2020	120.9	0.906	1.274	133.5
5-Year Average	16-20 Avg	85.1	0.779	1.235	109.2
SAN JOSE	2021	95.4	0.763	0.905	125.1
	%Difference	12.1%	-2.1%	-26.7%	14.6%

San Jose Division SAIDI Performance

San Jose Division’s 2021 SAIDI performance of 95.4 was 10.3 customer-minutes (or 12.1%) higher than the previous 5-year average of 85.1 as shown in the table above and illustrated in the figure below.

Chart 208 – San Jose Division SAIDI Performance

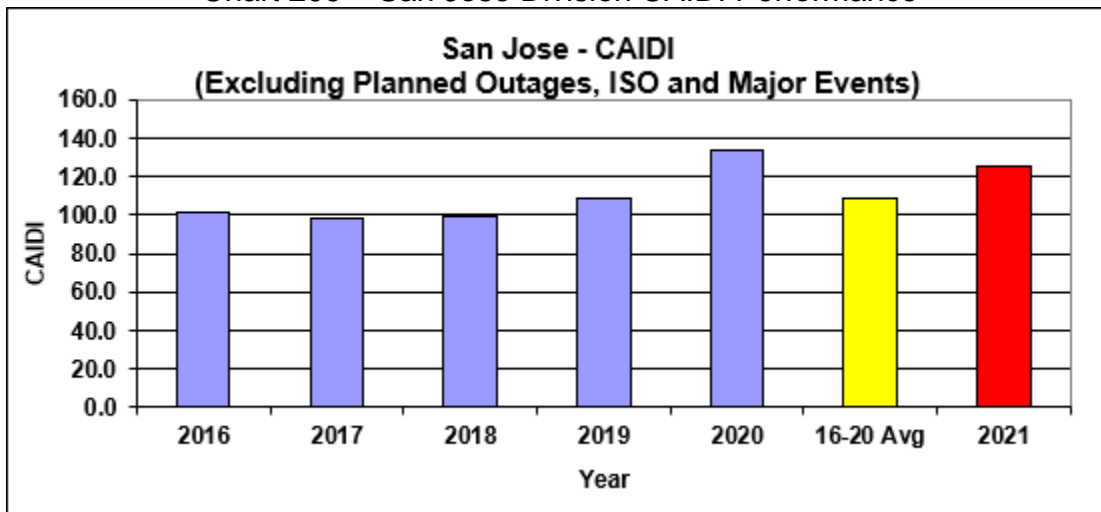


The higher-than-average 2021 San Jose Division SAIDI was attributed to the EPSS installed on the distribution line equipment in the summer of 2021 that contributed 2.7 customer-minutes to the division’s SAIDI performance.

San Jose Division CAIDI Performance

San Jose Division’s 2021 CAIDI performance of 125.1 was 15.9 minutes (or 14.6%) higher than the previous 5-year average of 109.2 as shown in the table above and illustrated in the figure below.

Chart 209 – San Jose Division CAIDI Performance



The higher-than-average 2021 San Jose Division CAIDI is attributed to the EPSS

installed on the distribution line equipment in the summer of 2021 that contributed 3.1 minutes to the division’s CAIDI performance.

15.Sierra Division Performance Assessment

Sierra Division Performance

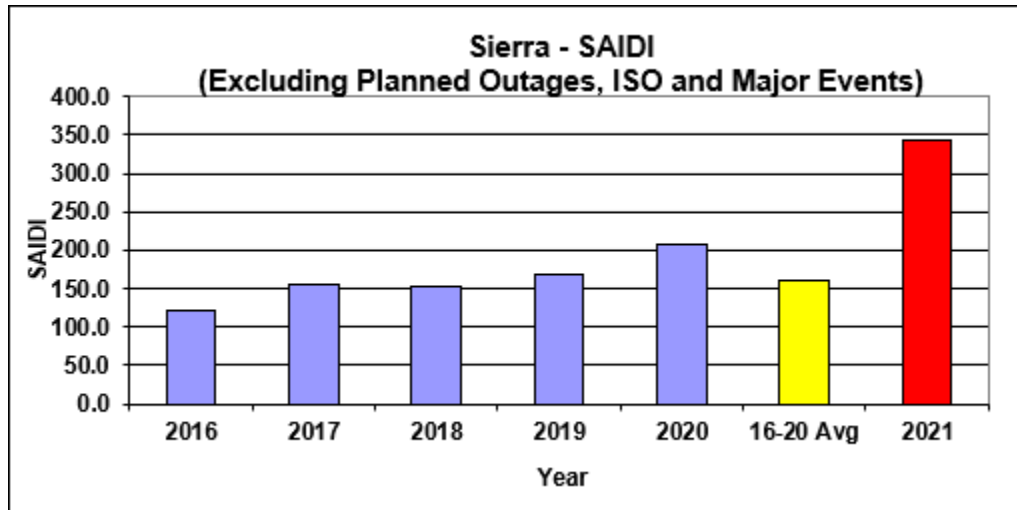
Table 25: Sierra Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2016	121.7	1.029	1.705	118.2
SIERRA	2017	155.0	1.191	1.856	130.2
SIERRA	2018	152.9	1.241	1.350	123.2
SIERRA	2019	167.5	1.151	1.482	145.6
SIERRA	2020	208.0	1.422	1.169	146.2
5-Year Average	16-20 Avg	161.0	1.207	1.513	133.4
SIERRA	2021	342.1	1.672	1.013	204.6
	%Difference	112.5%	38.5%	-33.0%	53.4%

Sierra Division SAIDI Performance

Sierra Division’s 2021 SAIDI performance of 342.1 was 181.1 customer-minutes (or 112.5%) higher than the previous 5-year average of 161.0 as shown in the table above and illustrated in the figure below.

Chart 210 – Sierra Division SAIDI Performance



The higher-than-average 2021 Sierra Division SAIDI was attributed to the following:

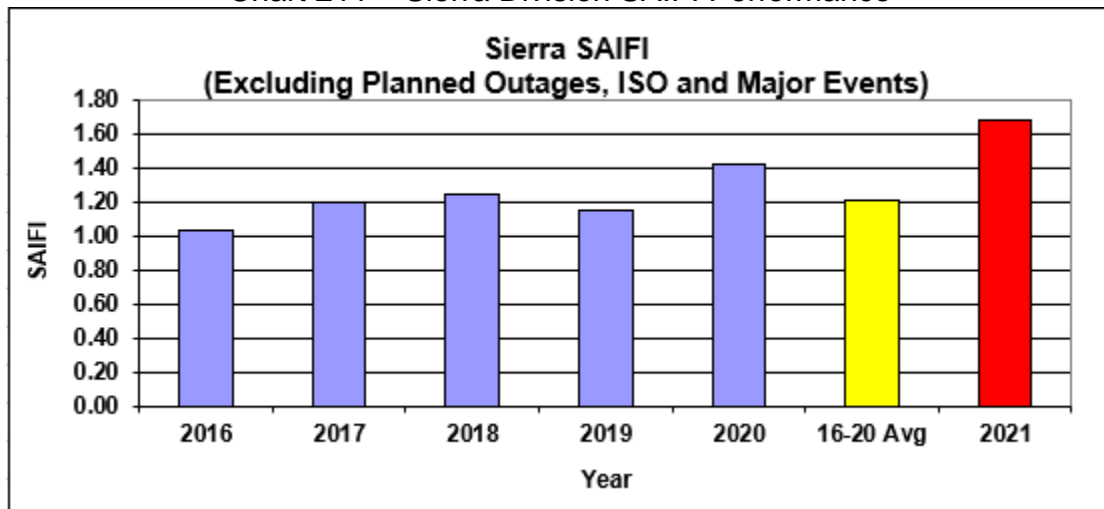
1. EPSS installed on the distribution line equipment in the summer of 2021 that contributed 99.6 customer-minutes to the division’s SAIDI performance.

2. On September 11th, a failed piece of equipment on the Drum-Grass Valley 60 kV transmission line caused a substation level outage at the Shady Glen substation. This outage contributed 4.2 customer-minutes to the division's SAIDI performance.
3. On June 4th, a 3rd party vehicle hit a distribution pole causing an outage on the Diamond Springs 1104 feeder. This outage contributed 5.6 customer-minutes to the division's SAIDI performance.
4. On May 31st, the transformer bank #2 at the Placer substation failed causing an outage. This outage contributed 5.3 customer-minutes to the division's SAIDI performance.
5. On July 10th, an unknown cause resulted in a breaker level outage on the Narrows 2105 feeder. This outage contributed 13.0 customer-minutes to the division's SAIDI performance.
6. On August 14th, an underground switch failed on the Clarksville 2106 feeder causing a breaker level outage. This outage contributed 5.7 customer-minutes to the division's SAIDI performance.
7. On July 10th, a broken insulator caused a recloser level outage on the Placerville 2106 feeder. This outage contributed 3.5 customer-minutes to the division's SAIDI performance.

Sierra Division SAIFI Performance

Sierra Division's 2021 SAIFI performance of 1.672 was 0.465 customer-interruptions (or 38.5%) higher than the previous 5-year average of 1.207 as shown in the table above and illustrated in the figure below.

Chart 211 – Sierra Division SAIFI Performance

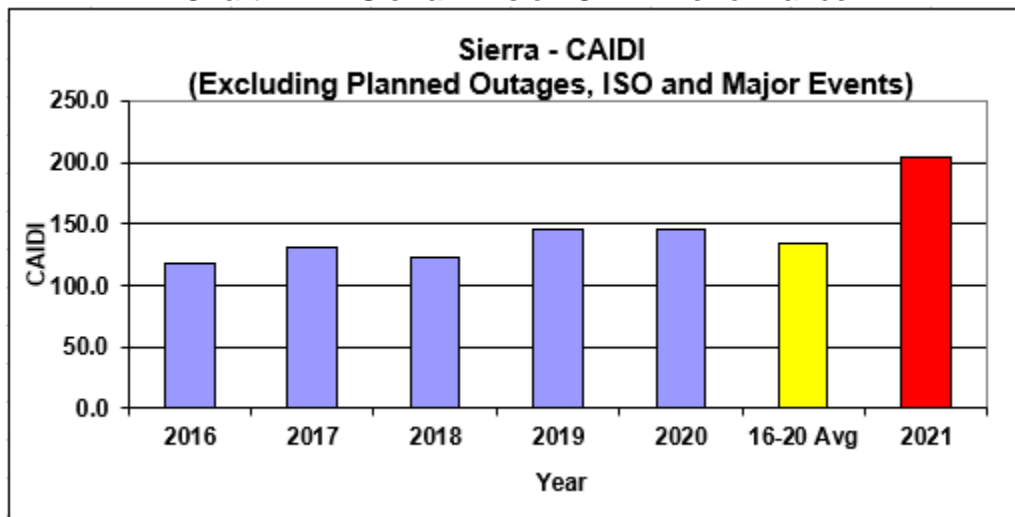


The higher-than-average 2021 Sierra Division SAIFI was attributed to the above mentioned seven outages, which also contributed 0.265 customer-interruptions to the division's SAIFI performance.

Sierra Division CAIDI Performance

Sierra Division's 2021 CAIDI performance of 204.6 was 71.2 minutes (or 53.4%) higher than the previous 5-year average of 133.4 as shown in the table above and illustrated in the figure below.

Chart 212 – Sierra Division CAIDI Performance



The higher-than-average 2021 Sierra Division CAIDI was attributed to the above mentioned seven outages, which also contributed 61.9 minutes to the division's SAIFI performance.

16. Sonoma Division Performance Assessment

Sonoma Division Performance

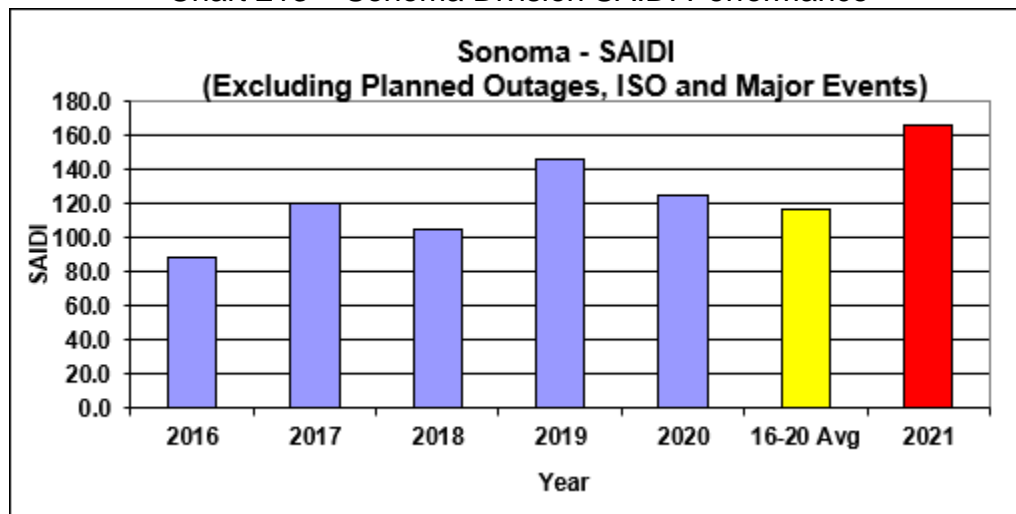
Table 26: Sonoma Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2016	88.6	0.792	1.508	111.8
SONOMA	2017	120.7	0.886	1.566	136.2
SONOMA	2018	105.5	0.956	1.201	110.3
SONOMA	2019	145.7	1.070	1.233	136.1
SONOMA	2020	124.5	1.062	1.327	117.2
5-Year Average	16-20 Avg	117.0	0.953	1.367	122.7
SONOMA	2021	166.3	1.257	1.399	132.3
	%Difference	42.1%	31.8%	2.3%	7.8%

Sonoma Division SAIDI Performance

Sonoma Division's 2021 SAIDI performance of 166.3 was 49.3 customer-minutes (or 42.1%) higher than the previous 5-year average of 117.0 as shown in the table above and illustrated in the figure below.

Chart 213 – Sonoma Division SAIDI Performance



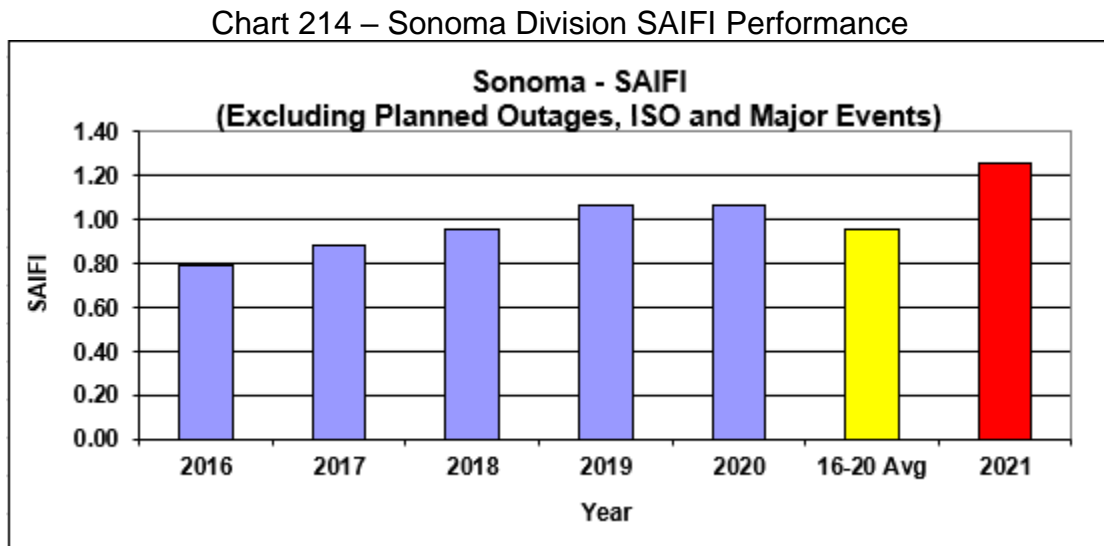
The higher-than-average 2021 Sonoma Division SAIDI was attributed to the following:

1. On August 13th, EPSS installed on the distribution line equipment in the summer of 2021 contributed 7.8 customer minutes to the division's SAIDI performance.
2. On September 1st, the Rincon 1101 feeder breaker operated causing an outage due to construction activity. This outage contributed 0.2 customer minutes to the division's SAIDI performance.

3. On January 4th, a transmission level outage occurred due to unknown cause that resulted in loss of power to Monte Rio substation. This outage contributed 7.4 customer minutes to the division's SAIDI performance.
4. On January 4th, a flashed insulator in the Petaluma substation caused a substation level outage. This outage contributed 10.9 customer minutes to the division's SAIDI performance.

Sonoma Division SAIFI Performance

Sonoma Division's 2021 SAIFI performance of 1.257 was 0.303 customer-interruptions (or 31.8%) higher than the previous 5-year average of 0.953 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Sonoma Division SAIFI was attributed to the following:

1. On September 1st, the Rincon 1101 feeder breaker operated causing an outage due to construction activity. This outage contributed 0.037 customer-interruptions to the division's SAIFI performance.
2. On January 4th, a transmission level outage occurred due to unknown cause that resulted in loss of power to Monte Rio substation. This outage contributed 0.029 customer-interruptions to the division's SAIFI performance.
3. On January 4th, a flashed insulator in the Petaluma substation caused a substation level outage. This outage contributed 0.061 customer-interruptions to the division's SAIFI performance.

17. Stockton Division Performance Assessment

Stockton Division Performance

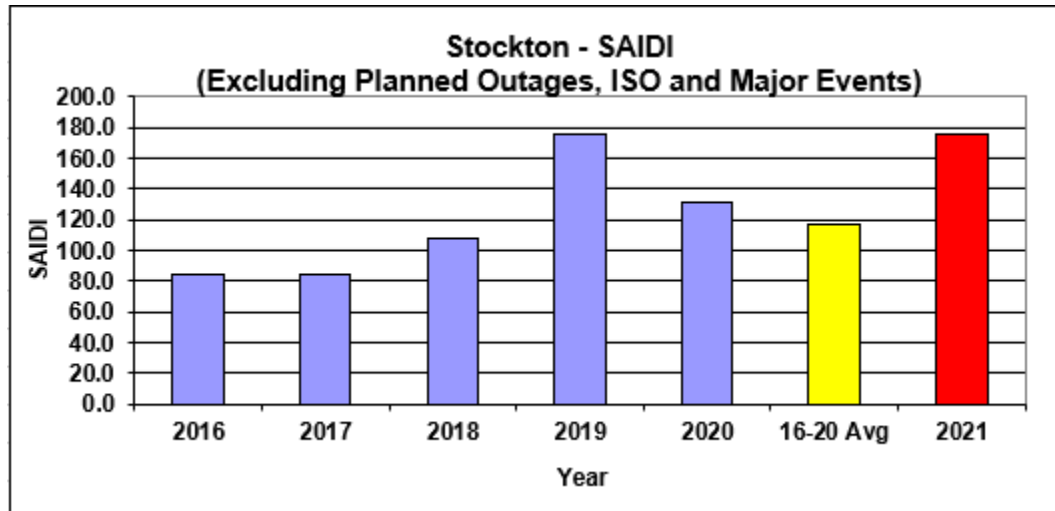
Table 27: Stockton Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2016	84.0	0.900	1.663	93.3
STOCKTON	2017	84.6	0.946	1.264	89.5
STOCKTON	2018	107.7	1.036	1.872	103.9
STOCKTON	2019	175.3	1.276	1.130	137.4
STOCKTON	2020	131.8	1.187	1.268	111.0
5-Year Average	16-20 Avg	116.7	1.069	1.440	109.2
STOCKTON	2021	176.2	1.151	1.471	153.2
	%Difference	51.0%	7.7%	2.2%	40.4%

Stockton Division SAIDI Performance

Stockton Division's 2021 SAIDI performance of 176.2 was 59.6 customer-minutes (or 51.0%) higher than the previous 5-year average of 116.7 as shown in the table above and illustrated in the figure below.

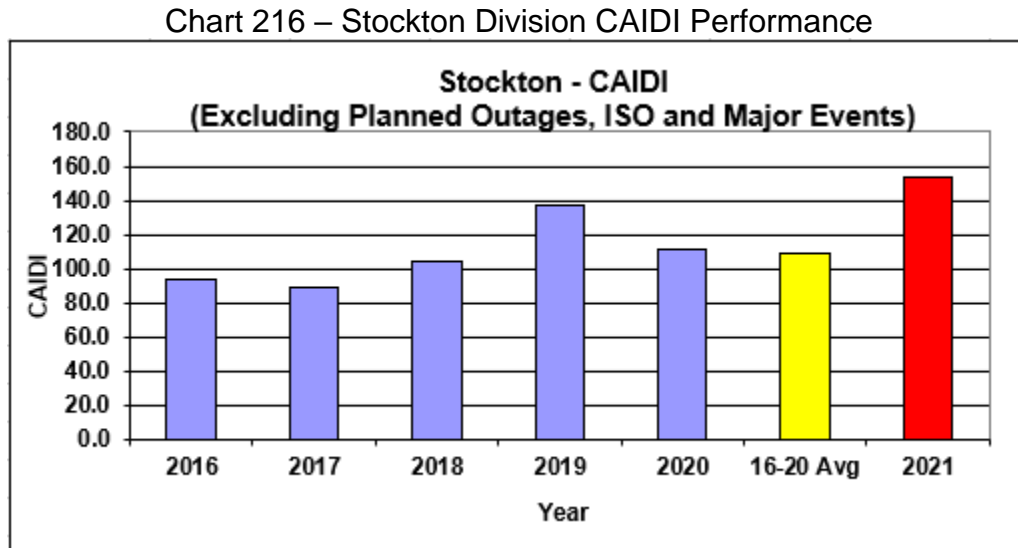
Chart 215 – Stockton Division SAIDI Performance



The higher-than-average 2021 Stockton Division SAIDI was attributed to EPSS installed on the distribution line equipment in the summer of 2021 that contributed 32.0 customer minutes to the division's SAIDI performance.

Stockton Division CAIDI Performance

Stockton Division’s 2021 CAIDI performance of 153.2 was 44.0 minutes (or 40.4%) higher than the previous 5-year average of 109.2 as shown in the table above and illustrated in the figure below.



The higher-than-average 2021 Stockton Division CAIDI was attributed to EPSS installed on the distribution line equipment in the summer of 2021 that contributed 20.3 minutes to the division’s CAIDI performance.

18. Yosemite Division Performance Assessment

Yosemite Division Performance

Table 28: Yosemite Division Performance

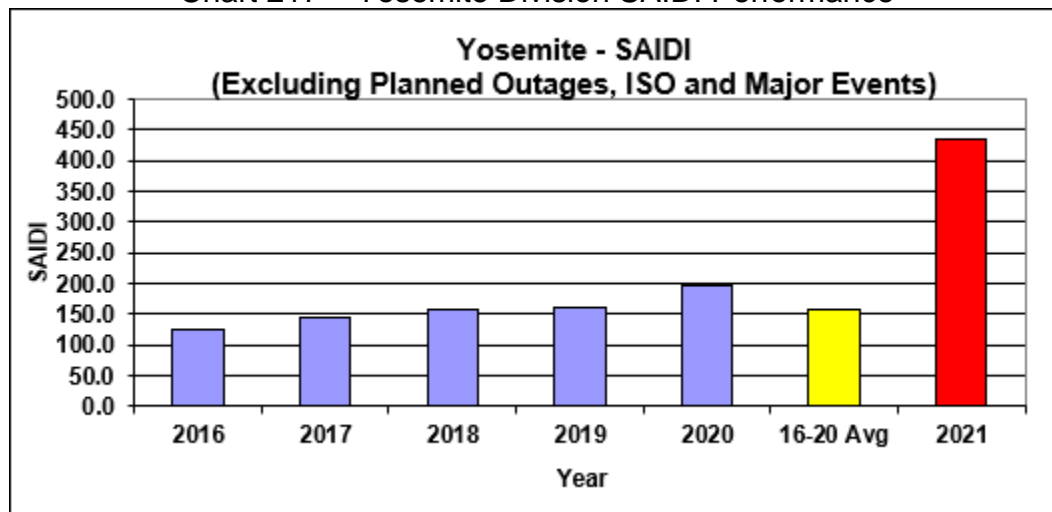
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2016	123.2	1.178	2.025	104.5
YOSEMITE	2017	143.0	1.170	2.150	122.2
YOSEMITE	2018	158.3	1.355	1.773	116.8
YOSEMITE	2019	160.4	1.470	1.603	109.1
YOSEMITE	2020	197.4	1.411	1.299	139.9
5-Year Average	16-20 Avg	156.5	1.317	1.770	118.8
YOSEMITE	2021	434.4	2.180	1.804	199.3
	%Difference	177.6%	65.6%	1.9%	67.7%

Yosemite Division SAIDI Performance

Yosemite Division’s 2021 SAIDI performance of 434.4 was 277.9 customer-minutes (or 177.6%) higher than the previous 5-year average of 156.5 as shown

in the table above and illustrated in the figure below.

Chart 217 – Yosemite Division SAIDI Performance



The higher-than-average 2021 Yosemite Division SAIDI was attributed to the following:

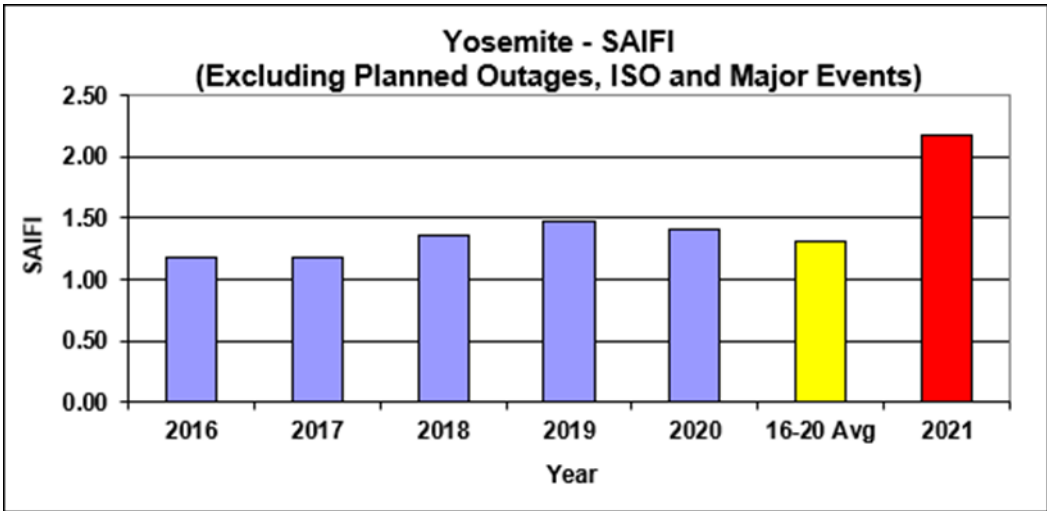
1. EPSS installed on the distribution line equipment in the summer of 2021 that contributed 13.8 customer minutes to the division's SAIDI performance.
2. On January 30th, a flashed jumper in the Spring Gap substation caused a substation level outage. This outage contributed 12.3 customer minutes to the division's SAIDI performance.
3. On August 7th, a 3rd party vehicle hit a pole and caused a recloser level outage on the Mariposa 2102 feeder. This outage contributed 11.1 customer-minutes to the division's SAIDI performance.
4. On March 6th, the left side transmission pole of a 3-pole structure on the Malone-Curtis 115 kV line flashed and caused substation level outages at the Curtis and Miwuk substations. This outage contributed 33.2 customer minutes to the division's SAIDI performance.
5. On April 15th, the center and right-side poles of the same 3 pole structure on the Malone-Curtis 115 kV line flashed and caused substation level outages at the Curtis and Miwuk substations. This outage contributed 42.7 customer minutes to the division's SAIDI performance.
6. The August 26th-28th Forest fire (Washington Fire) event spread over 500 acres in Yosemite division and required sections of transmission and distribution lines to be de-energized at the request of Cal Fire. The Washington fire started on August 26th, 2021, rendering the unavailability of

4-115 kV transmission lines to fight the fire, and resulting in the loss of power to six substations (Peoria, Curtis, Mi-Wuk, Spring gap, Pinecrest and Tar Flat). This outage contributed 44.3 customer-minutes to the division’s SAIDI performance.

Yosemite Division SAIFI Performance

Yosemite Division’s 2021 SAIFI performance of 2.180 was 0.863 customer-interruptions (or 65.6%) higher than the previous 5-year average of 1.317 as shown in the table above and illustrated in the figure below.

Chart 218 – Yosemite Division SAIFI Performance

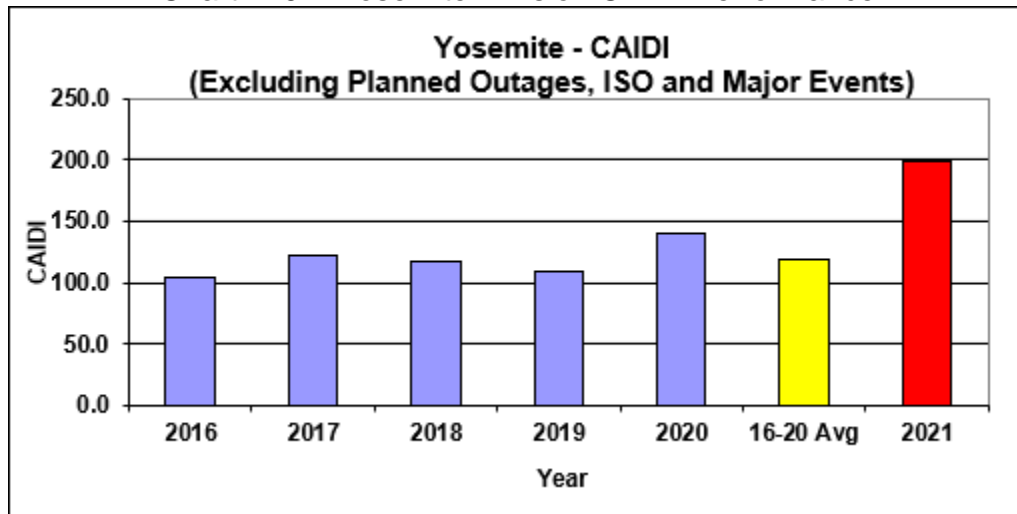


The higher-than-average 2021 Yosemite Division SAIFI was attributed to the above mentioned six substation outages, which also contributed 0.376 customer-interruptions to the division’s SAIFI performance.

Yosemite Division CAIDI Performance

Yosemite Division’s 2021 CAIDI performance of 199.3 was 80.5 minutes (or 67.7%) higher than the previous 5-year average of 118.8 as shown in the table above and illustrated in the figure below.

Chart 219 – Yosemite Division CAIDI Performance



The higher-than-average 2021 Yosemite Division CAIDI was attributed to the above mentioned six substation outages, which also contributed 45.7 minutes to the division’s overall CAIDI performance.

ii. 2021 Excludable Major Event Day (MED) CAIDI Performance

Excludable Major Event Days (MED) In 2021

This section contains PG&E’s report on weather related excludable major event days (MED) for each division in which CAIDI⁸ varied by 25 percent or more in the division benchmark, as required by Decision 04-10-034 and Decision 16-01-008, Appendix B, footnote 6. Per D.04-10-034, the division benchmark is calculated from the rolling

⁸ Per Decision 16-01-008, Appendix B footnote 6, Decision 04-10-034 only applies to PG&E: Investigate and report on all weather-related excludable major events for each division in which CAIDI varies by 25 percent or more from the division benchmark. The division benchmarks are calculated from the rolling average of the prior 10 weather-related excludable events as defined by IEEE 1366.

average of the prior 10 weather-related excludable major events.⁹ PG&E is also required by D.04-10-034 to provide a variance explanation, when the system performance varies by more than 10 percent from the rolling average of the prior 10 weather-related system-wide excludable major event days, whichever yields more event days.

There were fifteen weather-related major events totaling 25 weather-related Major Event Days in 2021. The table below summarizes these major events that also includes wildfire related outages.

Table 29 – Summary MED days

2021 Weather - Related Major Event Days	# of weather related events	MEDS
January 18-19, 2021	1	2
January 25-28, 2021	2	4
July 18, 2021	3	1
July 22, 2021	4	1
August 1-2, 2021	5	2
August 4, 2021	6	1
August 12, 2021	7	1
August 17, 2021	8	1
September 10, 2021	9	1
October 11, 2021	10	1
October 17, 2021	11	1
October 24-25, 2021	12	2
December 13 - 15 2021	13	3
December 25 - 27 2021	14	3
December 29, 2021	15	1
		25

1. January 18-19, 2021 Major Event Days

The first weather-related major event of the year resulted in MEDs on January 18-19, 2021. This major event involved strong and prolonged offshore wind with gusts reaching between 40-60 mph across the entire state with the execution of a PSPS across the southern Sierra, southern Coastal Ranges, and Kern County. This event resulted in the year's 5th largest outage event that impacted a total of 294,129 customers in the service territory.

Table 29 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

⁹ A major event is defined in the IEEE Standard 1366. As in prior reports, PG&E is using the “prior ten weather related excludable major events” prior to the calendar year that is the subject of the report.

(January 18-19, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	January 18-19, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	792.7	98.9%	NO
CENTRAL COAST	535.5	1670.0	311.9%	Yes
DE ANZA	540.3	494.8	91.6%	NO
DIABLO	516.1	169.8	32.9%	NO
EAST BAY	434.7	195.6	45.0%	NO
FRESNO	120.9	646.5	534.6%	Yes
HUMBOLDT	965.1	201.7	20.9%	NO
KERN	142.9	156.6	109.6%	NO
LOS PADRES	341.2	201.3	59.0%	NO
MISSION	288.7	200.6	69.5%	NO
NORTH BAY	725.1	172.7	23.8%	NO
NORTH VALLEY	1,584.8	280.3	17.7%	NO
PENINSULA	237.7	421.7	177.4%	Yes
SACRAMENTO	397.6	140.7	35.4%	NO
SAN FRANCISCO	67.3	116.8	173.6%	Yes
SAN JOSE	298.0	413.7	138.8%	Yes
SIERRA	1,662.9	598.3	36.0%	NO
SONOMA	721.8	121.6	16.8%	NO
STOCKTON	1,161.9	544.3	46.8%	NO
YOSEMITE	988.9	2984.8	301.8%	Yes

Table 30 – January 18-19, 2021 CAIDI Performance

1.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	November 26-27, 2019	331.2	51
CENTRAL COAST	January 16-17, 2020	105.0	23
CENTRAL COAST	February 9, 2020	81.9	182
CENTRAL COAST	March 15-16, 2020	91.9	11
CENTRAL COAST	August 15-17, 2020	377.4	46
CENTRAL COAST	September 7-8, 2020	255.2	14
CENTRAL COAST	September 27, 2020	0.9	7
CENTRAL COAST	October 14, 2020	5.5	26
CENTRAL COAST	October 22, 2020	0.2	3
CENTRAL COAST	October 25, 2020	84.0	87
	Average of 10 excludable major events	535.5	40
CENTRAL COAST	January 18-19, 2021	1670.0	129
	% Difference	211.9%	221%

Table 31 – Central Coast Historical Performance

As indicated in Table 31, the Central Coast Division CAIDI value of 1670.0 minutes for the January 18th - 19th major event was 211.9% higher than the 535.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value were due to the following outage:

- Seventeen vegetation related outages contributed 722.9 minutes to the overall January 18th-19th CAIDI performance.

1.2 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	January 18-19, 2021	646.5	22
	% Difference	434.6%	18%

Table 32 – Fresno Historical Performance

As indicated in Table 32, the Fresno Division CAIDI value of 646.5 minutes for the January 18th - 19th major event was 436.3% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factors to the higher division CAIDI value were due to the following outages:

- The implementation of PSPS contributed 287.6 minutes to the January 18th-19th, 2021 overall CAIDI performance.
- An outage due to an unknown cause on the Dunlap 1101 feeder contributed

40.7 minutes to the overall January 18th-19th CAIDI Performance.

- A 3rd party related outage due to an awning blown by the wind into power lines on the Auberry 1101 feeder contributed 27.8 minutes to the overall January 18th-19th CAIDI Performance.

These outages contributed a total of 489.0 minutes to the overall January 18th-19th CAIDI performance.

1.3 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	November 26-27, 2019	167.6	20
PENINSULA	January 16-17, 2020	123.1	8
PENINSULA	February 9, 2020	190.4	37
PENINSULA	March 15-16, 2020	88.7	3
PENINSULA	August 15-17, 2020	133.7	26
PENINSULA	September 7-8, 2020	237.4	11
PENINSULA	September 27, 2020	758.9	2
PENINSULA	October 14, 2020	2,316.1	12
PENINSULA	October 22, 2020	430.5	4
PENINSULA	October 25, 2020	1,635.7	30
	Average of 10 excludable major events	237.7	15
PENINSULA	January 18-19, 2021	421.7	32
	% Difference	77.4%	111%

Table 33 – Peninsula Historical Performance

As indicated in Table 33, the Peninsula Division CAIDI value of 421.7 minutes for the January 18th - 19th major event was 77.4% higher than the 237.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- There were 27 outages due to unknown causes that contributed 195.4 minutes to the overall January 18th-19th CAIDI Performance.

1.4 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	January 18-19, 2021	116.8	7
	% Difference	73.6%	123%

Table 34 – San Francisco Historical Performance

As indicated in Table 34, the San Francisco Division CAIDI value of 116.8 minutes for the January 18th - 19th major event was 73.6% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Ten outages due to various equipment failures that contributed 86.4 minutes to the overall January 18th-19th CAIDI performance.

1.5 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	November 26-27, 2019	80.6	14
SAN JOSE	January 16-17, 2020	139.3	3
SAN JOSE	February 9, 2020	225.6	58
SAN JOSE	March 15-16, 2020	51.6	4
SAN JOSE	August 15-17, 2020	547.6	46
SAN JOSE	September 7-8, 2020	131.1	17
SAN JOSE	September 27, 2020	464.7	4
SAN JOSE	October 14, 2020	805.1	3
SAN JOSE	October 22, 2020	899.0	1
SAN JOSE	October 25, 2020	1,433.5	17
	Average of 10 excludable major events	298.0	18
SAN JOSE	January 18-19, 2021	413.7	22
	% Difference	38.8%	19%

Table 35 – San Jose Historical Performance

As indicated in Table 35, the San Jose Division CAIDI value of 413.7 minutes for the January 18th - 19th major event was 38.8% higher than the 298.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Twelve vegetation related outages that contributed 86.5 minutes to the overall January 18th-19th CAIDI performance.

1.6 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	November 26-27, 2019	286.1	55
YOSEMITE	January 16-17, 2020	81.3	11
YOSEMITE	February 9, 2020	285.5	53
YOSEMITE	March 15-16, 2020	632.2	46
YOSEMITE	August 15-17, 2020	191.5	11
YOSEMITE	September 7-8, 2020	1,712.2	50
YOSEMITE	September 27, 2020	226.0	6
YOSEMITE	October 14, 2020	248.8	9
YOSEMITE	October 22, 2020	150.0	6
YOSEMITE	October 25, 2020	1,687.0	107
	Average of 10 excludable major	988.9	34
YOSEMITE	January 18-19, 2021	2,984.8	137
	% Difference	201.8%	308%

Table 36 – Yosemite Historical Performance

As indicated in Table 36, the Yosemite Division CAIDI value of 2984.8 minutes for the January 18th - 19th major event was 201.8% higher than the 988.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- The implementation of PSPS contributed 288.7 minutes to the January 18th-19th, 2021 overall CAIDI performance.
- Twelve vegetation related outages contributed 342.0 minutes to the overall January 18th-19th CAIDI performance.
- Three distribution equipment failure related outages contributed 201.7 minutes to the overall January 18th-19th CAIDI performance.

These outages contributed a total of 1036.8 minutes to the overall January 18th-19th CAIDI performance.

2. January 25 - 28, 2021 Major Event Days

The second weather-related major event of the year resulted in MEDs on January 25-28, 2021. A major winter storm and an “atmospheric river” event produced significant mountain snowfall, gusty southerly winds and moderate to heavy rainfall. Low to mid elevation snowfall impacts occurred across Humboldt, North Valley, Sierra, and Stockton divisions. This winter storm event led to storm activity on January 25th that lasted 4 consecutive days and resulted in considerable outage activity in the service territory. This storm activity delivered strong winds and rain leading to the largest outage event of the year that impacted a total of 734,309 customers in the service territory.

Table 37 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(January 25-28, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	January 25-28, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	332.0	41.4%	NO
CENTRAL COAST	535.5	254.8	47.6%	NO
DE ANZA	540.3	218.2	40.4%	NO
DIABLO	516.1	241.5	46.8%	NO
EAST BAY	434.7	206.2	47.4%	NO
FRESNO	120.9	184.4	152.5%	Yes
HUMBOLDT	965.1	1649.7	170.9%	Yes
KERN	142.9	113.0	79.1%	NO
LOS PADRES	341.2	247.0	72.4%	NO
MISSION	288.7	161.3	55.9%	NO
NORTH BAY	725.1	130.2	18.0%	NO
NORTH VALLEY	1,584.8	849.1	53.6%	NO
PENINSULA	237.7	291.5	122.7%	NO
SACRAMENTO	397.6	964.2	242.5%	Yes
SAN FRANCISCO	67.3	86.7	128.8%	Yes
SAN JOSE	298.0	295.0	99.0%	NO
SIERRA	1,662.9	566.3	34.1%	NO
SONOMA	721.8	293.5	40.7%	NO
STOCKTON	1,161.9	1115.3	96.0%	NO
YOSEMITE	988.9	952.7	96.3%	NO

Table 37 – January 25-28, 2021 CAIDI Performance

2.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	January 25-28, 2021	184.4	22
	% Difference	52.5%	16%

Table 38 – Fresno Historical Performance

As indicated in Table 38, the Fresno Division CAIDI value of 184.4 minutes for the January 25-28, 2021 major event was 52.5% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Four outages in higher elevation areas involved delayed restoration due to snow and ice, which contributed 6.3 minutes to the overall January 25th-28th CAIDI performance.
- Three outages due to unknown causes contributed 5.1 minutes to the overall January 25th-28th CAIDI performance.
- Six distribution equipment failure related outages contributed 14.5 minutes to the overall January 25th-28th CAIDI performance.
- Eight 3rd party related outages contributed 2.8 minutes to the overall January 25th-28th CAIDI performance.
- Two bird related outages contributed 0.9 minutes to the overall January 25th-28th CAIDI performance.

These outages contributed a total of 36.4 minutes to the overall January 25th-28th, 2021 CAIDI performance.

2.2 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	November 26-27, 2019	1,033.8	101
HUMBOLDT	January 16-17, 2020	557.8	84
HUMBOLDT	February 9, 2020	209.1	4
HUMBOLDT	March 15-16, 2020	318.6	18
HUMBOLDT	August 15-17, 2020	150.0	18
HUMBOLDT	September 7-8, 2020	1,827.5	26
HUMBOLDT	September 27, 2020	273.9	17
HUMBOLDT	October 14, 2020	1,048.0	7
HUMBOLDT	October 22, 2020	318.3	5
HUMBOLDT	October 25, 2020	2,319.5	122
	Average of 10 excludable major events	965.1	42
HUMBOLDT	January 25-28, 2021	1,649.7	95
	% Difference	70.9%	129%

Table 39 – Humboldt Historical Performance

As indicated in Table 39, the Humboldt Division CAIDI value of 1,649.7 minutes for the January 25th-28th, 2021 major event was 70.9% higher than the 965.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Two outages in higher elevation areas involved delayed restoration due to snow and ice, which contributed 36.1 minutes to the overall January 25th-28th CAIDI performance.
- Two distribution equipment failure related outages contributed 32.5 minutes to the overall January 25th-28th CAIDI performance.
- Two outages due to unknown causes contributed 37.5 minutes to the overall January 25th-28th CAIDI performance.
- Eleven vegetation related outages contributed 258.5 minutes to the overall January 25th-28th CAIDI performance.

These outages contributed a total of 420.2 minutes to the overall January 25th-28th, 2021 CAIDI performance.

2.3 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	November 26-27, 2019	182.9	27
SACRAMENTO	January 16-17, 2020	125.5	6
SACRAMENTO	February 9, 2020	183.0	26
SACRAMENTO	March 15-16, 2020	107.2	4
SACRAMENTO	August 15-17, 2020	308.7	28
SACRAMENTO	September 7-8, 2020	299.5	18
SACRAMENTO	September 27, 2020	267.3	13
SACRAMENTO	October 14, 2020	2,008.4	14
SACRAMENTO	October 22, 2020	176.1	9
SACRAMENTO	October 25, 2020	1,052.2	45
	Average of 10 excludable major events	397.6	19
SACRAMENTO	January 25-28, 2021	964.2	87
	% Difference	142.5%	363%

Table 40 – Sacramento Historical Performance

As indicated in Table 40, the Sacramento Division CAIDI value of 964.2 minutes for the January 25th-28th, 2021 major event was 142.5% higher than the 397.6 minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Ten vegetation related outages contributed 163.0 minutes to the overall January 25th -28th CAIDI performance.
- Ten distribution equipment failure related outages contributed 123.4 minutes to the overall January 25th-28th CAIDI performance.
- Two 3rd party related outages contributed 0.8 minutes to the overall January 25th-28th CAIDI performance.

These outages contributed a total of 350.5 minutes to the overall January 25th-28th, 2021 CAIDI performance.

2.4 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	January 25-28, 2021	86.7	5
	% Difference	28.8%	80%

Table 50 – San Francisco Historical Performance

As indicated in Table 50, the San Francisco Division CAIDI value of 67.3 minutes for the January 25-28, 2021 major event was 28.8% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Six distribution equipment failure related outages contributed 12.2 minutes to the overall January 25th-28th CAIDI performance.
- A vegetation related outage contributed 3.8 minutes to the overall January 25th-28th CAIDI performance.

These outages contributed a total of 20.0 minutes to the overall January 25th-28th, 2021 CAIDI performance.

3. July 18, 2021 Major Event Day

The third major event of the year resulted in an MED on July 18, 2021 due to firefighting efforts involving the Dixie fire. On July 13, 2021, PG&E experienced an outage on its Bucks Creek 1101 12kV overhead distribution line near Cresta Dam. Upon arrival at Fuse 17733, up the hill from Cresta Dam, PG&E's troubleman observed that two fuses had operated, a tree leaning against the line, and a fire near the base of the tree, which would become the Dixie Fire. The fire rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fire remains under investigation. Table 51 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(July 18, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	July 18, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	753.7	94.0%	NO
CENTRAL COAST	535.5	332.0	62.0%	NO
DE ANZA	540.3	399.8	74.0%	NO
DIABLO	516.1	110.5	21.4%	NO
EAST BAY	434.7	176.1	40.5%	NO
FRESNO	120.9	46.7	38.6%	NO
HUMBOLDT	965.1	89.4	9.3%	NO
KERN	142.9	17.3	12.1%	NO
LOS PADRES	341.2	201.0	58.9%	NO
MISSION	288.7	25.2	8.7%	NO
NORTH BAY	725.1	69.4	9.6%	NO
NORTH VALLEY	1,584.8	12485.5	787.8%	Yes
PENINSULA	237.7	418.3	176.0%	Yes
SACRAMENTO	397.6	75.8	19.1%	NO
SAN FRANCISCO	67.3	171.0	254.1%	Yes
SAN JOSE	298.0	160.2	53.8%	NO
SIERRA	1,662.9	81.1	4.9%	NO
SONOMA	721.8	100.8	14.0%	NO
STOCKTON	1,161.9	100.0	8.6%	NO
YOSEMITE	988.9	167.7	17.0%	NO

Table 51 – July 18, 2021 CAIDI Performance

3.1 North Valley CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH VALLEY	November 26-27, 2019	557.7	67
NORTH VALLEY	January 16-17, 2020	362.5	12
NORTH VALLEY	February 9, 2020	93.5	7
NORTH VALLEY	March 15-16, 2020	685.0	15
NORTH VALLEY	August 15-17, 2020	213.5	21
NORTH VALLEY	September 7-8, 2020	2,263.6	182
NORTH VALLEY	September 27, 2020	1,530.3	120
NORTH VALLEY	October 14, 2020	2,563.8	81
NORTH VALLEY	October 22, 2020	1,041.4	140
NORTH VALLEY	October 25, 2020	2,054.9	239
	Average of 10 excludable major events	1,584.8	75
NORTH VALLEY	July 18, 2021	12,485.5	6
	% Difference	687.8%	-92%

Table 52 – North Valley Historical Performance

As indicated in Table 52, the North Valley Division CAIDI value of 12,485.5 minutes for the July 18, 2021 major event was 687.8% higher than the 1584.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the firefighting efforts involving the Dixie fire. The fire rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fire remains under investigation. This outage contributed 12,375.0 minutes to the overall July 18th, 2021 CAIDI performance.

3.2 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	November 26-27, 2019	167.6	20
PENINSULA	January 16-17, 2020	123.1	8
PENINSULA	February 9, 2020	190.4	37
PENINSULA	March 15-16, 2020	88.7	3
PENINSULA	August 15-17, 2020	133.7	26
PENINSULA	September 7-8, 2020	237.4	11
PENINSULA	September 27, 2020	758.9	2
PENINSULA	October 14, 2020	2,316.1	12
PENINSULA	October 22, 2020	430.5	4
PENINSULA	October 25, 2020	1,635.7	30
	Average of 10 excludable major events	237.7	15
PENINSULA	July 18, 2021	418.3	2
	% Difference	76.0%	-87%

Table 53 – Peninsula Historical Performance

As indicated in Table 53, the Peninsula Division CAIDI value of 418.3 minutes for the July 18, 2021 major event was 76.0% higher than the 237.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- Failure of an overhead distribution transformer on the Menlo 1102 feeder contributed 379.3 minutes to the overall July 18th CAIDI performance.

3.3 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	July 18, 2021	171.0	1
	% Difference	154.1%	-66%

Table 54 – San Francisco Historical Performance

As indicated in Table 54, the San Francisco Division CAIDI value of 171.0 minutes for the July 18, 2021 major event was 154.1% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- Flashed cross arm on the SF P-1102 feeder contributed 171.0 minutes to the overall July 18th CAIDI performance.

4. July 22, 2021 Major Event Day

The fourth major event of the year resulted in an MED on July 22, 2021 involving firefighting efforts involving two fires; the Dixie Fire and Fly Fire. On July 13, 2021, PG&E experienced an outage on its Bucks Creek 1101 12kV overhead distribution line near Cresta Dam. Upon arrival at Fuse 17733, up the hill from Cresta Dam, PG&E's troubleman observed that two fuses had operated, a tree leaning against the line, and a fire near the base of the tree, which would become the Dixie Fire. The fire rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. On July 22nd, another wildfire began in Plumas County (the Fly Fire). The National Wildfire Coordinating Group website reported as of July 25, 2021 that the Fly Fire had consumed 4,300 acres and was 5% contained and that, as of the night of July 24/25, the Fly Fire had merged with the Dixie Fire. The causes of both fires remain under investigation.

(July 22, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	July 22, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	1355.9	169.1%	Yes
CENTRAL COAST	535.5	108.1	20.2%	NO
DE ANZA	540.3	742.0	137.3%	Yes
DIABLO	516.1	0.0	0.0%	NO
EAST BAY	434.7	0.0	0.0%	NO
FRESNO	120.9	188.8	156.1%	Yes
HUMBOLDT	965.1	264.7	27.4%	NO
KERN	142.9	107.5	75.2%	NO
LOS PADRES	341.2	246.9	72.4%	NO
MISSION	288.7	351.8	121.9%	NO
NORTH BAY	725.1	138.5	19.1%	NO
NORTH VALLEY	1,584.8	22418.7	1414.6%	Yes
PENINSULA	237.7	68.7	28.9%	NO
SACRAMENTO	397.6	219.7	55.3%	NO
SAN FRANCISCO	67.3	0.0	0.0%	NO
SAN JOSE	298.0	496.0	166.4%	Yes
SIERRA	1,662.9	195.7	11.8%	NO
SONOMA	721.8	75.1	10.4%	NO
STOCKTON	1,161.9	115.1	9.9%	NO
YOSEMITE	988.9	54.2	5.5%	NO

Table 55 – July 22, 2021 CAIDI Performance

4.1 System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	November 26-27, 2019	362.3	568
SYSTEM	January 16-17, 2020	381.9	237
SYSTEM	February 9, 2020	275.7	750
SYSTEM	March 15-16, 2020	700.5	364
SYSTEM	August 15-17, 2020	285.3	484
SYSTEM	September 7-8, 2020	1376.7	557
SYSTEM	September 27, 2020	743.0	470
SYSTEM	October 14, 2020	1740.1	276
SYSTEM	October 22, 2020	703.9	204
SYSTEM	October 25, 2020	1951.1	1411
	Average of 10 excludable major events	801.6	501
SYSTEM	July 22, 2021	1161.0	76
	% Difference	44.8%	-85%

Table 56 – System Historical Performance

As indicated in Table 56, the System Division CAIDI value of 1161.0 minutes for the July 22, 2021 major event was 44.8% higher than the 801.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the firefighting efforts involving the Dixie Fire and Fly Fire. The fires rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fires remains under investigation. This outage contributed 1013.2 minutes to the overall July 22nd, 2021 CAIDI performance.

4.2 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	November 26-27, 2019	57.3	7
DE ANZA	January 16-17, 2020	43.1	5
DE ANZA	February 9, 2020	287.2	24
DE ANZA	March 15-16, 2020	200.0	3
DE ANZA	August 15-17, 2020	861.2	21
DE ANZA	September 7-8, 2020	74.6	11
DE ANZA	September 27, 2020	519.1	3
DE ANZA	October 14, 2020	1,438.1	17
DE ANZA	October 22, 2020	140.5	4
DE ANZA	October 25, 2020	1,641.3	28
	Average of 10 excludable major events	540.3	12
DE ANZA	July 22, 2021	742.0	2
	% Difference	37.3%	-83%

Table 57 – De Anza Historical Performance

As indicated in Table 57, the De Anza Division CAIDI value of 742.0 minutes for the July 22, 2021 major event was 37.3% higher than the 540.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- A broken pole on the Lawrence 1112 feeder contributed 958.0 minutes to the overall July 22nd CAIDI performance.

4.3 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	July 22, 2021	188.8	5
	% Difference	56.1%	-73%

Table 58 – Fresno Historical Performance

As indicated in Table 58, the Fresno Division CAIDI value of 188.8 minutes for the July 22, 2021 major event was 56.1% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Failure of an underground transformer on Clovis 2111 feeder contributed 25.0 minutes to the overall July 22nd CAIDI performance.
- A palm frond fell on an overhead conductor on the California Avenue 1113 feeder contributing 1.8 minutes to the overall July 22nd CAIDI performance.

The two outages contributed a total of 67.5 minutes to the overall January 25th-28th, 2021 CAIDI performance.

4.4 North Valley CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH VALLEY	November 26-27, 2019	557.7	67
NORTH VALLEY	January 16-17, 2020	362.5	12
NORTH VALLEY	February 9, 2020	93.5	7
NORTH VALLEY	March 15, 2020	685.0	15
NORTH VALLEY	August 15, 2020	213.5	21
NORTH VALLEY	August 17, 2020	2,263.6	182
NORTH VALLEY	September 8, 2020	1,530.3	120
NORTH VALLEY	September 27, 2020	2,563.8	81
NORTH VALLEY	October 22, 2020	1,041.4	140
NORTH VALLEY	October 25, 2020	2,054.9	239
	Average of 10 excludable major events	1,584.8	75
NORTH VALLEY	July 22, 2021	22,418.7	7
	% Difference	1314.6%	-91%

Table 59 – North Valley Historical Performance

As indicated in Table 59, the North Valley Division CAIDI value of 22,418.7 minutes for the July 22, 2021 major event was 1314.6% higher than the 1584.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the firefighting efforts involving the Dixie Fire and Fly Fire. The fires rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The cause of the fire remains under investigation. This outage contributed 22,018.1 minutes to the overall July 22nd, 2021 CAIDI performance.

4.5 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	November 26-27, 2019	80.6	14
SAN JOSE	January 16-17, 2020	139.3	3
SAN JOSE	February 9, 2020	225.6	58
SAN JOSE	March 15-16, 2020	51.6	4
SAN JOSE	August 15-17, 2020	547.6	46
SAN JOSE	September 7-8, 2020	131.1	17
SAN JOSE	September 27, 2020	464.7	4
SAN JOSE	October 14, 2020	805.1	3
SAN JOSE	October 22, 2020	899.0	1
SAN JOSE	October 25, 2020	1,433.5	17
	Average of 10 excludable major events	298.0	18
SAN JOSE	July 22, 2021	496.0	1
	% Difference	66.4%	-95%

Table 60 – San Jose Historical Performance

As indicated in Table 60, the San Jose Division CAIDI value of 496.0 minutes for the July 22, 2021 major event was 66.4% higher than the 298.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- A deteriorated overhead primary wire was found sagging into the secondary wire on the Llagas 2105 feeder. This outage contributed 496.0 minutes to the overall July 18th CAIDI performance.

5. August 1-2, 2021 Major Event Days

The fifth major event resulted in MEDs on August 1-2, 2021 mainly due to firefighting efforts involving in North Valley division due to the Dixie Fire and Fly Fire. Overall weather was moderate with daytime high temperatures ranging from the upper 60s to mid 70s near the immediate coast and bay with cooler temperatures across Bay Area and Central Coast valleys and above 100-degree Fahrenheit through the far interior. Breezy northwest winds 15-25 mph developed along the immediate coast in the afternoon with localized gusts up to 35 mph in the valleys. Table 61 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 1-2, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 1-2, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	934.9	116.6%	Yes
CENTRAL COAST	535.5	592.7	110.7%	NO
DE ANZA	540.3	1013.7	187.6%	Yes
DIABLO	516.1	35.4	6.9%	NO
EAST BAY	434.7	19.4	4.5%	NO
FRESNO	120.9	104.9	86.7%	NO
HUMBOLDT	965.1	270.0	28.0%	NO
KERN	142.9	49.8	34.9%	NO
LOS PADRES	341.2	309.7	90.8%	NO
MISSION	288.7	151.7	52.5%	NO
NORTH BAY	725.1	248.9	34.3%	NO
NORTH VALLEY	1,584.8	10058.0	634.6%	Yes
PENINSULA	237.7	73.1	30.8%	NO
SACRAMENTO	397.6	193.6	48.7%	NO
SAN FRANCISCO	67.3	481.0	714.8%	Yes
SAN JOSE	298.0	238.9	80.2%	NO
SIERRA	1,662.9	34.2	2.1%	NO
SONOMA	721.8	440.9	61.1%	NO
STOCKTON	1,161.9	274.9	23.7%	NO
YOSEMITE	988.9	405.5	41.0%	NO

Table 61 – August 1-2, 2021 CAIDI Performance

5.1 System Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	November 26-27, 2019	362.3	568
SYSTEM	January 16-17, 2020	381.9	237
SYSTEM	February 9, 2020	275.7	750
SYSTEM	March 15-16, 2020	700.5	364
SYSTEM	August 15-17, 2020	285.3	484
SYSTEM	September 7-8, 2020	1376.7	557
SYSTEM	September 27, 2020	743.0	470
SYSTEM	October 14, 2020	1740.1	276
SYSTEM	October 22, 2020	703.9	204
SYSTEM	October 25, 2020	1951.1	1411
	Average of 10 excludable major events	801.6	501
SYSTEM	August 1-2, 2021	934.9	86
	% Difference	16.6%	-83%

Table 62 – System Historical Performance

As indicated in Table 62, the System CAIDI value of 934.9 minutes for the August 1-2, 2021 major event was 16.6% higher than the 801.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to firefighting efforts involving the Dixie and Fly fires in North Valley division, which contributed 591.2 minutes to the August 1-2, 2021 overall CAIDI performance.

5.2 De Anza Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	November 26-27, 2019	57.3	7
DE ANZA	January 16-17, 2020	43.1	5
DE ANZA	February 9, 2020	287.2	24
DE ANZA	March 15-16, 2020	200.0	3
DE ANZA	August 15-17, 2020	861.2	21
DE ANZA	September 7-8, 2020	74.6	11
DE ANZA	September 27, 2020	519.1	3
DE ANZA	October 14, 2020	1,438.1	17
DE ANZA	October 22, 2020	140.5	4
DE ANZA	October 25, 2020	1,641.3	28
	Average of 10 excludable major events	540.3	12
DE ANZA	August 1-2, 2021	1,013.7	2
	% Difference	87.6%	-83%

Table 63 –De Anza Division Historical Performance

As indicated in Table 63, the De Anza Division CAIDI value of 1013.7 minutes for the August 1-2, 2021 major event was 87.6% higher than the 540.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to an overhead distribution transformer failure on Los Gatos 1106 feeder that contributed 157.6 minutes to the August 1-2, 2021 overall CAIDI performance.

5.3 North Valley Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH VALLEY	November 26-27, 2019	557.7	67
NORTH VALLEY	January 16-17, 2020	362.5	12
NORTH VALLEY	February 9, 2020	93.5	7
NORTH VALLEY	March 15-16, 2020	685.0	15
NORTH VALLEY	August 15-17, 2020	213.5	21
NORTH VALLEY	September 7-8, 2020	2,263.6	182
NORTH VALLEY	September 27, 2020	1,530.3	120
NORTH VALLEY	October 14, 2020	2,563.8	81
NORTH VALLEY	October 22, 2020	1,041.4	140
NORTH VALLEY	October 25, 2020	2,054.9	239
	Average of 10 excludable major events	1,584.8	75
NORTH VALLEY	August 1-2, 2021	10,058.0	9
	% Difference	534.6%	-88%

Table 64 –North Valley Division Historical Performance

As indicated in Table 64, the North Valley Division CAIDI value of 10,058.0 minutes for the August 1-2, 2021 major event was 534.6% higher than the 1584.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the Dixie firefighting related outages that contributed 9799.2 minutes to the August 1-2,2021 overall CAIDI performance.

5.4 San Francisco Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15,2020	48.8	5
SAN FRANCISCO	August 17,2020	17.0	1
SAN FRANCISCO	September 8,2020	222.9	2
SAN FRANCISCO	September 27,2020	291.0	1
SAN FRANCISCO	October 22,2020	55.0	1
SAN FRANCISCO	October 25,2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	August 1-2, 2021	481.0	1
	% Difference	614.8%	-66%

Table 65 –San Francisco Division Historical Performance

As indicated in Table 65, the San Francisco Division CAIDI value of 481.0 minutes for the August 1-2, 2021 major event was 614.8% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to flashed

conductor that contributed 481.0 minutes to the August 1-2,2021 overall CAIDI performance.

6. August 4, 2021 Major Event Day

The sixth major event resulted in an MED on August 4, 2021, 2 days after the fifth MED event on August 1-2, 2021 mainly due to firefighting efforts involving North Valley division and Humboldt division as a result of 3 fires - Dixie, Fly and Monument fires. There was a low pressure system that moved onshore across Northern California that increased winds across elevated terrain and caused rapid fire growth. Breezy northwest winds 15-25 mph developed along the immediate coast in the afternoon with localized gusts up to 35 mph in the valleys. Table 66 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 4, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 4, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	855.0	106.7%	NO
CENTRAL COAST	535.5	642.0	119.9%	NO
DE ANZA	540.3	191.7	35.5%	NO
DIABLO	516.1	138.0	26.7%	NO
EAST BAY	434.7	281.0	64.6%	NO
FRESNO	120.9	115.2	95.3%	NO
HUMBOLDT	965.1	1914.0	198.3%	Yes
KERN	142.9	37.9	26.5%	NO
LOS PADRES	341.2	263.6	77.3%	NO
MISSION	288.7	124.9	43.3%	NO
NORTH BAY	725.1	78.2	10.8%	NO
NORTH VALLEY	1,584.8	2175.3	137.3%	Yes
PENINSULA	237.7	244.9	103.0%	NO
SACRAMENTO	397.6	216.1	54.3%	NO
SAN FRANCISCO	67.3	0.0	0.0%	NO
SAN JOSE	298.0	538.4	180.7%	Yes
SIERRA	1,662.9	82.2	4.9%	NO
SONOMA	721.8	113.8	15.8%	NO
STOCKTON	1,161.9	91.7	7.9%	NO
YOSEMITE	988.9	97.1	9.8%	NO

Table 66 – August 4, 2021 CAIDI Performance

6.1 Humboldt Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	November 26-27, 2019	1,033.8	101
HUMBOLDT	January 16-17, 2020	557.8	84
HUMBOLDT	February 9, 2020	209.1	4
HUMBOLDT	March 15-16, 2020	318.6	18
HUMBOLDT	August 15-17, 2020	150.0	18
HUMBOLDT	September 7-8, 2020	1,827.5	26
HUMBOLDT	September 27, 2020	273.9	17
HUMBOLDT	October 14, 2020	1,048.0	7
HUMBOLDT	October 22, 2020	318.3	5
HUMBOLDT	October 25, 2020	2,319.5	122
	Average of 10 excludable major events	965.1	42
HUMBOLDT	August 4th, 2021	1,914.0	12
	% Difference	98.3%	-71%

Table 67 – Humboldt Division Historical Performance

As indicated in Table 67, the Humboldt Division CAIDI value of 1914.0 minutes for the August 4, 2021 major event was 98.3% higher than the 965.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to an outage caused by a broken cross arm on the Willow Creek 1103 feeder that contributed 1538.3 minutes to the August 4, 2021 overall CAIDI performance.

6.2 North Valley Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH VALLEY	November 26-27, 2019	557.7	67
NORTH VALLEY	January 16-17, 2020	362.5	12
NORTH VALLEY	February 9, 2020	93.5	7
NORTH VALLEY	March 15-16, 2020	685.0	15
NORTH VALLEY	August 15-17, 2020	213.5	21
NORTH VALLEY	September 7-8, 2020	2,263.6	182
NORTH VALLEY	September 27, 2020	1,530.3	120
NORTH VALLEY	October 14, 2020	2,563.8	81
NORTH VALLEY	October 22, 2020	1,041.4	140
NORTH VALLEY	October 25, 2020	2,054.9	239
	Average of 10 excludable major events	1,584.8	75
NORTH VALLEY	August 4th, 2021	2,175.3	12
	% Difference	37.3%	-84%

Table 68 –North Valley Division Historical Performance

As indicated in Table 68, the North Valley Division CAIDI value of 2175.3.0 minutes for the August 4, 2021 major event was 37.3% higher than the 1584.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor of the higher division CAIDI value was due to the Dixie firefighting outages that contributed 387.8 minutes to the August 4, 2021 overall CAIDI performance.

6.3 San Jose Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	November 26-27, 2019	80.6	14
SAN JOSE	January 16-17, 2020	139.3	3
SAN JOSE	February 9, 2020	225.6	58
SAN JOSE	March 15, 2020	51.6	4
SAN JOSE	August 15, 2020	547.6	46
SAN JOSE	August 17, 2020	131.1	17
SAN JOSE	September 8, 2020	464.7	4
SAN JOSE	September 27, 2020	805.1	3
SAN JOSE	October 22, 2020	899.0	1
SAN JOSE	October 25, 2020	1,433.5	17
	Average of 10 excludable major events	298.0	18
SAN JOSE	August 4th, 2021	538.4	3
	% Difference	80.7%	-84%

Table 69 –San Jose Division Historical Performance

As indicated in Table 69, the San Jose Division CAIDI value of 538.4 minutes for the August 4, 2021 major event was 80.7% higher than the 298.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a failed underground transformer on the Edenvale-1103 feeder that contributed 447.0 minutes to the August 4, 2021 overall CAIDI performance.

7. August 12, 2021 Major Event Day

The seventh major event resulted in an MED on August 12, 2021, mainly due to firefighting efforts in North Valley division involving the Dixie Fire. Weather was moderate throughout the service territory. Table 70 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 12, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 12, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	884.1	110.3%	Yes
CENTRAL COAST	535.5	293.2	54.8%	NO
DE ANZA	540.3	302.1	55.9%	NO
DIABLO	516.1	115.4	22.4%	NO
EAST BAY	434.7	11.0	2.5%	NO
FRESNO	120.9	42.6	35.2%	NO
HUMBOLDT	965.1	233.7	24.2%	NO
KERN	142.9	152.4	106.7%	NO
LOS PADRES	341.2	57.8	16.9%	NO
MISSION	288.7	31.0	10.7%	NO
NORTH BAY	725.1	176.0	24.3%	NO
NORTH VALLEY	1,584.8	3882.8	245.0%	Yes
PENINSULA	237.7	192.0	80.8%	NO
SACRAMENTO	397.6	168.6	42.4%	NO
SAN FRANCISCO	67.3	0.0	0.0%	NO
SAN JOSE	298.0	89.8	30.1%	NO
SIERRA	1,662.9	564.9	34.0%	NO
SONOMA	721.8	271.8	37.7%	NO
STOCKTON	1,161.9	658.9	56.7%	NO
YOSEMITE	988.9	190.3	19.2%	NO

Table 70 – August 12, 2021 CAIDI Performance

7.1 System Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	November 26-27, 2019	362.3	568
SYSTEM	January 16-17, 2020	381.9	237
SYSTEM	February 9, 2020	275.7	750
SYSTEM	March 15-16, 2020	700.5	364
SYSTEM	August 15-17, 2020	285.3	484
SYSTEM	September 7-8, 2020	1376.7	557
SYSTEM	September 27, 2020	743.0	470
SYSTEM	October 14, 2020	1740.1	276
SYSTEM	October 22, 2020	703.9	204
SYSTEM	October 25, 2020	1951.1	1411
	Average of 10 excludable major events	801.6	501
SYSTEM	August 12, 2021	884.1	86
	% Difference	10.3%	-83%

Table 71 – System Historical Performance

As indicated in Table 71, the System CAIDI value of 884.1 minutes for the August 12, 2021 major event was 10.3% higher than the 801.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to firefighting efforts involving the Dixie in North Valley division, which contributed 590.1 minutes to the August 12, 2021 overall CAIDI performance.

