PACIFIC GAS AND ELECTRIC COMPANY

2020 ANNUAL ELECTRIC RELIABILITY REPORT
(Per Decision 16-01-008)

July 15, 2021

Table of Contents

Executive Summary

PG&E’s electric service reliability performance in 2020 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 2020 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 recloser disabling to further help reduce wildfire risk. This has resulted in more sustained outages that previously would have been only momentary outages. Furthermore, the COVID-19 virus in 2020 limited the deployment of restoration personnel. 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 2019.

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 2011 through 2020.

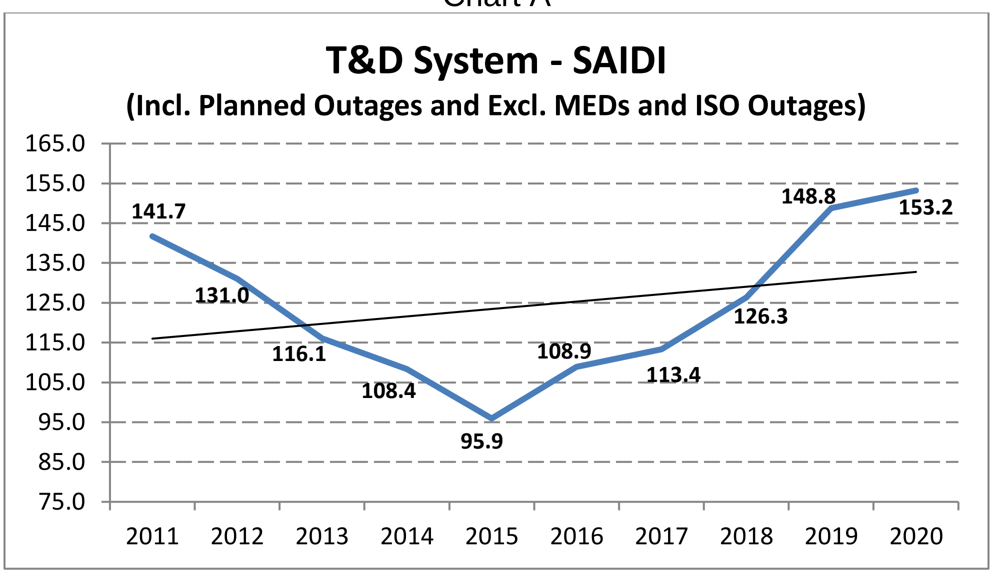
Table 1 – Combined Transmission and Distribution System Indices (2011-2020) (Excludes MED and Independent System Operator (ISO) outages, and includes planned outages)

Year	Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI
2011	141.7	1.097	1.170	129.3
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	1.317	130.0

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:

2011-2020 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 50 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 2020, PG&E's SAIDI was 153.2 minutes per customer.**
- SAIFI is the number of times the average PG&E customer experiences a sustained outage in a given year. **In 2020, PG&E's SAIFI was 1.179.**
- MAIFI[2] 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 2020, PG&E's MAIFI was 1.317.**
- CAIDI is the average duration of sustained outages. It is determined by taking the total outage minutes for all customer outages[3] (SAIDI) and dividing it by the total number of customer outages (SAIFI). **In 2020, PG&E's CAIDI was 130.0 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.

SAIDI	=	Total minutes every customer was without power due to sustained outages	÷	Total number of customers
SAIFI	=	Number of sustained customer outages experienced by all PG&E customers	÷	Total number of customers
CAIDI	=	System Average Interruption Duration Index (SAIDI)	÷	System Average Interruption Frequency Index (SAIFI)
MAIFI	=	Number of customers who experience Momentary Outages	÷	Total number of customers

What follows is the 2020 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 2020 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 (2011-2020)
2.	Division Reliability Indices (2011-2020) Including and Excluding Major Event Days (MED)
3.	System and Division Indices Based on IEEE 1366 (2011-2020) 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 2020
7.	Summary List of MED per IEEE 1366
8.	Historical Ten Largest Unplanned Outage Events (2011-2020)
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 as 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 (2011-2020)

Table 2 lists the required SAIDI, SAIFI, MAIFI[4], and CAIDI with MED Included and Excluded as directed in Appendix B of D.16-01-008[5]:

Table 2 – Combine Transmission and Distribution System Indices (2011-2020) (Excludes planned and ISO outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2011	279.5	1.276	1.472	219.1	109.6	0.974	1.163	112.5
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	1.269	116.6
2020	450.6	1.443	1.547	312.2	125.8	1.068	1.292	117.8

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

4 On November 18, 2011 the EON recording system was removed from service. Momentary outage data is now being collected from SCADA devices and through the use of Smart Meters. Data collection from the Smart Meters is more effective than the previous EON system since Smart Meters don't rely on customer volunteers having EON devices connected inside their buildings. The increased frequency of momentary outages recorded does not necessarily indicate an actual increase in momentary outages in 2012 and after (as compared to prior years) but is a result of this improved method for recording momentary outages.

5 Per D.16-01-008, this report excludes the August 14-15, 2020 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 (2011-2020)
(Excludes planned outages, transmission, substation, and generation related outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2011	239.2	1.041	1.144	229.7	92.8	0.796	0.902	116.5
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

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 (EON or Smart Meters) do not distinguish between transmission system outages or distribution system outages.

ii. Transmission System Indices

Table 4 – Transmission System Indices (2011-2020)
(Excludes planned outages, distribution, and generation related outages)
(Includes substation outages)

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2011	39.5	0.224	0.339	176.2	16.9	0.168	0.271	100.6
2012	21.3	0.165	0.297	128.7	14.8	0.149	0.276	99.6
2013	13.1	0.168	0.272	77.7	11.7	0.160	0.263	72.6
2014	14.1	0.116	0.289	121.0	7.5	0.097	0.268	77.8
2015	32.1	0.160	0.205	201.0	7.8	0.095	0.193	82.7
2016	11.2	0.125	0.195	89.5	10.7	0.121	0.184	88.3
2017	54.9	0.191	0.299	286.9	7.3	0.085	0.212	85.4
2018	17.9	0.146	0.211	122.1	7.9	0.115	0.201	68.7
2019	40.2	0.198	0.226	202.7	14.5	0.131	0.165	110.5
2020	32.6	0.206	0.181	158.4	14.5	0.134	0.145	108.3

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

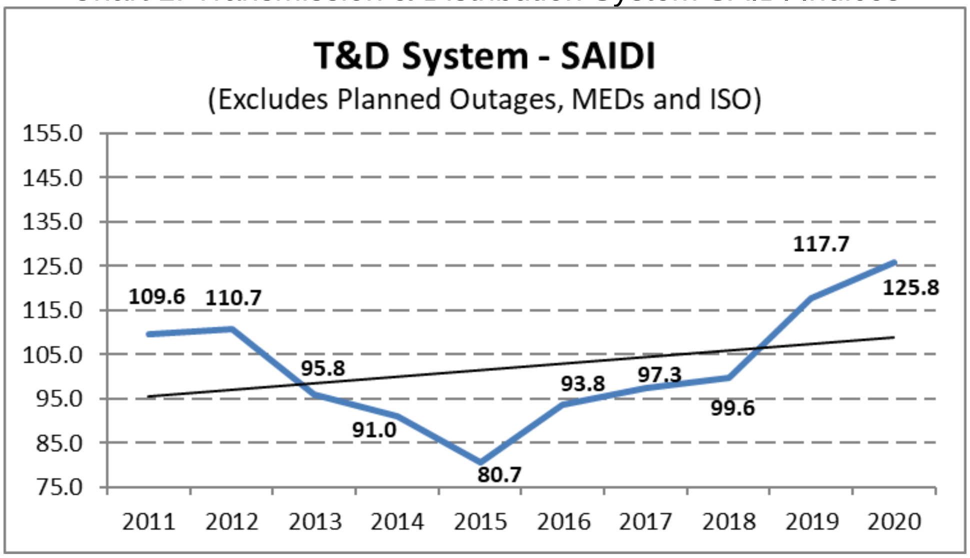


Chart 2: Distribution System SAIDI Indices

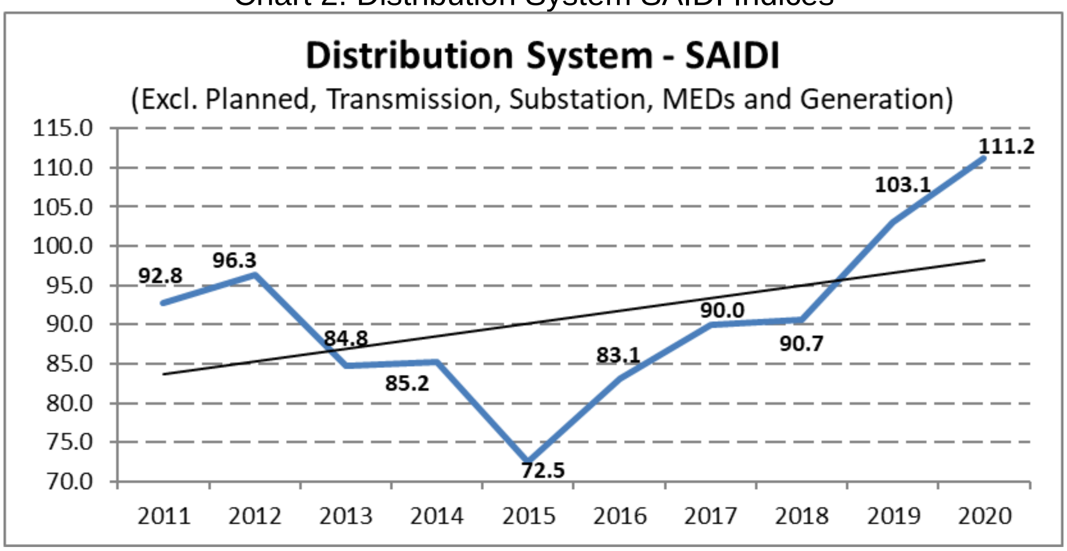
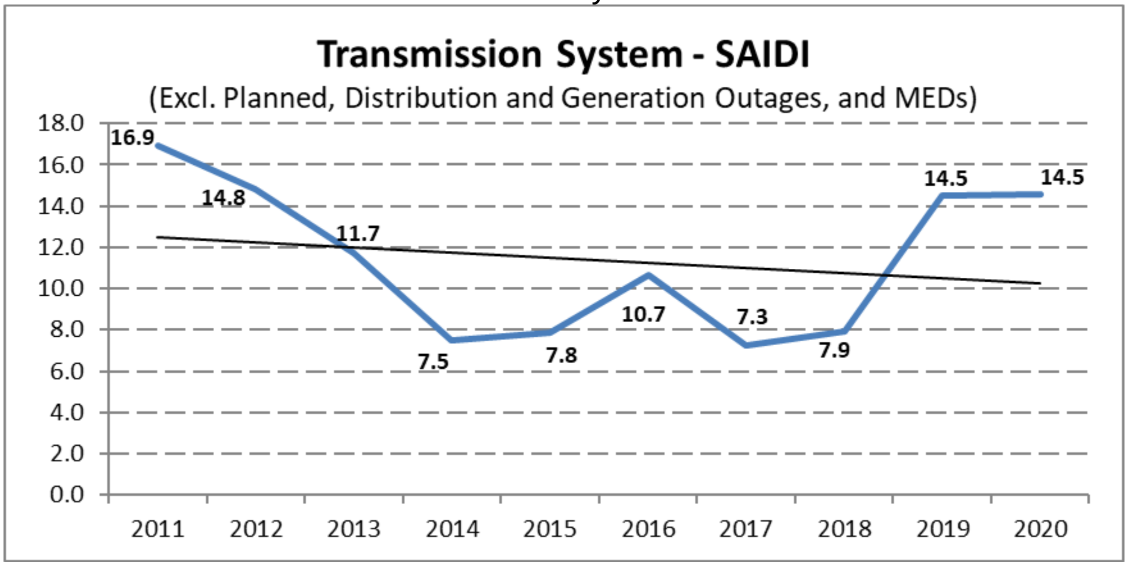


Chart 3: Transmission System SAIDI Indices



(Includes substation outages)

ii. SAIFI Performance Results (MED Excluded)

Chart 4: Transmission & Distribution System SAIFI Indices

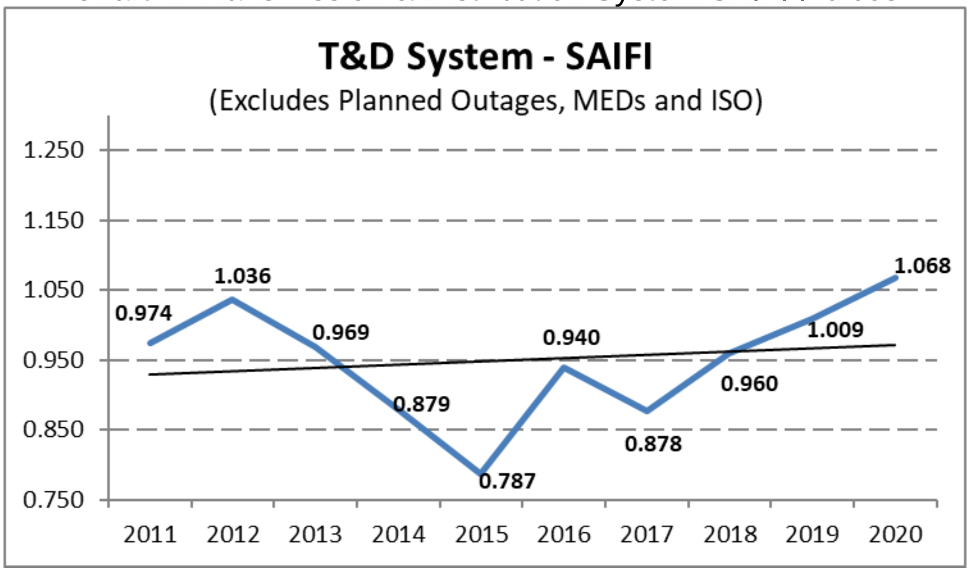


Chart 5: Distribution System SAIFI Indices

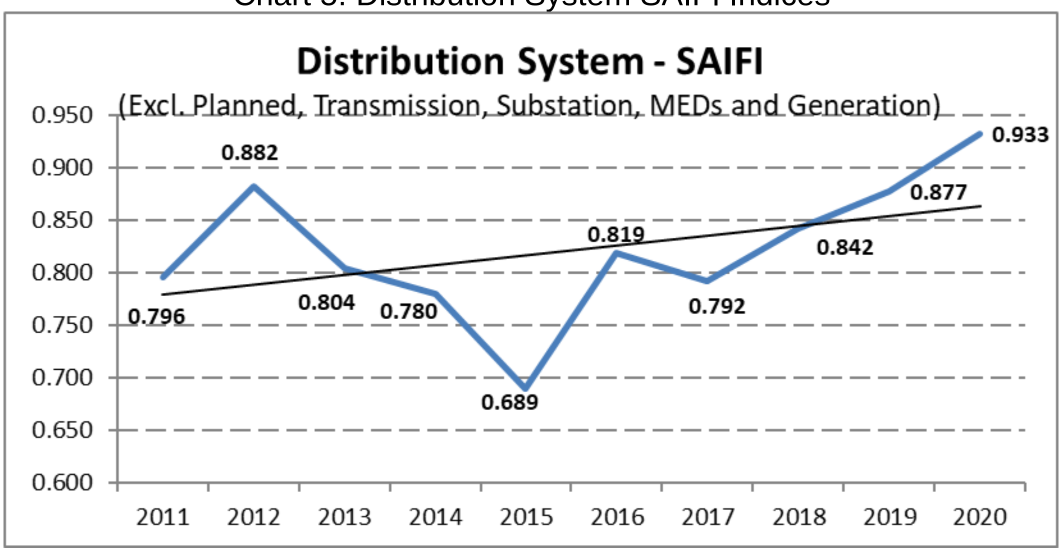
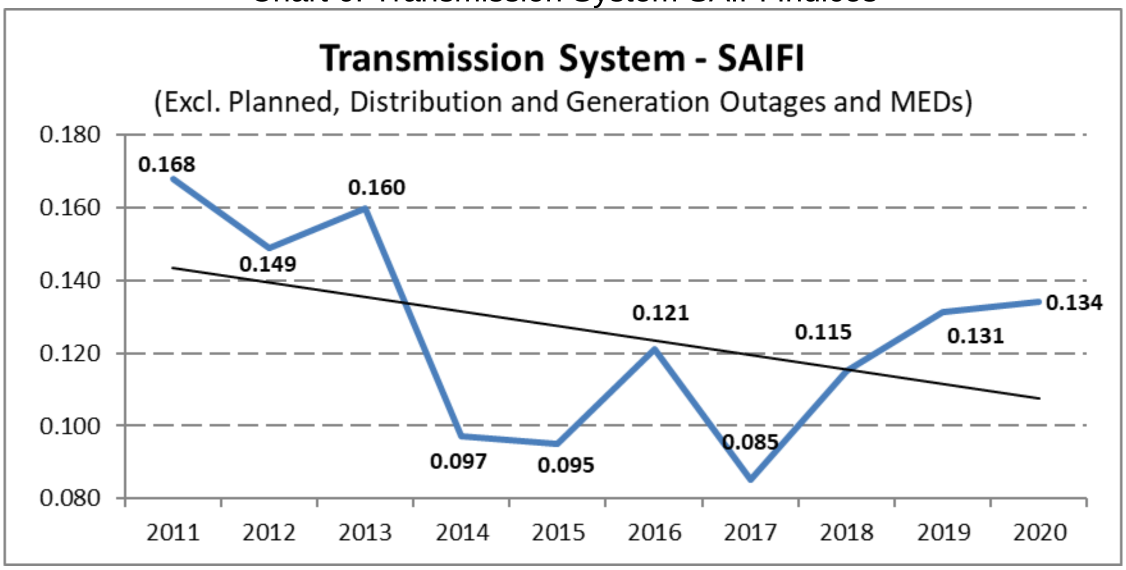


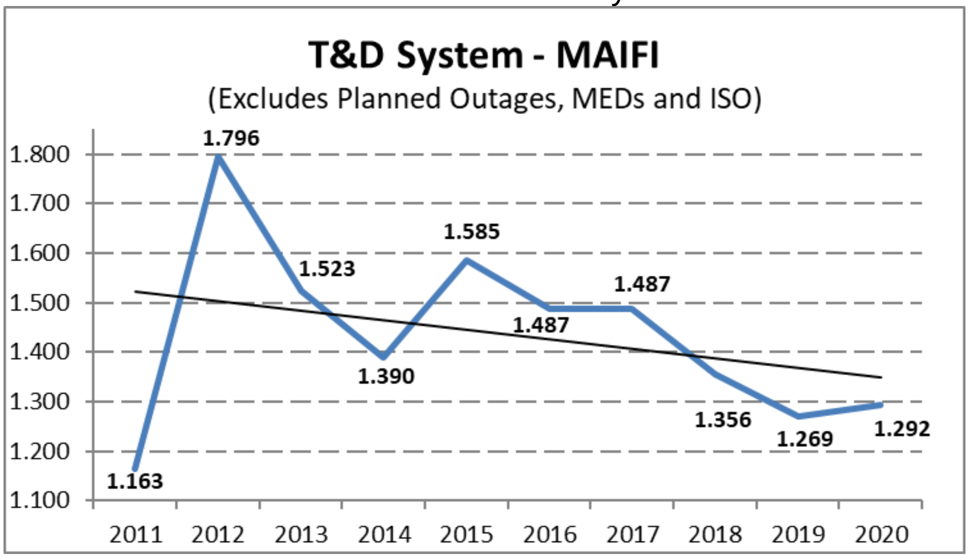
Chart 6: Transmission System SAIFI Indices



(Includes substation outages)

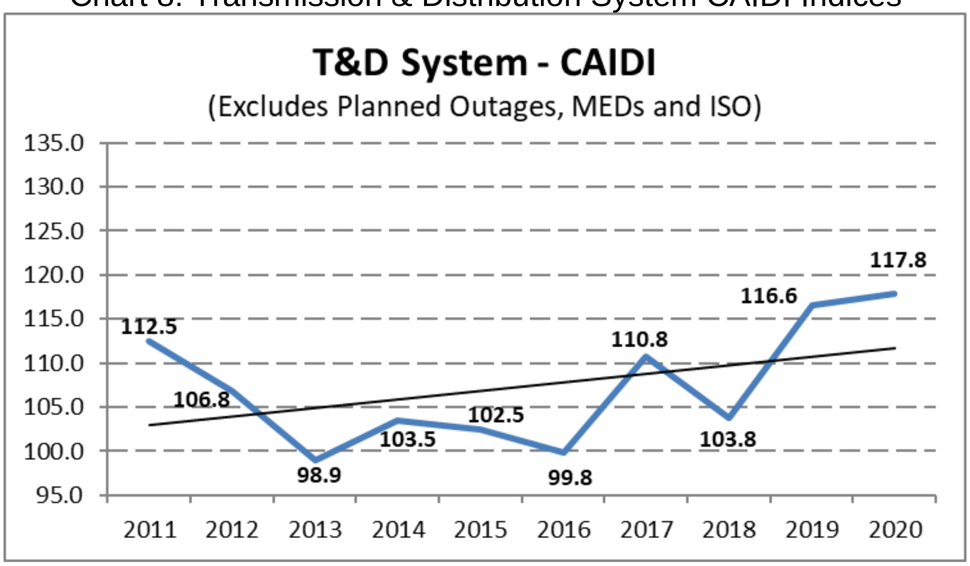
iii. MAIFI[6] Performance Results (MED Excluded)

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

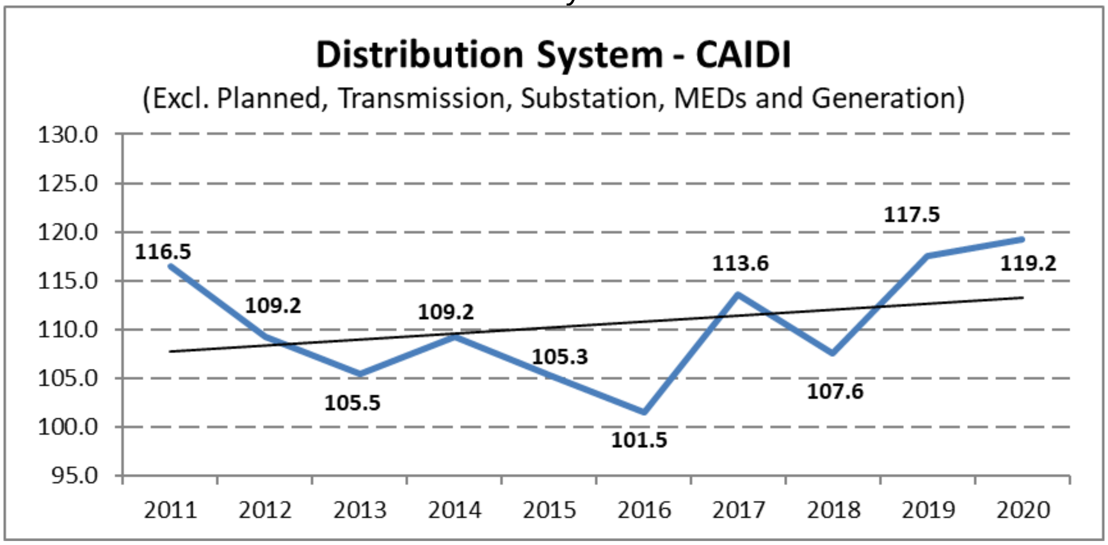
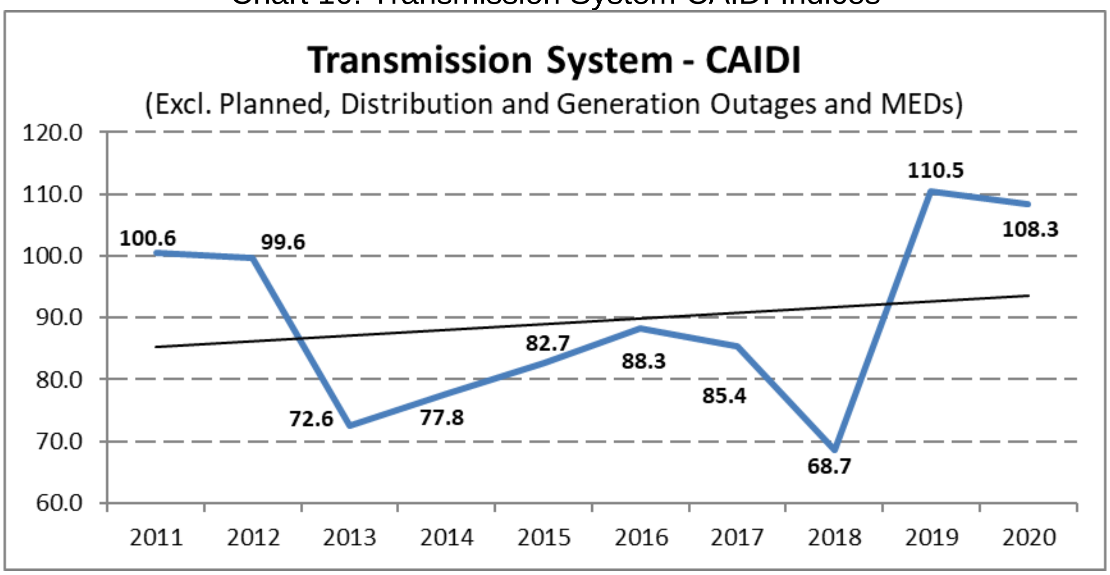


Chart 10: Transmission System CAIDI Indices



(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	2011	497.2	1.995	2.060	249.2
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2011	82.2	0.712	1.495	115.5
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2011	78.7	0.936	1.394	84.0
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2011	104.5	0.981	1.060	106.6
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	1.649	199.3
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
FRESNO	2011	164.9	1.122	2.012	147.0
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
HUMBOLDT	2011	543.1	1.954	2.282	277.9
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	2.407	1,580.7
HUMBOLDT	2020	968.7	2.161	1.304	448.3
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
KERN	2011	169.8	1.273	1.617	133.4
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2011	135.4	1.230	2.195	110.1
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
MISSION	2011	74.3	0.869	0.656	85.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH BAY	2011	202.8	1.332	1.230	152.3
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	509.2	1.716	2.521	296.7
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH VALLEY	2011	625.3	2.033	2.133	307.5
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
PENINSULA	2011	112.7	1.195	0.939	94.3
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	1.396	141.4
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SACRAMENTO	2011	182.1	1.203	1.897	151.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN FRANCISCO	2011	48.8	0.569	0.217	85.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN JOSE	2011	113.8	0.988	0.793	115.2
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2011	1,034.4	2.191	2.764	472.2
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SONOMA	2011	246.0	1.283	1.532	191.8
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
STOCKTON	2011	473.7	1.766	1.182	268.2
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
YOSEMITE	2011	1,172.0	1.984	2.632	590.8
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

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	2011	156.8	1.513	1.576	103.6
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2011	62.6	0.625	1.187	100.1
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2011	66.8	0.808	1.235	82.7
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2011	88.1	0.868	0.830	101.5
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	1.455	114.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2011	81.6	0.815	1.685	100.1
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
HUMBOLDT	2011	227.0	1.448	1.887	156.8
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	1.834	169.7
HUMBOLDT	2020	191.6	1.336	1.181	143.5
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
KERN	2011	112.5	0.979	1.340	114.8
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
LOS PADRES	2011	89.9	0.970	1.666	92.7
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2011	62.9	0.781	0.586	80.6
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH BAY	2011	110.7	1.074	1.094	103.1
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	143.2	1.233	2.093	116.1
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH VALLEY	2011	161.2	1.218	1.557	132.3
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
PENINSULA	2011	83.8	1.047	0.782	80.0
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	1.056	100.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2011	107.9	0.991	1.693	108.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN FRANCISCO	2011	45.3	0.540	0.211	83.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN JOSE	2011	101.5	0.900	0.685	112.8
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SIERRA	2011	179.5	1.168	1.401	153.7
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2011	103.4	0.896	1.341	115.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
STOCKTON	2011	180.5	1.234	0.898	146.2
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
YOSEMITE	2011	207.9	1.279	1.811	162.5
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