7.2 North Valley Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH VALLEY	November 26-27, 2019	557.7	67
NORTH VALLEY	January 16-17, 2020	362.5	12
NORTH VALLEY	February 9, 2020	93.5	7
NORTH VALLEY	March 15-16, 2020	685.0	15
NORTH VALLEY	August 15-17, 2020	213.5	21
NORTH VALLEY	September 7-8, 2020	2,263.6	182
NORTH VALLEY	September 27, 2020	1,530.3	120
NORTH VALLEY	October 14, 2020	2,563.8	81
NORTH VALLEY	October 22, 2020	1,041.4	140
NORTH VALLEY	October 25, 2020	2,054.9	239
	Average of 10 excludable major events	1,584.8	75
NORTH VALLEY	August 12, 2021	3,882.8	9
	% Difference	145.0%	-88%

Table 72 –North Valley Division Historical Performance

As indicated in Table 72, the North Valley Division CAIDI value of 3882.8 minutes for the August 12, 2021 major event was 145.0% higher than the 1584.8-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the Dixie Fire related outages that contributed 3074.8 minutes to the August 12, 2021 overall CAIDI performance.

8. August 17, 2021 Major Event Day

The eighth major event was on August 17, 2021 involving high pressure breaks that resulted in dry, gusty northerly winds across the Sacramento Valley and elevated terrain along with the SF North/East Bay hills that created gusty offshore winds, hot temperatures, and low humidity which resulted in critical fire risk danger across the north and the implementation of PSPS outages. This event impacted a total of 51,574 customers in the service territory. Table 73 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 17, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 17, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	1228.0	153.2%	Yes
CENTRAL COAST	535.5	789.6	147.5%	Yes
DE ANZA	540.3	112.3	20.8%	NO
DIABLO	516.1	314.6	61.0%	NO
EAST BAY	434.7	37.6	8.7%	NO
FRESNO	120.9	202.1	167.1%	Yes
HUMBOLDT	965.1	1550.9	160.7%	Yes
KERN	142.9	65.4	45.8%	NO
LOS PADRES	341.2	144.0	42.2%	NO
MISSION	288.7	0.0	0.0%	NO
NORTH BAY	725.1	955.8	131.8%	Yes
NORTH VALLEY	1,584.8	1852.7	116.9%	NO
PENINSULA	237.7	59.9	25.2%	NO
SACRAMENTO	397.6	1013.4	254.9%	Yes
SAN FRANCISCO	67.3	309.0	459.2%	Yes
SAN JOSE	298.0	80.3	26.9%	NO
SIERRA	1,662.9	359.4	21.6%	NO
SONOMA	721.8	552.3	76.5%	NO
STOCKTON	1,161.9	127.4	11.0%	NO
YOSEMITE	988.9	363.5	36.8%	NO

Table 73 – August 17, 2021 CAIDI Performance

8.1 System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	November 26-27, 2019	362.3	568
SYSTEM	January 16-17, 2020	381.9	237
SYSTEM	February 9, 2020	275.7	750
SYSTEM	March 15-16, 2020	700.5	364
SYSTEM	August 15-17, 2020	285.3	484
SYSTEM	September 7-8, 2020	1376.7	557
SYSTEM	September 27, 2020	743.0	470
SYSTEM	October 14, 2020	1740.1	276
SYSTEM	October 22, 2020	703.9	204
SYSTEM	October 25, 2020	1951.1	1411
	Average of 10 excludable major events	801.6	501
SYSTEM	August 17, 2021	1228.0	370
	% Difference	53.2%	-26%

Table 74 – System Historical Performance

As indicated in Table 74, the System CAIDI value of 1228.0 minutes for the August 17, 2021 major event was 53.2% higher than the 801.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due the initiation of 245 PSPS outages to mitigate wildfire risk and that contributed 883.0 minutes to the August 17, 2021 overall CAIDI performance.

8.2 Central Coast Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	November 26-27, 2019	331.2	51
CENTRAL COAST	January 16-17, 2020	105.0	23
CENTRAL COAST	February 9, 2020	81.9	182
CENTRAL COAST	March 15-16, 2020	91.9	11
CENTRAL COAST	August 15-17, 2020	377.4	46
CENTRAL COAST	September 7-8, 2020	255.2	14
CENTRAL COAST	September 27, 2020	0.9	7
CENTRAL COAST	October 14, 2020	5.5	26
CENTRAL COAST	October 22, 2020	0.2	3
CENTRAL COAST	October 25, 2020	84.0	87
	Average of 10 excludable major events	535.5	40
CENTRAL COAST	August 17, 2021	789.6	7
	% Difference	47.5%	-83%

Table 75 – Central Coast Division Historical Performance

As indicated in Table 75, the Central Coast division CAIDI value of 789.6 minutes for the August 17, 2021 major event was 47.5% higher than the 535.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a recloser level outage on Camp Evers 2105 feeder (EPSS enabled) due to a tree falling into PG&E distribution lines. This outage contributed 639.2 minutes to the August 17, 2021 overall CAIDI performance.

8.3 Humboldt Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	November 26-27, 2019	1,033.8	101
HUMBOLDT	January 16-17, 2020	557.8	84
HUMBOLDT	February 9, 2020	209.1	4
HUMBOLDT	March 15-16, 2020	318.6	18
HUMBOLDT	August 15-17, 2020	150.0	18
HUMBOLDT	September 7-8, 2020	1,827.5	26
HUMBOLDT	September 27, 2020	273.9	17
HUMBOLDT	October 14, 2020	1,048.0	7
HUMBOLDT	October 22, 2020	318.3	5
HUMBOLDT	October 25, 2020	2,319.5	122
	Average of 10 excludable major events	965.1	42
HUMBOLDT	August 17, 2021	1,550.9	31
	% Difference	60.7%	-25%

Table 76 – Humboldt Division Historical Performance

As indicated in Table 76, the Humboldt division CAIDI value of 1550.9 minutes for the August 17, 2021 major event was 60.7% higher than the 965.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due the initiation of 13 PSPS outages to mitigate wildfire that contributed 805.0 minutes to the August 17, 2021 overall CAIDI performance.

8.4 North Bay Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	November 26-27, 2019	107.6	16
NORTH BAY	January 16-17, 2020	260.1	0
NORTH BAY	February 9, 2020	171.0	51
NORTH BAY	March 15-16, 2020	219.9	4
NORTH BAY	August 15-17, 2020	209.3	28
NORTH BAY	September 7-8, 2020	1,063.2	22
NORTH BAY	September 27, 2020	32.0	88
NORTH BAY	October 14, 2020	2,423.3	33
NORTH BAY	October 22, 2020	170.5	3
NORTH BAY	October 25, 2020	1,988.3	82
	Average of 10 excludable major events	725.1	27
NORTH BAY	August 17, 2021	955.8	56
	% Difference	31.8%	107%

Table 77 – North Bay Division Historical Performance

As indicated in Table 77, the North Bay Division CAIDI value of 955.8 minutes for the August 17, 2021 major event was 31.8% higher than the 725.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due the initiation

of 49 PSPS outages to mitigate wildfire risk and that contributed 341.2 minutes to the August 17, 2021 overall CAIDI performance.

8.5 Sacramento Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	November 26-27, 2019	182.9	27
SACRAMENTO	January 16-17, 2020	125.5	6
SACRAMENTO	February 9, 2020	183.0	26
SACRAMENTO	March 15-16, 2020	107.2	4
SACRAMENTO	August 15-17, 2020	308.7	28
SACRAMENTO	September 7-8, 2020	299.5	18
SACRAMENTO	September 27, 2020	267.3	13
SACRAMENTO	October 14, 2020	2,008.4	14
SACRAMENTO	October 22, 2020	176.1	9
SACRAMENTO	October 25, 2020	1,052.2	45
	Average of 10 excludable major events	397.6	19
SACRAMENTO	August 17, 2021	1,013.4	27
	% Difference	154.9%	44%

Table 78 – Sacramento Division Historical Performance

As indicated in Table 78, the Sacramento division CAIDI value of 1013.4 minutes for the August 17, 2021 major event was 154.9% higher than the 397.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due the initiation of 17 PSPS outages to mitigate wildfire risk and that contributed 861.8 minutes to the August 17, 2021 overall CAIDI performance.

8.6 San Francisco Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	excludable major events	67.3	3
SAN FRANCISCO	August 17, 2021	309.0	1
	% Difference	359.2%	-66%

Table 79 – San Francisco Division Historical Performance

As indicated in Table 79, the San Francisco division CAIDI value of 309.0 minutes for the August 17, 2021 major event day was 359.2% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The only outage contributing to the higher division CAIDI value was due to an overhead conductor failure on the SF P-1101 feeder that contributed 309.0 minutes to the August 17, 2021 overall CAIDI performance.

9. September 10, 2021 Major Event Day

The ninth major event was on September 10, 2021 resulting from rain showers and thunderstorm activity that brought a combination of lightning and flashover impacts to the territory. Late summer hot weather brought slightly high temperatures. This event impacted a total of 180,415 customers in the service territory and was eight largest outage event of 2021. Table 80 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(September 10, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	September 10, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	467.3	58.3%	NO
CENTRAL COAST	535.5	681.8	127.3%	Yes
DE ANZA	540.3	305.5	56.5%	NO
DIABLO	516.1	86.4	16.7%	NO
EAST BAY	434.7	386.1	88.8%	NO
FRESNO	120.9	35.9	29.7%	NO
HUMBOLDT	965.1	335.3	34.7%	NO
KERN	142.9	52.5	36.7%	NO
LOS PADRES	341.2	229.9	67.4%	NO
MISSION	288.7	115.4	40.0%	NO
NORTH BAY	725.1	301.2	41.5%	NO
NORTH VALLEY	1,584.8	1521.2	96.0%	NO
PENINSULA	237.7	293.2	123.4%	NO
SACRAMENTO	397.6	282.6	71.1%	NO
SAN FRANCISCO	67.3	94.8	140.9%	Yes
SAN JOSE	298.0	194.7	65.3%	NO
SIERRA	1,662.9	382.3	23.0%	NO
SONOMA	721.8	563.4	78.1%	NO
STOCKTON	1,161.9	312.4	26.9%	NO
YOSEMITE	988.9	230.1	23.3%	NO

Table 80 – September 10, 2021 CAIDI Performance

9.1 Central Coast CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
CENTRAL COAST	November 26-27, 2019	331.2	51
CENTRAL COAST	January 16-17, 2020	105.0	23
CENTRAL COAST	February 9, 2020	81.9	182
CENTRAL COAST	March 15-16, 2020	91.9	11
CENTRAL COAST	August 15-17, 2020	377.4	46
CENTRAL COAST	September 7-8, 2020	255.2	14
CENTRAL COAST	September 27, 2020	0.9	7
CENTRAL COAST	October 14, 2020	5.5	26
CENTRAL COAST	October 22, 2020	0.2	3
CENTRAL COAST	October 25, 2020	84.0	87
	Average of 10 excludable major events	535.5	40
CENTRAL COAST	September 10, 2021	681.8	10
	% Difference	27.3%	-75%

Table 81 – Central Coast Division Historical Performance

As indicated in Table 81, the Central Coast Division CAIDI value of 681.8 minutes for the September 10, 2021 major event was 27.3% higher than the 535.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a recloser level outage on Camp Evers 2105 feeder (EPSS enabled) due to a squirrel on the distribution power lines. This outage contributed 596.5 minutes to the September 10, 2021 overall CAIDI performance.

9.2 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	September 10, 2021	94.8	1
	% Difference	40.9%	-66%

Table 82 – San Francisco Division Historical Performance

As indicated in Table 82, the San Francisco Division CAIDI value of 94.8 minutes for the September 10, 2021 major event was 40.9% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The only outage contributing to the higher division CAIDI value was due to an overhead conductor failure on the SF H Martin -1105 feeder that contributed 94.8 minutes to the September 10, 2021 overall CAIDI performance.

10. October 11, 2021 Major Event Day

The tenth major event was on October 11, 2021 involving high pressure breaks that resulted in dry, breeze between 15-30 mph across the territory and gusty northerly winds between 35-50 mph in the Central Valley and in the surrounding foothills. followed by rain and snow showers in the high Sierras, which resulted in critical fire risk danger across the north and the implementation of PSPS outages. This event impacted a total of 171,765 customers in the service territory and became the ninth largest outage event of 2021. Table 83 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 11, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 11, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	478.5	59.7%	NO
CENTRAL COAST	535.5	352.7	65.9%	NO
DE ANZA	540.3	310.1	57.4%	NO
DIABLO	516.1	292.4	56.7%	NO
EAST BAY	434.7	58.2	13.4%	NO
FRESNO	120.9	364.0	301.0%	Yes
HUMBOLDT	965.1	1335.0	138.3%	Yes
KERN	142.9	566.5	396.5%	Yes
LOS PADRES	341.2	198.8	58.3%	NO
MISSION	288.7	99.0	34.3%	NO
NORTH BAY	725.1	1118.7	154.3%	Yes
NORTH VALLEY	1,584.8	1129.7	71.3%	NO
PENINSULA	237.7	438.3	184.4%	Yes
SACRAMENTO	397.6	435.6	109.6%	NO
SAN FRANCISCO	67.3	91.2	135.5%	Yes
SAN JOSE	298.0	228.9	76.8%	NO
SIERRA	1,662.9	500.2	30.1%	NO
SONOMA	721.8	440.4	61.0%	NO
STOCKTON	1,161.9	304.0	26.2%	NO
YOSEMITE	988.9	310.2	31.4%	NO

Table 83 – October 11, 2021 CAIDI Performance

10.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	October 11, 2021	364.0	130
	% Difference	201.0%	596%

Table 84 – Fresno Division Historical Performance

As indicated in Table 84, the Fresno Division CAIDI value of 364.0 minutes for the October 11, 2021 major event was 201.0% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following:

- Initiation of 10 PSPS outages to mitigate wildfire risk that contributed 13.8 minutes to the October 11, 2021 overall CAIDI performance.
- Broken pole related outages on the Kerman 1108 feeder and Biola 1103 feeder contributed 41.3 minutes to the October 11, 2021 overall CAIDI performance.

10.2 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	November 26-27, 2019	1,033.8	101
HUMBOLDT	January 16-17, 2020	557.8	84
HUMBOLDT	February 9, 2020	209.1	4
HUMBOLDT	March 15-16, 2020	318.6	18
HUMBOLDT	August 15-17, 2020	150.0	18
HUMBOLDT	September 7-8, 2020	1,827.5	26
HUMBOLDT	September 27, 2020	273.9	17
HUMBOLDT	October 14, 2020	1,048.0	7
HUMBOLDT	October 22, 2020	318.3	5
HUMBOLDT	October 25, 2020	2,319.5	122
	Average of 10 excludable major events	965.1	42
HUMBOLDT	October 11, 2021	1,335.0	27
	% Difference	38.3%	-35%

Table 85 – Humboldt Division Historical Performance

As indicated in Table 85, the Humboldt Division CAIDI value of 1335.0 minutes for the October 11, 2021 major event was 38.3% higher than the 965.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the initiation of 16 PSPS outages to mitigate wildfire risk and that contributed 1106.1 minutes to the October 11, 2021 overall CAIDI performance

10.3 North Bay CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
NORTH BAY	November 26-27, 2019	107.6	16
NORTH BAY	January 16-17, 2020	260.1	0
NORTH BAY	February 9, 2020	171.0	51
NORTH BAY	March 15-16, 2020	219.9	4
NORTH BAY	August 15-17, 2020	209.3	28
NORTH BAY	September 7-8, 2020	1,063.2	22
NORTH BAY	September 27, 2020	32.0	88
NORTH BAY	October 14, 2020	2,423.3	33
NORTH BAY	October 22, 2020	170.5	3
NORTH BAY	October 25, 2020	1,988.3	82
	Average of 10 excludable major events	725.1	27
NORTH BAY	October 11, 2021	1,118.7	43
	% Difference	54.3%	59%

Table 86 – North Bay Division Historical Performance

As indicated in Table 86, the North Bay Division CAIDI value of 1118.7 minutes for the October 11, 2021 major event was 54.3% higher than the 725.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the initiation of 30 PSPS outages to mitigate wildfire risk and that contributed 668.6 minutes to the October 11, 2021 overall CAIDI performance

10.4 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	November 26-27, 2019	79.5	7
KERN	January 16-17, 2020	122.5	12
KERN	February 9, 2020	22.0	1
KERN	March 15-16, 2020	241.3	8
KERN	August 15-17, 2020	127.3	6
KERN	September 7-8, 2020	792.5	10
KERN	September 27, 2020	80.6	6
KERN	October 14, 2020	55.4	7
KERN	October 22, 2020	279.9	4
KERN	October 25, 2020	233.5	4
	Average of 10 excludable major events	142.9	7
KERN	October 11, 2021	566.5	22
	% Difference	296.5%	212%

Table 87 – Kern Division Historical Performance

As indicated in Table 87, the Kern Division CAIDI value of 566.5 minutes for the October 11, 2021 major event day was 296.5% higher than the 142.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the initiation of 8 PSPS outages to mitigate wildfire risk and that contributed 511.1 minutes to the October 11, 2021 overall CAIDI performance

10.5 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	October 11, 2021	91.2	2
	% Difference	35.5%	-31%

Table 88 – San Francisco Division Historical Performance

As indicated in Table 88, the San Francisco Division CAIDI value of 91.2 minutes for the October 11, 2021 major event was 35.5% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the failure of an overhead distribution transformer on the SF P -1105 feeder that contributed 53.2 minutes to the September 10, 2021 overall CAIDI performance.

11. October 17, 2021 Major Event Day

The eleventh major event occurred on October 17, 2021 as a result of a succession of 3 weather systems that resulted in outages due to wind and flashover related outages. The first system moved through the state on October 17 and October 18, largely impacting the SF Bay area divisions with wind and flashover related outages. The second system moved onshore across the North Coast on October 19 causing wind and flashover related outages, with flashover outages continuing October 20 across northern California divisions. A third system swept across the entire state on October 21-22 producing additional flashover related outages. This event impacted a total of 463,063 customers in the service territory and became the third largest outage event of 2021. Table 89 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 17, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 17, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	230.2	28.7%	NO
CENTRAL COAST	535.5	120.2	22.4%	NO
DE ANZA	540.3	43.0	8.0%	NO
DIABLO	516.1	10.0	1.9%	NO
EAST BAY	434.7	204.5	47.0%	NO
FRESNO	120.9	198.8	164.4%	Yes
HUMBOLDT	965.1	393.9	40.8%	NO
KERN	142.9	83.4	58.4%	NO
LOS PADRES	341.2	0.0	0.0%	NO
MISSION	288.7	369.0	127.8%	Yes
NORTH BAY	725.1	107.2	14.8%	NO
NORTH VALLEY	1,584.8	258.7	16.3%	NO
PENINSULA	237.7	343.5	144.5%	Yes
SACRAMENTO	397.6	225.4	56.7%	NO
SAN FRANCISCO	67.3	20.3	30.2%	NO
SAN JOSE	298.0	165.2	55.4%	NO
SIERRA	1,662.9	318.8	19.2%	NO
SONOMA	721.8	275.8	38.2%	NO
STOCKTON	1,161.9	213.0	18.3%	NO
YOSEMITE	988.9	233.5	23.6%	NO

Table 89 – October 17, 2021 CAIDI Performance

11.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	October 17, 2021	198.8	13
	% Difference	64.4%	-30%

Table 90 – Fresno Division Historical Performance

As indicated in Table 90, the Fresno Division CAIDI value of 198.8 minutes for the October 17, 2021 major event was 64.4% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a recloser level outage on the Auberry 1101 feeder due to an unknown cause and that contributed 88.2 minutes to the October 17, 2021 overall CAIDI performance.

11.2 Mission CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
MISSION	November 26-27, 2019	134.9	10
MISSION	January 16-17, 2020	163.8	4
MISSION	February 9, 2020	242.9	68
MISSION	March 15-16, 2020	38.6	2
MISSION	August 15-17, 2020	261.9	23
MISSION	September 7-8, 2020	237.5	9
MISSION	September 27, 2020	300.3	5
MISSION	October 14, 2020	1,047.1	4
MISSION	October 22, 2020	323.0	1
MISSION	October 25, 2020	845.4	42
	Average of 10 excludable major events	288.7	15
MISSION	October 17, 2021	369.0	35
	% Difference	27.8%	134%

Table 91 – Mission Historical Performance

As indicated in Table 91, the Mission Division CAIDI value of 369.0 minutes for the October 17, 2021 major event was 27.8% higher than the 288.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- A broken pole incident on the Mt Eden 1101 feeder caused an outage that contributed 21.4 minutes to the overall October 17, CAIDI Performance.
- A flashed insulator/pole incident on the Grant 1105 feeder caused an outage that contributed 14.5 minutes to the overall October 17, CAIDI Performance.
- A flashed insulator/crossarm incident at three locations on the Grant 1105 feeder caused an outage that contributed 14.5 minutes to the overall October 17, CAIDI Performance.

These three outages contributed 52.8 minutes to the overall October 17, CAIDI Performance.

11.3 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	November 26-27, 2019	167.6	20
PENINSULA	January 16-17, 2020	123.1	8
PENINSULA	February 9, 2020	190.4	37
PENINSULA	March 15-16, 2020	88.7	3
PENINSULA	August 15-17, 2020	133.7	26
PENINSULA	September 7-8, 2020	237.4	11
PENINSULA	September 27, 2020	758.9	2
PENINSULA	October 14, 2020	2,316.1	12
PENINSULA	October 22, 2020	430.5	4
PENINSULA	October 25, 2020	1,635.7	30
	Average of 10 excludable major events	237.7	15
PENINSULA	October 17, 2021	343.5	22
	% Difference	44.5%	45%

Table 92 – Peninsula Historical Performance

As indicated in Table 92, the Peninsula Division CAIDI value of 343.5 minutes for the October 17, 2021 major event was 44.5% higher than the 237.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- Failure of an overhead distribution conductor on the Bay Meadows 2101 feeder contributed 55.1 minutes to the overall October 17th CAIDI Performance.

12. October 24-25, 2021 Major Event Days

The twelfth major event was on October 24-25, 2021 involving a major winter storm due to a powerful atmospheric river that brought heavy rains including flash floods and high wind throughout the territory. Significant outage activity occurred in the Bay Area as well as in the Humboldt area. This event resulted in the year's 2nd largest outage event that impacted a total of 622,050 customers in the service territory. Table 93 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 24-25, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 24-25, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	351.6	43.9%	NO
CENTRAL COAST	535.5	466.6	87.1%	NO
DE ANZA	540.3	607.9	112.5%	NO
DIABLO	516.1	273.2	52.9%	NO
EAST BAY	434.7	123.2	28.3%	NO
FRESNO	120.9	153.7	127.1%	Yes
HUMBOLDT	965.1	260.4	27.0%	NO
KERN	142.9	180.9	126.6%	Yes
LOS PADRES	341.2	191.7	56.2%	NO
MISSION	288.7	111.8	38.7%	NO
NORTH BAY	725.1	342.0	47.2%	NO
NORTH VALLEY	1,584.8	311.3	19.6%	NO
PENINSULA	237.7	603.7	254.0%	Yes
SACRAMENTO	397.6	143.5	36.1%	NO
SAN FRANCISCO	67.3	328.1	487.6%	Yes
SAN JOSE	298.0	355.1	119.2%	NO
SIERRA	1,662.9	439.2	26.4%	NO
SONOMA	721.8	745.8	103.3%	NO
STOCKTON	1,161.9	174.2	15.0%	NO
YOSEMITE	988.9	154.1	15.6%	NO

Table 93 – October 24-25, 2021 CAIDI Performance

12.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	October 24-25, 2021	153.7	53
	% Difference	27.1%	181%

Table 94 – Fresno Division Historical Performance

As indicated in Table 94, the Fresno Division CAIDI value of 153.7 minutes for the October 24-25, 2021 major event was 27.1% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following:

- A flashed overhead conductor/insulator on the Pinedale 2110 feeder contributed 7.1 minutes to the overall October 24-25th CAIDI performance.
- A failed overhead distribution line regulator on the Gates 1102 feeder contributed 4.4 minutes to the overall October 24-25th CAIDI performance.
- A flashed distribution insulator/pole on the Corcoran 1108 feeder contributed 3.6 minutes to the overall October 24-25th CAIDI performance.
- Failure of an overhead distribution transformer on the Calflax 1104 feeder contributed 2.8 minutes to the overall October 24-25th CAIDI performance.

These equipment failure related outages contributed 18.2 minutes to the overall October 24-25, CAIDI performance.

12.2 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	November 26-27, 2019	79.5	7
KERN	January 16-17, 2020	122.5	12
KERN	February 9, 2020	22.0	1
KERN	March 15-16, 2020	241.3	8
KERN	August 15-17, 2020	127.3	6
KERN	September 7-8, 2020	792.5	10
KERN	September 27, 2020	80.6	6
KERN	October 14, 2020	55.4	7
KERN	October 22, 2020	279.9	4
KERN	October 25, 2020	233.5	4
	Average of 10 excludable major events	142.9	7
KERN	October 24-25, 2021	180.9	29
	% Difference	26.6%	304%

Table 95 – Kern Division Historical Performance

As indicated in Table 95, the Kern Division CAIDI value of 180.9 minutes for the October 24-25, 2021 major event was 26.6% higher than the 142.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following:

- A flashed insulator/pole on the Magunden 1106 feeder contributed 5.6 minutes to the overall October 24-25th CAIDI performance.
- A broken crossarm on the Wheeler Ridge 1101 feeder contributed 4.4 minutes to the overall October 24-25th CAIDI performance.
- A flashed potential transformers and lightning arresters on the Magunden 1101 feeder contributed 3.7 minutes to the overall October 24-25th CAIDI performance.
- Failure of a deteriorated underground distribution transformer on the Columbus 1104 feeder contributed 3.6 minutes to the overall October 24-25th CAIDI performance.
- A flashed insulator/pole on the Magunden 1108 feeder contributed 1.7 minutes to the overall October 24-25th CAIDI performance.
- A flashed insulator/pole on the Bakersfield 1102 feeder contributed 3.0 minutes to the overall October 24-25th CAIDI performance.

These equipment failure related outages contributed 25.2 minutes to the overall October 24-25, CAIDI performance.

12.3 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	November 26-27, 2019	167.6	20
PENINSULA	January 16-17, 2020	123.1	8
PENINSULA	February 9, 2020	190.4	37
PENINSULA	March 15-16, 2020	88.7	3
PENINSULA	August 15-17, 2020	133.7	26
PENINSULA	September 7-8, 2020	237.4	11
PENINSULA	September 27, 2020	758.9	2
PENINSULA	October 14, 2020	2,316.1	12
PENINSULA	October 22, 2020	430.5	4
PENINSULA	October 25, 2020	1,635.7	30
	Average of 10 excludable major events	237.7	15
PENINSULA	October 24-25, 2021	603.7	68
	% Difference	154.0%	348%

Table 96 – Peninsula Historical Performance

As indicated in Table 96, the Peninsula Division CAIDI value of 603.7 minutes for the October 24-25, 2021 major event was 154.0% higher than the 237.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Equipment failures on the distribution system resulted in six outages that contributed 85.5 minutes to the overall October 24-25, CAIDI performance.
- Six vegetation related outages contributed 69.2 minutes to the overall October 24-25, CAIDI performance.

These 12 outages contributed a total of 179.3 minutes to the overall October 24-25, CAIDI performance.

12.4 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	October 24-25, 2021	328.1	18
	% Difference	387.6%	517%

Table 97 – San Francisco Division Historical Performance

As indicated in Table 97, the San Francisco Division CAIDI value of 328.1 minutes for the October 24-25, 2021 major event was 387.6% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outages:

- Equipment failures on the distribution system resulted in nine outages and contributed 50.6 minutes to the overall October 24-25, CAIDI performance.
- Five vegetation related outages contributed 19.8 minutes to the overall October 24-25, CAIDI performance.
- Three outages due to unknown causes contributed 14.6 minutes to the overall October 24-25, CAIDI performance.

These 17 outages contributed a total of 99.9 minutes to the overall October 24-25, CAIDI performance.

13. December 13-15, 2021 Major Event Days

The thirteenth major event was on December 13-15, 2021 involving a major winter storm due to a strong weather system that moved through the state and produced moderate rainfall and breezy to gusty winds. Snow levels dropped to around 2000-3500' and low to mid elevation snowfall also produced outage impacts across North Valley and Sierra divisions. This event resulted in the year's 4th largest outage event that impacted a total of 339,075 customers in the service territory. Table 98 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(December 13-15, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	December 13 - 15 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	361.3	45.1%	NO
CENTRAL COAST	535.5	181.3	33.9%	NO
DE ANZA	540.3	130.6	24.2%	NO
DIABLO	516.1	68.2	13.2%	NO
EAST BAY	434.7	129.4	29.8%	NO
FRESNO	120.9	290.7	240.4%	Yes
HUMBOLDT	965.1	330.7	34.3%	NO
KERN	142.9	140.0	98.0%	NO
LOS PADRES	341.2	168.1	49.3%	NO
MISSION	288.7	64.3	22.3%	NO
NORTH BAY	725.1	144.8	20.0%	NO
NORTH VALLEY	1,584.8	1098.9	69.3%	NO
PENINSULA	237.7	182.8	76.9%	NO
SACRAMENTO	397.6	132.2	33.2%	NO
SAN FRANCISCO	67.3	103.8	154.3%	Yes
SAN JOSE	298.0	69.1	23.2%	NO
SIERRA	1,662.9	682.1	41.0%	NO
SONOMA	721.8	236.1	32.7%	NO
STOCKTON	1,161.9	214.6	18.5%	NO
YOSEMITE	988.9	265.6	26.9%	NO

Table 98 – December 13-15, 2021 CAIDI Performance

13.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	December 13-15, 2021	290.7	24
	% Difference	140.4%	27%

Table 99 – Fresno Division Historical Performance

As indicated in Table 99, the Fresno Division CAIDI value of 290.7 minutes for the October 24-25, 2021 major event was 140.4% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor of the higher division CAIDI value was due to the following:

- Equipment failures resulting in four outages that contributed 38.8 minutes to the overall December 13-15, CAIDI performance.
- Six vegetation related outages that contributed 74.9 minutes to the overall December 13-15, CAIDI performance.

These 10 outages contributed a total of 123.3 minutes to the overall December 13-15, CAIDI performance.

13.2 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	December 13-15, 2021	103.8	4
	% Difference	54.3%	49%

Table 100 – San Francisco Division Historical Performance

As indicated in Table 100, the San Francisco Division CAIDI value of 103.8 minutes for the December 13-15, 2021 major event was 54.3% higher than the 67.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following outage:

- A broken conductor caused an outage on the SF P-1108 feeder that contributed 36.9 minutes to the overall December 13-15, CAIDI performance.

14. December 25-27, 2021 Major Event Days

The fourteenth major event was on December 25-27, 2021 involving a major winter storm due to a strong “atmospheric river” weather system that moved through the state and produced moderate rainfall and breezy to gusty winds. Snow levels dropped to around 2000-3500’ with low to mid elevation snowfall that also produced outage impacts across North Valley and Sierra divisions. This event resulted in the year’s 7th largest outage event that impacted a total of 230,018 customers in the service territory. Table 101 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(December 25-27, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	December 25 - 27 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	3365.1	419.8%	Yes
CENTRAL COAST	535.5	150.3	28.1%	NO
DE ANZA	540.3	456.5	84.5%	NO
DIABLO	516.1	141.7	27.5%	NO
EAST BAY	434.7	59.9	13.8%	NO
FRESNO	120.9	242.3	200.4%	Yes
HUMBOLDT	965.1	2349.2	243.4%	Yes
KERN	142.9	86.1	60.3%	NO
LOS PADRES	341.2	236.1	69.2%	NO
MISSION	288.7	118.9	41.2%	NO
NORTH BAY	725.1	135.3	18.7%	NO
NORTH VALLEY	1,584.8	656.4	41.4%	NO
PENINSULA	237.7	279.7	117.7%	NO
SACRAMENTO	397.6	348.8	87.7%	NO
SAN FRANCISCO	67.3	42.9	63.8%	NO
SAN JOSE	298.0	333.6	111.9%	NO
SIERRA	1,662.9	5927.6	356.5%	Yes
SONOMA	721.8	151.0	20.9%	NO
STOCKTON	1,161.9	4091.9	352.2%	Yes
YOSEMITE	988.9	1497.1	151.4%	Yes

Table 101 – December 25-27, 2021 CAIDI Performance

14.1 System CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SYSTEM	November 26-27, 2019	362.3	568
SYSTEM	January 16-17, 2020	381.9	237
SYSTEM	February 9, 2020	275.7	750
SYSTEM	March 15-16, 2020	700.5	364
SYSTEM	August 15-17, 2020	285.3	484
SYSTEM	September 7-8, 2020	1376.7	557
SYSTEM	September 27, 2020	743.0	470
SYSTEM	October 14, 2020	1740.1	276
SYSTEM	October 22, 2020	703.9	204
SYSTEM	October 25, 2020	1951.1	1411
	Average of 10 excludable major events	801.6	501
SYSTEM	December 25-27, 2021	3365.1	563
	% Difference	319.8%	12%

Table 102 – System Historical Performance

As indicated in Table 102, the System CAIDI value of 3365.1 minutes for the December 25-27, 2021 major event was 319.8% higher than the 801.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the 314 vegetation related outages that contributed 1333.2 minutes to the December 25-27, 2021 overall CAIDI performance.

14.2 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	December 25-27, 2021	242.3	9
	% Difference	100.4%	-52%

Table 103 – Fresno Division Historical Performance

As indicated in Table 103, the Fresno Division CAIDI value of 242.3 minutes for the December 25-27, 2021 major event was 100.4% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the following:

- A tree fell into the distribution line and caused an outage on the Dunlap 1102 feeder. This outage contributed 156.1 minutes to the overall December 25-27, CAIDI performance.

14.3 Humboldt CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
HUMBOLDT	November 26-27, 2019	1,033.8	101
HUMBOLDT	January 16-17, 2020	557.8	84
HUMBOLDT	February 9, 2020	209.1	4
HUMBOLDT	March 15-16, 2020	318.6	18
HUMBOLDT	August 15-17, 2020	150.0	18
HUMBOLDT	September 7-8, 2020	1,827.5	26
HUMBOLDT	September 27, 2020	273.9	17
HUMBOLDT	October 14, 2020	1,048.0	7
HUMBOLDT	October 22, 2020	318.3	5
HUMBOLDT	October 25, 2020	2,319.5	122
	Average of 10 excludable major events	965.1	42
HUMBOLDT	December 25-27, 2021	2,349.2	71
	% Difference	143.4%	71%

Table 104 – Humboldt Division Historical Performance

As indicated in Table 104, the Humboldt Division CAIDI value of 2349.2 minutes for the December 25-27, 2021 major event was 143.4% higher than the 965.1-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the 93 vegetation related outages that contributed 1427.0 minutes to the December 25-27, 2021 overall CAIDI performance.

14.4 Sierra CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SIERRA	November 26-27, 2019	450.3	50
SIERRA	January 16-17, 2020	508.7	23
SIERRA	February 9, 2020	99.1	32
SIERRA	March 15-16, 2020	2,488.1	159
SIERRA	August 15-17, 2020	206.2	22
SIERRA	September 7-8, 2020	2,010.2	85
SIERRA	September 27, 2020	1,183.5	100
SIERRA	October 14, 2020	78.2	9
SIERRA	October 22, 2020	158.2	9
SIERRA	October 25, 2020	2,257.1	279
	Average of 10 excludable major events	1,662.9	71
SIERRA	December 25-27, 2021	5,927.6	297
	% Difference	256.5%	322%

Table 105 – Sierra Division Historical Performance

As indicated in Table 105, the Sierra Division CAIDI value of 5927.6 minutes for the December 25-27, 2021 major event was 256.5% higher than the 1662.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the 541 vegetation related outages that contributed 1943.1 minutes to the December 25-27, 2021 overall CAIDI performance.

14.5 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	November 26-27, 2019	402.0	40
STOCKTON	January 16-17, 2020	190.8	8
STOCKTON	February 9, 2020	166.5	44
STOCKTON	March 15-16, 2020	1,540.7	60
STOCKTON	August 15-17, 2020	200.4	25
STOCKTON	September 7-8, 2020	1,951.5	34
STOCKTON	September 27, 2020	1,079.7	33
STOCKTON	October 14, 2020	16.6	4
STOCKTON	October 22, 2020	114.7	2
STOCKTON	October 25, 2020	2,238.8	83
	Average of 10 excludable major events	1,161.9	33
STOCKTON	December 25-27, 2021	4,091.9	67
	% Difference	252.2%	105%

Table 106 – Stockton Division Historical Performance

As indicated in Table 106, the Stockton Division CAIDI value of 4091.9 minutes for the December 25-27, 2021 major event was 252.2% higher than the 1161.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the top 43 vegetation related outages that contributed 1895.4 minutes to the December 25-27, 2021 overall CAIDI performance.

14.6 Yosemite CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
YOSEMITE	November 26-27, 2019	286.1	55
YOSEMITE	January 16-17, 2020	81.3	11
YOSEMITE	February 9, 2020	285.5	53
YOSEMITE	March 15-16, 2020	632.2	46
YOSEMITE	August 15-17, 2020	191.5	11
YOSEMITE	September 7-8, 2020	1,712.2	50
YOSEMITE	September 27, 2020	226.0	6
YOSEMITE	October 14, 2020	248.8	9
YOSEMITE	October 22, 2020	150.0	6
YOSEMITE	October 25, 2020	1,687.0	107
	Average of 10 excludable major events	988.9	34
YOSEMITE	December 25-27, 2021	1,497.1	47
	% Difference	51.4%	41%

Table 107 – Yosemite Division Historical Performance

As indicated in Table 107, the Yosemite Division CAIDI value of 1497.1 minutes for the December 25-27, 2021 major event was 51.4% higher than the 988.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to the top 16 vegetation related outages that contributed 496.3 minutes to the December 25-27, 2021 overall CAIDI performance.

15. December 29, 2021 Major Event Day

The fifteenth major event was on December 29, 2021 involving a weather system that brought major low elevation snow impacts to Humboldt, Sierra, and Stockton divisions. North Valley and Yosemite divisions also saw low snow impacts. Scattered showers lingered in the Northern and Central divisions from the strong "Atmospheric River" weather event on December 25-27th and continued into the new year. The SF Bay area continued to experience flashover related outages from the showers. Table 108 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(December 29, 2021 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	December 29, 2021 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	801.6	594.2	74.1%	NO
CENTRAL COAST	535.5	242.3	45.2%	NO
DE ANZA	540.3	232.9	43.1%	NO
DIABLO	516.1	98.0	19.0%	NO
EAST BAY	434.7	104.4	24.0%	NO
FRESNO	120.9	196.5	162.5%	Yes
HUMBOLDT	965.1	716.4	74.2%	NO
KERN	142.9	224.4	157.0%	Yes
LOS PADRES	341.2	88.2	25.8%	NO
MISSION	288.7	96.2	33.3%	NO
NORTH BAY	725.1	78.2	10.8%	NO
NORTH VALLEY	1,584.8	429.6	27.1%	NO
PENINSULA	237.7	344.4	144.9%	Yes
SACRAMENTO	397.6	284.3	71.5%	NO
SAN FRANCISCO	67.3	1130.0	1679.4%	Yes
SAN JOSE	298.0	456.3	153.1%	Yes
SIERRA	1,662.9	793.3	47.7%	NO
SONOMA	721.8	511.7	70.9%	NO
STOCKTON	1,161.9	1613.0	138.8%	Yes
YOSEMITE	988.9	1019.9	103.1%	NO

Table 108 – December 29, 2021 CAIDI Performance

15.1 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	November 26-27, 2019	169.7	31
FRESNO	January 16-17, 2020	81.4	17
FRESNO	February 9, 2020	376.0	3
FRESNO	March 15-16, 2020	20.1	17
FRESNO	August 15-17, 2020	174.4	21
FRESNO	September 7-8, 2020	42.7	24
FRESNO	September 27, 2020	51.9	6
FRESNO	October 14, 2020	49.2	12
FRESNO	October 22, 2020	300.1	6
FRESNO	October 25, 2020	1,168.6	33
	Average of 10 excludable major events	120.9	19
FRESNO	December 29, 2021	196.5	7
	% Difference	62.5%	-63%

Table 109 – Fresno Historical Performance

As indicated in Table 109, the Fresno Division CAIDI value of 196.5 minutes for the December 29, 2021 major event was 62.5% higher than the 120.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a failed conductor on the West Fresno 1103 feeder. This outage contributed 76.6 minutes to the overall December 29th, 2021 CAIDI performance.

15.2 Kern CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	November 26-27, 2019	79.5	7
KERN	January 16-17, 2020	122.5	12
KERN	February 9, 2020	22.0	1
KERN	March 15-16, 2020	241.3	8
KERN	August 15-17, 2020	127.3	6
KERN	September 7-8, 2020	792.5	10
KERN	September 27, 2020	80.6	6
KERN	October 14, 2020	55.4	7
KERN	October 22, 2020	279.9	4
KERN	October 25, 2020	233.5	4
	Average of 10 excludable major events	142.9	7
KERN	December 29, 2021	224.4	6
	% Difference	57.0%	-15%

Table 110 – Kern Historical Performance

As indicated in Table 110, the Kern Division CAIDI value of 224.4 minutes for the December 29, 2021 major event was 57.0% higher than the 142.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a failed cable termination at an underground distribution transformer on the Magunden 1106 feeder. This outage contributed 106.6 minutes to the overall December 29th, 2021 CAIDI performance.

15.3 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	November 26-27, 2019	167.6	20
PENINSULA	January 16-17, 2020	123.1	8
PENINSULA	February 9, 2020	190.4	37
PENINSULA	March 15-16, 2020	88.7	3
PENINSULA	August 15-17, 2020	133.7	26
PENINSULA	September 7-8, 2020	237.4	11
PENINSULA	September 27, 2020	758.9	2
PENINSULA	October 14, 2020	2,316.1	12
PENINSULA	October 22, 2020	430.5	4
PENINSULA	October 25, 2020	1,635.7	30
	Average of 10 excludable major events	237.7	15
PENINSULA	December 29, 2021	344.4	3
	% Difference	44.9%	-80%

Table 111 – Peninsula Historical Performance

As indicated in Table 111, the Peninsula Division CAIDI value of 344.4 minutes for the December 29, 2021 major event was 44.9% higher than the 237.7-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a vegetation related outage on the Woodside 1101 feeder. This outage contributed 118.3 minutes to the overall December 29th, 2021 CAIDI performance.

15.4 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	November 26-27, 2019	49.8	5
SAN FRANCISCO	January 16-17, 2020	316.4	2
SAN FRANCISCO	February 9, 2020	82.1	7
SAN FRANCISCO	March 15, 2020	43.3	2
SAN FRANCISCO	August 15, 2020	48.8	5
SAN FRANCISCO	August 17, 2020	17.0	1
SAN FRANCISCO	September 8, 2020	222.9	2
SAN FRANCISCO	September 27, 2020	291.0	1
SAN FRANCISCO	October 22, 2020	55.0	1
SAN FRANCISCO	October 25, 2020	10.2	3
	Average of 10 excludable major events	67.3	3
SAN FRANCISCO	December 29, 2021	1,130.0	1
	% Difference	1579.4%	-66%

Table 112 – San Francisco Historical Performance

As indicated in Table 112, the San Francisco Division CAIDI value of 1130.0 minutes for the December 29, 2021 major event was 1579.4% higher than the 67.3-minute

average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a failed overhead transformer on the SF P- 1105 feeder. This single outage contributed 1130.0 minutes to the overall December 29th, 2021 CAIDI performance.

15.5 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	November 26-27, 2019	80.6	14
SAN JOSE	January 16-17, 2020	139.3	3
SAN JOSE	February 9, 2020	225.6	58
SAN JOSE	March 15-16, 2020	51.6	4
SAN JOSE	August 15-17, 2020	547.6	46
SAN JOSE	September 7-8, 2020	131.1	17
SAN JOSE	September 27, 2020	464.7	4
SAN JOSE	October 14, 2020	805.1	3
SAN JOSE	October 22, 2020	899.0	1
SAN JOSE	October 25, 2020	1,433.5	17
	Average of 10 excludable major events	298.0	18
SAN JOSE	December 29, 2021	456.3	6
	% Difference	53.1%	-67%

Table 113 – San Jose Historical Performance

As indicated in Table 113, the San Jose Division CAIDI value of 456.3 minutes for the December 29, 2021 major event was 53.1% higher than the 298.0-minute average of the prior 10 weather-related excludable major events.

The top contributing factor of the higher division CAIDI value was due to a 3rd party vehicle crashing into a pole on the Almaden 1102 feeder. This outage contributed 286.1 minutes to the overall December 29th, 2021 CAIDI performance.

15.6 Stockton CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
STOCKTON	November 26-27, 2019	402.0	40
STOCKTON	January 16-17, 2020	190.8	8
STOCKTON	February 9, 2020	166.5	44
STOCKTON	March 15-16, 2020	1,540.7	60
STOCKTON	August 15-17, 2020	200.4	25
STOCKTON	September 7-8, 2020	1,951.5	34
STOCKTON	September 27, 2020	1,079.7	33
STOCKTON	October 14, 2020	16.6	4
STOCKTON	October 22, 2020	114.7	2
STOCKTON	October 25, 2020	2,238.8	83
	Average of 10 excludable major events	1,161.9	33
STOCKTON	December 29, 2021	1,613.0	17
	% Difference	38.8%	-48%

Table 114 – Stockton Historical Performance

As indicated in Table 114, the Stockton Division CAIDI value of 1613.0 minutes for the December 29, 2021 major event was 38.8% higher than the 1161.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to a tree falling on the distribution lines on the Salt Springs 2102 feeder. This outage contributed 698.4 minutes to the overall December 29th, 2021 CAIDI performance.

3. System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and including and excluding MED

Table 115 below provides the T&D system reliability indices from 2012 to 2021 (excluding ISO outages) for unplanned and planned outages combined (both including and excluding Major Event Days).

Table 115: Combined Transmission and Distribution System Indices with Planned Outages

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2012	161.4	1.224	1.921	131.9	131.0	1.130	1.800	115.9
2013	137.3	1.171	1.637	117.3	116.1	1.070	1.527	108.5
2014	149.4	1.133	1.567	131.9	108.4	0.966	1.396	112.2
2015	147.2	1.052	1.820	139.9	95.9	0.871	1.594	110.1
2016	121.9	1.103	1.603	110.6	108.9	1.021	1.494	106.7
2017	374.2	1.549	2.297	241.6	113.4	0.958	1.489	118.3
2018	309.4	1.175	1.428	263.3	126.3	1.080	1.361	117.0
2019	1,395.4	1.996	1.793	699.3	148.8	1.128	1.282	131.9
2020	478.4	1.556	1.571	307.5	153.2	1.179	1.316	130.0
2021	626.2	1.836	1.886	341.0	218.2	1.318	1.320	165.5

a. **System and Division Indices Based on IEEE 1366 for the past ten years including Planned Outages and including MED, and excluding ISO Outages**

Table 116:

Division	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2012	174.4	1.420	2.376	122.8
CENTRAL COAST	2013	151.8	1.469	2.054	103.3
CENTRAL COAST	2014	214.1	1.432	2.134	149.5
CENTRAL COAST	2015	269.6	1.376	2.176	195.9
CENTRAL COAST	2016	202.8	1.714	2.739	118.3
CENTRAL COAST	2017	819.7	2.522	4.577	325.0
CENTRAL COAST	2018	217.7	1.733	2.507	125.6
CENTRAL COAST	2019	1,328.1	2.706	3.153	490.8
CENTRAL COAST	2020	417.0	2.215	1.968	188.3
CENTRAL COAST	2021	740.2	2.515	2.534	294.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2012	100.2	0.793	1.223	126.4
DE ANZA	2013	100.8	0.935	1.175	107.8
DE ANZA	2014	134.2	1.113	1.319	120.6
DE ANZA	2015	80.7	0.680	1.291	118.7
DE ANZA	2016	119.4	0.977	1.415	122.1
DE ANZA	2017	332.0	1.583	1.793	209.7
DE ANZA	2018	121.3	0.967	1.429	125.4
DE ANZA	2019	435.7	1.496	2.011	291.3
DE ANZA	2020	252.7	1.043	1.642	242.2
DE ANZA	2021	327.8	1.301	1.798	251.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2012	127.4	1.339	1.403	95.2
DIABLO	2013	99.9	1.112	1.299	89.9
DIABLO	2014	97.0	1.060	1.375	91.5
DIABLO	2015	97.6	1.066	1.878	91.6
DIABLO	2016	97.8	1.121	1.736	87.3
DIABLO	2017	161.0	1.327	2.143	121.3
DIABLO	2018	122.1	1.278	1.544	95.6
DIABLO	2019	640.8	1.728	1.857	370.9
DIABLO	2020	269.0	1.523	1.825	176.6
DIABLO	2021	201.1	1.588	1.673	126.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2012	119.0	1.405	1.347	84.7
EAST BAY	2013	130.4	1.059	1.267	123.1
EAST BAY	2014	89.1	0.883	1.520	100.9
EAST BAY	2015	65.9	0.749	1.179	87.9
EAST BAY	2016	137.1	1.246	1.243	110.0
EAST BAY	2017	162.1	1.271	1.983	127.6
EAST BAY	2018	121.0	1.089	1.132	111.1
EAST BAY	2019	485.2	1.419	1.217	342.0
EAST BAY	2020	238.2	1.174	1.647	202.9
EAST BAY	2021	265.6	1.772	1.630	149.9

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2012	121.4	1.159	2.360	104.7
FRESNO	2013	119.5	1.227	2.108	97.4
FRESNO	2014	101.0	1.088	1.782	92.8
FRESNO	2015	115.2	1.238	2.060	93.1
FRESNO	2016	99.4	1.206	1.978	82.4
FRESNO	2017	116.6	1.064	1.866	109.6
FRESNO	2018	128.0	1.142	1.416	112.1
FRESNO	2019	139.2	1.090	1.697	127.8
FRESNO	2020	130.3	1.205	1.464	108.1
FRESNO	2021	227.8	1.424	1.682	159.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2012	387.3	1.918	4.660	201.9
HUMBOLDT	2013	344.6	1.552	2.627	222.0
HUMBOLDT	2014	350.5	1.528	1.941	229.4
HUMBOLDT	2015	738.9	2.388	2.739	309.4
HUMBOLDT	2016	251.0	1.757	2.100	142.9
HUMBOLDT	2017	955.5	2.526	3.511	378.2
HUMBOLDT	2018	448.5	2.333	1.571	192.3
HUMBOLDT	2019	7,018.7	4.731	2.490	1,483.6
HUMBOLDT	2020	1,058.7	2.460	1.499	430.4
HUMBOLDT	2021	1,717.4	3.196	2.131	537.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2012	105.9	1.071	1.225	98.9
KERN	2013	101.7	1.138	1.232	89.4
KERN	2014	127.0	1.198	1.853	106.0
KERN	2015	104.5	1.022	1.929	102.2
KERN	2016	101.9	0.998	2.078	102.1
KERN	2017	149.9	1.132	1.959	132.4
KERN	2018	83.3	0.859	1.748	97.0
KERN	2019	172.4	1.391	2.080	123.9
KERN	2020	137.6	1.196	1.968	115.1
KERN	2021	193.7	1.454	1.868	133.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2012	121.2	1.116	1.659	108.6
LOS PADRES	2013	239.3	1.607	1.105	148.9
LOS PADRES	2014	201.8	1.322	1.354	152.6
LOS PADRES	2015	148.2	0.931	1.814	159.1
LOS PADRES	2016	130.2	1.255	1.674	103.7
LOS PADRES	2017	335.7	1.688	2.127	198.9
LOS PADRES	2018	165.9	1.408	1.155	117.8
LOS PADRES	2019	261.0	1.670	1.134	156.3
LOS PADRES	2020	221.5	1.408	0.916	157.3
LOS PADRES	2021	341.5	1.825	1.923	187.1

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2012	106.1	0.991	0.862	107.2
MISSION	2013	89.4	0.878	0.837	101.9
MISSION	2014	82.7	0.812	0.820	101.9
MISSION	2015	71.7	0.654	1.152	109.6
MISSION	2016	95.2	0.828	0.972	114.9
MISSION	2017	149.1	1.074	1.471	138.8
MISSION	2018	79.5	0.738	0.853	107.6
MISSION	2019	308.2	1.014	0.943	303.9
MISSION	2020	231.5	1.258	1.389	184.0
MISSION	2021	172.3	1.288	1.199	133.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2012	164.4	1.046	1.950	157.2
NORTH BAY	2013	146.4	1.144	1.731	127.9
NORTH BAY	2014	253.7	1.352	2.724	187.7
NORTH BAY	2015	156.3	1.171	2.162	133.5
NORTH BAY	2016	133.5	1.040	1.436	128.3
NORTH BAY	2017	752.8	1.840	2.812	409.0
NORTH BAY	2018	204.7	1.145	1.856	178.9
NORTH BAY	2019	3,551.3	3.321	2.276	1,069.4
NORTH BAY	2020	555.2	1.897	2.536	292.6
NORTH BAY	2021	405.0	1.839	2.289	220.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2012	543.0	2.004	2.951	271.0
NORTH VALLEY	2013	178.4	1.250	1.975	142.7
NORTH VALLEY	2014	212.2	1.302	1.816	163.0
NORTH VALLEY	2015	505.6	1.920	2.536	263.4
NORTH VALLEY	2016	194.4	1.357	2.195	143.3
NORTH VALLEY	2017	417.4	1.760	3.164	237.1
NORTH VALLEY	2018	4,318.7	1.774	1.401	2,434.4
NORTH VALLEY	2019	4,960.1	4.212	2.515	1,177.5
NORTH VALLEY	2020	2,102.1	2.964	1.685	709.3
NORTH VALLEY	2021	2,223.7	3.212	3.228	692.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2012	114.8	1.200	1.710	95.7
PENINSULA	2013	106.8	0.946	1.322	112.9
PENINSULA	2014	110.7	1.129	1.363	98.1
PENINSULA	2015	90.5	0.940	1.798	96.3
PENINSULA	2016	102.6	1.065	1.383	96.3
PENINSULA	2017	181.4	1.394	2.383	130.1
PENINSULA	2018	106.1	0.991	1.256	107.0
PENINSULA	2019	771.5	1.661	1.642	464.5
PENINSULA	2020	196.8	1.288	1.383	152.8
PENINSULA	2021	436.2	1.762	1.887	247.6

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2012	181.0	1.484	2.146	121.9
SACRAMENTO	2013	122.6	1.121	1.699	109.4
SACRAMENTO	2014	126.2	1.020	1.437	123.7
SACRAMENTO	2015	113.0	1.009	1.776	112.0
SACRAMENTO	2016	118.5	1.133	1.810	104.6
SACRAMENTO	2017	300.0	1.970	3.218	152.3
SACRAMENTO	2018	134.3	1.190	1.937	112.8
SACRAMENTO	2019	686.8	1.761	2.349	390.1
SACRAMENTO	2020	302.1	1.690	1.797	178.7
SACRAMENTO	2021	608.9	1.849	2.877	329.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2012	61.6	0.673	1.051	91.5
SAN FRANCISCO	2013	64.8	0.708	0.332	91.6
SAN FRANCISCO	2014	141.7	0.858	0.353	165.1
SAN FRANCISCO	2015	44.2	0.569	0.553	77.7
SAN FRANCISCO	2016	49.7	0.597	0.398	83.3
SAN FRANCISCO	2017	127.0	0.906	0.514	140.3
SAN FRANCISCO	2018	62.2	0.506	0.300	123.0
SAN FRANCISCO	2019	104.9	0.817	0.363	128.4
SAN FRANCISCO	2020	66.8	0.713	0.429	93.7
SAN FRANCISCO	2021	94.4	0.770	0.595	122.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2012	102.9	0.946	0.980	108.8
SAN JOSE	2013	121.4	1.087	1.039	111.6
SAN JOSE	2014	120.0	1.107	1.071	108.4
SAN JOSE	2015	90.2	0.873	1.164	103.4
SAN JOSE	2016	80.8	0.753	1.203	107.2
SAN JOSE	2017	201.1	1.342	1.808	149.8
SAN JOSE	2018	112.1	0.986	1.351	113.7
SAN JOSE	2019	290.8	1.154	1.425	252.0
SAN JOSE	2020	193.6	1.145	1.528	169.1
SAN JOSE	2021	189.4	1.079	1.248	175.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2012	268.7	1.586	3.226	169.4
SIERRA	2013	173.0	1.503	3.257	115.1
SIERRA	2014	208.2	1.478	2.419	140.9
SIERRA	2015	197.3	1.378	3.224	143.2
SIERRA	2016	188.4	1.341	1.887	140.4
SIERRA	2017	641.5	2.193	3.112	292.4
SIERRA	2018	445.6	1.693	1.446	263.3
SIERRA	2019	5,898.4	4.364	2.630	1,351.5
SIERRA	2020	2,402.7	2.901	2.076	828.3
SIERRA	2021	3,141.3	3.236	2.424	970.8

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2012	234.5	1.238	2.030	189.5
SONOMA	2013	208.9	1.253	2.537	166.7
SONOMA	2014	239.4	1.395	2.050	171.6
SONOMA	2015	140.7	0.985	1.993	142.8
SONOMA	2016	114.5	0.931	1.605	123.0
SONOMA	2017	1,868.6	2.064	2.887	905.3
SONOMA	2018	150.4	1.152	1.242	130.5
SONOMA	2019	3,929.2	2.801	1.786	1,402.9
SONOMA	2020	643.8	1.819	1.621	353.9
SONOMA	2021	454.1	1.989	1.869	228.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2012	193.6	1.290	2.101	150.1
STOCKTON	2013	134.6	1.558	2.138	86.4
STOCKTON	2014	136.3	0.918	1.446	148.6
STOCKTON	2015	135.0	1.105	2.249	122.1
STOCKTON	2016	118.1	1.087	1.778	108.7
STOCKTON	2017	289.5	1.718	1.930	168.5
STOCKTON	2018	239.2	1.232	2.000	194.1
STOCKTON	2019	1,602.3	2.465	1.920	650.0
STOCKTON	2020	678.8	1.680	1.596	404.0
STOCKTON	2021	1,152.2	2.178	2.406	529.0
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2012	166.1	1.400	4.173	118.6
YOSEMITE	2013	204.0	1.436	3.432	142.1
YOSEMITE	2014	147.6	1.350	2.675	109.3
YOSEMITE	2015	130.6	1.162	3.098	112.4
YOSEMITE	2016	147.9	1.333	2.164	111.0
YOSEMITE	2017	323.8	1.796	3.053	180.2
YOSEMITE	2018	190.6	1.544	1.841	123.5
YOSEMITE	2019	1,425.6	2.767	2.689	515.2
YOSEMITE	2020	809.2	2.077	1.592	389.6
YOSEMITE	2021	1,366.6	3.353	2.630	407.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2012	161.4	1.224	1.921	131.9
SYSTEM	2013	137.3	1.171	1.637	117.3
SYSTEM	2014	149.4	1.133	1.567	131.9
SYSTEM	2015	147.2	1.052	1.820	139.9
SYSTEM	2016	121.9	1.103	1.603	110.6
SYSTEM	2017	374.2	1.549	2.297	241.6
SYSTEM	2018	309.4	1.175	1.428	263.3
SYSTEM	2019	1,395.4	1.996	1.793	699.3
SYSTEM	2020	478.4	1.556	1.571	307.5
SYSTEM	2021	626.2	1.836	1.886	341.0

b. System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and excluding ISO, and MED

Table 117:

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2012	159.7	1.348	2.197	118.5
CENTRAL COAST	2013	145.9	1.445	1.971	101.0
CENTRAL COAST	2014	136.9	1.168	1.835	117.2
CENTRAL COAST	2015	118.6	0.934	1.847	126.9
CENTRAL COAST	2016	180.2	1.548	2.485	116.4
CENTRAL COAST	2017	157.8	1.352	2.590	116.7
CENTRAL COAST	2018	193.0	1.582	2.247	122.0
CENTRAL COAST	2019	235.7	1.587	2.235	148.5
CENTRAL COAST	2020	180.0	1.808	1.680	99.6
CENTRAL COAST	2021	317.1	1.774	1.905	178.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2012	92.1	0.743	1.109	124.0
DE ANZA	2013	98.8	0.924	1.140	107.0
DE ANZA	2014	110.4	0.985	1.214	112.1
DE ANZA	2015	68.2	0.561	1.182	121.7
DE ANZA	2016	96.8	0.806	1.337	120.2
DE ANZA	2017	114.3	1.063	1.150	107.5
DE ANZA	2018	117.8	0.918	1.406	128.3
DE ANZA	2019	124.0	0.982	1.660	126.4
DE ANZA	2020	108.7	0.793	1.257	137.0
DE ANZA	2021	153.5	0.896	1.001	171.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2012	120.9	1.295	1.365	93.4
DIABLO	2013	96.9	1.089	1.238	89.0
DIABLO	2014	80.9	0.973	1.220	83.1
DIABLO	2015	87.5	0.939	1.671	93.2
DIABLO	2016	95.2	1.107	1.701	86.0
DIABLO	2017	97.9	0.982	1.625	99.8
DIABLO	2018	110.7	1.168	1.501	94.7
DIABLO	2019	105.8	1.057	1.215	100.1
DIABLO	2020	130.1	1.295	1.623	100.5
DIABLO	2021	148.4	1.328	1.354	111.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2012	108.8	1.323	1.278	82.2
EAST BAY	2013	76.0	0.881	1.155	86.2
EAST BAY	2014	72.7	0.762	1.303	95.5
EAST BAY	2015	51.1	0.611	1.085	83.6
EAST BAY	2016	110.2	1.091	1.080	101.0
EAST BAY	2017	88.3	0.956	1.528	92.4
EAST BAY	2018	111.9	0.999	1.081	112.0
EAST BAY	2019	109.1	0.924	0.957	118.1
EAST BAY	2020	111.1	0.896	1.453	124.0
EAST BAY	2021	181.0	1.341	1.318	135.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2012	119.8	1.136	2.323	105.5
FRESNO	2013	116.8	1.195	2.067	97.8
FRESNO	2014	98.6	1.069	1.710	92.3
FRESNO	2015	84.8	0.935	1.832	90.7
FRESNO	2016	97.5	1.184	1.955	82.4
FRESNO	2017	85.9	0.874	1.549	98.2
FRESNO	2018	87.3	0.955	1.369	91.4
FRESNO	2019	96.6	0.920	1.478	105.0
FRESNO	2020	99.4	0.931	1.364	106.7
FRESNO	2021	156.1	1.149	1.458	135.9
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2012	325.7	1.730	4.335	188.2
HUMBOLDT	2013	250.5	1.305	2.437	191.9
HUMBOLDT	2014	274.3	1.377	1.810	199.3
HUMBOLDT	2015	319.8	1.774	2.426	180.2
HUMBOLDT	2016	234.5	1.657	2.040	141.6
HUMBOLDT	2017	310.5	1.469	2.281	211.4
HUMBOLDT	2018	271.4	1.976	1.503	137.4
HUMBOLDT	2019	391.2	1.964	1.900	199.2
HUMBOLDT	2020	280.3	1.631	1.346	171.8
HUMBOLDT	2021	569.3	2.368	1.476	240.4
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2012	104.7	1.053	1.224	99.5
KERN	2013	97.9	1.092	1.138	89.6
KERN	2014	99.1	1.024	1.640	96.7
KERN	2015	92.8	0.938	1.855	99.0
KERN	2016	101.3	0.982	2.071	103.1
KERN	2017	88.5	0.790	1.403	112.0
KERN	2018	82.4	0.852	1.721	96.7
KERN	2019	116.1	1.162	1.744	99.9
KERN	2020	122.5	1.099	1.843	111.4
KERN	2021	151.7	1.155	1.516	131.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2012	120.5	1.113	1.652	108.3
LOS PADRES	2013	113.3	0.837	0.961	135.3
LOS PADRES	2014	110.1	1.125	1.135	97.8
LOS PADRES	2015	88.1	0.773	1.438	113.9
LOS PADRES	2016	128.4	1.230	1.672	104.4
LOS PADRES	2017	126.3	1.054	1.443	119.8
LOS PADRES	2018	154.5	1.325	1.011	116.6
LOS PADRES	2019	184.0	1.319	0.798	139.5
LOS PADRES	2020	162.4	1.252	0.837	129.8
LOS PADRES	2021	233.6	1.320	1.328	177.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2012	103.4	0.965	0.861	107.2
MISSION	2013	83.7	0.809	0.776	103.6
MISSION	2014	71.8	0.732	0.771	98.2
MISSION	2015	65.6	0.601	1.055	109.3
MISSION	2016	85.1	0.766	0.927	111.1
MISSION	2017	71.1	0.664	1.004	107.1
MISSION	2018	74.3	0.710	0.829	104.7
MISSION	2019	77.0	0.732	0.697	105.1
MISSION	2020	103.2	0.821	1.061	125.6
MISSION	2021	129.2	1.027	0.918	125.8
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH BAY	2012	133.7	0.916	1.647	146.0
NORTH BAY	2013	133.8	1.057	1.456	126.5
NORTH BAY	2014	132.9	0.974	2.509	136.4
NORTH BAY	2015	117.9	1.014	1.978	116.2
NORTH BAY	2016	107.2	0.887	1.210	120.8
NORTH BAY	2017	167.7	1.033	1.835	162.3
NORTH BAY	2018	156.0	1.082	1.790	144.2
NORTH BAY	2019	180.8	1.449	1.652	124.8
NORTH BAY	2020	188.8	1.413	2.107	133.6
NORTH BAY	2021	210.7	1.267	1.552	166.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
NORTH VALLEY	2012	251.8	1.622	2.581	155.3
NORTH VALLEY	2013	157.8	1.192	1.917	132.4
NORTH VALLEY	2014	150.0	1.092	1.559	137.3
NORTH VALLEY	2015	158.7	1.195	1.938	132.9
NORTH VALLEY	2016	165.7	1.220	1.959	135.9
NORTH VALLEY	2017	130.9	0.949	2.008	138.0
NORTH VALLEY	2018	218.5	1.508	1.333	144.9
NORTH VALLEY	2019	277.4	1.751	1.473	158.4
NORTH VALLEY	2020	390.3	1.940	1.400	201.1
NORTH VALLEY	2021	517.0	1.999	2.211	258.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2012	100.4	1.054	1.529	95.3
PENINSULA	2013	82.5	0.845	1.114	97.6
PENINSULA	2014	89.4	0.965	1.164	92.7
PENINSULA	2015	74.8	0.826	1.602	90.6
PENINSULA	2016	94.4	0.984	1.197	96.0
PENINSULA	2017	75.6	0.704	1.176	107.3
PENINSULA	2018	99.7	0.940	1.204	106.0
PENINSULA	2019	124.1	0.920	0.983	134.9
PENINSULA	2020	112.5	0.943	1.043	119.3
PENINSULA	2021	204.3	1.199	0.945	170.4

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2012	158.4	1.344	1.973	117.9
SACRAMENTO	2013	117.2	1.075	1.568	109.1
SACRAMENTO	2014	112.4	0.913	1.258	123.1
SACRAMENTO	2015	100.7	0.913	1.561	110.3
SACRAMENTO	2016	102.6	1.042	1.545	98.5
SACRAMENTO	2017	137.9	1.168	1.713	118.1
SACRAMENTO	2018	126.6	1.152	1.827	110.0
SACRAMENTO	2019	114.3	0.939	1.575	121.7
SACRAMENTO	2020	193.7	1.438	1.500	134.7
SACRAMENTO	2021	183.6	1.228	1.868	149.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2012	57.0	0.632	1.009	90.1
SAN FRANCISCO	2013	58.8	0.655	0.303	89.8
SAN FRANCISCO	2014	52.2	0.535	0.236	97.5
SAN FRANCISCO	2015	41.8	0.551	0.516	75.8
SAN FRANCISCO	2016	48.7	0.577	0.356	84.4
SAN FRANCISCO	2017	46.5	0.543	0.372	85.6
SAN FRANCISCO	2018	58.9	0.466	0.273	126.5
SAN FRANCISCO	2019	88.4	0.707	0.259	125.0
SAN FRANCISCO	2020	61.7	0.651	0.389	94.8
SAN FRANCISCO	2021	73.8	0.622	0.500	118.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2012	98.3	0.895	0.953	109.8
SAN JOSE	2013	118.2	1.039	0.979	113.7
SAN JOSE	2014	96.8	0.935	1.031	103.6
SAN JOSE	2015	80.4	0.787	1.020	102.3
SAN JOSE	2016	77.4	0.719	1.155	107.6
SAN JOSE	2017	92.9	0.837	1.172	111.0
SAN JOSE	2018	110.1	0.972	1.324	113.3
SAN JOSE	2019	96.1	0.815	1.256	117.8
SAN JOSE	2020	136.4	0.974	1.276	140.0
SAN JOSE	2021	112.5	0.835	0.906	134.7
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2012	207.8	1.427	2.908	145.7
SIERRA	2013	125.9	1.370	3.120	91.9
SIERRA	2014	155.5	1.277	2.198	121.8
SIERRA	2015	138.4	1.218	2.887	113.6
SIERRA	2016	135.8	1.118	1.728	121.4
SIERRA	2017	176.3	1.308	1.864	134.8
SIERRA	2018	198.9	1.482	1.366	134.3
SIERRA	2019	239.3	1.408	1.555	170.0
SIERRA	2020	265.4	1.695	1.328	156.5
SIERRA	2021	415.3	2.016	1.096	206.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2012	143.5	1.024	1.730	140.1
SONOMA	2013	140.4	0.979	2.257	143.5
SONOMA	2014	138.2	1.024	1.588	135.0
SONOMA	2015	94.3	0.790	1.535	119.5
SONOMA	2016	107.7	0.887	1.508	121.3
SONOMA	2017	139.0	0.998	1.567	139.3
SONOMA	2018	147.9	1.133	1.203	130.5
SONOMA	2019	202.1	1.325	1.358	152.5
SONOMA	2020	166.7	1.232	1.351	135.2
SONOMA	2021	221.2	1.492	1.407	148.2
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
STOCKTON	2012	118.3	1.113	1.978	106.3
STOCKTON	2013	125.3	1.522	2.026	82.3
STOCKTON	2014	118.3	0.823	1.311	143.7
STOCKTON	2015	106.5	0.944	1.952	112.8
STOCKTON	2016	102.1	0.994	1.664	102.7
STOCKTON	2017	102.3	1.033	1.270	99.1
STOCKTON	2018	121.8	1.115	1.878	109.3
STOCKTON	2019	196.8	1.372	1.146	143.4
STOCKTON	2020	149.3	1.271	1.315	117.5
STOCKTON	2021	208.5	1.323	1.481	157.6
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
YOSEMITE	2012	159.2	1.361	4.093	117.0
YOSEMITE	2013	202.6	1.418	3.262	142.8
YOSEMITE	2014	129.6	1.286	2.452	100.8
YOSEMITE	2015	120.4	1.073	2.641	112.2
YOSEMITE	2016	141.3	1.277	2.032	110.6
YOSEMITE	2017	155.5	1.242	2.155	125.2
YOSEMITE	2018	171.4	1.433	1.780	119.6
YOSEMITE	2019	186.0	1.581	1.607	117.6
YOSEMITE	2020	222.6	1.542	1.304	144.3
YOSEMITE	2021	479.8	2.360	1.811	203.3
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2012	131.0	1.130	1.800	115.9
SYSTEM	2013	116.1	1.070	1.527	108.5
SYSTEM	2014	108.4	0.966	1.396	112.2
SYSTEM	2015	95.9	0.871	1.594	110.1
SYSTEM	2016	108.9	1.021	1.494	106.7
SYSTEM	2017	113.4	0.958	1.489	118.3
SYSTEM	2018	126.3	1.080	1.361	117.0
SYSTEM	2019	148.8	1.128	1.282	131.9
SYSTEM	2020	153.2	1.179	1.316	130.0
SYSTEM	2021	218.2	1.318	1.320	165.5

c. Charts for System and Division Indices Based on IEEE 1366 for the past 10 years including Planned Outages and including and excluding MED

- i. Charts for System and Division Reliability Indices based on IEEE 1366 for the past 10 years with linear trend line, and including planned outages and excluding ISO, and MED

1. SAIDI Performance Results (MED Excluded)

Chart 220: Division Reliability – AIDI Indices

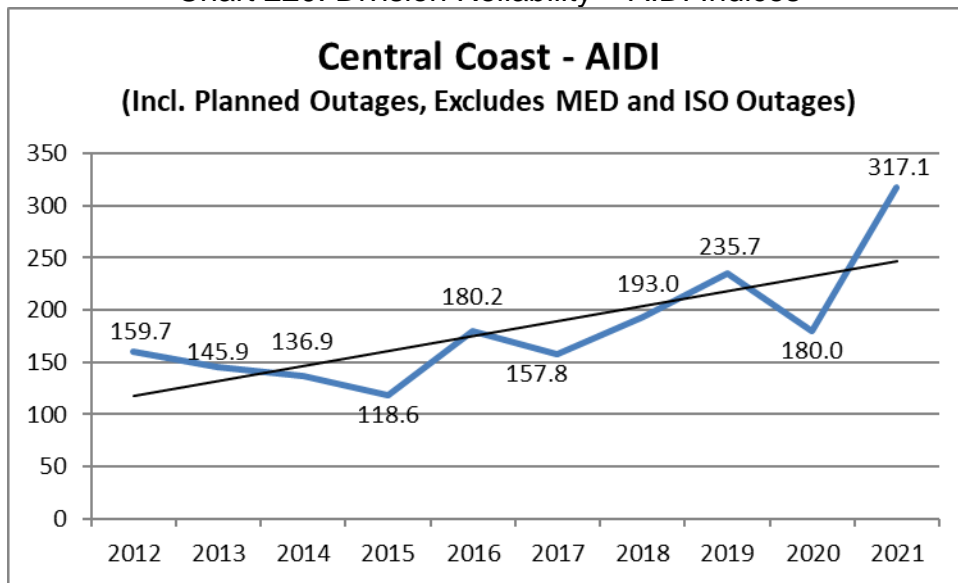


Chart 221: Division Reliability – AIDI Indices

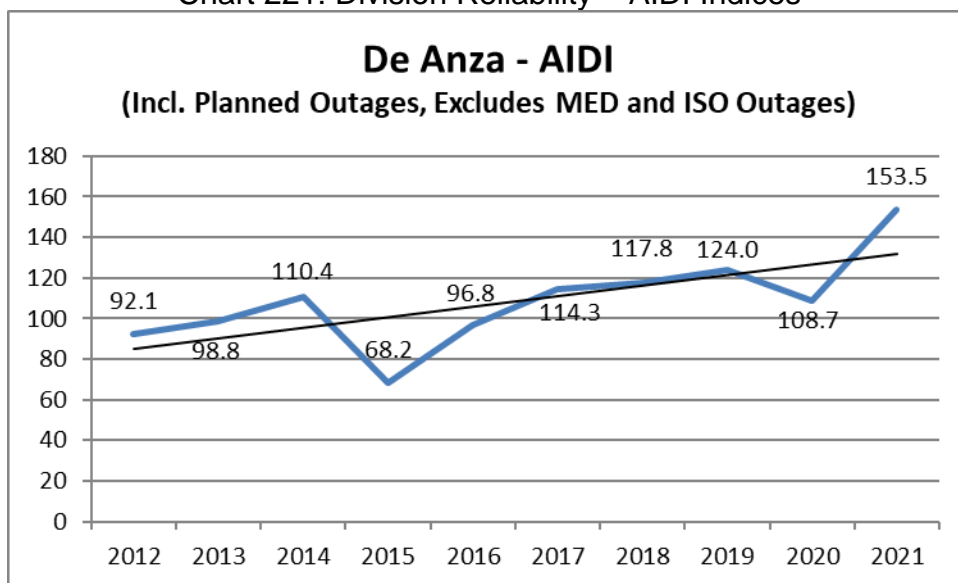


Chart 222: Division Reliability – AIDI Indices

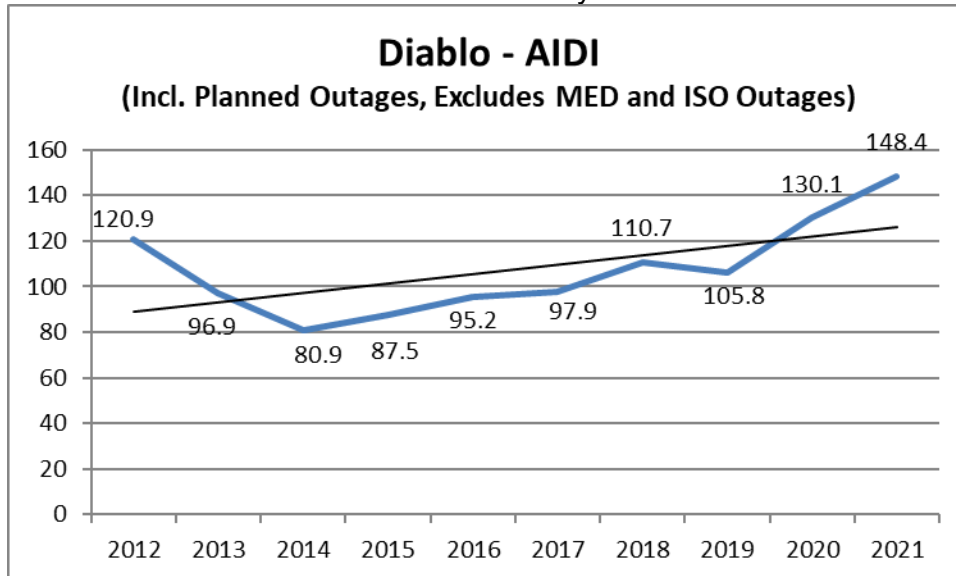


Chart 223: Division Reliability – AIDI Indices

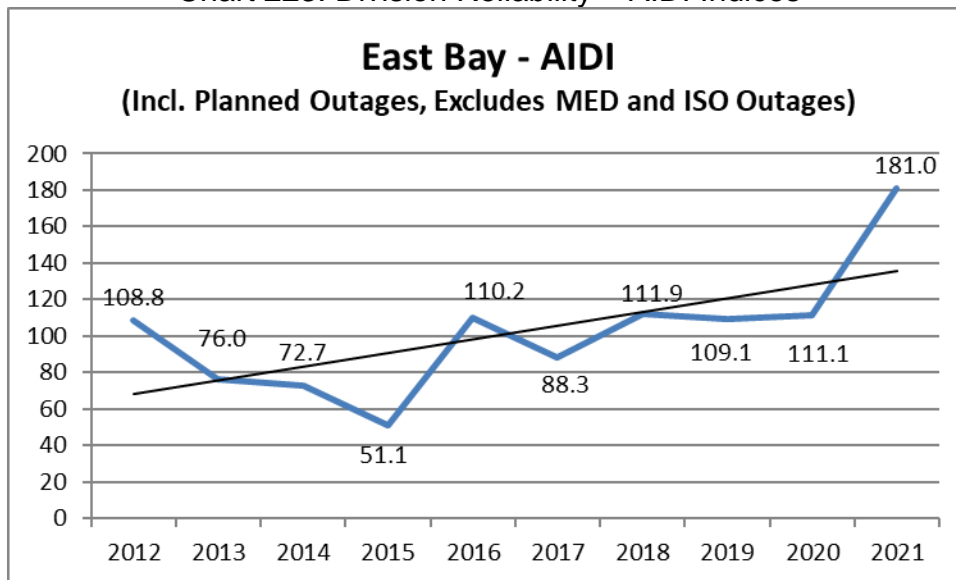


Chart 224: Division Reliability – AIDI Indices

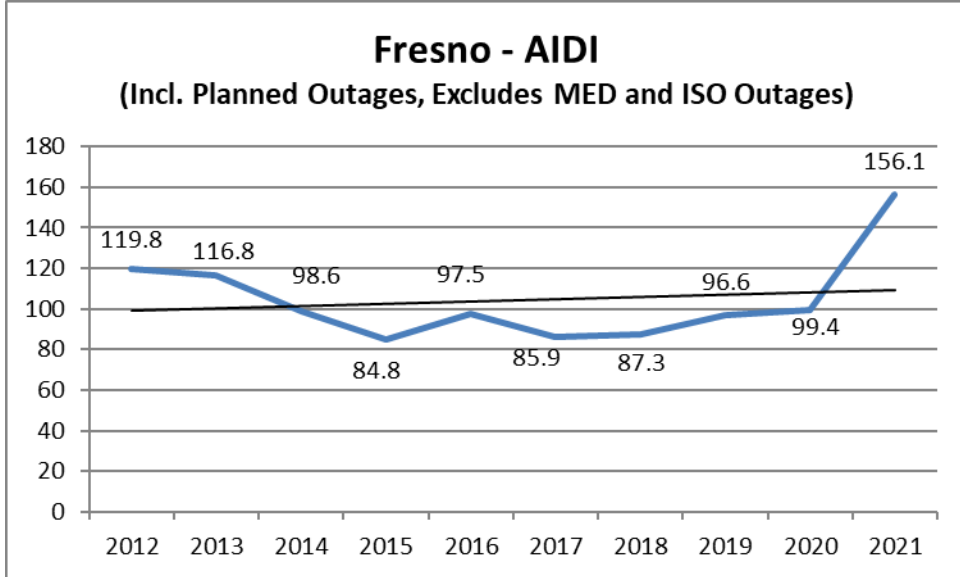


Chart 225: Division Reliability – AIDI Indices

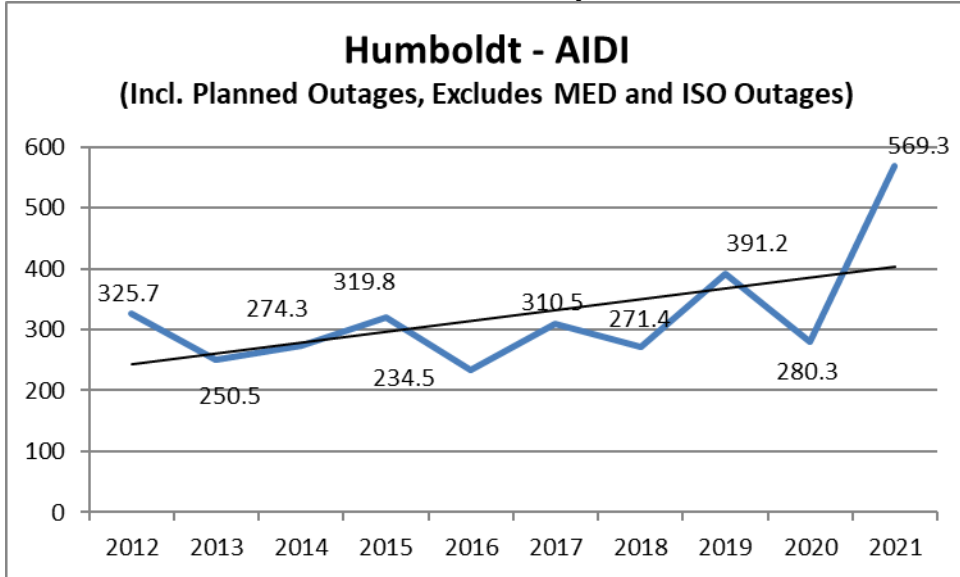


Chart 226: Division Reliability – AIDI Indices

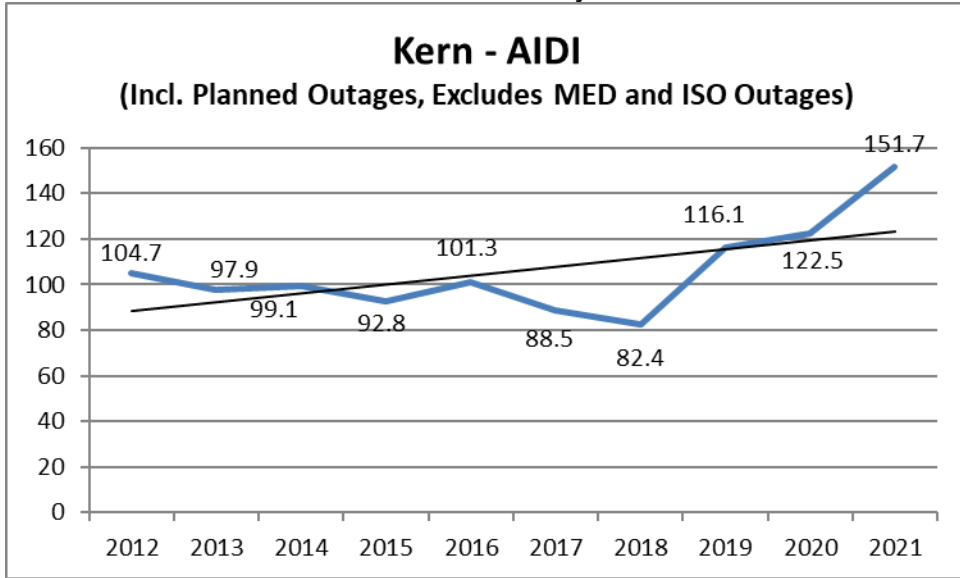


Chart 227: Division Reliability – AIDI Indices

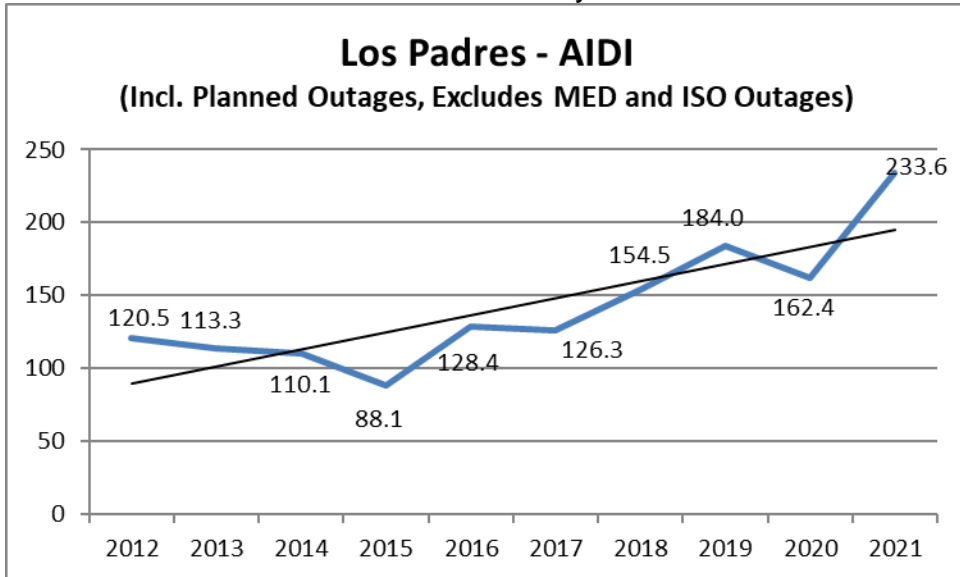


Chart 228: Division Reliability – AIDI Indices

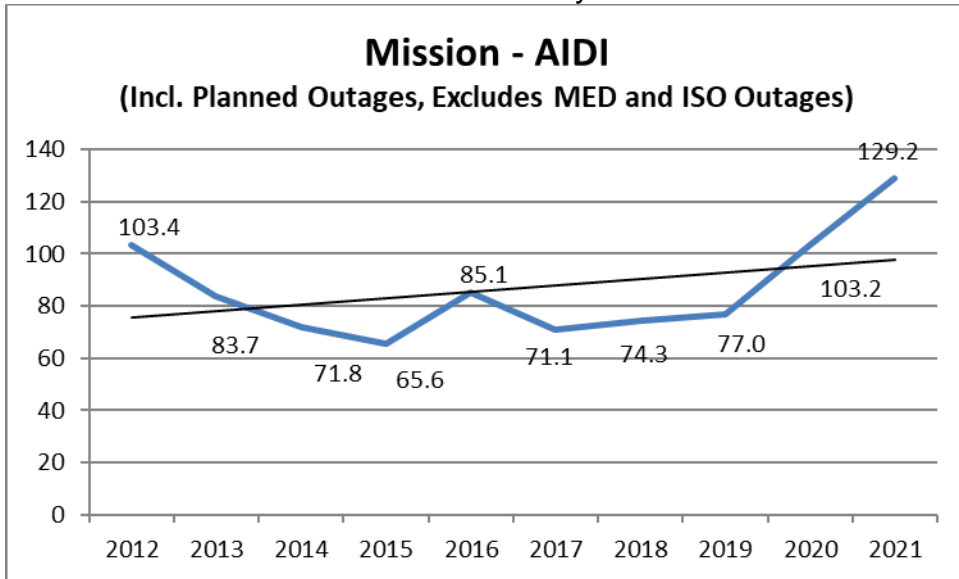


Chart 229: Division Reliability – AIDI Indices

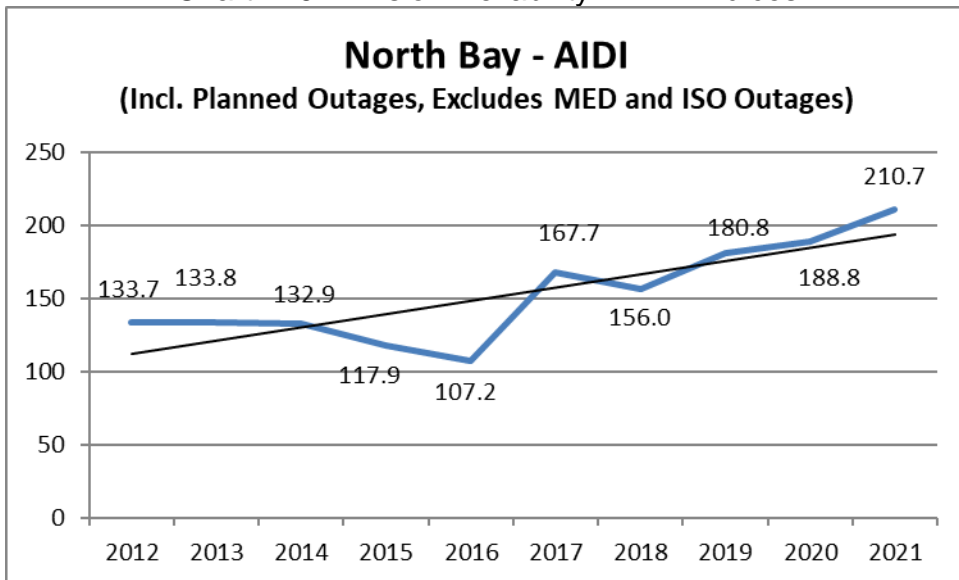


Chart 230: Division Reliability – AIDI Indices

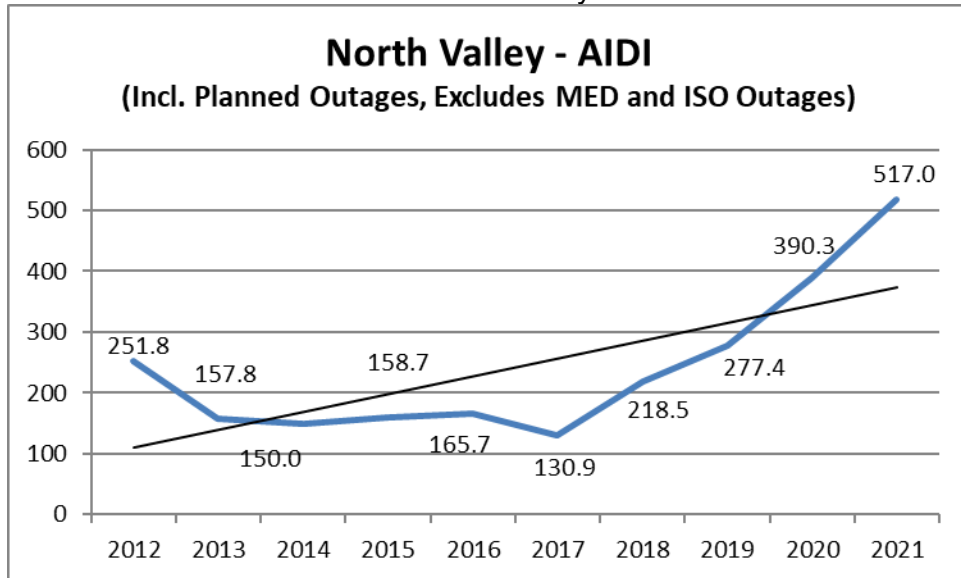


Chart 231: Division Reliability – AIDI Indices

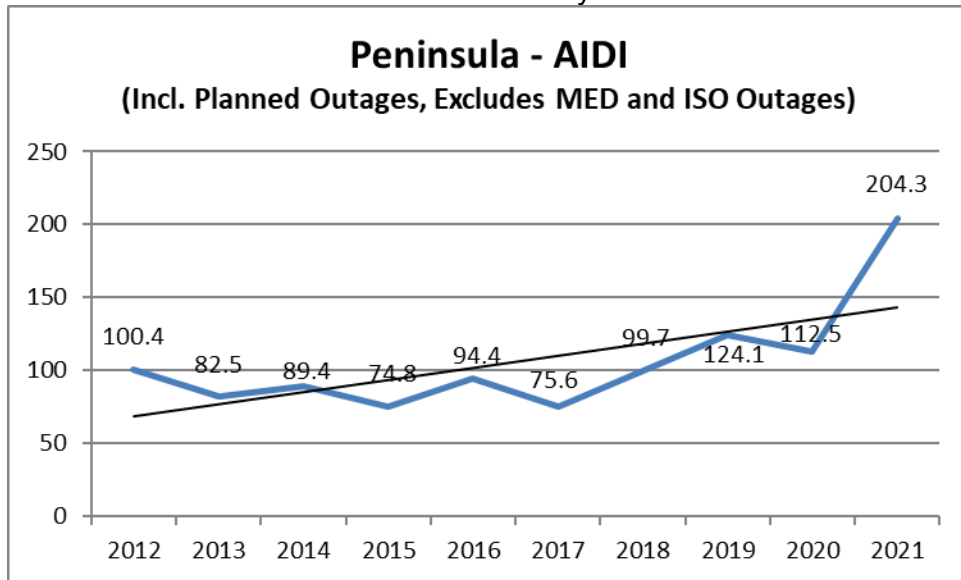


Chart 232: Division Reliability – AIDI Indices

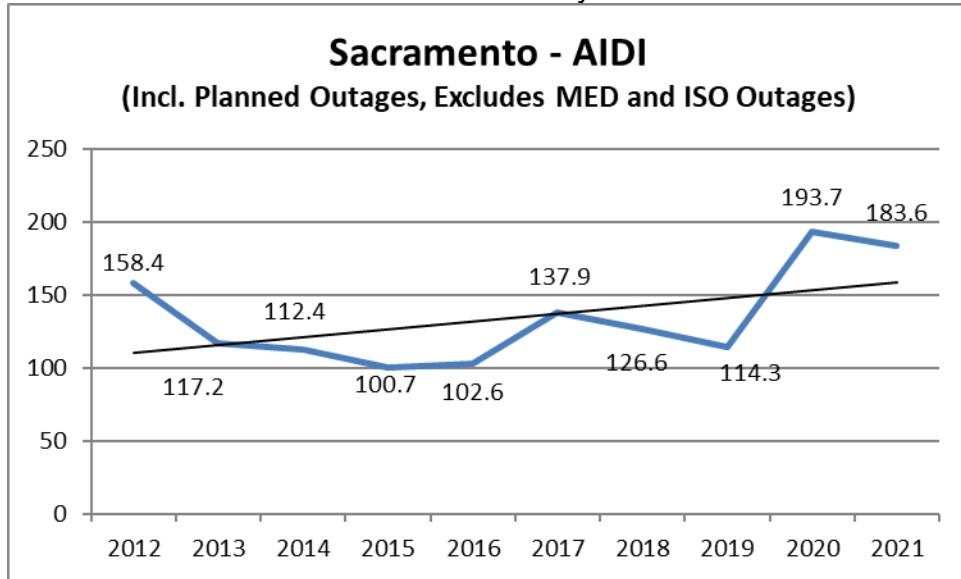


Chart 233: Division Reliability – AIDI Indices

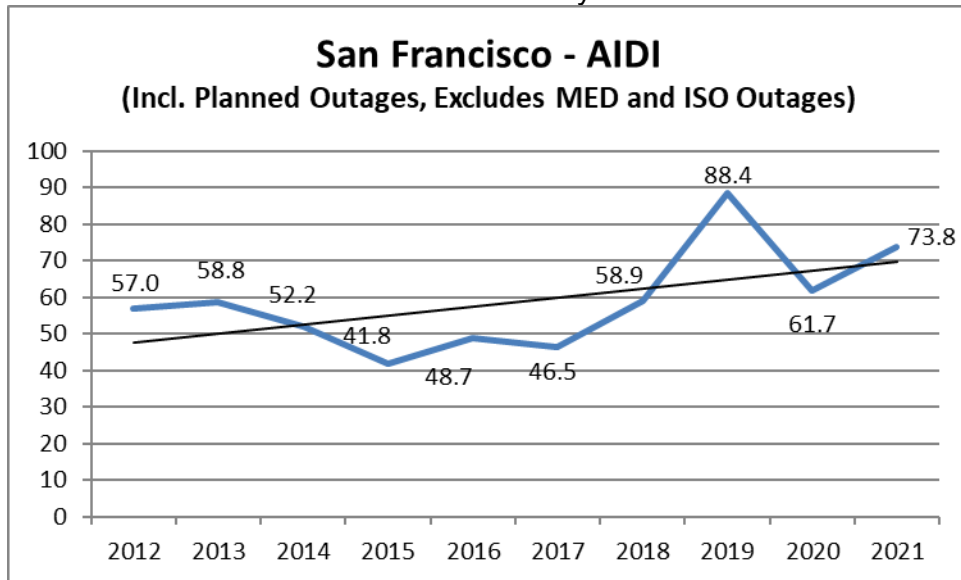


Chart 234: Division Reliability – AIDI Indices

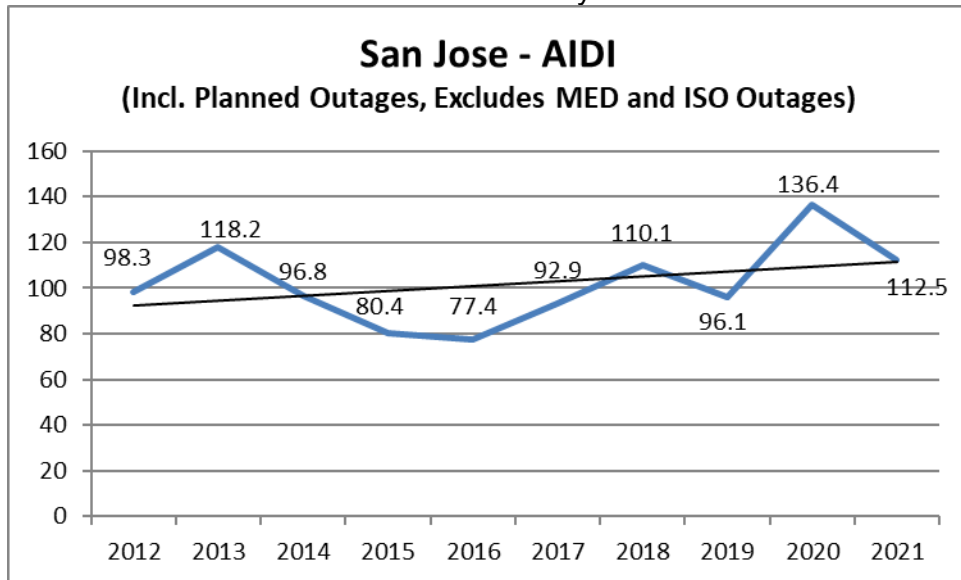


Chart 235: Division Reliability – AIDI Indices

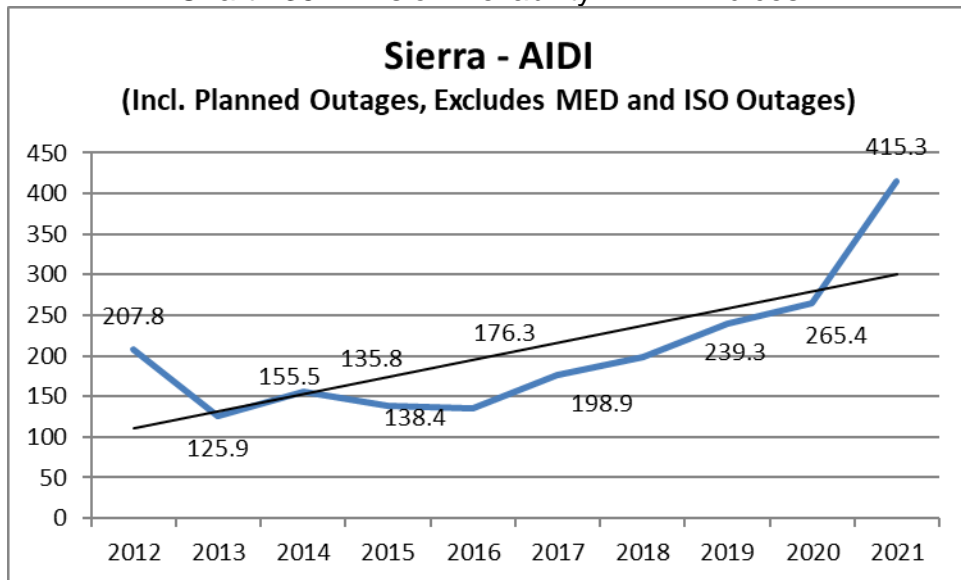


Chart 236: Division Reliability – AIDI Indices

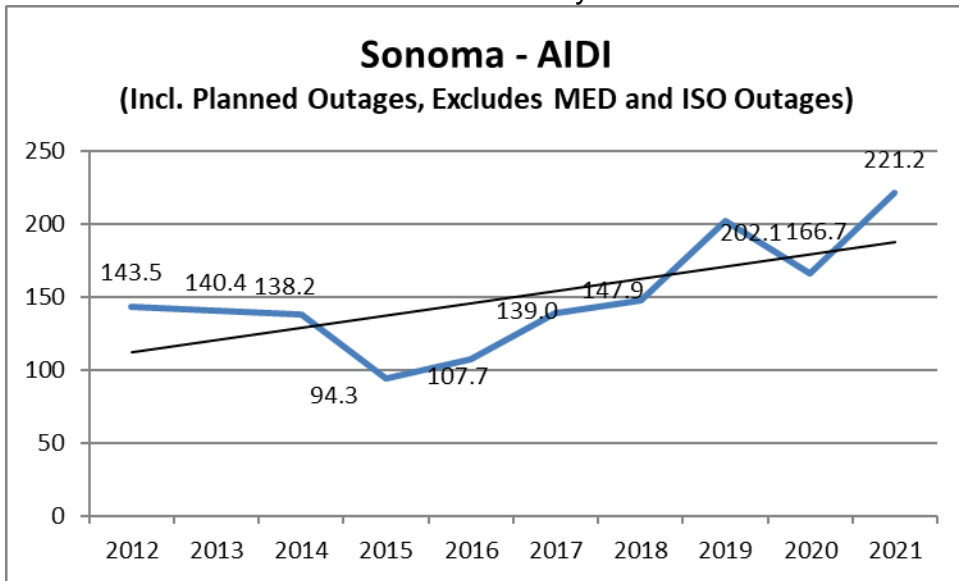


Chart 237: Division Reliability – AIDI Indices

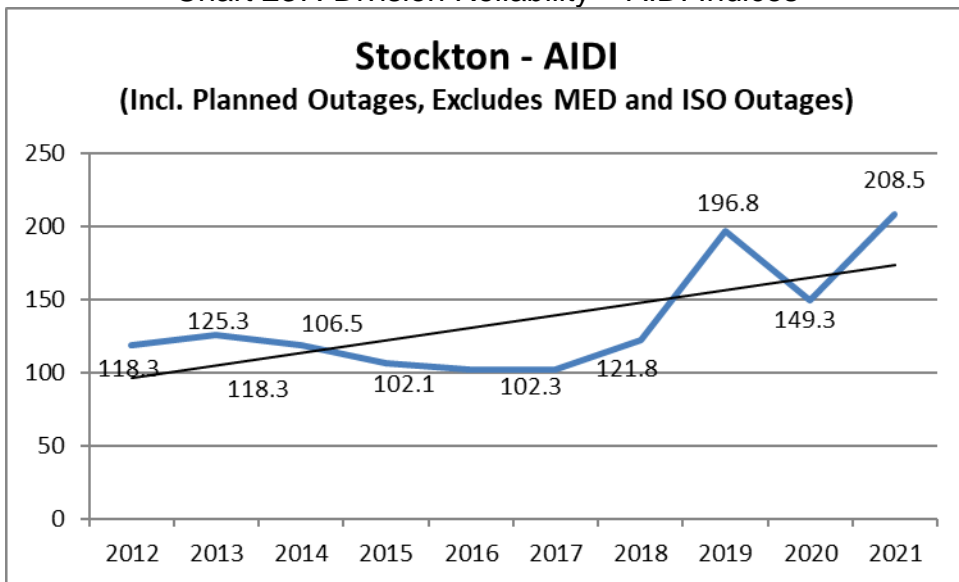


Chart 238: Division Reliability – AIDI Indices

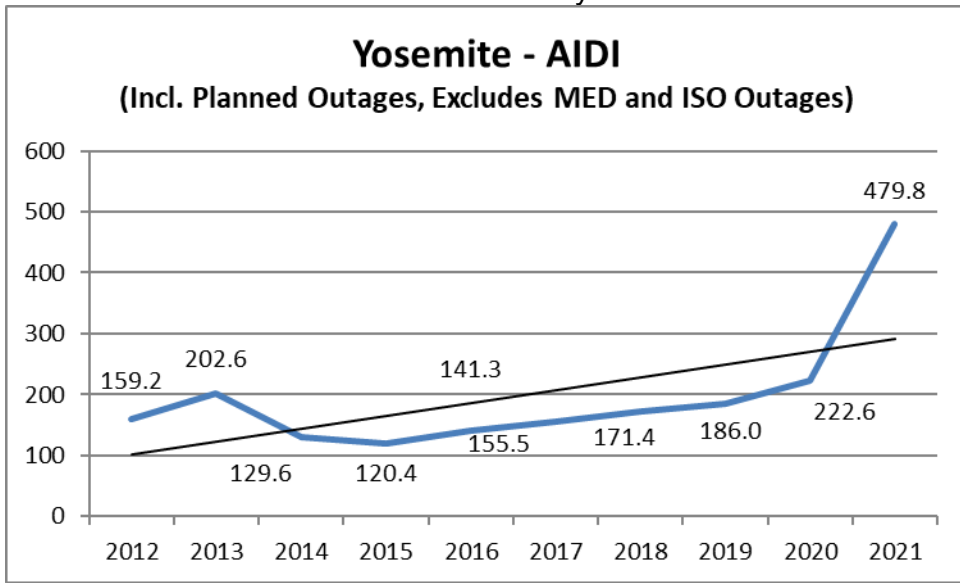
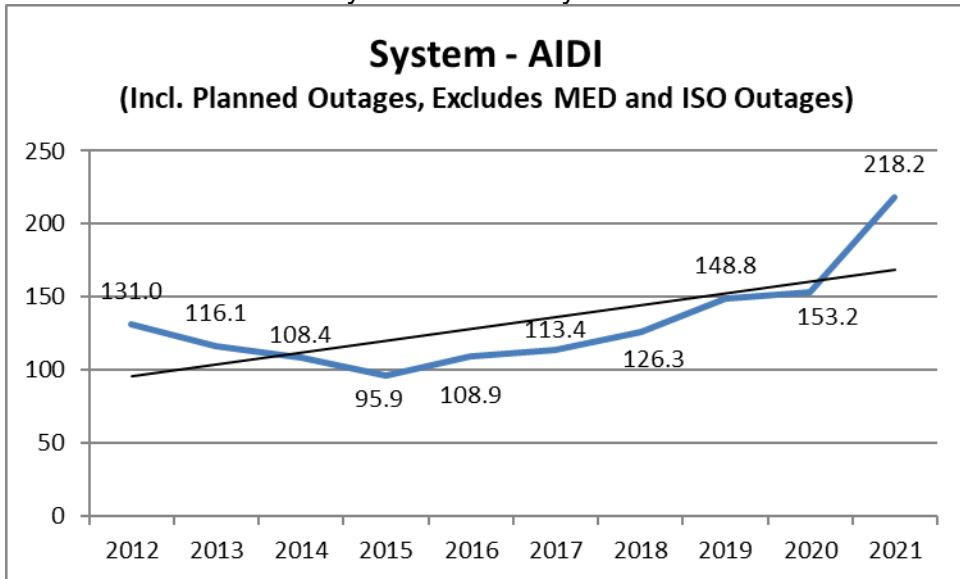


Chart 239: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Excluded)

Chart 240: Division Reliability – AIFI Indices

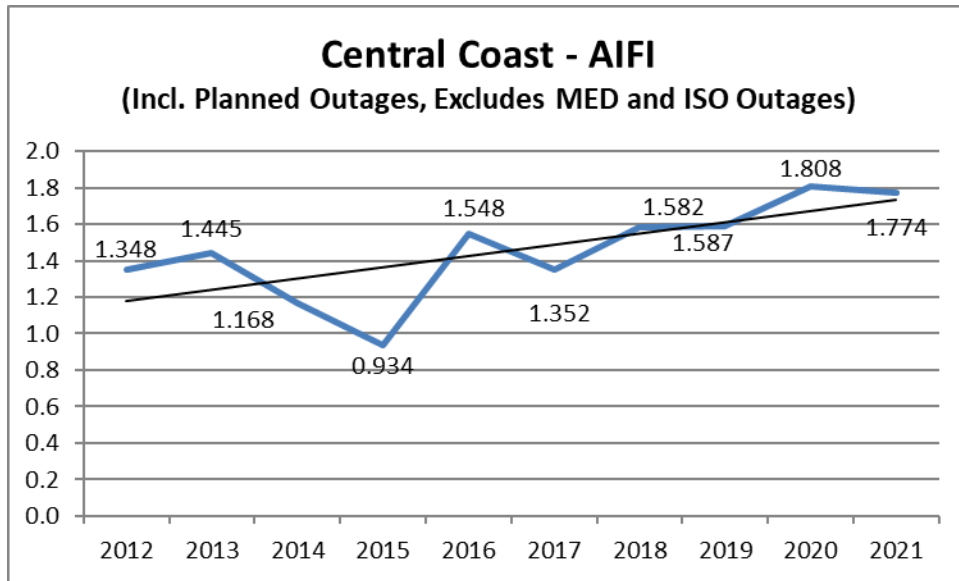


Chart 241: Division Reliability – AIFI Indices

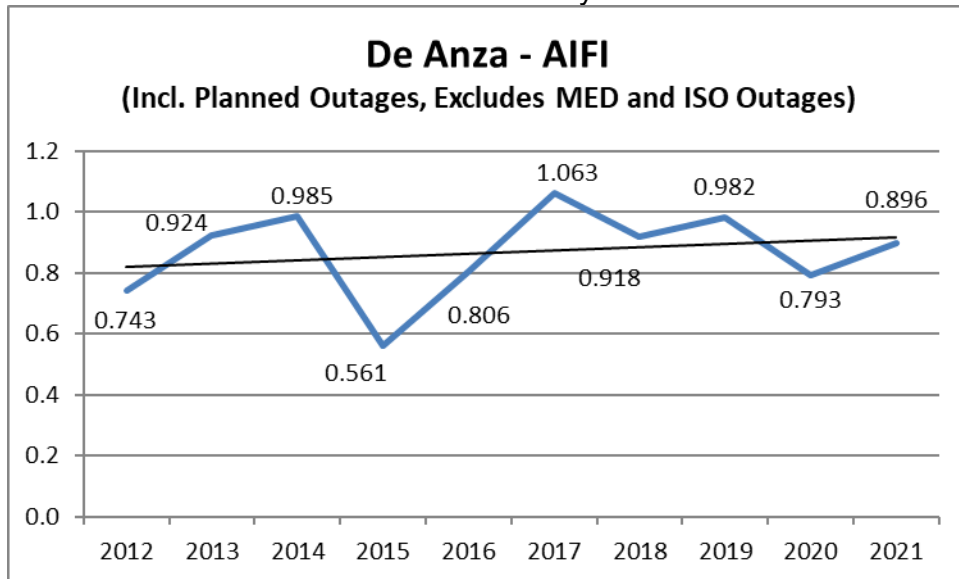


Chart 242: Division Reliability – AIFI Indices

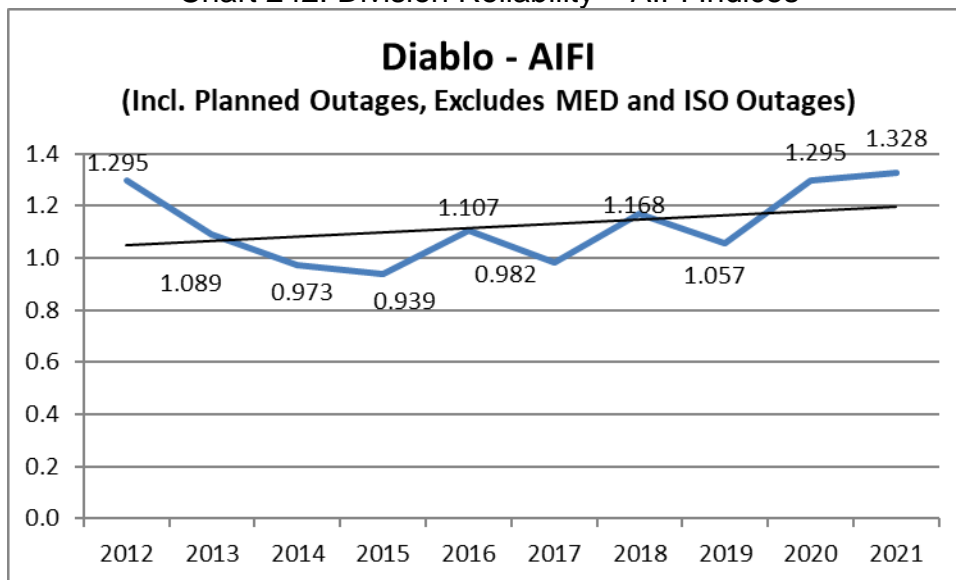


Chart 243: Division Reliability – AIFI Indices

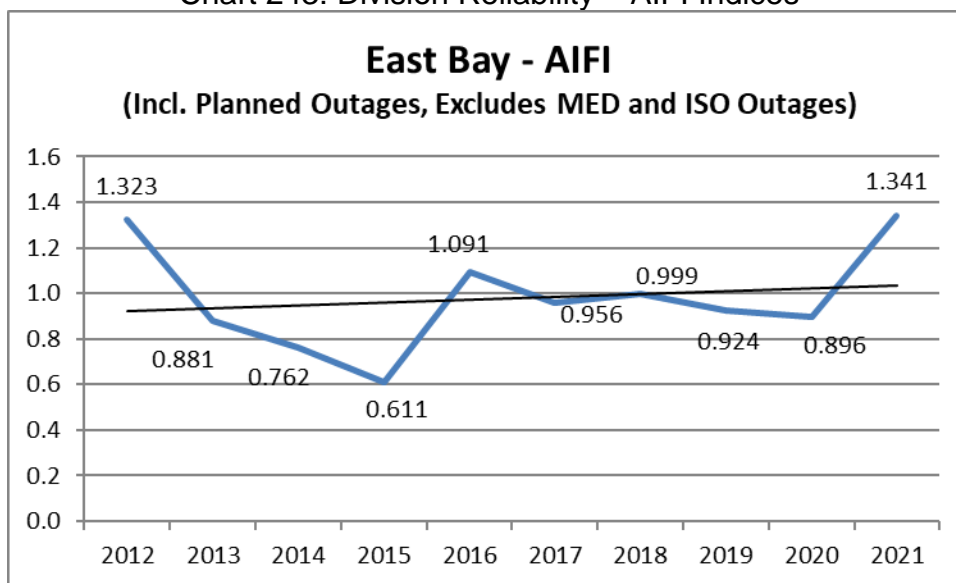


Chart 244: Division Reliability – AIFI Indices

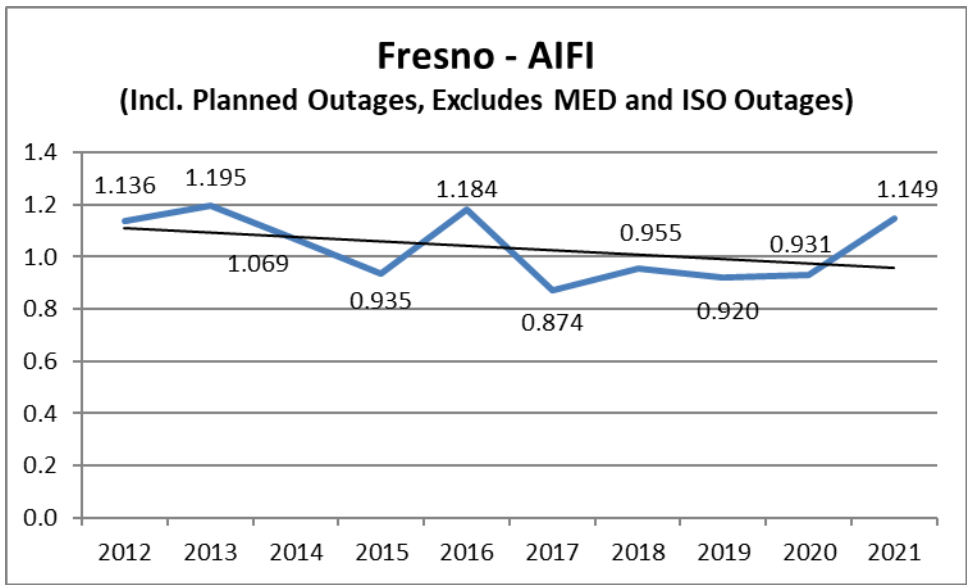


Chart 245: Division Reliability – AIFI Indices

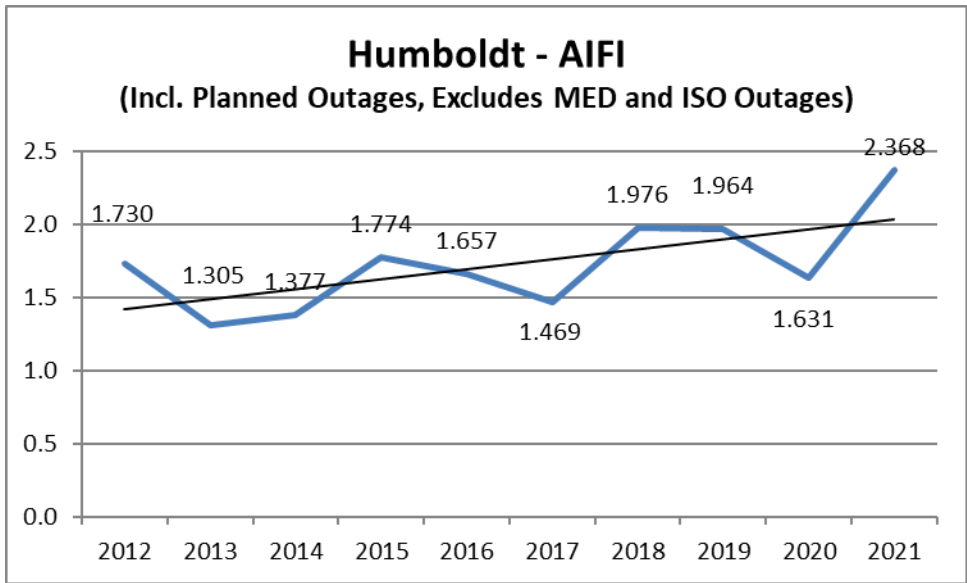


Chart 246: Division Reliability – AIFI Indices

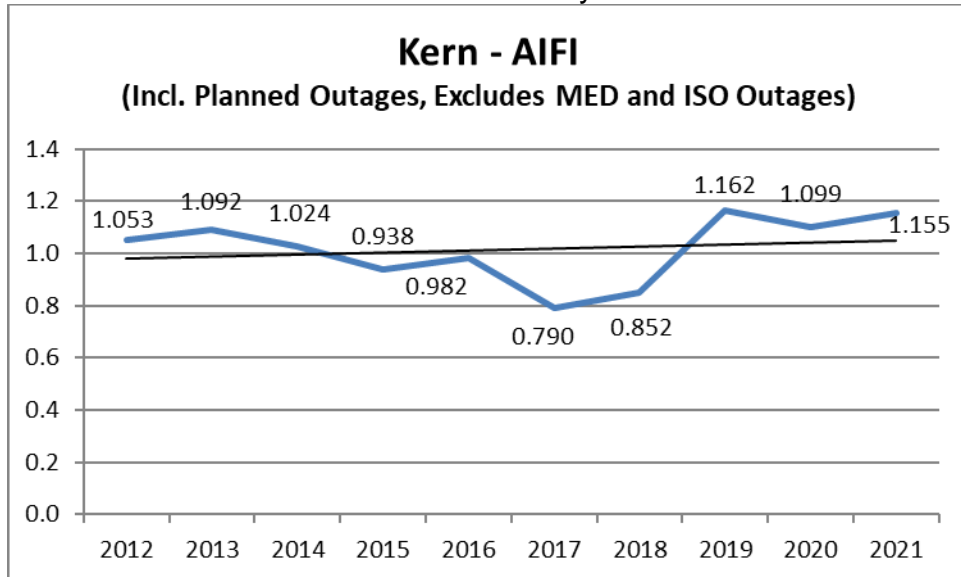


Chart 247: Division Reliability – AIFI Indices

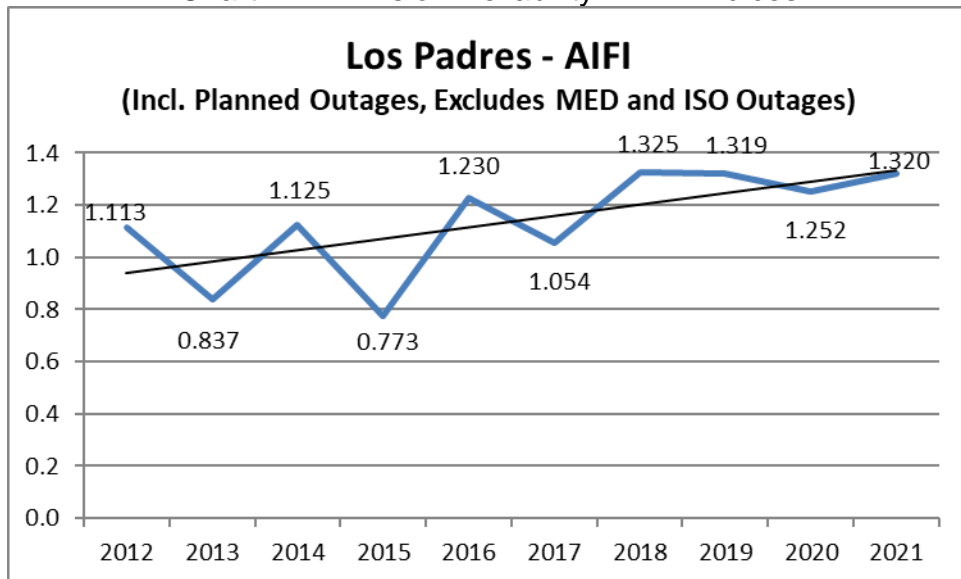


Chart 248: Division Reliability – AIFI Indices

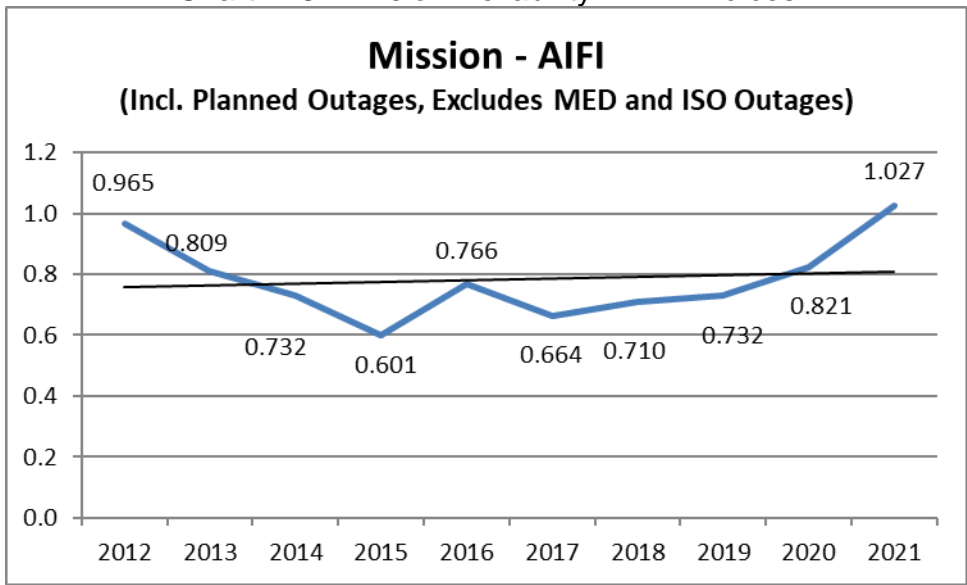


Chart 249: Division Reliability – AIFI Indices

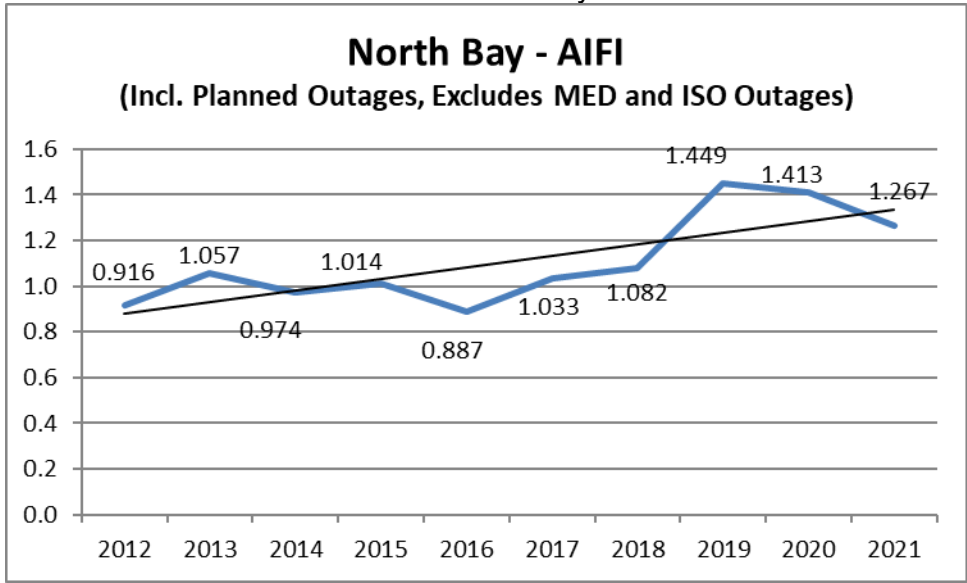


Chart 250: Division Reliability – AIFI Indices

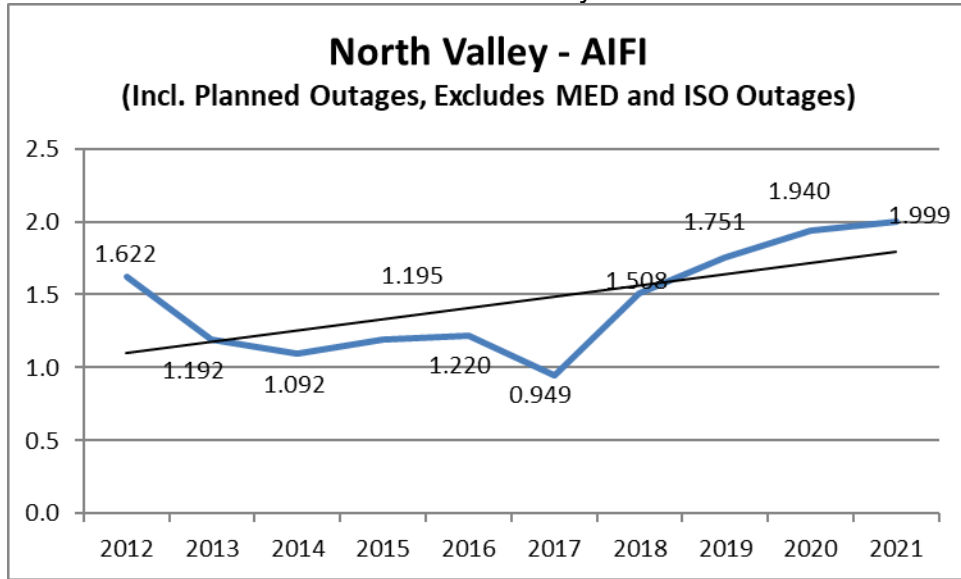


Chart 251: Division Reliability – AIFI Indices

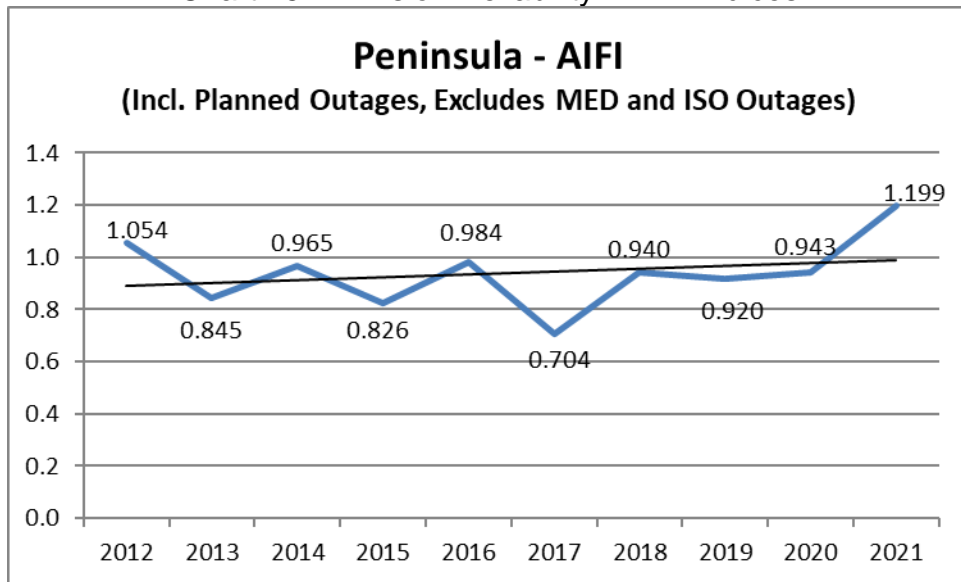


Chart 252: Division Reliability – AIFI Indices

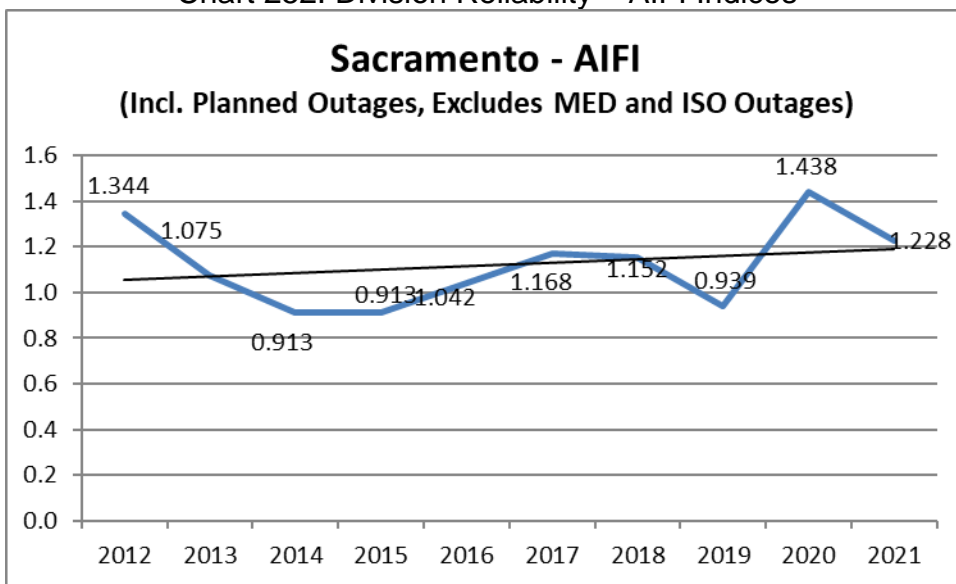


Chart 253: Division Reliability – AIFI Indices

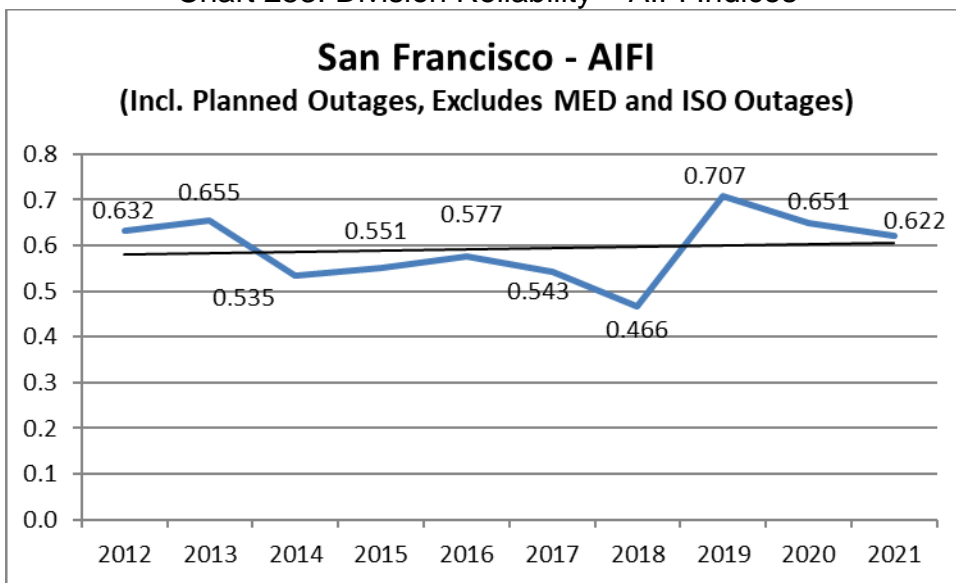


Chart 254: Division Reliability – AIFI Indices

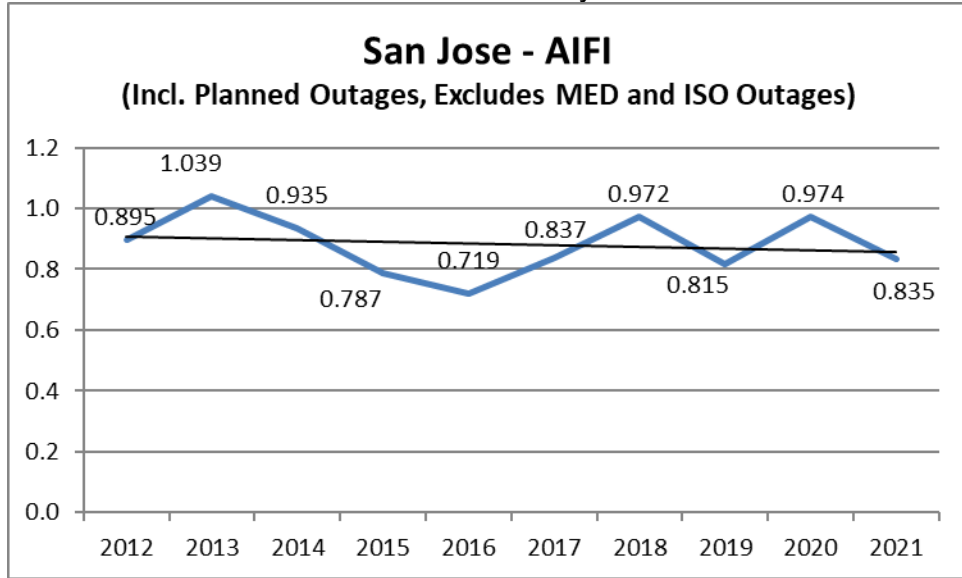


Chart 255: Division Reliability – AIFI Indices

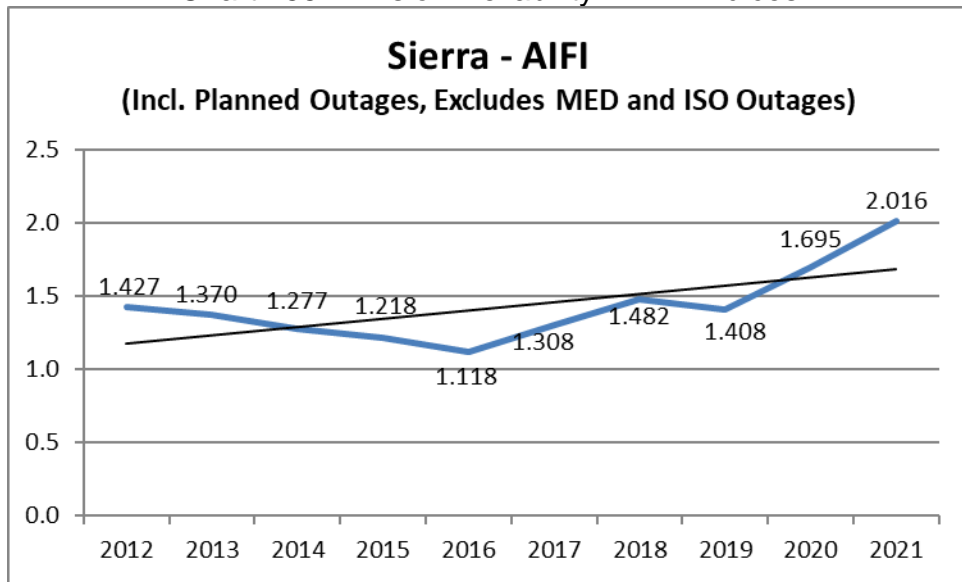


Chart 256: Division Reliability – AIFI Indices

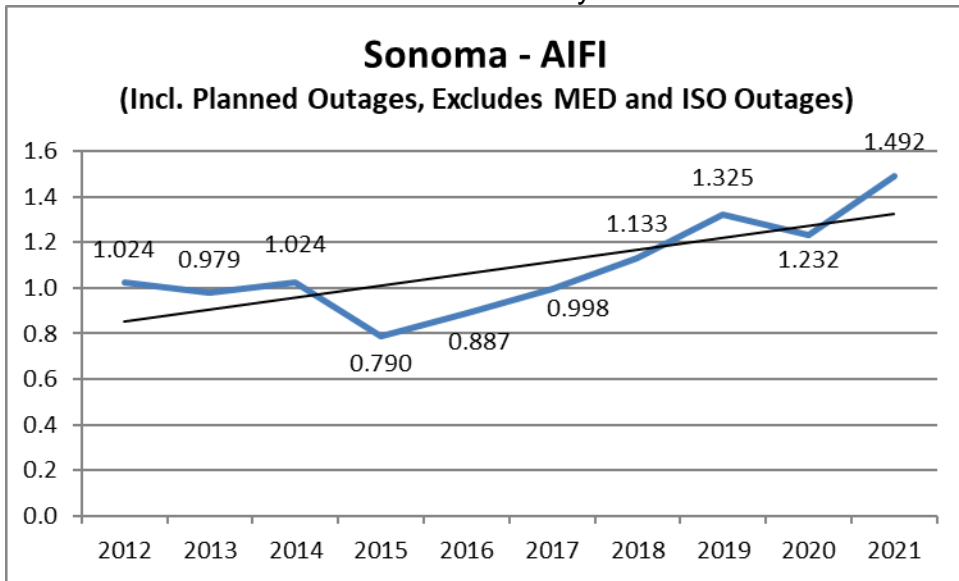


Chart 257: Division Reliability – AIFI Indices

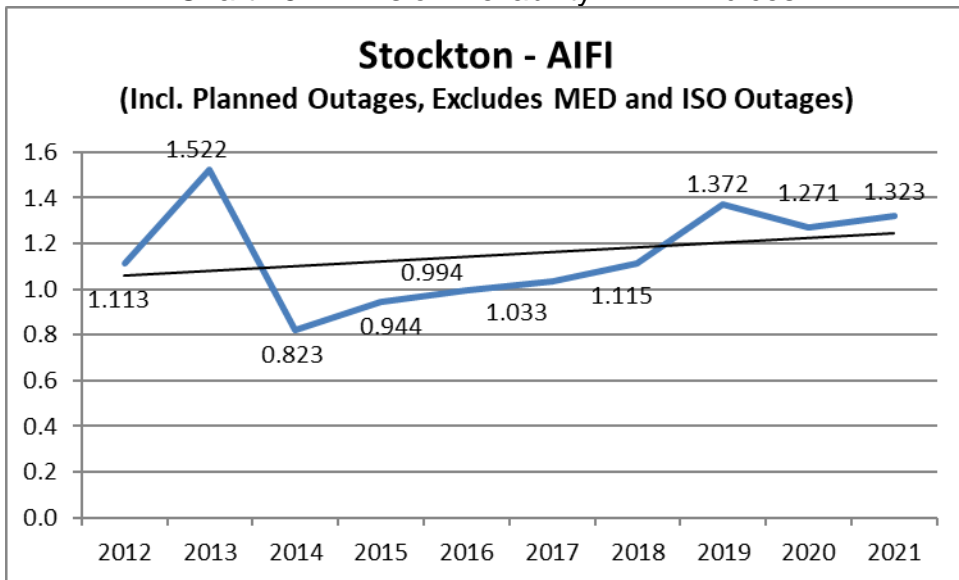


Chart 258: Division Reliability – AIFI Indices

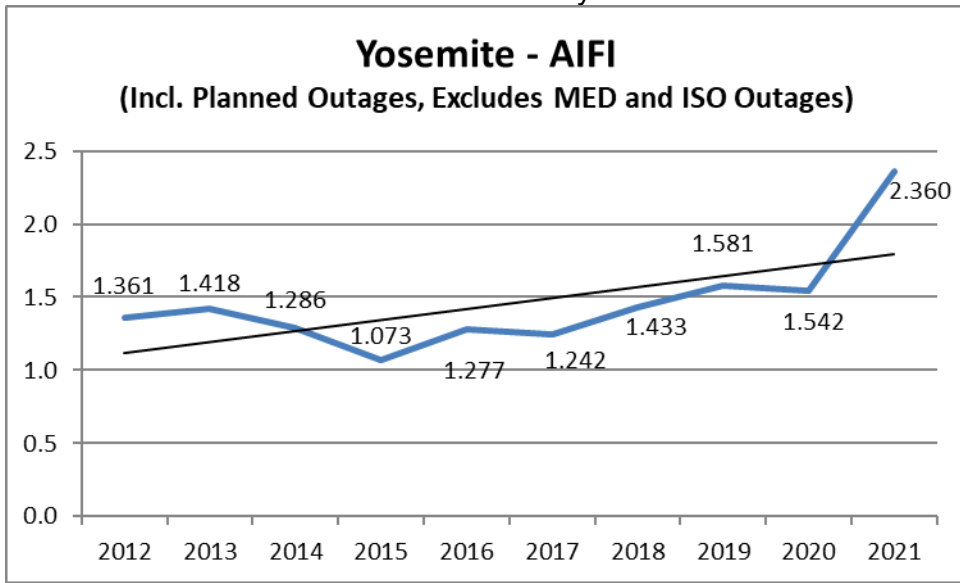
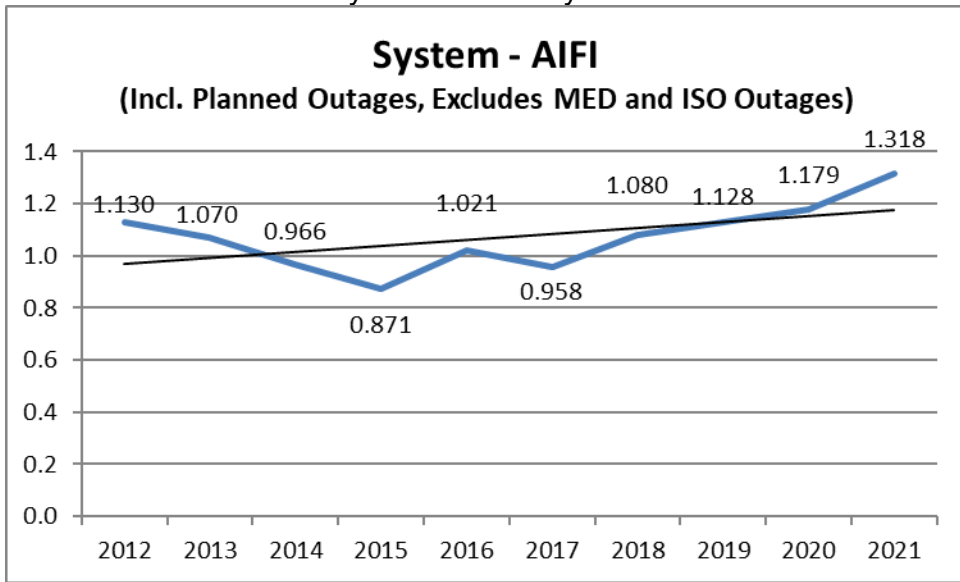


Chart 259: System Reliability – SAIFI Indices



3. MAIFI¹⁰ Performance Results (MED Excluded)

Chart 260: Division Reliability – MAIFI Indices

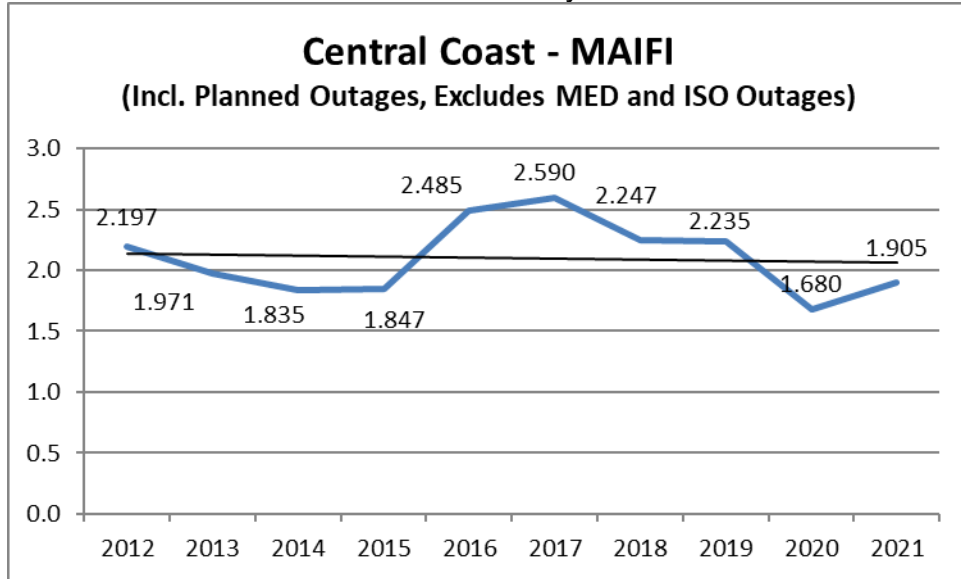


Chart 261: Division Reliability – MAIFI Indices

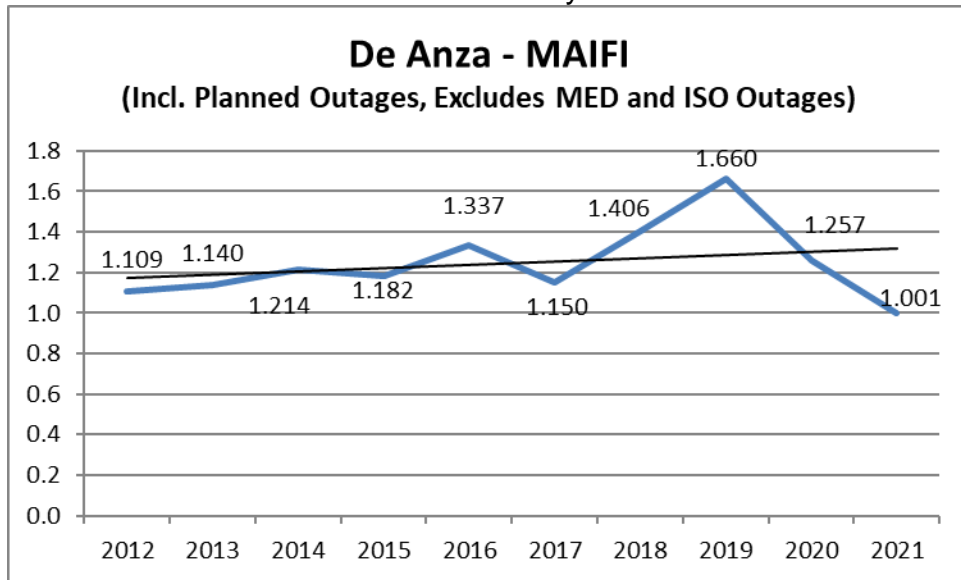


Chart 262: Division Reliability – MAIFI Indices

¹⁰ See footnote 4.