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

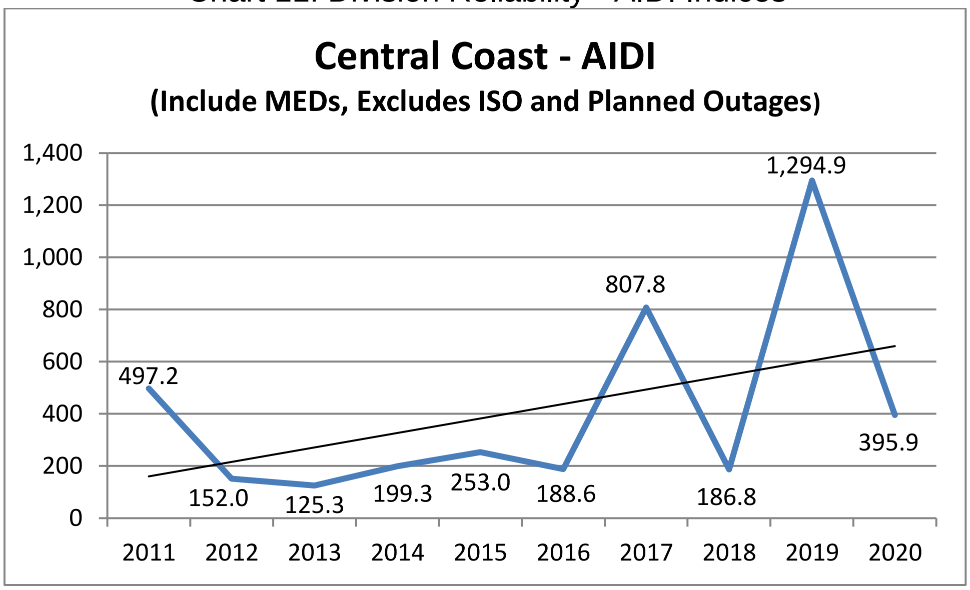


Chart 12: Division Reliability - AIDI Indices

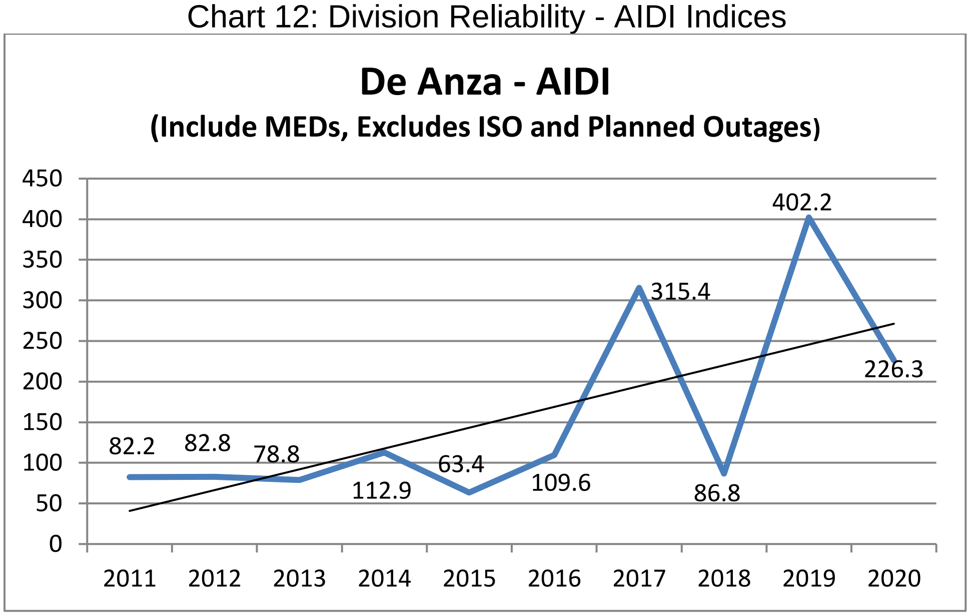


Chart 13: Division Reliability - AIDI Indices

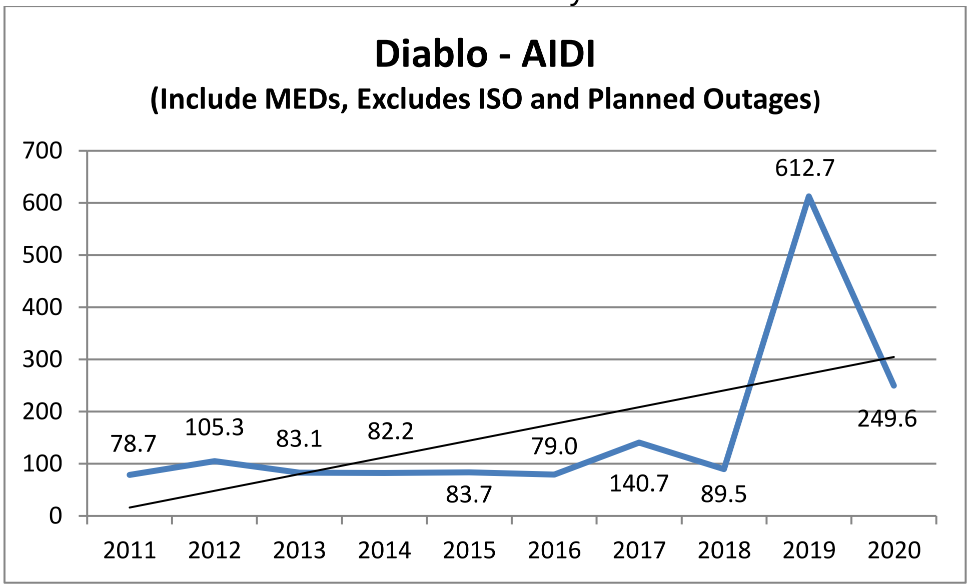


Chart 14: Division Reliability - AIDI Indices

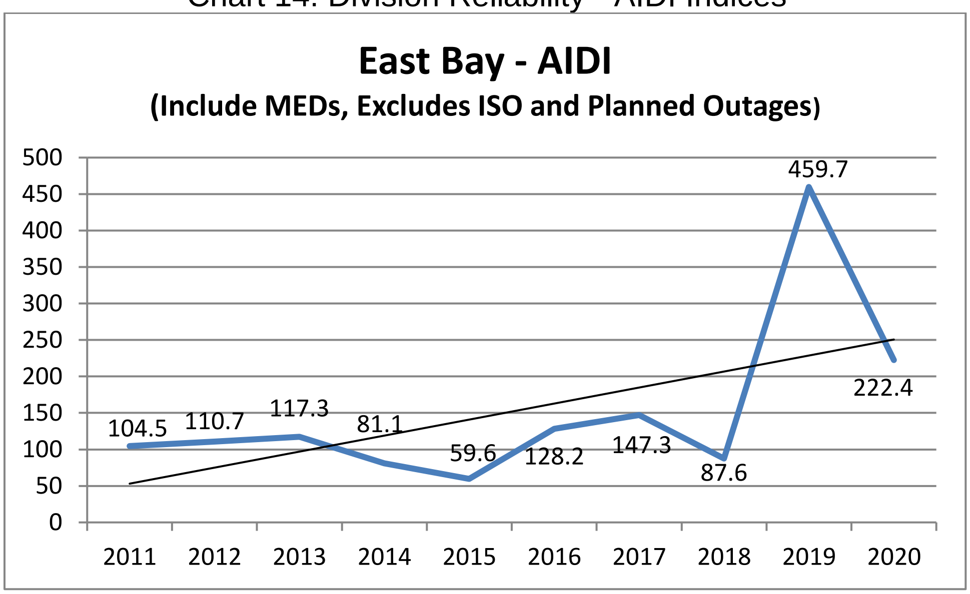


Chart 15: Division Reliability - AIDI Indices

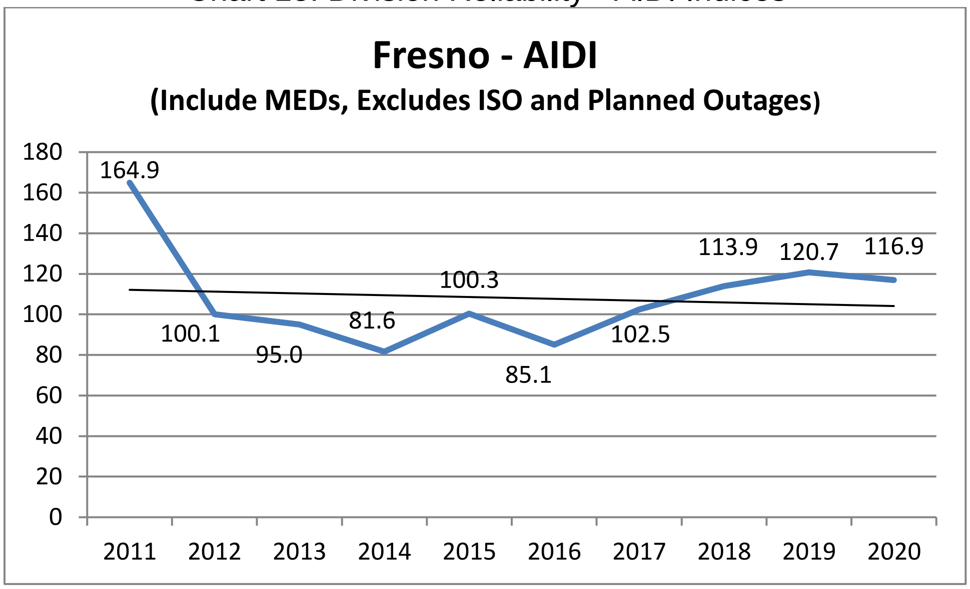


Chart 16: Division Reliability - AIDI Indices

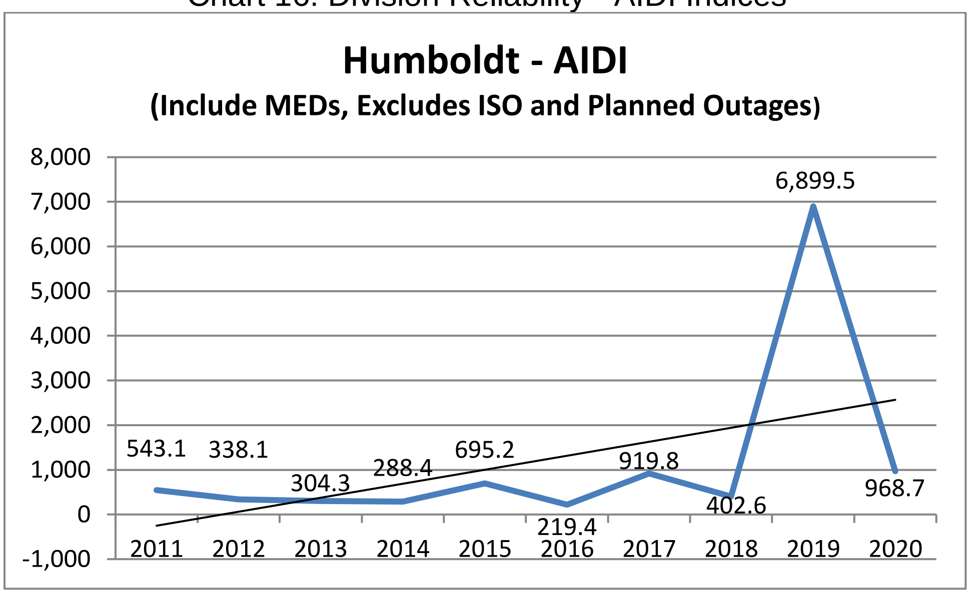


Chart 17: Division Reliability - AIDI Indices

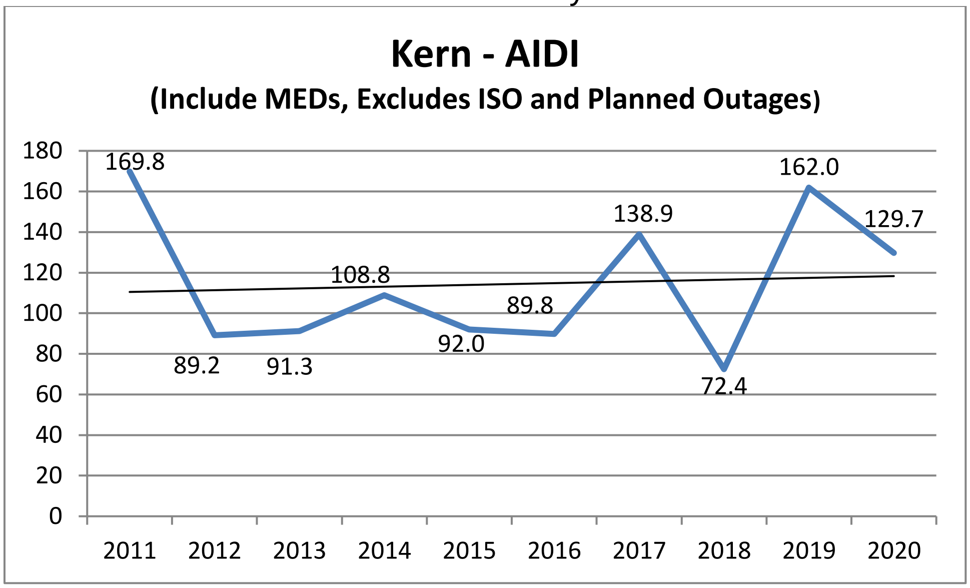


Chart 18: Division Reliability - AIDI Indices

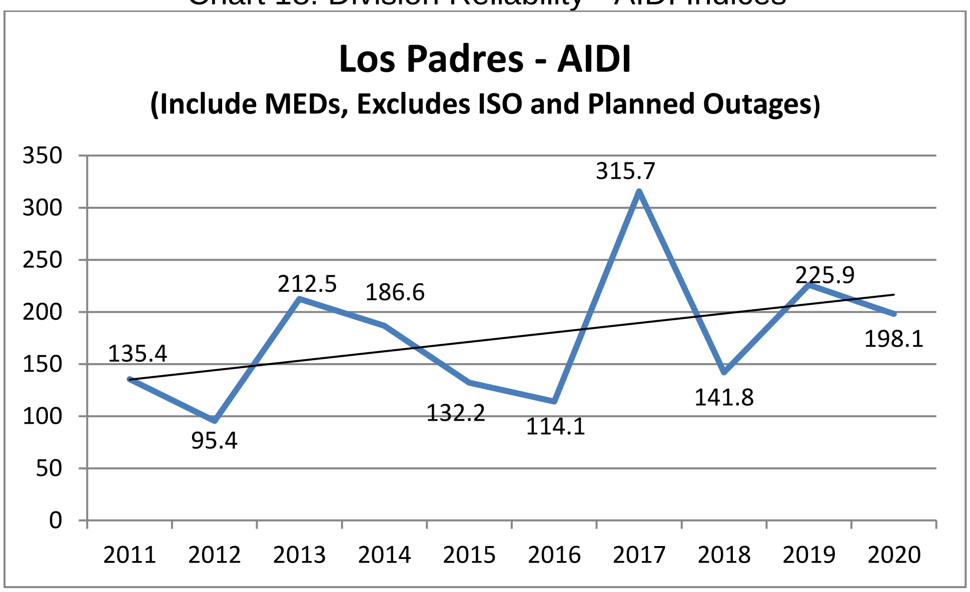


Chart 19: Division Reliability - AIDI Indices

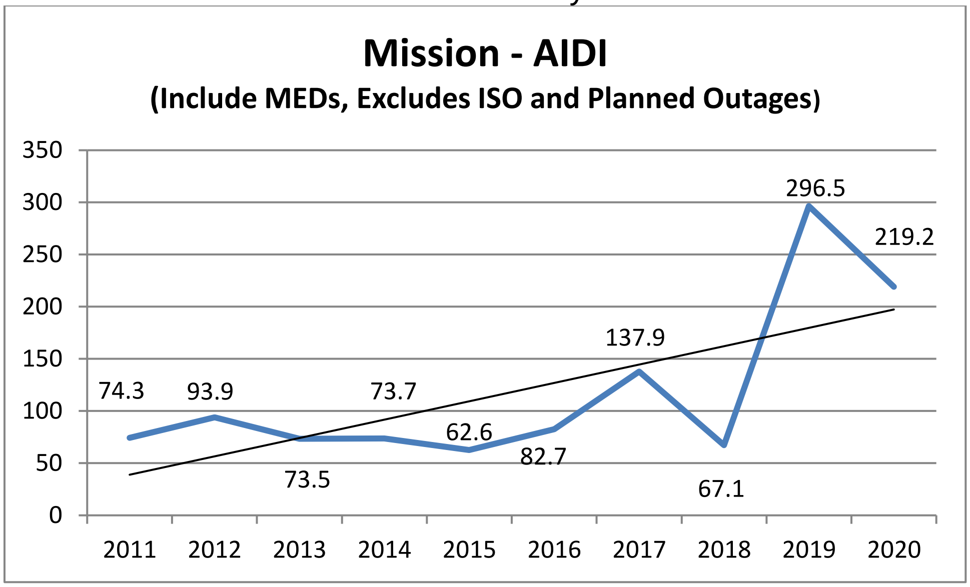


Chart 20: Division Reliability – AIDI Indices

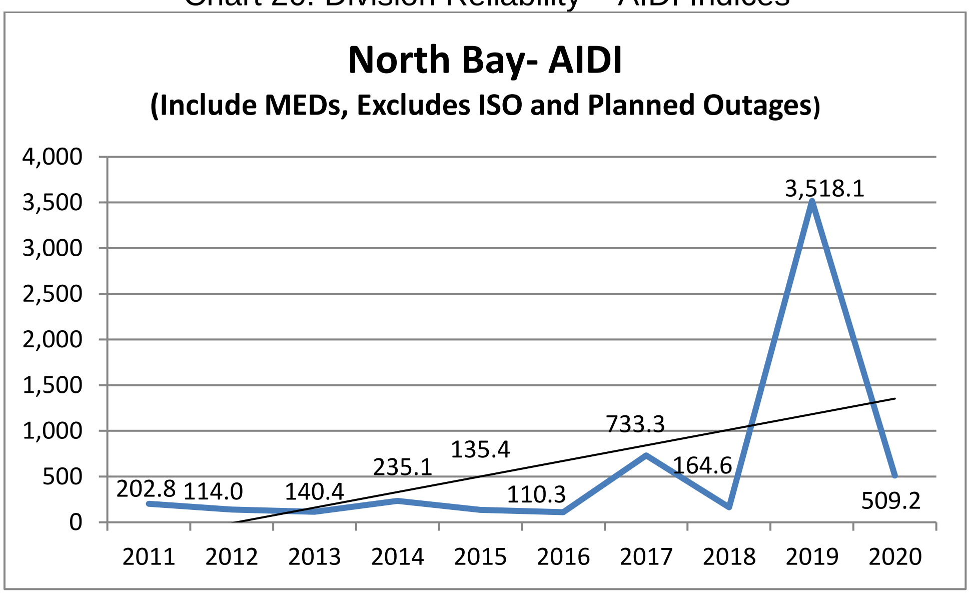


Chart 21: Division Reliability - AIDI Indices

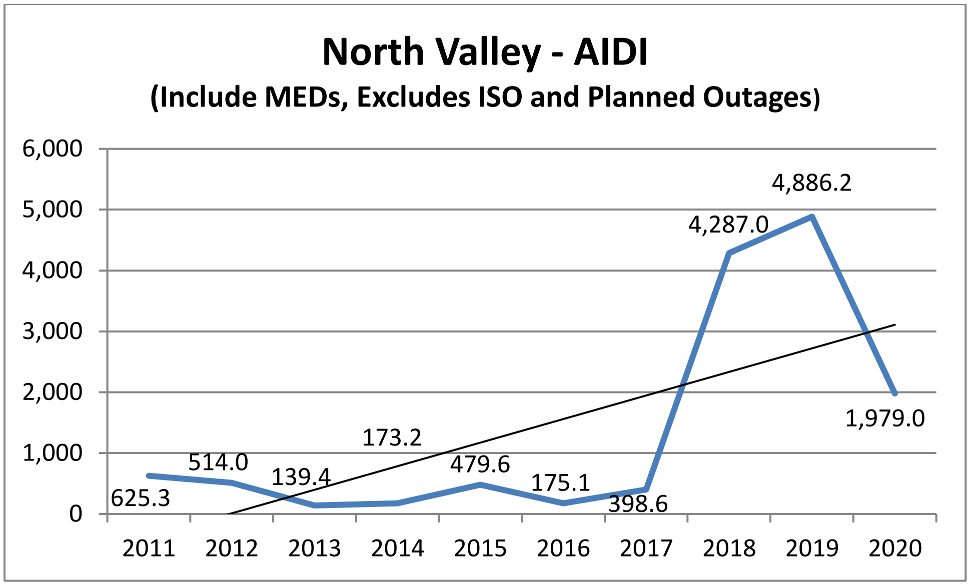


Chart 22: Division Reliability - AIDI Indices

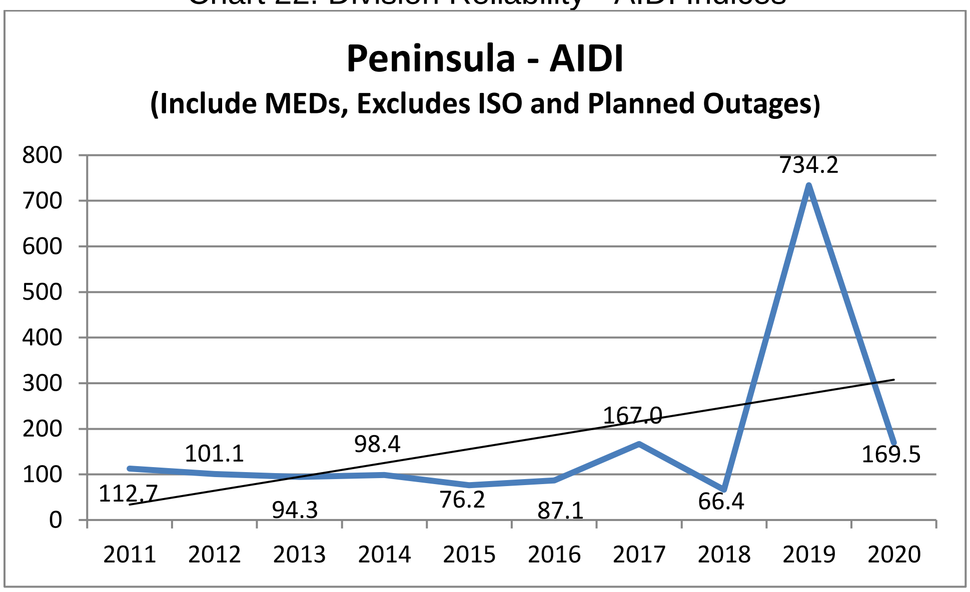


Chart 23: Division Reliability - AIDI Indices

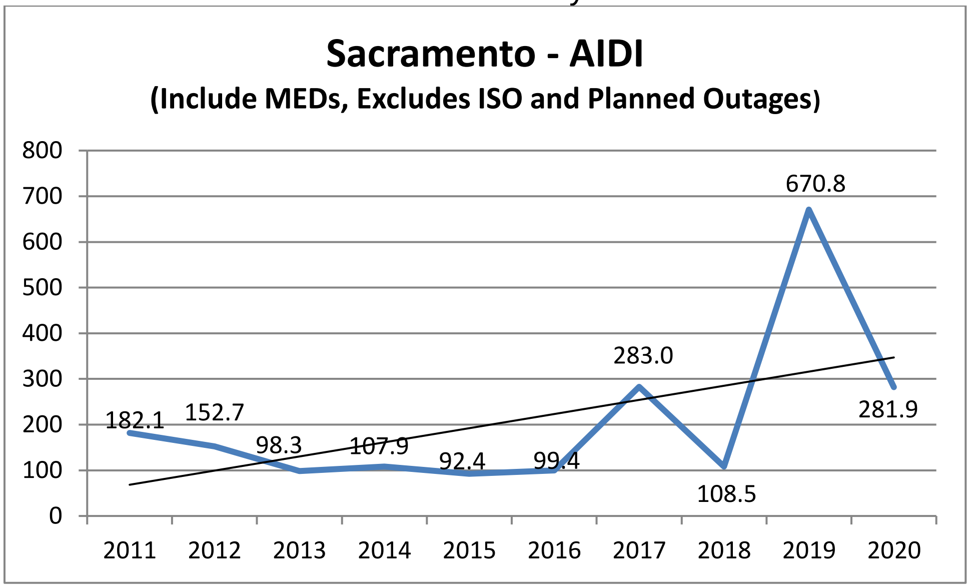


Chart 24: Division Reliability - AIDI Indices

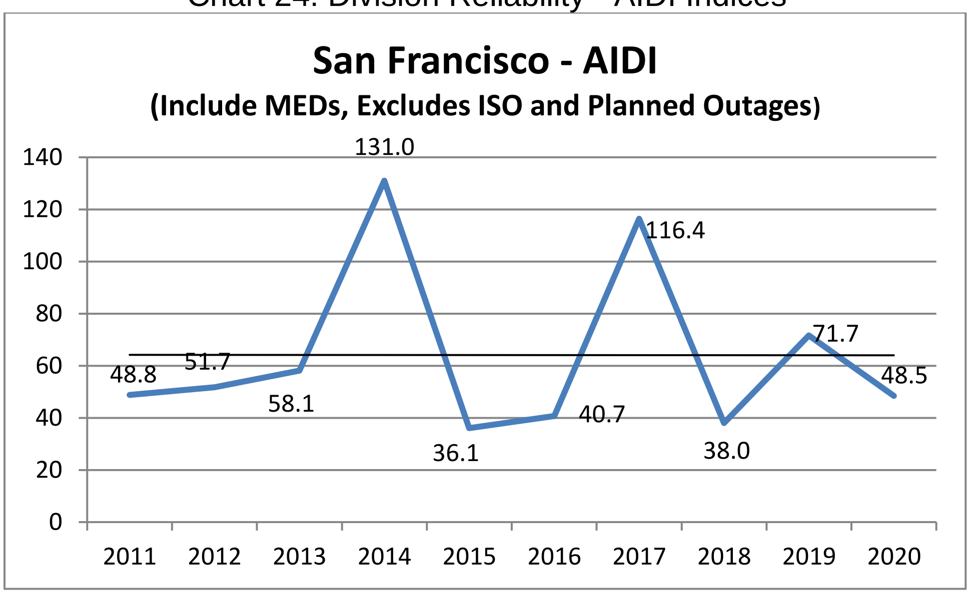


Chart 25: Division Reliability - AIDI Indices

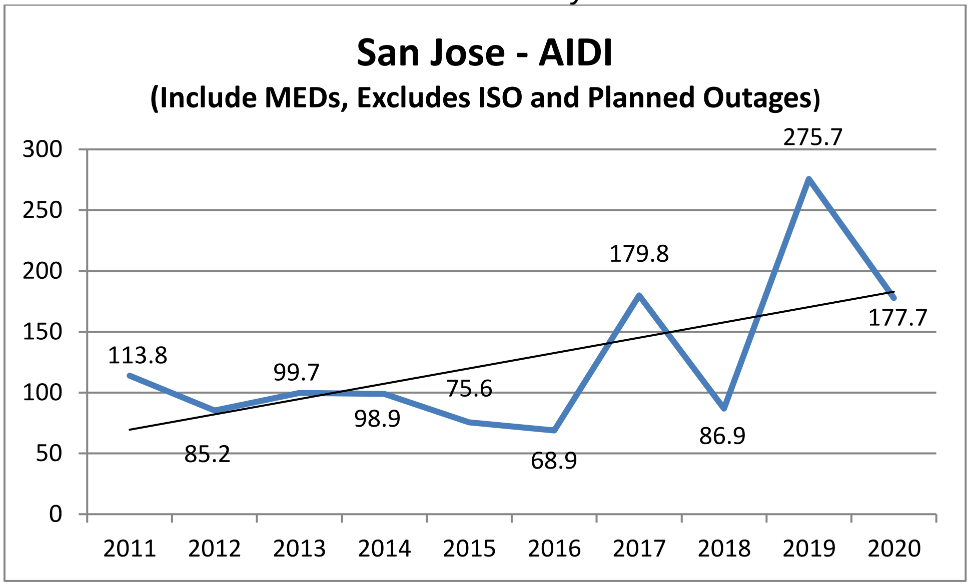


Chart 26: Division Reliability – AIDI Indices

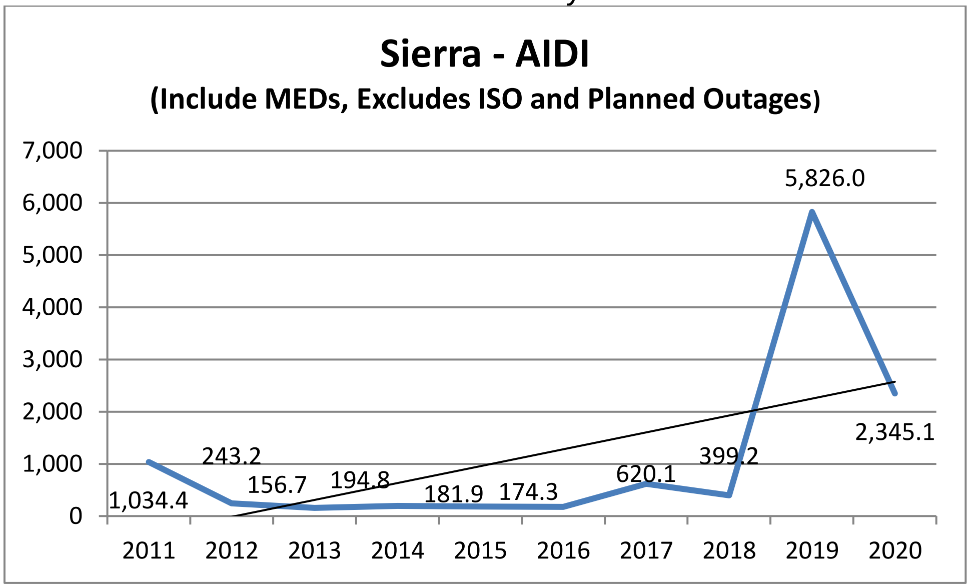


Chart 27: Division Reliability – AIDI Indices

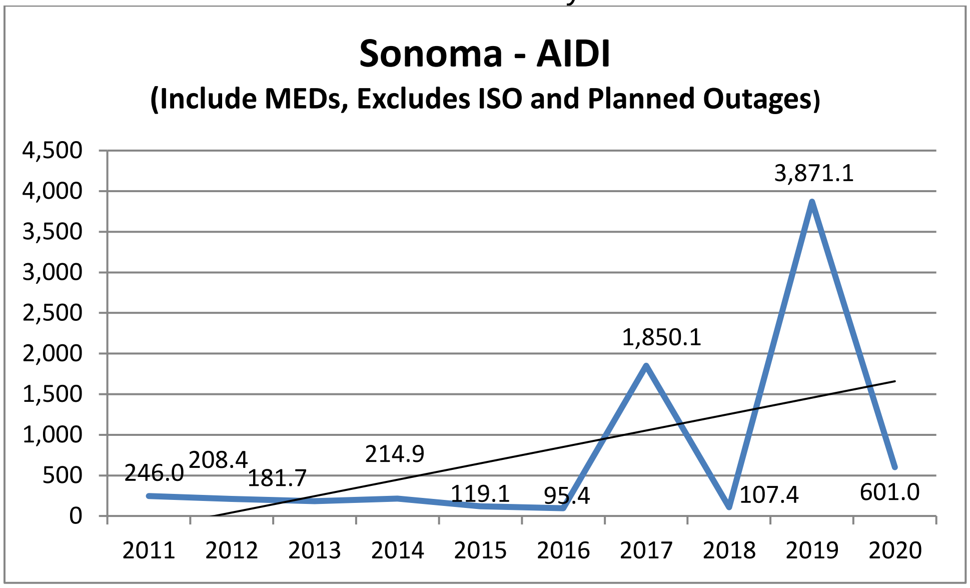


Chart 28: Division Reliability - AIDI Indices

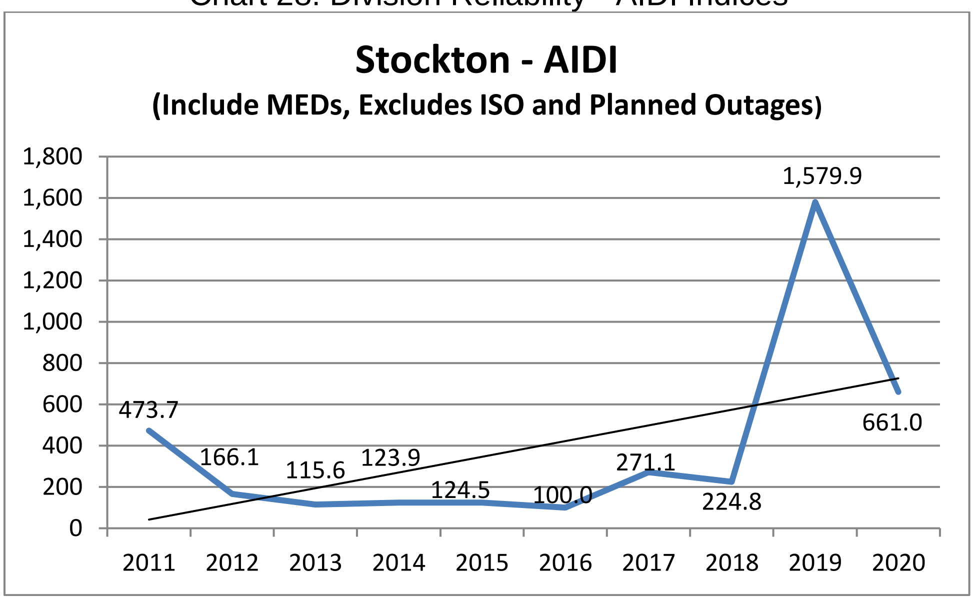
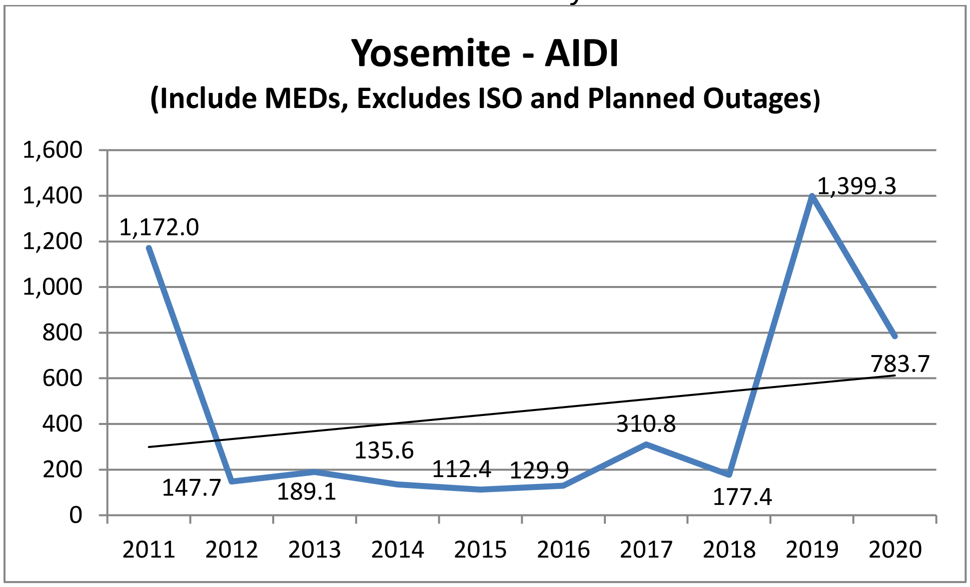


Chart 29: Division Reliability - AIDI Indices



2. AIFI Performance Results (MED Included)

Chart 30: Division Reliability - AIFI Indices

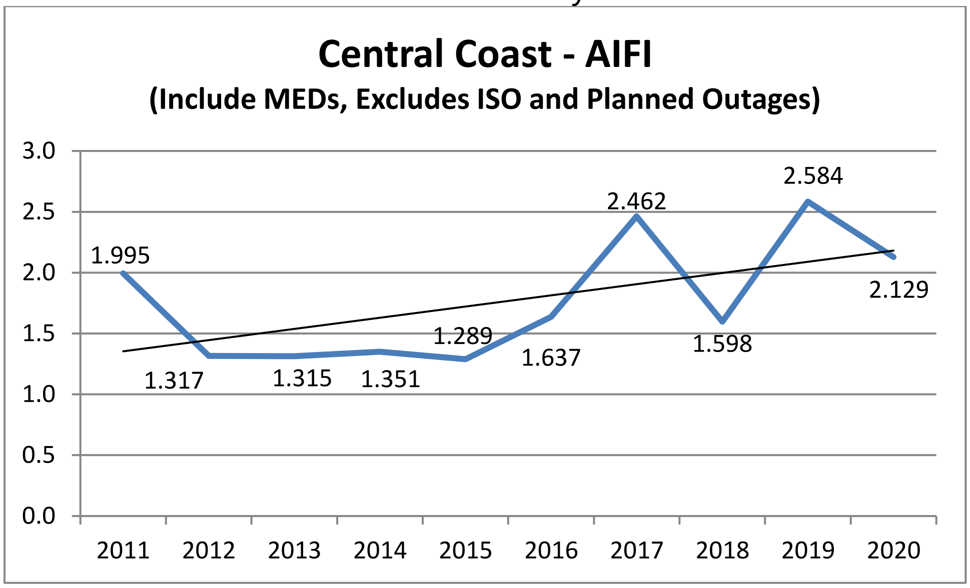


Chart 31: Division Reliability - AIFI Indices

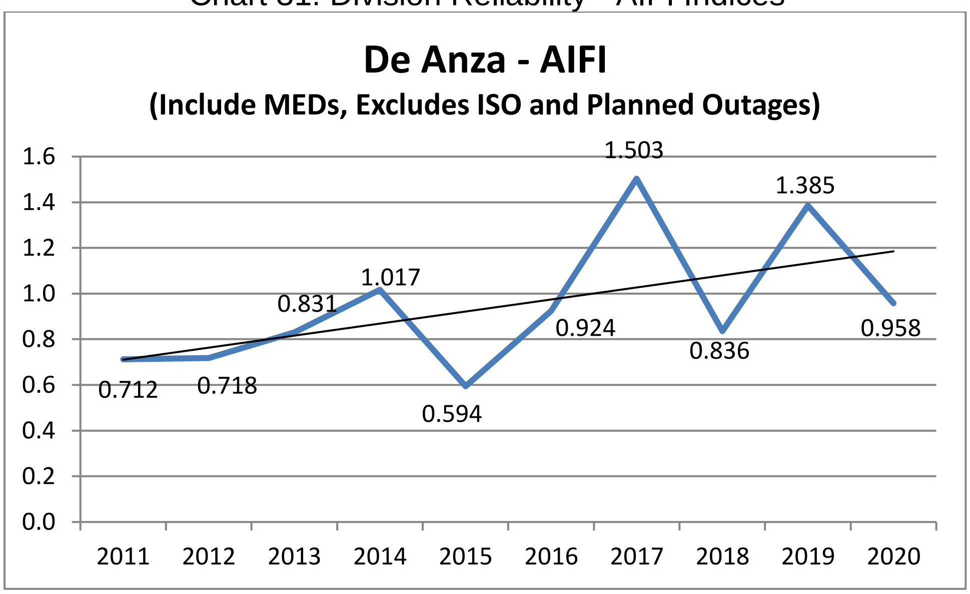


Chart 32: Division Reliability - AIFI Indices

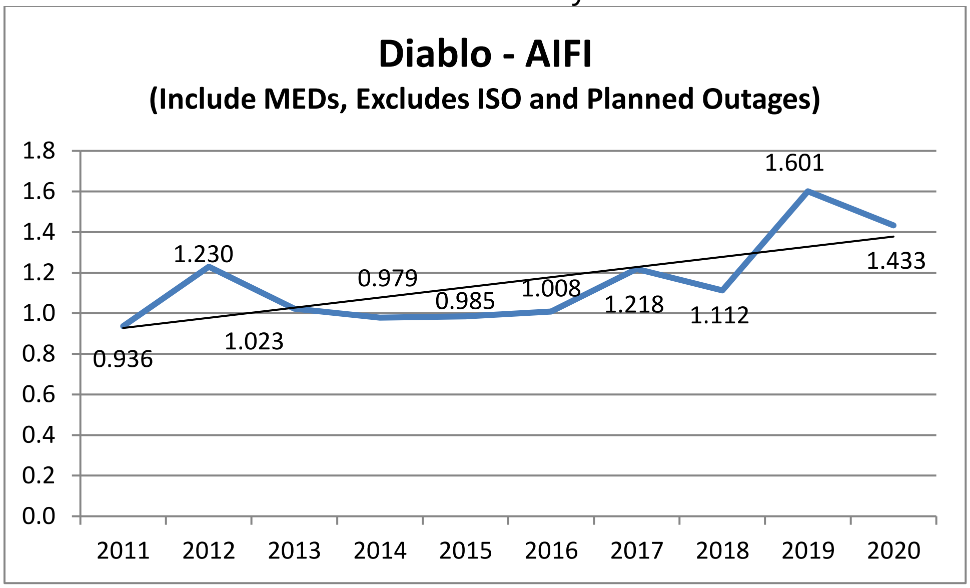


Chart 33: Division Reliability - AIFI Indices

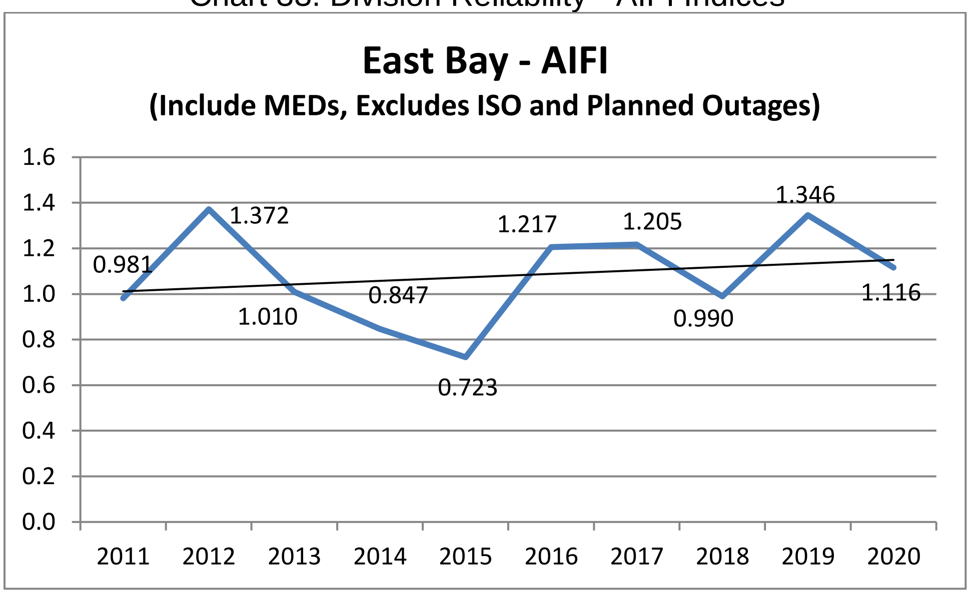


Chart 34: Division Reliability - AIFI Indices

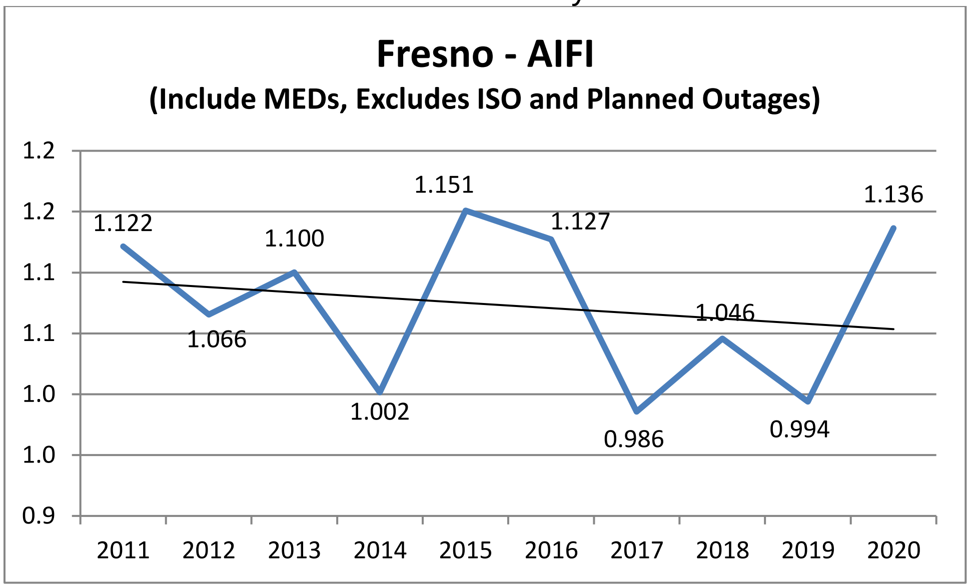


Chart 35: Division Reliability - AIFI Indices

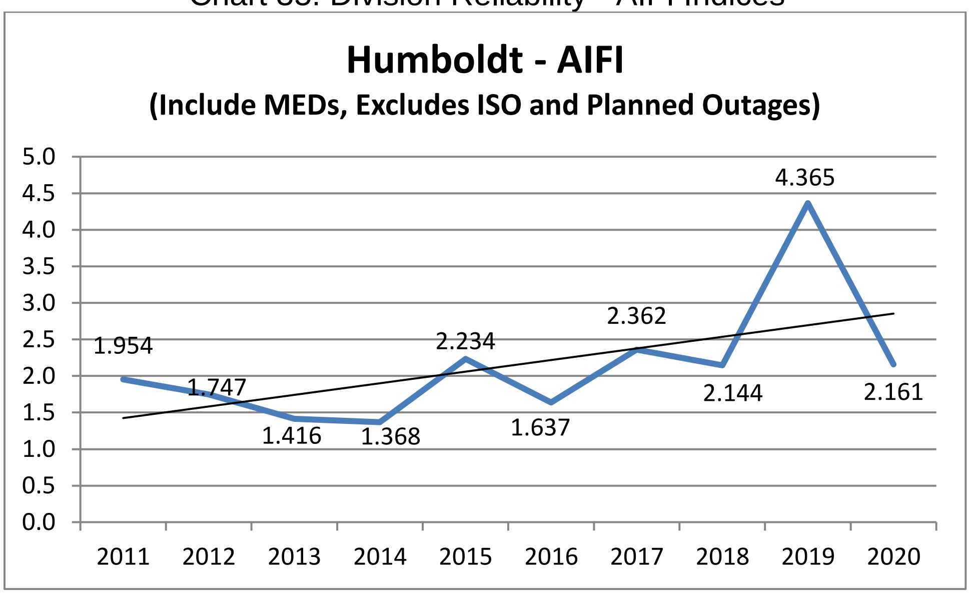


Chart 36: Division Reliability - AIFI Indices

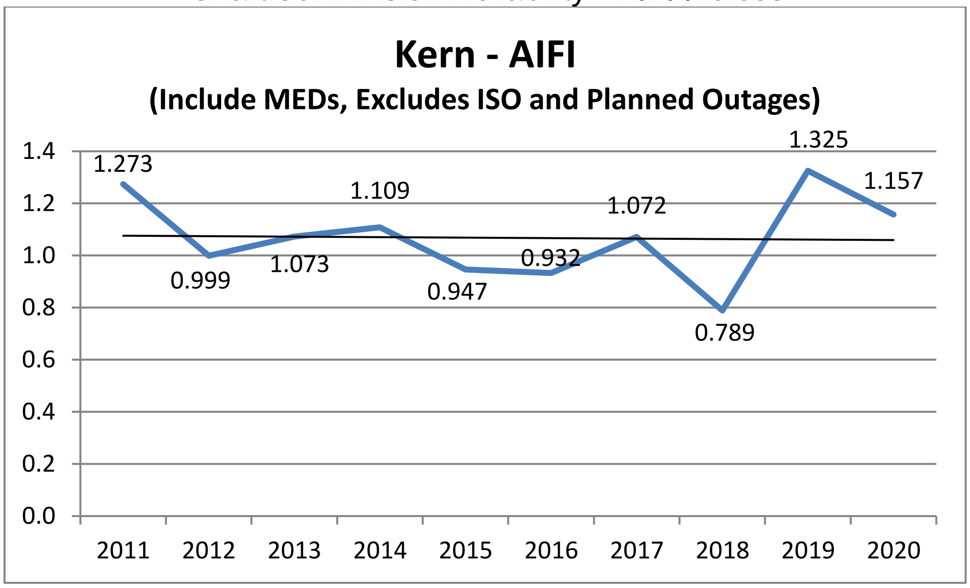


Chart 37: Division Reliability - AIFI Indices

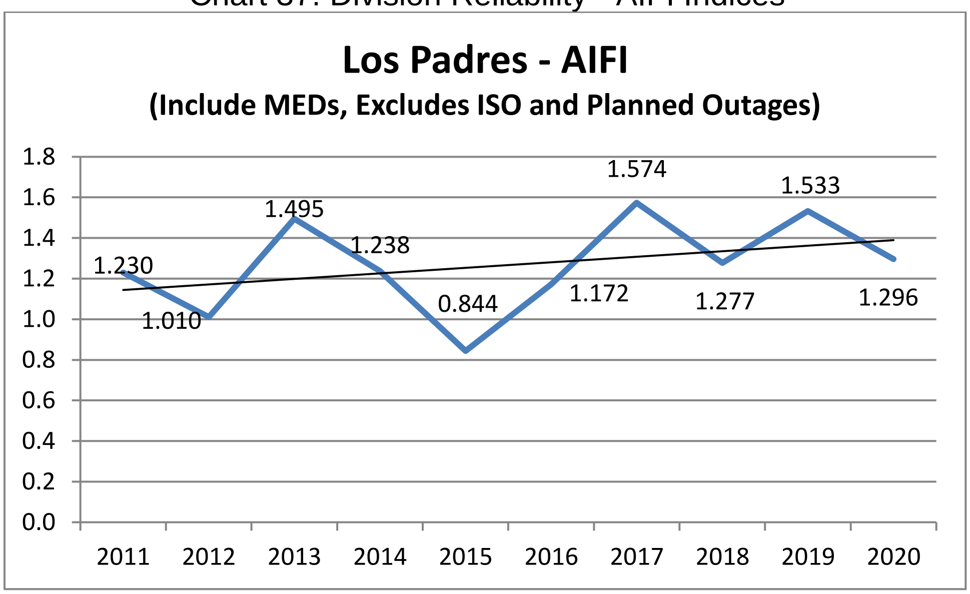


Chart 38: Division Reliability - AIFI Indices

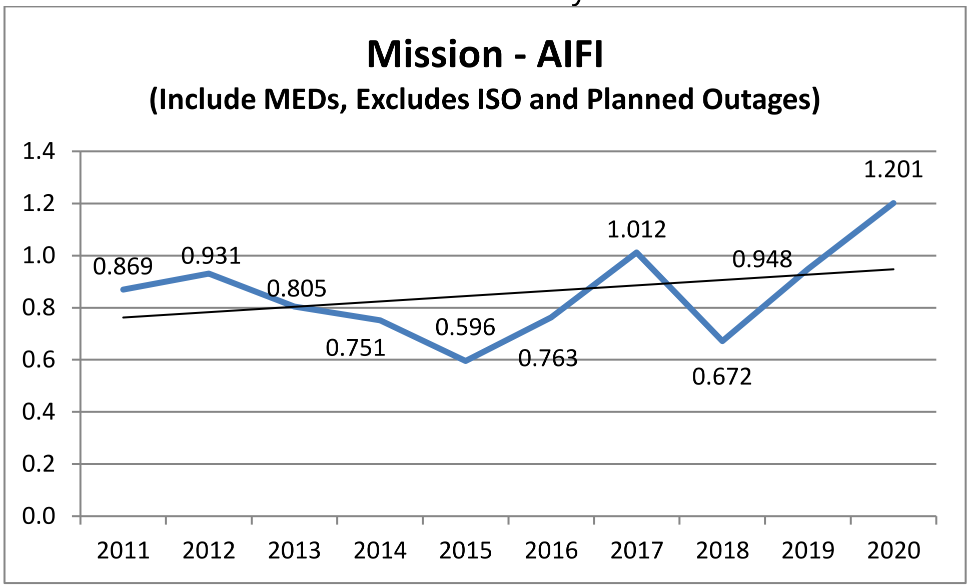


Chart 39: Division Reliability - AIFI Indices

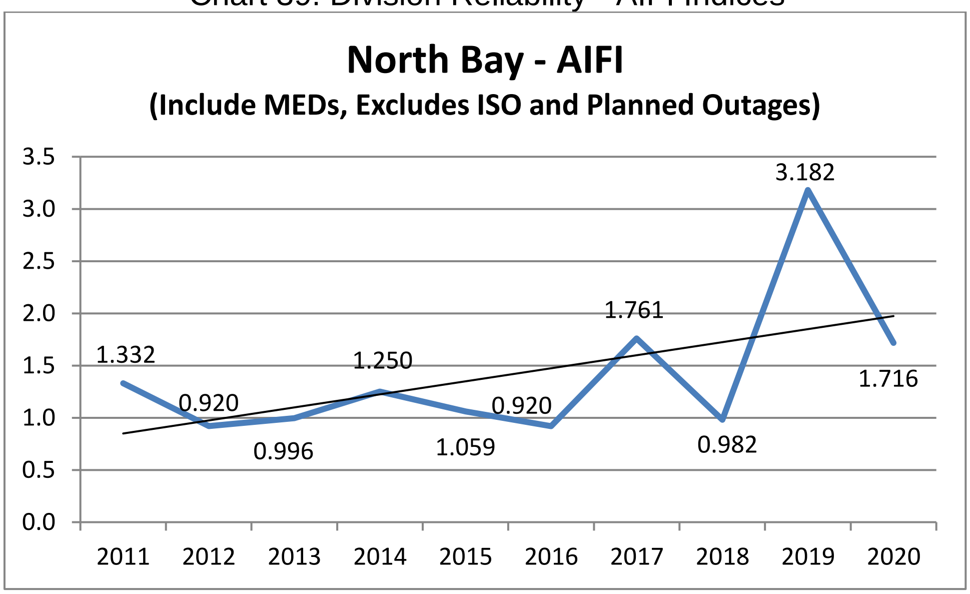


Chart 40: Division Reliability - AIFI Indices

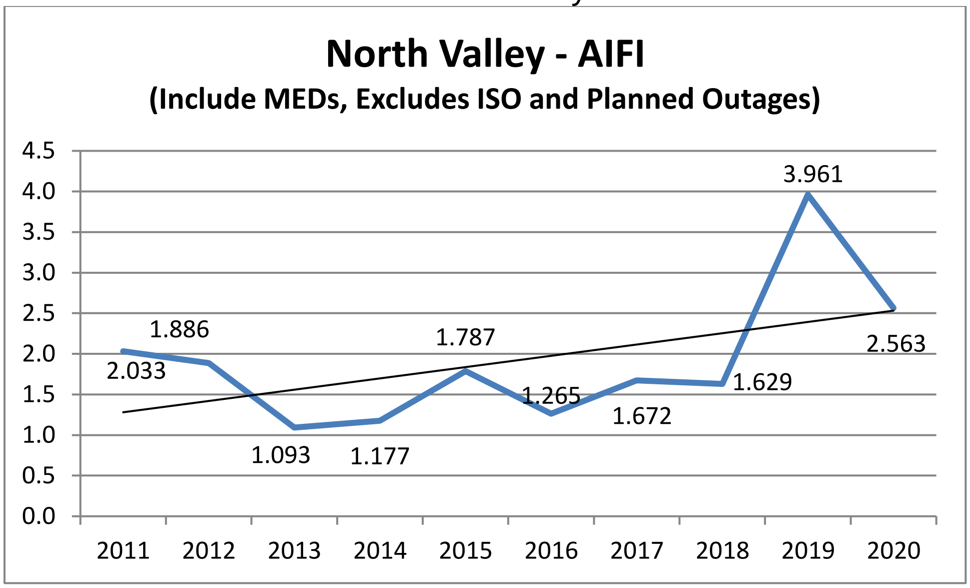


Chart 41: Division Reliability - AIFI Indices

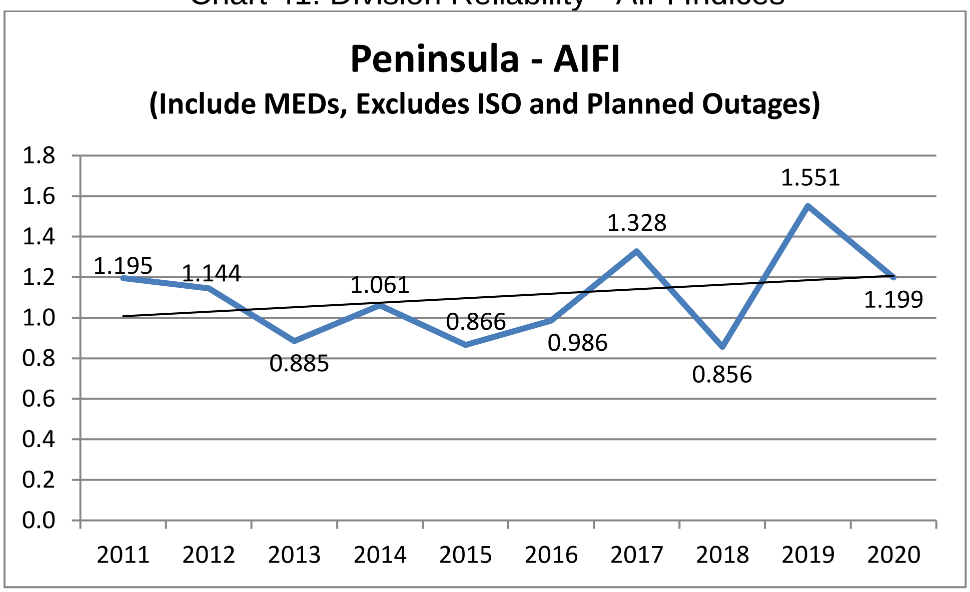


Chart 42: Division Reliability - AIFI Indices

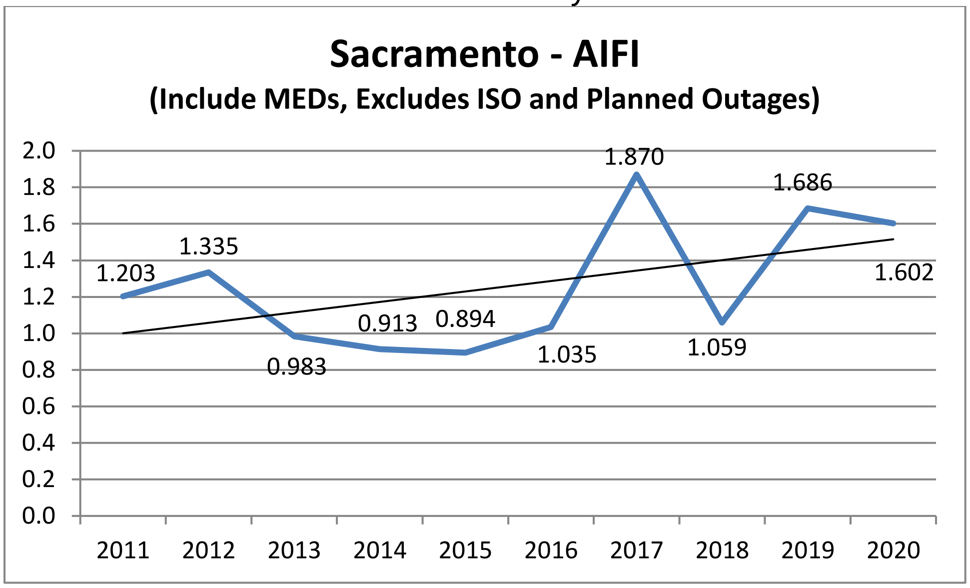


Chart 43: Division Reliability - AIFI Indices

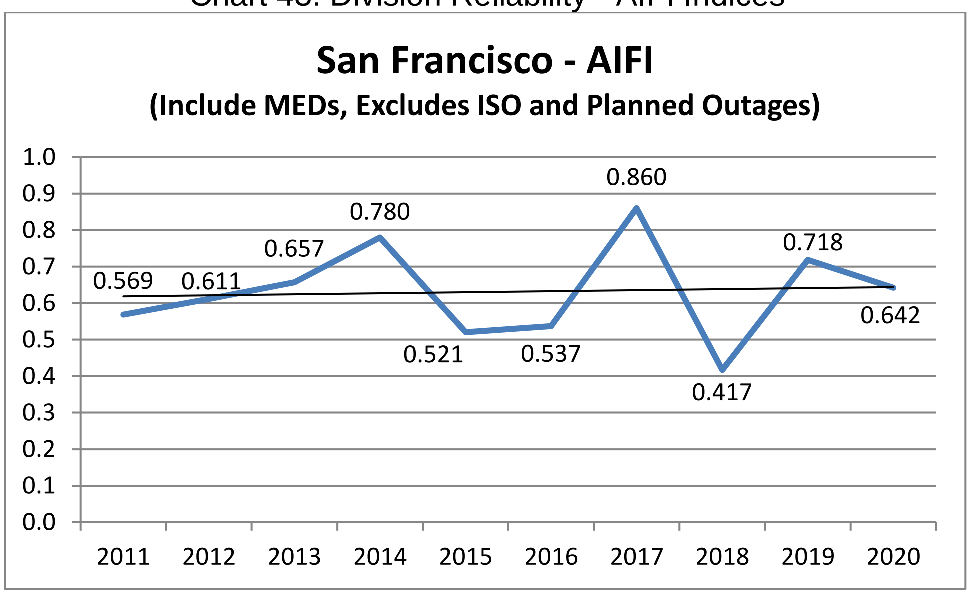


Chart 44: Division Reliability - AIFI Indices

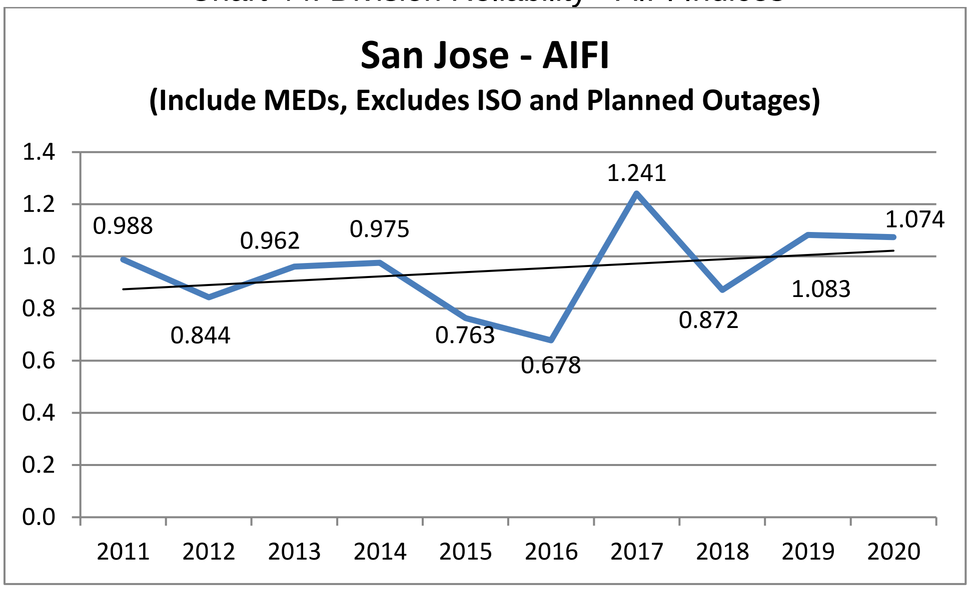


Chart 45: Division Reliability - AIFI Indices

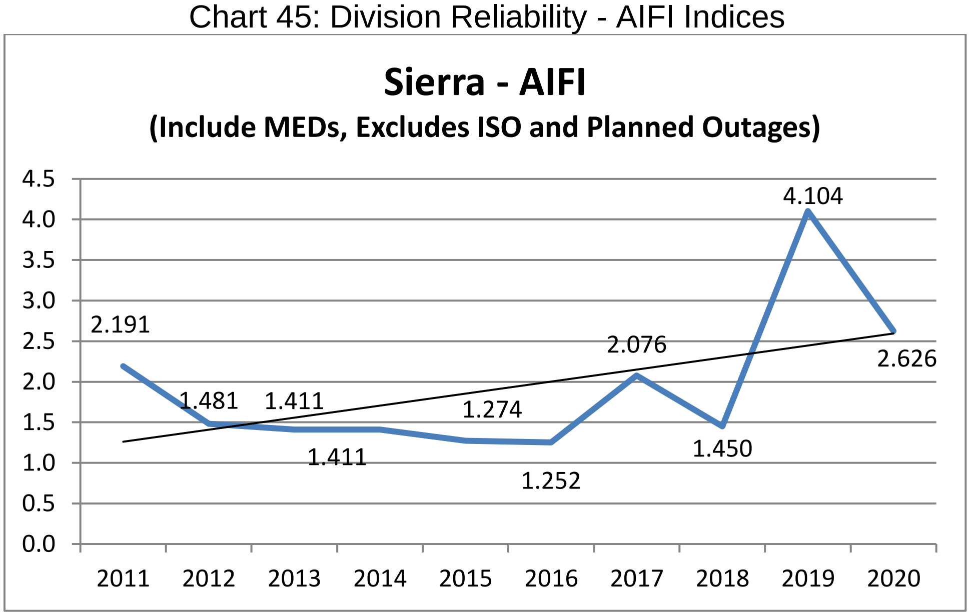


Chart 46: Division Reliability - AIFI Indices

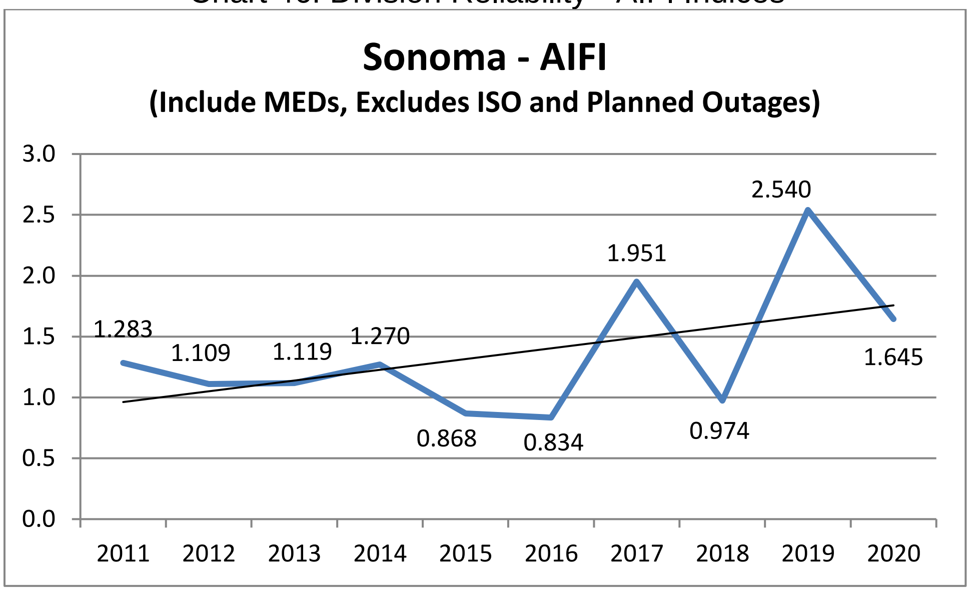


Chart 47: Division Reliability - AIFI Indices

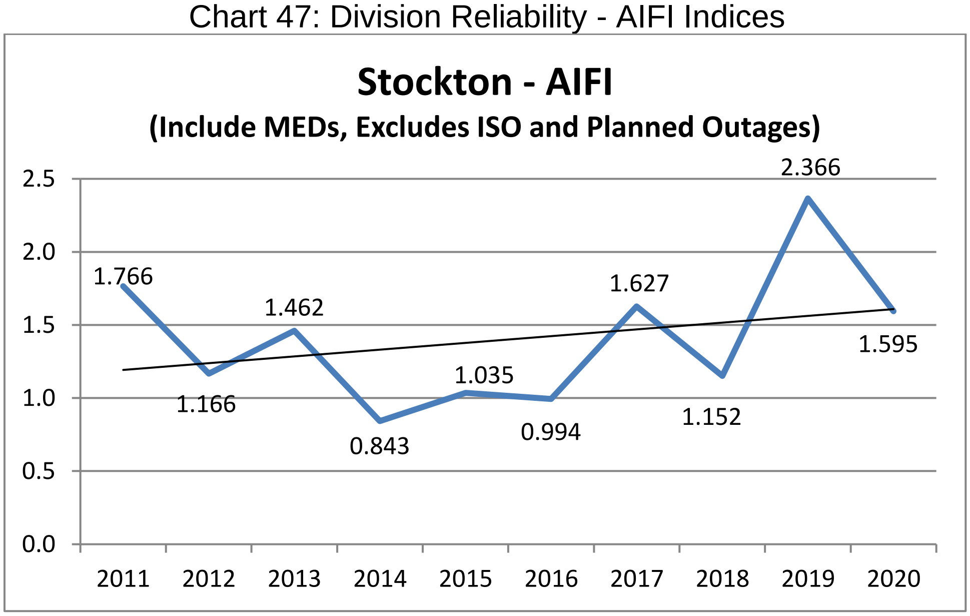
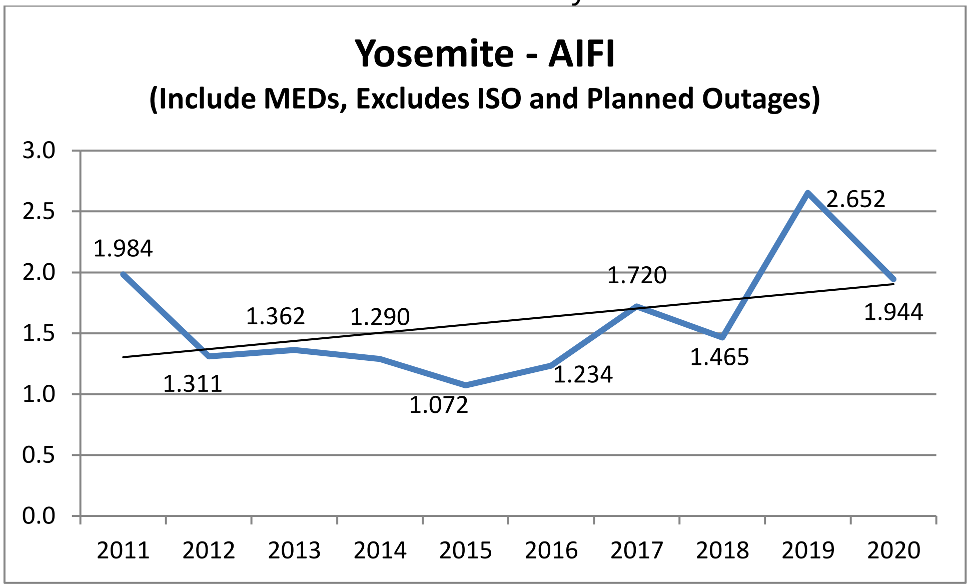