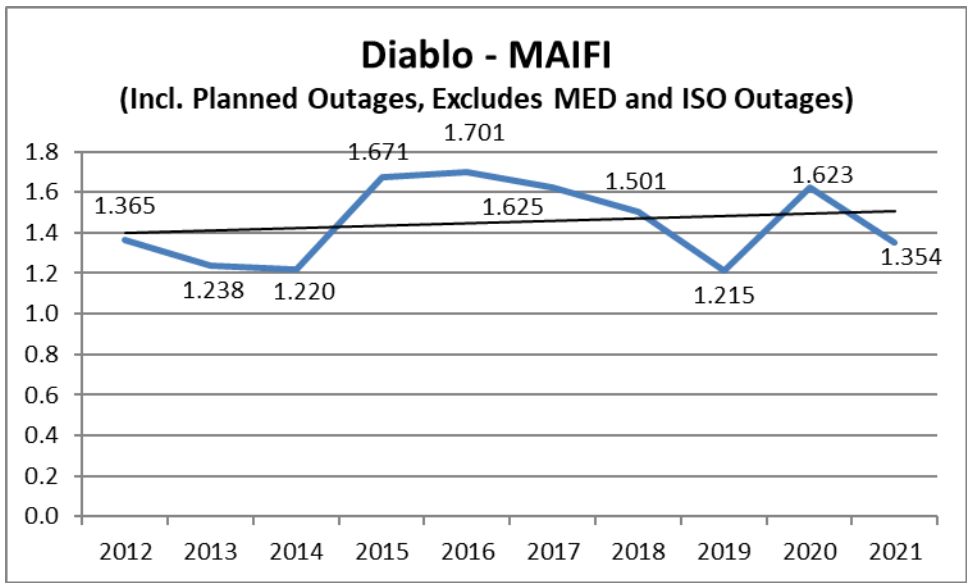


Chart 263: Division Reliability – MAIFI Indices

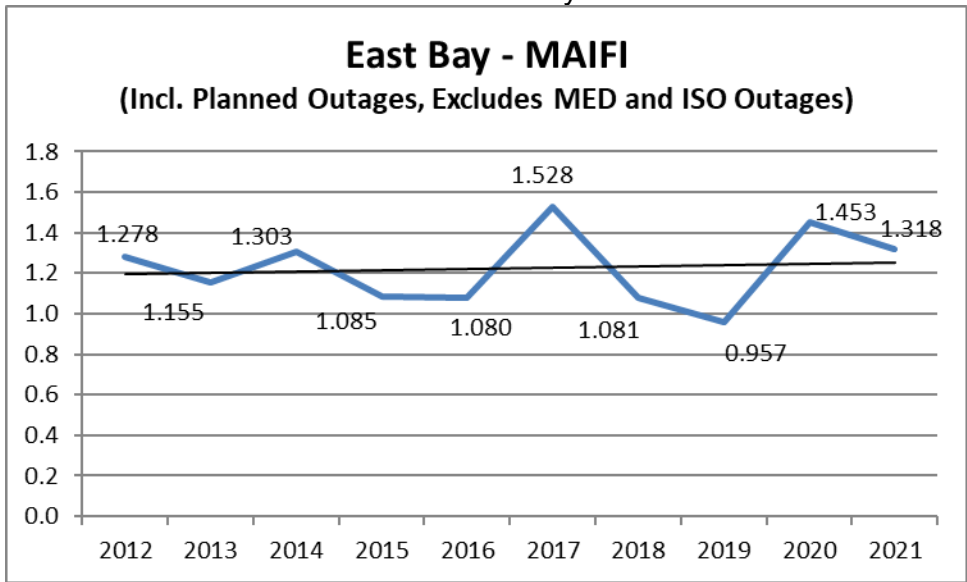


Chart 264: Division Reliability – MAIFI Indices

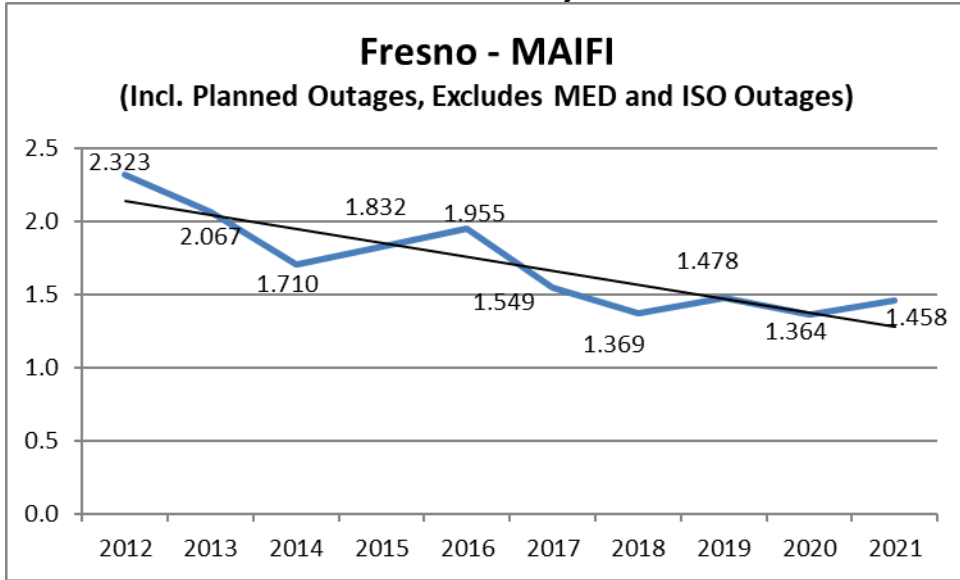


Chart 265: Division Reliability – MAIFI Indices

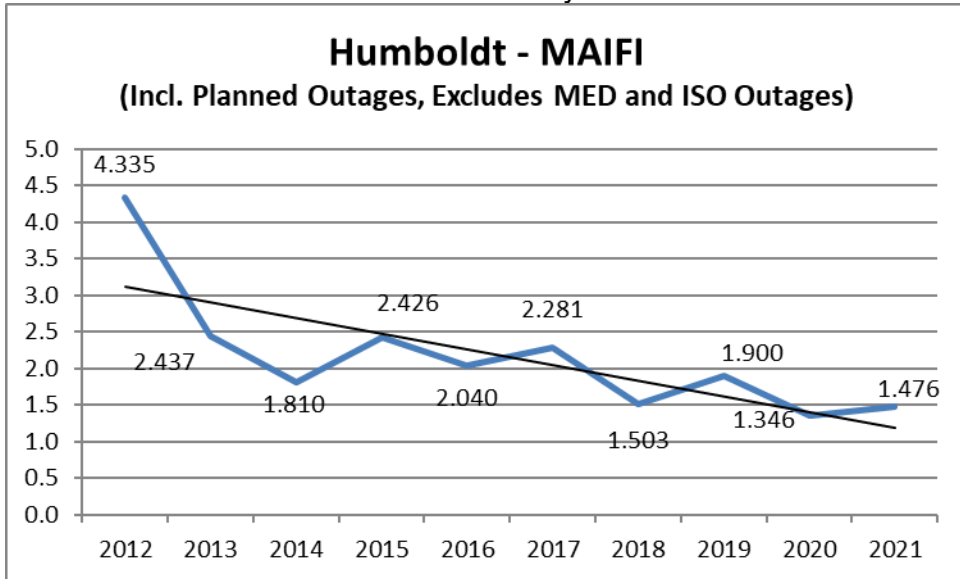


Chart 266: Division Reliability – MAIFI Indices

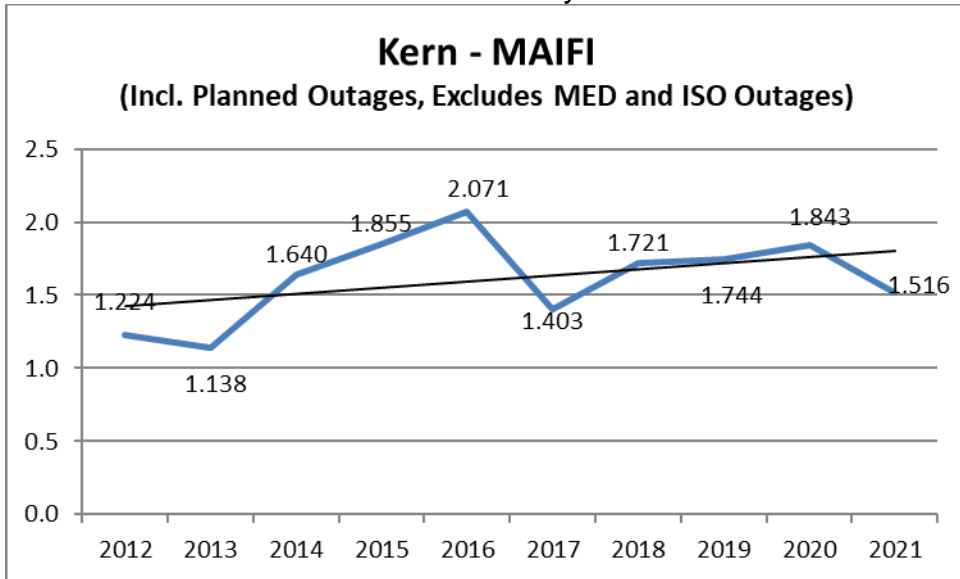


Chart 267: Division Reliability – MAIFI Indices

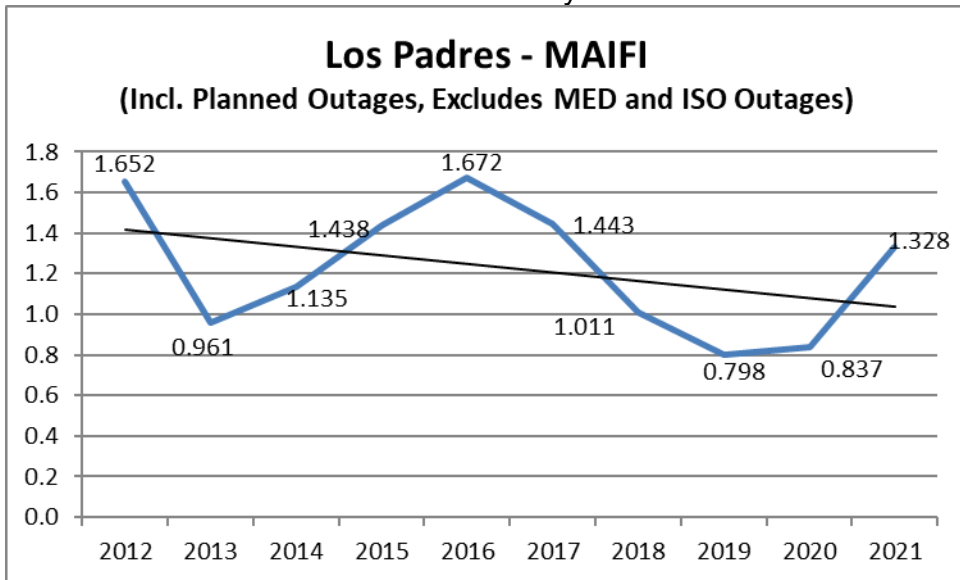


Chart 268: Division Reliability – MAIFI Indices

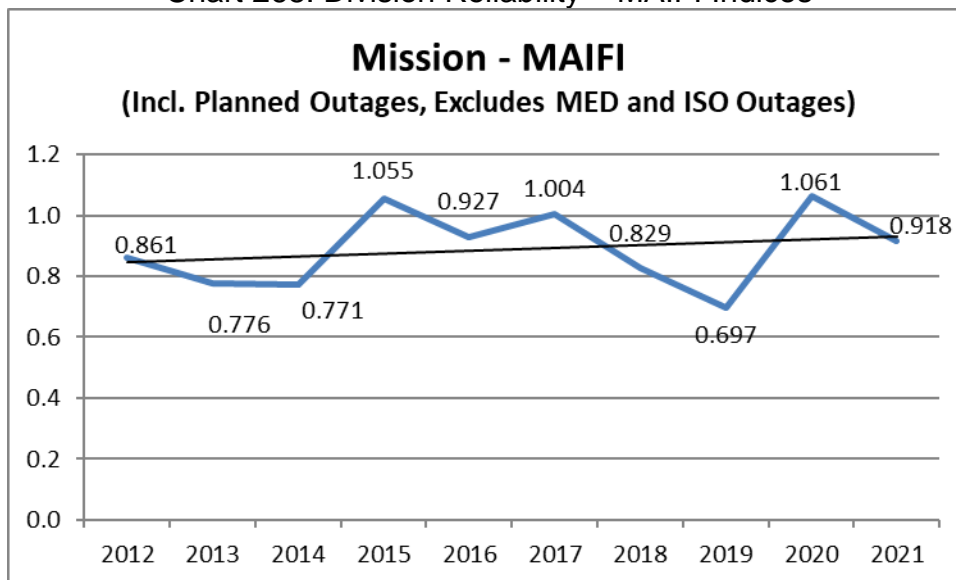


Chart 269: Division Reliability – MAIFI Indices

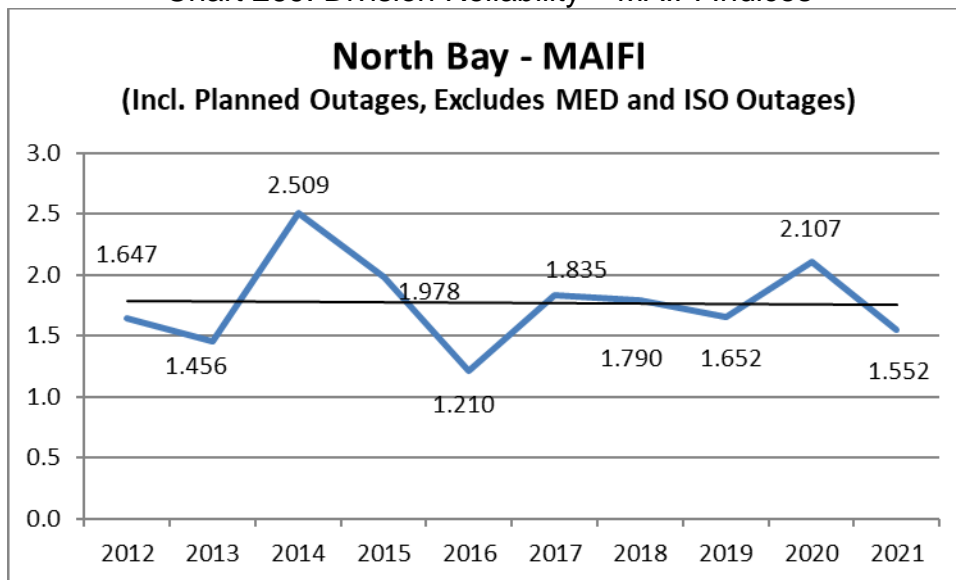


Chart 270: Division Reliability – MAIFI Indices

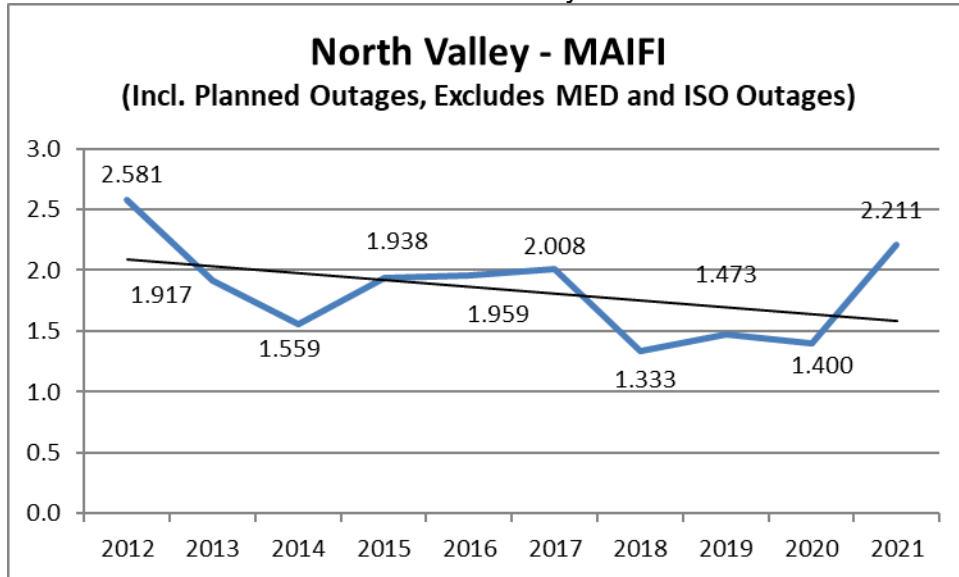


Chart 271: Division Reliability – MAIFI Indices

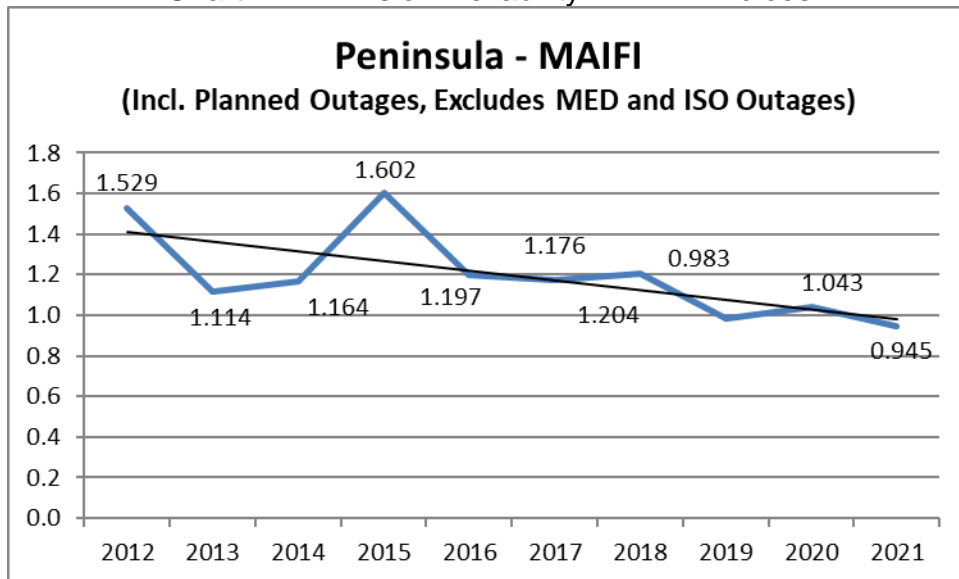


Chart 272: Division Reliability – MAIFI Indices

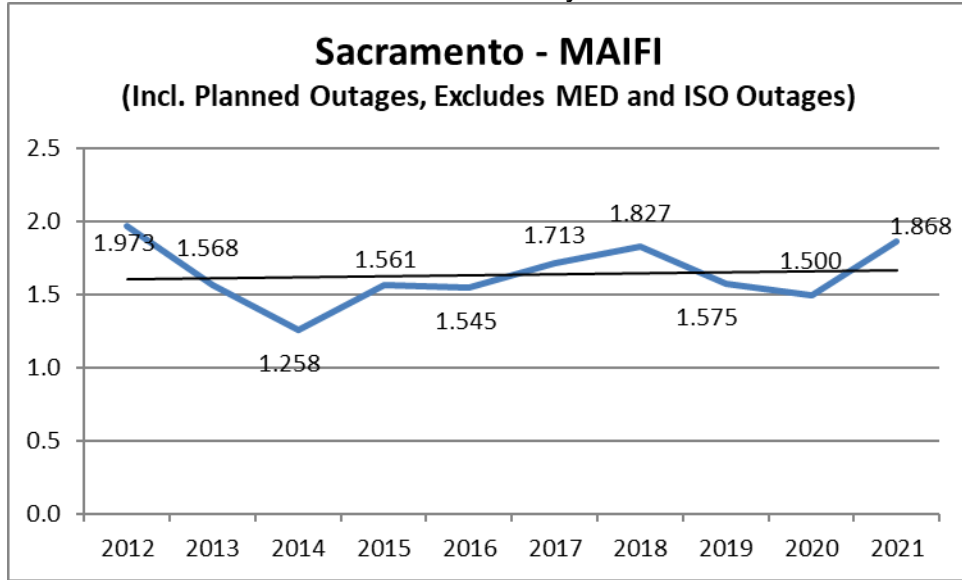


Chart 273: Division Reliability – MAIFI Indices

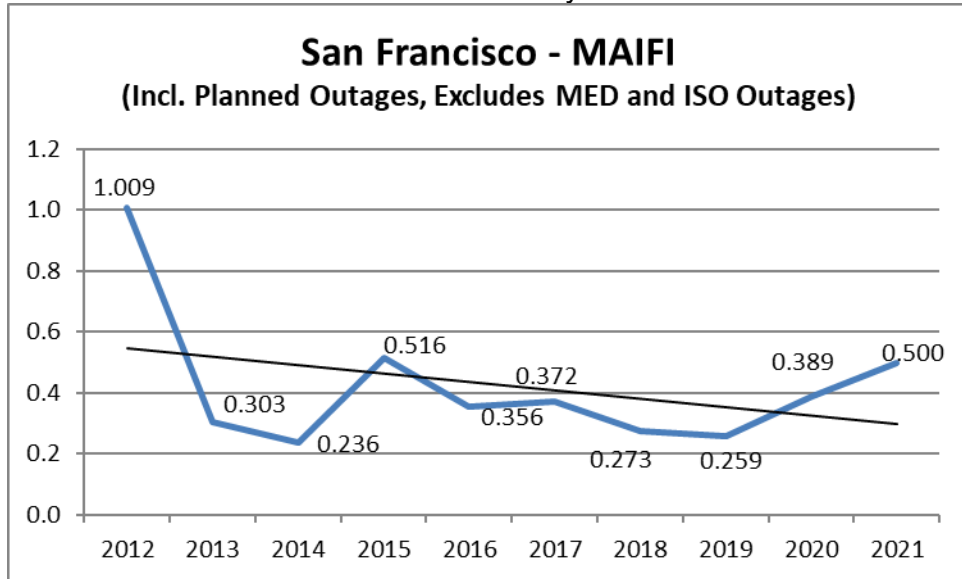


Chart 274: Division Reliability – MAIFI Indices

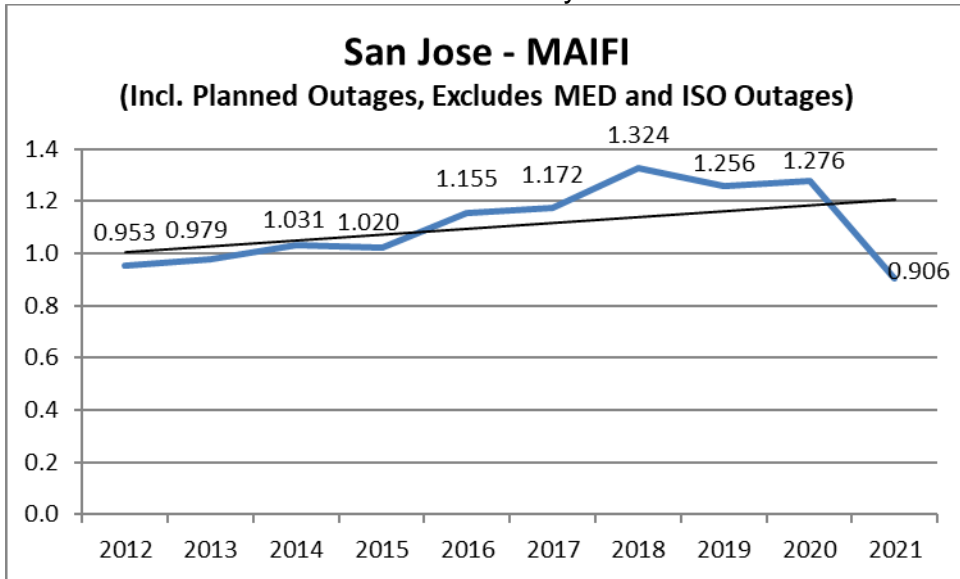


Chart 275: Division Reliability – MAIFI Indices

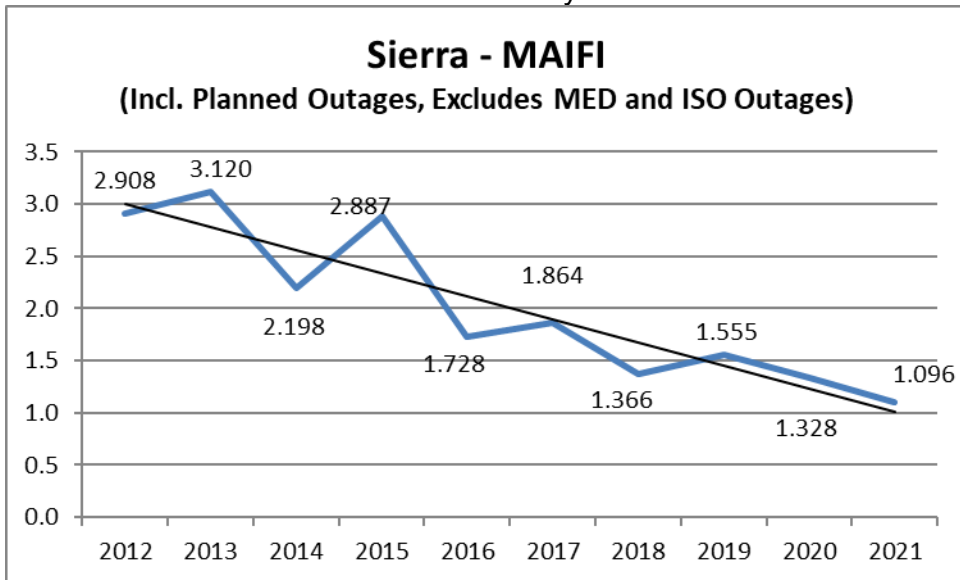


Chart 276: Division Reliability – MAIFI Indices

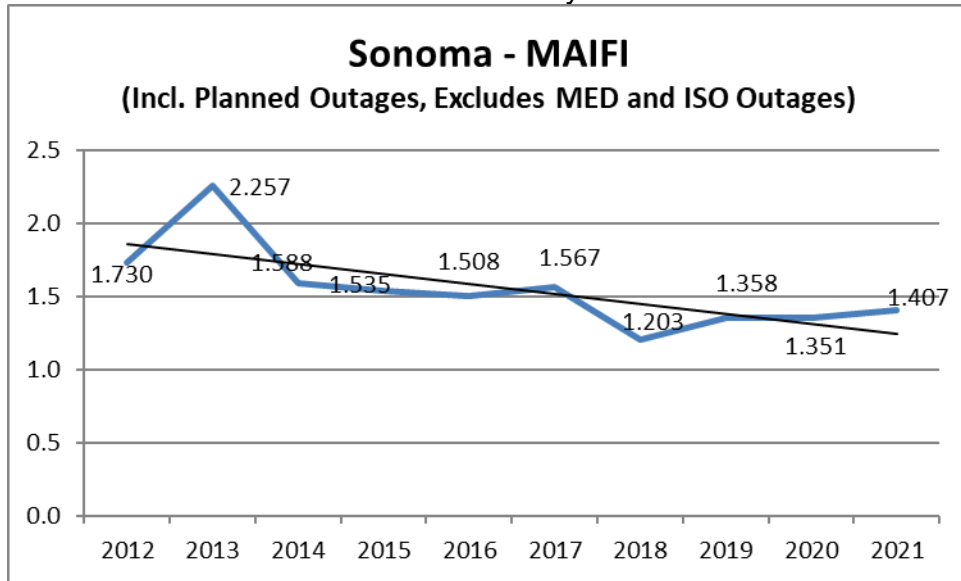


Chart 277: Division Reliability – MAIFI Indices

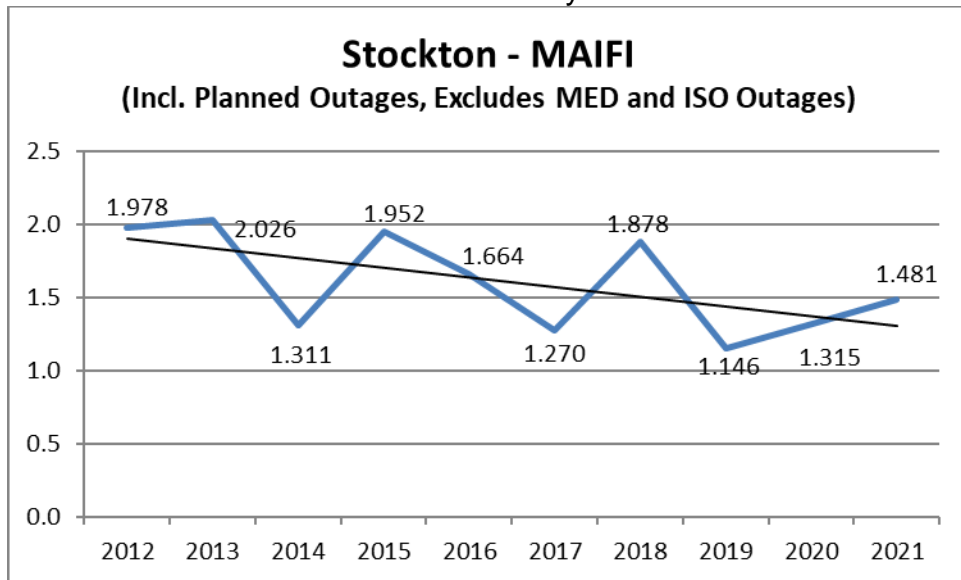


Chart 278: Division Reliability – MAIFI Indices

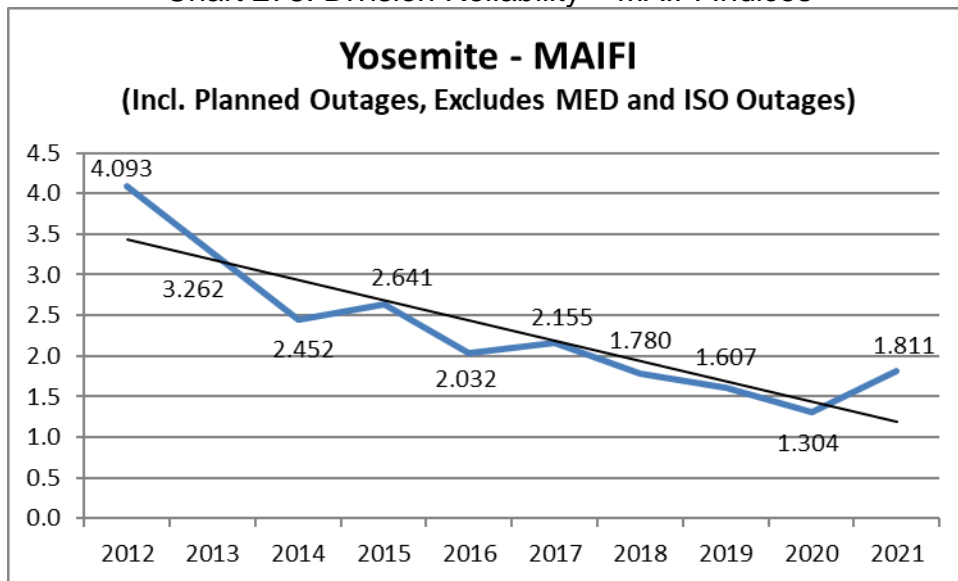
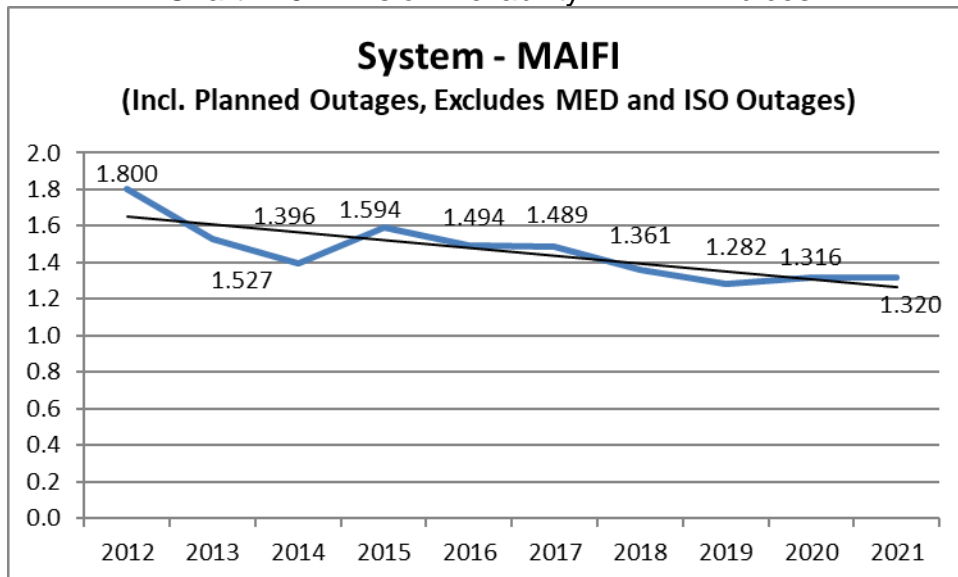


Chart 279: Division Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Excluded)

Chart 280: Division Reliability – CAIDI Indices

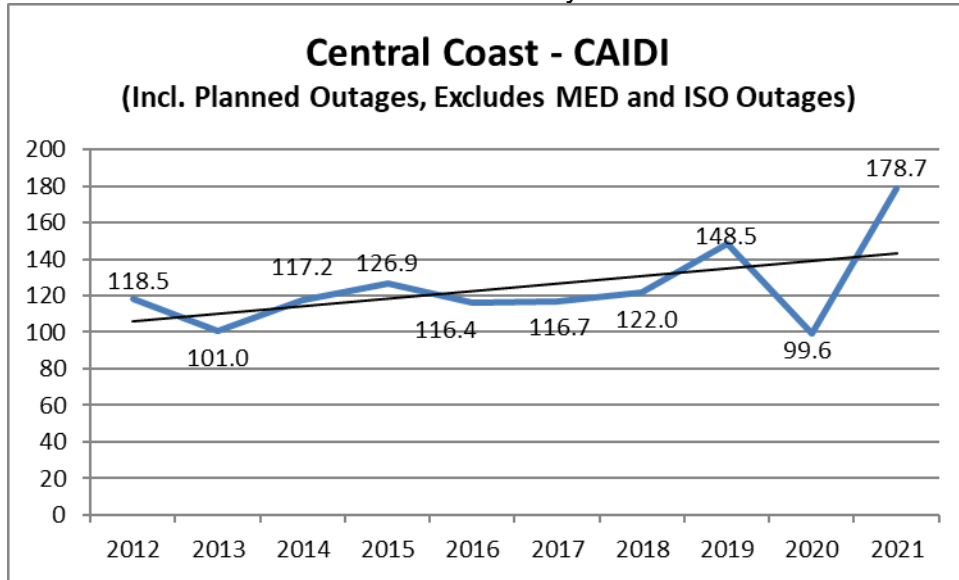


Chart 281: Division Reliability – CAIDI Indices

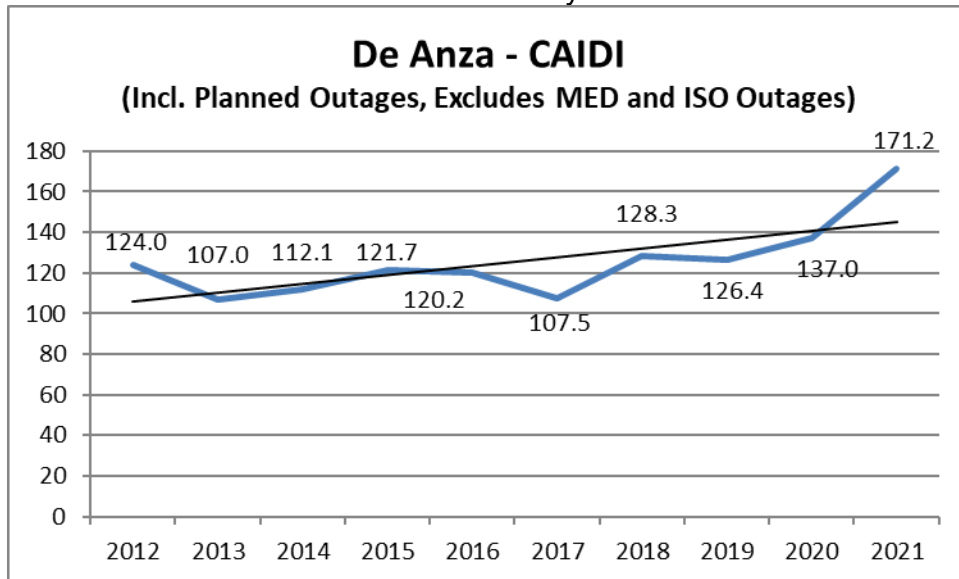


Chart 282: Division Reliability – CAIDI Indices

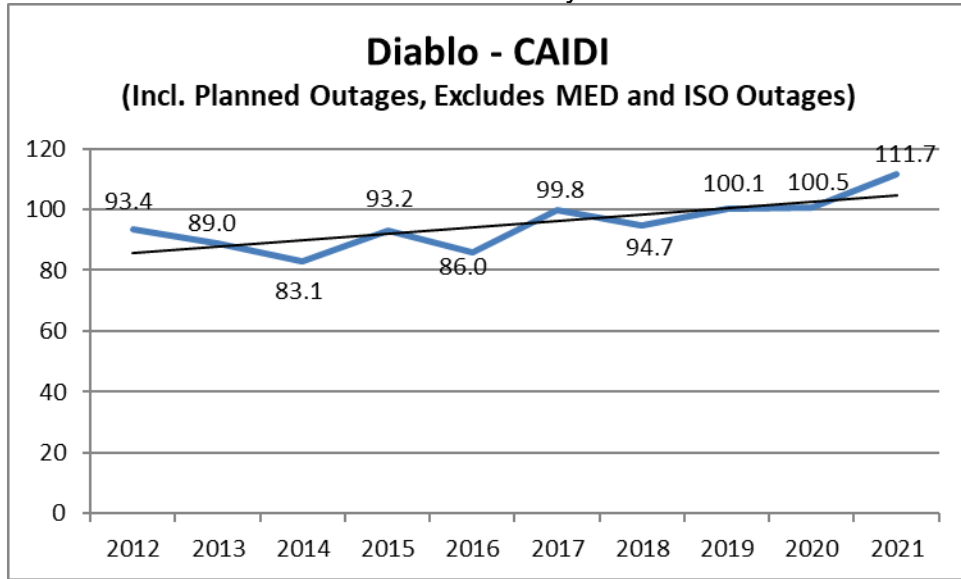


Chart 283: Division Reliability – CAIDI Indices

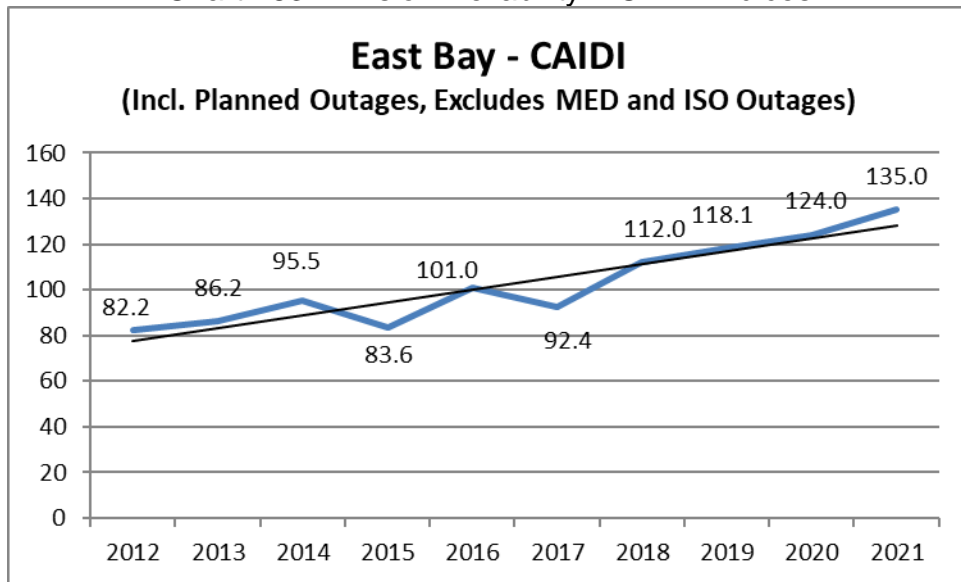


Chart 284: Division Reliability – CAIDI Indices

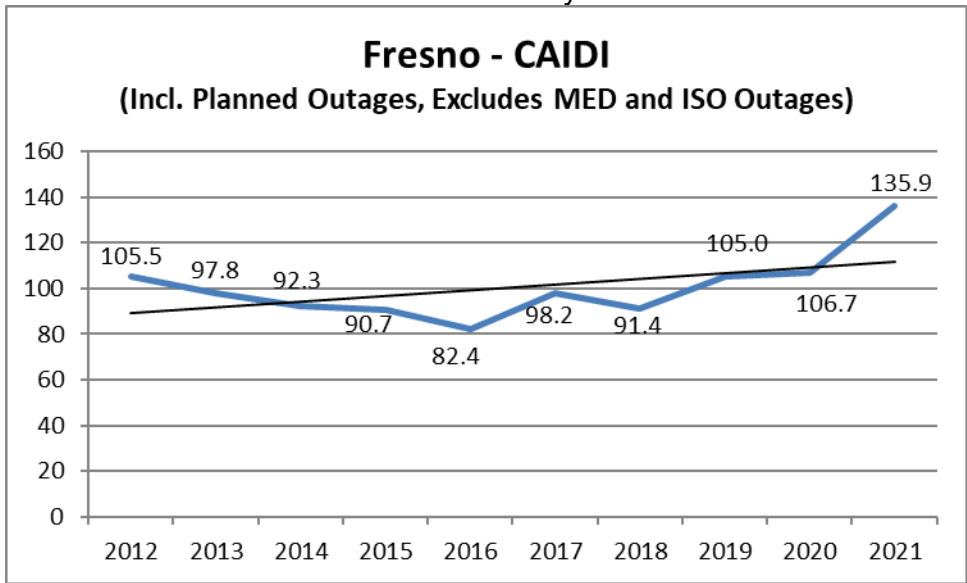


Chart 285: Division Reliability – CAIDI Indices

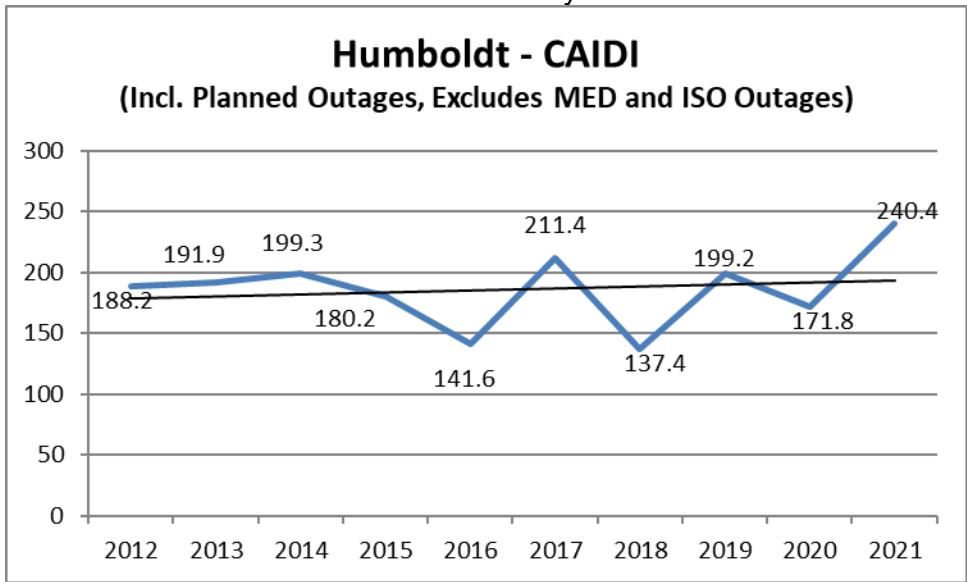


Chart 286: Division Reliability – CAIDI Indices

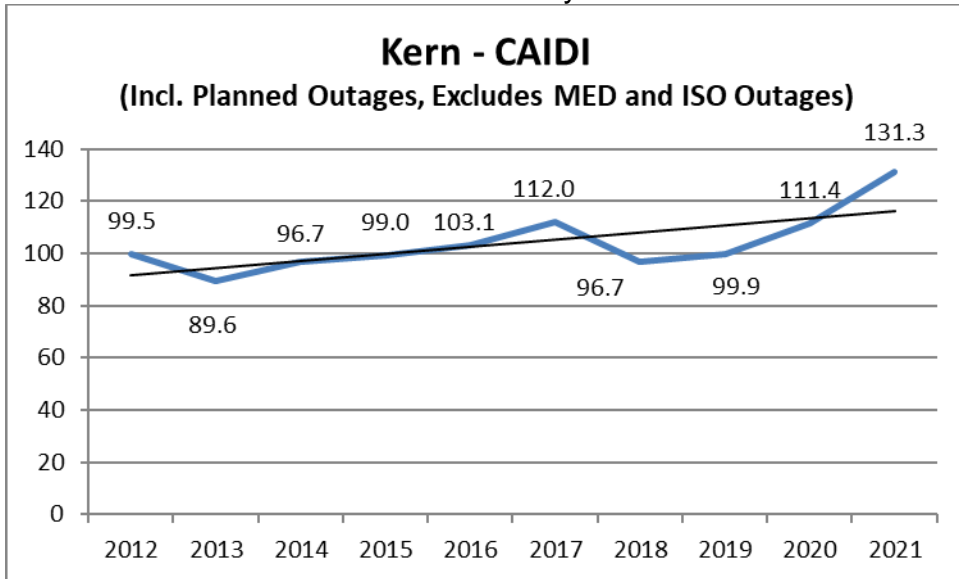


Chart 287: Division Reliability – CAIDI Indices

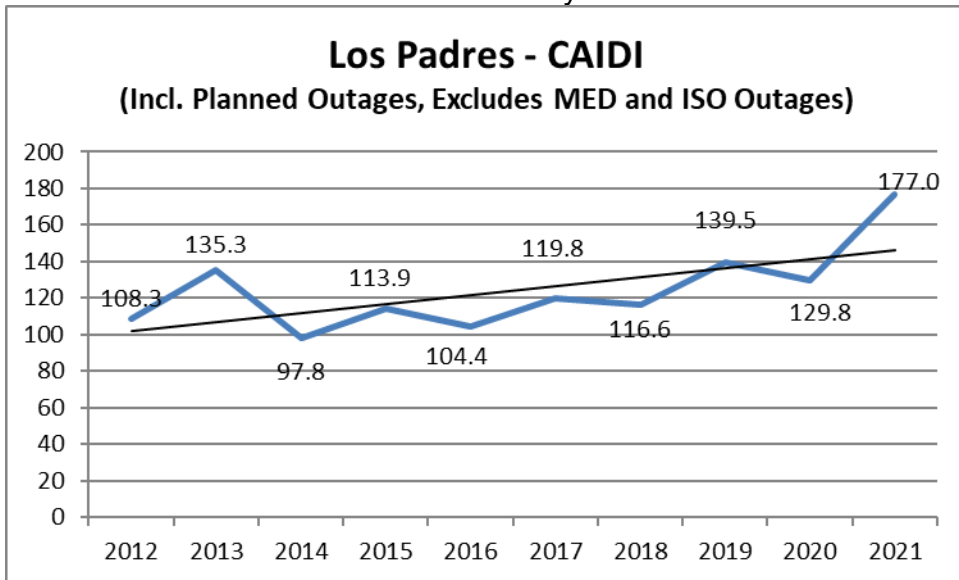


Chart 288: Division Reliability – CAIDI Indices

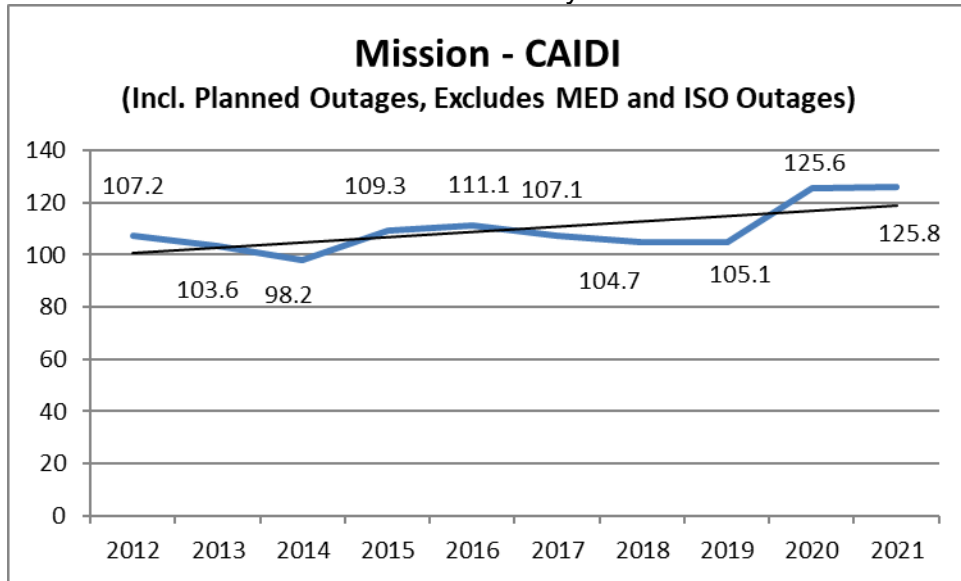


Chart 289: Division Reliability – CAIDI Indices

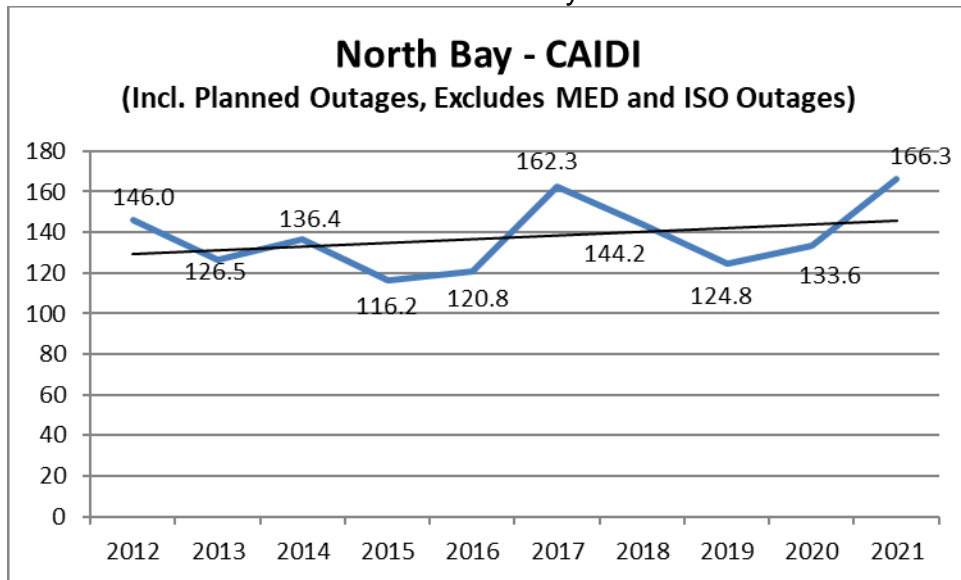


Chart 290: Division Reliability – CAIDI Indices

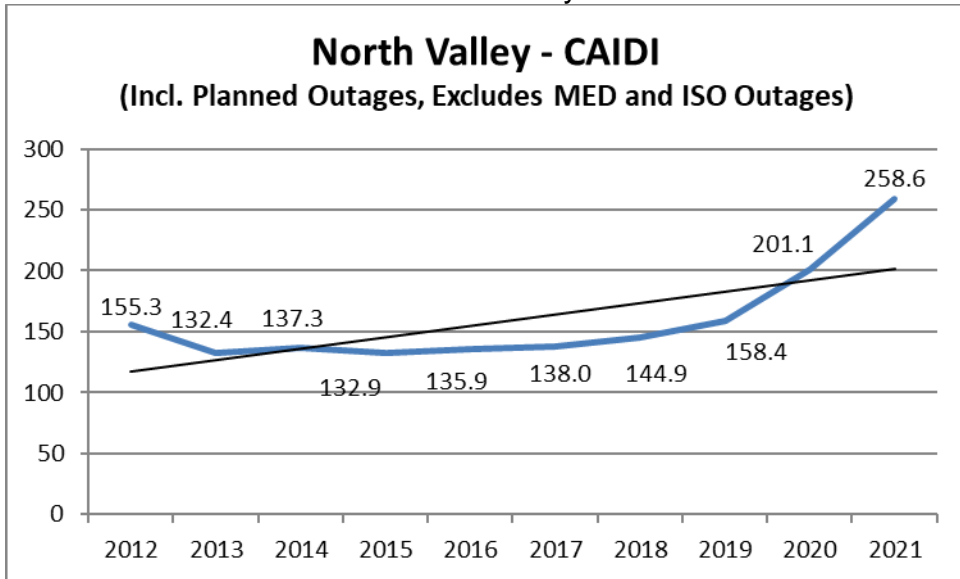


Chart 291: Division Reliability – CAIDI Indices

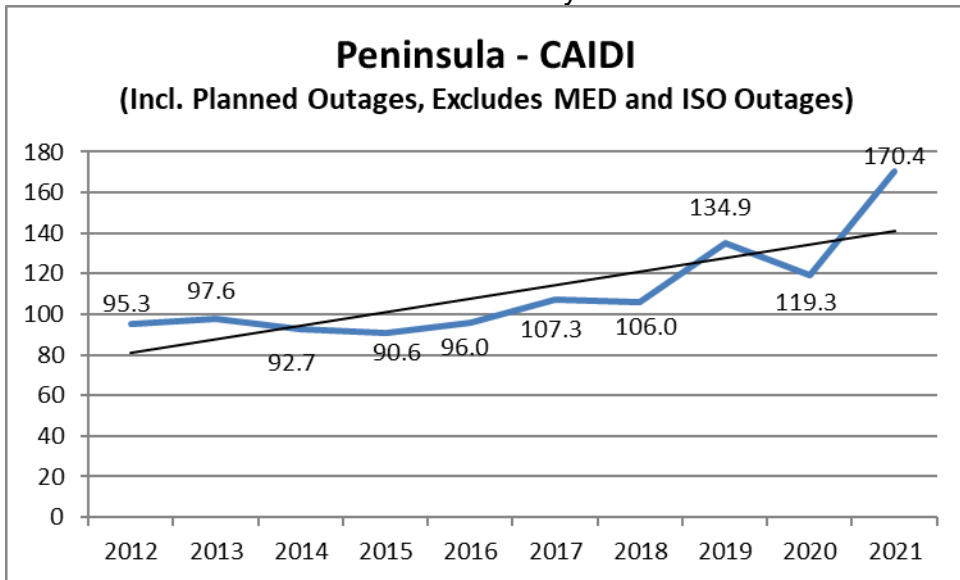


Chart 292: Division Reliability – CAIDI Indices

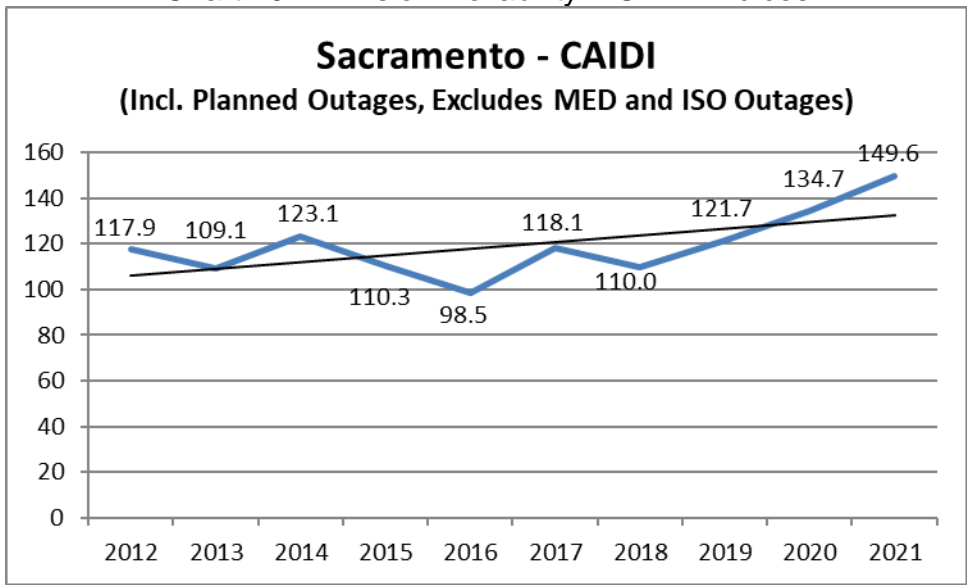


Chart 293: Division Reliability – CAIDI Indices

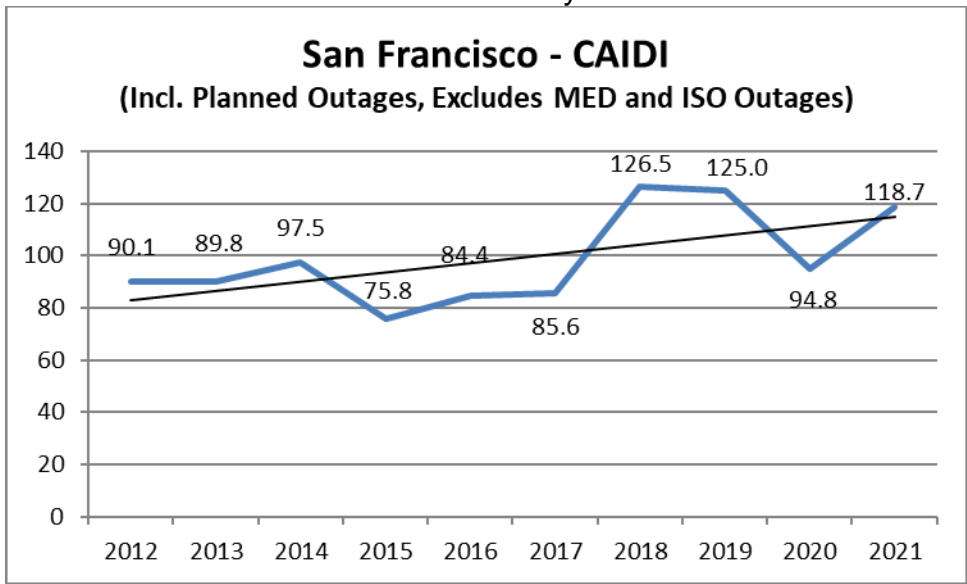


Chart 294: Division Reliability – CAIDI Indices

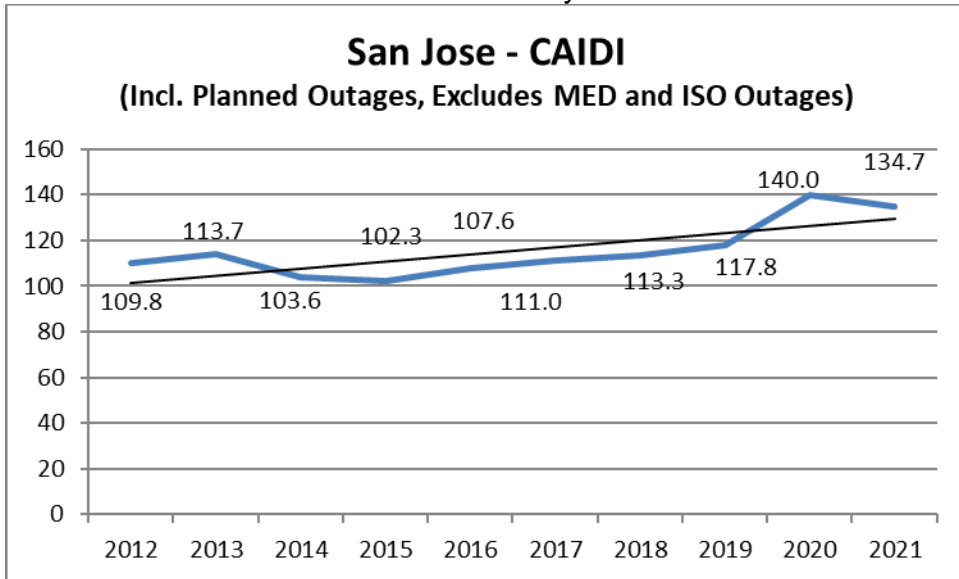


Chart 295: Division Reliability – CAIDI Indices

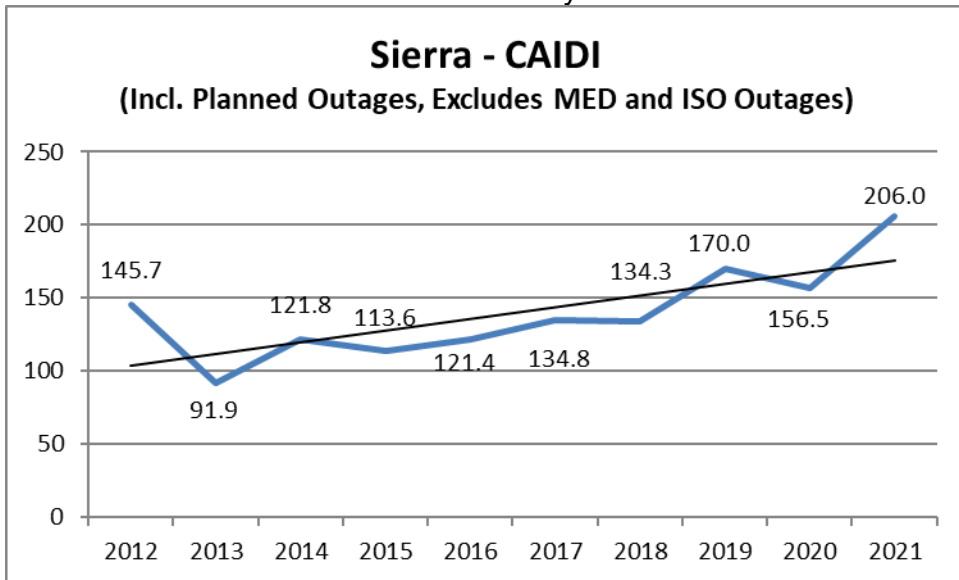


Chart 296: Division Reliability – CAIDI Indices

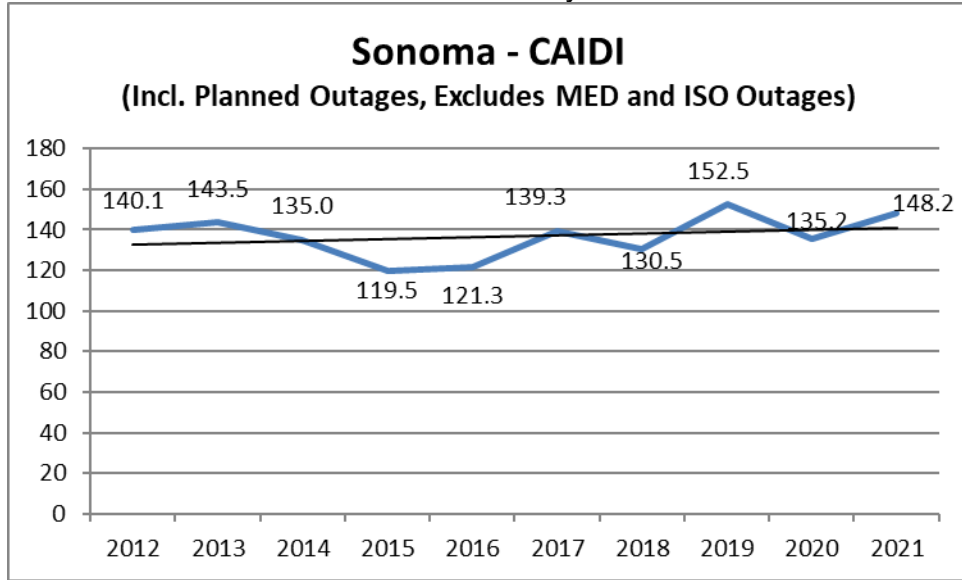


Chart 297: Division Reliability – CAIDI Indices

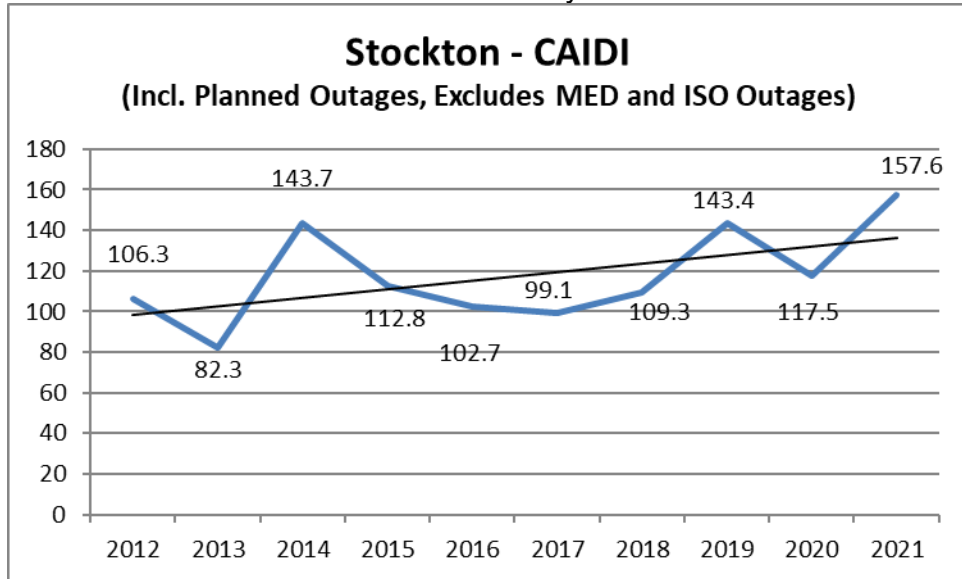


Chart 298: Division Reliability – CAIDI Indices

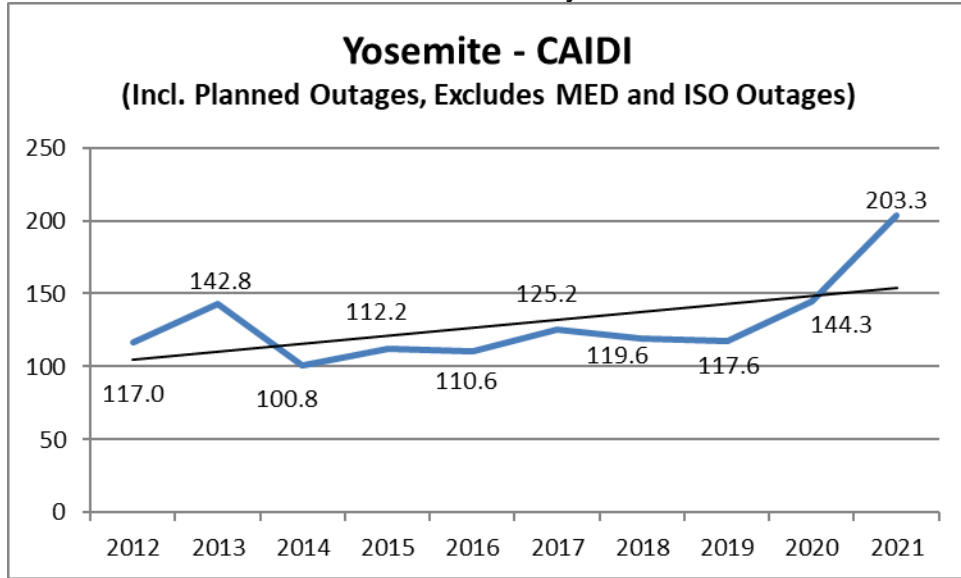
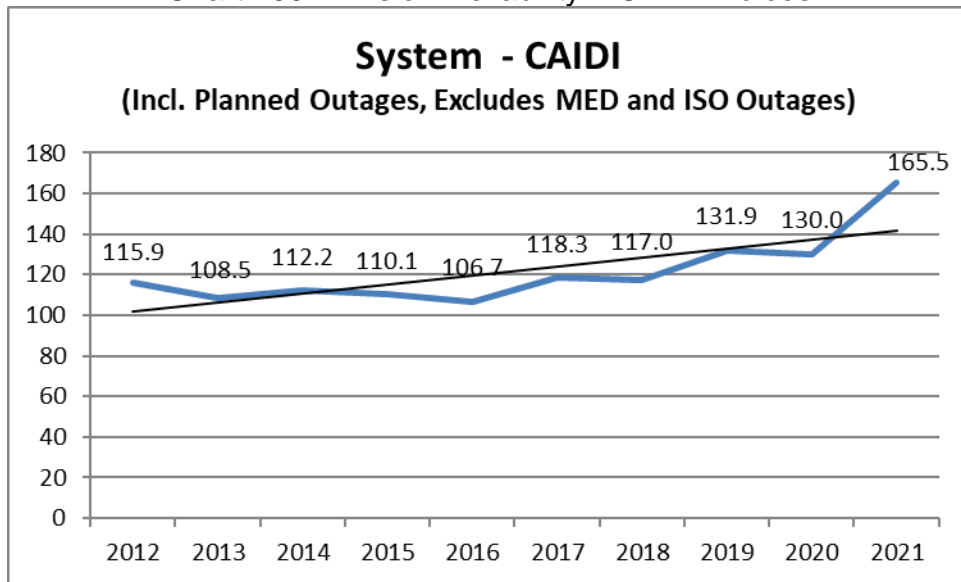