Chart 48: Division Reliability - AIFI Indices



3. MAIFI Performance Results (MED Included)

Chart 49: Division Reliability - MAIFI Indices

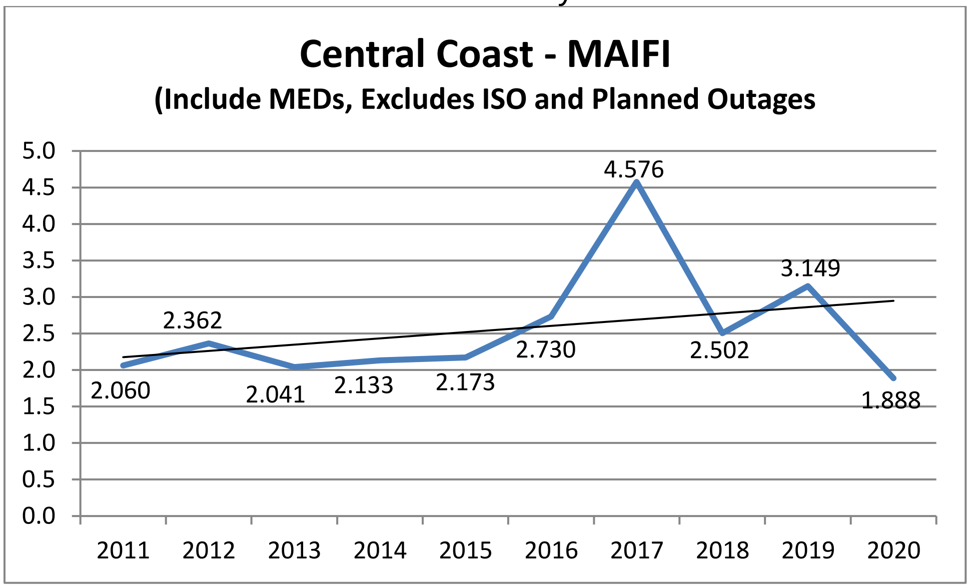


Chart 50: Division Reliability - MAIFI Indices

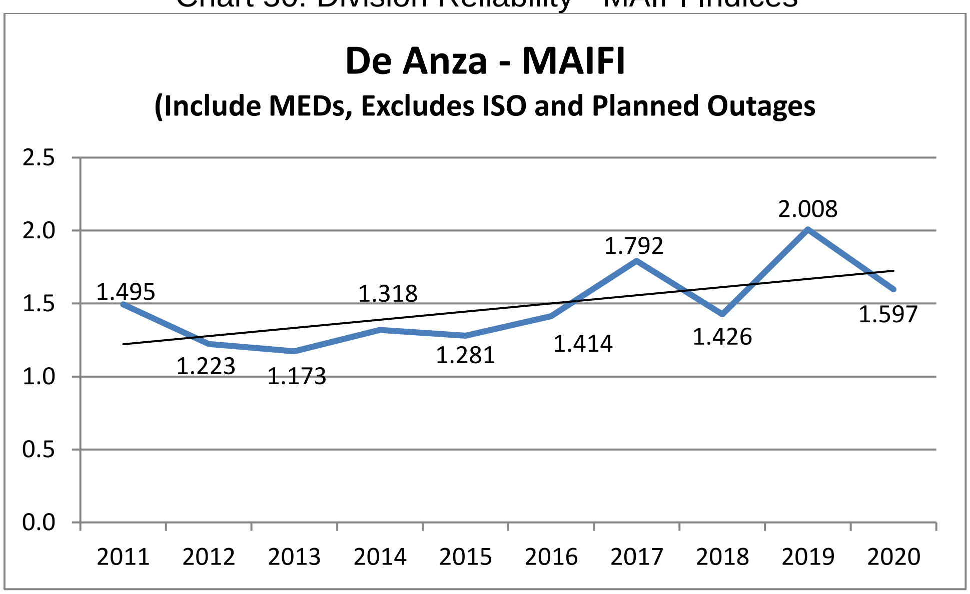


Chart 51: Division Reliability - MAIFI Indices

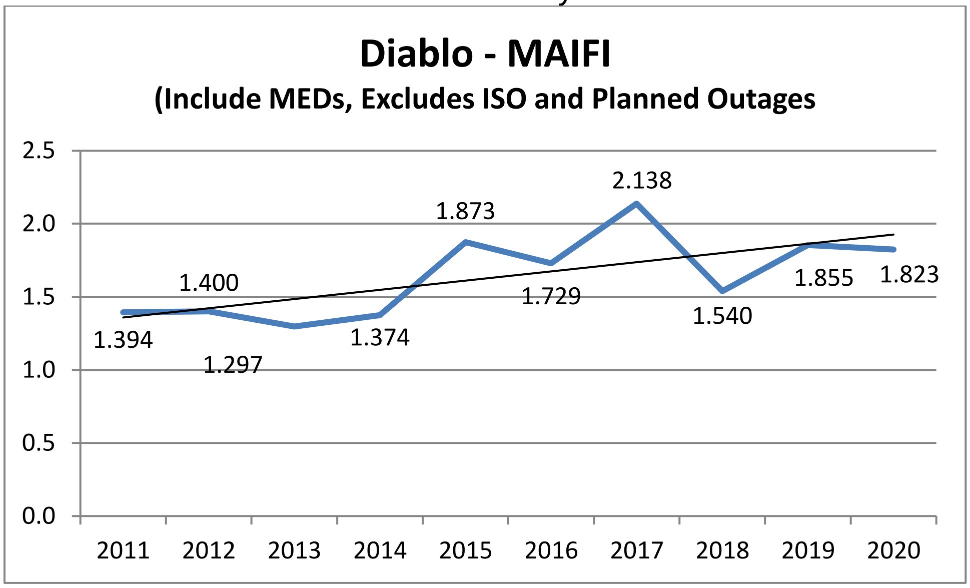


Chart 52: Division Reliability - MAIFI Indices

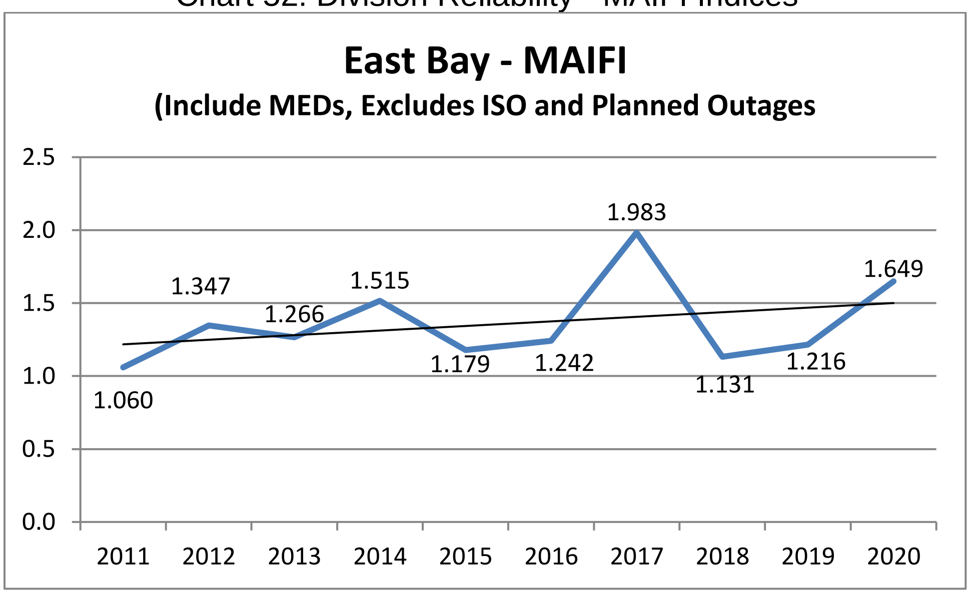


Chart 53: Division Reliability - MAIFI Indices

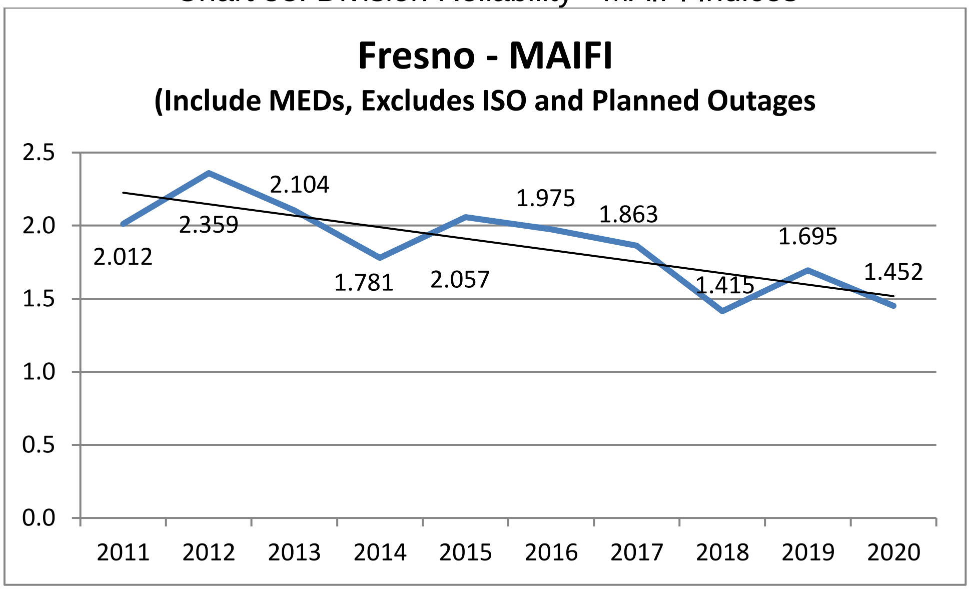


Chart 54: Division Reliability - MAIFI Indices

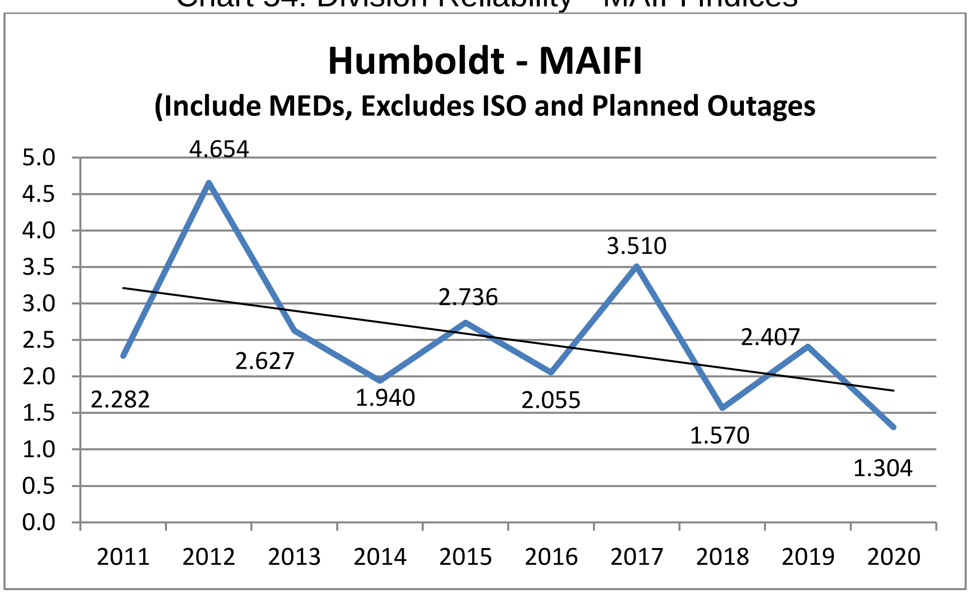


Chart 55: Division Reliability - MAIFI Indices

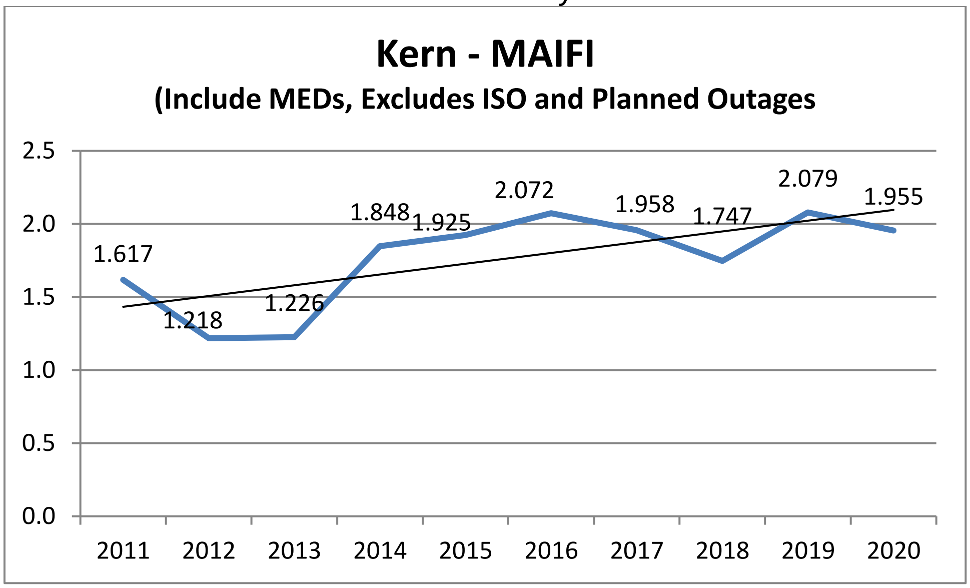


Chart 56: Division Reliability - MAIFI Indices

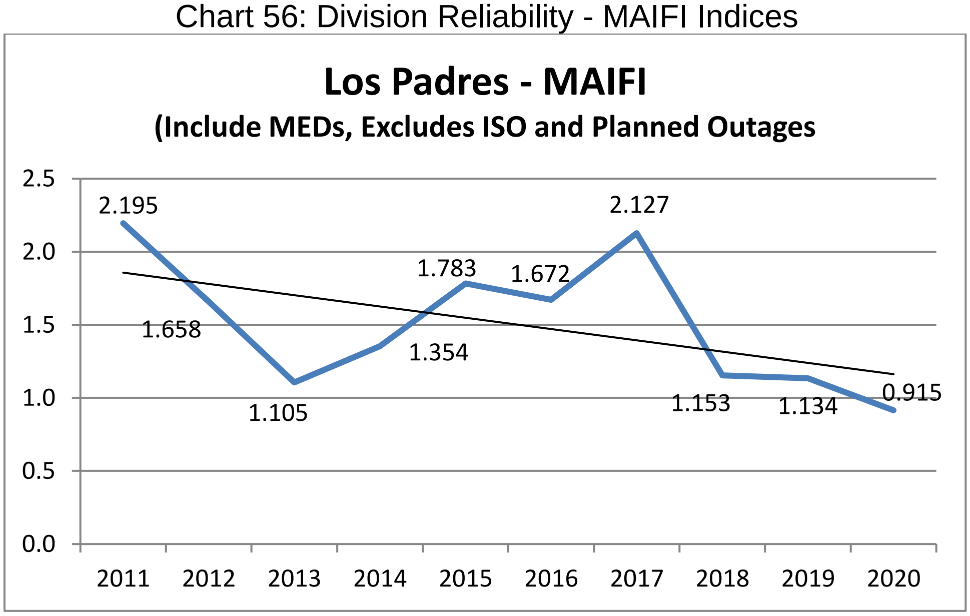


Chart 57: Division Reliability - MAIFI Indices

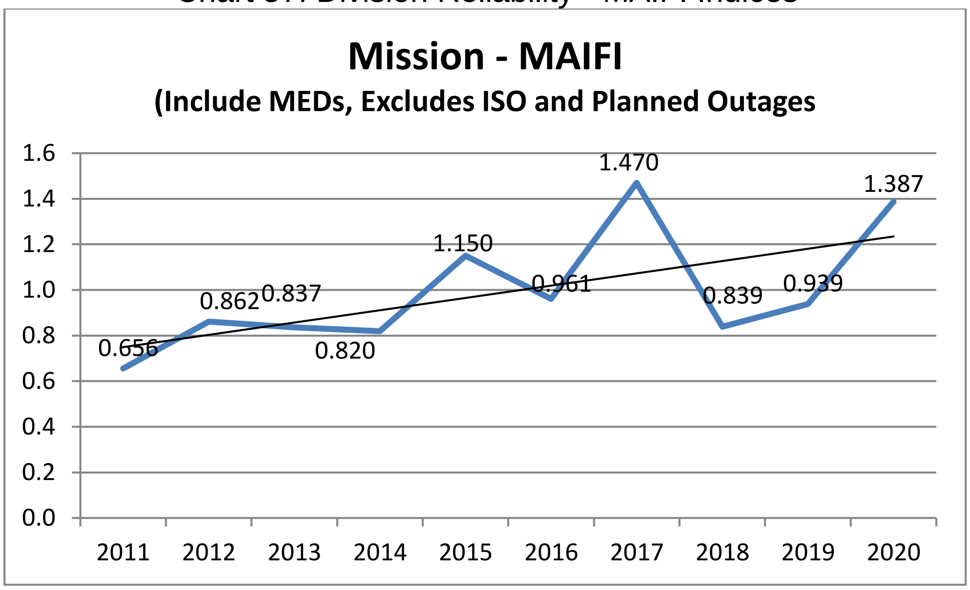


Chart 58: Division Reliability - MAIFI Indices

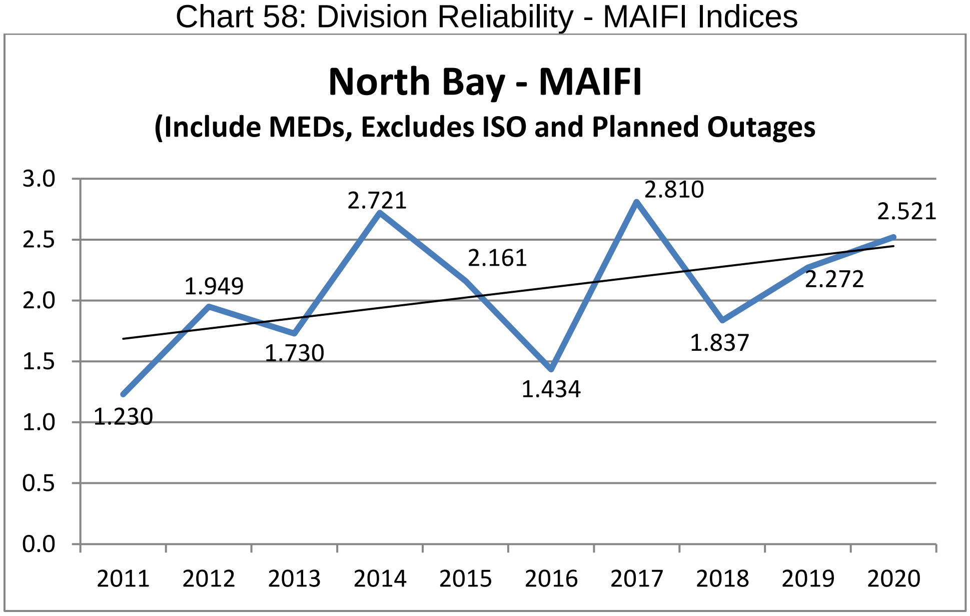


Chart 59: Division Reliability - MAIFI Indices

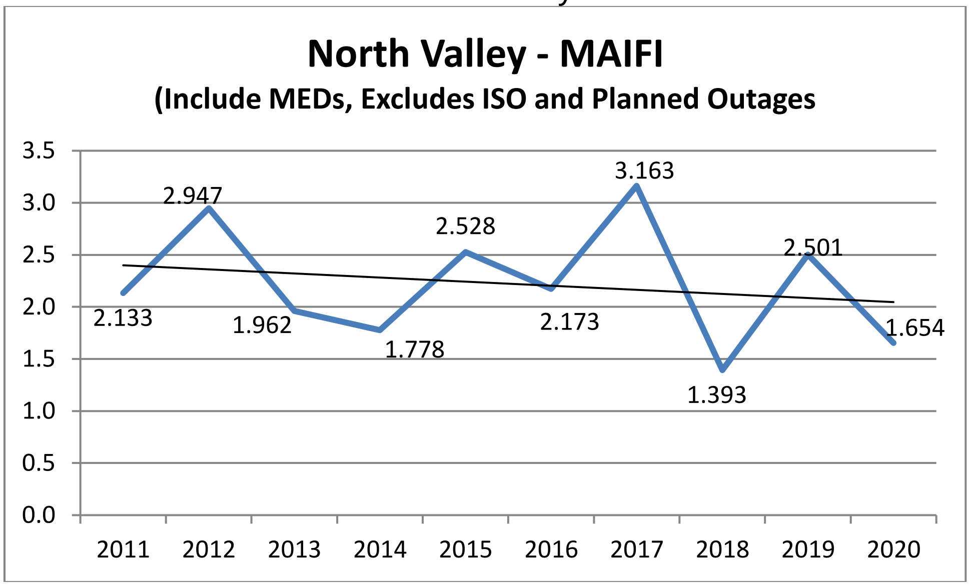


Chart 60: Division Reliability - MAIFI Indices

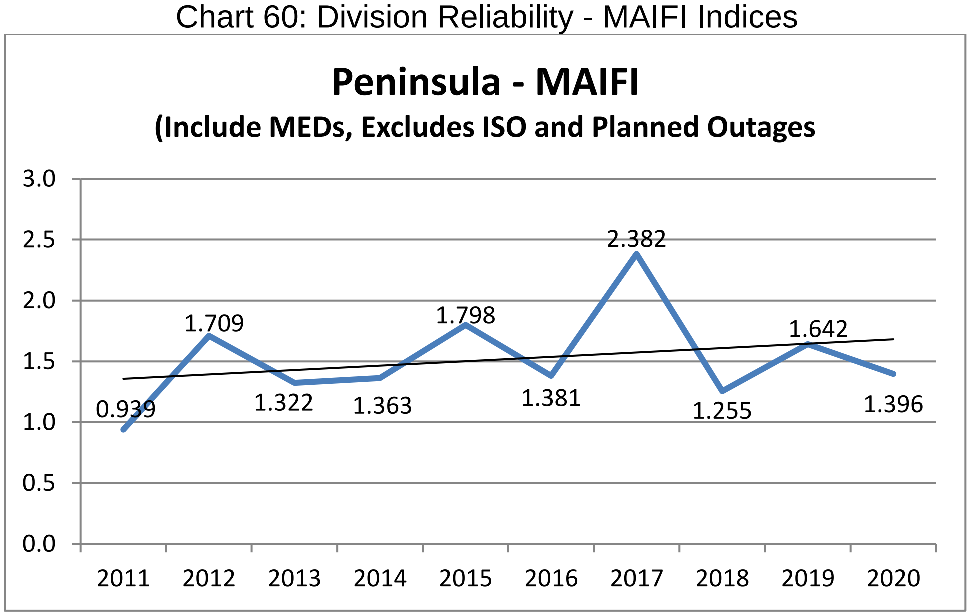


Chart 61: Division Reliability - MAIFI Indices

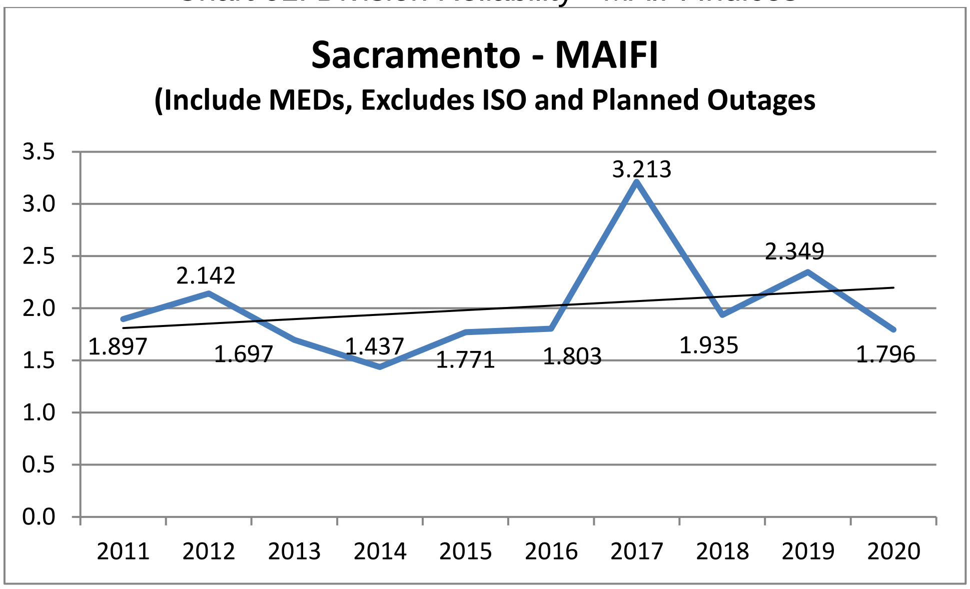


Chart 62: Division Reliability - MAIFI Indices

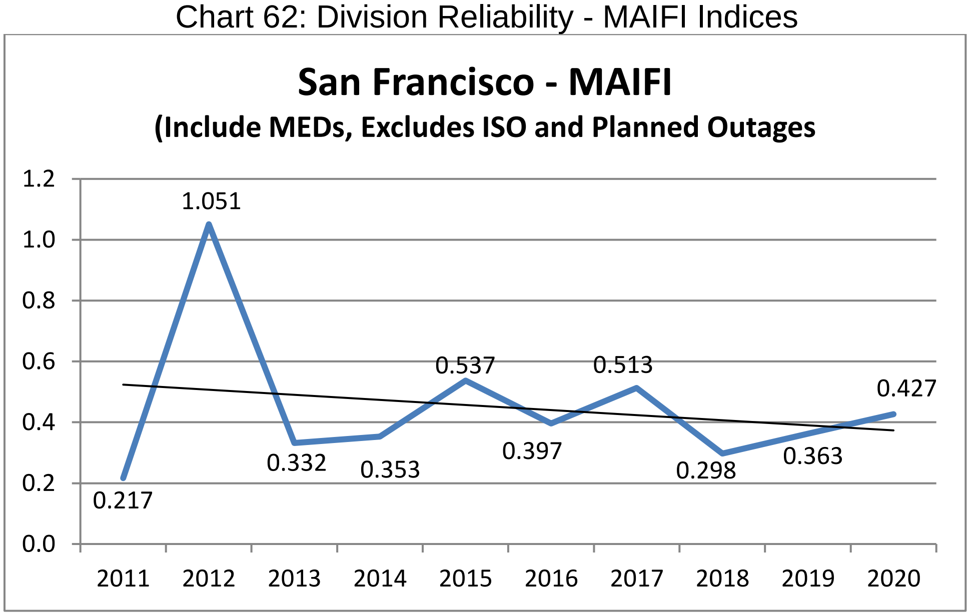


Chart 63: Division Reliability - MAIFI Indices

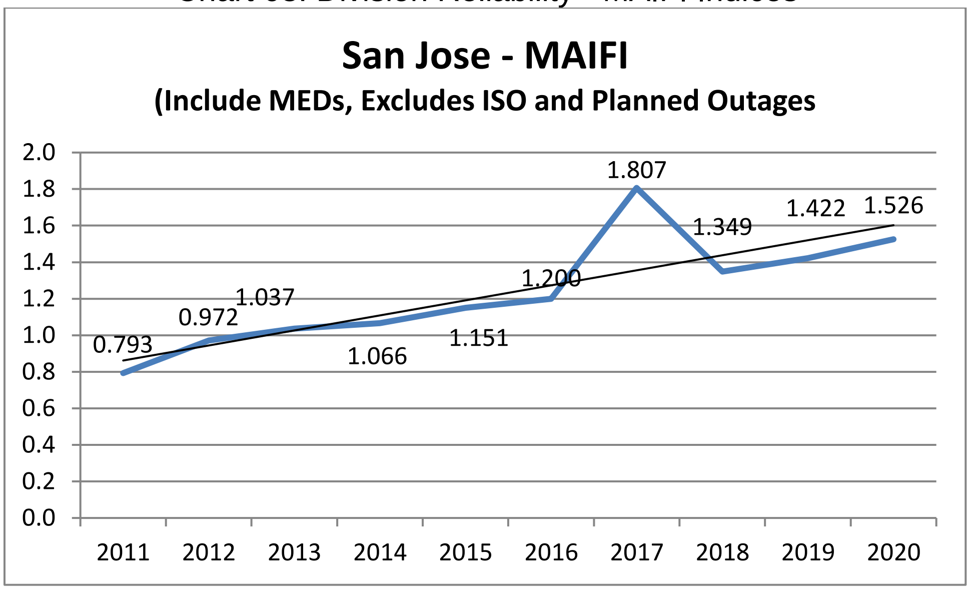


Chart 64: Division Reliability - MAIFI Indices

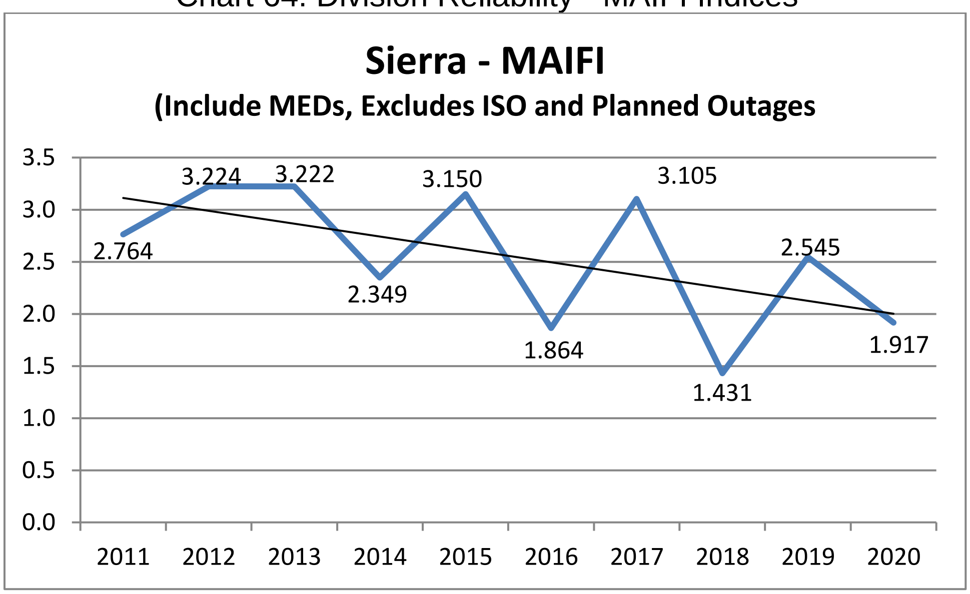


Chart 65: Division Reliability - MAIFI Indices

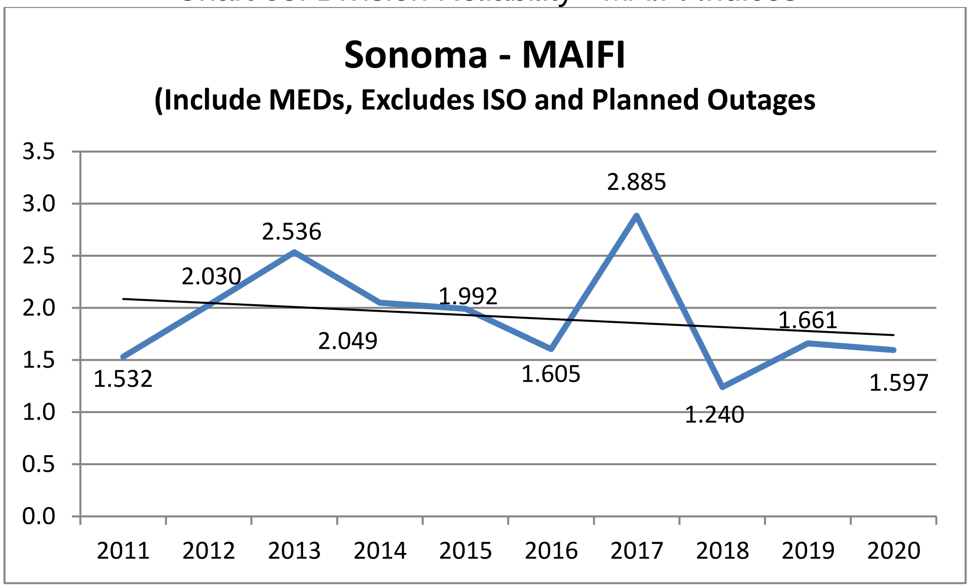


Chart 66: Division Reliability - MAIFI Indices

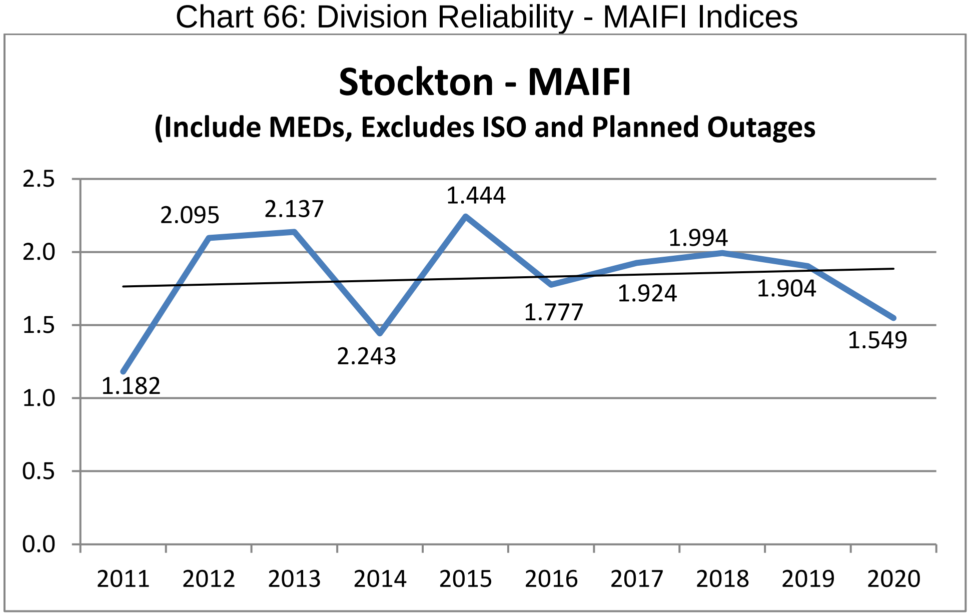
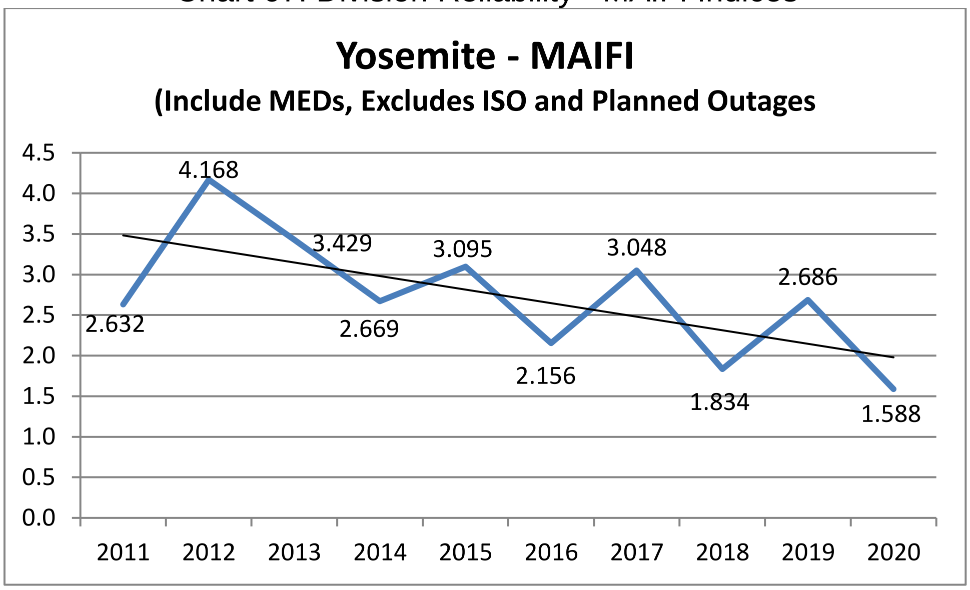


Chart 67: Division Reliability - MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 68: Division Reliability - CAIDI Indices

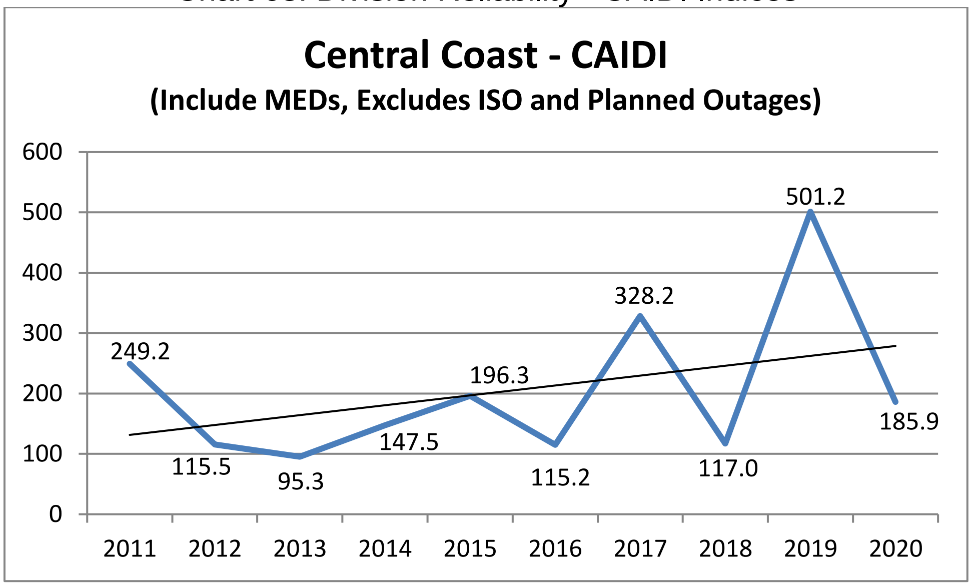


Chart 69: Division Reliability - CAIDI Indices

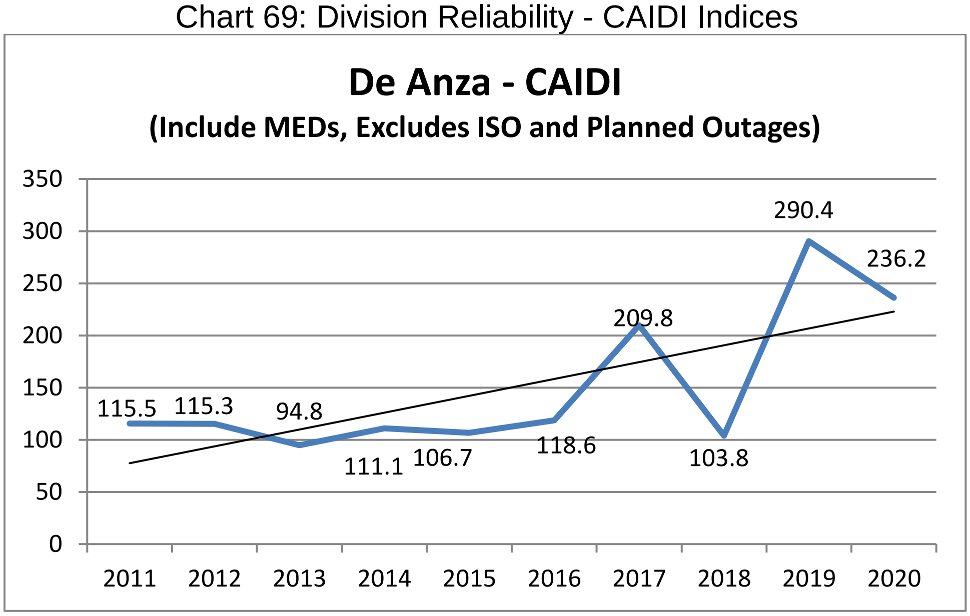


Chart 70: Division Reliability - CAIDI Indices

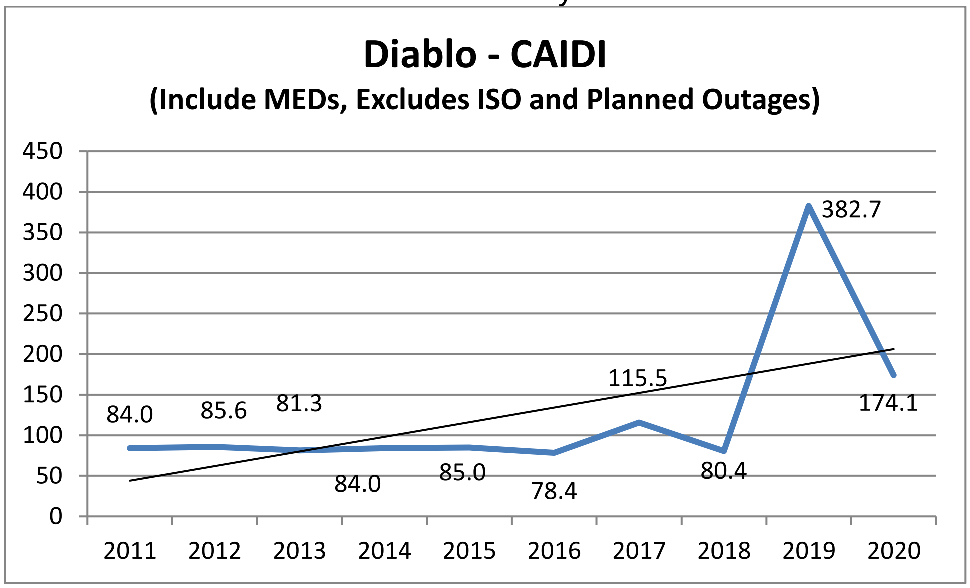


Chart 71: Division Reliability - CAIDI Indices

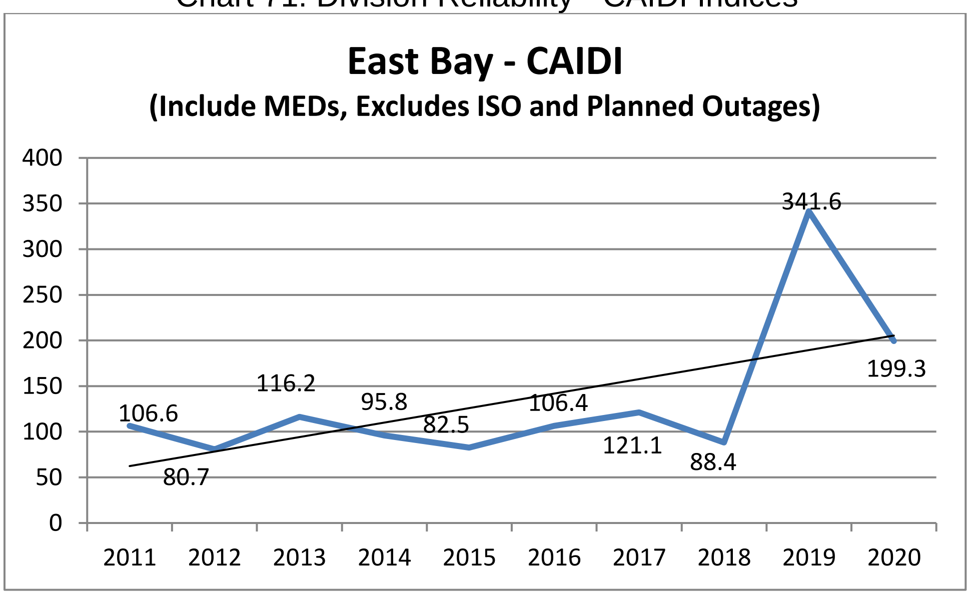


Chart 72: Division Reliability - CAIDI Indices

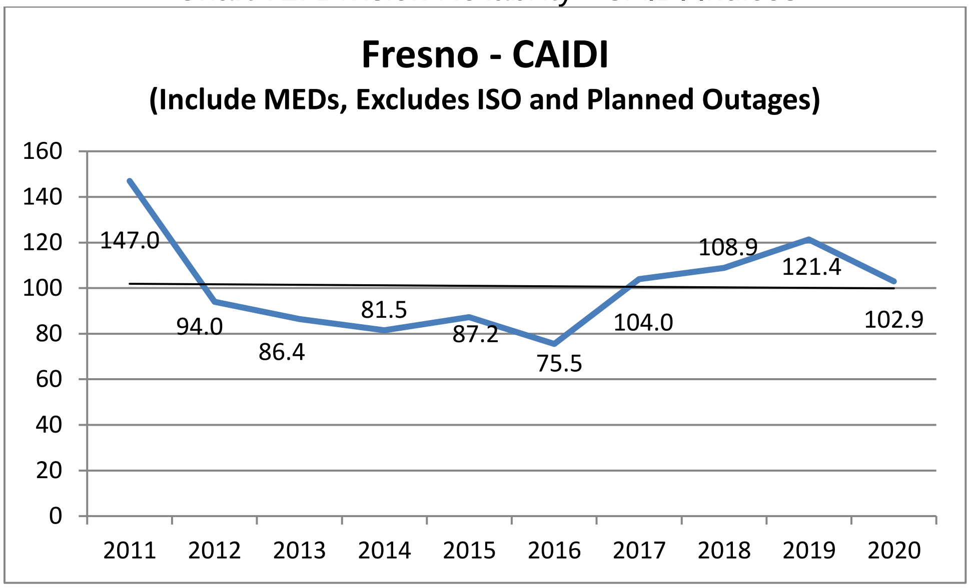


Chart 73: Division Reliability - CAIDI Indices

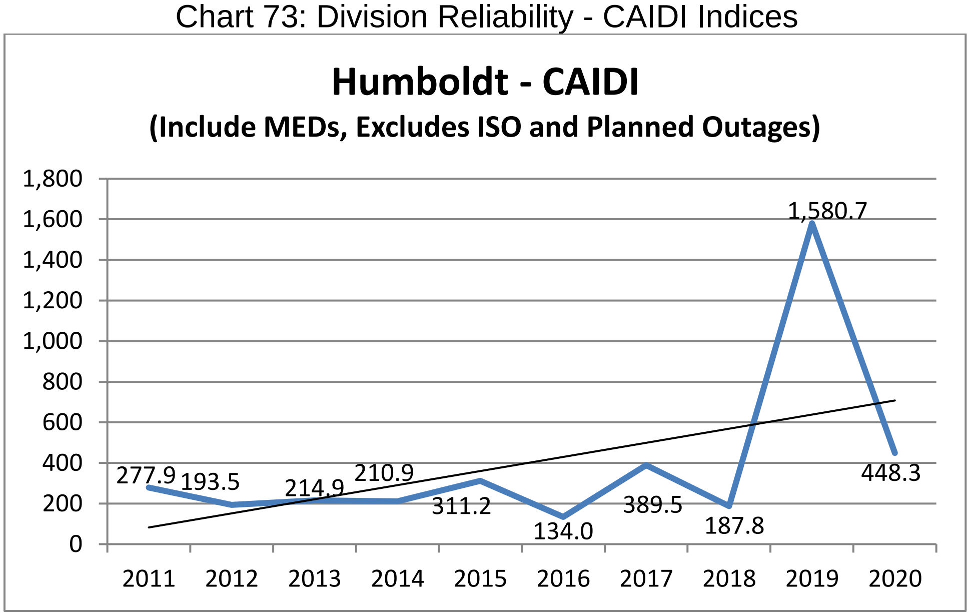


Chart 74: Division Reliability - CAIDI Indices

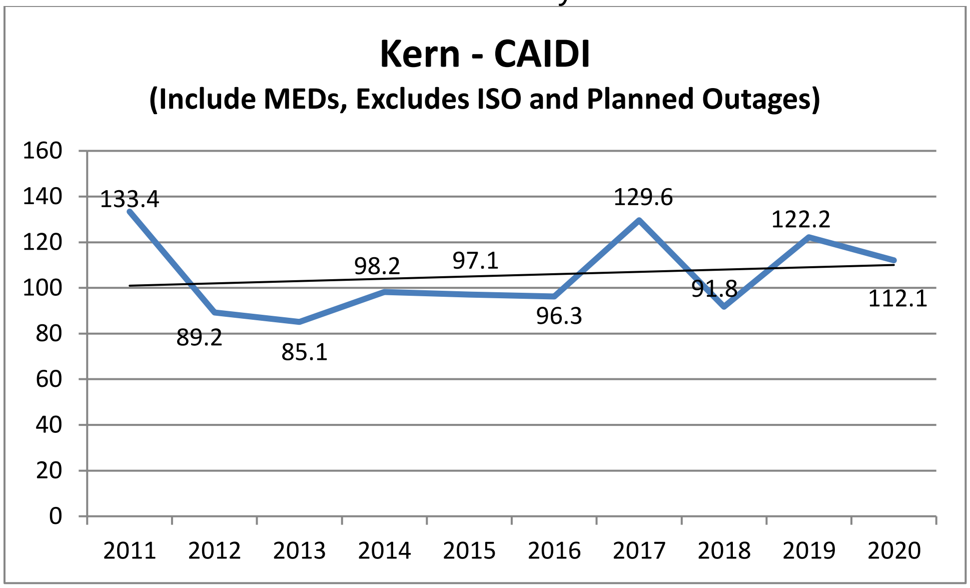


Chart 75: Division Reliability - CAIDI Indices

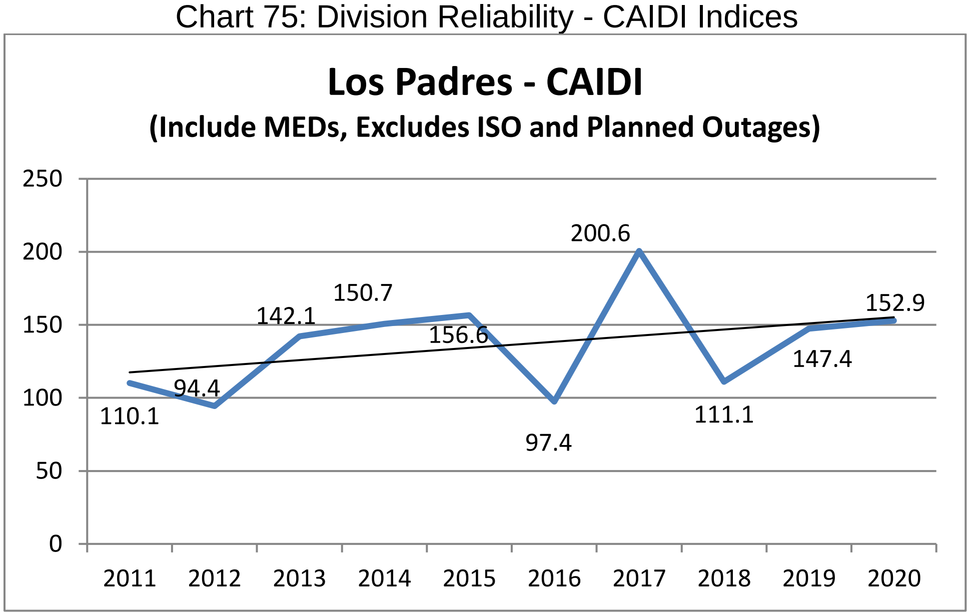


Chart 76: Division Reliability - CAIDI Indices

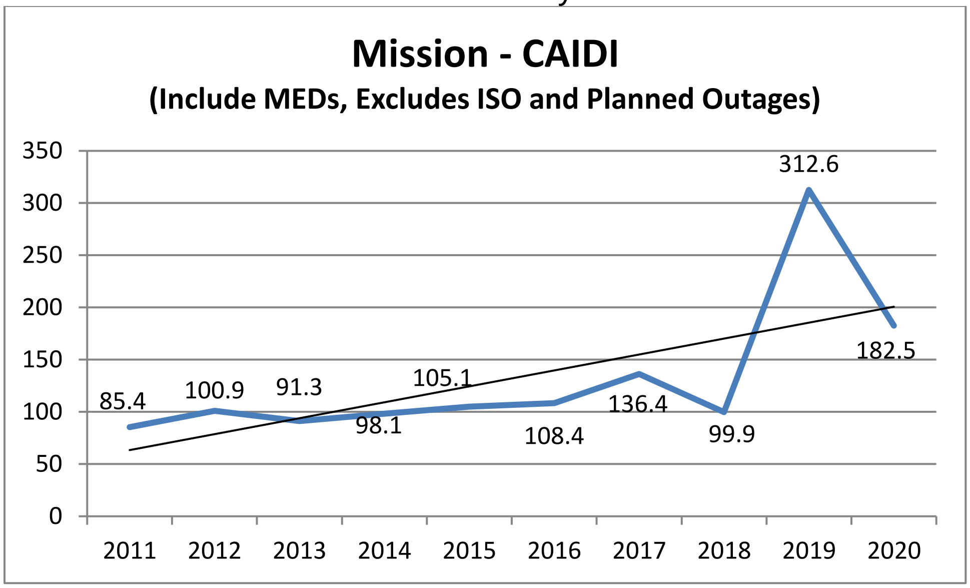


Chart 77: Division Reliability - CAIDI Indices

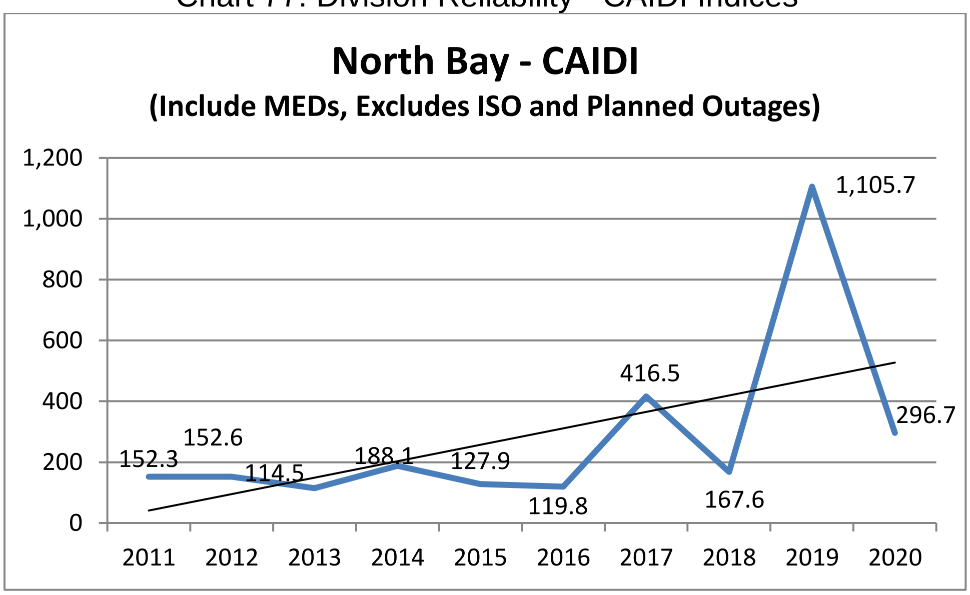


Chart 78: Division Reliability - CAIDI Indices

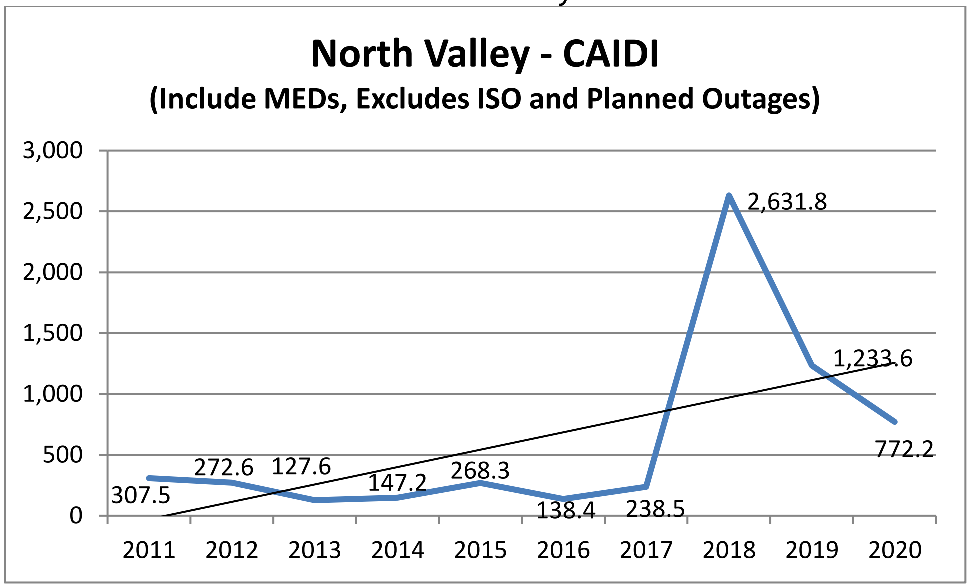


Chart 79: Division Reliability - CAIDI Indices

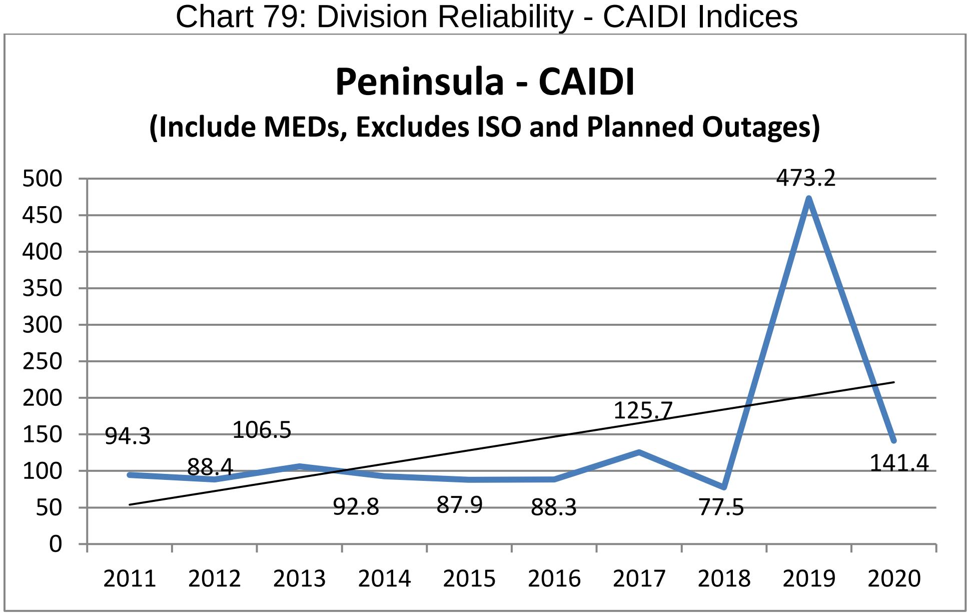


Chart 80: Division Reliability - CAIDI Indices

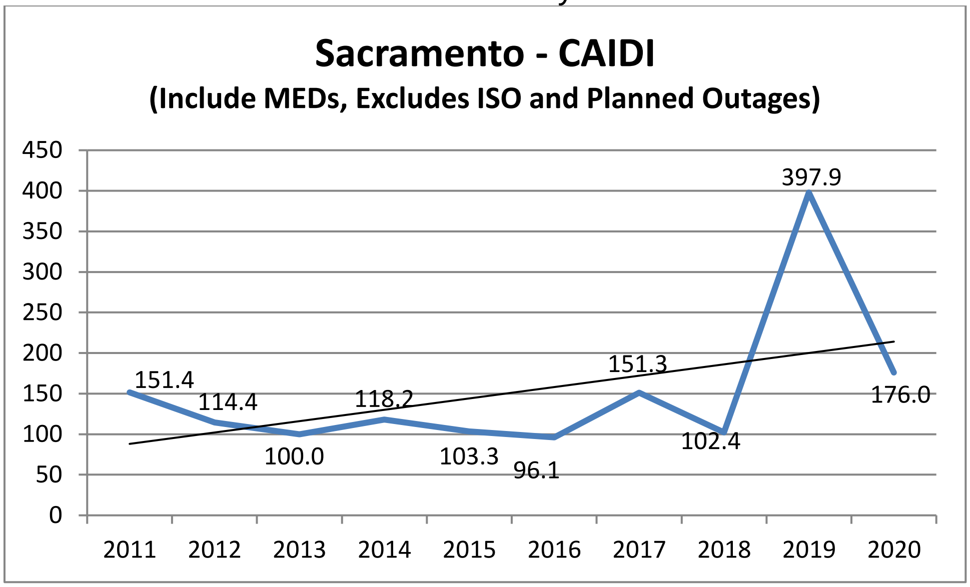


Chart 81: Division Reliability - CAIDI Indices

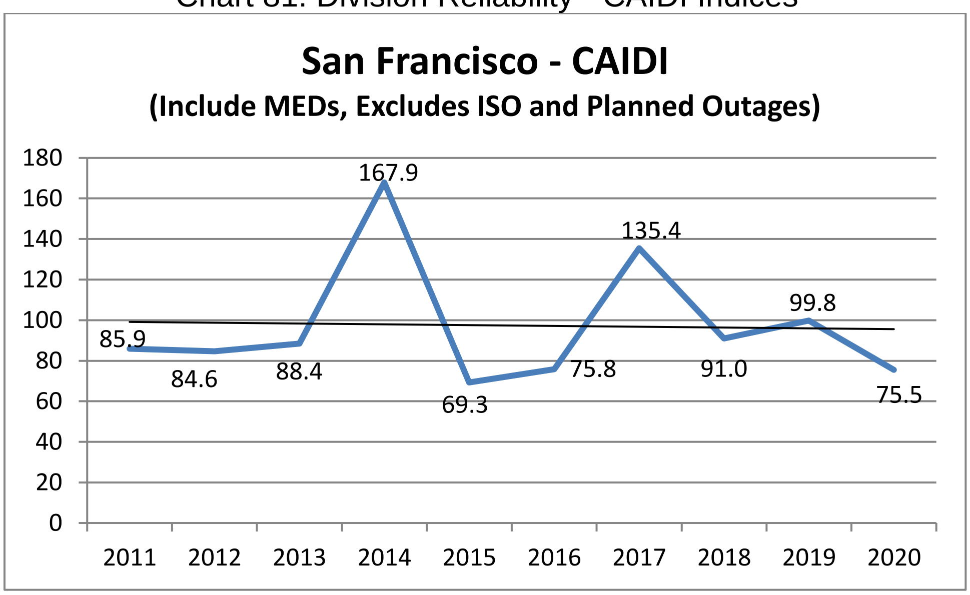


Chart 82: Division Reliability - CAIDI Indices

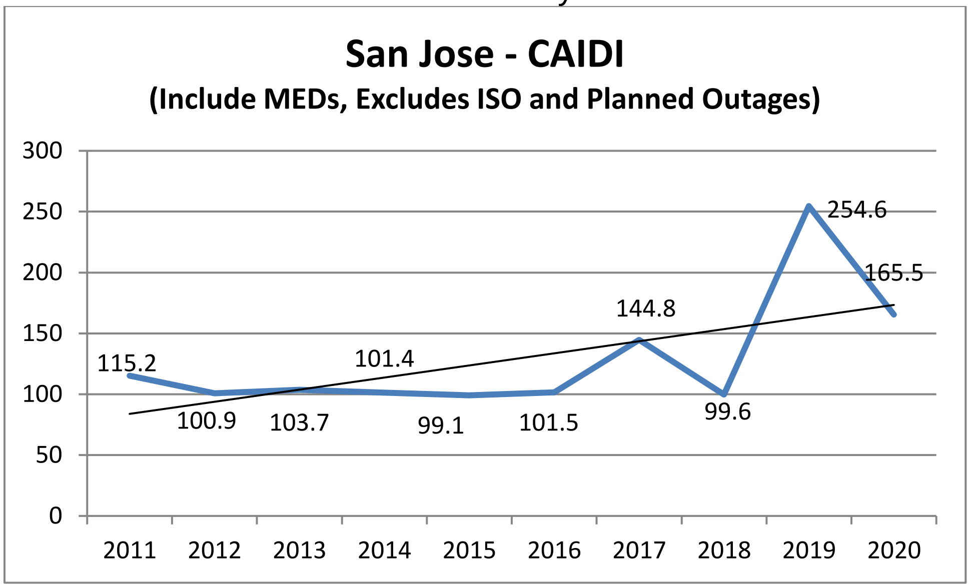


Chart 83: Division Reliability - CAIDI Indices

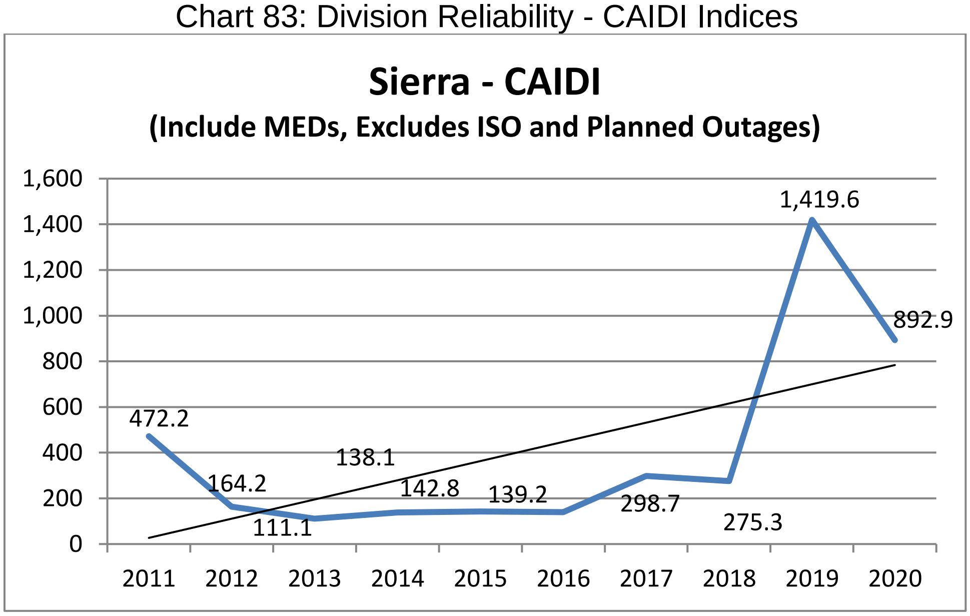


Chart 84: Division Reliability - CAIDI Indices

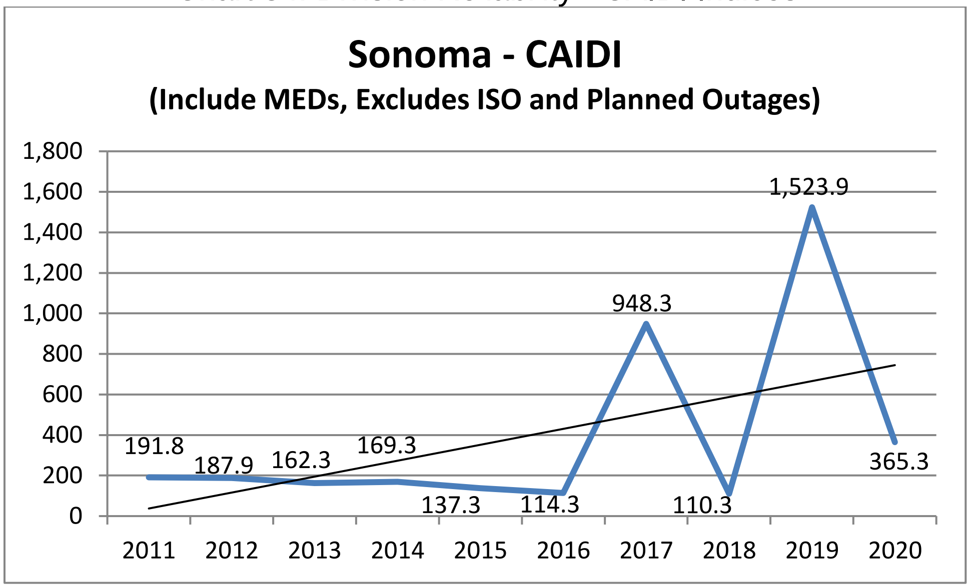


Chart 85: Division Reliability - CAIDI Indices

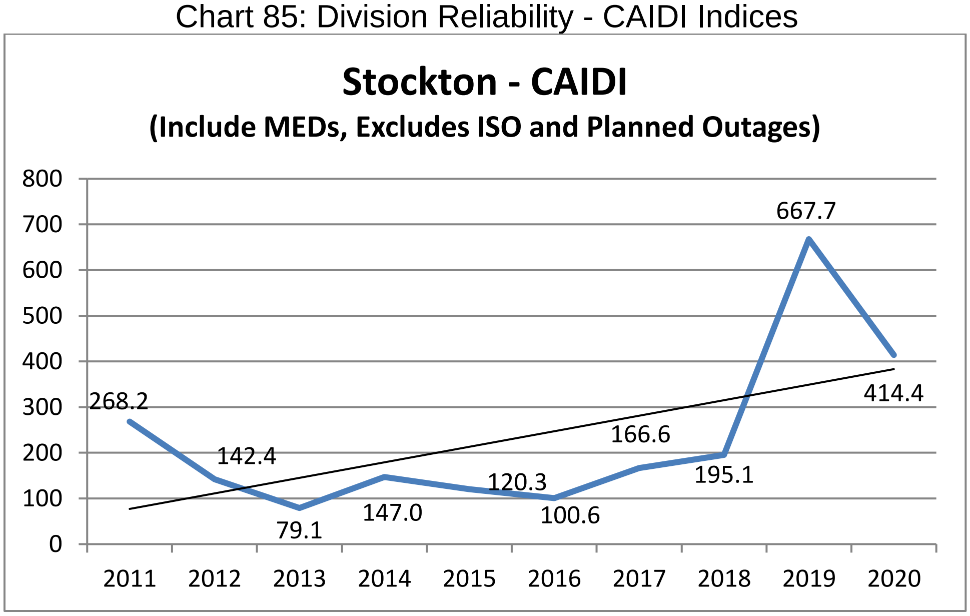
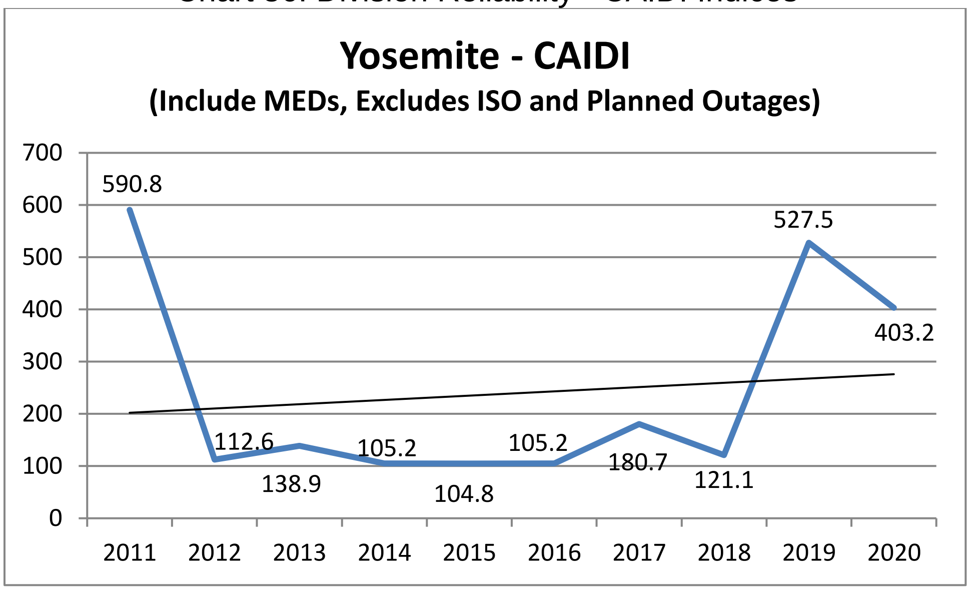