Chart 299: Division Reliability – CAIDI Indices



ii. Charts for System and Division Reliability Indices based on IEEE 1366 for the past 10 years including planned outages and including MED

1. SAIDI Performance Results (MED Included)

Chart 300: Division Reliability – AIDI Indices

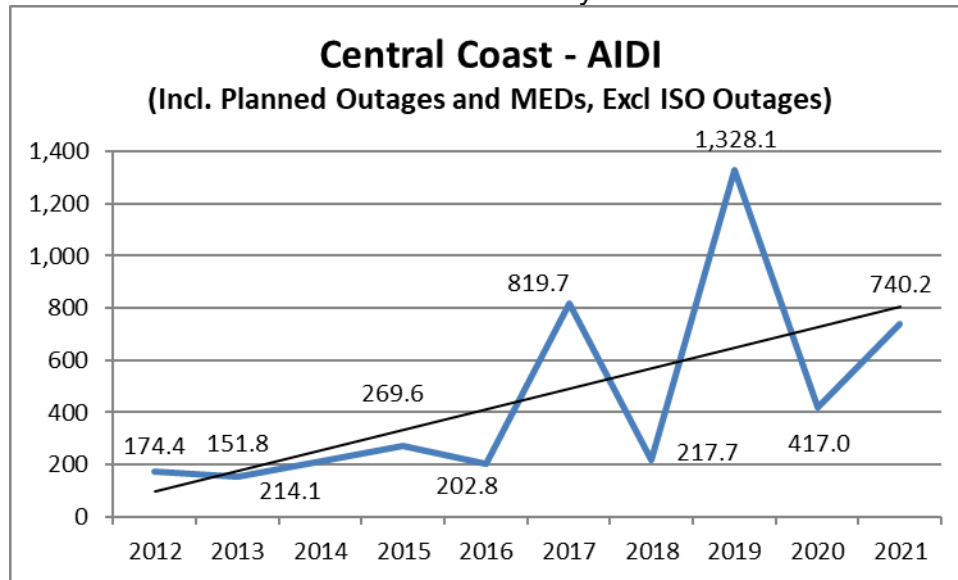


Chart 301: Division Reliability – AIDI Indices

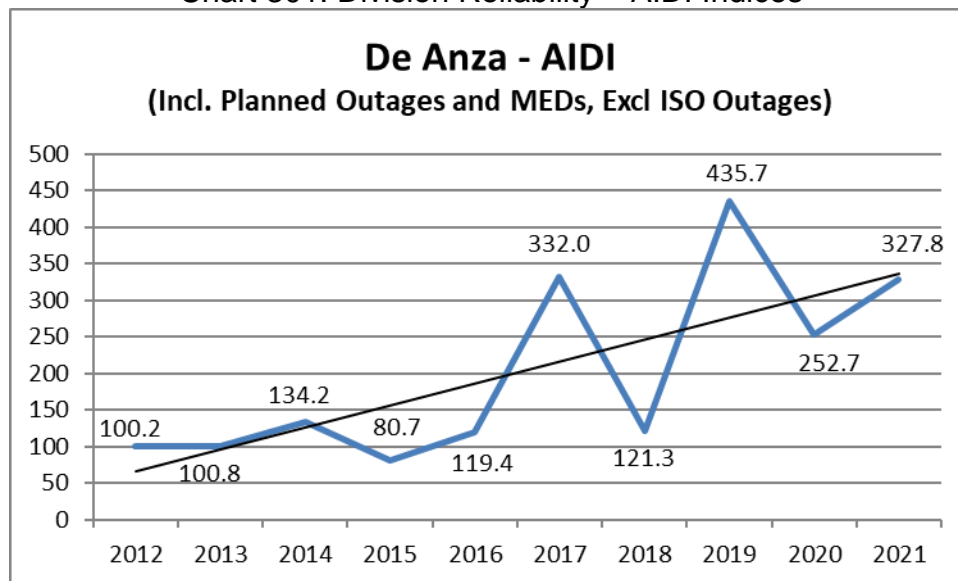


Chart 302: Division Reliability – AIDI Indices

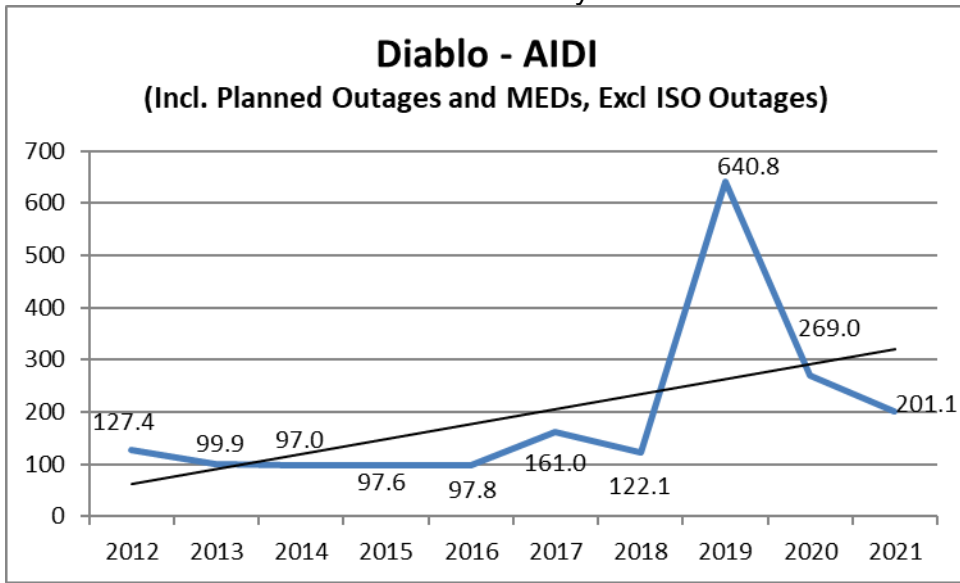


Chart 303: Division Reliability – AIDI Indices

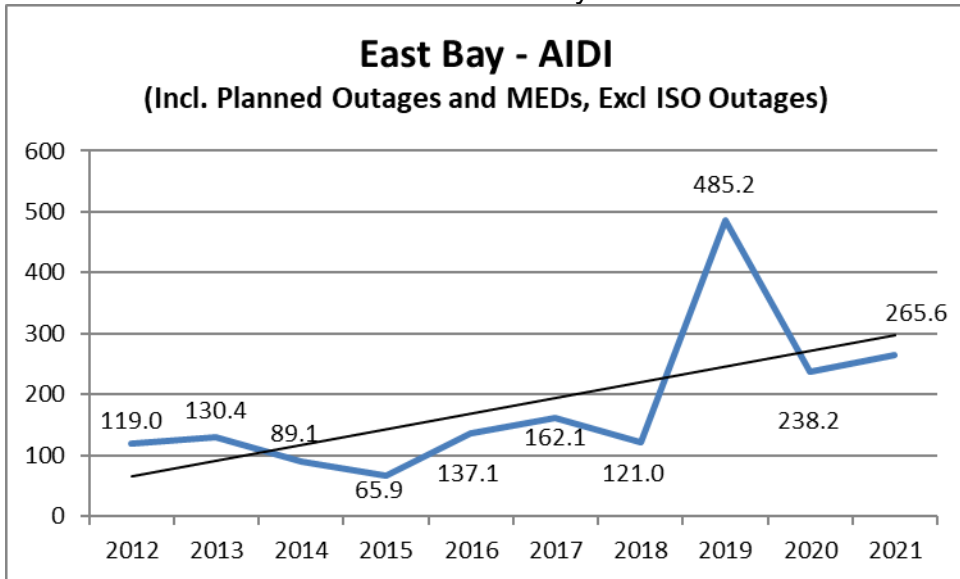


Chart 304: Division Reliability – AIDI Indices

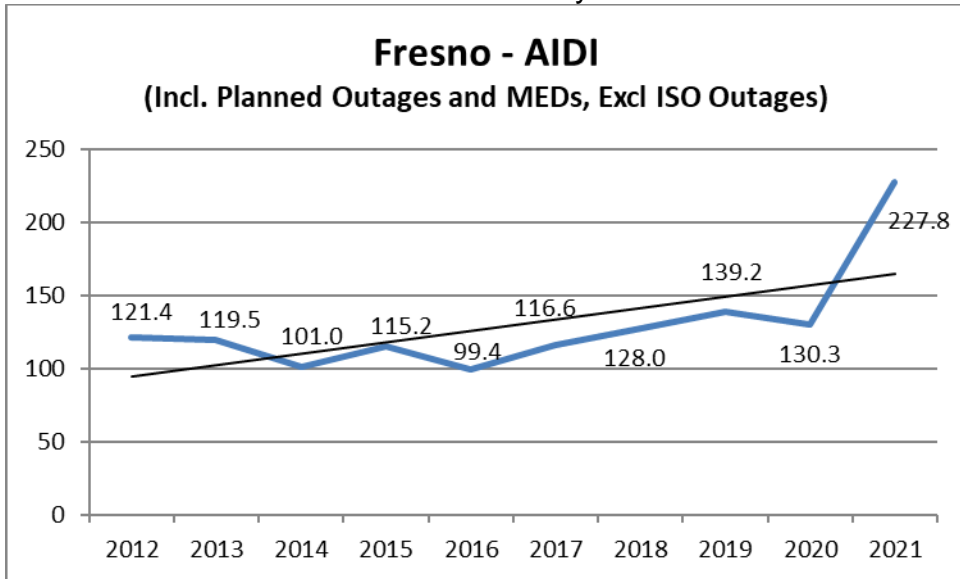


Chart 305: Division Reliability – AIDI Indices

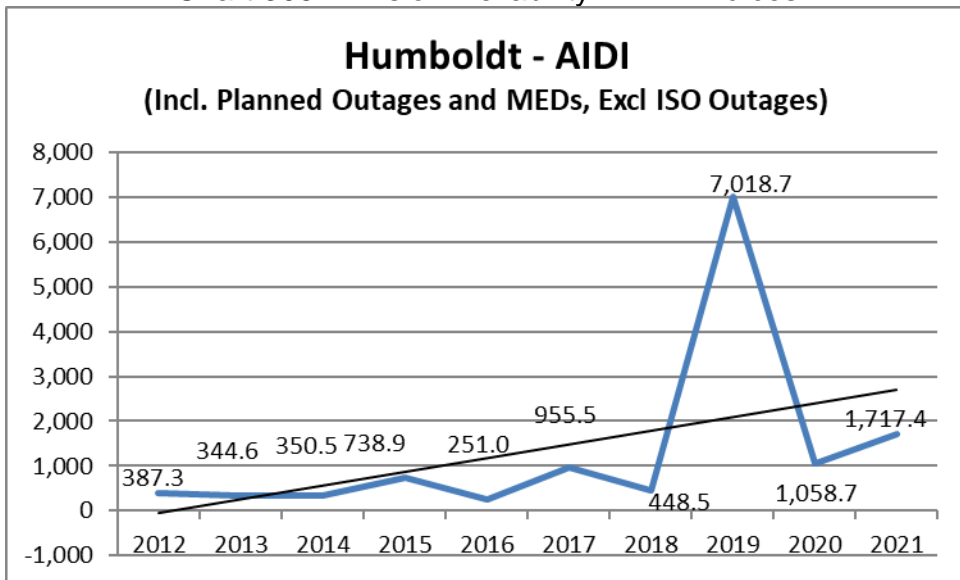


Chart 306: Division Reliability – AIDI Indices

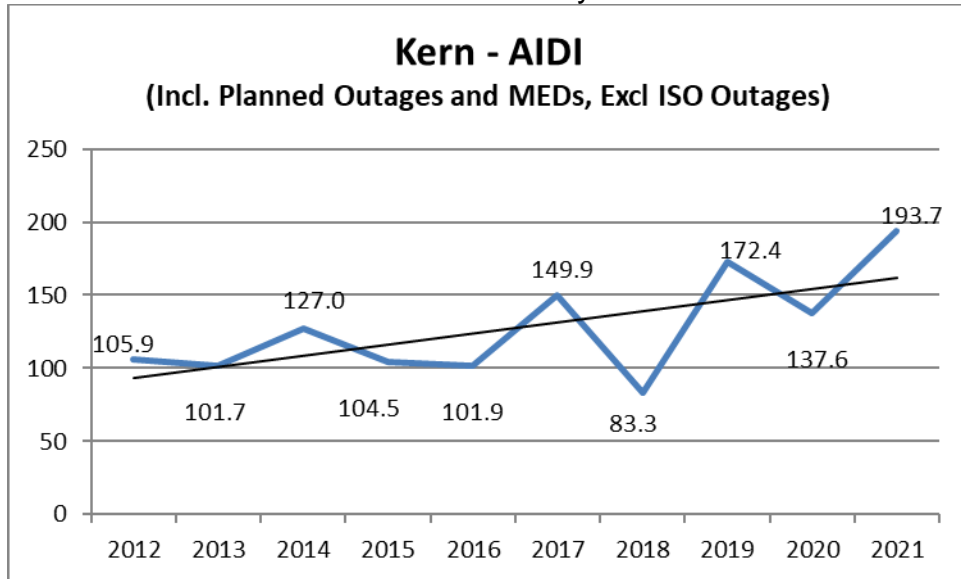


Chart 307: Division Reliability – AIDI Indices

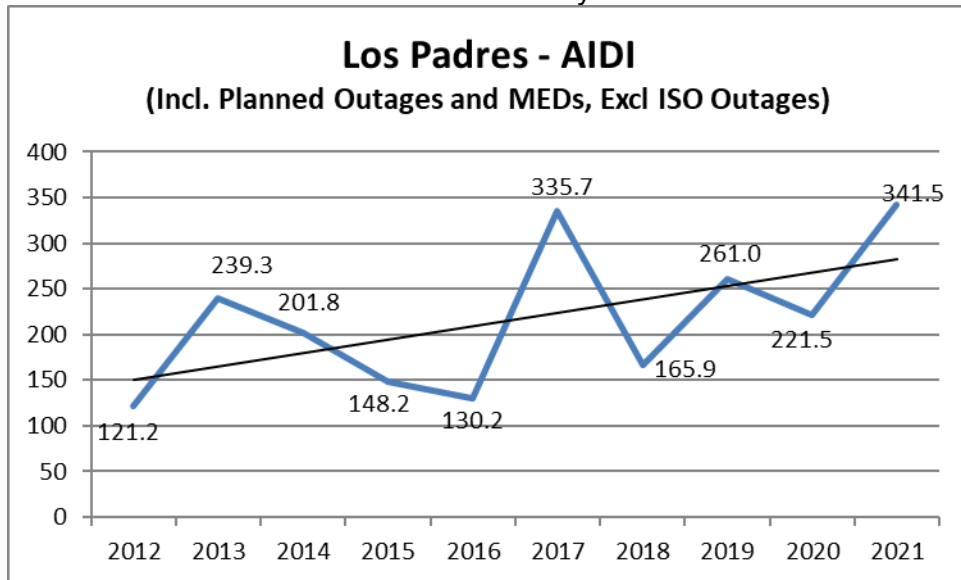


Chart 308: Division Reliability – AIDI Indices

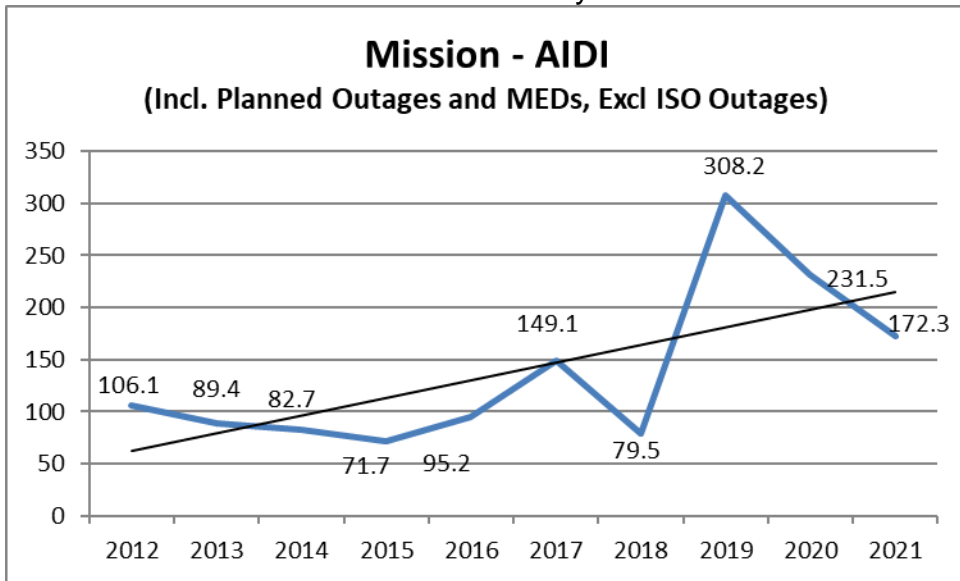


Chart 309: Division Reliability – AIDI Indices

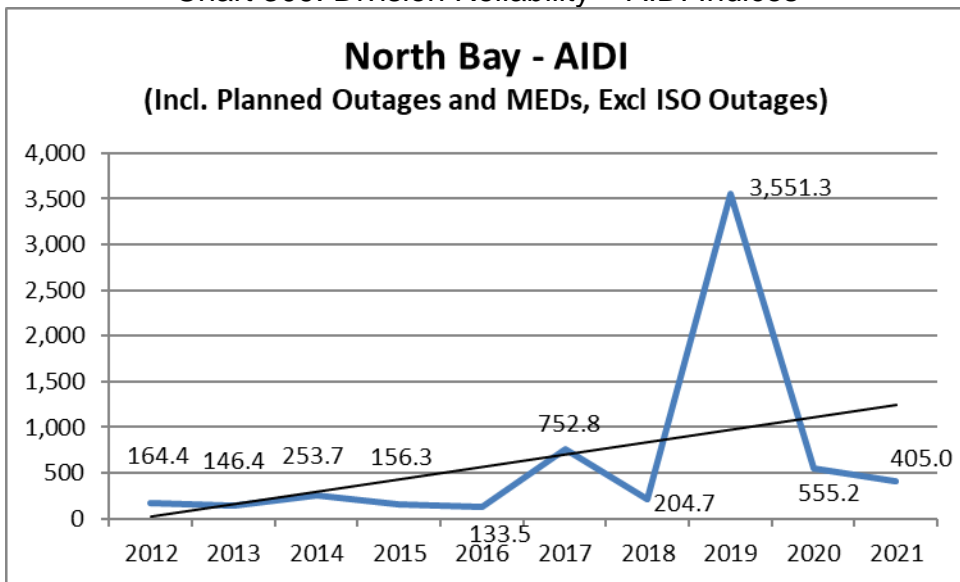


Chart 310: Division Reliability – AIDI Indices

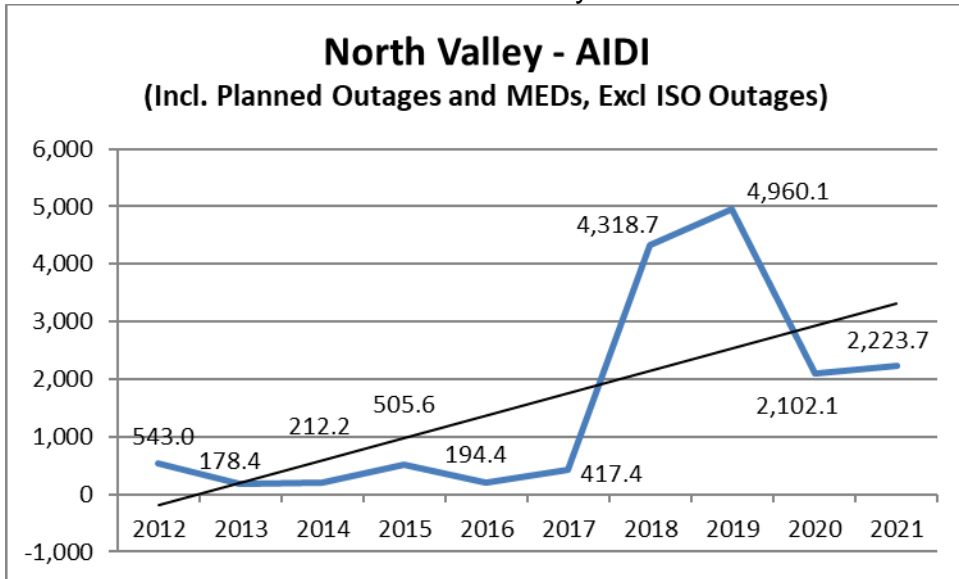


Chart 311: Division Reliability – AIDI Indices

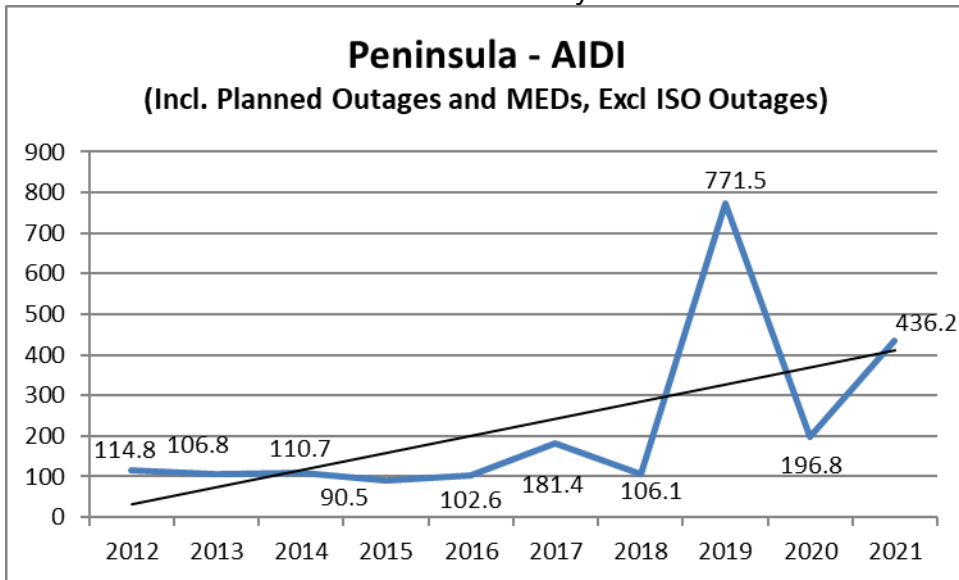


Chart 312: Division Reliability – AIDI Indices

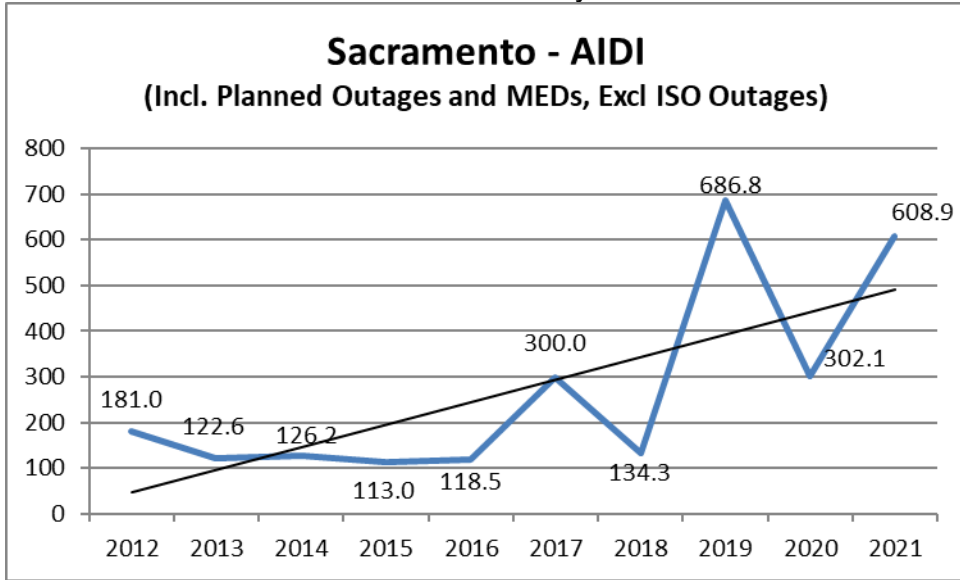


Chart 313: Division Reliability – AIDI Indices

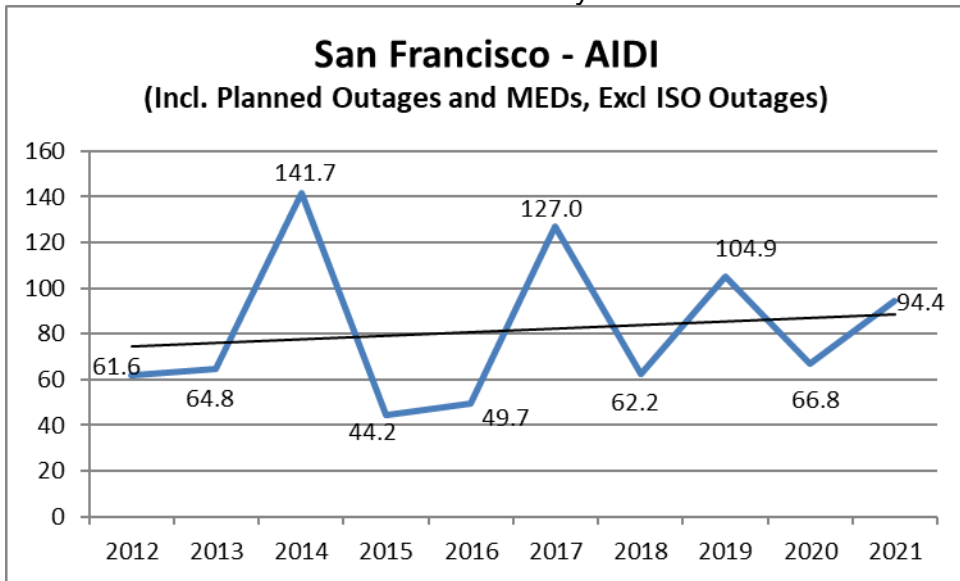


Chart 314: Division Reliability – AIDI Indices

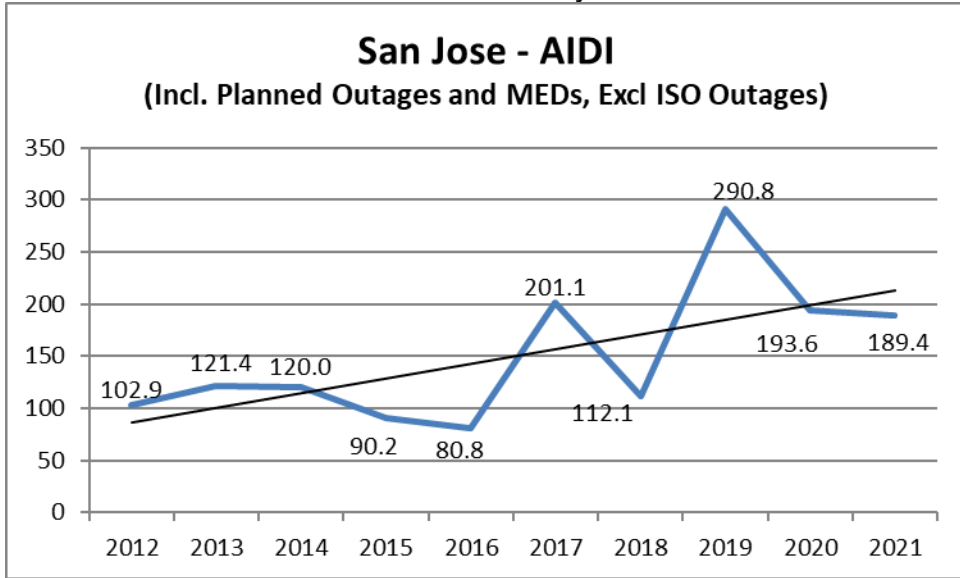


Chart 315: Division Reliability – AIDI Indices

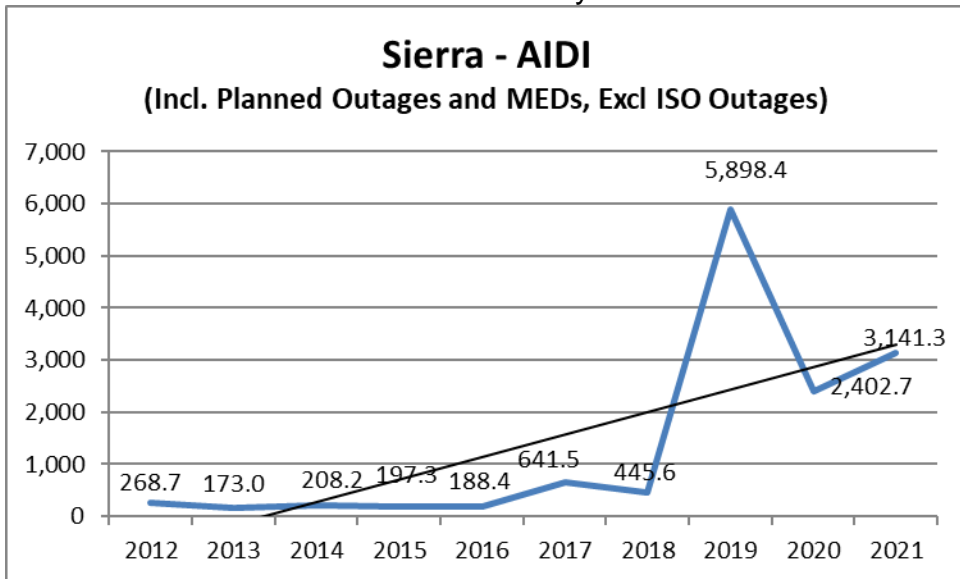


Chart 316: Division Reliability – AIDI Indices

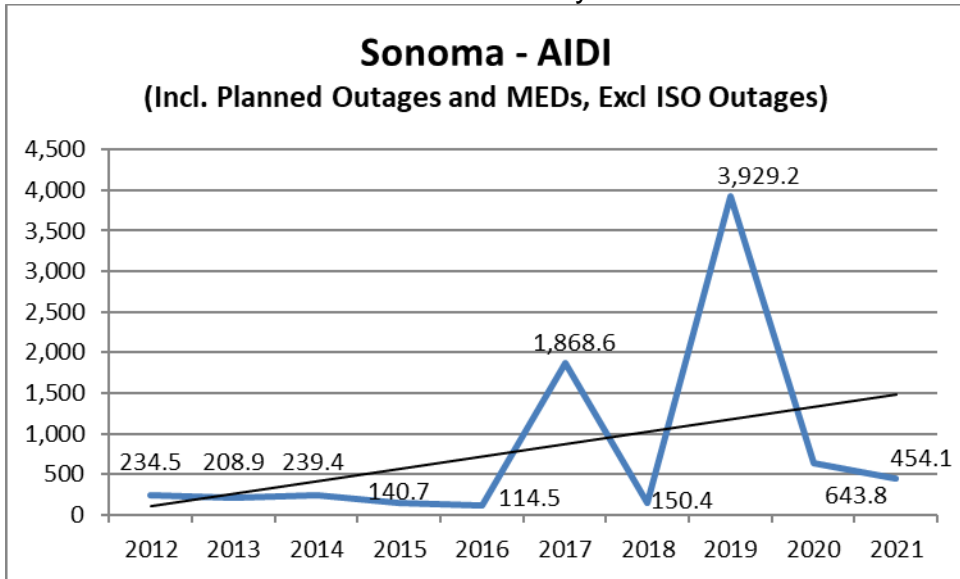


Chart 317: Division Reliability – AIDI Indices

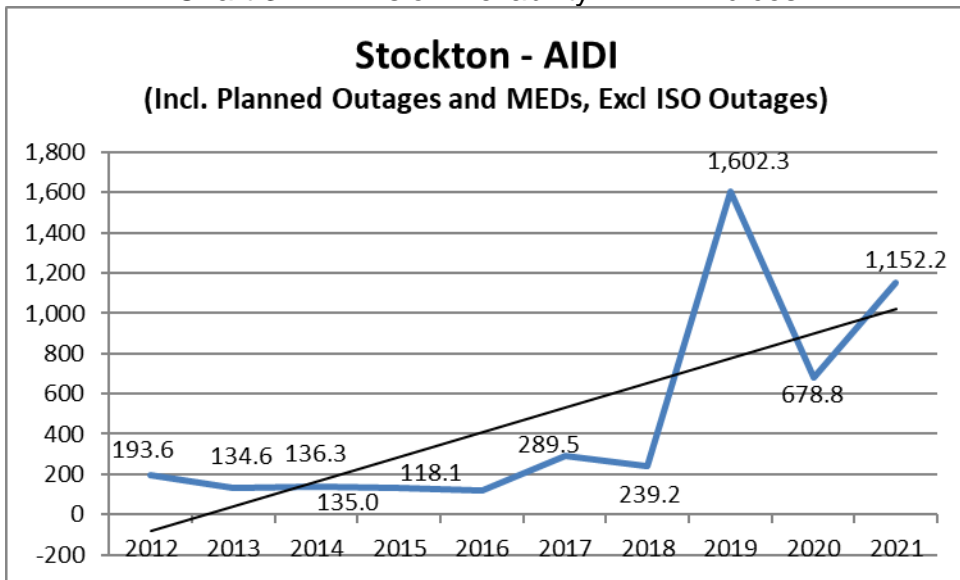


Chart 318: Division Reliability – AIDI Indices

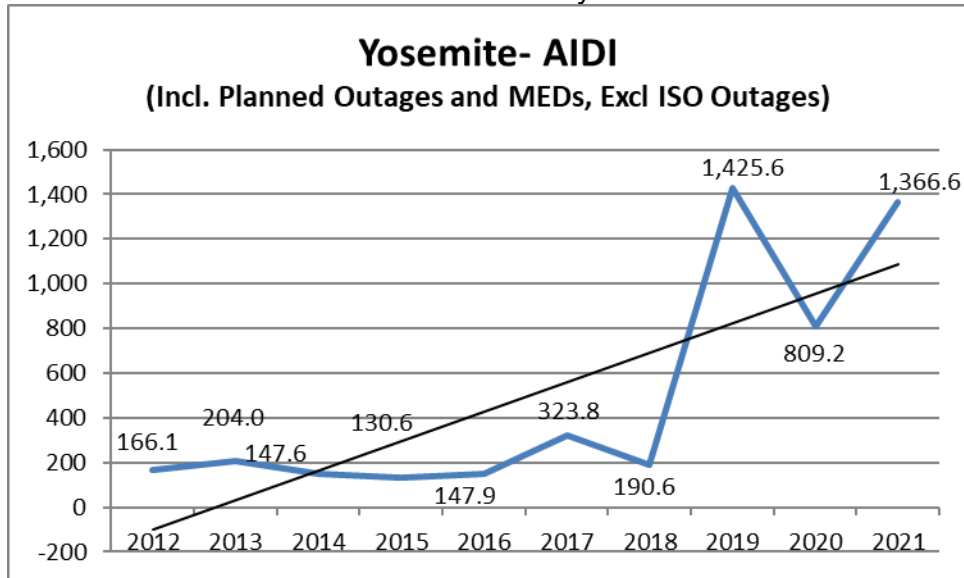
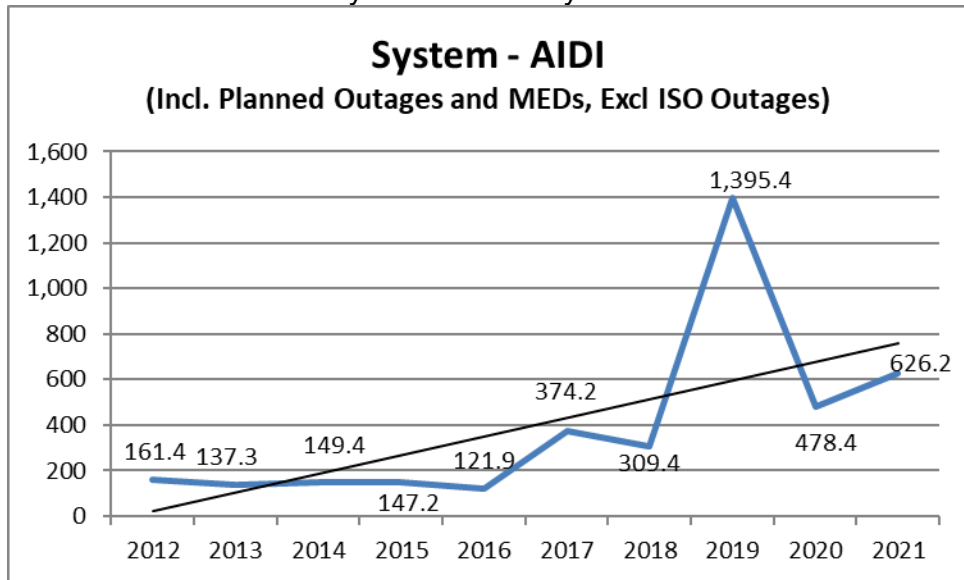


Chart 319: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Included)