Chart 86: Division Reliability - CAIDI Indices



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

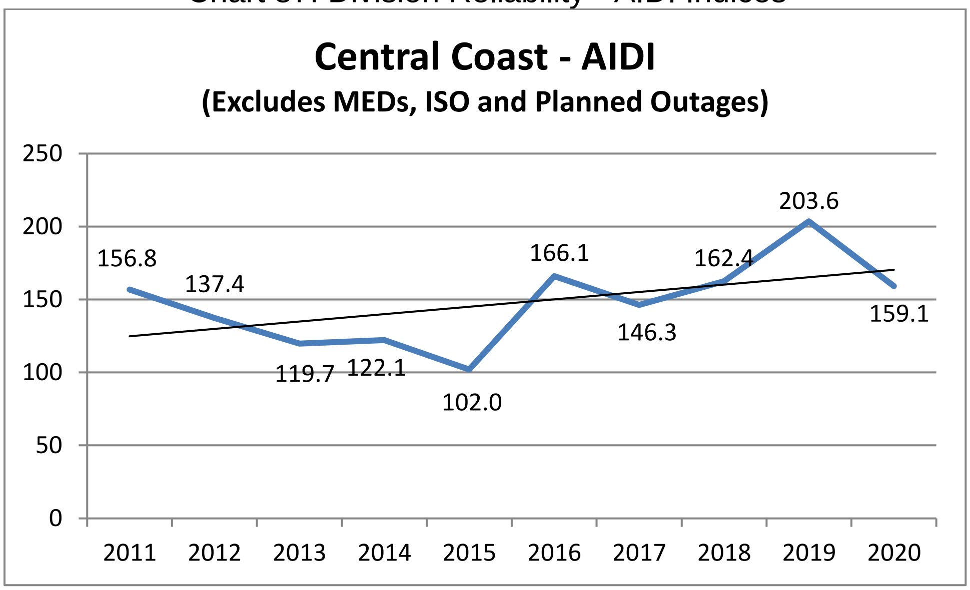


Chart 88: Division Reliability - AIDI Indices

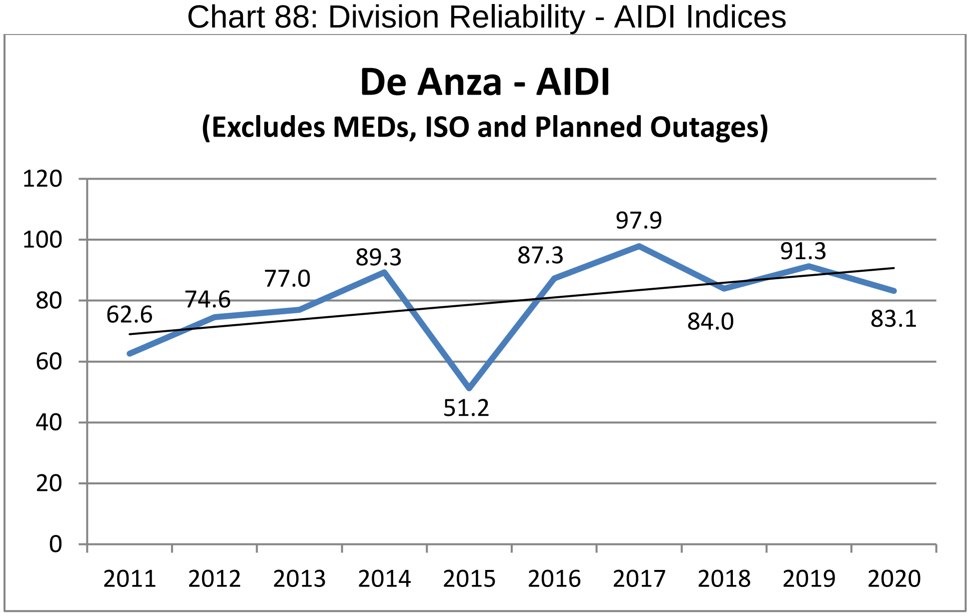


Chart 89: Division Reliability - AIDI Indices

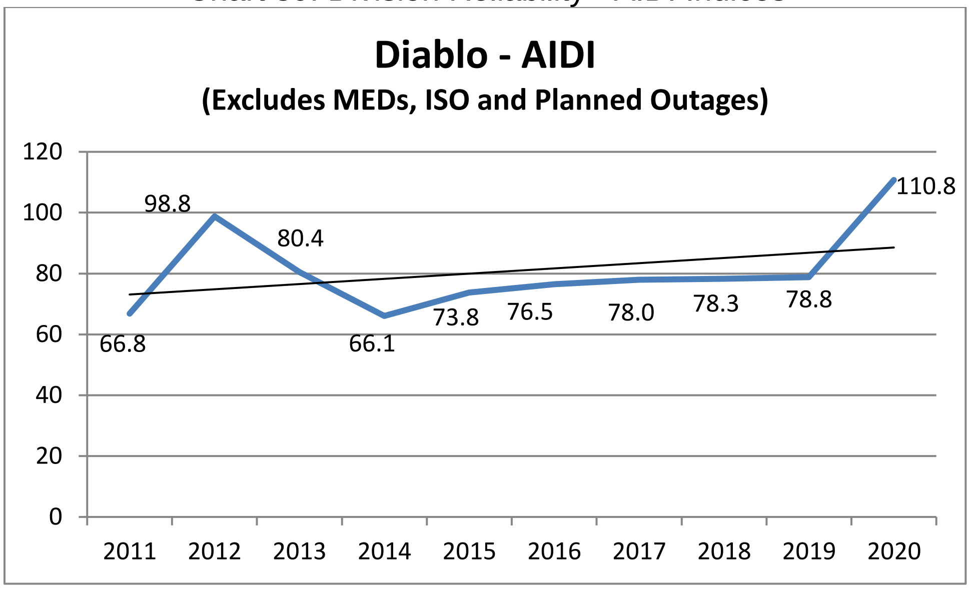


Chart 90: Division Reliability - AIDI Indices

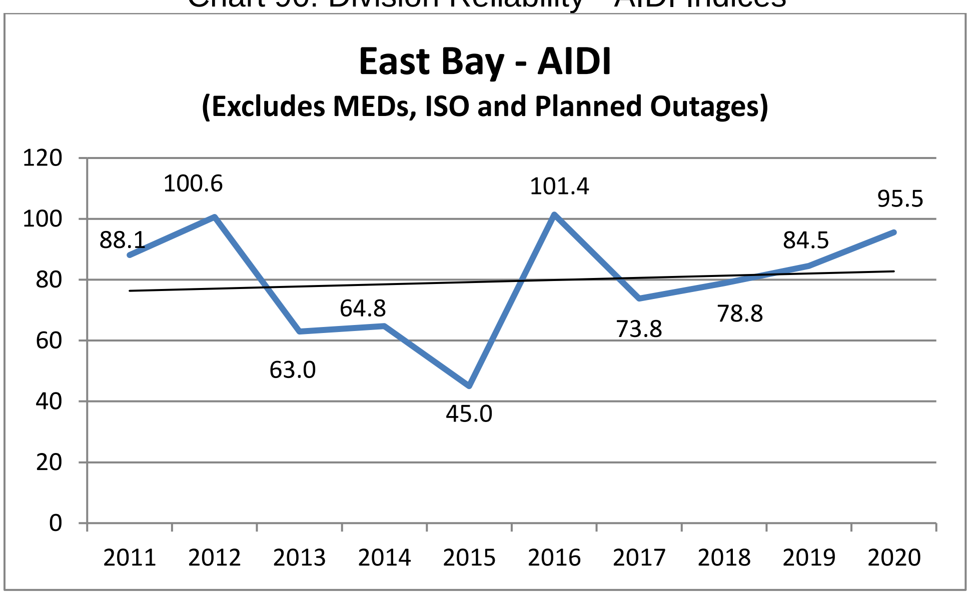


Chart 91: Division Reliability - AIDI Indices

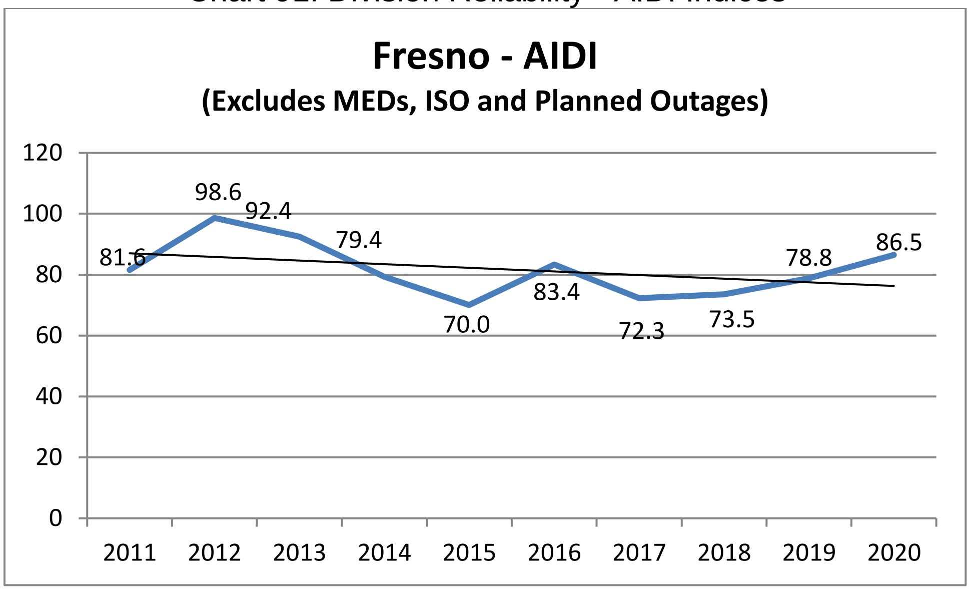


Chart 92: Division Reliability - AIDI Indices

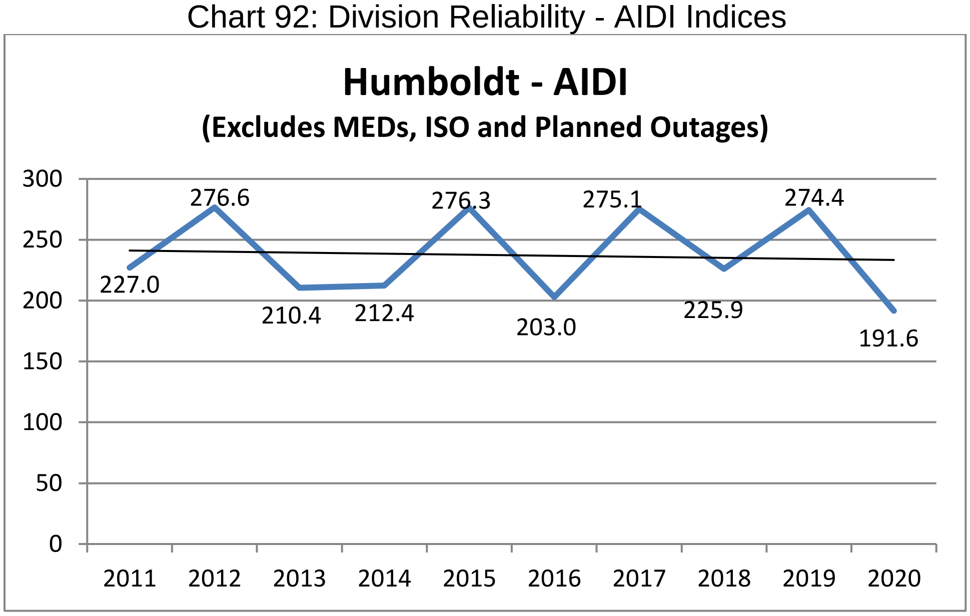


Chart 93: Division Reliability - AIDI Indices

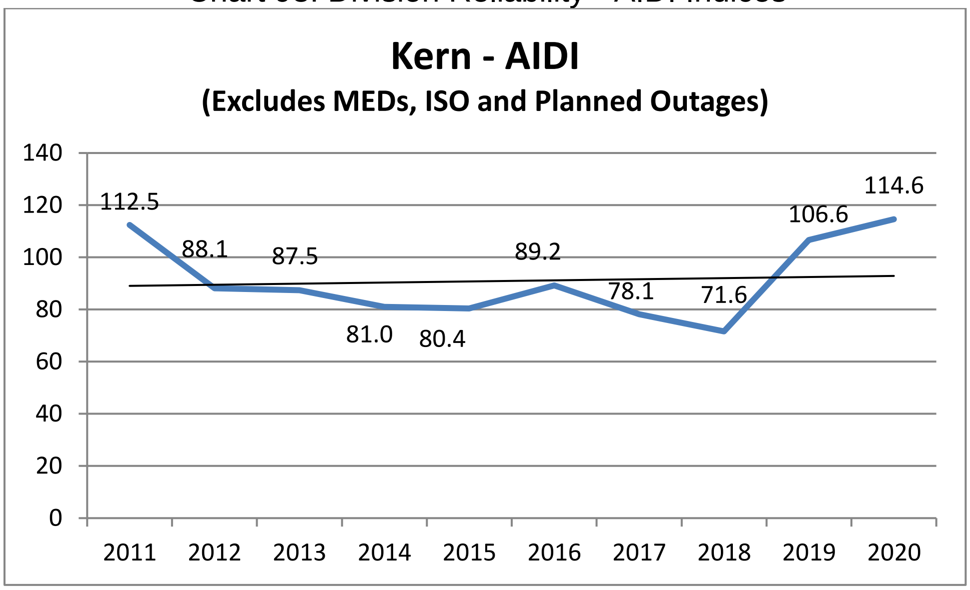


Chart 94: Division Reliability - AIDI Indices

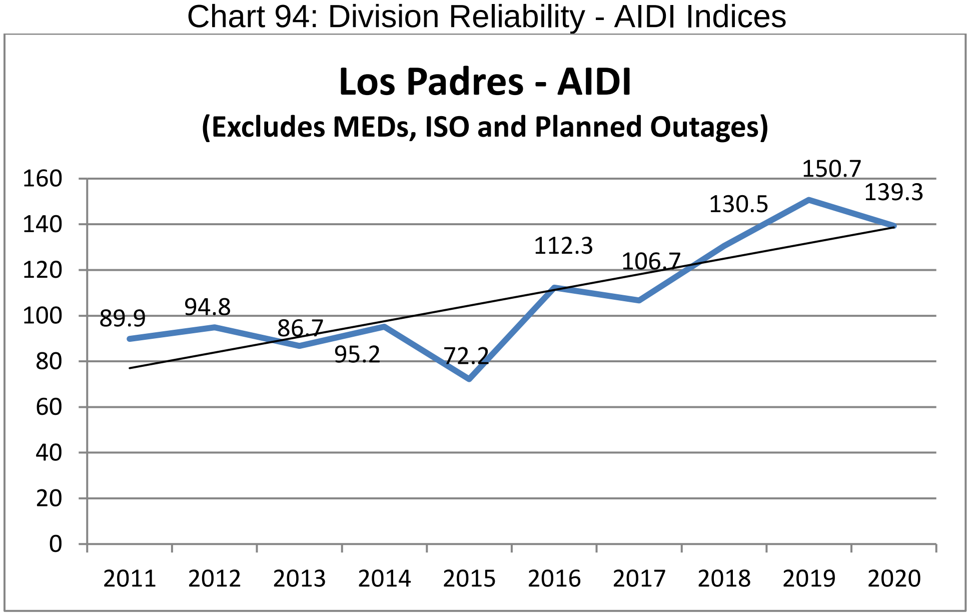


Chart 95: Division Reliability - AIDI Indices

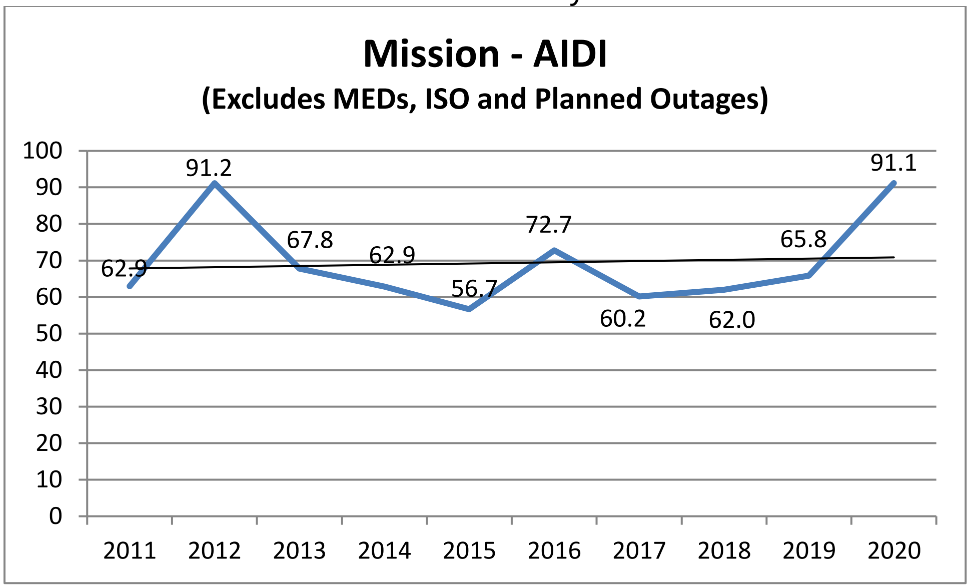


Chart 96: Division Reliability - AIDI Indices

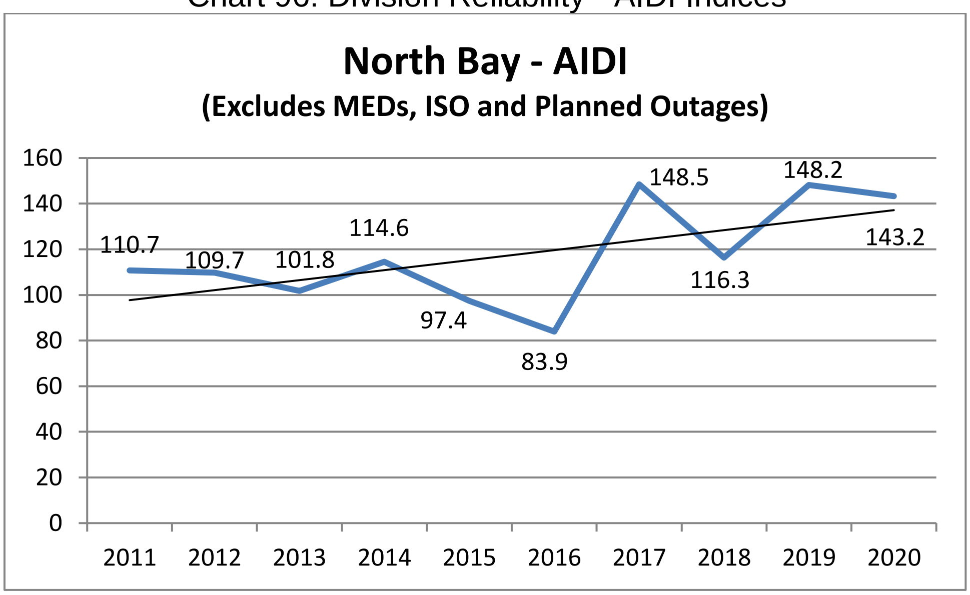


Chart 97: Division Reliability - AIDI Indices

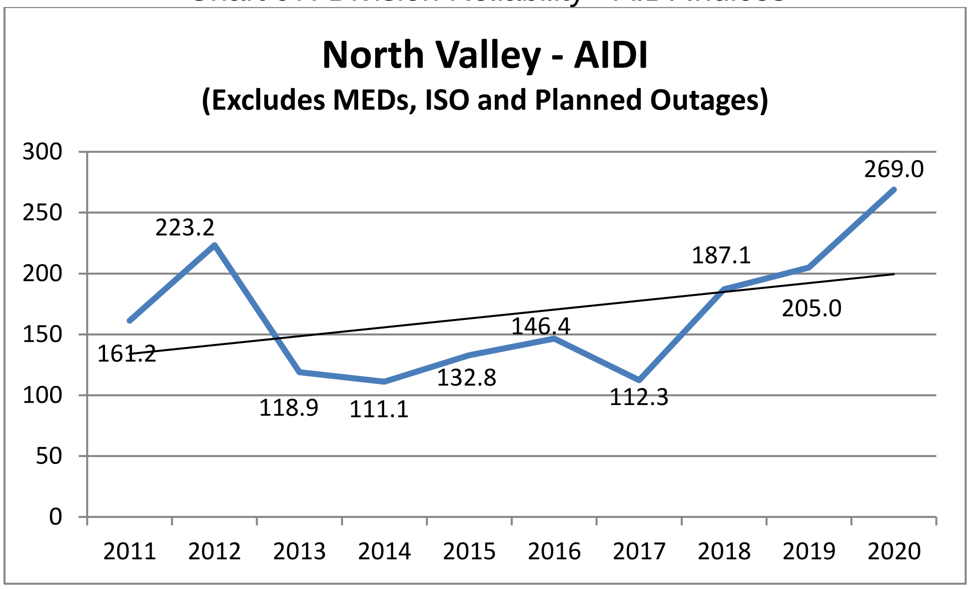


Chart 98: Division Reliability - AIDI Indices

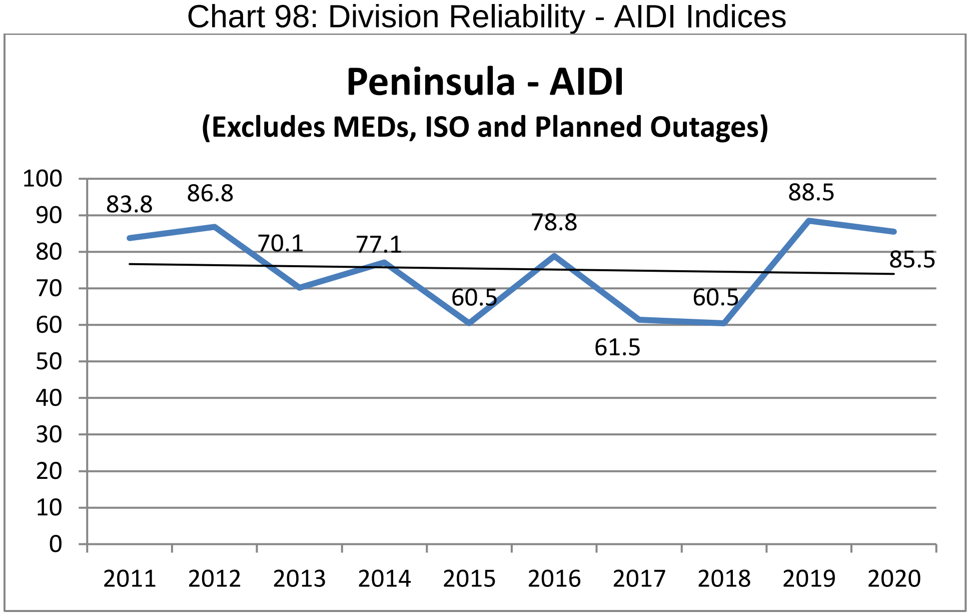


Chart 99: Division Reliability - AIDI Indices

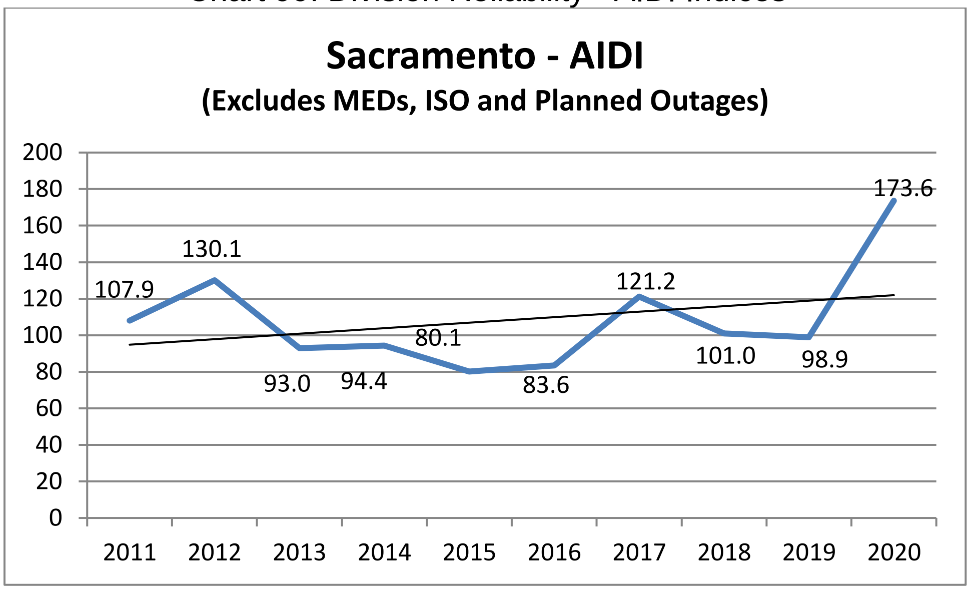


Chart 100: Division Reliability - AIDI Indices

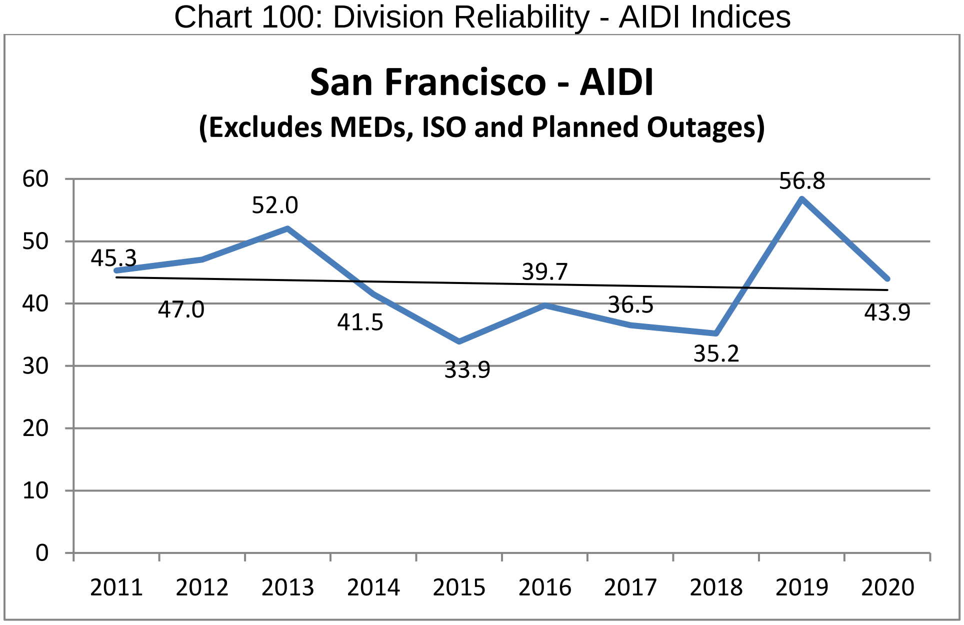


Chart 101: Division Reliability - AIDI Indices

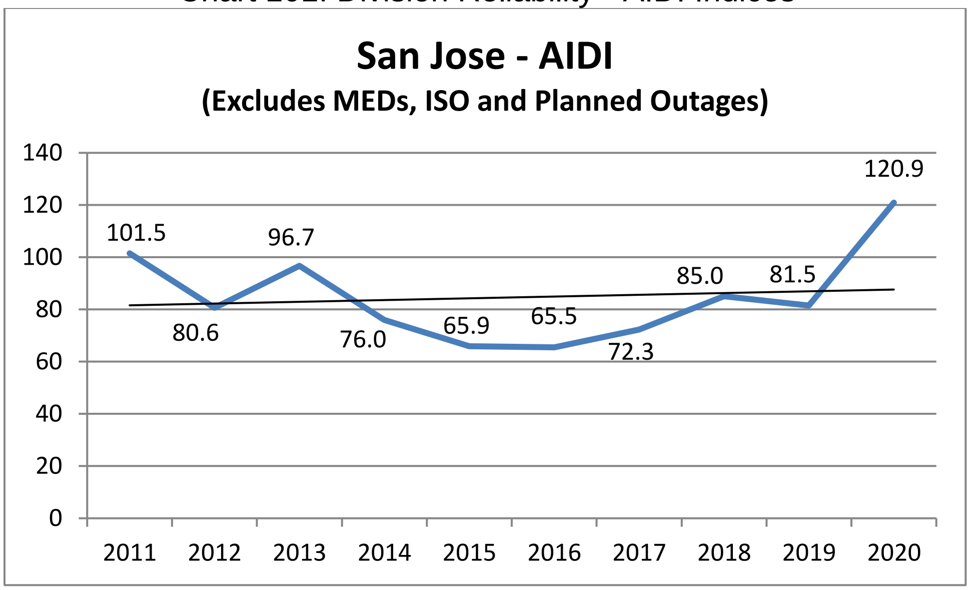


Chart 102: Division Reliability - AIDI Indices

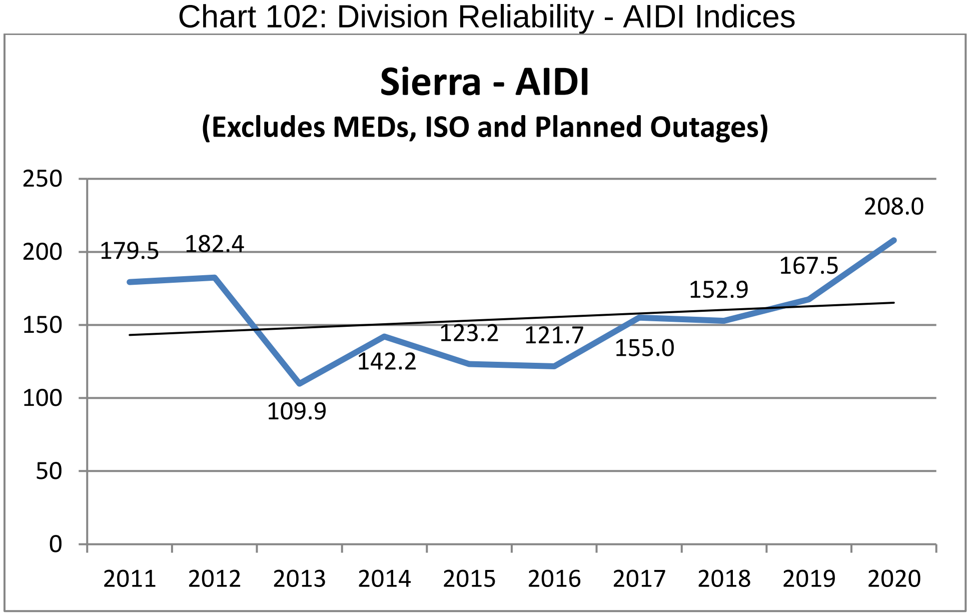


Chart 103: Division Reliability - AIDI Indices

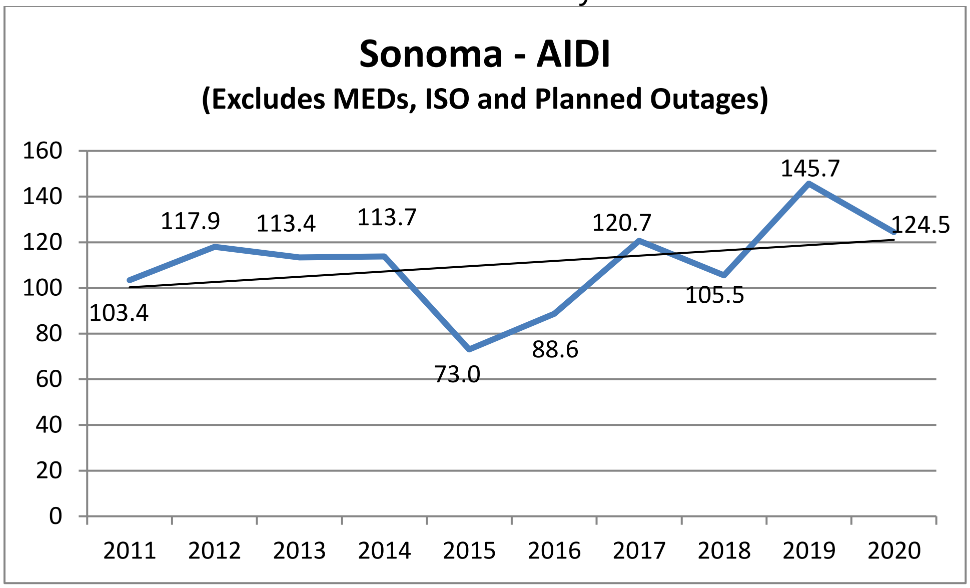


Chart 104: Division Reliability - AIDI Indices

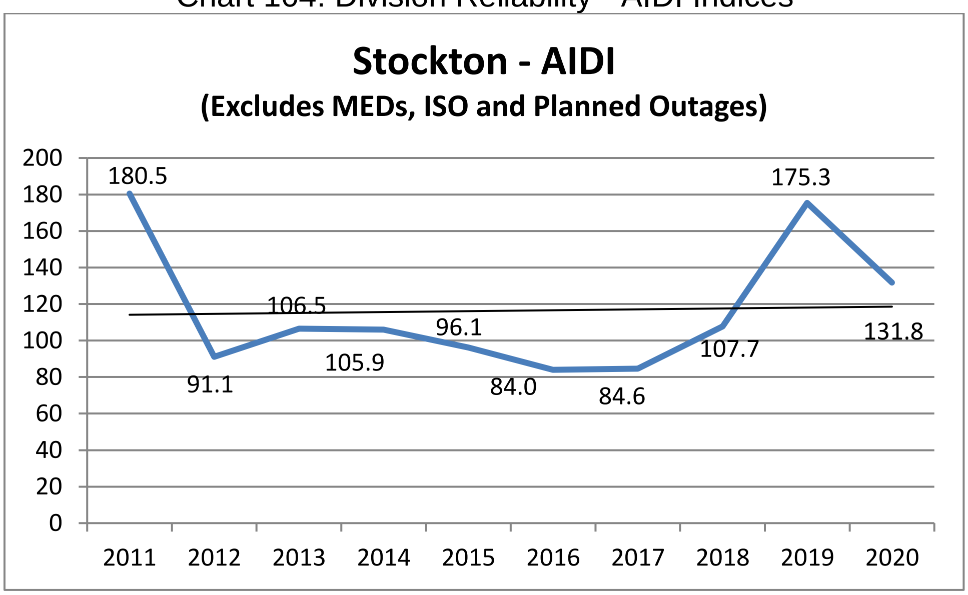
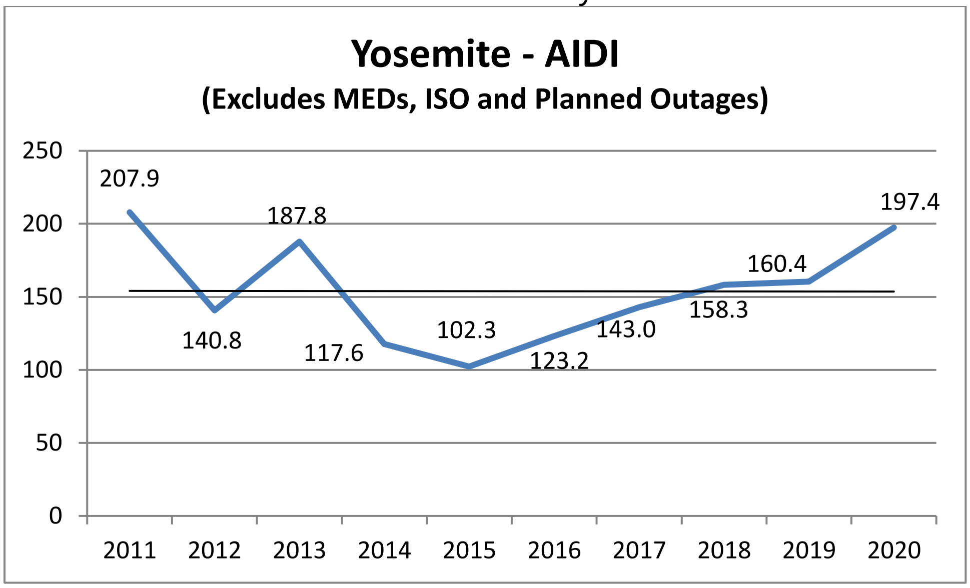