Chart 320: Division Reliability – AIFI Indices

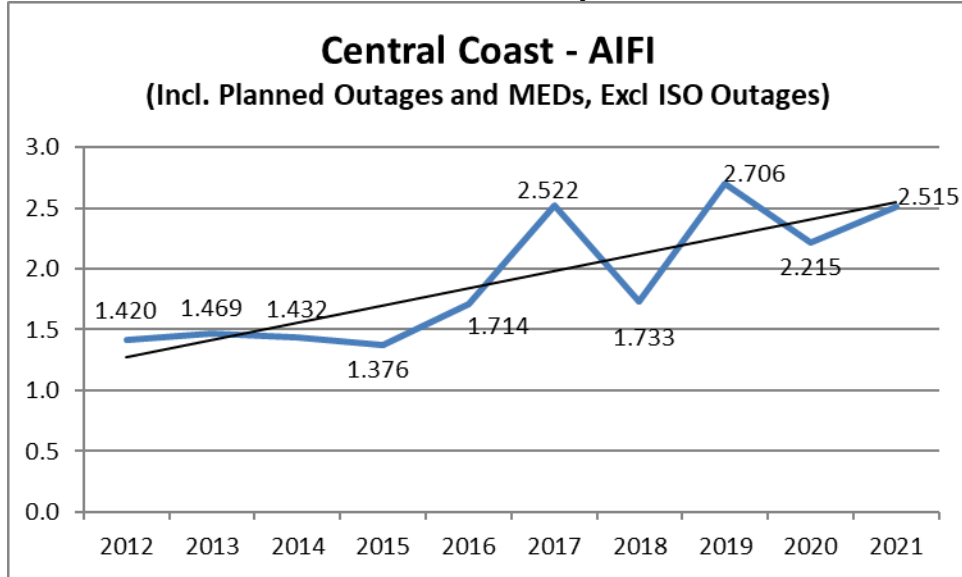


Chart 321: Division Reliability – AIFI Indices

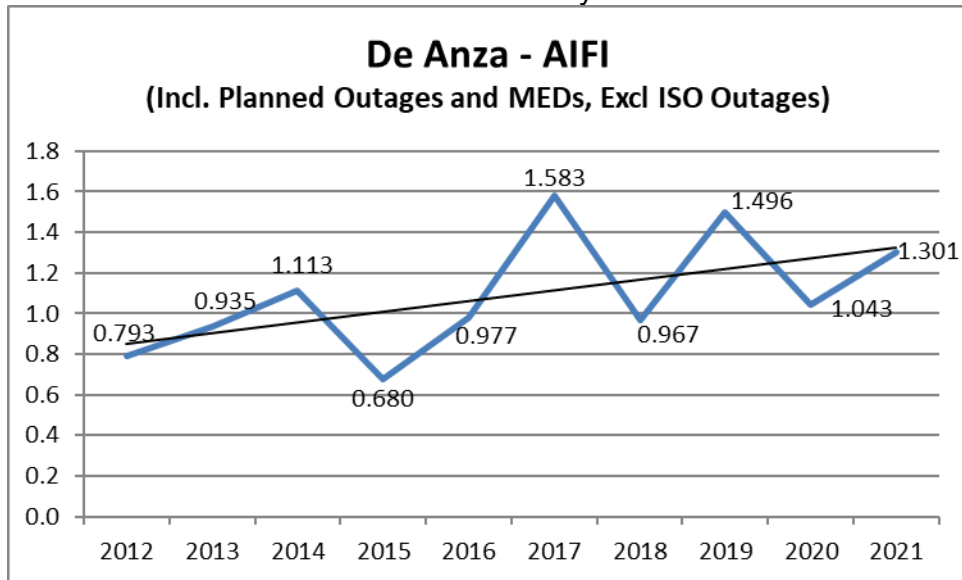


Chart 322: Division Reliability – AIFI Indices

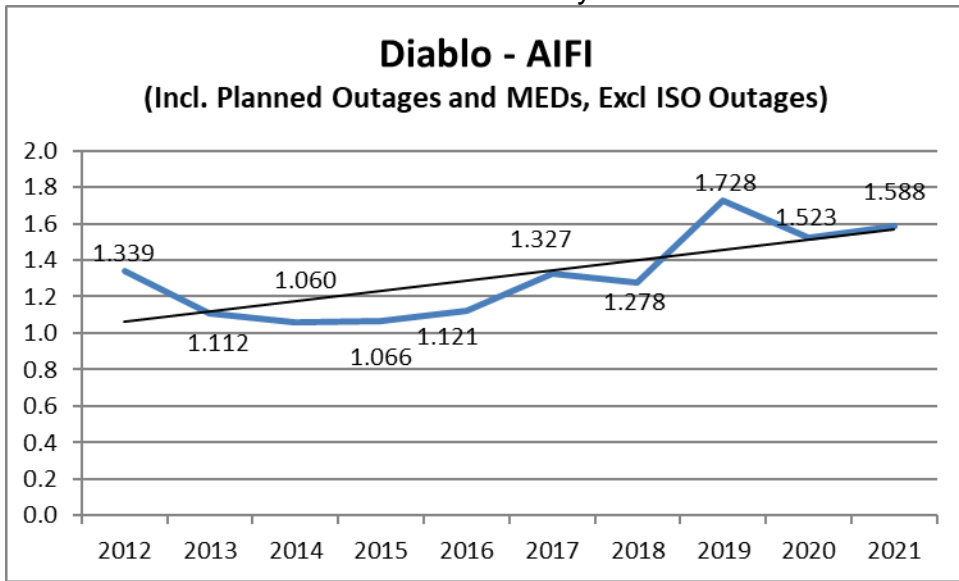


Chart 323: Division Reliability – AIFI Indices

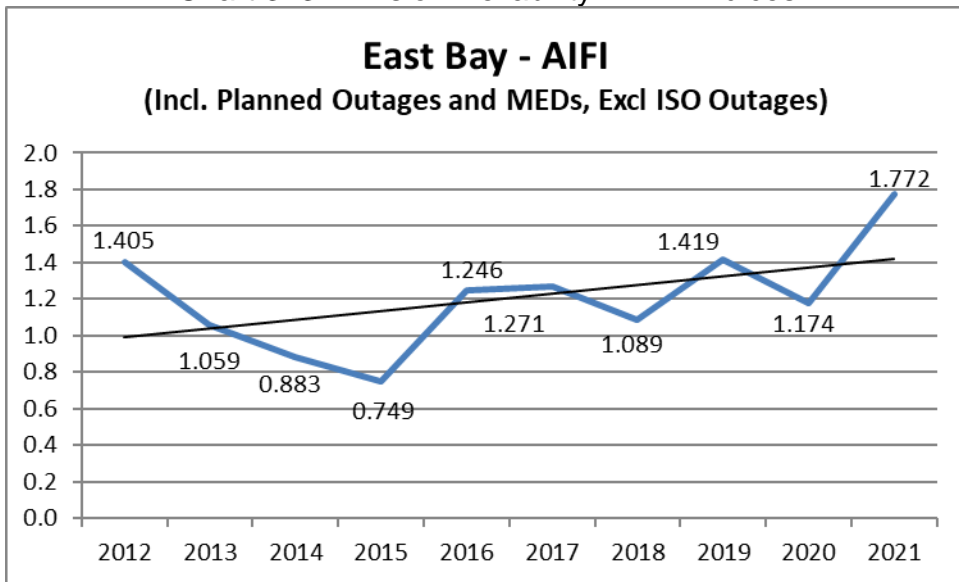


Chart 324: Division Reliability – AIFI Indices

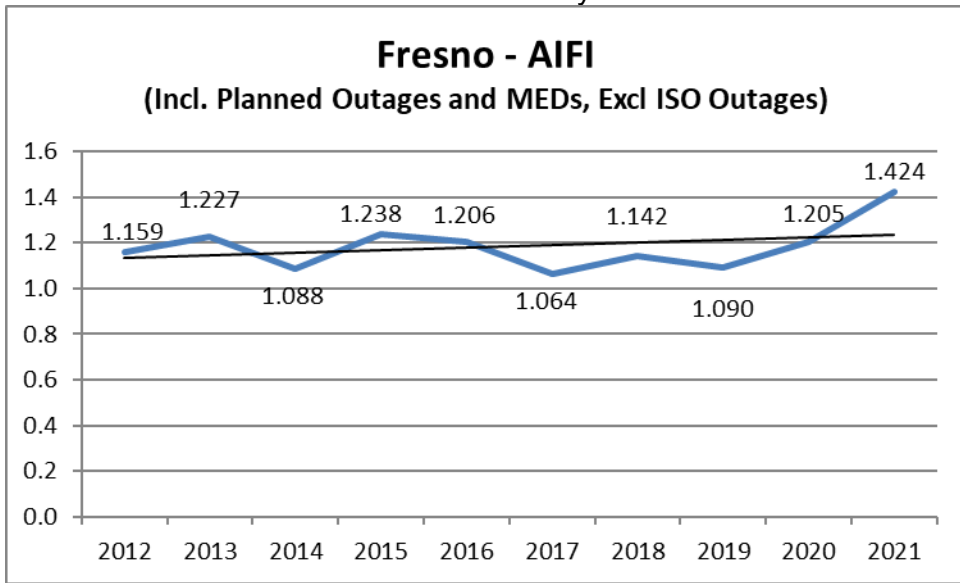


Chart 325: Division Reliability – AIFI Indices

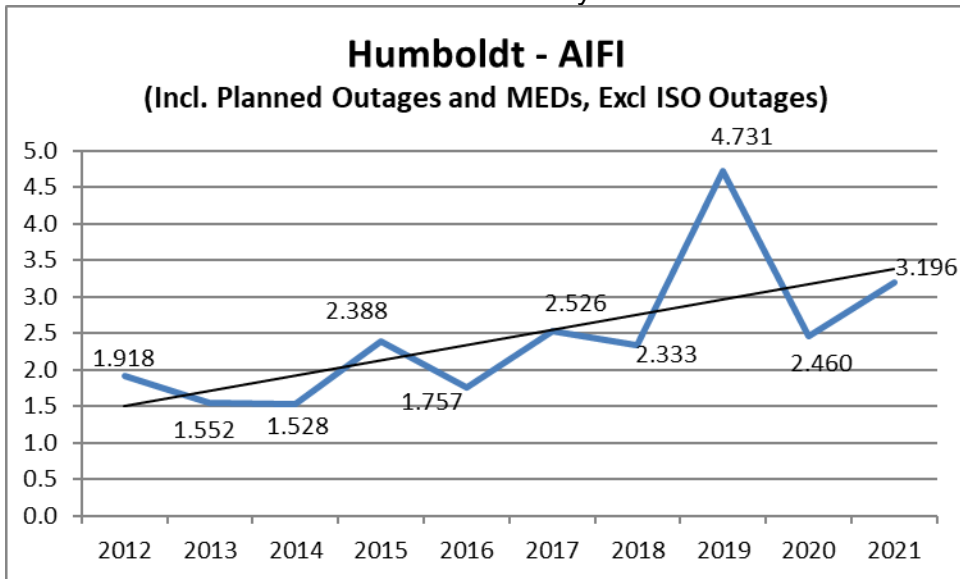


Chart 326: Division Reliability – AIFI Indices

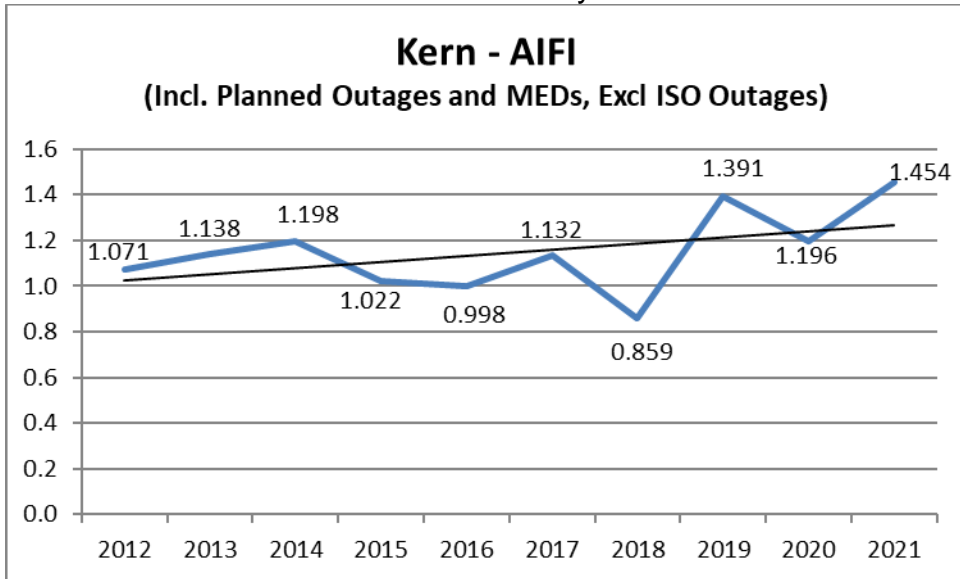


Chart 327: Division Reliability – AIFI Indices

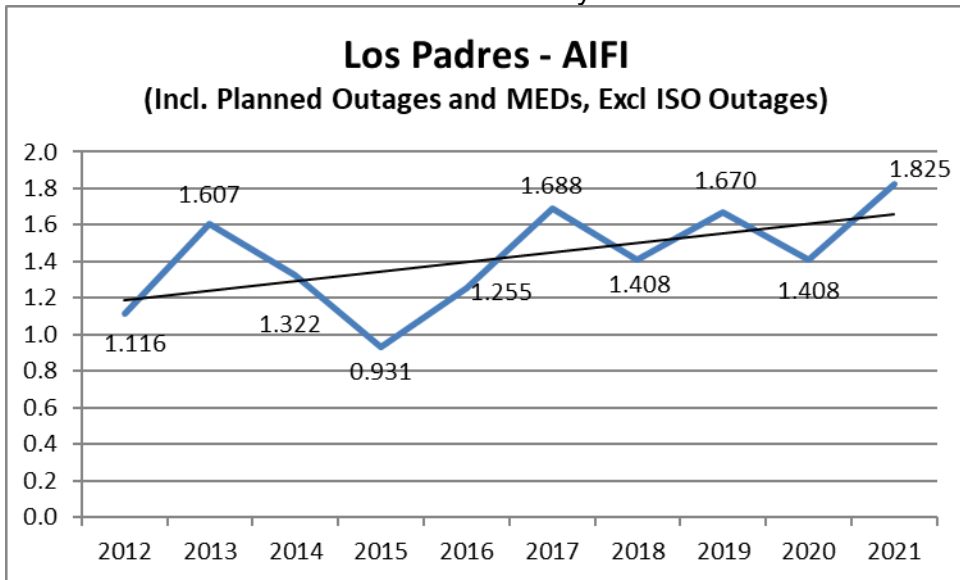


Chart 328: Division Reliability – AIFI Indices

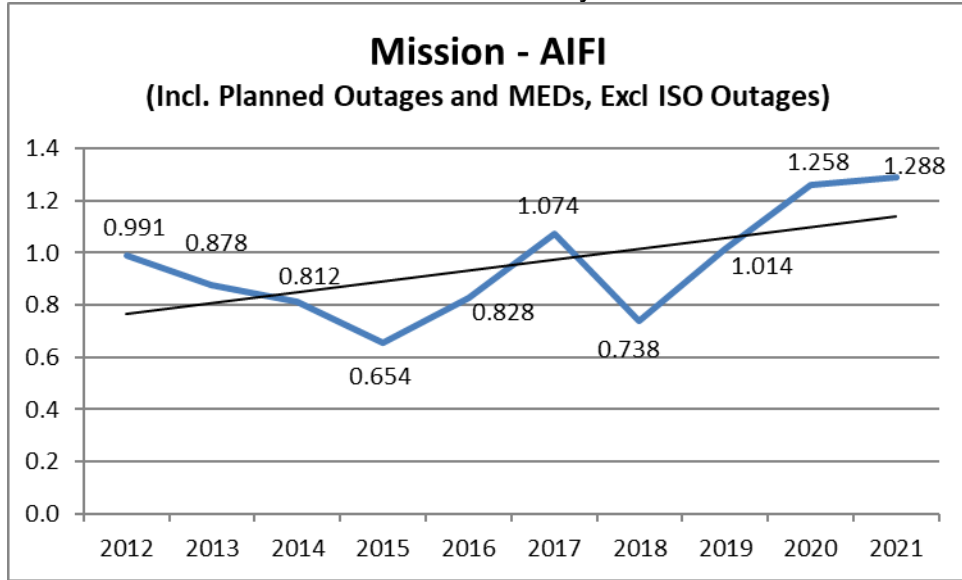


Chart 329: Division Reliability – AIFI Indices

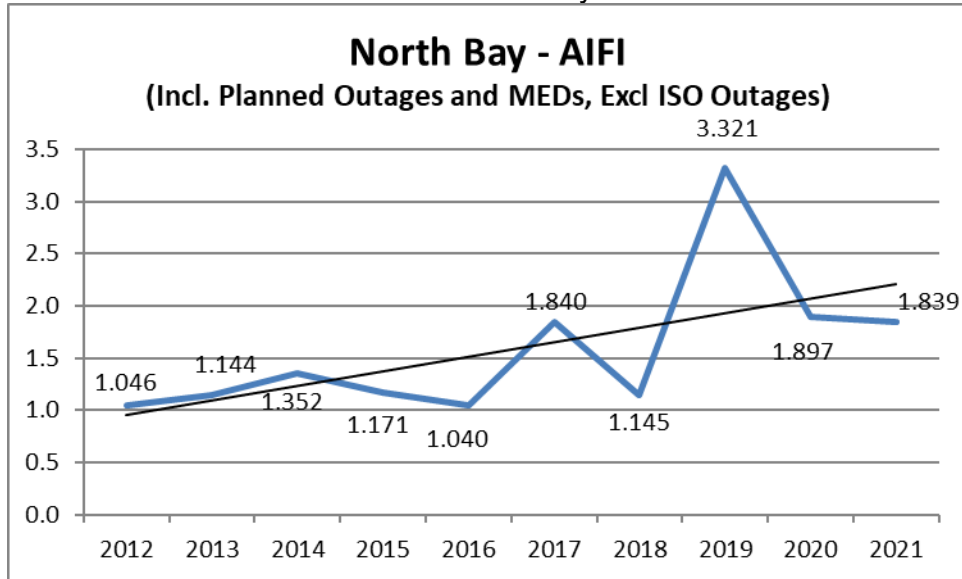


Chart 330: Division Reliability – AIFI Indices

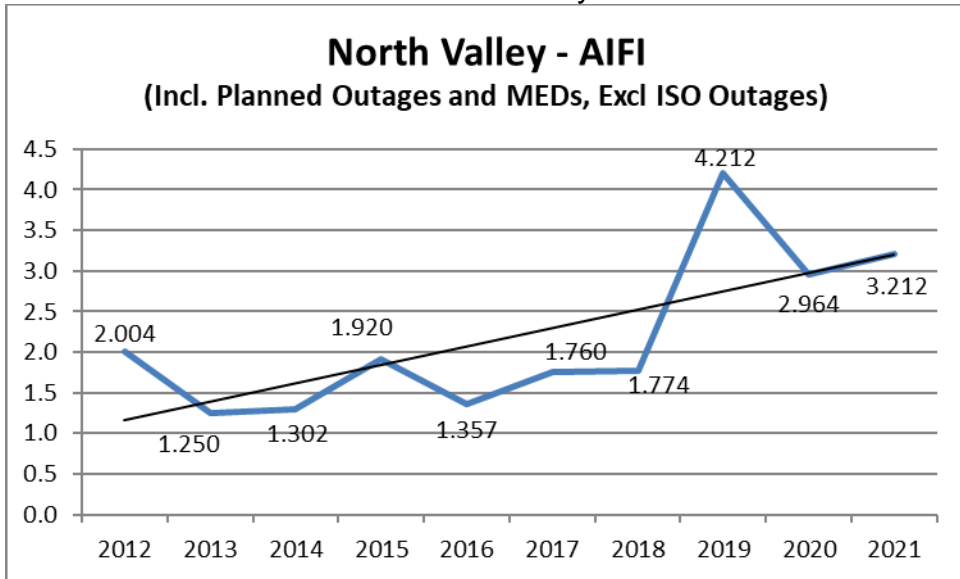


Chart 331: Division Reliability – AIFI Indices

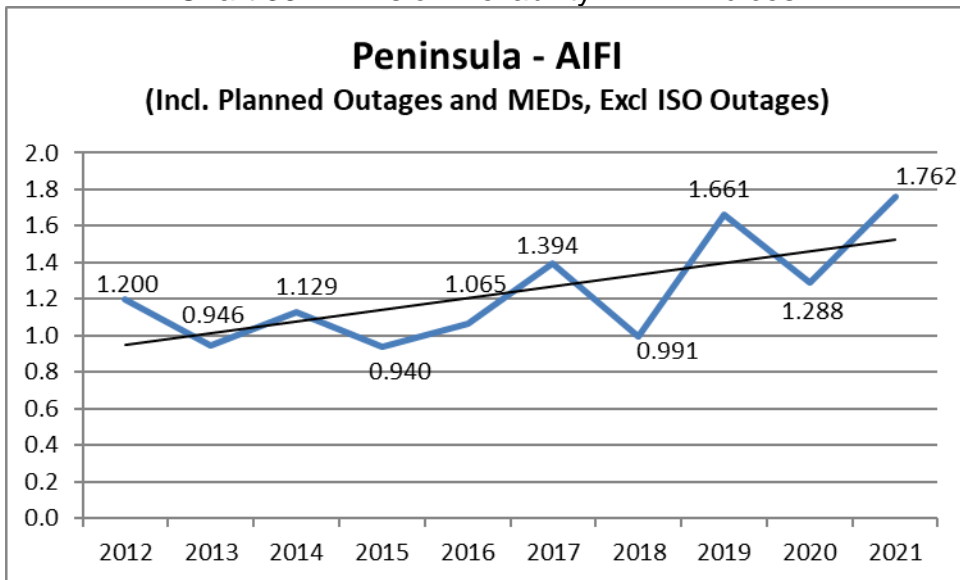


Chart 332: Division Reliability – AIFI Indices

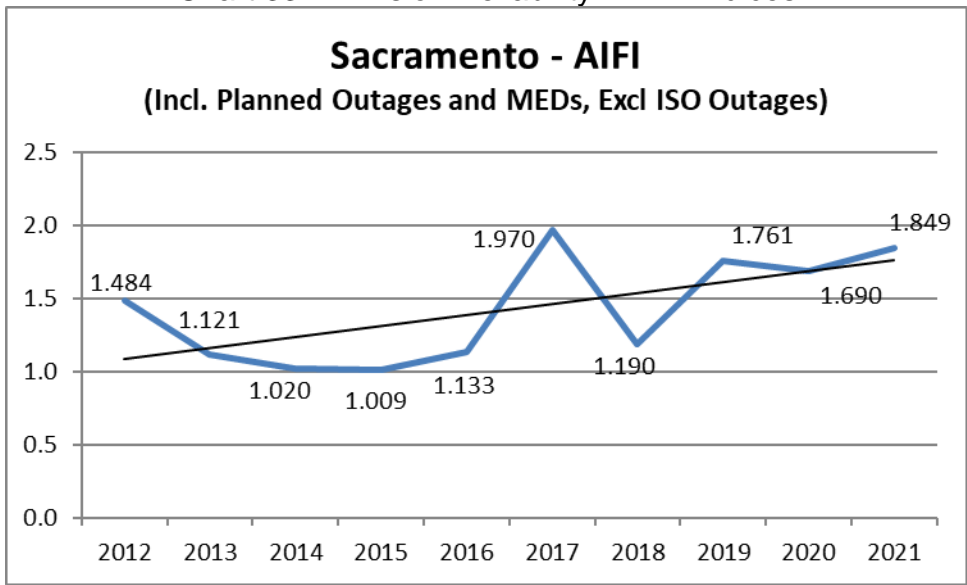


Chart 333: Division Reliability – AIFI Indices

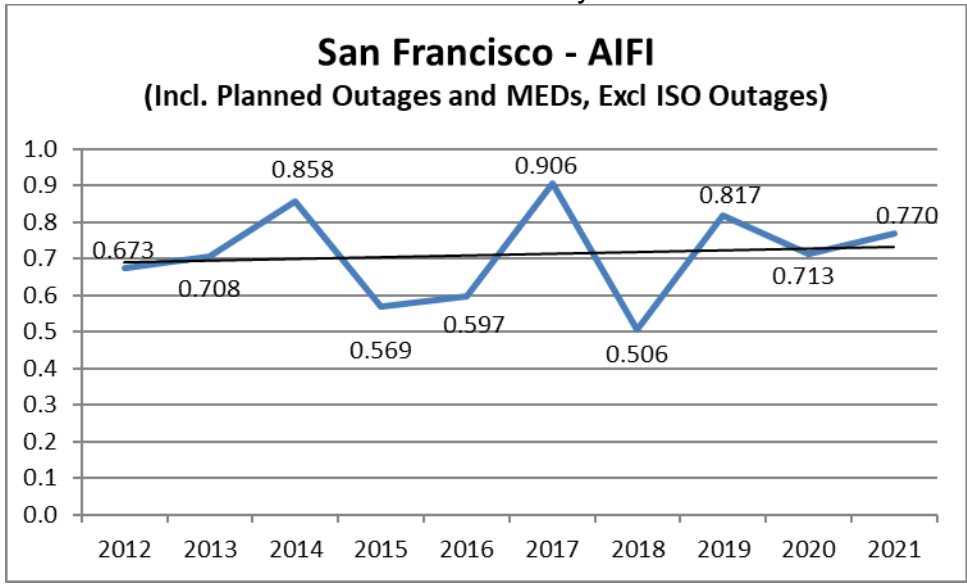


Chart 334: Division Reliability – AIFI Indices

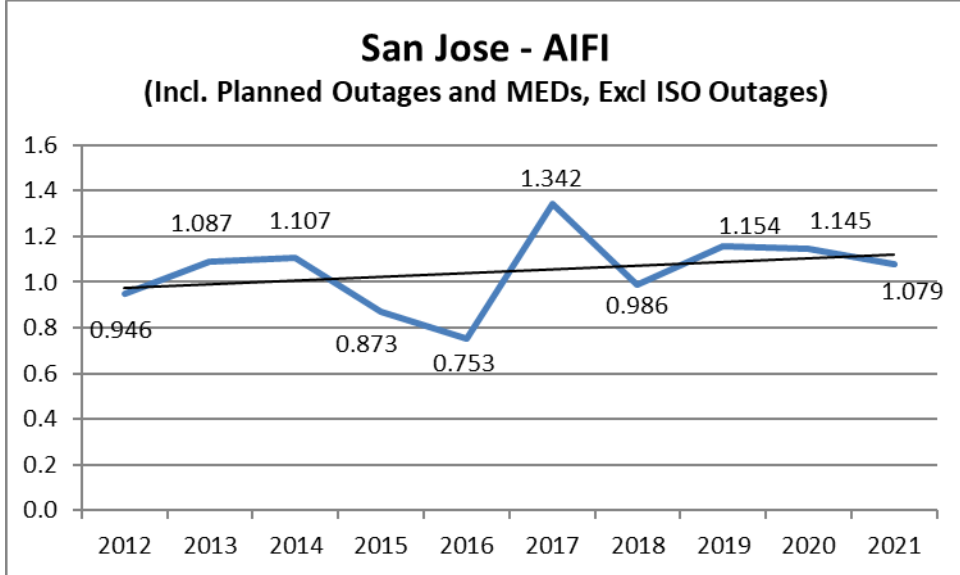


Chart 335: Division Reliability – AIFI Indices

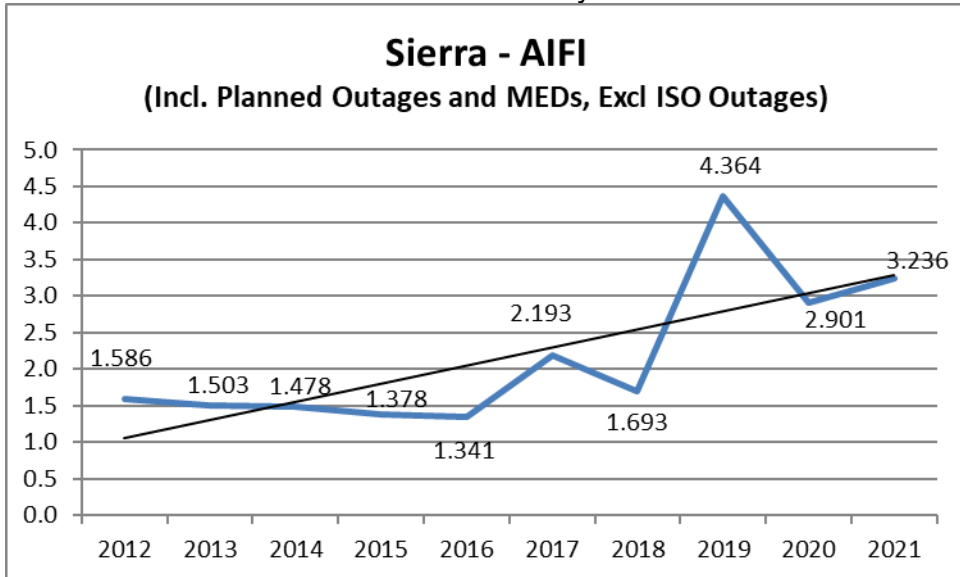


Chart 336: Division Reliability – AIFI Indices

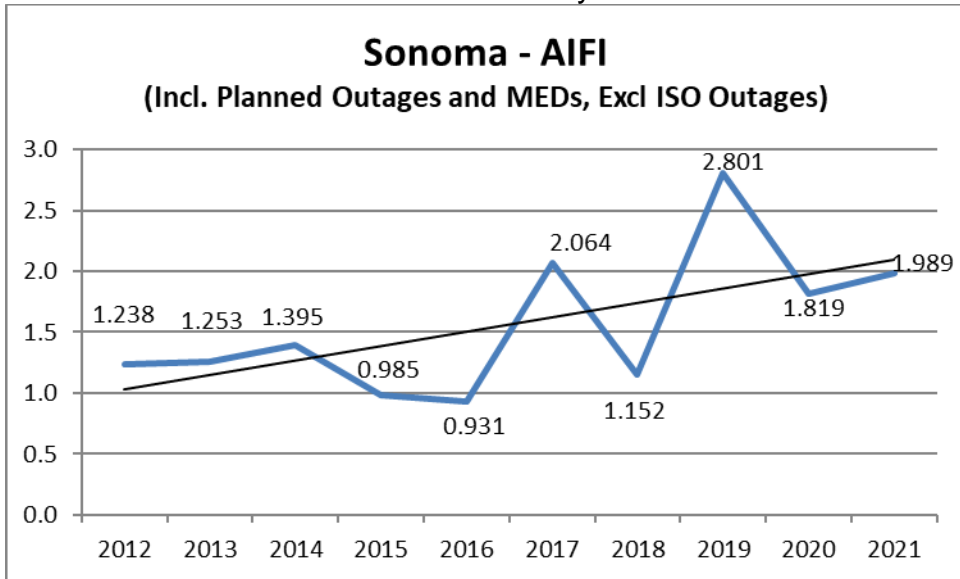


Chart 337: Division Reliability – AIFI Indices

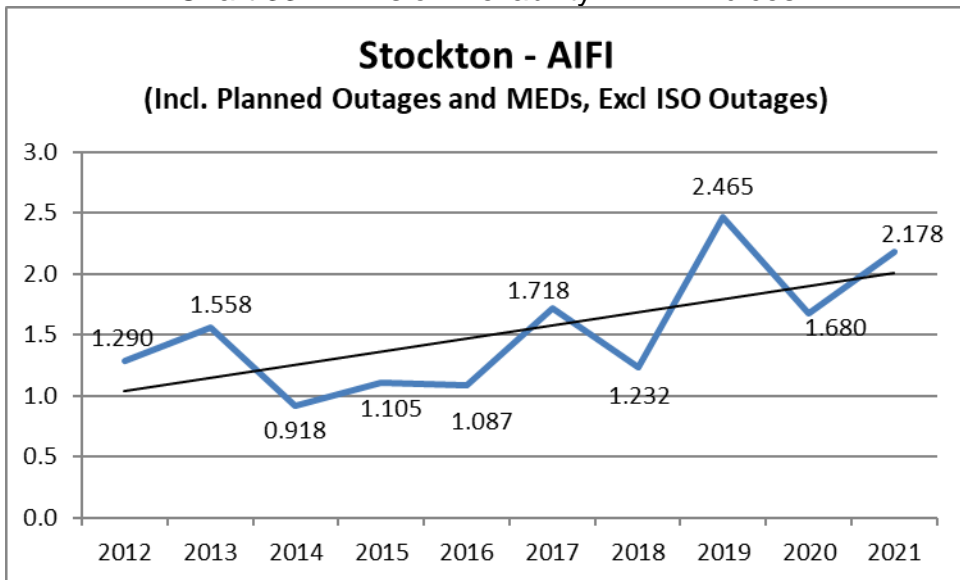


Chart 338: Division Reliability – AIFI Indices

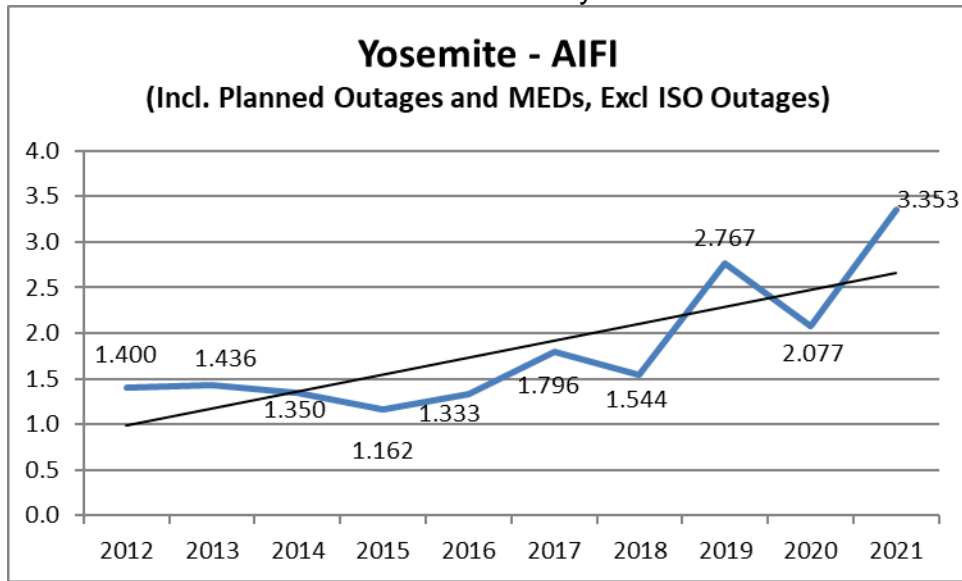
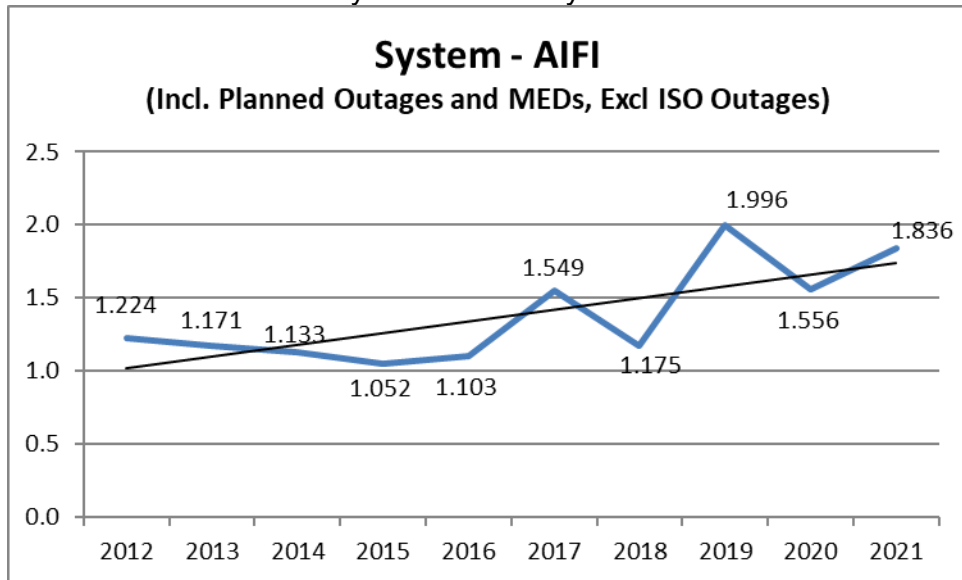


Chart 339: System Reliability – SAIFI Indices



3. MAIFI¹¹ Performance Results (MED Included)

Chart 340: Division Reliability – MAIFI Indices

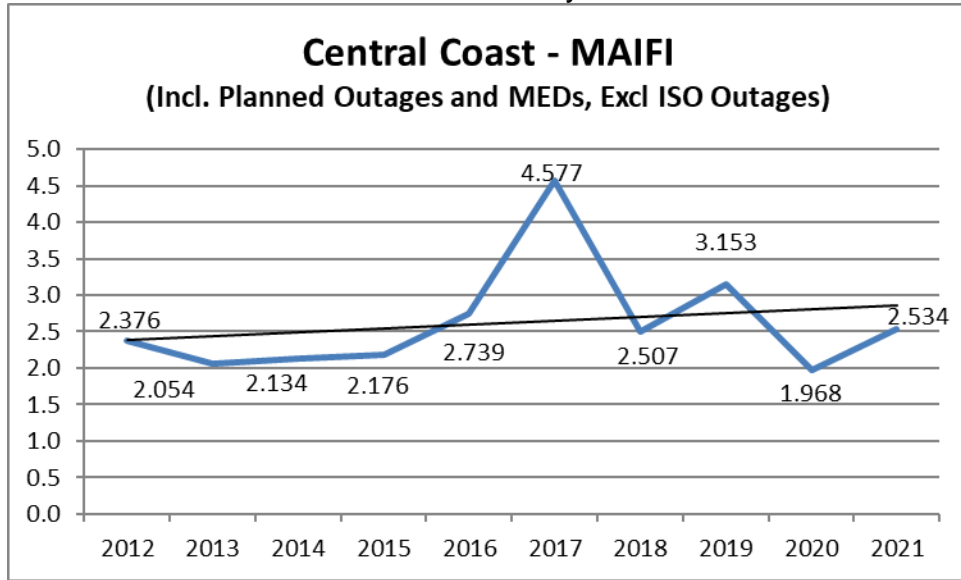
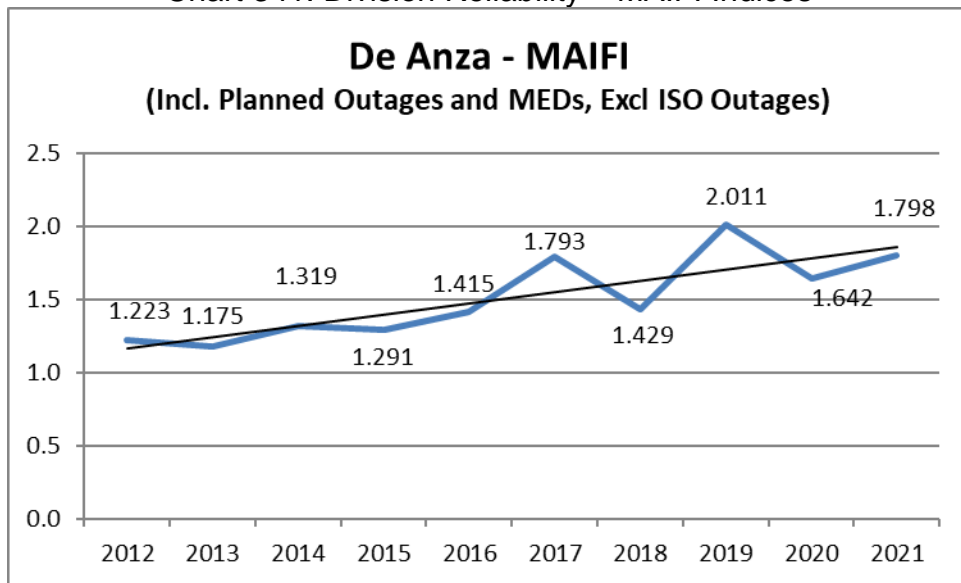


Chart 341: Division Reliability – MAIFI Indices



¹¹ See footnote 4 above.

Chart 342: Division Reliability – MAIFI Indices

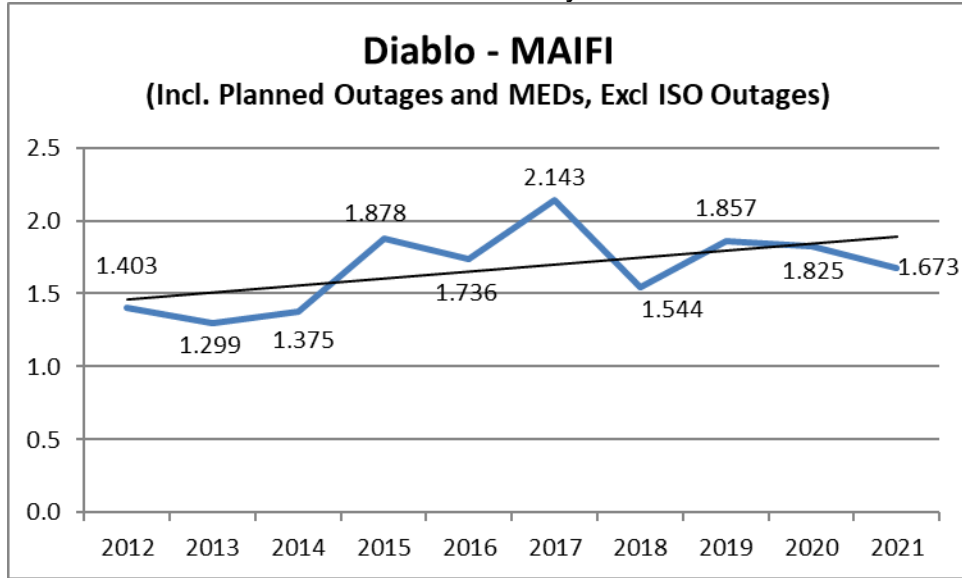


Chart 343: Division Reliability – MAIFI Indices

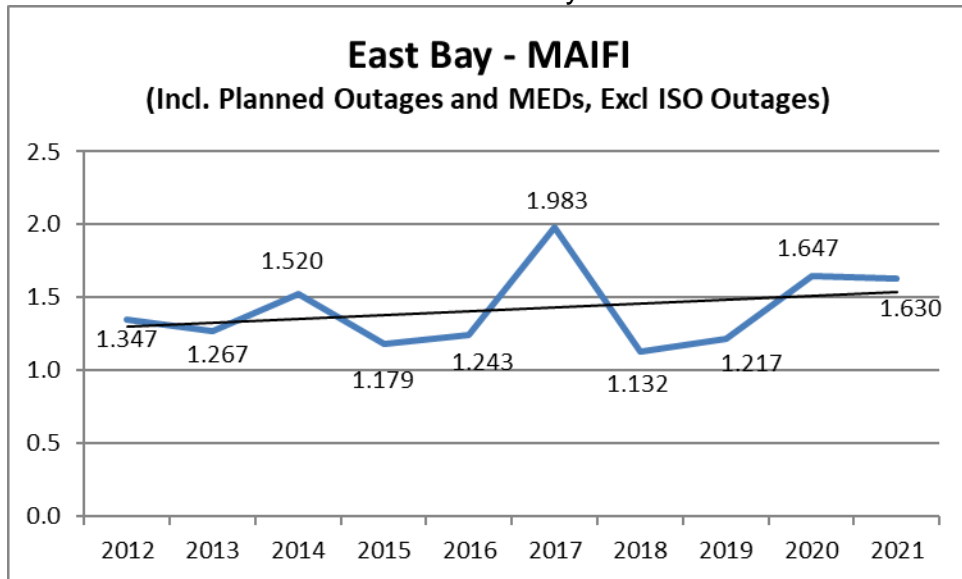


Chart 344: Division Reliability – MAIFI Indices

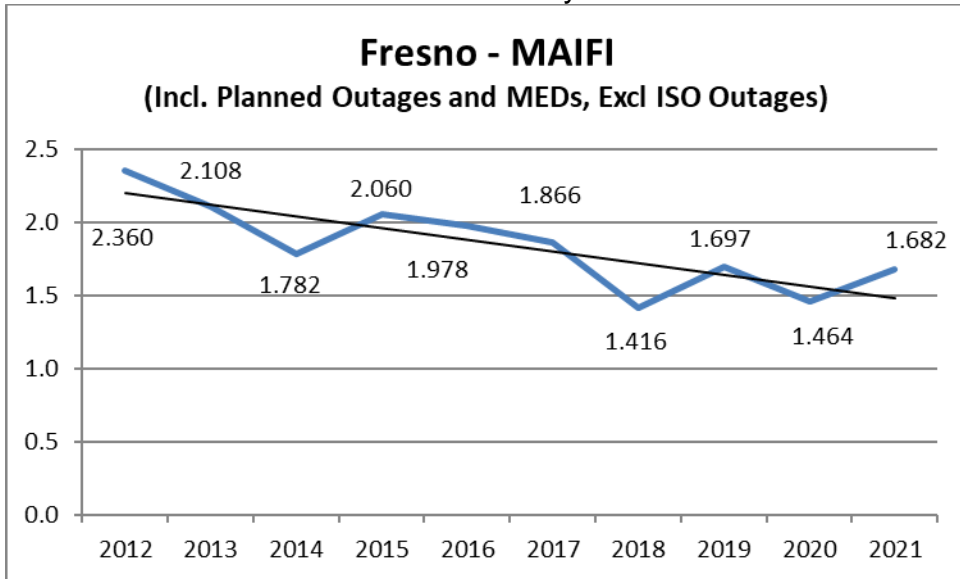


Chart 345: Division Reliability – MAIFI Indices

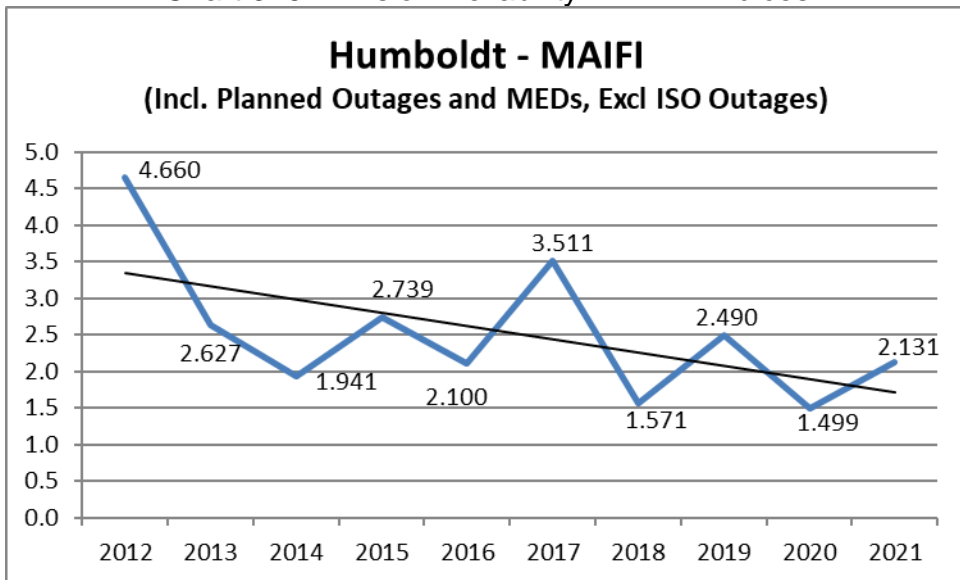


Chart 346: Division Reliability – MAIFI Indices

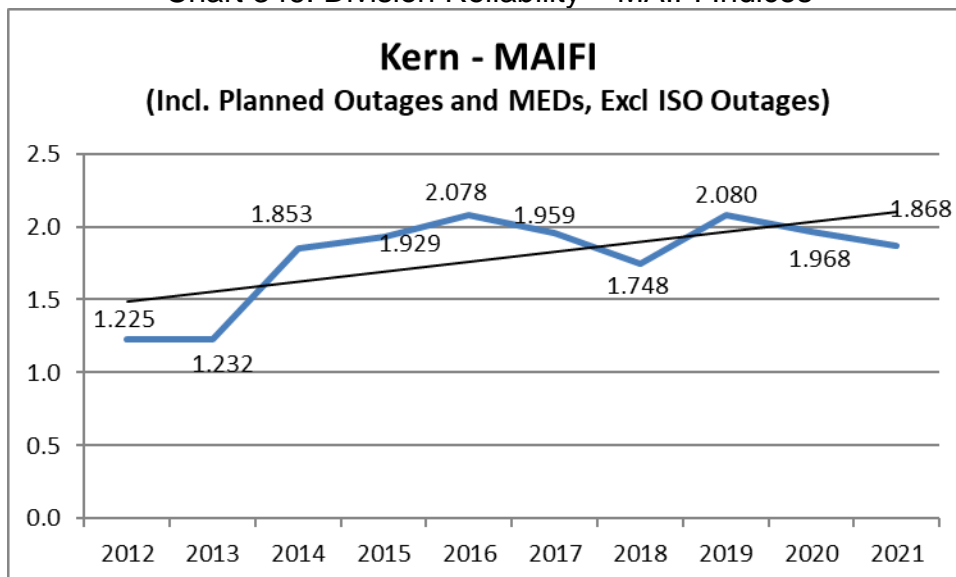


Chart 347: Division Reliability – MAIFI Indices

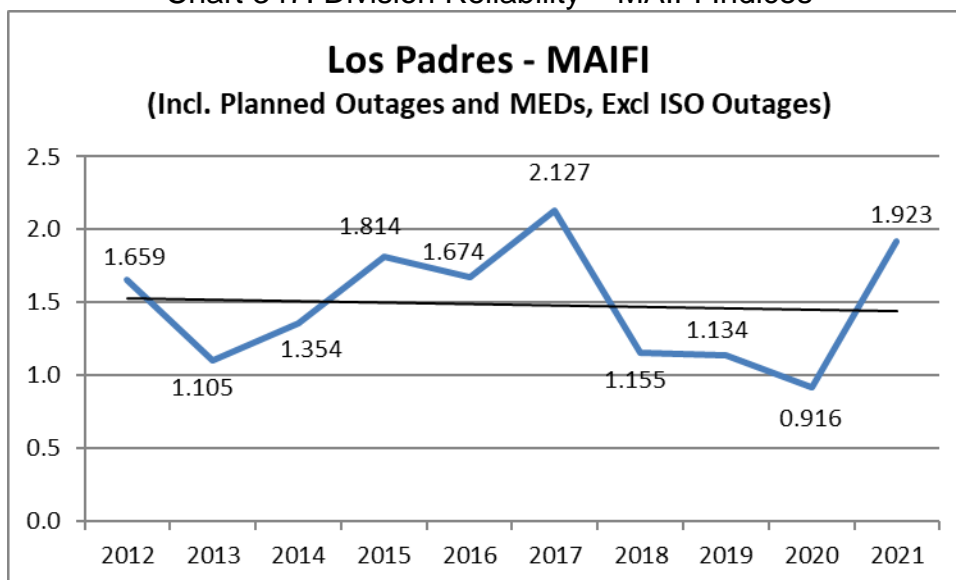


Chart 348: Division Reliability – MAIFI Indices

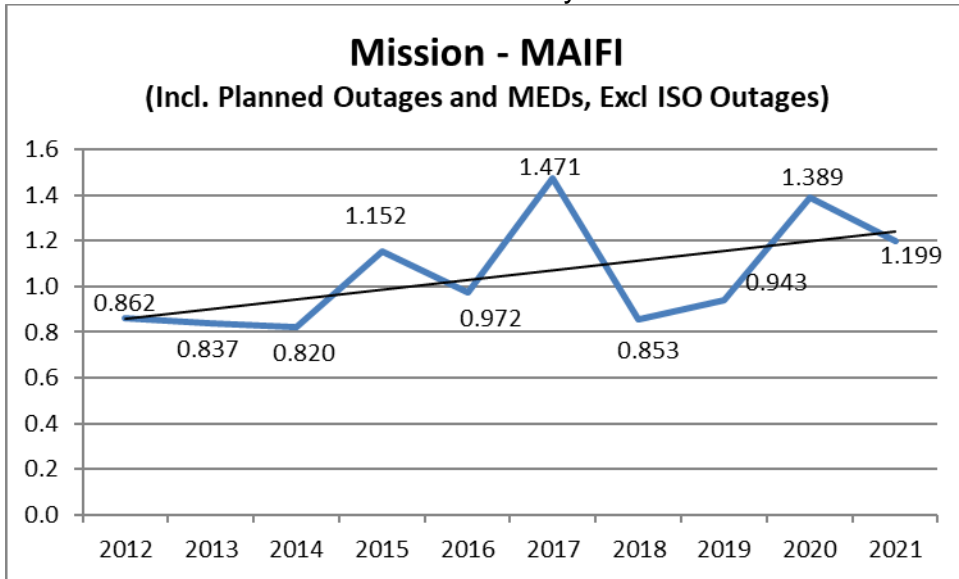


Chart 349: Division Reliability – MAIFI Indices

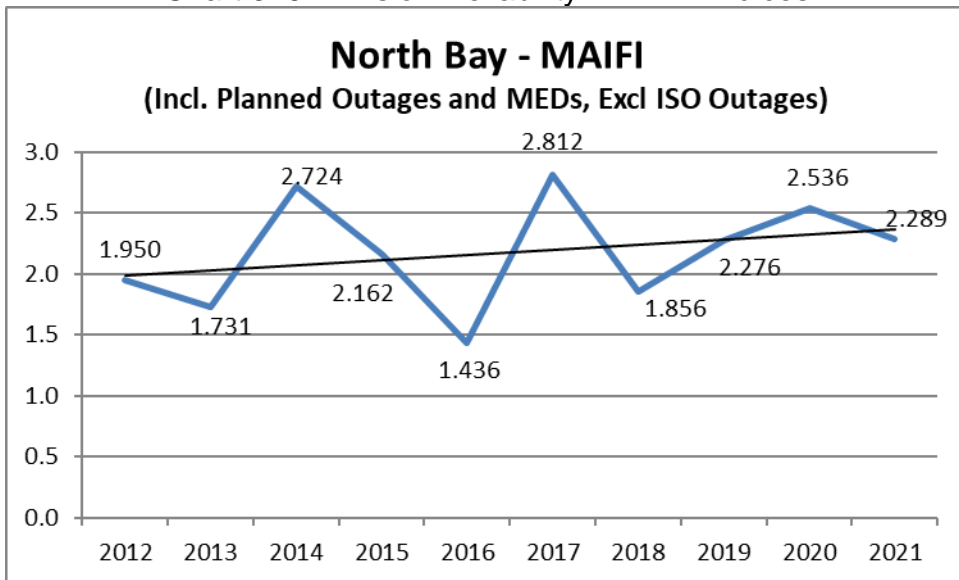


Chart 350: Division Reliability – MAIFI Indices

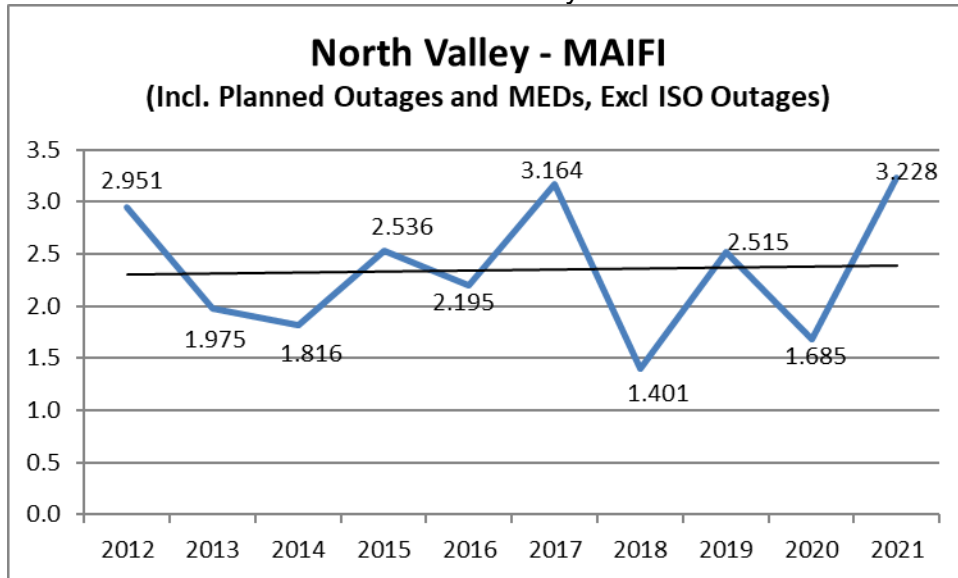


Chart 351: Division Reliability – MAIFI Indices

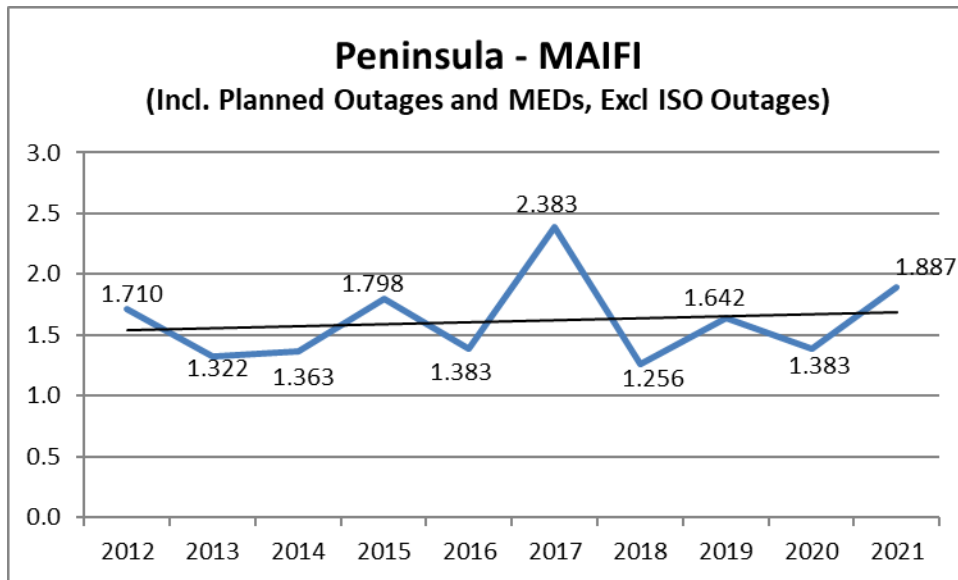


Chart 352: Division Reliability – MAIFI Indices

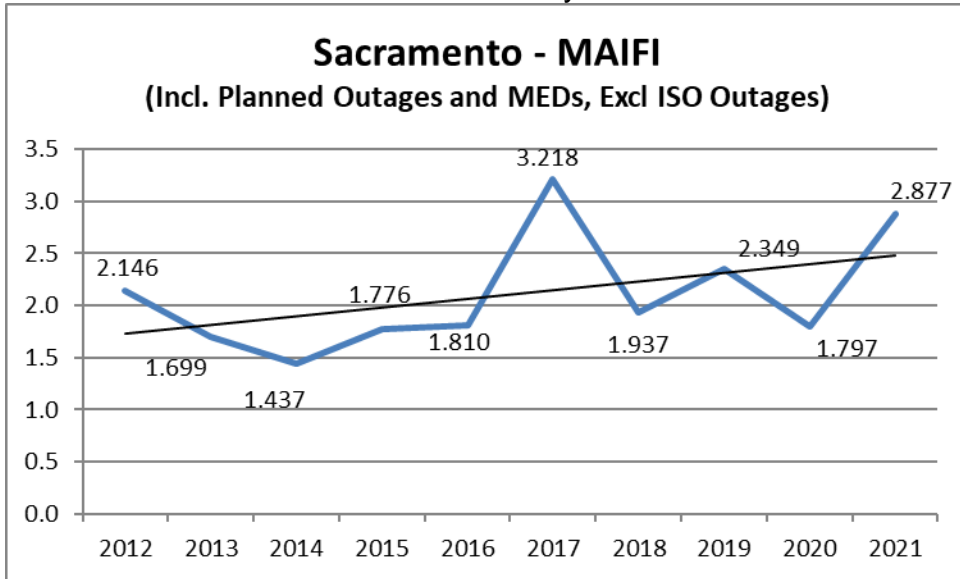


Chart 353: Division Reliability – MAIFI Indices

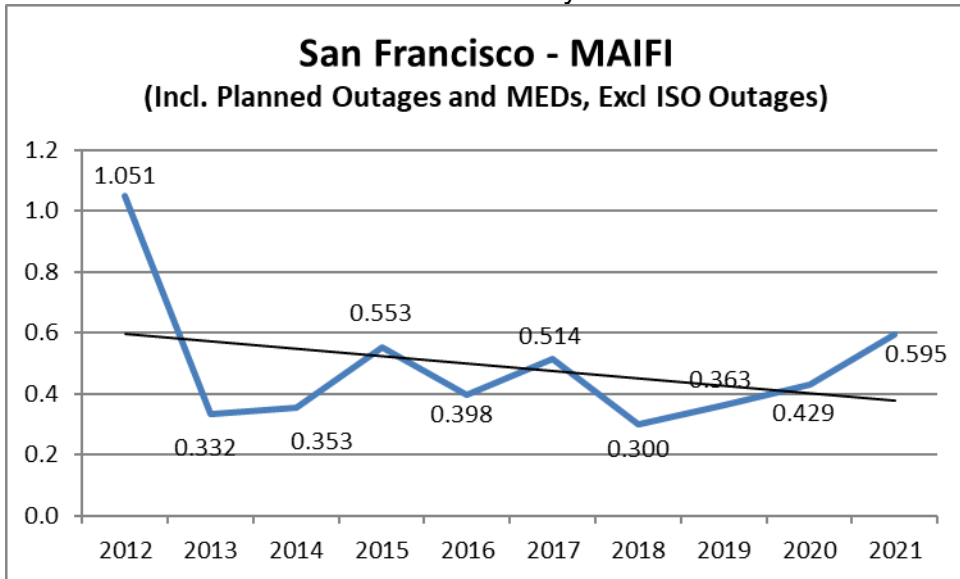


Chart 354: Division Reliability – MAIFI Indices

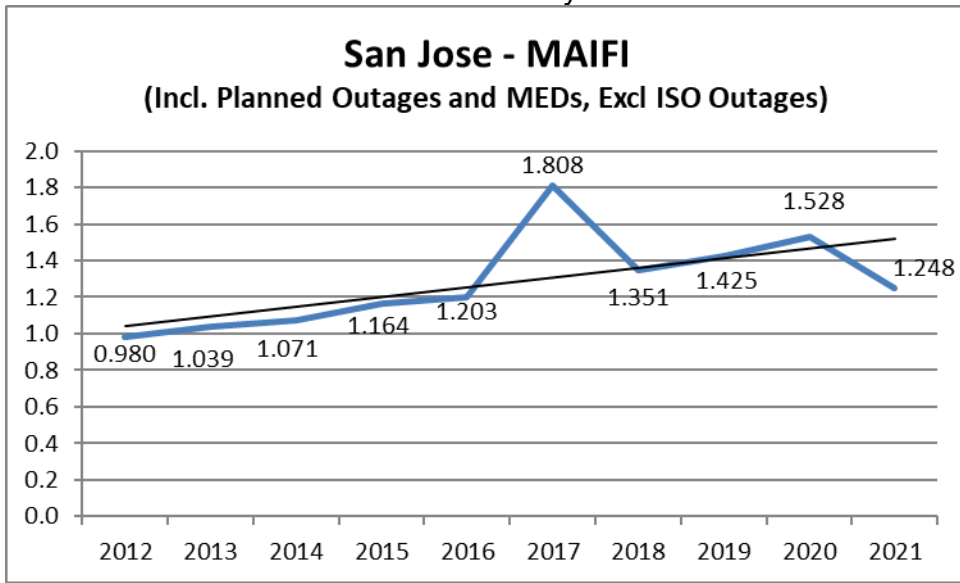


Chart 355: Division Reliability – MAIFI Indices

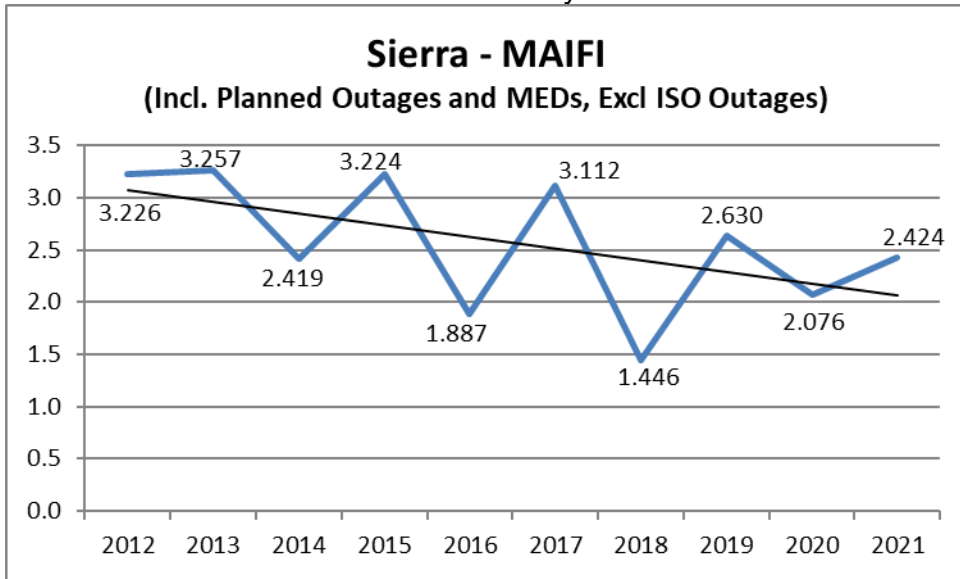


Chart 356: Division Reliability – MAIFI Indices

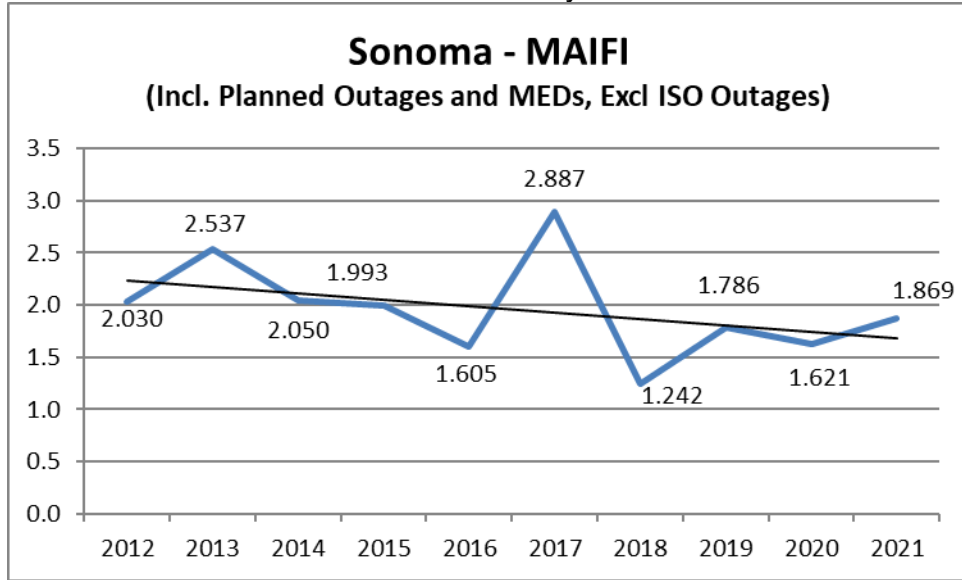


Chart 357: Division Reliability – MAIFI Indices

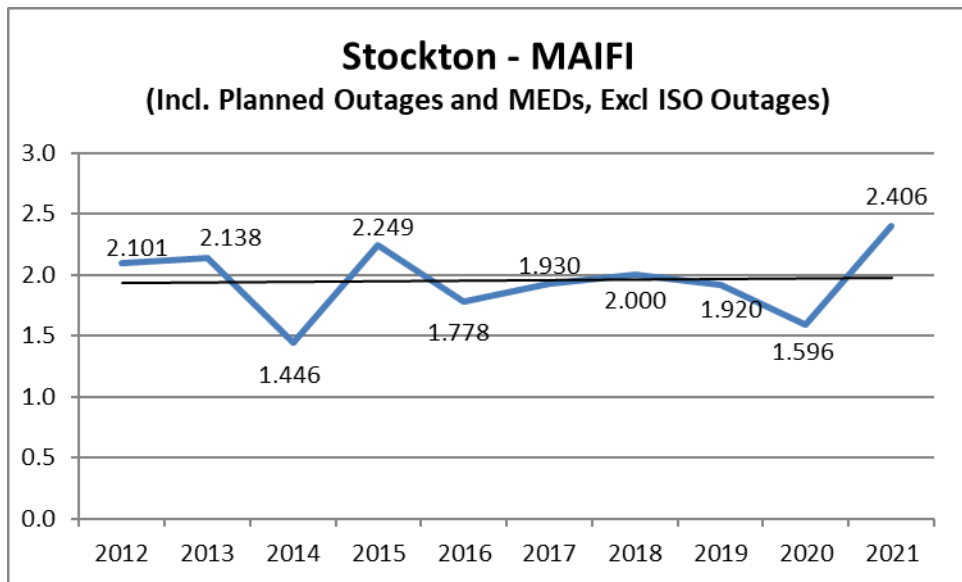


Chart 358: Division Reliability – MAIFI Indices

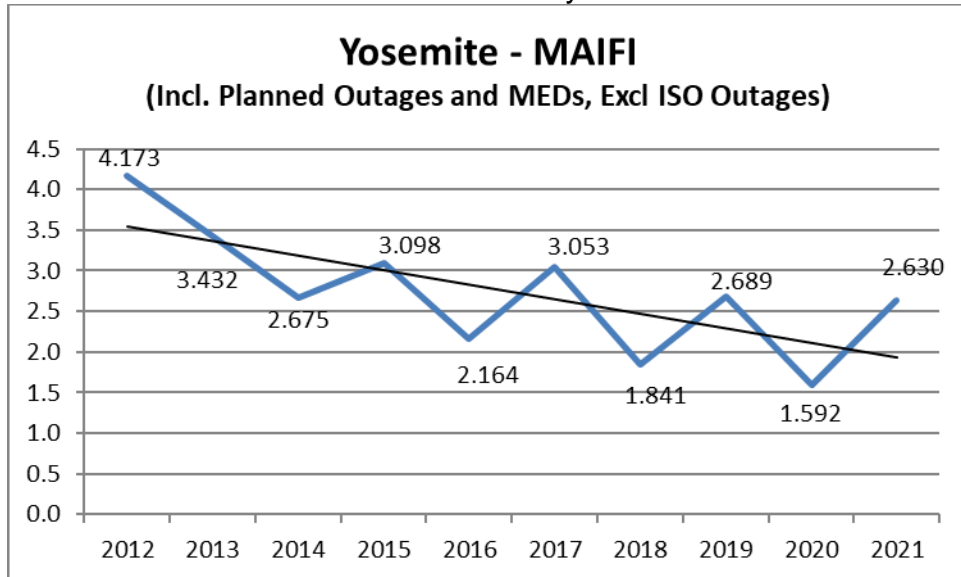
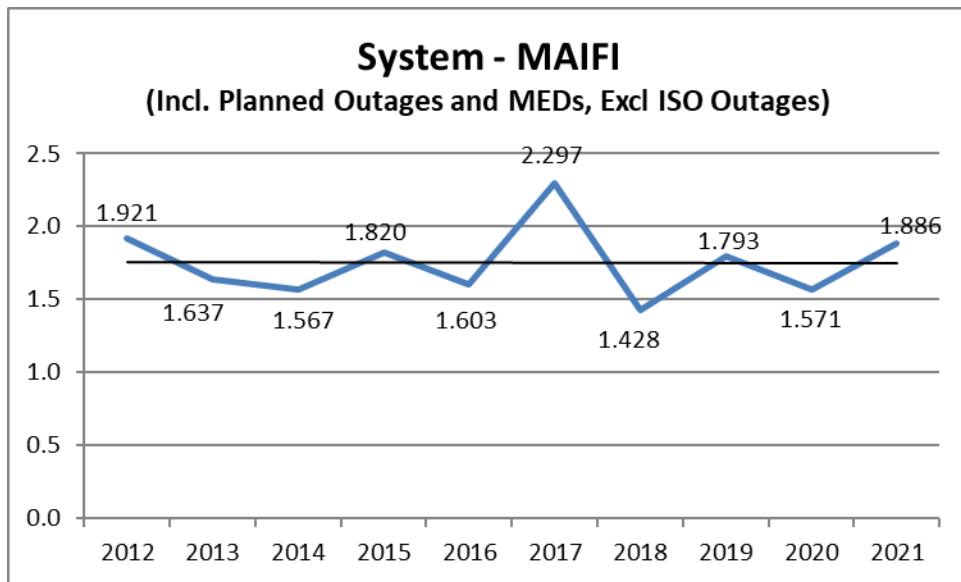


Chart 359: System Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 360: Division Reliability – CAIDI Indices