Chart 105: Division Reliability - AIDI Indices



2. AIFI Performance Results (MED Excluded)

Chart 106: Division Reliability - AIFI Indices

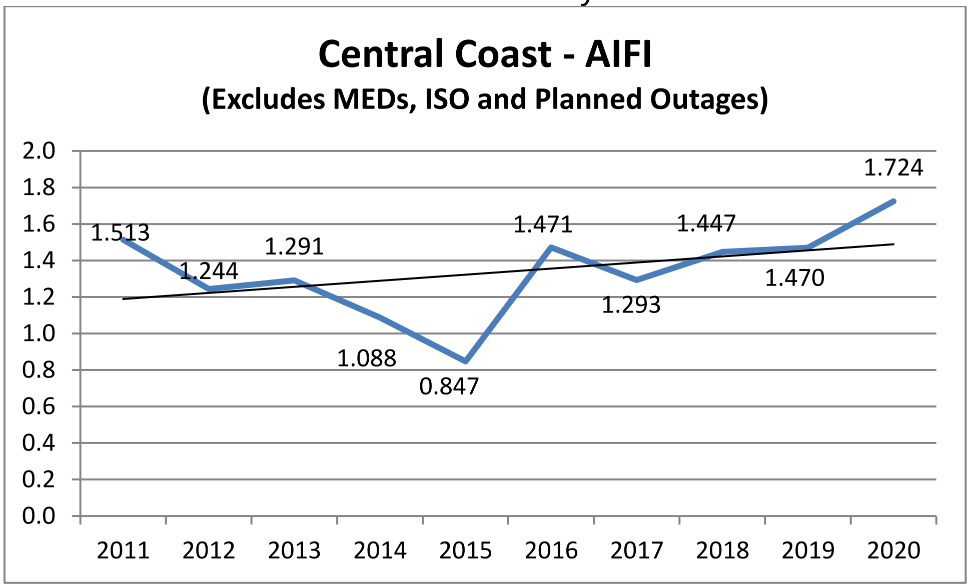


Chart 107: Division Reliability - AIFI Indices

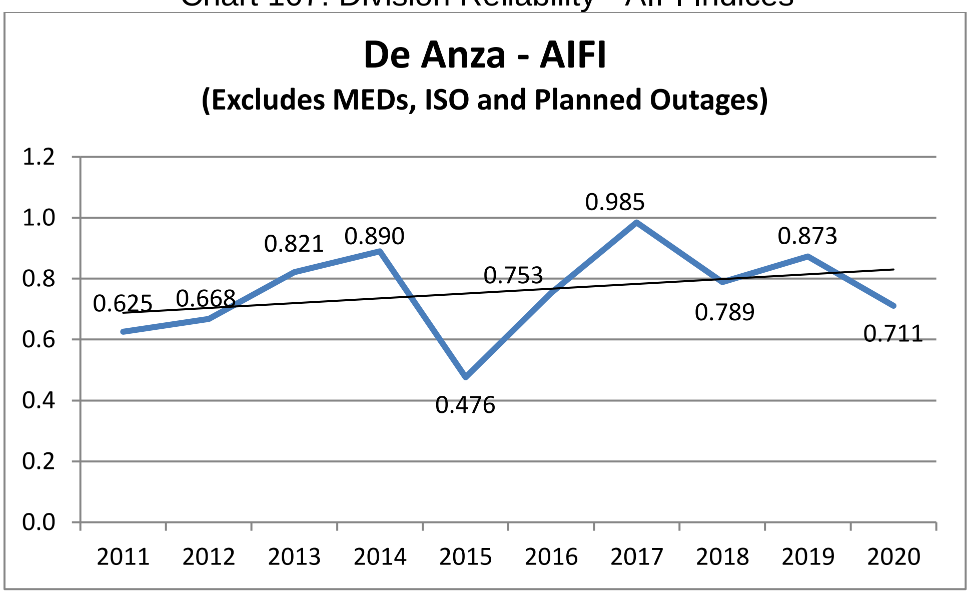


Chart 108: Division Reliability - AIFI Indices

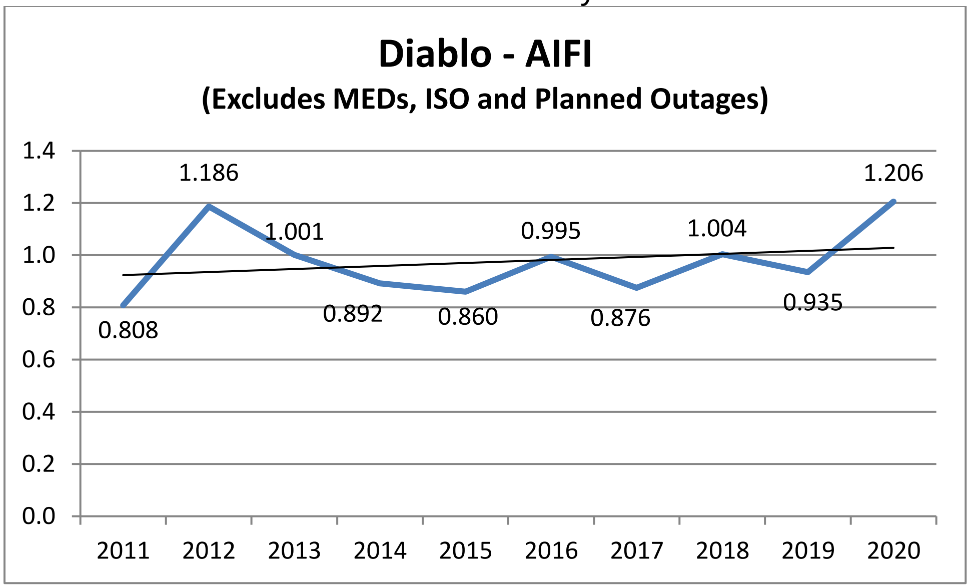


Chart 109: Division Reliability - AIFI Indices

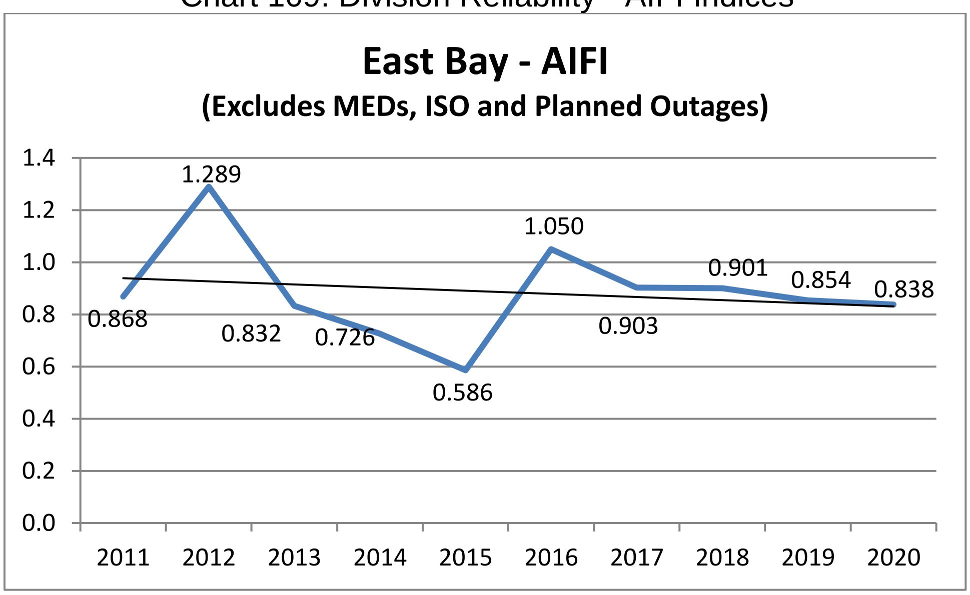


Chart 110: Division Reliability - AIFI Indices

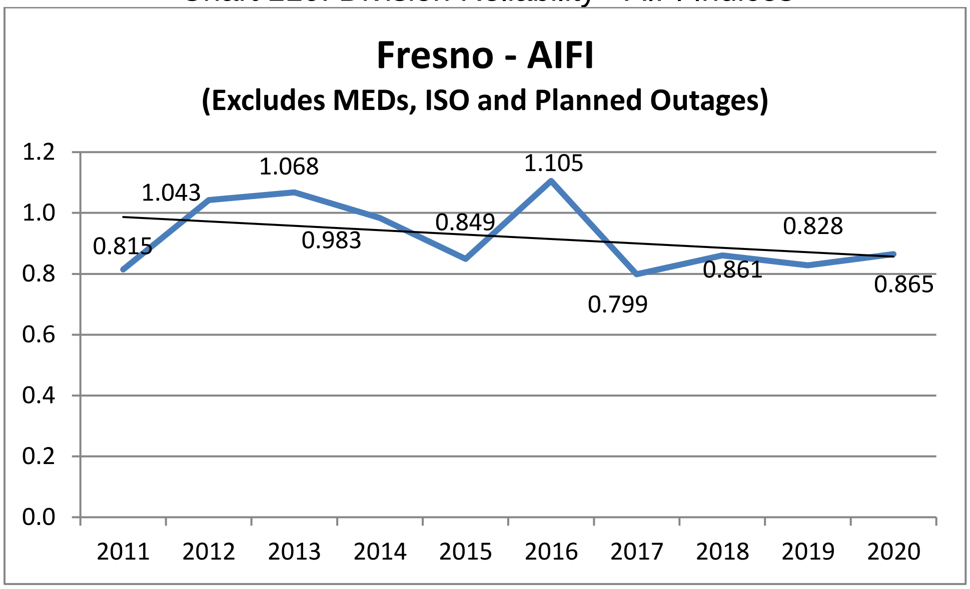


Chart 111: Division Reliability - AIFI Indices

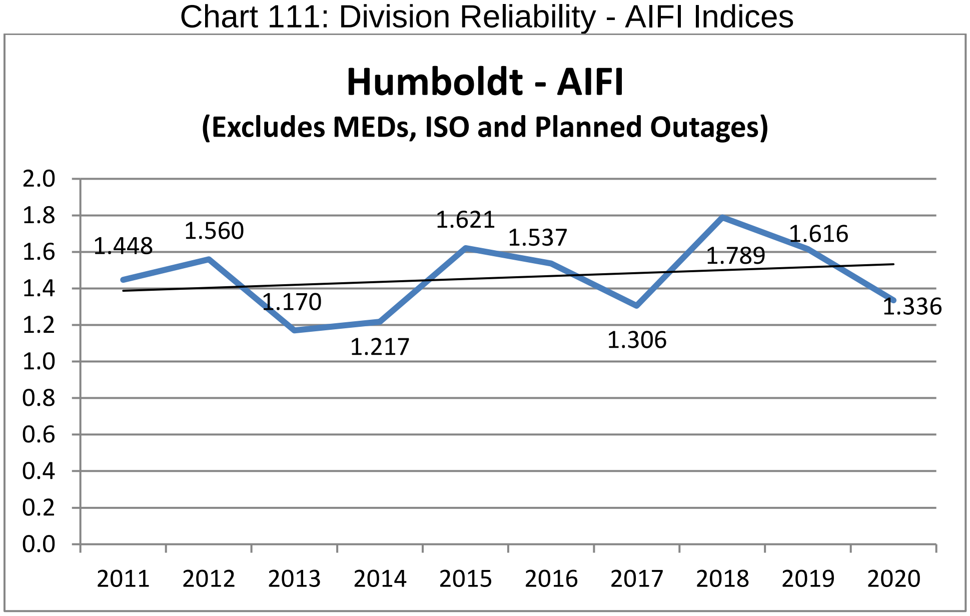


Chart 112: Division Reliability - AIFI Indices

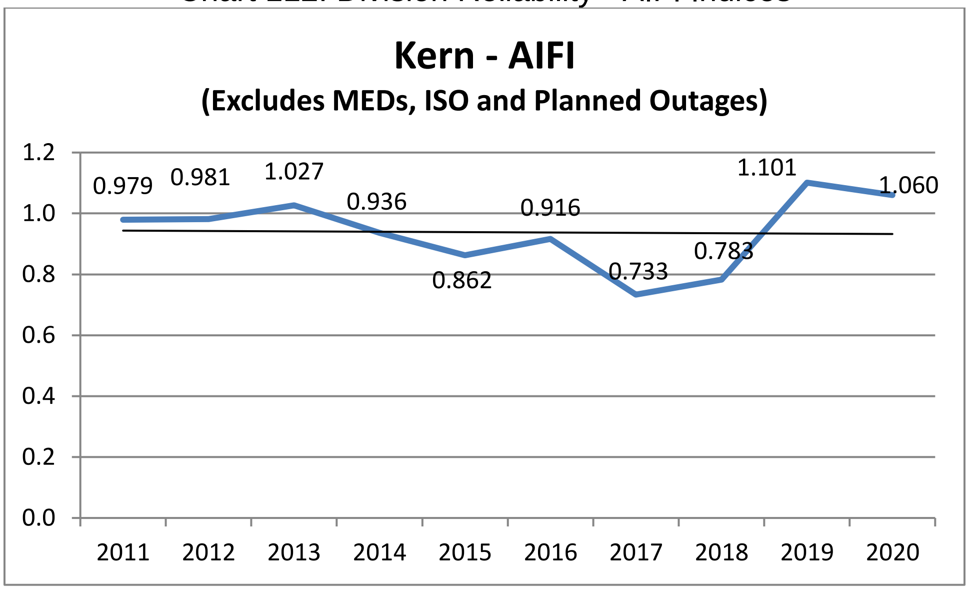


Chart 113: Division Reliability - AIFI Indices

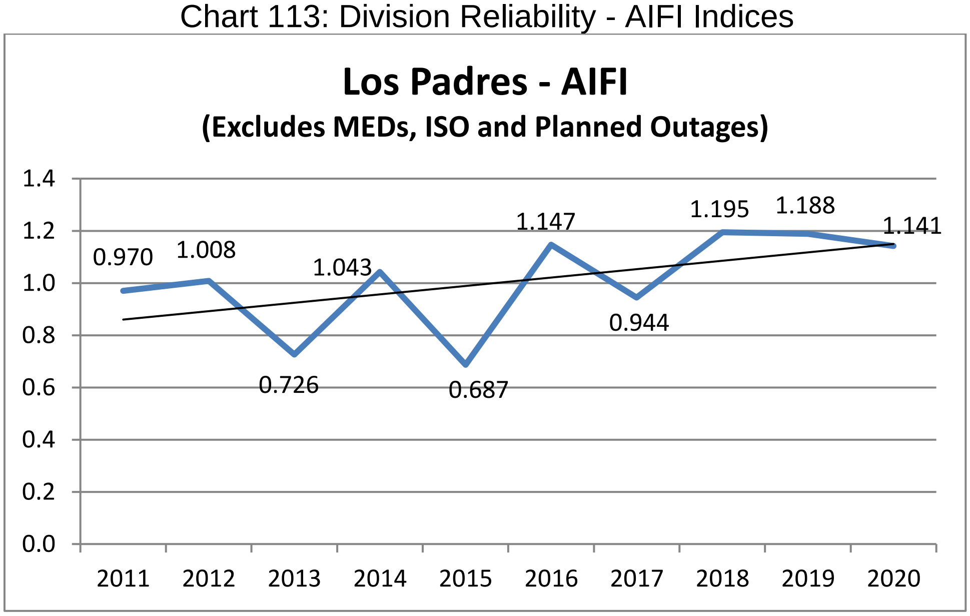


Chart 114: Division Reliability - AIFI Indices

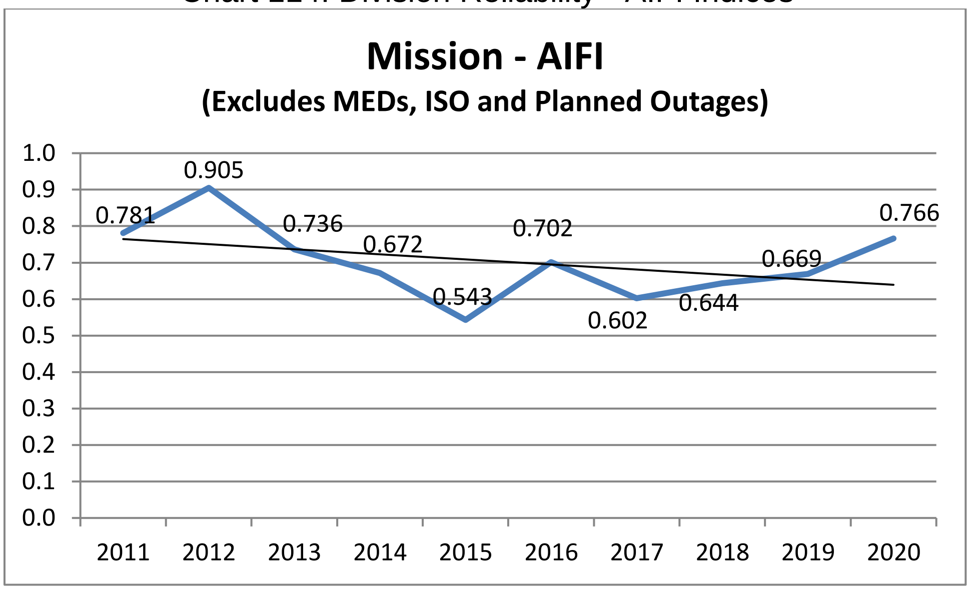


Chart 115: Division Reliability - AIFI Indices

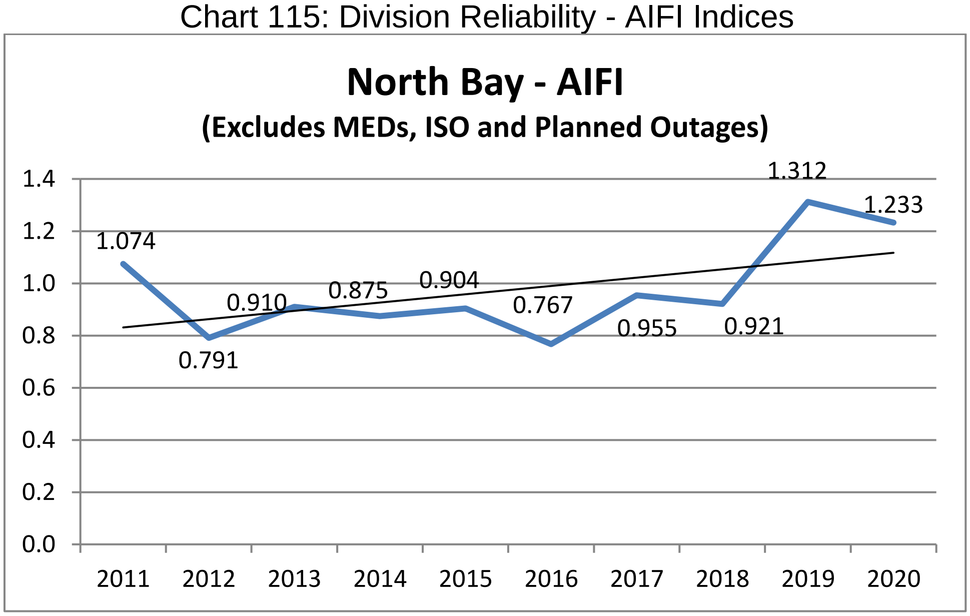


Chart 116: Division Reliability - AIFI Indices

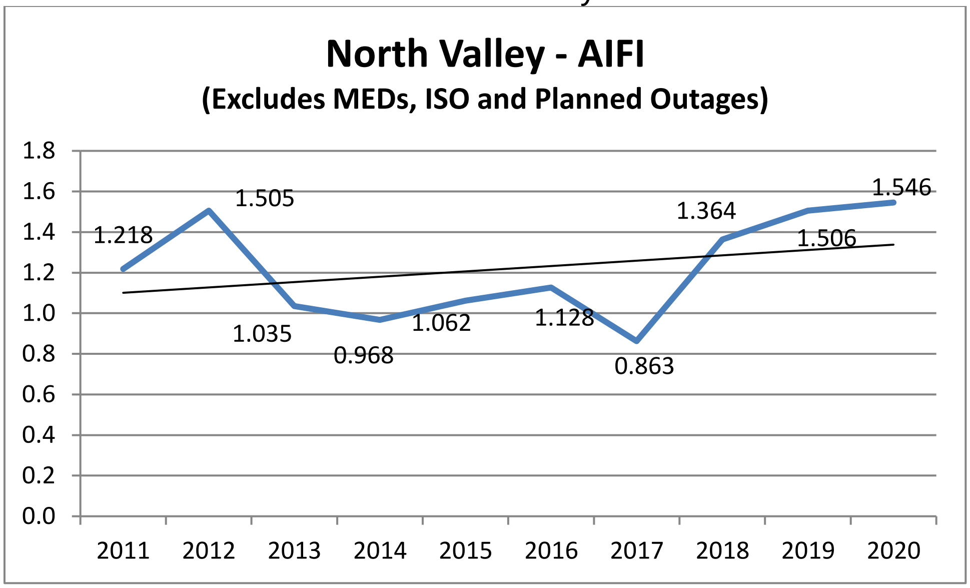


Chart 117: Division Reliability - AIFI Indices

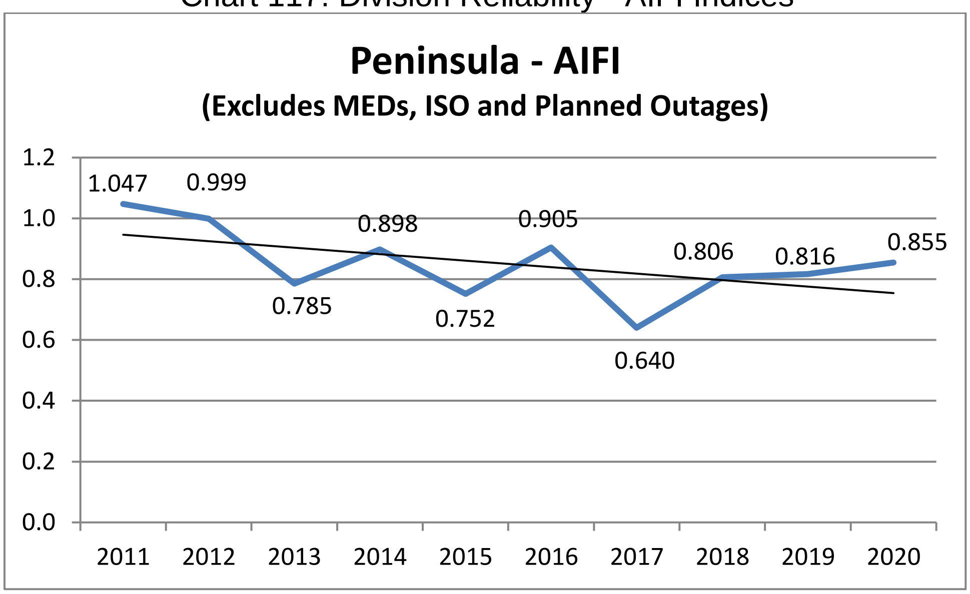


Chart 118: Division Reliability - AIFI Indices

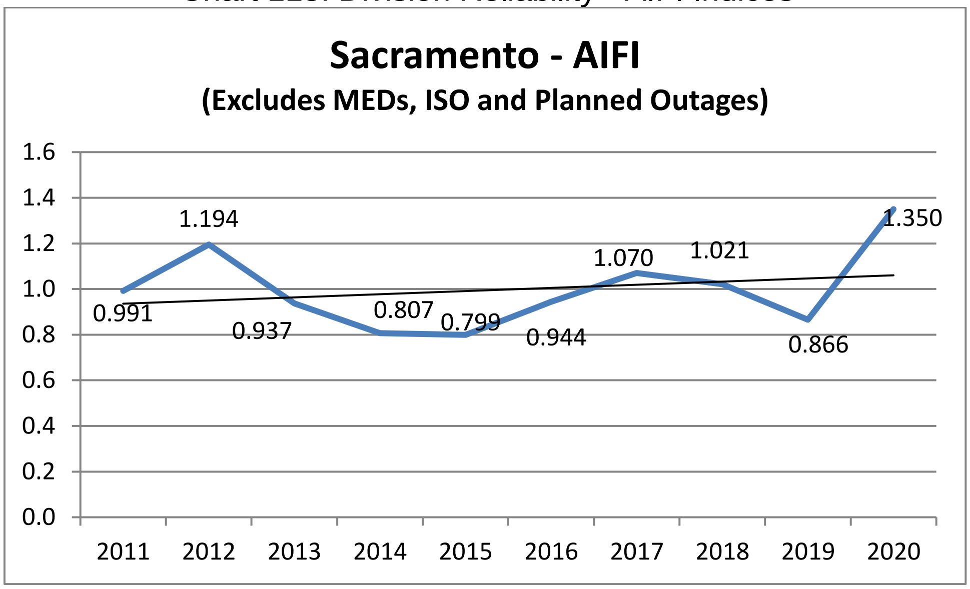


Chart 119: Division Reliability - AIFI Indices

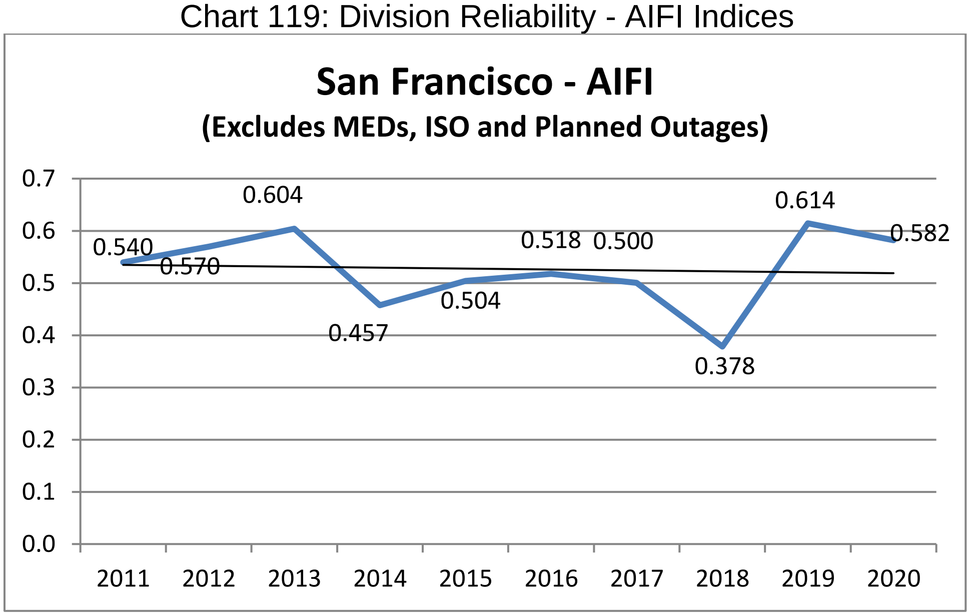


Chart 120: Division Reliability - AIFI Indices

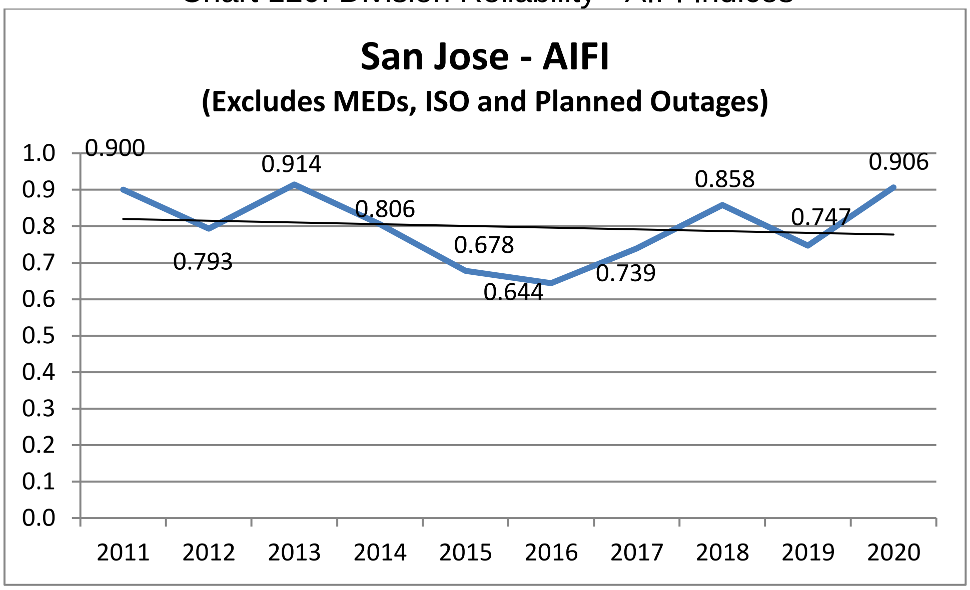


Chart 121: Division Reliability - AIFI Indices

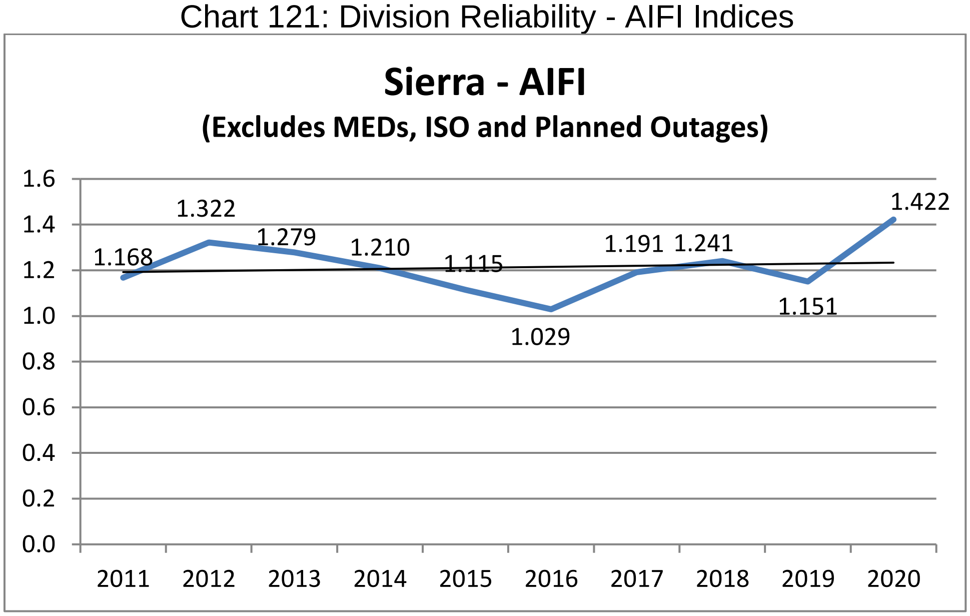


Chart 122: Division Reliability - AIFI Indices

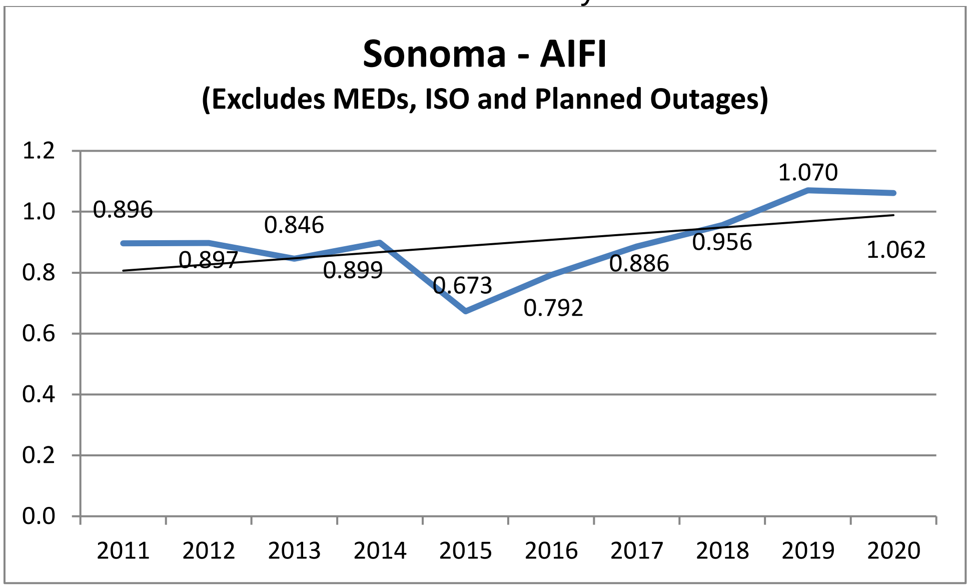


Chart 123: Division Reliability - AIFI Indices

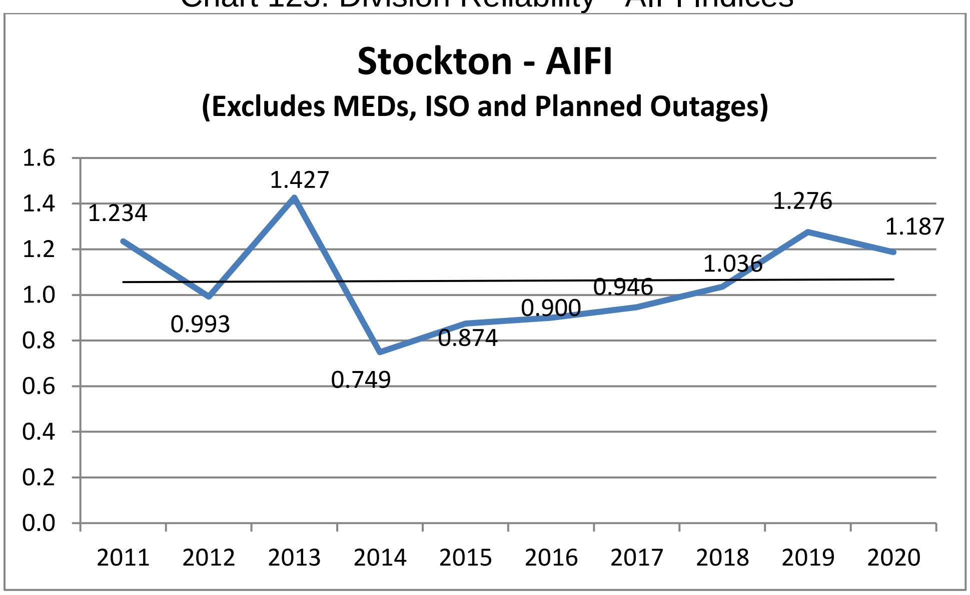
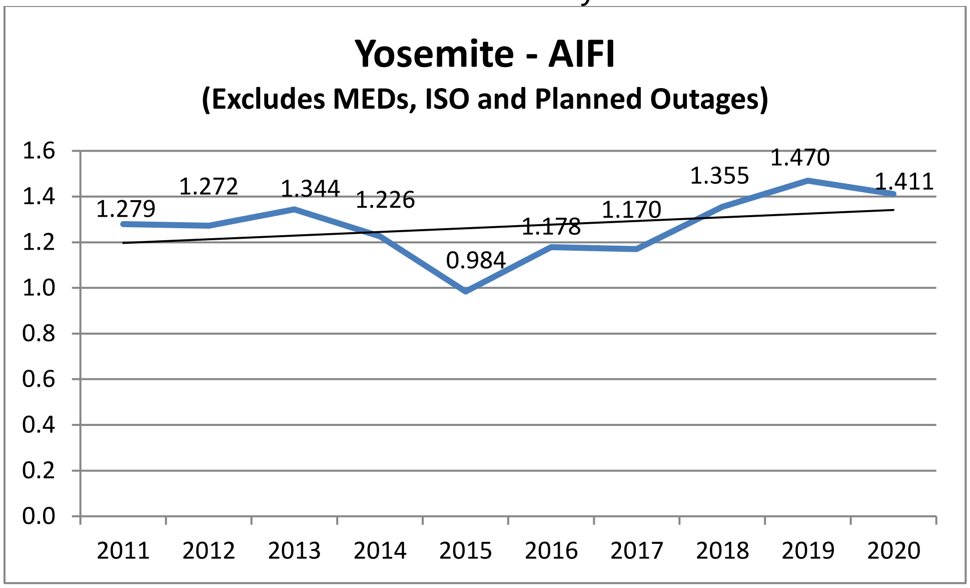