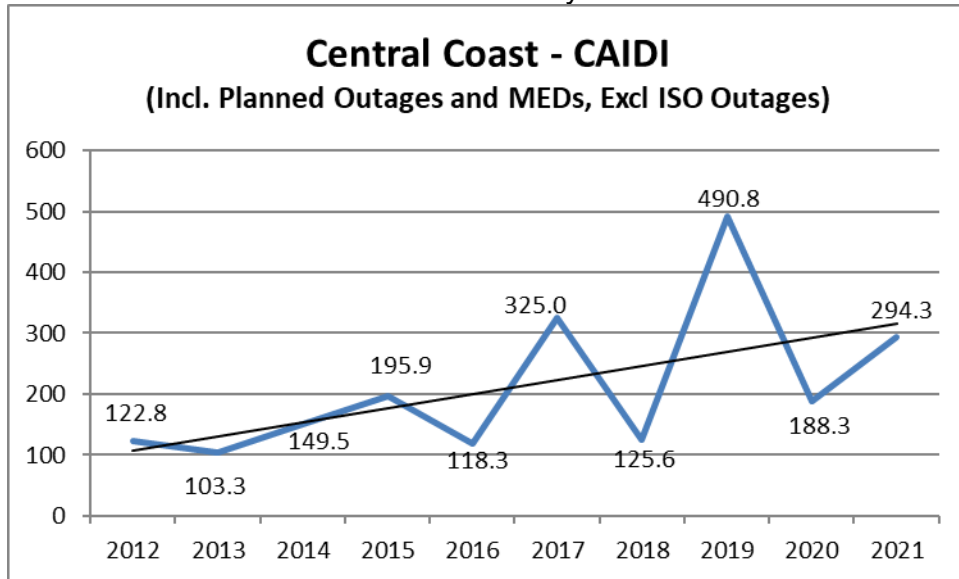


Chart 361: Division Reliability – CAIDI Indices

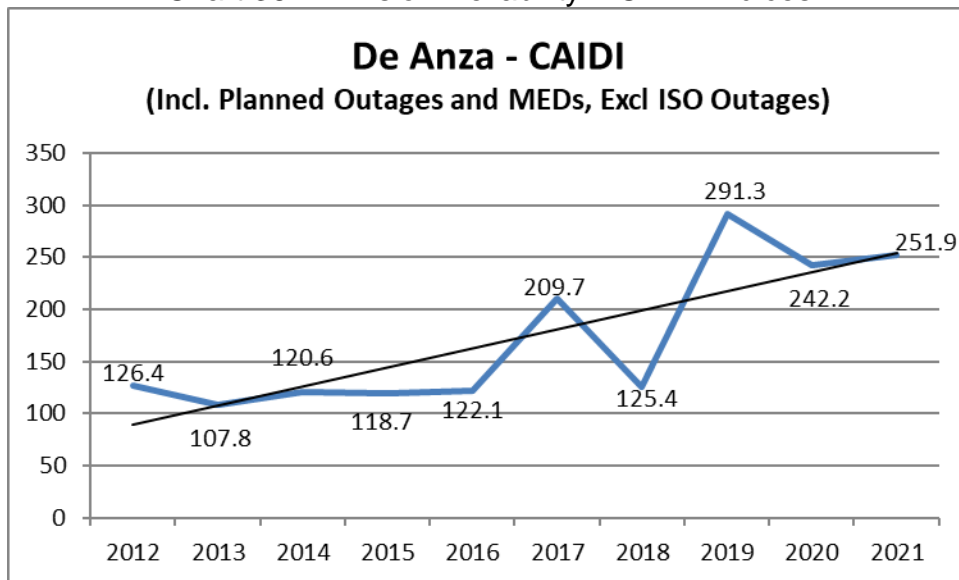


Chart 362: Division Reliability – CAIDI Indices

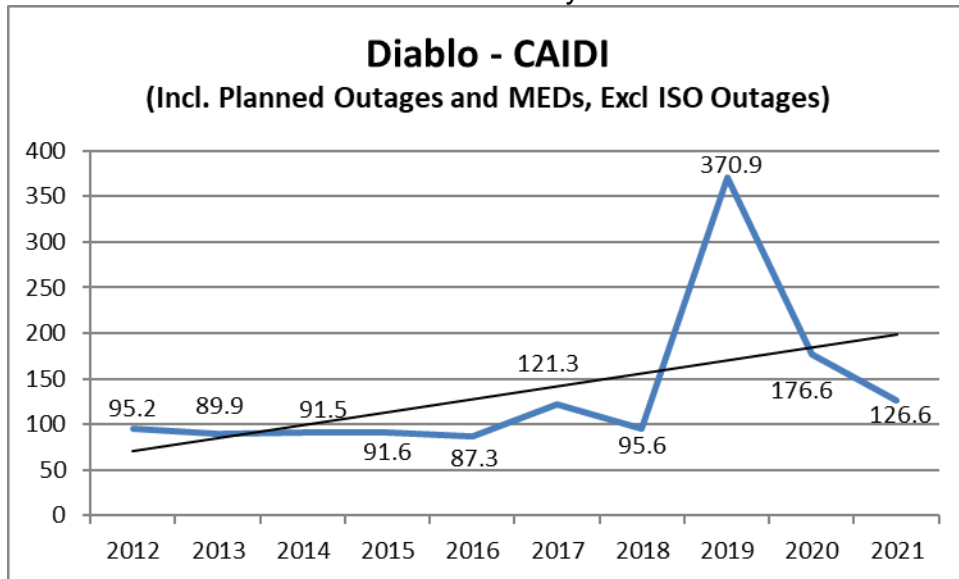


Chart 363: Division Reliability – CAIDI Indices

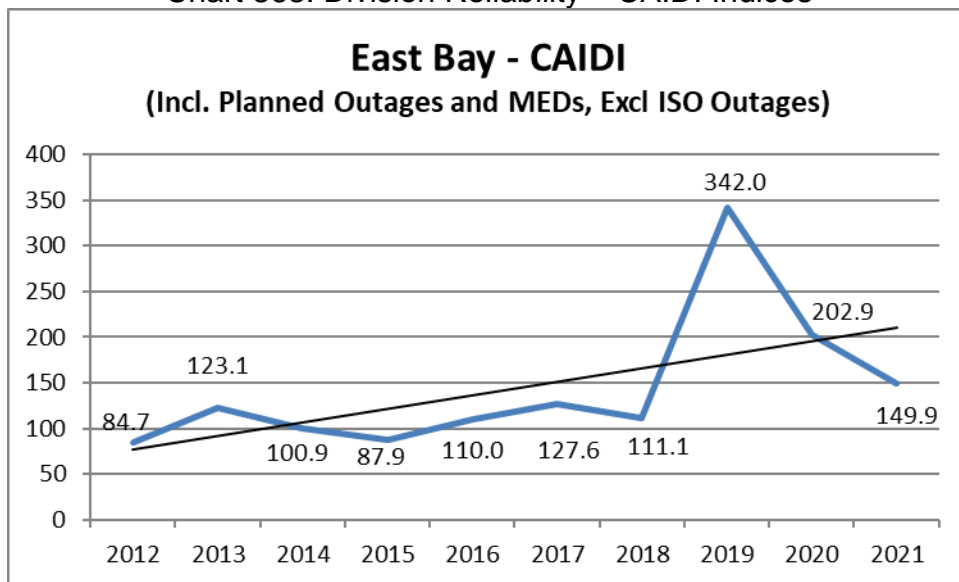


Chart 364: Division Reliability – CAIDI Indices

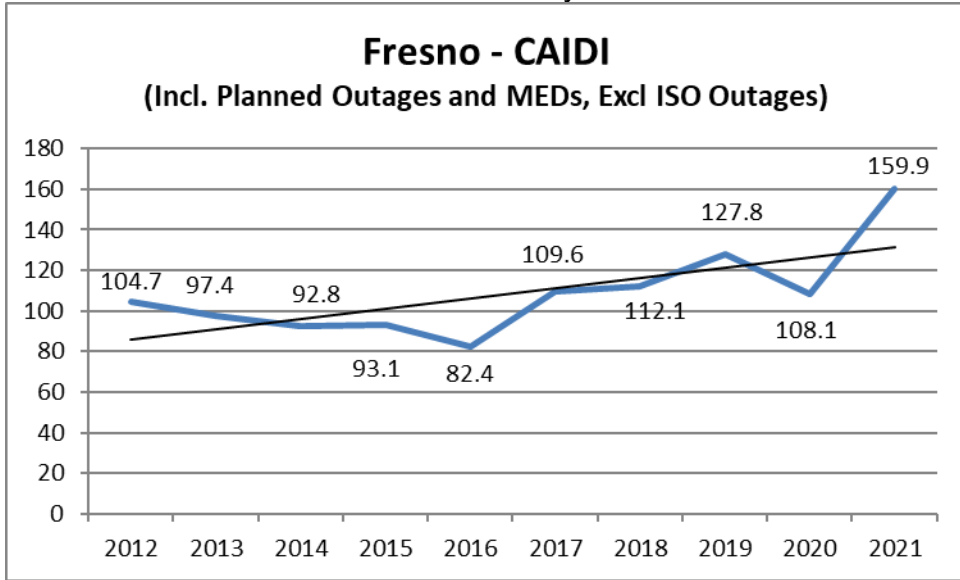


Chart 365: Division Reliability – CAIDI Indices

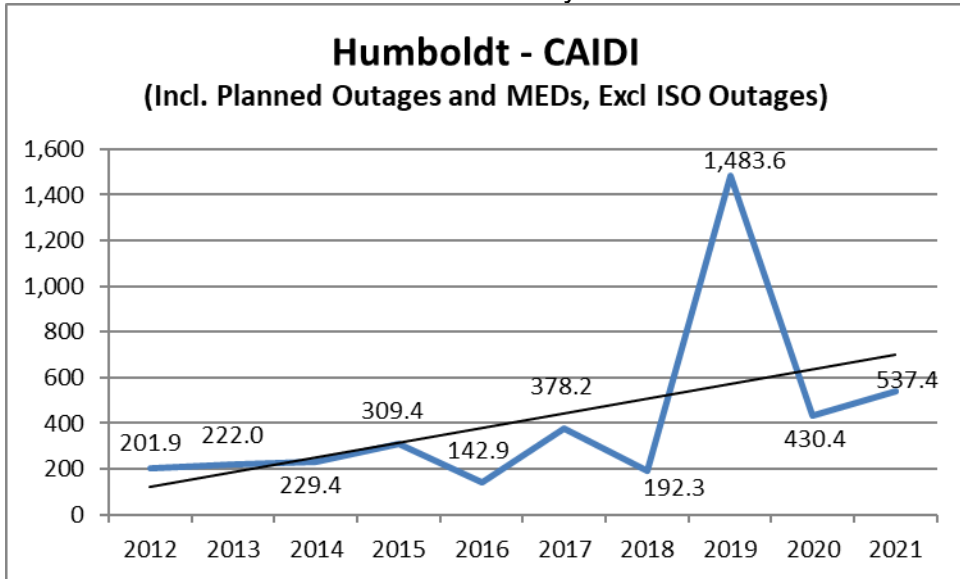


Chart 366: Division Reliability – CAIDI Indices

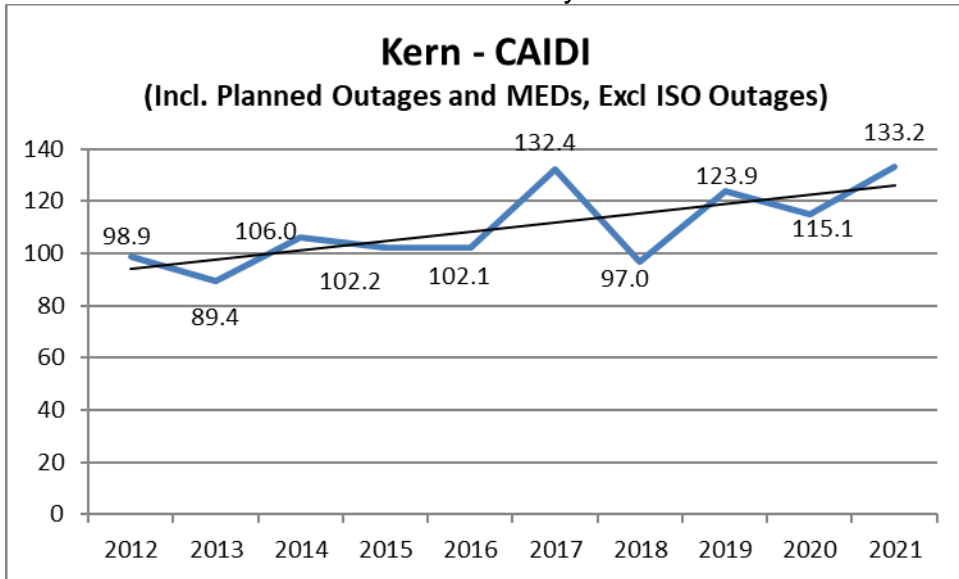


Chart 367: Division Reliability – CAIDI Indices

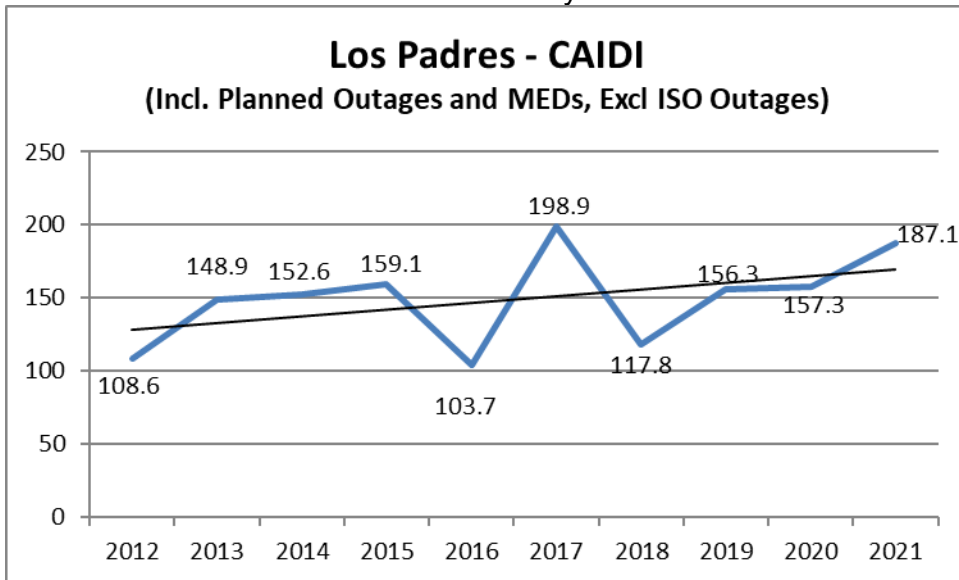


Chart 368: Division Reliability – CAIDI Indices

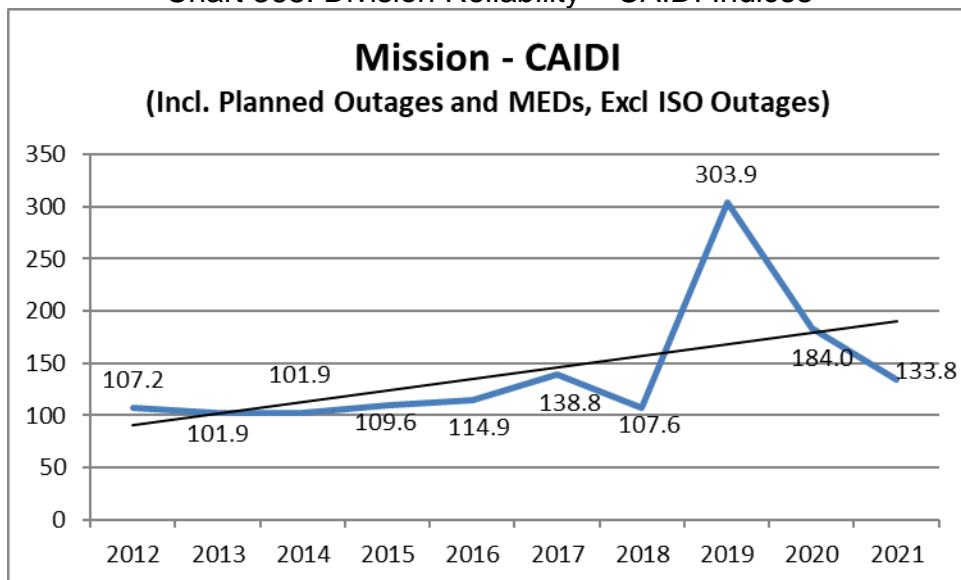


Chart 369: Division Reliability – CAIDI Indices

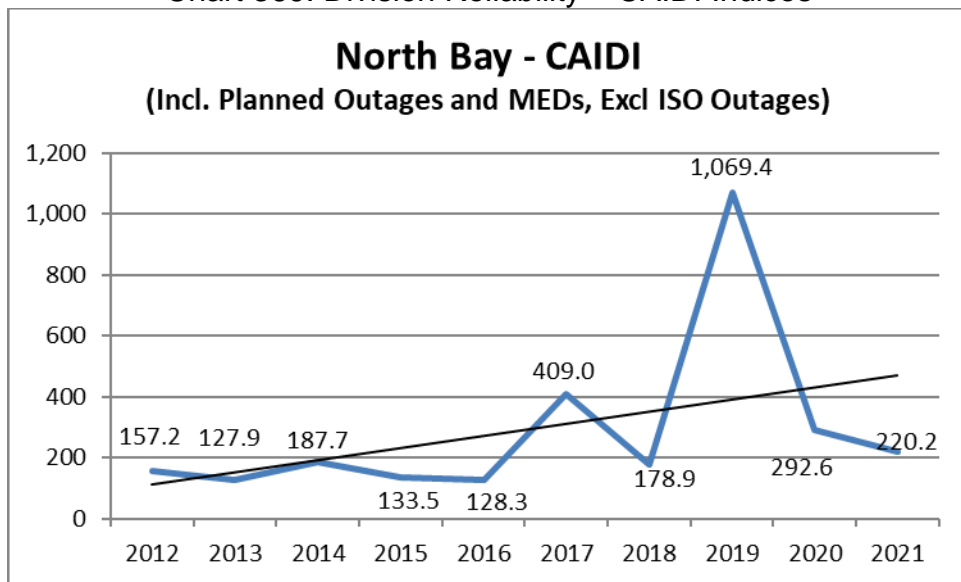


Chart 370: Division Reliability – CAIDI Indices

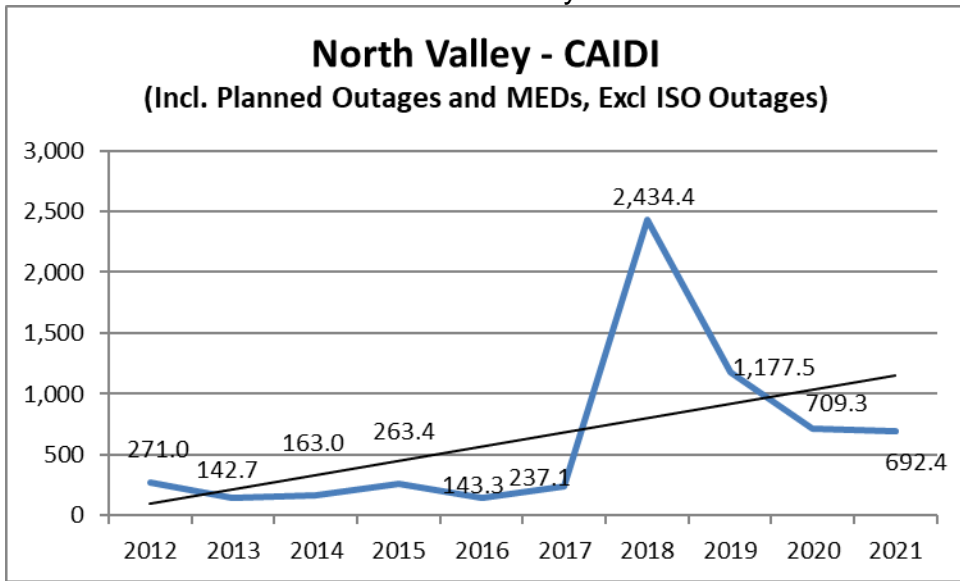


Chart 371: Division Reliability – CAIDI Indices

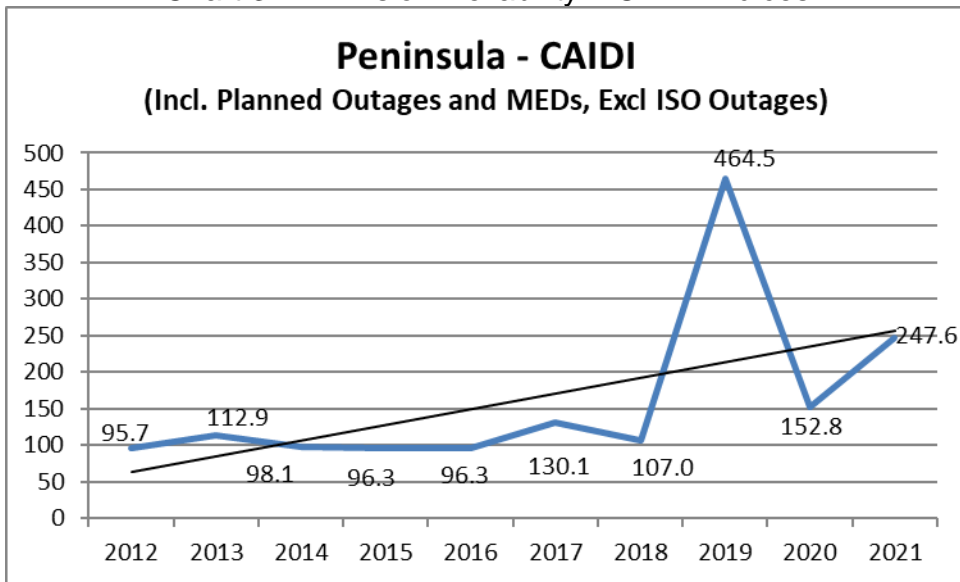


Chart 372: Division Reliability – CAIDI Indices

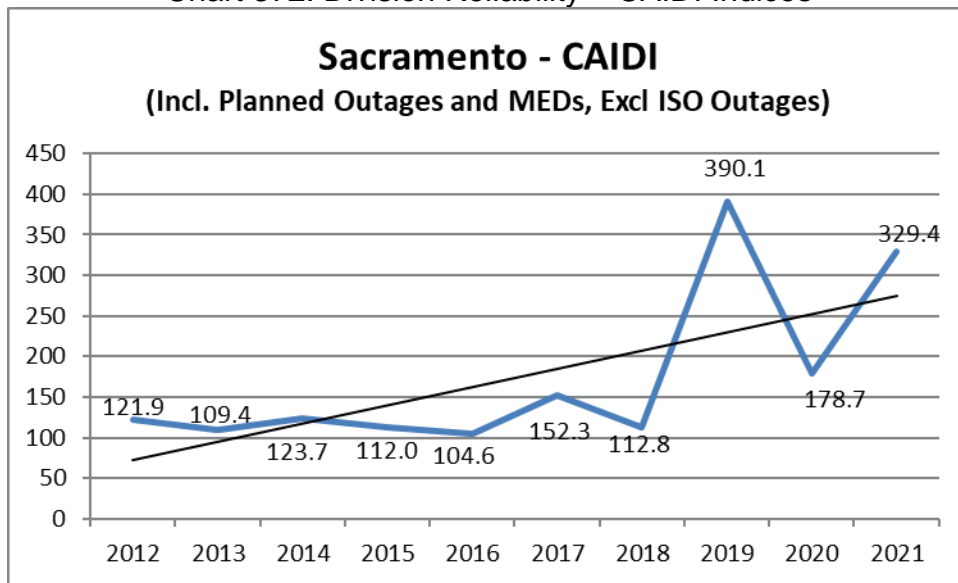


Chart 373: Division Reliability – CAIDI Indices

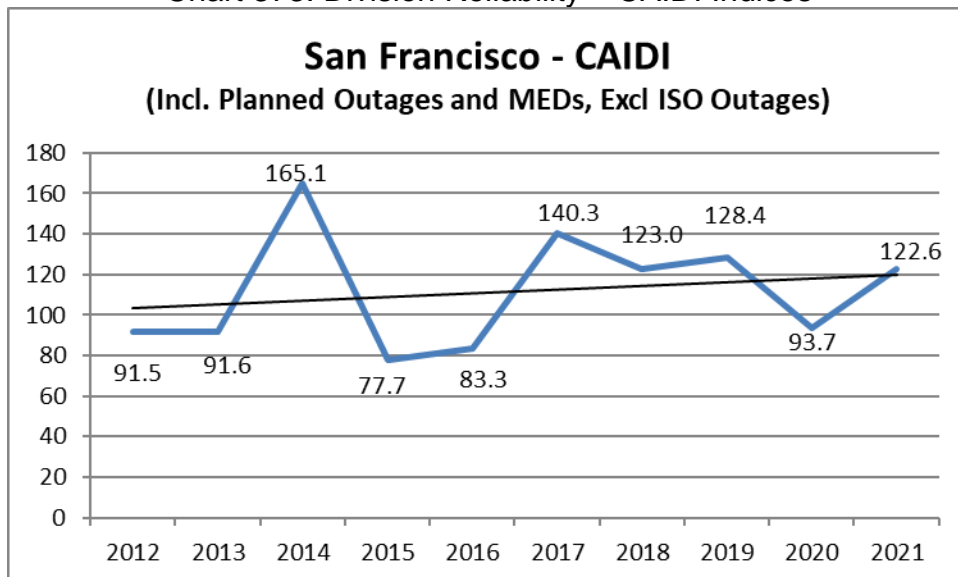


Chart 374: Division Reliability – CAIDI Indices

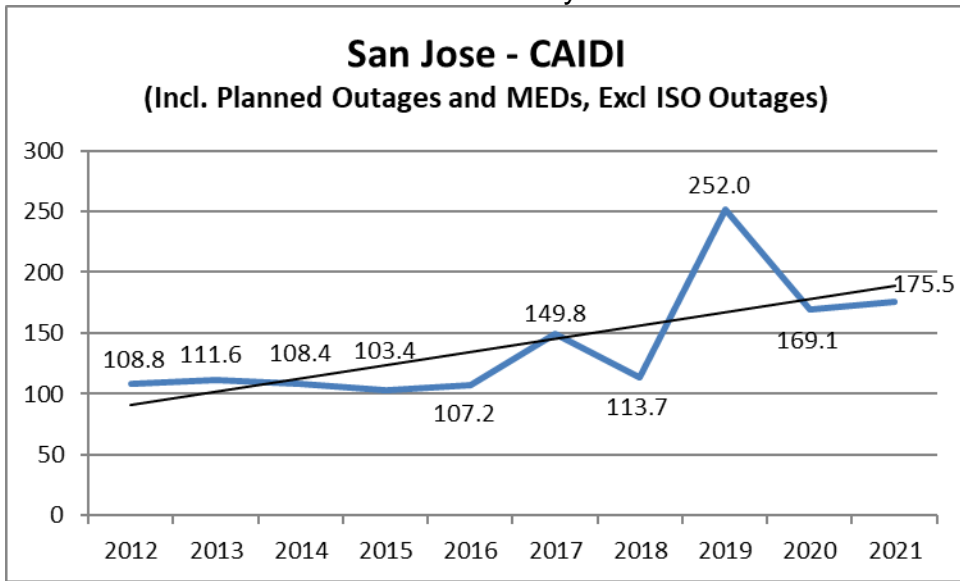


Chart 375: Division Reliability – CAIDI Indices

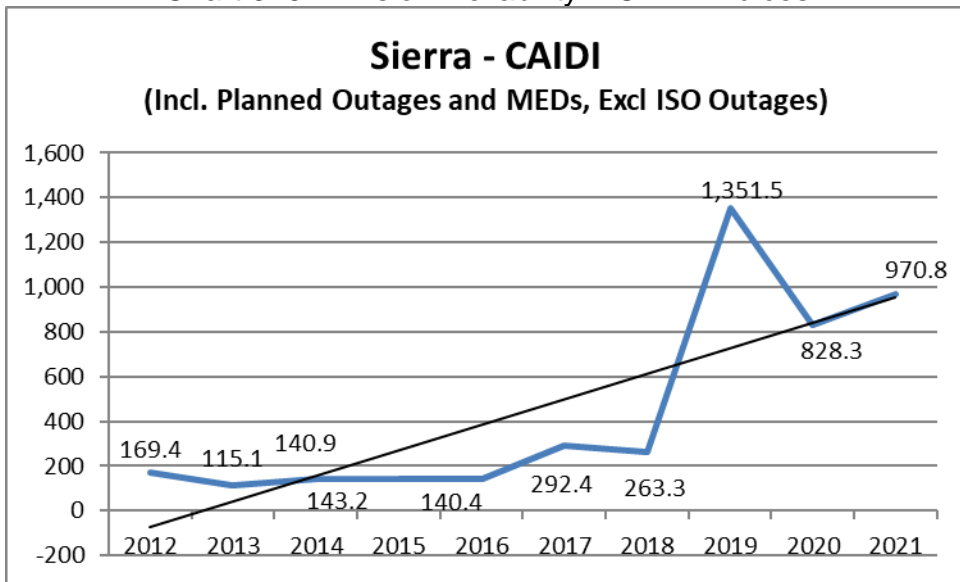


Chart 376: Division Reliability – CAIDI Indices

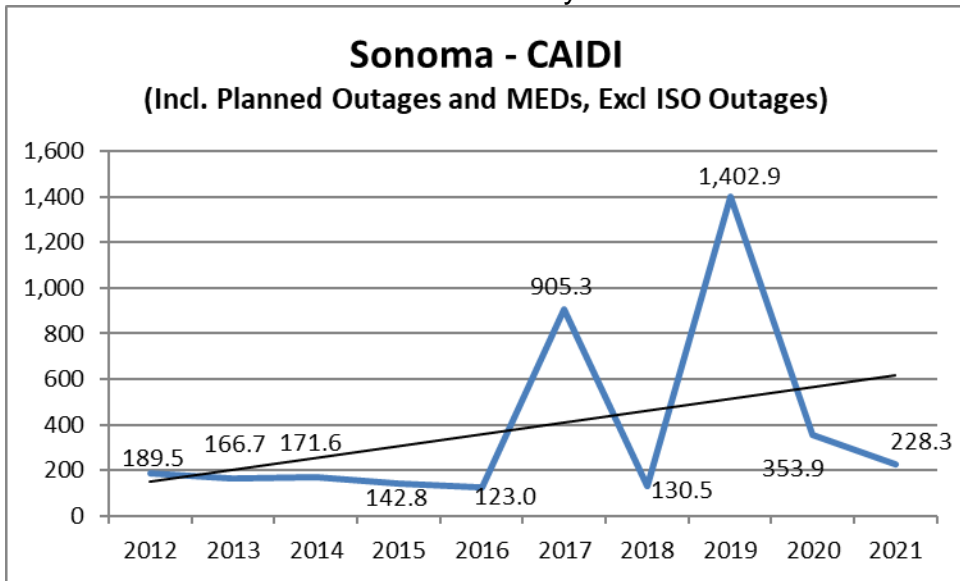


Chart 377: Division Reliability – CAIDI Indices

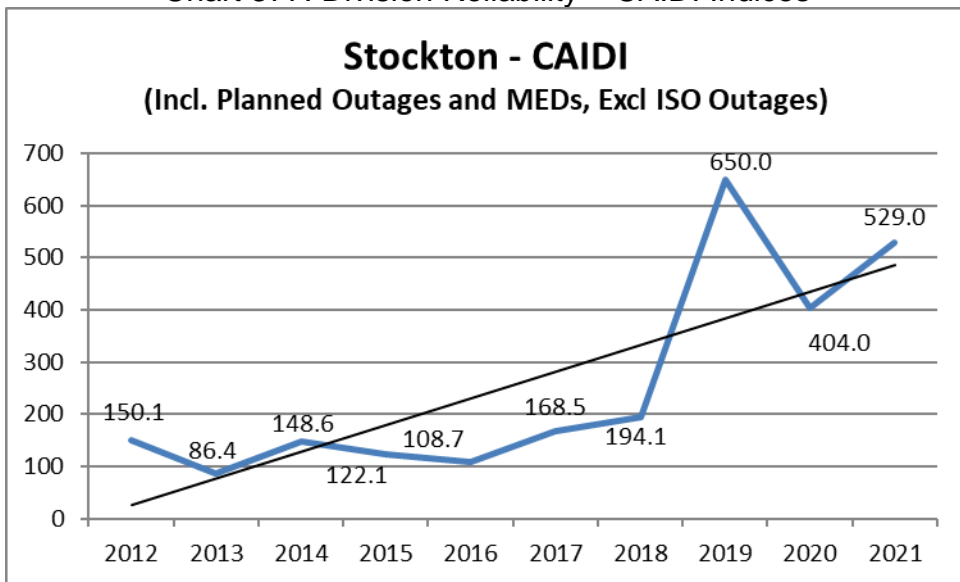


Chart 378: Division Reliability – CAIDI Indices

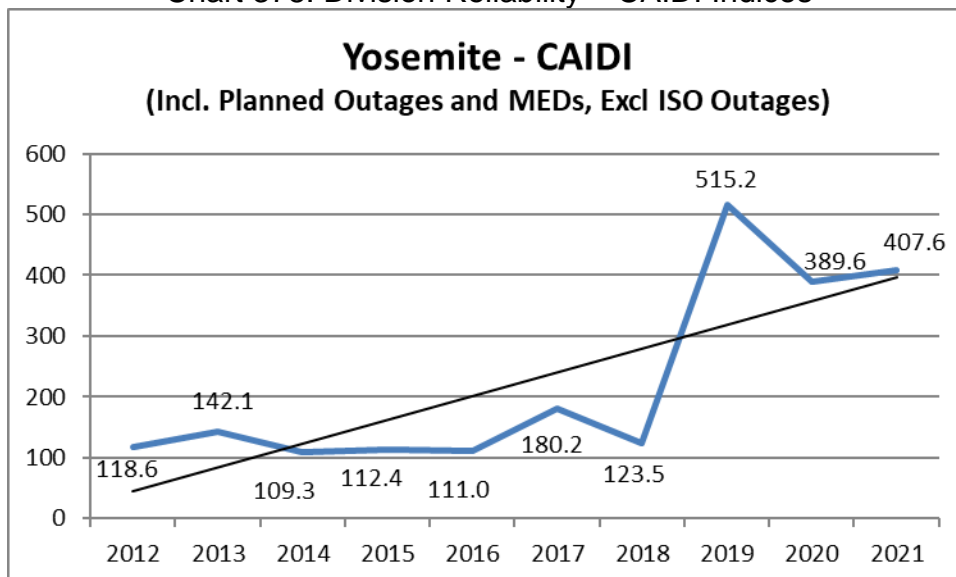
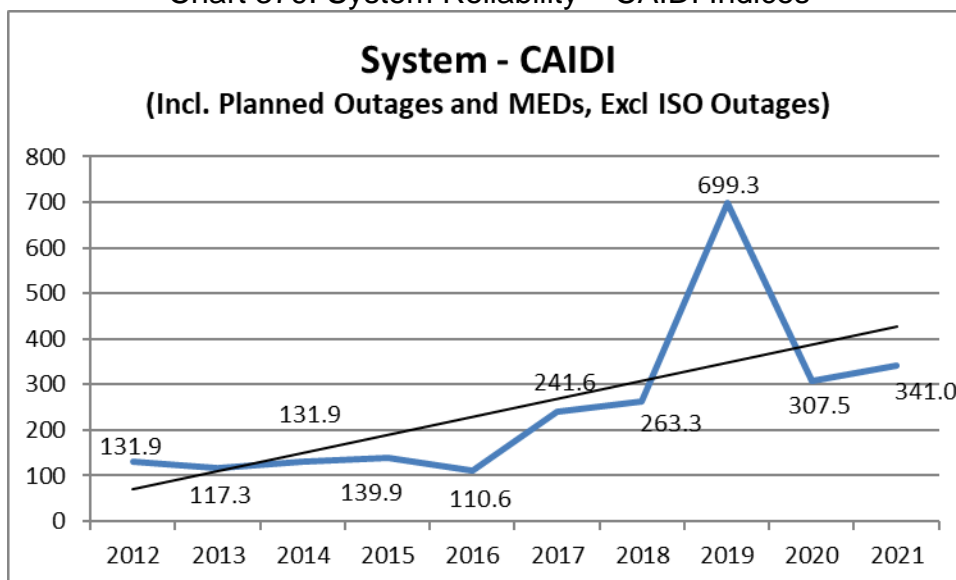


Chart 379: System Reliability – CAIDI Indices



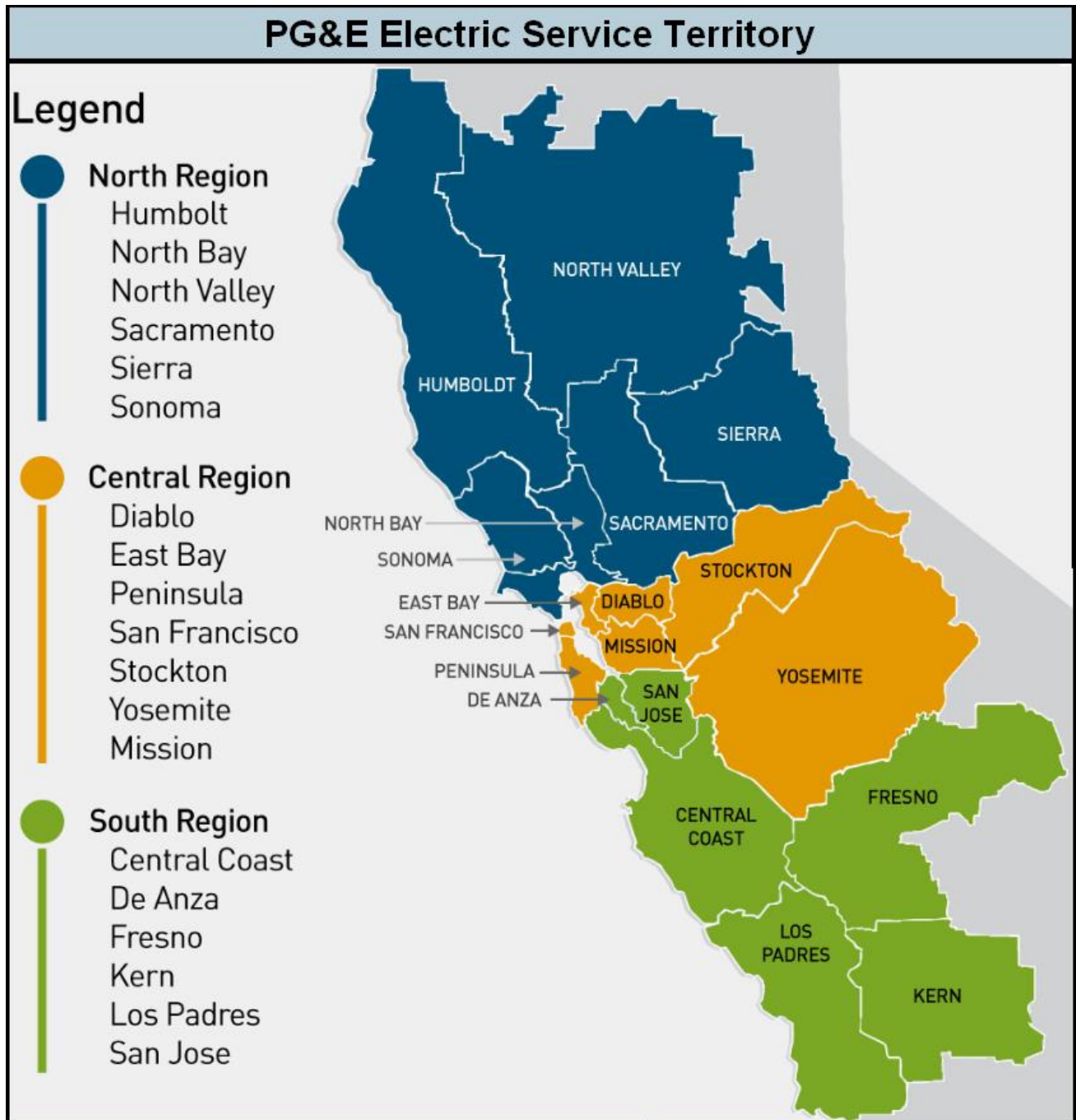
d. The number of planned outages, date, and location of planned outages in each division on an annual basis.

PG&E is submitting detailed planned outage information on a confidential basis under seal as required by Appendix B of Decision 16-01-008, footnote 7. Listed below is a summary of planned outages by year from 2012 through 2021:

Table 118: Ten Years Planned Outage Summary (2012-2021)

Year	Total Planned Outages
2012	17,006
2013	21,982
2014	18,026
2015	18,891
2016	20,253
2017	18,912
2018	36,575
2019	31,406
2020	36,115
2021	45,086

4. Service Territory Map



5. Top 1% of Worst Performing Circuits (WPC) excluding Major Event Day (MED)

PG&E's selection of its worst performing circuits is comprised of two lists. List #1 (see Table 119 below) is ranked by the highest number of sustained outages the average customer on the circuit experiences on an annual basis (AIFI). List #2 (see Table 120 below) is ranked by the highest total number of sustained outage minutes that the average customer on the circuit experiences on an annual basis (AIDI). PG&E recognizes that a given circuit could appear on both the AIDI and AIFI lists of worst performing circuits. In consideration of this overlap, PG&E identified 20 circuits on each list with seven circuits appearing on both lists. The net total of 33 individual circuits represents one percent of the total number of circuits in PG&E's distribution system.

For purposes of this reliability report, PG&E's focus in developing the worst performing circuit lists has been on the impact to the *average customer on the circuit*. This is different than a focus on a circuit's impact or contribution to overall system reliability performance. For example, a circuit with 50 customers that experienced 5 sustained outages affecting the entire circuit (a total of 250 sustained customer outages) would have a higher worst performing circuit ranking than a circuit with 1,000 customers where each customer experienced 3 sustained outages (a total of 3,000 sustained customer outages). For purposes of the worst performing circuit list, the fact that the average customer on the smaller circuit experienced five sustained outages caused that circuit to rank as performing worse than a circuit where the average customer only experienced three sustained outages.

Consistent with Decision 16-01-008, PG&E has used three years (2019 - 2021) of outage data in developing the worst performing circuit lists. PG&E has excluded outage data involving planned outages, CAISO outages and major event days. PG&E has also limited its review to mainline circuit outages only (in other words, only outages involving a circuit breaker, a recloser/sectionalizer, or an interrupter). Finally, PG&E has excluded outage occurrences in which the circuit was in an abnormal configuration. An abnormal circuit configuration occurs when additional customers are temporarily added to a circuit to support construction or maintenance work performed on an adjacent circuit. Analysis has shown that outages associated with abnormal circuit configurations would skew the results of the worst performing circuit lists. PG&E believes that this approach best defines a worst performing circuit.

Table 119 lists the worst performing circuits by outage frequency and indicates the worst AIFI circuit was the Los Gatos 1106 circuit. The average customer on the Los Gatos 1106 circuit experienced 5.19 sustained mainline outages per year from 2019-2021 (resulting from the operation of a circuit breaker or an automatic recloser).

Table 120 focuses on the duration of the sustained outages. Here, the Crescent Mills 2101 circuit was identified as the worst AIDI performing circuit. For this circuit, the average customer on the circuit experienced 3,115 sustained mainline outage minutes

per year from 2019-2021 (resulting from the operation of a circuit breaker or an automatic recloser).

Seven circuits (Los Gatos 1106, Alleghany 1101, El Dorado PH 2101, Willow Creek 1101, Willow Creek 1103, Ben Lomond 0401, and Los Ositos 2103) appear on both lists. These seven circuits are highlighted in red within Tables 119 and 120. Additionally, twelve circuits marked with an asterisk (*) indicates that they are “deficient”. A “deficient” circuit is defined as a circuit that has appeared consecutively on the WPC lists for the previous two years (see the “Deficient” Worst Performing Section below for further details).

#	DIVISION	SUBSTATION	CIRCUIT NAME	TOTAL CUSTOMERS	CIRCUIT MILES	% OH	% UG	HFTD	3 YR AVG MAINLINE OUTAGES	3 YR AVG AIFI
1	DE ANZA	LOS GATOS	LOS GATOS-1106*	1611	74	96	4	2 & 3	10	5.19
2	KERN	WHEELER RIDGE	WHEELER RIDGE-1101*	345	68	99	1	1	7	5.12
3	CENTRAL COAST	BEN LOMOND	BEN LOMOND-0401*	760	22	95	5	3	6	5.10
4	HUMBOLDT	GARBERVILLE	GARBERVILLE-1101*	1267	164	98	2	1 & 2	15	4.70
5	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1101*	784	61	93	7	1, 2, & 3	7	4.42
6	CENTRAL COAST	BIG TREES	BIG TREES-0402	868	17	100	0	1, 2, & 3	5	4.40
7	SIERRA	EL DORADO PH	EL DORADO PH-2101	3992	137	99	1	1, 2, & 3	15	4.23
8	NORTH VALLEY	VOLTA	VOLTA-1101	1336	155	99	1	1, 2, & 3	8	4.02
9	CENTRAL COAST	LOS OSITOS	LOS OSITOS-2103	1551	182	94	6	1 & 2	9	3.95
10	LOS PADRES	TEMPLETON	TEMPLETON-2113	5509	351	92	8	1, 2, & 3	14	3.89
11	HUMBOLDT	FRUITLAND	FRUITLAND-1141	385	26	100	0	1 & 2	5	3.79
12	DE ANZA	CAMP EVERS	CAMP EVERS-2106	6430	173	88	12	1, 2, & 3	19	3.78
13	STOCKTON	ALPINE	ALPINE-1101*	280	8	13	87	1	4	3.73
14	STOCKTON	WEBER	WEBER-1105	3141	24	87	13	1	5	3.67
15	NORTH BAY	CALISTOGA	CALISTOGA-1101*	1674	124	91	9	1, 2, & 3	10	3.65
16	SACRAMENTO	GRAND ISLAND	GRAND ISLAND-2223*	1394	101	96	4	1	7	3.53
17	SIERRA	ALLEGHANY	ALLEGHANY-1101*	1073	79	97	3	1, 2, & 3	8	3.47
18	EAST BAY	RICHMOND Q	RICHMOND Q-0402	727	4	100	0	1	4	3.40
19	YOSEMITE	MARIPOSA	MARIPOSA-2101	3812	262	99	1	1, 2, & 3	9	3.28
20	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1103	1554	86	99	1	1, 2, & 3	6	3.25

Table 119

#	DIVISION	SUBSTATION	CIRCUIT NAME	TOTAL CUSTOMERS	CIRCUIT MILES	% OH	% UG	HFTD	3 YR AVG MAINLINE OUTAGES	3 YR AVG AIDI
1	NORTH VALLEY	PIT NO 7	PIT NO 7-1101	2	3	100	0	2	1	2233
2	CENTRAL COAST	OTTER	OTTER-1102*	529	65	83	17	2 & 3	5	1849
3	NORTH VALLEY	PIT NO 5	PIT NO 5-1101	121	27	89	11	2	3	1197
4	NORTH VALLEY	ELK CREEK	ELK CREEK-1101*	917	182	99	1	1 & 2	7	1173
5	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1101	783	61	93	7	1, 2 & 3	6	1070
6	SIERRA	EL DORADO PH	EL DORADO PH-2101	4655	168	99	1	1, 2 & 3	12	1046
7	SIERRA	ALLEGHANY	ALLEGHANY-1101*	1074	79	97	3	1, 2 & 3	7	994
8	NORTH VALLEY	CEDAR CREEK	CEDAR CREEK-1101	785	111	99	1	2 & 3	3	966
9	NORTH VALLEY	CHALLENGE	CHALLENGE-1101	699	49	98	2	2 & 3	3	883
10	NORTH VALLEY	BUCKS CREEK	BUCKS CREEK-1103*	321	26	50	50	2 & 3	2	803
11	STOCKTON	SALT SPRINGS	SALT SPRINGS-2101*	393	45	49	51	1 & 2	6	698
12	KERN	POSO MOUNTAIN	POSO MOUNTAIN-2101*	142	60	100	0	1 & 2	3	654
13	NORTH VALLEY	SPANISH CREEK	SPANISH CREEK-4401	35	8	100	0	1 & 2	0.3	612
14	KERN	TEJON	TEJON-1102	852	73	85	15	1 & 2	3	606
15	KERN	SCE TEHACHAPI	SCE TEHACHAPI-1101	4	1	100	0	2	1	600
16	HUMBOLDT	LOW GAP	LOW GAP-1101*	734	74	99	1	2	4	595
17	KERN	RIO BRAVO	RIO BRAVO-1104	34	13	54	46	1	1	592
18	HUMBOLDT	BRIDGEVILLE	BRIDGEVILLE-1101	95	24	100	0	1, 2 & 3	3	590
19	SACRAMENTO	CORDELIA	CORDELIA-1104*	332	68	90	10	1	2	586

Table 120

Cost Effective Reliability Remediation:

The Targeted Circuit Program was previously PG&E’s primary reliability improvement program to cost effectively remediate PG&E’s worst performing circuits. Under the Targeted Circuit Program, PG&E’s distribution engineers analyzed the causes and characteristics of historical outages as well as reviewed the current circuit design to cost effectively identify work that would improve the circuit’s reliability performance. The typical targeted circuit work included, as appropriate for the circuit, installing new protection equipment, replacing overhead and underground conductors, installing new fault indicators, reframing poles to increase phase separation, installing animal/bird guards, repairing or replacing deteriorated equipment, completing pending reliability related maintenance work, performing infrared inspections, and trimming trees. The anticipated goal of each targeted circuit was to achieve a 25 percent reliability performance improvement from its 3-year historical AIFI and AIDI average. The typical timeline for a targeted circuit project to be initiated, engineered, and constructed was three years. Although historical reliability metric results have shown the Targeted Circuit Program to be effective in remediating worst performing circuit performance, funding for the Targeted Circuit Program was not submitted in 2020 General Rate Case (GRC) and

will not be submitted in the year 2023 GRC. PG&E's reliability improvement strategy and focus are outlined in the following paragraphs.

As reported in the Wildfire Mitigation Plan (Rulemaking (R.) 18-10-007), PG&E submitted a 2022 Wildfire Safety Plan to support PG&E's stance that catastrophic wildfires shall stop. Several components in the 2022 Wildfire Safety Plan have had both positive and negative impacts to reliability performance. Under the System Hardening Program, PG&E's distribution engineers evaluate a rebuild of overhead distribution circuits in the High Fire Threat District (HFTD) areas. The typical system hardening work included, as appropriate for the circuit, replacing bare wire with insulated conductor, increasing strength requirements for poles, installing new system automation and protection equipment, line removal, and targeted conversion of overhead equipment to underground equipment. The program focus moving forward is to aggressively underground 10,000 circuit miles of overhead equipment. The anticipated goal of each system hardened circuit is to minimize the risk of an asset failure that could result in a fire ignition. The anticipated reliability improvement of each system hardened circuit is to minimize vegetation, equipment failure, third party, animal, and other (unknown) caused outages that could result in a fire ignition. PG&E completed 342 and 210 miles of system hardening work in HFTD areas in 2020 and 2021, respectively as part of the PG&E's Wildfire Safety Plan. In 2022-2023, PG&E forecasts completing approximately 1,000+ circuit miles.

Another key component of the 2022 Wildfire Safety Plan is the continued effort of the Enhanced Vegetation Management (EVM) Program. Under the EVM Program, PG&E will aggressively expand its vegetation management around its assets in the HFTD areas. The typical EVM work included, as appropriate for the circuit, clearing overhang, targeted trimming/removal of specific tree species, and performing "ground to conductor" vegetative fuel reduction. The anticipated goal of each EVM circuit is to minimize the risk of a fire ignition due to vegetation-conductor contact. The anticipated reliability improvement of each EVM circuit is to minimize vegetation caused outages. As part of the 2020 and 2021 PG&E's Wildfire Safety Plans, PG&E completed 1,878 and 1,983 circuit miles of EVM work in HFTD areas, respectively. In 2022, PG&E forecasts completing approximately 2,600+ circuit miles. The program will be a multi-year effort to address the approximately 25,200 distribution circuit miles in the HFTD areas.

In 2021, PG&E piloted the Enhanced Powerline Safety Settings (EPSS) Program. Under the EPSS effort, PG&E's distribution engineers re-adjusted the sensitivity settings on distribution line protection equipment to quickly react to problems detected on the system and automatically turn off power. Power was restored once a line patrol was conducted to help ensure wildfire ignition risk was minimized. As a result, an 80 percent reduction in CPUC-reportable ignitions was observed in 2021 in comparison to its historical three-year average. However, it was also observed that the EPSS effort negatively impacted reliability performance in terms of both outage impacts to customers and outage duration times. This was primarily due to the sensitivity setting adjustments causing a decrease in coordination with downstream protection equipment. In 2022, the EPSS effort will expand to include all distribution lines in the HFTD areas and High Fire Risk Areas (HFRA), as well as select non-HFTD areas that are adjacent

to HFTD areas and HFRA. Efforts to minimize the negative reliability impacts of EPSS include the continued adjustment of the safety settings, installing Fault Indicators (FI) to help pinpoint the problem locations, installing Fuse Savers (FS) to help re-establish proper protection coordination, and taking a more surgical approach in applying EPSS settings for areas most at risk.

In addition to the Wildfire Safety Plan, internal reviews of unplanned outages are performed on a regular basis through PG&E Outage Review Team (ORT) Process. The objective of the ORT process is to identify and minimize chronic localized reliability issues that affect a smaller number of customers. Cost effective remediation work that addresses those circuits identified from the ORT process are incorporated into PG&E's base reliability work.

As identified in Tables 119 and 120, 15 and 18 of PG&E's worst performing AIFI and AIDI circuits respectively are in Tiers 2 or 3 HFTD areas. As a result, these worst performing circuits have or would be incorporated into the Wildfire Safety Plan. For the worst performing circuits located in Tier 1 HFTD area, PG&E will evaluate what remedial action, if any, is appropriate through the ORT process. This includes determining whether any cost-effective remedial action will be performed through PG&E's base reliability improvement work. Any future funding requests for PG&E's Targeted Circuit Program would be submitted in the 2026 General Rate Case.

"Deficient" Worst Performing Circuits:

The circuits listed below are "deficient" (WPC) circuits in response to section 5b of CPUC D 16-008-001, Appendix B:

1. ALLEGHANY 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIFI score of 2.96 and AIDI score of 1,151
 - Three-year (2018-2020) average AIFI score of 3.09 and AIDI score of 994
 - Three-year (2019-2021) average AIFI score of 3.47 and AIDI score of 1,343
- ii. A historical record of the metric:
 - AIFI 2017 = 2.01
 - AIFI 2018 = 2.32
 - AIFI 2019 = 4.71
 - AIFI 2020 = 2.23
 - AIFI 2021 = 3.48

 - AIDI 2017 = 847
 - AIDI 2018 = 420
 - AIDI 2019 = 2,231
 - AIDI 2020 = 330
 - AIDI 2021 = 1,468

- iii. An explanation of why it was on the deficiency list again:
 The Alleghany 1101 circuit provides electric service to approximately 1,073 customers in Sierra County through 79 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 3 (Extreme Risk). The Alleghany 1101 circuit is comprised of about 45 miles of mainline with various branches that travel through a mix of rural highway and cross-country access. Its most northern branch travels through mountainous terrain including the Plumas National Forest. The major factors driving the Alleghany 1101 reliability performance are the remote service territory, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. Specifically, the overall 2019 AIDI performance was driven by a single unknown caused event. Securing helicopter resources to perform visual patrols of the mainline sections inaccessible by foot was the primary driver in the elevated outage restoration time.
- iv. An explanation of what is being done to improve the circuit's future performance:
 Several system hardening projects have been identified and currently being evaluated based on the latest risk model as part of the Wildfire Safety Plan. In addition, the 2022 work plan calls to install 3 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
 Incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 3 High Fire Threat District. Alleghany 1101 circuit performance will also be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

2. ALPINE 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIFI score of 3.80
 - Three-year (2018-2020) average AIFI score of 3.73
 - Three-year (2019-2021) average AIFI score of 3.73
- ii. A historical record of the metric:
 - AIFI 2017 = 2.01
 - AIFI 2018 = 3.99
 - AIFI 2019 = 5.40
 - AIFI 2020 = 1.80
 - AIFI 2021 = 4.00
- iii. An explanation of why it was on the deficiency list again:

The Alpine 1101 circuit provides electric service to approximately 280 customers in Alpine County through 8 circuit-miles of primarily underground conductor. Specifically, the Alpine 1101 circuit supports the Bear Valley community. The Salt Springs 2101 circuit provides the primary service to the Alpine 1101 circuit through 21/12 kV voltage step down transformers. Its main line travels through mountainous terrain including the Stanislaus National Forest. The major factor driving the Alpine 1101 reliability performance is the reliability performance of the Salt Springs 2101 circuit. This includes its remote service territory, overhead conductor exposure, minimal ties to adjacent circuits for outage restoration support, and elevated terrain which makes it susceptible to snow loading conditions. The Salt Springs 2101 circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk).

- iv. An explanation of what is being done to improve the circuit's future performance:

It is anticipated any improvement work on the Salt Springs 2101 will also improve the Alpine 1101 reliability performance. A targeted circuit project had been initiated on the Salt Springs 2101 circuit but has since been repurposed to support the wildfire mitigation efforts. A 2023 base reliability project has been identified for installing a new UG switch to aid with operational and restoration efforts. In addition, the 2022 work plan calls to install 1 set of fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk. As of the date of this report, no system hardening project has been initiated for the Salt Springs 2101 circuit.

- v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District. Alpine 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

3. BEN LOMOND 0401

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2017-2019) average AIFI score of 3.39
 - Three-year (2018-2020) average AIFI score of 3.66
 - Three-year (2019-2021) average AIFI score of 5.10
- ii. A historical record of the metric:
- AIFI 2017 = 1.16
 - AIFI 2018 = 4.01
 - AIFI 2019 = 4.98
 - AIFI 2020 = 2.00
 - AIFI 2021 = 8.32

- iii. An explanation of why it was on the deficiency list again:

The Ben Lomond 0401 circuit provides electric service to 760 primarily residential customers, along rural Highway 9 in Santa Cruz County. This circuit comprises of approximately 22 circuit-miles of primarily overhead conductors, which includes its source circuit of 8 circuit-miles of Camp Evers 2105 – 21kV distribution circuit. The Ben Lomond 0401 is located entirely in the CPUC High Fire Threat District - Tier 3 (Extreme Risk). The major factors driving the Ben Lomond 0401 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support, roughly 50% of the circuit are comprised of radial line sections. The primary driver for 2021 reliability performance was implementation of the Enhance Powerline Safety Settings (EPSS) scheme.

- iv. An explanation of what is being done to improve the circuit's future performance:

A system hardening project to replace 7,590' of overhead conductor was completed in 2019 as part of the Wildfire Safety Plan. Base reliability projects have been initiated on Camp Evers 2105 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to update 3 fuses to Fuse Saver devices to help reestablish proper protection coordination. In addition, the 2022 work plan calls to install 3 fault indicators to help pinpoint problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk.

- v. A quantitative description of the utility's expectation for that circuit's future performance:

Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Ben Lomond 0401 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

4. CALISTOGA 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIFI score of 3.12
 - Three-year (2018-2020) average AIFI score of 3.62
 - Three-year (2019-2021) average AIFI score of 3.65
- ii. A historical record of the metric:
 - AIFI 2017 = 2.38
 - AIFI 2018 = 0.97
 - AIFI 2019 = 5.98
 - AIFI 2020 = 3.85
 - AIFI 2021 = 1.17
- iii. An explanation of why it was on the deficiency list again:

This Calistoga 1101 circuit provides electric service to 1,674 customers to the city of Calistoga and Sonoma and Napa Counties through 124 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Calistoga 1101 circuit is comprised of several branches that travel northwest along Hwy 128 and north along Hwy 29 including Robert Louis Stevenson State Park. The major factors driving the Calistoga 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks and overhead conductor exposure.

- iv. An explanation of what is being done to improve the circuit's future performance:

This circuit was part of the 2019 Wildfire Safety Plan with over 5 miles of overhead conductor replacement successfully completed. Base reliability projects have been initiated on Calistoga 1101 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to replace 1 overhead switch with a recloser device, and to update 2 fuses to Fuse Saver devices and replace 3 fuses with recloser devices to help reestablish proper protection coordination. In addition, the 2022 work plan calls to install 2 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk. Several system hardening projects have been identified and currently being evaluated based on the latest risk model as part of the Wildfire Safety Plan.

- v. A quantitative description of the utility's expectation for that circuit's future performance:

Significant improvement to mainline reliability performance was experienced after completion of the 2019 Wildfire Safety plan. Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Calistoga 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any additional base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

5. ELK CREEK 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIDI score of 1,011
 - Three-year (2018-2020) average AIDI score of 1,173
 - Three-year (2019-2021) average AIDI score of 862
- ii. A historical record of the metric:
 - AIDI 2017 = 118
 - AIDI 2018 = 1,936
 - AIDI 2019 = 971
 - AIDI 2020 = 614
 - AIDI 2021 = 1,001

- iii. An explanation of why it was on the deficiency list again:

The Elk Creek 1101 circuit provides electric service to approximately 916 customers in Southern Glenn and Northern Colusa Counties through 181 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The Elk Creek 1101 circuit is comprised of several branches that travel north along Hwy 162, west into Mendocino National Forest, and south along Hwy 306 past Stony Gorge Reservoir. The major factors driving the Elk Creek 1101 reliability performance are the remote service territory, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. 2018 reliability performance was primarily driven by several unknown and animal caused outages impacting a recloser zone of 500 customers.

- iv. An explanation of what is being done to improve the circuit's future performance:

Base reliability projects have been initiated on Elk Creek 1101 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to install 7 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk. Also, several system hardening projects have been identified and are part of the 2023 Wildfire Safety Plan. These projects are currently being evaluated based on the latest risk model.

- v. A quantitative description of the utility's expectation for that circuit's future performance:

Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Also, incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District. Elk Creek 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

6. GARBERVILLE 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2017-2019) average AIFI score of 3.92
 - Three-year (2018-2020) average AIFI score of 4.12
 - Three-year (2019-2021) average AIFI score of 4.70
- ii. A historical record of the metric:
- AIFI 2017 = 3.81
 - AIFI 2018 = 2.49
 - AIFI 2019 = 5.46
 - AIFI 2020 = 4.40
 - AIFI 2021 = 4.24
- iii. An explanation of why it was on the deficiency list again:

The Garberville 1101 circuit provides electric service to approximately 1,267 customers in southern Humboldt and northern Mendocino Counties through 164 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The Garberville 1101 circuit is comprised of three main branches. The eastern branch serves approximately 288 customers through a 22 circuit-mile line section that travels through remote, mountainous terrain including zones with intermediate and heavy snow loading. The western branch serves approximately 179 customers through a 12 circuit-mile line section that traverses through coastal mountains to the community of Whitethorn. The southern branch serves approximately 787 customers through a 28 circuit-mile line section that follows the Hwy 101 corridor between Garberville and Leggett. The southern branch also runs along the South Fork of the Eel River and crosses several State Parks including Richardson's Grove, Smith Redwoods, and Standish Hickey Recreation Area. The major factors driving the Garberville 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support.

- iv. An explanation of what is being done to improve the circuit's future performance:

Base reliability projects have been initiated on Garberville 1101 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to update 3 fuses to Fuse Saver devices to help reestablish proper protection coordination. In addition, the 2022 work plan calls to install 2 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk. A system hardening project to replace 9,000' of overhead conductor is being evaluated leveraging on the latest risk model as part of the Wildfire Safety Plan. As of the date of this report, no target completion date has been identified.

- v. A quantitative description of the utility's expectation for that circuit's future performance:

Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Garberville 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

7. GRAND ISLAND 2223

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2017-2019) average AIFI score of 3.20
 - Three-year (2018-2020) average AIFI score of 2.98
 - Three-year (2019-2021) average AIFI score of 3.53

- ii. A historical record of the metric:
 - AIFI 2017 = 1.77
 - AIFI 2018 = 1.10
 - AIFI 2019 = 6.71
 - AIFI 2020 = 1.12
 - AIFI 2021 = 2.72
- iii. An explanation of why it was on the deficiency list again:

The Grand Island 2223 circuit provides electric service to approximately 1,394 customers in Sacramento and Yolo Counties through 101 circuit-miles of primarily overhead conductor, in the northern area of the California Delta, within islands and farming communities of Walnut Grove, Ryde, and Isleton. The Grand Island 2223 circuit traverses along levee road and through farmlands with each island along the Delta. The major factors driving the Grand Island 2223 reliability performance are overhead line exposure, delta wetland habitat, and seasonal bird activity risks during migration season - starlings and other birds. 2019 reliability performance was primarily driven by several circuit breaker unknown and equipment failure outages including during circuit abnormal configuration.
- iv. An explanation of what is being done to improve the circuit's future performance:

Significant improvement to mainline reliability performance was experienced after completion of repairs including restoring circuit back to normal configuration in late 2019. An Asset Replacement Project to replace 470 feet of overhead conductor work was successfully completed in 2022. An Asset Replacement Project to replace 4,840 feet of conductor is planned for 2024.
- v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the asset replacement work in 2022 and 2024. Grand Island 2223 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

8. LOS GATOS 1106

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIFI score of 3.45
 - Three-year (2018-2020) average AIFI score of 3.89
 - Three-year (2019-2021) average AIFI score of 5.19
- ii. A historical record of the metric:
 - AIFI 2017 = 3.58
 - AIFI 2018 = 5.54
 - AIFI 2019 = 1.24
 - AIFI 2020 = 4.88

- AIFI 2021 = 9.43

iii. An explanation of why it was on the deficiency list again:

Los Gatos is located approximately seven miles southwest of San Jose in De Anza Division. The Los Gatos 1106 circuit provides electric service to approximately 1,611 customers in Santa Clara County through 74 miles of primary overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Los Gatos 1106 circuit is comprised of one main branch that travels south along Highway 17 through a 3 mile stretch of mountainous terrain including Lexington Reservoir Park. The primary mainline section splits into various branches near the Lexington Reservoir and extends into the Santa Cruz mountains. The major factors driving the Los Gatos 1106 reliability performance are the mountainous service territory with increased vegetation caused outage risks, overhead conductor exposure, and minimal ties to adjacent circuits for outage restoration support. The primary driver for 2021 reliability performance was implementation of the Enhance Powerline Safety Settings (EPSS) scheme.

iv. An explanation of what is being done to improve the circuit's future performance:

Several system hardening projects have been initiated to replace over 30 miles of overhead conductor as part of the Wildfire Safety Plan with 6.1 miles successfully completed in 2019-2022. The remaining 23.9 miles is being evaluated leveraging on the latest risk model as part of the Wildfire Safety Plan. As of the date of this report, no target completion date has been identified. Base reliability projects have been initiated on Los Gatos 1106 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to update 2 fuses to Fuse Saver devices to help reestablish proper protection coordination. In addition, the 2022 work plan calls to install 2 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk.

v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the base reliability and system hardening projects. This includes the associated reliability benefits after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tiers 2 and 3 High Fire Threat Districts. Los Gatos 1106 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

9. OTTER 1102

i. An explanation of why it was ranked as a "deficient" circuit:

- Three-year (2017-2019) average AIDI score of 1,745
 - Three-year (2018-2020) average AIDI score of 1,849
 - Three-year (2019-2021) average AIDI score of 1,291
- ii. A historical record of the metric:
- AIDI 2017 = 104
 - AIDI 2018 = 1,713
 - AIDI 2019 = 3,421
 - AIDI 2020 = 412
 - AIDI 2021 = 33
- iii. An explanation of why it was on the deficiency list again:
- The Otter 1102 circuit provides electric service to approximately 526 customers in Monterey County through 64 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The primary mainline section of Otter 1102 circuit travels south along Central California's coastline through a 26 mile stretch of mountainous terrain including Andrew Molera and Pfeiffer Big Sur State Parks. The major factors driving the Otter 1102 reliability performance are the remote mountainous and coastal service territory with increased winter storm and vegetation caused outage risks, overhead conductor exposure with elevated corrosion conditions, and minimal ties to adjacent circuits for outage restoration support. The 2019 reliability performance was primarily driven by several vegetation and 3rd party caused outages impacting a recloser zone of 475 customers.
- iv. An explanation of what is being done to improve the circuit's future performance:
- Several system hardening projects have been identified and currently being evaluated based on the latest risk model as part of the Wildfire Safety Plan. No anticipated completion date for this proposed wildfire hardening work has been identified at the time of this report. Base reliability project has been initiated on Otter 1102 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to update 1 fuse to Fuse Saver device to help reestablish proper protection coordination. In addition, the 2022 work plan calls to install 1 fault indicator set to help pinpoint problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
- Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Otter 1102 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

10. PIT NO 7 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2019) average AIDI score of 1,413
 - Three-year (2018-2020) average AIDI score of 2,223
 - Three-year (2019-2021) average AIDI score of 2,223
- ii. A historical record of the metric:
 - AIDI 2017 = 0
 - AIDI 2018 = 0
 - AIDI 2019 = 4,238
 - AIDI 2020 = 2,460
 - AIDI 2021 = 0
- iii. An explanation of why it was on the deficiency list again:

The Pit No 7 1101 circuit provides dedicated electric service to PG&E's Pit No 7 hydro generation facilities along the Pit River arm of Shasta Lake in Shasta County through 3 circuit-miles of overhead conductor. This circuit is in the CPUC High Fire Threat District - Tier 2 (Elevated Risk). The main driver for the Pit No 7 1101 reliability performance is Public Power Shut-off (PSPS) outages during non-major event days in 2019 and 2020. Other potential future reliability issues for this circuit are the remote canyon location of facilities and limited road ingress and egress for outage restoration support.
- iv. An explanation of what is being done to improve the circuit's future performance:

A 2023 project initiated to explore remote grid option as part of the Wildfire Safety Plan.
- v. A quantitative description of the utility's expectation for that circuit's future performance:

Incremental reliability improvement is anticipated after completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District. Pit No 7 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any additional base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

11. WHEELER RIDGE 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
 - Three-year (2017-2010) average AIFI score of 3.93
 - Three-year (2018-2020) average AIFI score of 4.24
 - Three-year (2019-2021) average AIFI score of 5.12
- ii. A historical record of the metric:
 - AIFI 2017 = 1.00
 - AIFI 2018 = 0.63
 - AIFI 2019 = 10.17

- AIFI 2020 = 1.87
 - AIFI 2021 = 3.23
- iii. An explanation of why it was on the deficiency list again:
- Wheeler Ridge 1101 circuit provides electric service to approximately 345 customers in Kern County through 164 circuit-miles of primarily overhead conductor. The Wheeler Ridge 1101 circuit serves rural / agriculture area between Interstate 5 and Hwy 99. The major factors driving the Wheeler Ridge 1101 circuit reliability performance are overhead line exposure and minimal ties to adjacent circuits for outage restoration support. The 2019 reliability performance was primarily driven by circuit breaker level outages during windstorms in October and December.
- iv. An explanation of what is being done to improve the circuit's future performance:
- Overhead line conductor repairs successfully completed after the 2019 windstorm events. No base reliability projects currently identified at this time.
- v. A quantitative description of the utility's expectation for that circuit's future performance:
- Significant improvement to mainline reliability performance was experienced after completion of the emergency repairs to overhead line in late 2019. Wheeler Ridge 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

12. WILLOW CREEK 1101

- i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2017-2019) average AIFI score of 4.26 and AIDI score of 1,439
 - Three-year (2018-2020) average AIFI score of 3.73 and AIDI score of 1,070
 - Three-year (2019-2021) average AIFI score of 4.42 and AIDI score of 1,172
- ii. A historical record of the metric:
- AIFI 2017 = 2.74
 - AIFI 2018 = 1.29
 - AIFI 2019 = 8.71
 - AIFI 2020 = 1.19
 - AIFI 2021 = 3.38
-
- AIDI 2017 = 1,152
 - AIDI 2018 = 171
 - AIDI 2019 = 2,985
 - AIDI 2020 = 52

- AIDI 2021 = 478

iii. An explanation of why it was on the deficiency list again:

The Willow Creek 1101 circuit provides electric service to approximately 784 customers in Humboldt County through 61 circuit-miles of primarily overhead conductor, in the area west of Willow Creek, along Highway 299 – Trinity Highway. This circuit also serves customers located in the CPUC High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Willow Creek 1101 circuit is entirely a radial circuit. The major factors driving the Willow Creek 1101 reliability performance are the remote mountainous service territory with increased vegetation caused outage risks, overhead line exposure, and radial circuits which does not allow ability to isolate feeder sections and reroute power for outage restoration support. The 2019 reliability performance was primarily driven by several vegetation and company initiated caused outages.

iv. An explanation of what is being done to improve the circuit's future performance:

Base reliability projects have been initiated on Willow Creek 1101 circuit to minimize the impacts of EPSS. Specifically, the 2022 work plan calls to install 4 fault indicators to help pin-point problem locations and taking a more surgical approach in applying EPSS settings when the circuit is most at risk. As of the date of this report, no system hardening project has been initiated on the Willow Creek 1101 circuit.

v. A quantitative description of the utility's expectation for that circuit's future performance:

Minimizing the negative impacts of the EPSS effort is anticipated after completion of the 2022 base reliability projects. Willow Creek 1101 circuit performance will be actively monitored on a continuous basis. This includes initiating any additional base reliability improvement work to minimize re-occurring outage activities as part of the Outage Review Process.

6. Top 10 major unplanned power outage events of 2021

Significant Outage Events Of 2021

The table below lists the ten largest outage events experienced during 2021. PG&E interprets this reporting requirement as the ten events (individual days or in some cases a group of consecutive days) with a significant number of customer interruptions in the system or a portion of the system. These events are listed in descending order of customer interruptions.

Table 121 - Ten Largest 2021 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A major winter storm and an "atmospheric river" event produced significant mountain snowfall, gusty southerly winds and moderate to heavy rainfall. Low to mid elevation snowfall impacts occurred across Humboldt, North Valley, Sierra, and Stockton divisions.	1/25/2021 – 1/28/2021	734,309	454	2,884	Yes
2	A major winter storm and an "atmospheric river" event produced very strong southerly winds and several inches of heavy rainfall across the territory.	10/24/2021 – 10/25/2021	622,050	120	3,494	Yes
3	There was a succession of 3 weather systems that that resulted in wind and flashover outages during this period. The first system moved through the state October 17 and October 18, largely impacting SF Bay Area divisions with wind and flashover outages. The second system moved onshore across the North Coast on October 19 causing wind and flashover related outages, with flashover outages continuing October 20 across Northern California divisions. A third system swept across the entire state October 21 and October 22 producing additional flashover outages.	10/17/2021 – 10/22/2021	423,063	457	1,034	Yes (10/17/2021)
4	A strong weather system moved through the state and produced moderate rainfall and breezy to gusty winds. Snow levels dropped to around 2000-3500' and low to mid elevation snowfall also produced impact across North Valley and Sierra divisions.	12/13/2021 – 12/15/2021	339,075	194	1,743	Yes
5	A strong and prolonged offshore wind event occurred across the entire state with the execution of a PSPS across the southern Sierra, southern Coastal Ranges, and Kern County.	1/18/2021 – 1/19/2021	294,129	378	2,435	Yes
6	A three-day triple digit heat event brought temperatures that ranged from 105-112F across the Central Valley with mid-90s to around 105F for intermediate and inland Bay Area valleys. This resulted in high electric loads and heat-related outage activity.	6/17/2021 – 6/19/2021	219,892	35	735	No
7	A weather system brought major low elevation snow that impacted Humboldt, Sierra, and Stockton Divisions. The "Atmospheric River" system brought strong rain activity to the North Valley and Yosemite divisions, including of low snow impacts.	12/25/2021 – 12/27/2021	230,018	431	3,095	Yes
8	Late season heat with temperatures reaching 100-107F across the Interior and around 90F in the Bay lead to high electric load and heat related outages on September 8. Heat impact continued September 9 across the San Joaquin Valley; meanwhile, during that evening a weather system moved onshore across Northern California and produced lightning and flashover impacts that continued into September 10.	9/8/2021 – 9/10/2021	180,415	73	285	Yes (09/10/2021)
9	Strong north to northwest winds brought system wide impact October 11 and created critical fire weather resulting in PSPS shutoffs across the Northern Sierra and Coastal Ranges.	10/11/2021	171,765	81	925	Yes
10	A weather system moved through Northern California on September 18 and 19 resulting in outages due to lightning and flashover. This system was then followed immediately by strong north to northeast winds, and critical fire weather conditions lead to the execution of PSPS along the western Sacramento Valley/Northern Coastal Range as well as across the elevated terrain of Kern and Santa Barbara Counties.	9/18/2021 – 9/20/2021	143,924	41	300	No

***Note:** Values exclude planned outages. PG&E resources are through December 31, 2021. PSPS event data reflects PG&E crew repairs only (excludes patrols, inspections and vegetation management). PG&E employees counted based on time records on activities logged past 12/31/2021 to restore outages that occurred in the year 2021 are reflected in this table.

7. Summary List of Major Event Day (MED) per IEEE 1366

Major Event Day

IEEE Standard 1366 defines MED as follows:

IEEE Standard 1366-2012 uses a statistically based method of identifying excludable events. Specifically, the IEEE standard provides for the exclusion of all outages occurring on any day where its SAIDI is greater than “TMED” where:

$$T_{MED} = e^{\text{average over 5 yrs. of Ln (daily SAIDI) + 2.5 * STD DEV of 5 yrs. of Ln (daily SAIDI)}}$$

The IEEE 1366 Standard includes outage resulting from the failure of a single line transformer.

Table 122 – 2021 Major Event Day

Date	Description	Reason
1/18/2021 – 1/19/2021	A strong and prolonged offshore wind event with wind gusts generally reaching between 40-60 mph occurred across the entire state, with the execution of a PSPS event across the southern Sierra, southern Coastal Ranges, and Kern County.	IEEE MED
1/25/2021 – 1/28/2021	A major winter storm and an "atmospheric river" event produced significant mountain snowfall, gusty southerly winds and moderate to heavy rainfall. Low to mid elevation snowfall impacts occurred across Humboldt, North Valley, Sierra, and Stockton divisions. There were elevated sustained outages through January 31.	IEEE MED
07/18/2021	A major fire (Dixie) started on July 13, 2021 in Plumas County burned several thousand acres and rendered the unavailability of five 60 kV and two 230 kV transmission lines multiple times to fight the fire. The resulting outages unfortunately caused the MED threshold to be exceeded on July 18. The cause of the fire remains under investigation.	IEEE MED
07/22/2021	Another major fire (Fly) started on July 22, 2021. This fire burned several acres and later merged with the Dixie fire. The causes of these two fires remain under investigation.	IEEE MED
8/1/2021 – 8/2/2021	The Dixie and Fly fires along with the associated fire-fighting efforts resulted in outages on these two days and there were no adverse weather conditions.	IEEE MED
08/04/2021	The Dixie, Fly, and Monument fires along with the associated fire-fighting efforts drove the outages on this day. There was a low pressure system that moved onshore across northern California that increased winds across elevated terrain and caused rapid fire growth.	IEEE MED
08/12/2021	Weather was moderate throughout the service territory. Most of the outages that occurred on this day were mainly due to fire-fighting efforts in North Valley division in response to the Dixie fire.	IEEE MED
08/17/2021	Northeasterly wind gusts of 30-40 mph across Northern California created dry conditions across the Sacramento Valley and elevated terrain along the San Francisco North/East Bay hills. Hot temperatures and low humidity led to critical fire risk danger that resulted in the implementation of PSPS outages impacting a total of 51,574 customers in the service territory.	IEEE MED
09/10/2021	Heat related outages occurred across parts of the system on September 9 followed by a weather system that moved onshore across Northern California that evening, producing rain/flashover and lightning related outages that continued through September 10.	IEEE MED
10/11/2021	High pressure breaks resulted in dry breezy conditions with 15-30 mph wind across the territory and gusty northerly winds between 35-50 mph in the Central Valley and surrounding foothills with rain and snow showers in the high Sierras. PSPS outages were implemented in the critical fire risk danger areas impacting a total 25,051 customers. Overall, this event impacted a total of 171,765 customers.	IEEE MED
10/17/2021 - 10/22/2021	There was a succession of 3 weather systems that resulted in wind, flashover, and other storm related outages during this period. The first system moved through the state on October 17 and 18, largely impacting Bay Area divisions. The second system moved onshore across the North Coast on October 19 and continuing October 20 across the Northern California divisions. A third system swept across the entire state on October 21 and 22. Overall, this event impacted a total of 463,063 customers across the service territory and became the third largest outage event of 2021.	IEEE MED
10/24/2021- 10/25/2021	A major winter storm due to a powerful "atmospheric river" that brought heavy rains including flash floods and high winds throughout the service territory. Significant outage activity occurred in the Bay Area as well as in the Humboldt area. This event impacted a total of 622,050 customers in the service territory and resulted in the year's 2nd largest outage event.	IEEE MED
12/13/2021 - 12/15/2021	A strong weather system moved through the state and produced moderate rainfall and breezy to gusty winds. Snow levels dropped to around 2000-3500' with low to mid elevation snowfall in North Valley and Sierra divisions. This event impacted a total of 339,075 customers in the service territory and resulted in the year's 4th largest outage event.	IEEE MED
12/25/2021 - 12/27/2021	A weather system brought major low elevation snow that impacted Humboldt, Sierra, and Stockton Divisions. The "Atmospheric River" system brought strong rain activity to the North Valley and Yosemite divisions, including of low snow impacts.	IEEE MED
12/29/2021	Scattered showers lingered in the divisions within the Northern and Central areas of the service territory resulting from the strong "Atmospheric river" weather event experienced from December 25-27 and continued through the new year. The SF Bay Area experienced flashover related outages from these showers.	IEEE MED

*MED is defined as Major Events Day

7.1 Major Event Day (MED) Discussions:

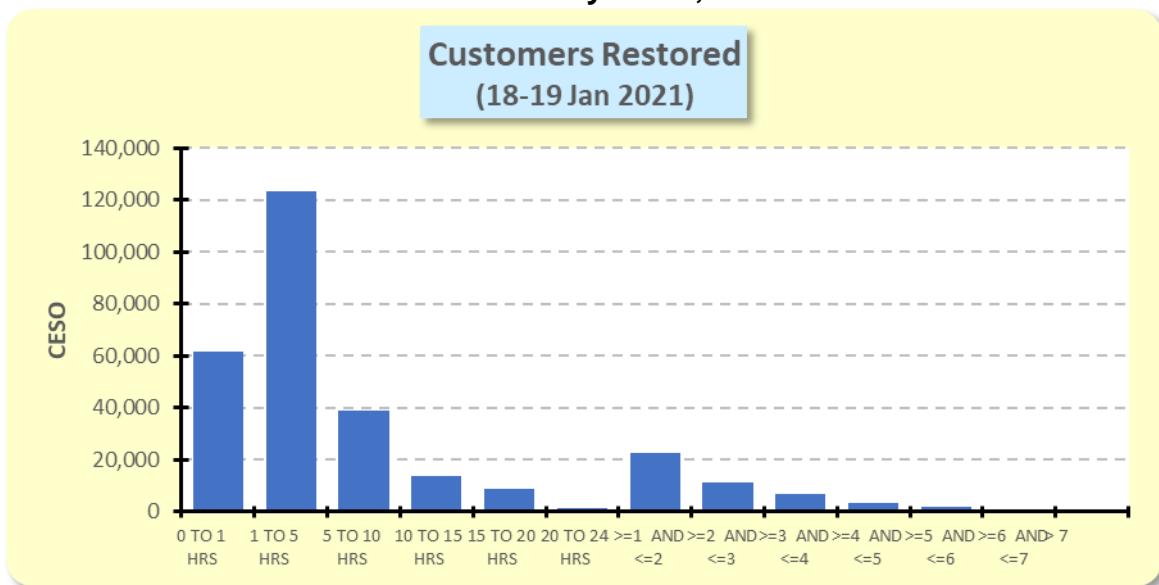
January 18-19, 2021 Major Event Days

Table 123 below indicates the number of customers without service at periodic intervals for this event (01/18/2021 – 01/19/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 123 – January 18-19

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	61,422	20.88%
1 TO 5 HRS	123,325	41.93%
5 TO 10 HRS	38,647	13.14%
10 TO 15 HRS	13,812	4.70%
15 TO 20 HRS	8,576	2.92%
20 TO 24 HRS	1,268	0.43%
>=1 AND <=2	22,433	7.63%
>=2 AND <=3	11,249	3.82%
>=3 AND <=4	6,710	2.28%
>=4 AND <=5	3,186	1.08%
>=5 AND <=6	2,081	0.71%
>=6 AND <=7	967	0.33%
> 7	450	0.15%
Total	294,126	

Chart 380: January 18-19, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The

information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

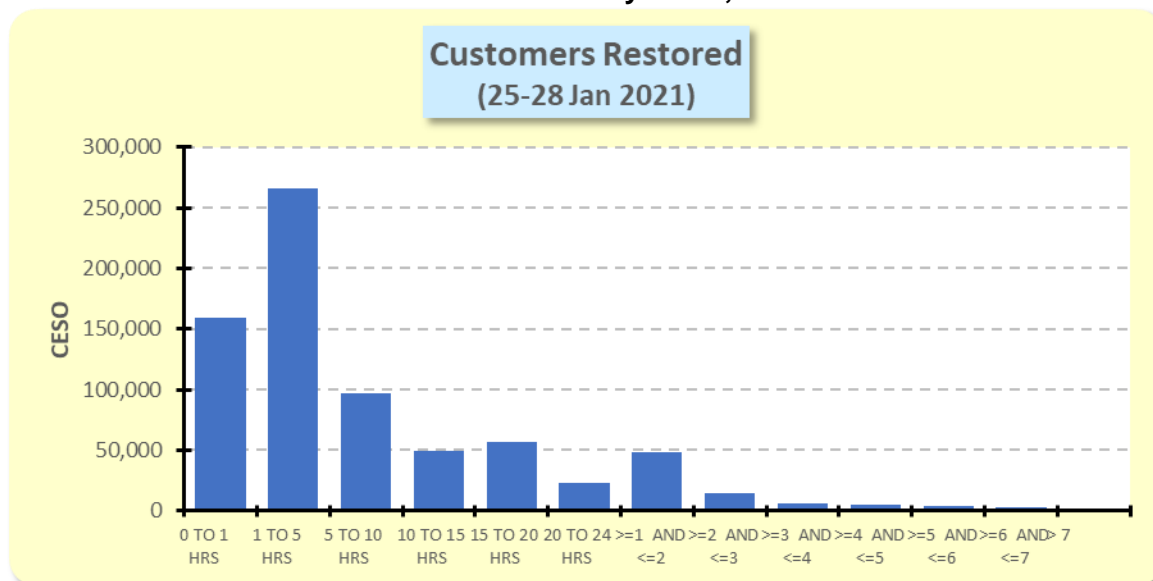
January 25-28, 2021 Major Event Days

Table 124 below indicates the number of customers without service at periodic intervals for this event (01/25/2021 – 01/28/2021). The number of customers noted in the table are for only those divisions impacted by this event.

Table 124 – January 25-28

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	158,994	21.69%
1 TO 5 HRS	266,358	36.33%
5 TO 10 HRS	96,610	13.18%
10 TO 15 HRS	49,809	6.79%
15 TO 20 HRS	56,250	7.67%
20 TO 24 HRS	23,119	3.15%
>=1 AND <=2	48,732	6.65%
>=2 AND <=3	14,441	1.97%
>=3 AND <=4	5,982	0.82%
>=4 AND <=5	4,609	0.63%
>=5 AND <=6	3,424	0.47%
>=6 AND <=7	3,295	0.45%
> 7	1,443	0.20%
Total	733,066	

Chart 381: January 25-28, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

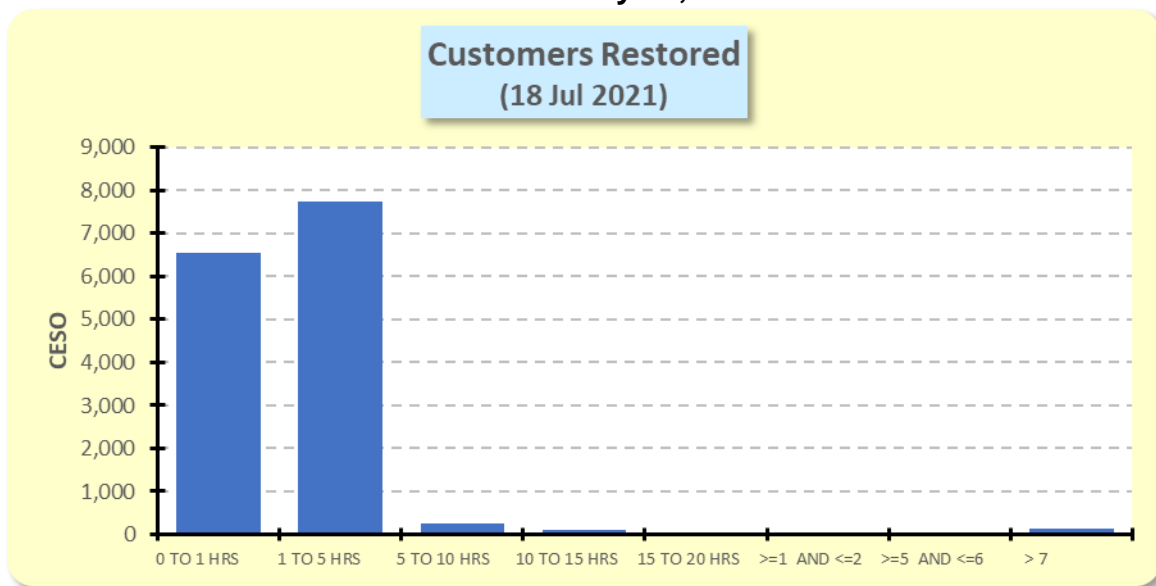
July 18, 2021 Major Event Day

Table 125 below indicates the number of customers without service at periodic intervals for this event (07/18/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 125 – July 18

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	6,552	44.25%
1 TO 5 HRS	7,757	52.38%
5 TO 10 HRS	254	1.72%
10 TO 15 HRS	96	0.65%
15 TO 20 HRS	11	0.07%
>=1 AND <=2	7	0.05%
>=5 AND <=6	1	0.01%
> 7	130	0.88%
Total	14,808	

Chart 382: July 18, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

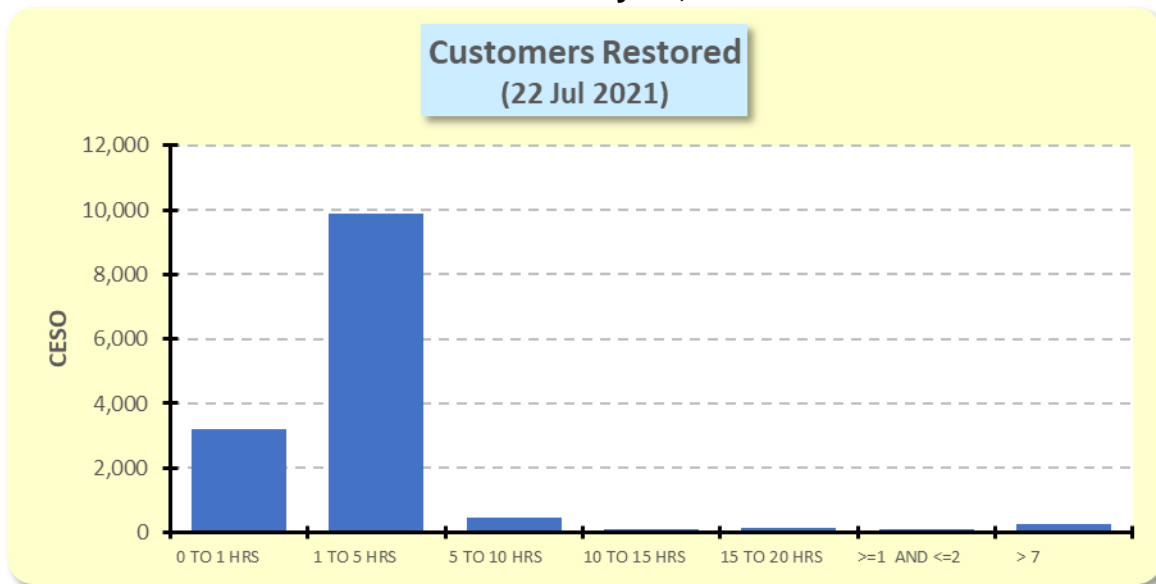
July 22 Major Event Day

Table 126 below indicates the number of customers without service at periodic intervals for this event (07/22/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 126 – July 22

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	3,217	22.69%
1 TO 5 HRS	9,868	69.61%
5 TO 10 HRS	466	3.29%
10 TO 15 HRS	93	0.66%
15 TO 20 HRS	153	1.08%
>=1 AND <=2	116	0.82%
> 7	263	1.86%
Total	14,176	

Chart 383: July 22, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

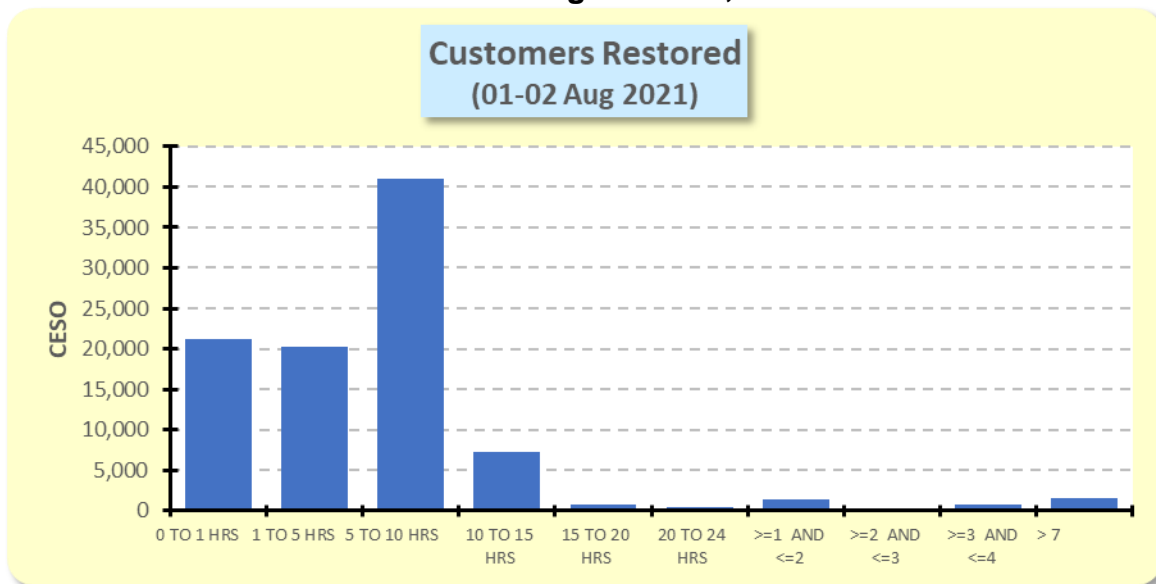
August 1-2 Major Event Days

Table 127 below indicates the number of customers without service at periodic intervals for this event (08/01/2021 – 08/02/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 127 – August 1-2

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	21,246	22.51%
1 TO 5 HRS	20,213	21.42%
5 TO 10 HRS	41,055	43.50%
10 TO 15 HRS	7,189	7.62%
15 TO 20 HRS	666	0.71%
20 TO 24 HRS	374	0.40%
>=1 AND <=2	1,343	1.42%
>=2 AND <=3	52	0.06%
>=3 AND <=4	746	0.79%
> 7	1,491	1.58%
Total	94,375	

Chart 384: August 01-02, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

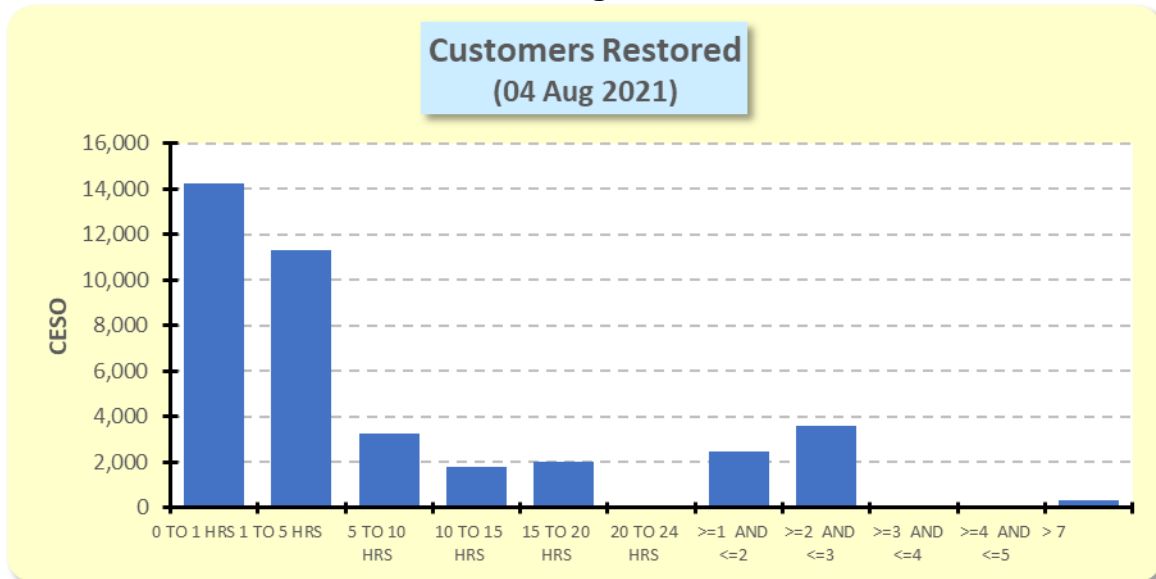
August 4 Major Event Day

Table 128 below indicates the number of customers without service at periodic intervals for this event (08/04/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 128 – August 04

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	14,244	36.46%
1 TO 5 HRS	11,324	28.99%
5 TO 10 HRS	3,258	8.34%
10 TO 15 HRS	1,793	4.59%
15 TO 20 HRS	2,003	5.13%
20 TO 24 HRS	12	0.03%
>=1 AND <=2	2,488	6.37%
>=2 AND <=3	3,611	9.24%
>=3 AND <=4	1	0.00%
>=4 AND <=5	2	0.01%
> 7	330	0.84%
Total	39,066	

Chart 385: August 04, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

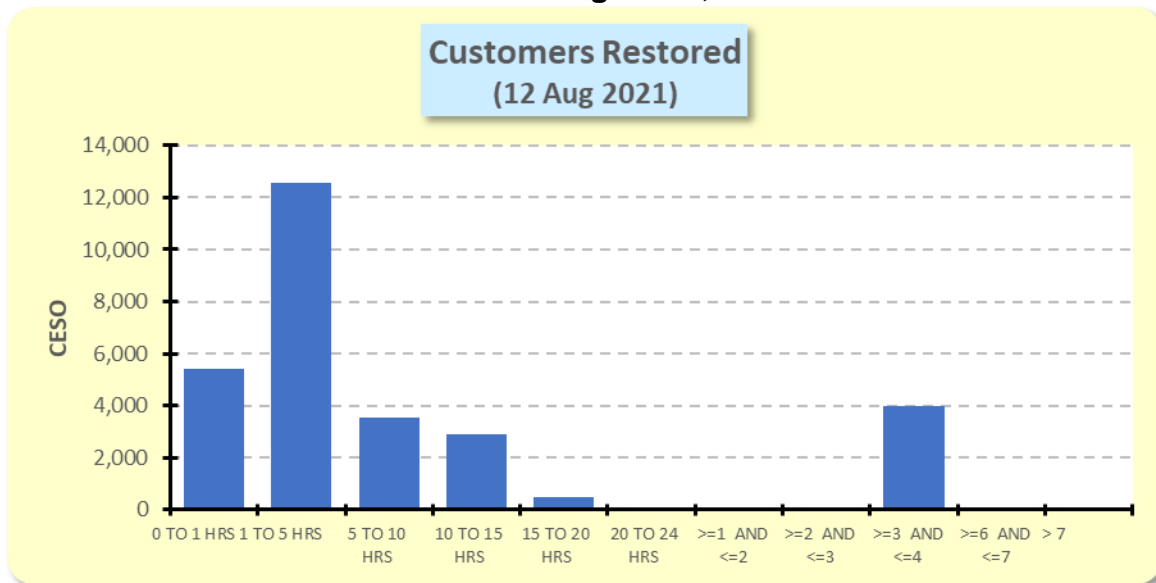
August 12 Major Event Day

Table 129 below indicates the number of customers without service at periodic intervals for this event (08/12/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 129 – August 12

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	5,419	18.69%
1 TO 5 HRS	12,567	43.35%
5 TO 10 HRS	3,542	12.22%
10 TO 15 HRS	2,876	9.92%
15 TO 20 HRS	498	1.72%
20 TO 24 HRS	65	0.22%
>=1 AND <=2	6	0.02%
>=2 AND <=3	23	0.08%
>=3 AND <=4	3,965	13.68%
>=6 AND <=7	24	0.08%
> 7	4	0.01%
Total	28,989	

Chart 386: August 12, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

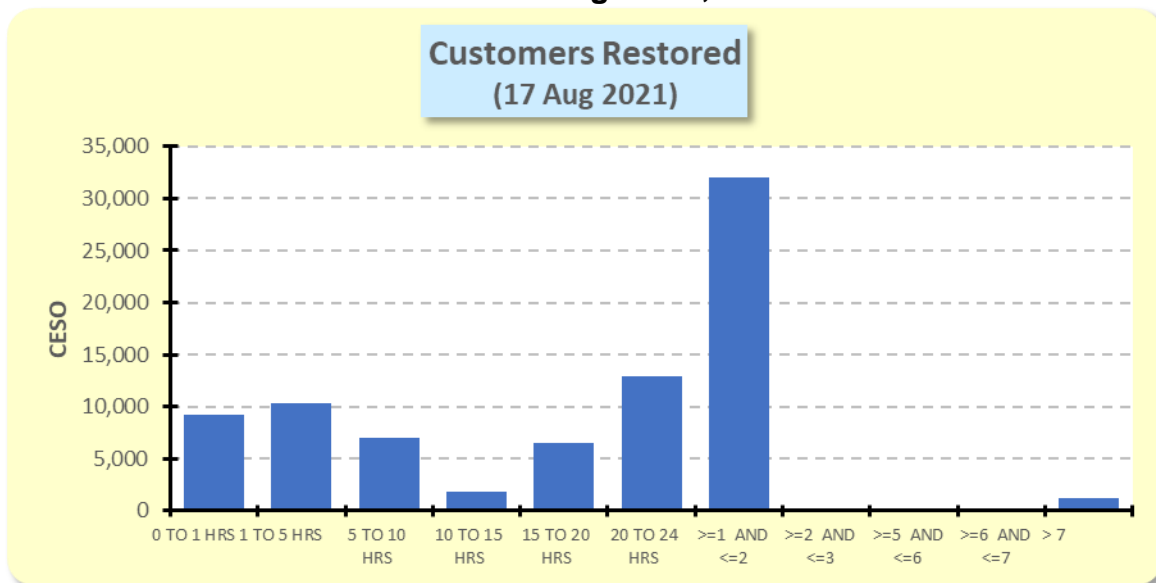
August 17 Major Event Day

Table 130 below indicates the number of customers without service at periodic intervals for this event (08/17/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 130 – August 17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	9,172	11.28%
1 TO 5 HRS	10,316	12.69%
5 TO 10 HRS	6,942	8.54%
10 TO 15 HRS	1,856	2.28%
15 TO 20 HRS	6,459	7.95%
20 TO 24 HRS	12,898	15.87%
>=1 AND <=2	31,990	39.36%
>=2 AND <=3	241	0.30%
>=5 AND <=6	182	0.22%
>=6 AND <=7	6	0.01%
> 7	1,215	1.49%
Total	81,277	

Chart 387: August 17, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

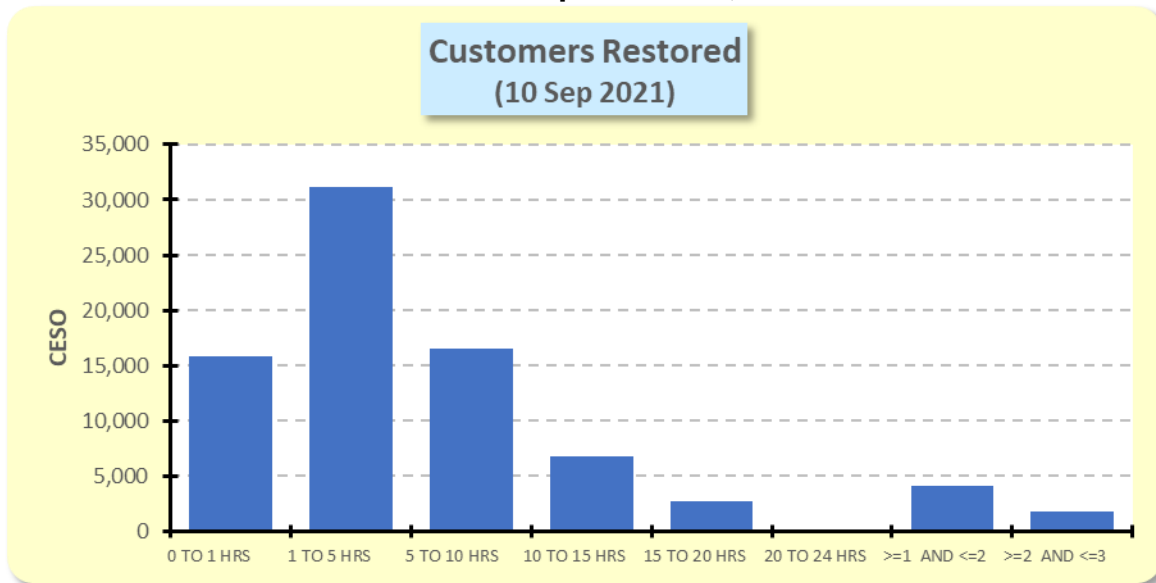
September 10 Major Event Day

Table 131 below indicates the number of customers without service at periodic intervals for this event (09/10/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 131 – September 10

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	15,826	20.01%
1 TO 5 HRS	31,187	39.43%
5 TO 10 HRS	16,565	20.94%
10 TO 15 HRS	6,786	8.58%
15 TO 20 HRS	2,744	3.47%
20 TO 24 HRS	121	0.15%
>=1 AND <=2	4,093	5.17%
>=2 AND <=3	1,778	2.25%
Total	79,100	

Chart 388: September 10, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

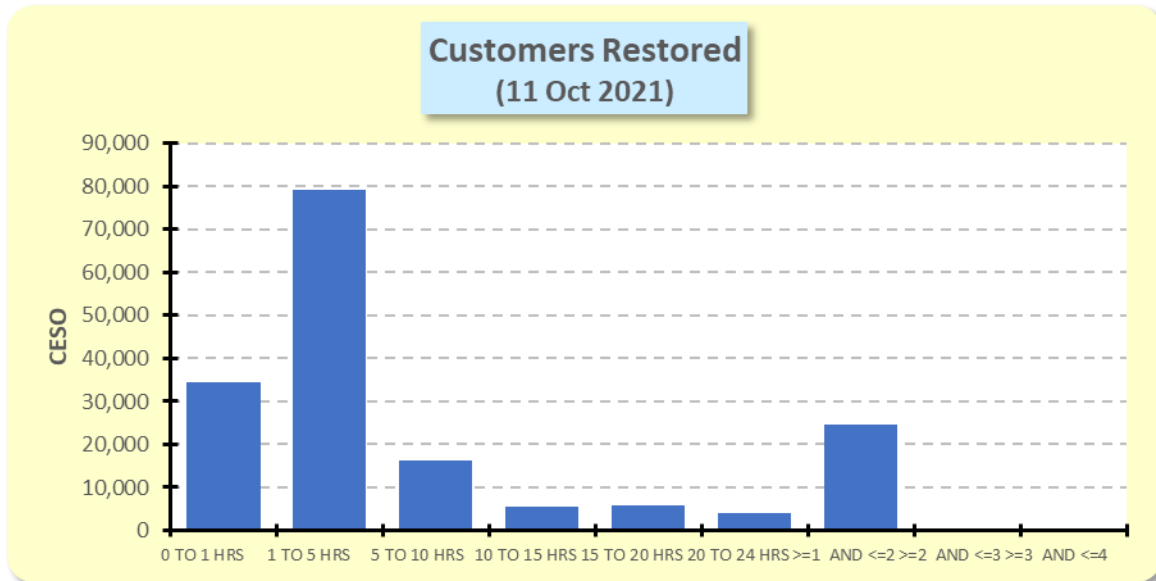
October 11 Major Event Day

Table 132 below indicates the number of customers without service at periodic intervals for this event (10/11/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 132 – October 11

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	34,561	20.35%
1 TO 5 HRS	79,079	46.57%
5 TO 10 HRS	16,141	9.51%
10 TO 15 HRS	5,534	3.26%
15 TO 20 HRS	5,791	3.41%
20 TO 24 HRS	3,981	2.34%
>=1 AND <=2	24,677	14.53%
>=2 AND <=3	12	0.01%
>=3 AND <=4	17	0.01%
Total	169,793	

Chart 389: October 11, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

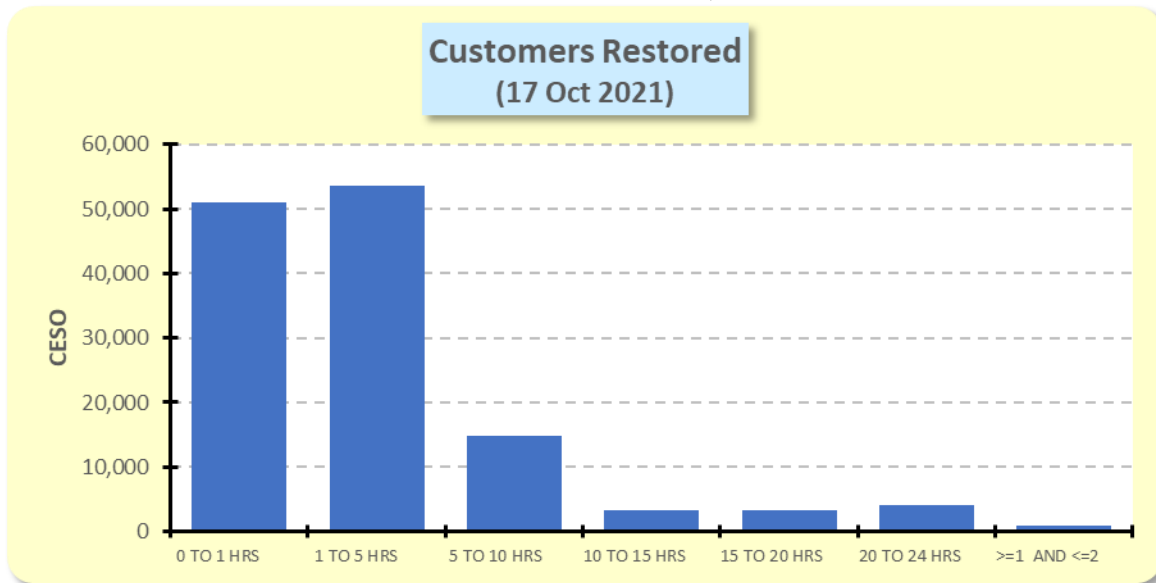
October 17 Major Event Day

Table 133 below indicates the number of customers without service at periodic intervals for this event (10/17/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 133 – October 17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	51,122	39.02%
1 TO 5 HRS	53,578	40.89%
5 TO 10 HRS	14,785	11.28%
10 TO 15 HRS	3,203	2.44%
15 TO 20 HRS	3,293	2.51%
20 TO 24 HRS	4,145	3.16%
>=1 AND <=2	896	0.68%
Total	131,022	

Chart 390: October 17, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

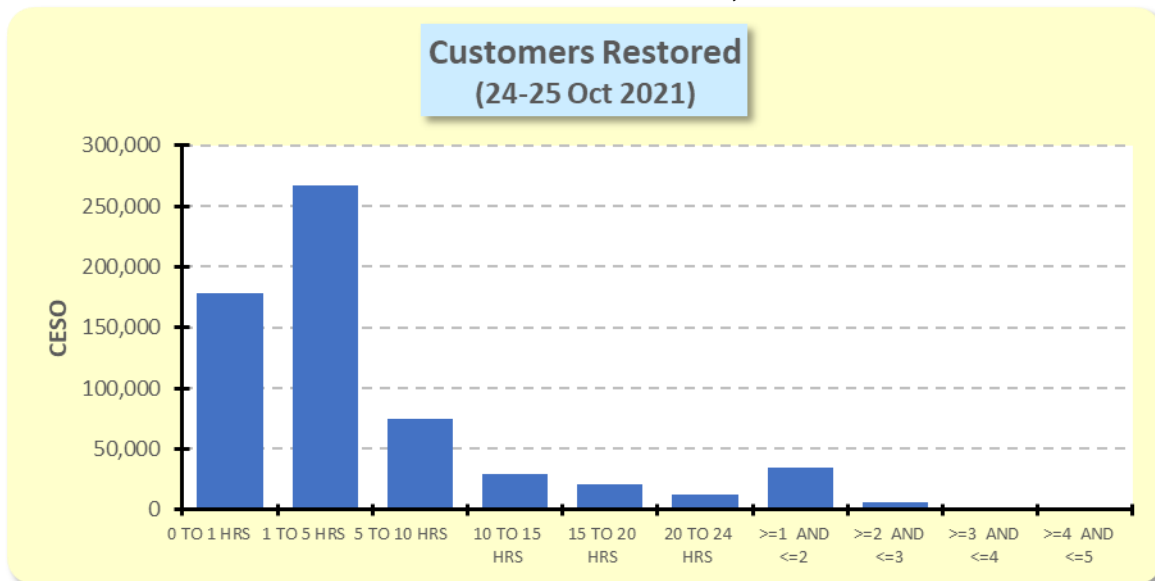
October 24-25 Major Event Days

Table 134 below indicates the number of customers without service at periodic intervals for this event (10/24/2021 - 10/25/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 134 – October 24-25

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	178,660	28.62%
1 TO 5 HRS	267,392	42.83%
5 TO 10 HRS	74,782	11.98%
10 TO 15 HRS	29,488	4.72%
15 TO 20 HRS	20,864	3.34%
20 TO 24 HRS	12,241	1.96%
>=1 AND <=2	34,657	5.55%
>=2 AND <=3	5,960	0.95%
>=3 AND <=4	300	0.05%
>=4 AND <=5	6	0.00%
Total	624,350	

Chart 391: October 24-25, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

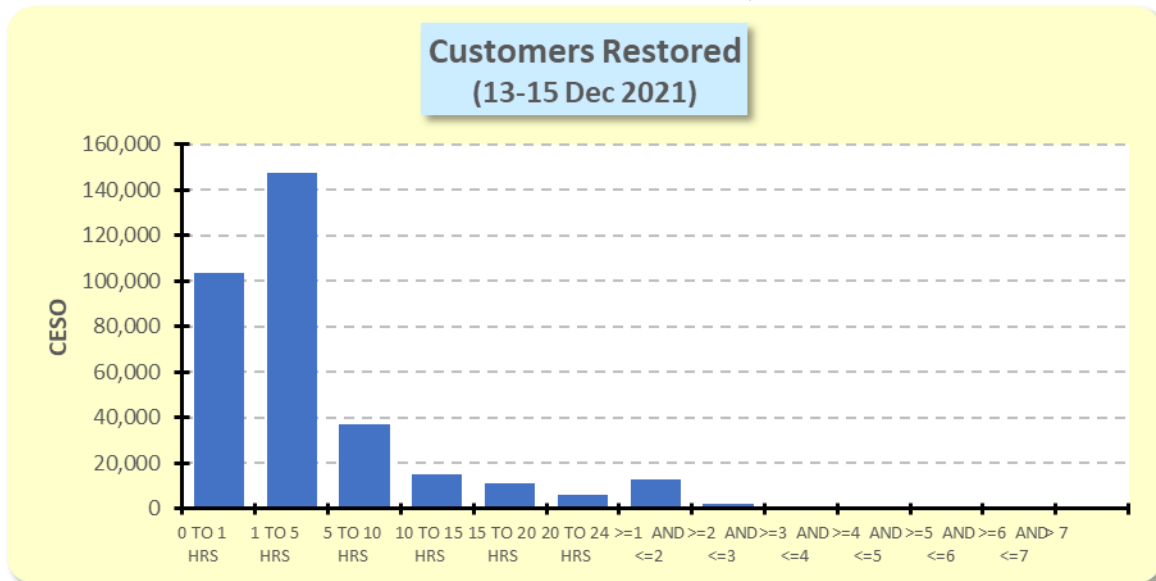
December 13-15 Major Event Days

Table 135 below indicates the number of customers without service at periodic intervals for this event (12/13/2021 - 12/15/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 135 – December 13-15

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	103,356	30.61%
1 TO 5 HRS	147,518	43.68%
5 TO 10 HRS	36,950	10.94%
10 TO 15 HRS	15,143	4.48%
15 TO 20 HRS	11,008	3.26%
20 TO 24 HRS	5,999	1.78%
>=1 AND <=2	12,847	3.80%
>=2 AND <=3	2,254	0.67%
>=3 AND <=4	1,014	0.30%
>=4 AND <=5	400	0.12%
>=5 AND <=6	561	0.17%
>=6 AND <=7	243	0.07%
> 7	404	0.12%
Total	337,697	

Chart 392: December 13-15, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

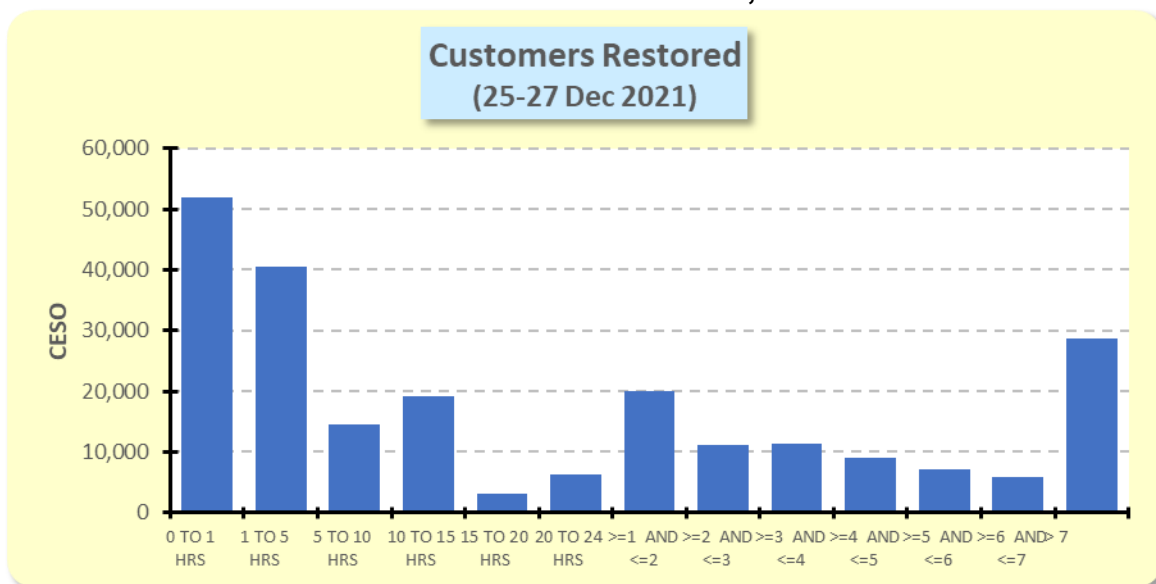
December 25-27 Major Event Days

Table 136 below indicates the number of customers without service at periodic intervals for this event (12/25/2021 - 12/27/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 136 – December 25-27

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	51,992	22.71%
1 TO 5 HRS	40,455	17.67%
5 TO 10 HRS	14,572	6.37%
10 TO 15 HRS	19,131	8.36%
15 TO 20 HRS	3,185	1.39%
20 TO 24 HRS	6,253	2.73%
>=1 AND <=2	19,971	8.72%
>=2 AND <=3	11,167	4.88%
>=3 AND <=4	11,272	4.92%
>=4 AND <=5	9,129	3.99%
>=5 AND <=6	7,167	3.13%
>=6 AND <=7	5,859	2.56%
> 7	28,741	12.56%
Total	228,894	

Chart 393: December 25-27, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

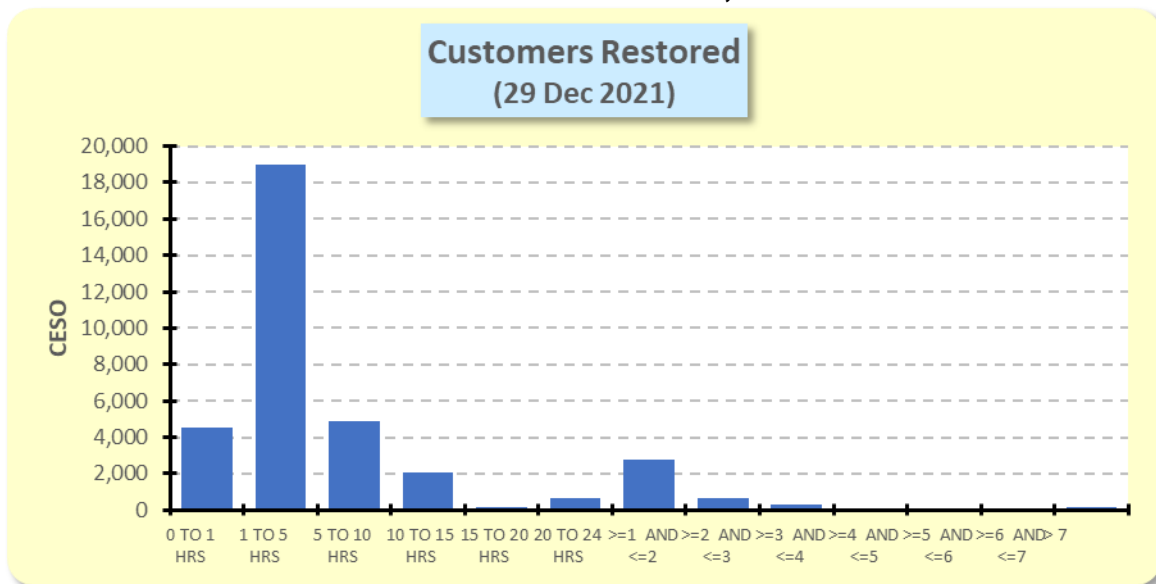
December 29 Major Event Day

Table 137 below indicates the number of customers without service at periodic intervals for this event (12/29/2021). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 137 – December 29

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	4,549	12.81%
1 TO 5 HRS	18,970	53.41%
5 TO 10 HRS	4,888	13.76%
10 TO 15 HRS	2,035	5.73%
15 TO 20 HRS	198	0.56%
20 TO 24 HRS	665	1.87%
>=1 AND <=2	2,771	7.80%
>=2 AND <=3	652	1.84%
>=3 AND <=4	316	0.89%
>=4 AND <=5	93	0.26%
>=5 AND <=6	72	0.20%
>=6 AND <=7	116	0.33%
> 7	193	0.54%
Total	35,518	

Chart 394: December 29, 2021 MED



Note: The number of customer outages segmented by hourly restoration periods requires a level of detail not normally maintained by PG&E in its central computerized records. The information shown here is what PG&E has been able to reconstruct from several databases and may have a margin of error of up to 5%.

8. Historical Ten Largest Unplanned Outage Events for 2011-2020

Table 138 - Ten Largest 2020 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A prolonged heat wave featuring widespread triple-digit temperatures resulted in significant heat-related outages across the territory over the course of several days and energy capacity issues across CA. Additionally, abundant subtropical moisture from Tropical Storm Fausto produced widespread thunderstorm activity 8/15 – 8/18 resulting in over 7700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events.	8/13/2020 – 8/20/2020	834,760	1,180	2,157	Yes (8/15 – 8/17)
2	High gusts of wind that started in the Central CA area. A strong offshore wind event developed across a wide swath of the territory resulting in critical fire weather conditions and the implementation of PSPS.	10/25/2020	399,863	79	1,503	Yes
3	A significant heat wave event resulted in widespread triple-digit temperatures away from the coast and heat-related outage activity. Additionally, gusty offshore flow led to critical fire weather conditions and the execution of PSPS across the North, along the Sierra and in southern Kern division.	9/06/2020 – 9/08/2020	354,169	1,599	395	Yes (9/7 – 9/8)
4	A significant offshore wind event impacted the northern and central territory resulting in very strong winds and considerable outage activity along the Sierra and across the Bay Area and Central Coast.	02/09/2020	323,381	170	1,357	Yes
5	A major winter storm delivered rain, heavy mountain snow and thunderstorms to the territory resulting in significant low-snow related outage activity across Humboldt and along the Sierra.	3/15/2020 – 3/16/2020	203,685	227	1,272	Yes
6	An early-season heat wave brought 90-100F+ temperatures to the Bay Area and central territory resulting in high electric loads and heat-related outage activity.	6/01/2020 – 6/04/2020	168,672	41	105	No
7	A potent cold front delivered strong winds, rain and snow to the territory with low elevation snow leading to outage activity across Humboldt and along the Sierra.	1/16/2020 – 1/17/2020	147,270	178	853	Yes
8	A storm system brought gusty winds and widespread rain to the north and central territory, including the first precipitation event in many months for Bay Area locations, resulting in flashover-related outage activity.	11/13/2020 – 11/14/2020	133,040	74	193	No
9	Gusty offshore winds led to critical fire weather conditions and the execution of PSPS across the North and in southern Kern.	09/27/2020	132,498	1,575	969	Yes
10	A weather system delivered breezy winds, isolated thunderstorms and the first precipitation event of the season for most of the territory, which resulted in flashover-related outage activity.	11/05/2020 – 11/06/2020	126,983	37	162	No

*Note: Values exclude planned outages. PG&E resources are through December 31, 2021. PSPS event data reflects PG&E crew repairs only (excludes patrols, inspections and vegetation management). Contractor information not readily available.

Table 139 - Ten Largest 2019 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	Strong, damaging winds and associated critical fire danger resulted in Extreme-Plus fire potential and the most widespread implementation of PSPS	10/26/2019 – 10/27/2019	1,258,339	312	1,576	Yes
2	A strong offshore wind event developed across Northern CA resulting in critical fire potential and the implementation of PSPS	10/09/2019 – 10/10/2019	799,312	89	378	Yes
3	A pair of potent storms impacted the territory beginning with an “atmospheric river” event, which produced gusty winds, heavy rain and significant low snow in Redding, followed by a colder, dynamic storm that resulted in additional periods of rain and gusty south winds along with low snow and isolated thunderstorms.	2/12/2019 – 2/17/2019	587,843	625	1,677	Yes
4	A series of winter storms resulted in periods of strong gusty south winds, heavy rain, thunderstorms and low elevation snowfall	2/02/2019 – 2/05/2019	378,432	177	1,683	Yes (Feb 2,4,5)
5	A potent winter storm impacted the territory with strong south-southeast winds, isolated thunderstorms and heavy rain and mountain snow	11/25/2019 – 11/27/2019	346,907	120	1,804	Yes (Nov 26, 27)
6	A powerful Pacific storm delivered gusty south winds, heavy rain and mountain snow to the territory	1/16/2019 – 1/17/2019	338,564	87	1,796	Yes
7	Critical fire weather conditions associated with dry, gusty winds led to Extreme-Plus fire potential and the implementation of PSPS	10/23/2019	209,215	384	558	Yes
8	A pair of robust winter storms produced adverse weather in the form of strong gusty winds, heavy rain and mountain snow	1/05/2019 – 1/06/2019	197,290	50	1,977	Yes (Jan 6)
9	Strong high pressure produced triple-digit temperatures away from the coast resulting in widespread heat-related outage activity	8/14/2019 – 8/16/2019	179,699	40	201	Yes (Aug 15)
10	Breezy to gusty north-northeast winds produced critical fire weather conditions across the North leading to the implementation of PSPS	10/29/2019 – 10/30/2019	171,644	72	951	Yes (Oct 29)

* Note: Values exclude planned outages. PG&E resources are through December 31, 2019. PSPS event data reflects PG&E crew repairs only (excludes patrols, inspections and vegetation management). Contractor information not currently available.

Table 140 - Ten Largest 2018 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A trio of early winter-season storms generated a significant amount of outage activity due to gusty south winds and heavy rain with considerable flashover activity across the interior south.	11/21/2018 – 11/23/2018	224,103	97	460	Yes (11/21 only)
2	Carr Fire	7/28/2018 – 7/30/2018	121,187	248	132	Yes (7/28 only)
3	Early season low pressure system brought the first rain in months to the territory resulting in significant flashover-related outages with widespread thunderstorm activity across the interior and south on 10/3 producing over 2,000 lightning strikes.	10/2/2018 – 10/3/2018	115,705	30		
4	A dynamic Pacific weather system delivered gusty south winds, heavy rain, scattered thunderstorms and heavy mountain snow to the territory; causing significant outage activity, especially in Central Coast division.	11/28/2018 – 11/29/2018	109,891	99	741	Yes (11/29 only)
5	A strong winter storm impacted the territory with heavy rain, heavy mountain snow and gusty south winds followed by a secondary wave generating low snow and thunderstorms the next day	3/1/2018 – 3/2/2018	108,654	100		
6	Not weather related	5/17/2018	75,292	19	120	Yes
7	An offshore wind event developed across the northern two thirds of the territory and produced Extreme-Plus fire danger resulting in execution of PSPS.	10/14/2018	70,326	89	441	Yes
8	Camp Fire	11/8/2018	68,468	936	214	Yes
9	Breezy to gusty northeast winds developed across the territory producing considerable outage activity in San Jose and Central Coast divisions	12/31/2018	57,736	31		
10	A moist, atmospheric-river storm system delivered copious amounts of rainfall to parts of the territory with thunderstorm activity across the interior producing over 900 lightning strikes and widespread outage activity.	3/22/2018	55,598	39		

* Note: Values exclude planned outages

Table 141 - Ten Largest 2017 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A series of atmospheric river storm events impacted the territory with heavy rain and strong south winds. Extensive damage occurred on the Central Coast where Salinas Airport recorded a gust to 69 mph. This was caused by a rapidly intensifying area of low pressure, also known as 'bombogenesis'.	02/17/2017 – 02/22/2017	732,590	235	3,496 Total 3,186 PG&E 310 Mutual Assistance	Y (except Feb 19)
2	Another winter storm series comprised of three storms impacted the territory from 1/18 – 1/23 with heavy rain, mountain snow, and strong south winds.	1/18/2017 – 1/23/2017	653,502	170	3,274 Total 3,151 PG&E 123 Mutual Assistance	Y
3	A vigorous storm produced significant damage across the territory on 1/8/17 due to a combination of very heavy rain and strong south winds. The heavy rain resulted in flooding along rivers, creeks, and streams. A second strong winter storm impacted the territory 1/10/2017 to 1/11/2017.	1/8/2017 – 1/11/2017	560,246	450	3,357 Total 3,180 PG&E 177 Mutual Assistance	Y
4	A strong and dynamic winter storm impacted the territory 4/6 to 4/7 and produced significant outage activity. The storm was the most impactful April storm in the 22+ year PG&E outage record (back to 1995). This storm put the capstone on the wettest water year in PG&E's history.	4/6/2017 – 4/7/2017	249,024	328	1,945	Y
5	October wildfires	10/8/2017 – 10/9/2017	211,812	587	2,336 Total 2,125 PG&E 211 Mutual Assistance	Y
6	A winter storm brought heavy rain and gusty southerly winds through the northern two thirds of the service area, causing significant outage activity	2/7/2017	146,210	127	2,103	Y
7	An offshore wind event developed across the northern two thirds of the territory and produced wind gusts up to 45 mph across lower elevations. Multiple Red Flag Warnings were posted.	12/16/2017	112,218	59	1,385	Y
8	A winter storm moved in the territory and produced considerable outage activity due to rain, gusty south winds, and mountain snow	1/3/2017 – 1/4/2017	102,123	172	1,227	Y (except Jan 4)
9	This event was not weather related. Bad breaker at Larkin Sub in San Francisco.	4/21/2017	93,863	13	220	Y
10	A weather system moved into the territory from the Pacific and generated wind and rain-related outage activity	10/20/2017	70,839	101	499	Y

* Note: Values exclude planned outages

Table 142 - Ten Largest 2016 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	CPUC Major Event?
1	A strong winter storm passed through northern and central CA producing strong south winds of 30 - 50 mph across the lower elevations and 60+ across the exposed higher terrain, as well as moderate to heavy rain. A strong squall line nearly 200 miles long developed in the Sacramento Valley.	3/5/2016 – 3/7/2016	266,173	87	2,405	Yes (Mar 5 th)
2	A series of three storms impacted northern and central CA with periods of moderate to heavy rain and gusty south winds. Some locations saw rain totals near 10 inches and gusts 50+ mph were also observed.	10/14/2016 – 10/16/2016	255,680	59	1,553	Yes (Oct 14 th)
3	A dynamic weather system moved through the PG&E territory late Wednesday into Thursday with strong south winds. Wind gusts were generally 25 - 40 mph across the Sacramento and northern San Joaquin valley, but very strong gusts to 50 - 60 were observed over the Sierra foothills.	2/17/2016 – 2/18/2016	166,492	46	1,292	Yes (Feb 17 th)
4	A weather system produced breezy northwest winds 25 – 35 mph with gusts to 50 mph in some locations. Thunderstorms were also reported in the Sacramento, San Joaquin Valleys and the Sierra foothills.	4/24/2016 – 4/25/2016	96,897	24		No
5	Tropical moisture interacted with a Pacific weather system and associated cold front to wring out significant rain across the PG&E territory. 4 – 7 inches of rain were observed along with wind gusts from 20 – 40+ mph.	12/15/2016 – 12/16/2016	91,581	38		No
6	Generally fair and seasonably cool weather was observed across the PG&E territory.	6/16/2016	82,691	15		No
7	A winter storm brought moderate to heavy rain showers, prompting flash flood watches for recent burn scars (e.g., Rim, King, Butte).	1/5/2016 – 1/6/2016	79,600	44		No
8	A very wet weather system produced considerable rain across central CA. 24 hours rain totals topped 6 inches in the wettest locations in the Sierra Nevada.	12/10/2016	77,546	56		No
9	A winter storm and associated cold front pushed west to east across the territory today bringing moderate to heavy rain and gusty southeast winds 25 to 35 with higher gusts over elevated and exposed terrain	3/11/2016	52,342	47		No
10	A strong storm system across southern CA produced low elevation snow in the southern Sierra down to near 2500 ft. and gusty northwest winds from 30 – 40 mph.	1/31/2016	48,120	52		No

* Note: Values exclude planned outages

Table 143 - Ten Largest 2015 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service	IEEE Major Event?
1	A series of strong Pacific storms moved into CA producing very heavy rain and gusty south winds. South wind gusts near 50 mph were observed along the coast with gusts near 60 mph observed in the northern Sacramento Valley. Generally, 4 - 8 inches of rain were observed across the elevated terrain in the northern part of the territory. Some locations topped 8 inches with Bucks Lake for example, recording 9 inches of rain during the series.	2/6/2015 - 2/8/2015	389,567	114	2836	Yes
2	Tropical moisture associated with former Hurricane Dolores drifted over the territory. Atmospheric instability combined with the abundant tropical moisture initiated a widespread thunderstorm outbreak across the San Joaquin Valley and Central Coast. More than 6000 cloud to ground strikes were recorded.	7/18/2015 - 7/19/2015	154,459	54	925	Yes
3	A strong cold front (squall line) moved into the northern part of the territory and produced strong wind gusts, a period of very heavy rainfall, and significant outage activity. The front swiftly progressed south through the remainder of the territory. Widespread wind gusts from 40 - 55 mph were observed across the Sacramento Valley and Redding recorded a gust near 60 mph.	12/13/2015	142,059	42	364	Yes
4	A late winter-storm moved through the territory producing moderate rain showers, gusty south winds from 30 - 40 mph, and thunderstorms. Nearly 1000 cloud to ground lightning strikes were recorded across the Sacramento and San Joaquin Valleys	4/6/2015 - 4/7/2015	134,789	17	442	Yes
5	A strong high-pressure ridge developed over the territory and produced the first significant heat of the season. Some selected high temperature readings: Redding 107, Fresno 106, Livermore 106, Sacramento 104, Santa Rosa 99, and San Jose 91.	6/8/2015	99,439	41	1104	Yes
6	The first widespread rain and snow producing system of the fall/winter season passed through the territory. Thunderstorms also developed and near 500 cloud to ground lightning strikes were recorded. Wind gusts from 25 - 35 mph were observed.	11/2/2015	92,777	22	33	No
7	A large transmission outage in the central coast at Moss Landing occurred. No significant adverse weather was recorded.	10/18/2015	69,906	21	1080	No
8	A potent Pacific weather system produced wind gusts to 40 - 50 mph across the lower elevations with gusts near 60 - 70 mph across the exposed, higher terrain. Most of the adverse weather and resultant outage impacts were observed across the northern part of the PG&E service territory.	12/10/2015	64,533	42	602	No
9	A cold frontal system with moderate rain showers moved through the territory and was followed by gusty northwest winds primarily along the coast. Peak winds gusts from 40 - 50 mph were observed.	11/15/2015	59,547	46	554	No
10	An upper level weather system moved over the territory and produced rain showers, breezy winds, and thunderstorms. The PG&E lightning detection network recorded 456 lightning strikes in the territory.	5/7/2015	57,241	28	1740	No

* Note: Values exclude planned outages

Table 144 - Ten Largest 2014 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	IEEE Major Event?
1	The strongest storm event in more than 3 years slammed the territory with strong winds and heavy rain showers starting on 12/11. Rain and unsettled weather began Wednesday along the north coast and then a very strong cold front developed and intensified Wednesday evening and overnight into Thursday and very slowly progressed through the territory bringing very heavy rain and strong southerly winds. The gusty southerly winds reached up to 50 mph across the Santa Cruz mountains, near 70 mph across elevated Bay Area terrain, and near 120 mph across the Sierra Crest. Over 3 inches of rain fell across many Bay Area locations and over 2 inches for northern Central Valley by Thursday afternoon.	12/11/2014 - 12/12/2014	467,394	77		Yes
2	A strong but dry storm system originating from Western Canada dropped south through the Service Area and produced very strong north to northeast winds from Tuesday morning through early Wednesday. Gusts in excess of 60 mph were reported across the Bay Area elevated terrain and foothills across the Sierra Nevada. A strong mountain wave moved into San Jose division from the east, resulting in reported gusts above 50 mph in downtown San Jose.	12/30/2014 – 12/31/2014	296,402	67		Yes (Dec 30 th)
3	A strong storm moved in from the southwest, bringing heavy rain and gusty southeast winds to many areas, especially the Central Coast and San Joaquin Valley. A secondary line of heavy showers with imbedded thundershowers developed over the San Joaquin Valley during the early afternoon hours, which caused significant outage activity. Wind gusts up to 47 mph were also observed across the lower elevations.	2/28/2014 – 3/1/2014	167,137	55		N
4	Two strong Pacific weather systems produced an impressive round of precipitation across the territory Tuesday and Wednesday. Accompanying the rain showers were breezy to gusty southerly winds that developed through the San Joaquin Valley and adjacent elevated terrain. Rainfall totals were 7 inches across the Santa Cruz Mountains and the Central Sierra and generally 2 - 4 inches across the lower elevations in the Bay Area.	12/02/2014 – 12/04/2014	138,447	34		Yes (Dec 3 rd)
5	An “Atmospheric River” weather event delivered significant rain and high-elevation mountain snow to the territory. The abundant rain and gusty south winds to 40 mph at times produced a prolonged stretch of light to moderate elevated outage activity. Rain totals from the event were highest across the central Sierra and the north coast where 7 – 15 inches of rain fell during the event.	2/7/2014 – 2/8/2014	102,832	35		N
6	At 3:20 AM on Sun 8/24/2014 a magnitude 6.0 earthquake was observed in the North Bay Area near American Canyon, Ca. An earthquake summary poster from USGS can be found here: http://earthquake.usgs.gov/earthquakes/eqarchives/poster/2014/20140824.pdf	8/24/2014	99,705	30		Yes
7	A strong ridge of high pressure and lack of the marine layer and sea-breeze combined to produce hot temperatures for Bay Area interior valleys and across the interior. Maximum temperatures reached over 100 in Santa Rosa and Livermore on Sunday and up to 105 across the interior Central Valley.	6/8/2014 – 6/9/2014	83,962	39		N
8	A wet weather system delivered heavy rain across Northern California and the Sierra, along with moderate rain throughout the Bay Area. After the front moved through, thunderstorms developed and produced 331 lightning strikes within the PG&E territory.	9/25/2014	61,597	23		N
9	A weather system delivered the first widespread rain of the season south of a Salinas to Sonora line and also produced a northwest gust front down the San Joaquin Valley where gusts up to 40 mph were observed in Fresno and Bakersfield.	10/31/2014	55,145	22		N
10	The weather system with a very moist air mass slid through the Bay Area early Thursday morning and produced light showers and drizzly conditions that resulted in isolated significant outage activity in the east Bay Area.	9/18/2014	39,860	17		N

* Note: Values exclude planned outages.

** Note: This data is requested only for Major Event days.

Table 145 - Ten Largest 2013 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	On 11/19 into 11/20, a weather system moved into the territory and delivered up to 2 inches of rain over elevated terrain. It was the first significant rainstorm of the season. Then on 11/21 into 11/22 surface low pressure over southern California combined with developing high pressure in Nevada to deliver very strong north to northeast winds across the north half of the Service Territory. Winds were very strong over elevated terrain; wind gusts up to 65 mph were observed in the Oakland hills (Oakland North RAWS) and to 101 mph in the northern Sierra Nevada. (The wind gust at Oakland north was second only to the January 4 th mega-storm gust of 71 mph). Wind speeds near 45 - 50 mph were also observed over lower elevation locations such as Oakland and Santa Rosa.	11/19/2013 - 11/22/2013	385,017	143		N
2	The marine layer surged onto the coast and delivered coastal mist and drizzle which ultimately resulted in an insulator flashover event. The event was preceded by a series of brisk wind events which may have increased salt contamination along the coast.	6/23/2013	170,429	15		N
3	Fair and dry weather was observed on 11/12/2013. An unplanned outage occurred in the Bellota substation.	11/12/2013	113,266	10		N
4	High pressure built over California and maximum temperatures from 99 - 107 were observed along the Central Valley. Temperature maximums near the coast were in the 60s to 70s with 70s - 90s for coastal to intermediate valleys. Most customers were impacted by trouble on the Transmission system.	7/19/2013	99,738	18		N
5	Overnight Sunday into the early morning hours of Monday April 8, 2013, a strong Pacific Jet Stream drove a small but intense cold front with very gusty northwest winds into the California coast and Bay Area. Gusts along the coast reached generally into the 50 - 60 mph range with the peak gust of 75 mph recorded at a station on the west edge of San Francisco County.	4/8/2013	93,200	42		N
6	A strong ridge of high pressure built over California bringing extreme heat to all locations except the coast and immediate coastal valleys. High temperatures on 7/1 near the coast ranged from the 70s - 80s with 90s - low 100s for coastal Valleys. Temperatures were extreme in the interior with maximum temperatures up to 111 in the Central Valley. The heat intensified on 7/2 where maximum soared again into the 100s, with Redding observing a 116-degree maximum.	7/1/2013- 7/2/2013	93,194	29		N
7	On Sunday a weak area of low pressure moved west to east through the Territory bringing increasing clouds, light showers and snow showers over the Sierra and a few light stray showers elsewhere, primarily across the south. Most customers were impacted by a fault on a substation relay.	3/3/2013	69,578	11		N
8	A classic California October offshore wind event unfolded 10/3/2013 as surface high pressure built north of the Service Territory. Wind speeds were generally 20 – 35 mph with gusts to 40 – 55 across the Sacramento valley, northern Sierra Nevada and elevated terrain around the Bay Area.	10/3/2013	56,573	25		N
9	The ridge of high pressure dramatically amplified delivering significant heat across the Territory. Maximum temperatures across the interior valley locations reached above 105 with Red Bluff reaching 112 degrees. Overnight temperatures remained warm on the far ends of the valley, with minimum temperatures only dipping into the upper 70s in the southern San Joaquin and mid 80s in the northern Sacramento Valley.	6/8/2013	52,442	22		N
10	A cold and dynamic weather system dropped southwestward into the territory and brought cooler and very unsettled weather in the form of rain, snow and gusty winds. Winds were strongest over elevated terrain of the Bay Area – Altamont pass gusted to 69 mph.	10/27/2013	49,692	36		N

* Note: Values exclude planned outages.

** Note: This data is requested only for Major Event days.

Table 146 - Ten Largest 2012 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	The final and strongest storm of an 'Atmospheric River' series moved through the territory on 12/02/2012 delivering widespread gusts of 50-70 mph in the northern Sacramento Valley. The strongest wind observed was in Plumas National Forest where a gust of 102 mph was recorded. This system also brought heavy amounts of rain across northern California where localized flooding and mudslides were reported in numerous locations. Precipitation totals from the entire series (See Rank #3) topped 20 inches in the wettest locations in the north.	12/02/2012	298,393	80		N
2	A series of moderate to strong storms impacted the Service Area delivering rain, wind, thunderstorms and several feet of snow across the northern mountains and Sierra. The second storm in the series moved onto the Humboldt coast during the evening of 12/21 and then progressed south and east through the territory overnight into 12/22. The third and strongest storm of the series developed just off the coast and pushed a vigorous cold front through the Service Area on 12/23. Gusts up to 80 mph were observed over elevated terrain. Yet another round of heavy mountain snow fell across the north and the Sierra. Up to 6 feet of snow fell in some locations across the north during the series making restoration difficult.	12/21/2012 – 12/23/2012	195,099	172		N
3	The first storm of the 'Atmospheric River' series moved into the territory on 11/28 and delivered strong south winds up to 50-60 mph and heavy rains. The second and stronger system impacted the Territory 11/29 through 11/30. This system brought significant rainfall totals across the north half of the Territory with up to 10" observed in the wettest locations across elevated terrain. After a brief break on 12/1 the final and strongest storm of the series moved through on 12/2 (see Rank 1).	11/28/2012 – 11/30/2012	183,145	71		N
4	On 1/20 a strong Pacific weather system with an associated well-organized frontal band pushed north to south through the territory. This system delivered heavy rains and gusty southerly winds to most locations and was the first rain in a month or more for many locations across the south half of the territory.	1/20/2012 – 1/21/2012	168,496	40		N
5	On 3/16 a system impacted Northern Region and the Bay Area with heavy showers, gusty southerly winds, and a few lightning strikes. On 3/17 this system progressed south through Central Coast and Central Valley Divisions bringing heavy rains, thunderstorms and gusty winds. On 3/18, snow levels fell as cold air filtered in resulting in low snow outage activity from Grass Valley south into Fresno division.	3/16/2012 – 3/18/2012	146,602	63		N
6	Overnight Sunday, 10/21/2012 into Monday, 10/22/2012 a cold front associated with a unusually cold, early-season storm swept west to east across the PG&E Service Area bringing a variety of adverse weather including rain, wind, thunderstorms and low snow. Two tornados also formed in the eastern Sacramento Valley and Sierra foothills.	10/22/2012	129,801	22		N
7	A vigorous late season weather system swept through the Service Area on 6/4 – 6/5 and brought a variety of adverse weather conditions. This system delivered over 700 lightning strikes across the Service Territory with the majority occurring in the northern Sacramento Valley. Winds gusting to 40 mph came up abruptly in the San Joaquin causing numerous wind related outages.	6/4/2012 – 6/5/2012	93,735	22		N
8	On 12/17 a weakening front moved through the Service Area bringing rain showers and breezy southerly winds up to 35-40 mph across the Sacramento Valley. Showers progressed into the southern San Joaquin overnight into 12/18. Post-frontal northwest winds then developed across the San Joaquin Valley, with gusts up to 35 mph observed at Fresno.	12/17/2012 – 12/18/2012	83,063	18		N
9	A Pacific storm system and associated cold front and swept through the north half of the PG&E Service Area. The front brought brisk south winds of 30 to 40 mph, with higher gusts over elevated terrain. During the afternoon, thunderstorms formed along the north coast and northern Sacramento Valley in the post-frontal environment.	3/31/2012	68,165	21		N
10	Non-weather-related event.	7/21/2012	47,182	30		N

* Note: Values exclude planned outages. ** Note: This data is requested only for Major Event days.

Table 147 - Ten Largest 2011 Outage Events

Rank	Description	Date	Number of Customers Affected *	Longest Customer Interruption (Hours)	# of People Used To Restore Service (Major Events) **	CPUC Major Event?
1	A series of cold and powerful storms moved through the Service Area with the majority of outages resulting from low snow and gusty winds. The bulk of outage activity occurred overnight Sat 19 th to Sun 20 th as strong southeasterly wind gusts were observed in many locations (SF Apt 45 mph, Stockton 44 mph, Redding 45 mph, Bakersfield 40 mph). Excessive low elevation snowfall caused significant outage activity. Yosemite Division was hard hit with low snow (snow totals - 38" reported at 4200' above Oakhurst)	Mar 17 - 22, 2011	581,949	256	1,839***	Y-Partial (See Table 4)
2	After a short respite from inclement weather, another strong and cold storm moved into the Service Area on March 24 th . Once again, strong southerly wind gusts were observed (SF Apt 38 mph, Oakland 37 mph). Low elevation snow was the main adverse weather issue with Sierra, North Valley, Stockton, and Yosemite Divisions hard hit with low snow. (snow totals - 13" in Shingletown, 25" at 3700' along Highway 88, 34" at the 4200' above Oakhurst)	Mar 24 – 27, 2011	464,767	504	1,839***	Y-Partial (See Table 4)
3	A series of cold storms moved across the Service Area starting Valentine's day until Feb 19. On the 17 th very cold air filtered into the region lowering snow levels enough to create low snow related outages across the Coast Ranges of Humboldt Divisions, and down the entire Sierra Nevada foothills. The hardest hit divisions were Humboldt, Yosemite, and Sierra. (Snow totals - 14" in Shingletown, 38" at 3700' on Highway 88, 12" at 2600' in Humboldt County). Snow recorded down to 500 feet in Humboldt.	Feb 15 – 19, 2011	357,802	151		N
4	High pressure in the Great Basin and low pressure off the southern California coast set the stage for strongest northeast wind event to hit the Service Area in the last 20 years. Gusts up to 50 mph were common in the Sierra with the highest gust of 94 mph recorded on Mt. Elizabeth in the Yosemite division. Winds were quite strong in the Valley as well (Stockton 52 mph, Redding 40 mph, Fresno 36 mph)	Nov 30 – Dec 1, 2011	325,942	131		N
5	A strong and cold storm affected the entire Service Area with low snow falling in the Northern Region and gusty southerly winds and heavy rains further east and south. The hardest hit divisions were Humboldt, North Valley, and Sierra. (Snow totals – 18" in Shingletown, 20" in Susanville, 19" in Grass Valley). Snow recorded down to 500 feet in Humboldt.	Feb 24 – 25, 2011	187,851	152		N
6	An early season storm moved through the Service Area bringing moderate southerly winds and heavy precipitation rates. In Ukiah, more than a half inch of rain fell within one hour in the early morning. The Central Valley Region experienced the most outages. These were mainly pole fires/flashover caused by the first rain to fall in the area after months of prolonged dry weather.	Oct 5, 2011	100,357	24		N
7	Widespread thunderstorm activity broke out across the southern part of the Service Area early in the morning with the biggest impacts in Fresno and Kern divisions. The Bakersfield area in Kern was hit particularly hard by lightning, with Kern Division recording 3833 lightning strikes for the day.	Sept 10, 2011	77,443	69		N
8	A late season cold storm moved through the Service Area with low snow outage conditions across divisions in the Sierra Nevada, especially the Sierra Division. (8" of snow at 3700' along Highway 88) Thunderstorms and associated lightning also broke out across the Central Valley. Impacts were minimal in the Bay Area and Central Coast Regions.	May 15, 2011	62,863	30		N
9	A non-weather-related outage day with maximum temperatures along the Central Valley in the mid-80s. The outage count was only slightly above average for a June day; however, a large number of customers in the East Bay were affected by two distribution substation outages.	Jun 12, 2011	50,028	15		N
10	The first warm day of the spring was observed in many areas. San Jose had a high of 84. This could have contributed to the above average outage total. No other adverse weather was reported. The largest impacts were recorded in the San Francisco and San Jose Divisions.	Apr 1, 2011	44,177	6		N

* Note: Values exclude single distribution line transformer and planned outages.

** Note: This data is requested only for Major Event days.

*** Note: During the course of the March 17-27, 2011 storms, approximately 1,839 PG&E Operations, Maintenance and Construction (OM&C) employees responded. These employees included electric and gas construction crews, troublemen, meter technicians, clerical staff, gas and electric estimators and meter readers. Resources were dispatched and moved from lesser impacted areas to the more heavily impacted areas. In addition to PG&E personnel, 110 vegetation crews, 10 contract crews (approximately 200 individuals), and 36 mutual aid crews (approximately 175 individuals) were utilized to supplement existing resources.

9. Number of Customer Inquiries About Electric Reliability and the Number of Days per Response

The following table provides the total number of customer inquiries, and PG&E response times for the year 2021.

YTD 2021 ESR Closed Cases							
Division Name	Total Cases	Closed 0-7 Days	Closed 8-14 Days	Closed >14 Days	% Closed 0-7 Days	% Closed 8-14 Days	% Closed >14 Days
Central Coast	195	147	17	31	75%	9%	16%
DeAnza	158	132	19	7	84%	12%	4%
Diablo	84	70	8	6	83%	10%	7%
East Bay	112	71	7	34	63%	6%	30%
Fresno	45	38	5	2	84%	11%	4%
Humboldt	15	13	0	2	87%	0%	13%
Kern	46	38	5	3	83%	11%	7%
Los Padres	53	46	2	5	87%	4%	9%
Mission	59	55	3	1	93%	5%	2%
North Bay	100	86	7	7	86%	7%	7%
North Valley	68	50	9	9	74%	13%	13%
Peninsula	85	59	21	5	69%	25%	6%
Sacramento	84	73	3	8	87%	4%	10%
San Francisco	75	64	7	4	85%	9%	5%
San Jose	110	95	10	5	86%	9%	5%
Sierra	162	137	12	13	85%	7%	8%
Sonoma	90	68	9	13	76%	10%	14%
Stockton	57	44	4	9	77%	7%	16%
Yosemite	50	37	4	9	74%	8%	18%
Grand Total	1648	1323	152	173	80%	9%	11%

Table 148 – Electric Reliability Customer Inquiries

Note: ESR = Electric Service Reliability (Recurring Outages). This Includes ESR cases created on or after January 1, 2021 and closed as of December 31, 2021. It excludes canceled and re-directed ESR tickets. Re-directed help tickets are those initially categorized as an ESR ticket but subsequently determined to be non-reliability related and then forwarded to the appropriate department. An example of a re-direct: a customer calls regarding a PG&E planned outage. This request is forwarded to the maintenance and construction department and a new help ticket is created.

10. Appendix A – Definitions, Acronyms & Abbreviations

AIDI – Average Interruption Duration Indices

AIFI – Average Interruption Frequency Indices for sustained outages only

Customer: A metered electrical service point for which an active bill account is established at a specific location.

CAIDI: Customer Average Interruption Duration Index - The Customer Average Interruption Duration Index (CAIDI) represents the average time required to restore service.

CESO: A term that counts the number of Customers Experiencing Sustained Outages.

DART – Distribution Asset Reconciliation Tools – a distribution asset database used by PG&E.

Distribution system: That portion of an electric system that delivers electric energy from transformation points on the transmission system to the customer. PG&E defines its distribution system as line voltage less than 60 kilovolts (kV). The distribution system is generally considered to be anything from the distribution substation fence to the transformer prior to stepping down the voltage to the customer premise.

IEEE – Institute of Electrical and Electronics Engineers, Inc.

ILIS – Integrated Logging and Information System – The tool PG&E’s distribution operators use to log electric outages.

ISO: The California Independent System Operator. The ISO operates the transmission system throughout most of the State of California, including throughout PG&E’s service territory.

Major Event: Designates an event that exceeds reasonable design and or operational limits of the electric power system. A Major Event includes at least one Major Event Day. *See also: Major Event Day.*

Major Event Day (MED): A day in which the daily system, System Average Interruption Duration Index (SAIDI) exceeds a Major Event Day threshold value. For the purposes of calculating daily system SAIDI, any interruption that spans multiple calendar days is accrued to the day on which the interruption began.

MAIFI: Momentary Average Interruption Frequency Index

The Momentary Average Interruption Frequency Index (MAIFI) indicates the average frequency of momentary interruptions. PG&E's momentary outage reporting tools were originally designed to track momentary outages based on D96-09-045. As provided in D.16-01-008, the provided MAIFI metric is the same as what PG&E has used in its prior annual reliability reports and corresponds to the MAIFI_E definition contained in the IEEE Guide for Electric Power Distribution Reliability Indices (IEEE 1366 standard), which counts multiple outage interruptions that occur close to each other in time as a single momentary outage event. This metric is equal to the total number of customer momentary interruption events divided by the total number of customers served and does not include the events immediately preceding a sustained interruption.

Momentary interruption: The brief (five minutes or less) loss of power delivery to one or more customers caused by the opening and closing operation of an interrupting device.

Non-Restorable Outage Process – PG&E utilizes a non-restorable outage designation and process for unique outage events involving requests by customers or agencies requiring that facilities be de-energized, access not permitted, and/or restoration be delayed due to circumstances not initiated or controlled by PG&E. This process includes adjusting the outage minutes to accurately reflect these situations and to measure PG&E's actual true performance.

ODB – Operations Database - ODB is the outage database for PG&E

Planned outage: The intentional disabling of a component's capability to deliver power, done at a preselected time, usually for the purposes of construction, preventative maintenance, or repair.

SAIDI: System Average Interruption Duration Index

The System Average Interruption Duration Index (SAIDI) indicates the total duration of interruption for the average customer during a predefined time period. It is commonly measured in minutes or hours of interruption.

SAIFI: System Average Interruption Frequency Index

The System Average Interruption Frequency Index (SAIFI) indicates how often the average customer experiences a sustained interruption over a predefined time period.

SCADA: Supervisory Control and Data Acquisition – an online database for distribution operators to remotely gather information and control the distribution system.

Sustained interruption: Any interruption not classified as a part of a momentary event. That is, any interruption that lasts more than five minutes.

Unplanned interruption: The loss of electric power to one or more customers that does not result from a planned outage.