Chart 124: Division Reliability - AIFI Indices



3. MAIFI Performance Results (MED Excluded)

Chart 125: Division Reliability - MAIFI Indices

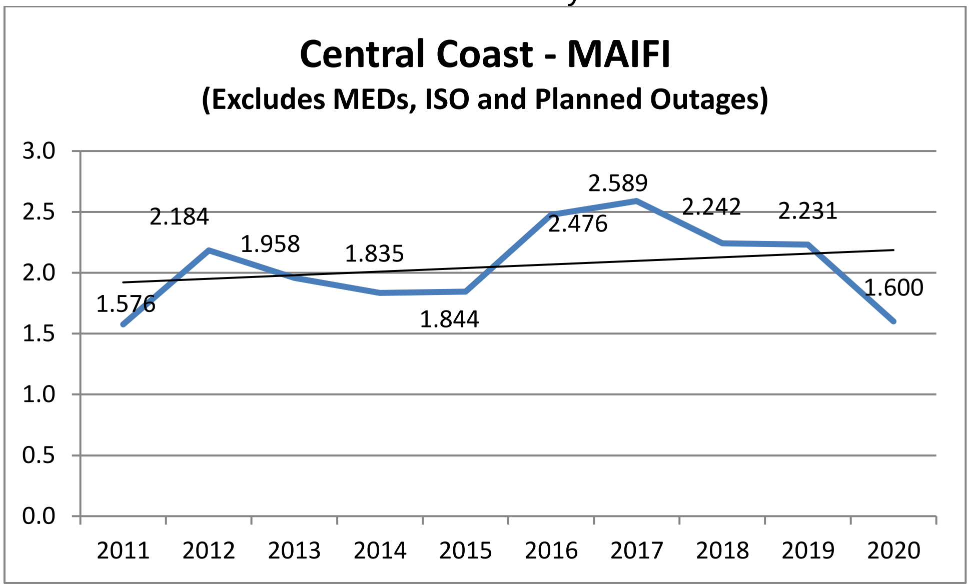


Chart 126: Division Reliability - MAIFI Indices

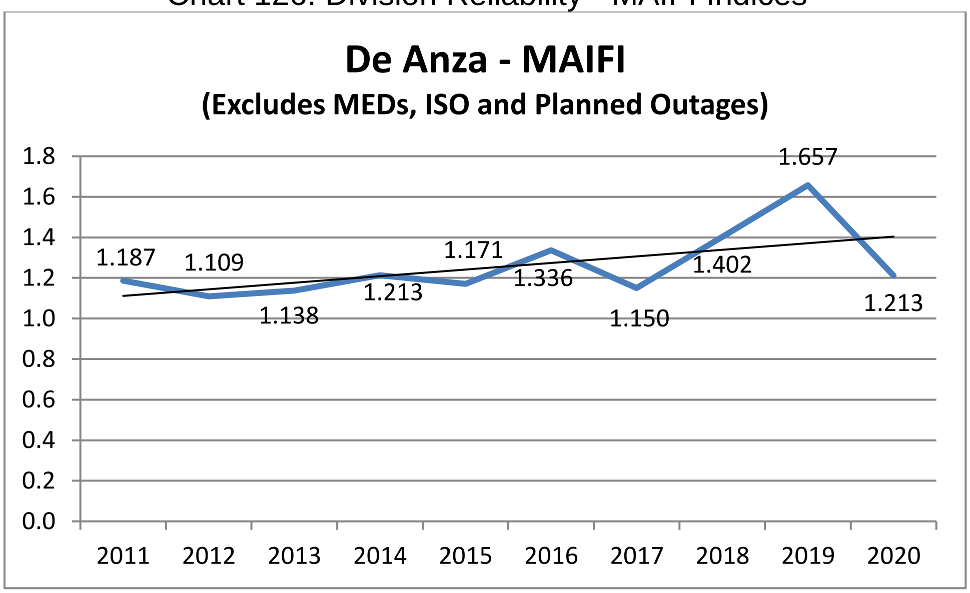


Chart 127: Division Reliability - MAIFI Indices

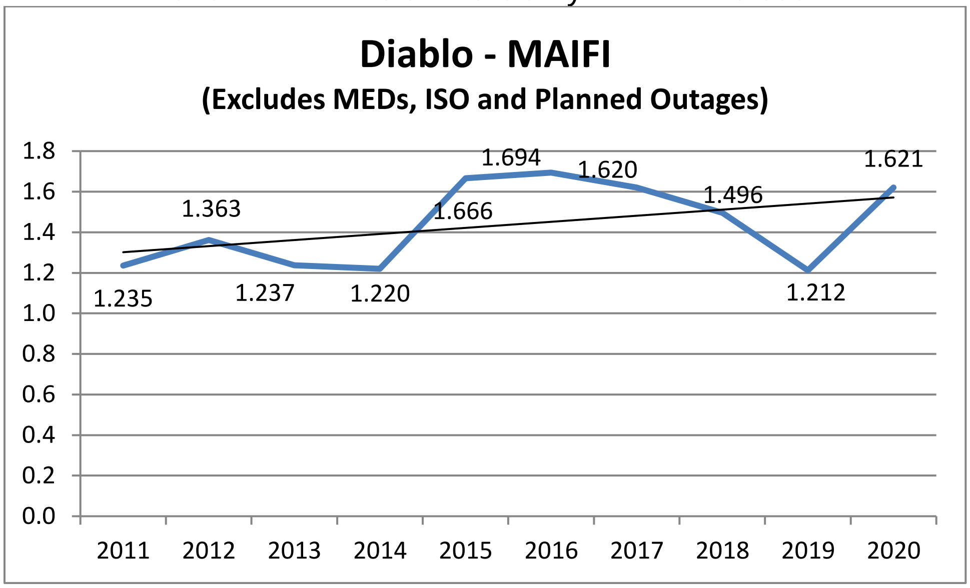


Chart 128: Division Reliability - MAIFI Indices

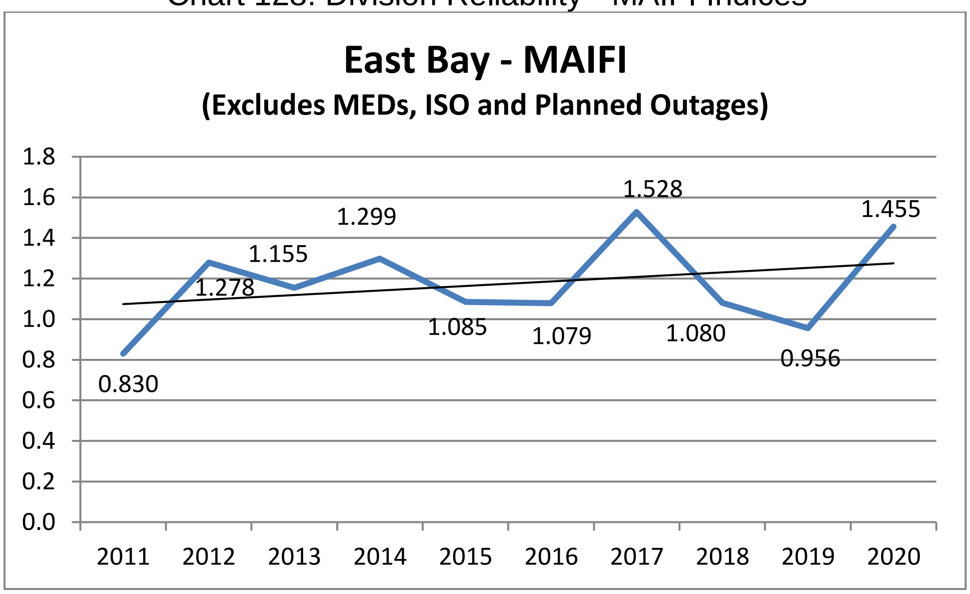


Chart 129: Division Reliability - MAIFI Indices

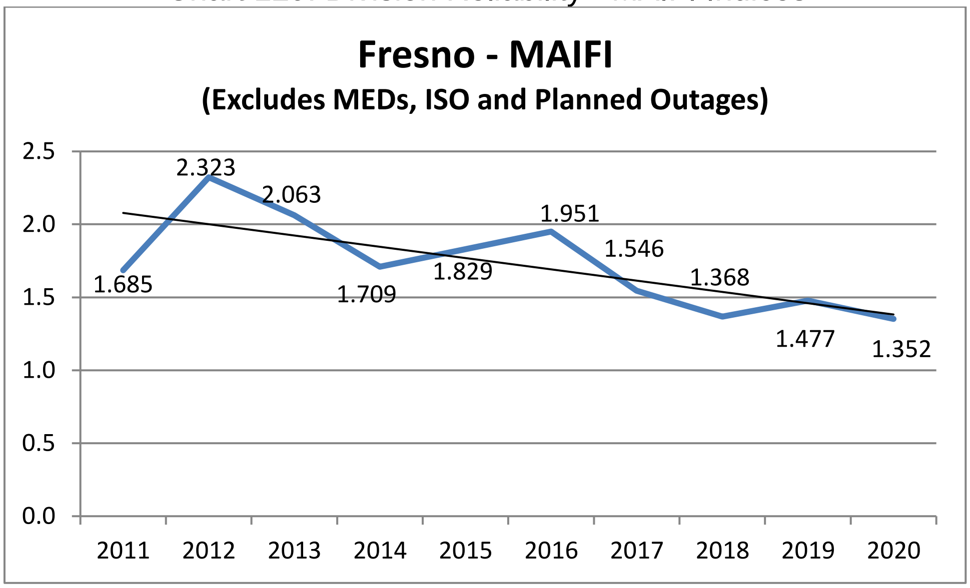


Chart 130: Division Reliability - MAIFI Indices

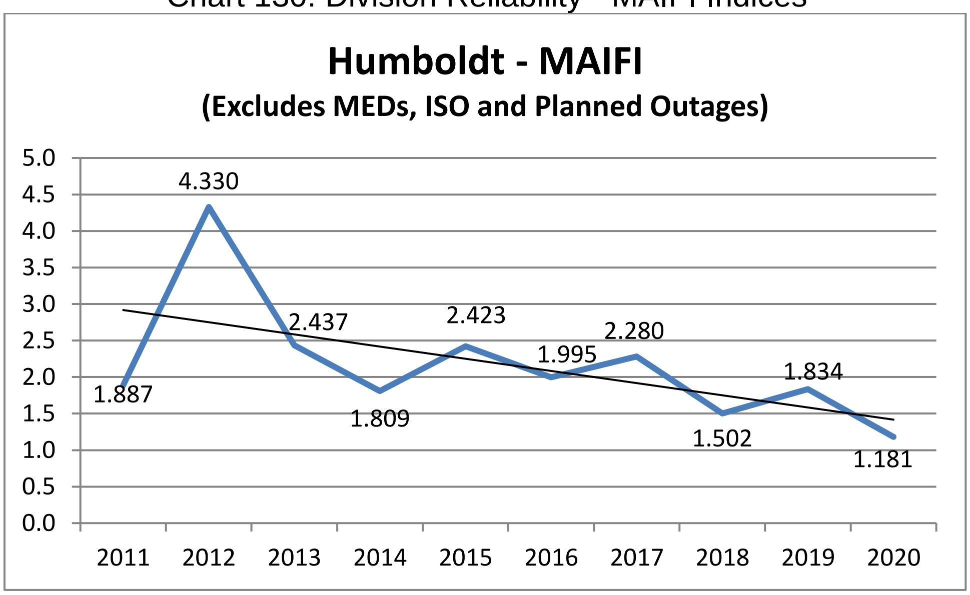


Chart 131: Division Reliability - MAIFI Indices

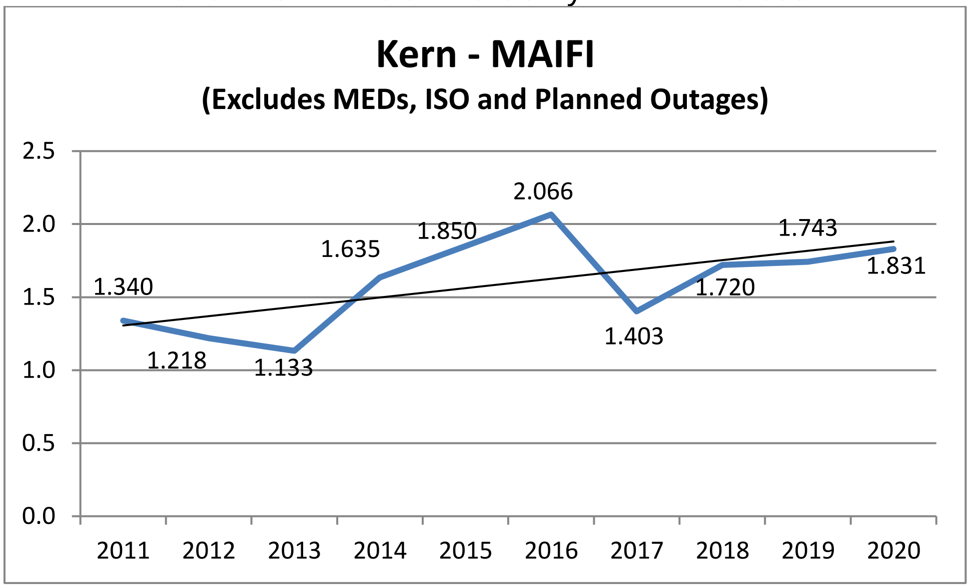


Chart 132: Division Reliability - MAIFI Indices

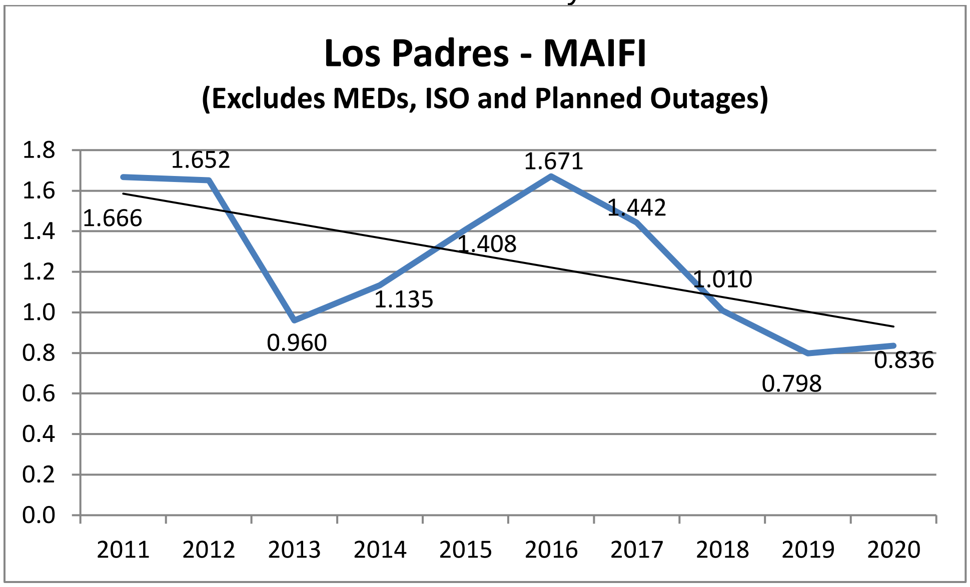


Chart 133: Division Reliability - MAIFI Indices

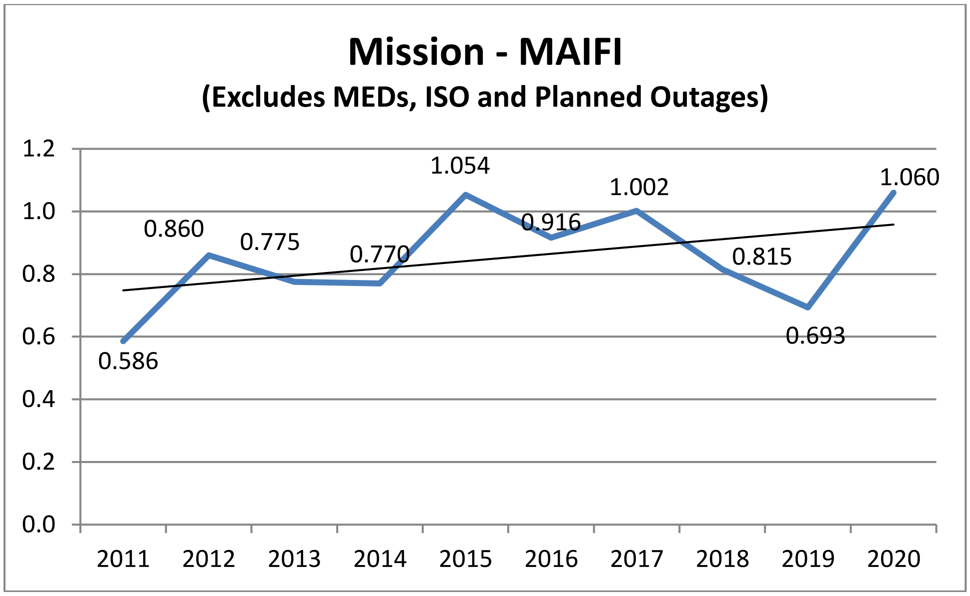


Chart 134: Division Reliability - MAIFI Indices

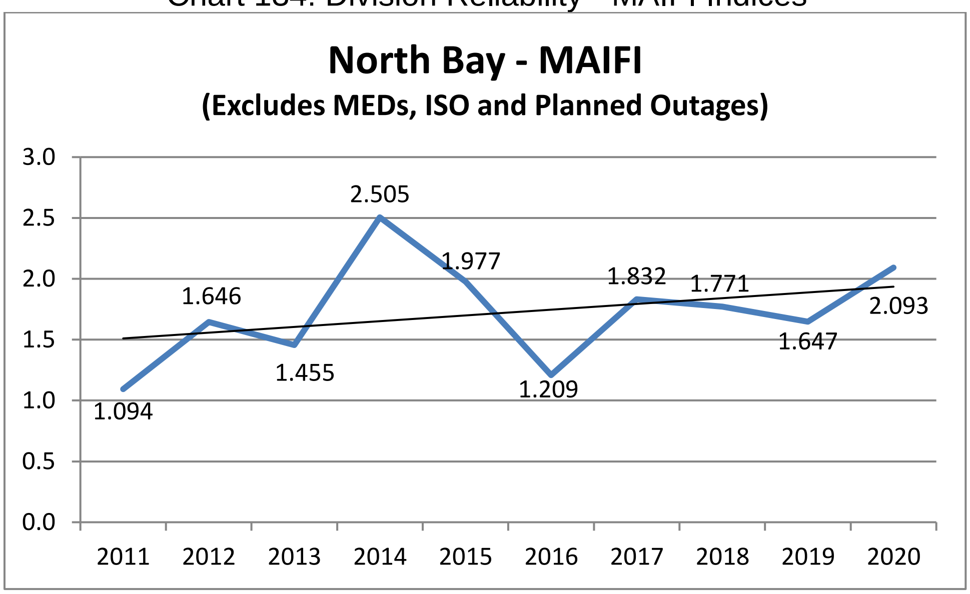


Chart 135: Division Reliability - MAIFI Indices

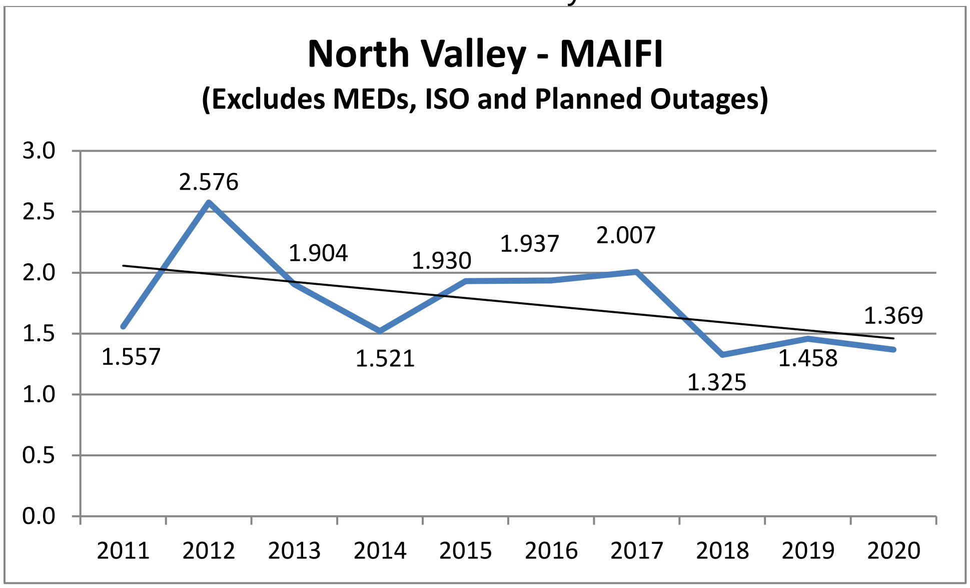


Chart 136: Division Reliability - MAIFI Indices

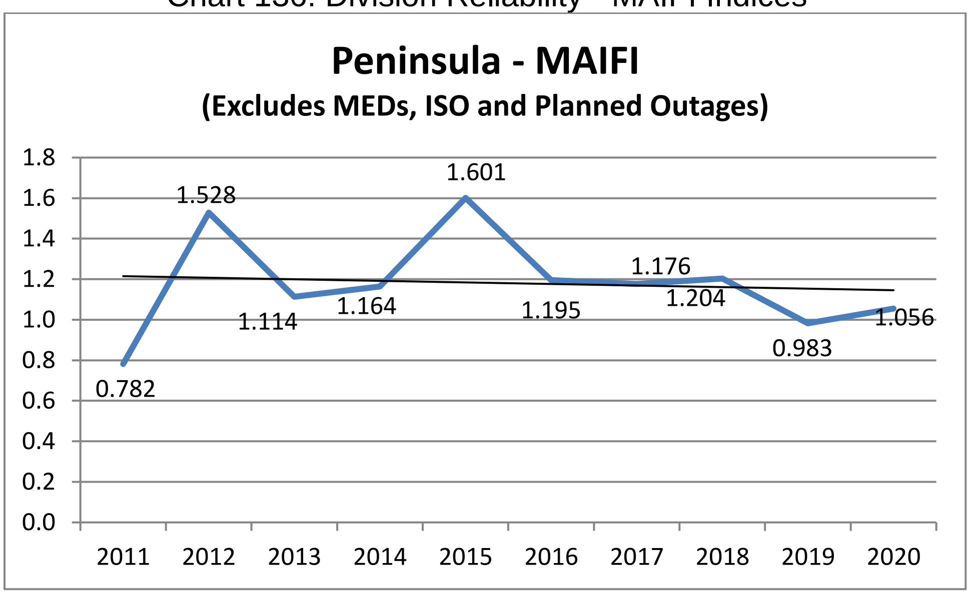


Chart 137: Division Reliability - MAIFI Indices

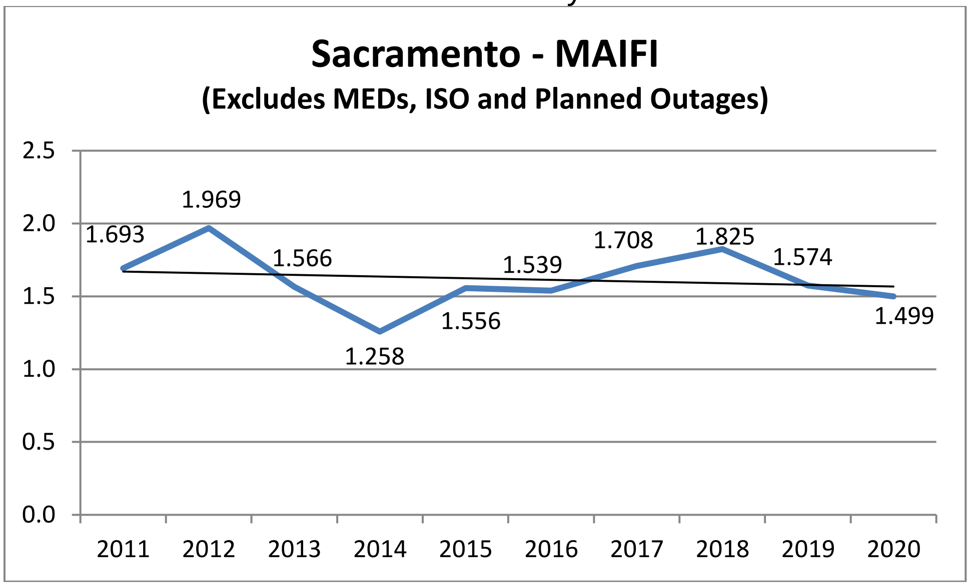


Chart 138: Division Reliability - MAIFI Indices

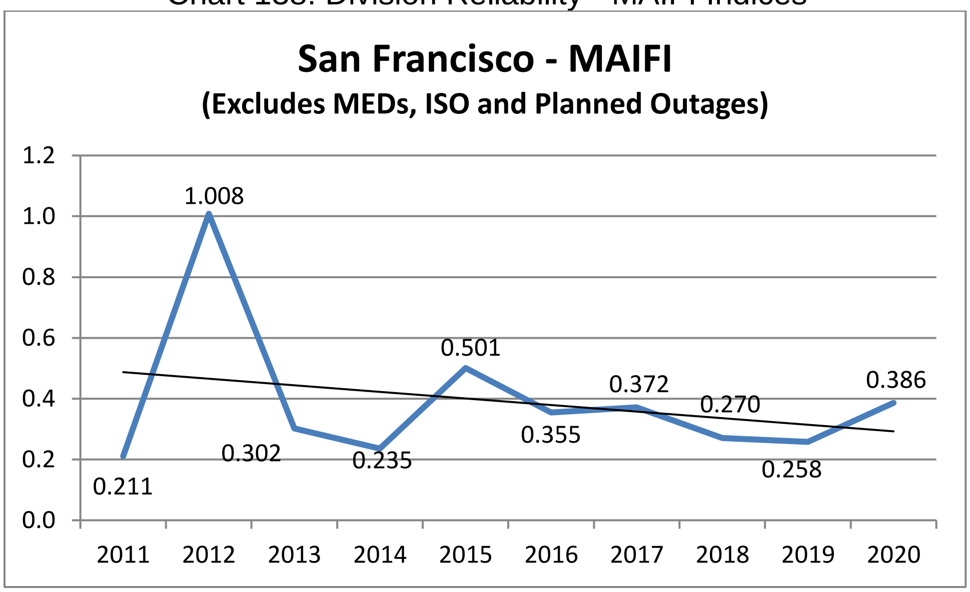


Chart 139: Division Reliability - MAIFI Indices

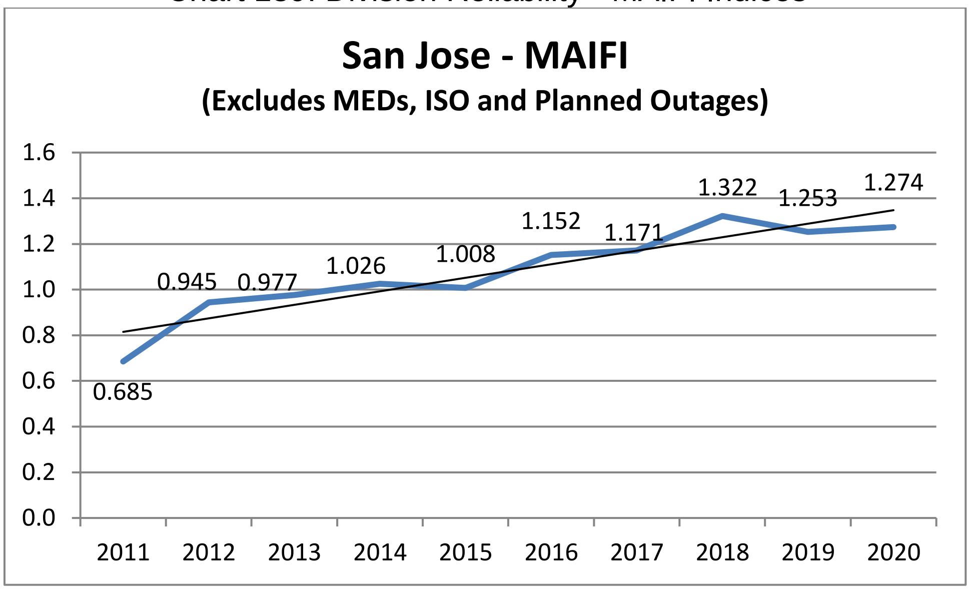


Chart 140: Division Reliability - MAIFI Indices

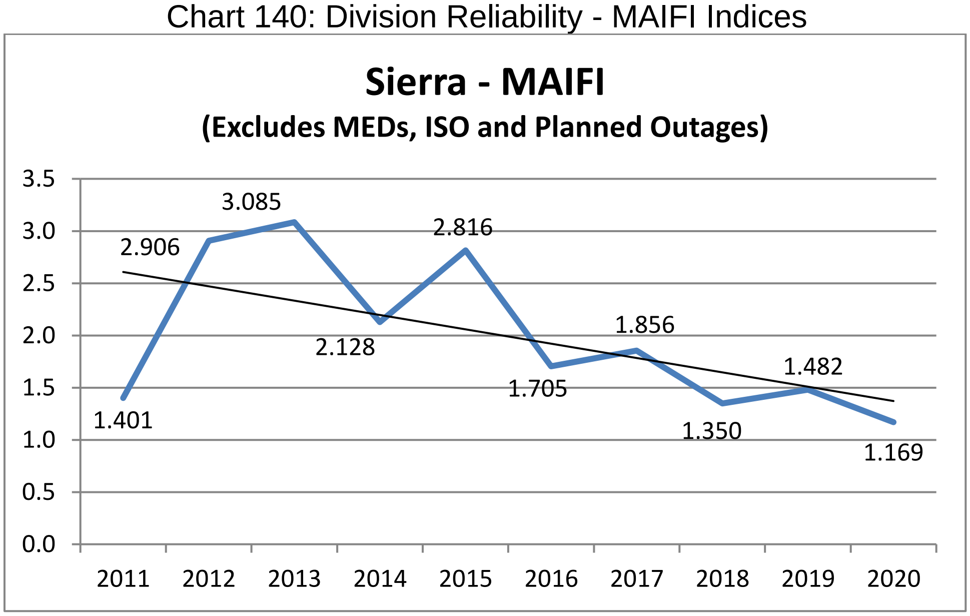


Chart 141: Division Reliability - MAIFI Indices

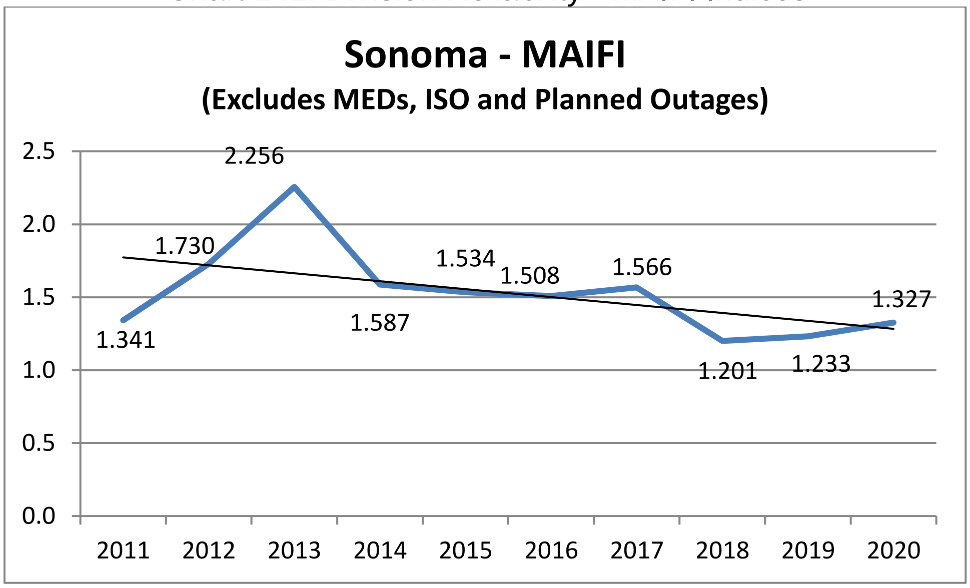


Chart 142: Division Reliability - MAIFI Indices

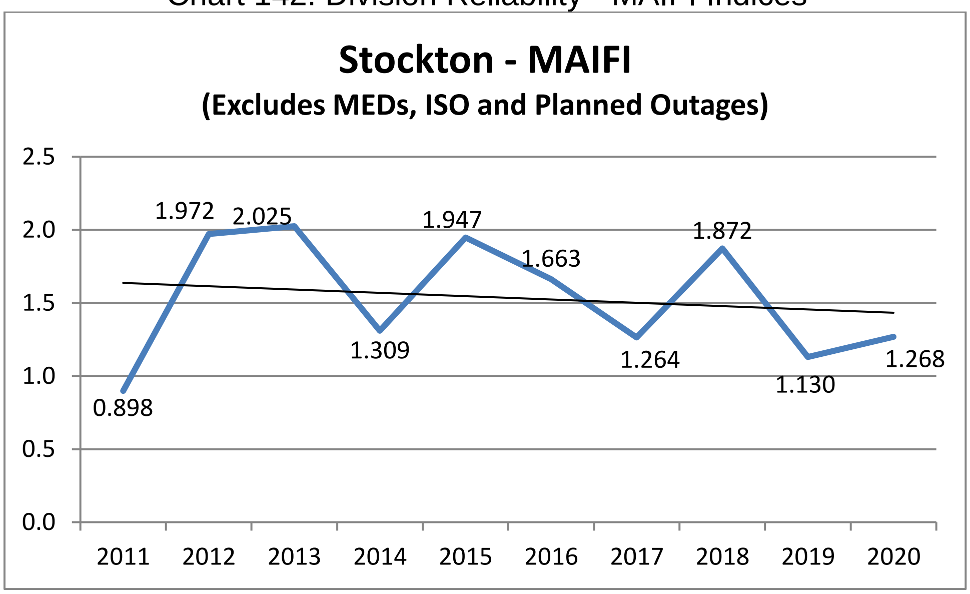
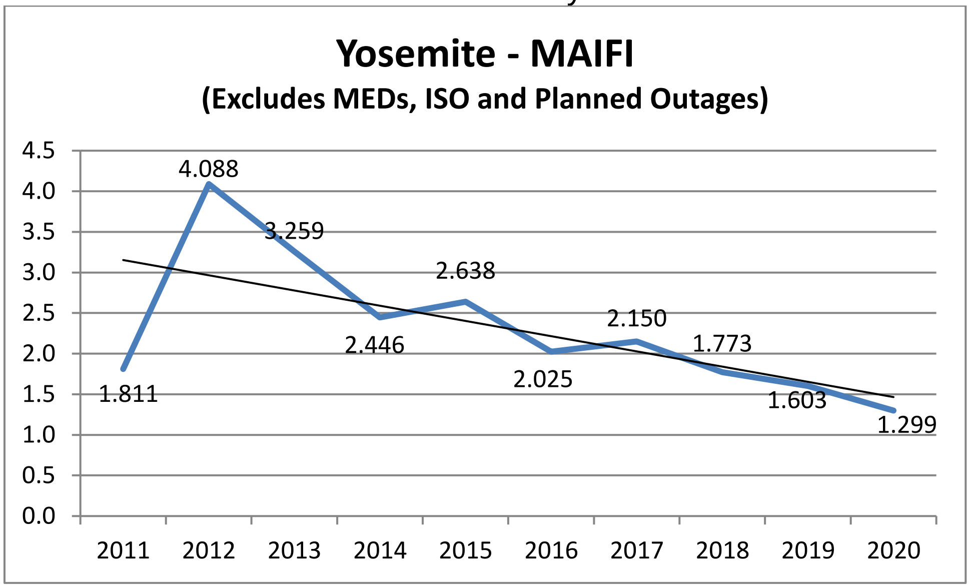


Chart 143: Division Reliability - MAIFI Indices



4. CAIDI Performance Results (MED Excluded)

Chart 144: Division Reliability - CAIDI Indices

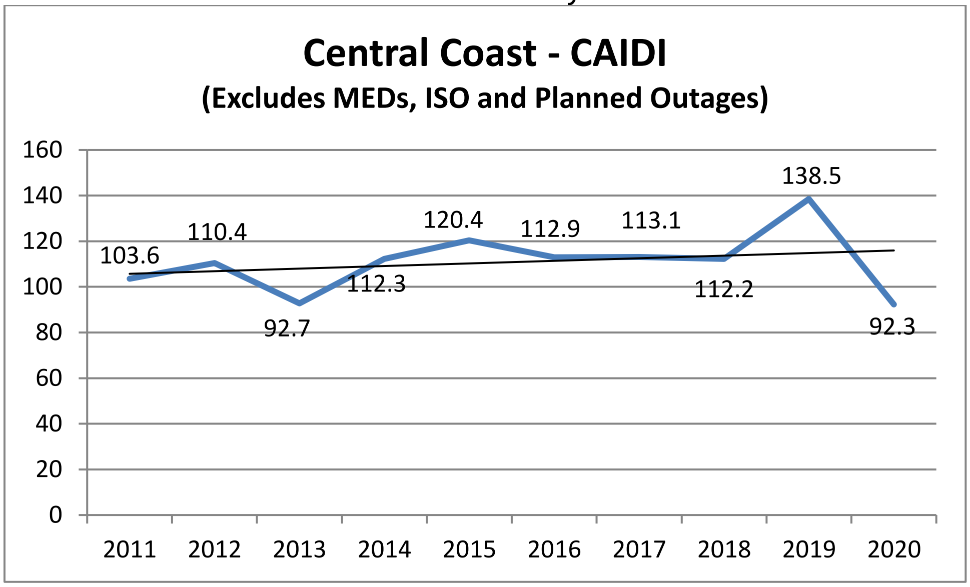


Chart 145: Division Reliability - CAIDI Indices

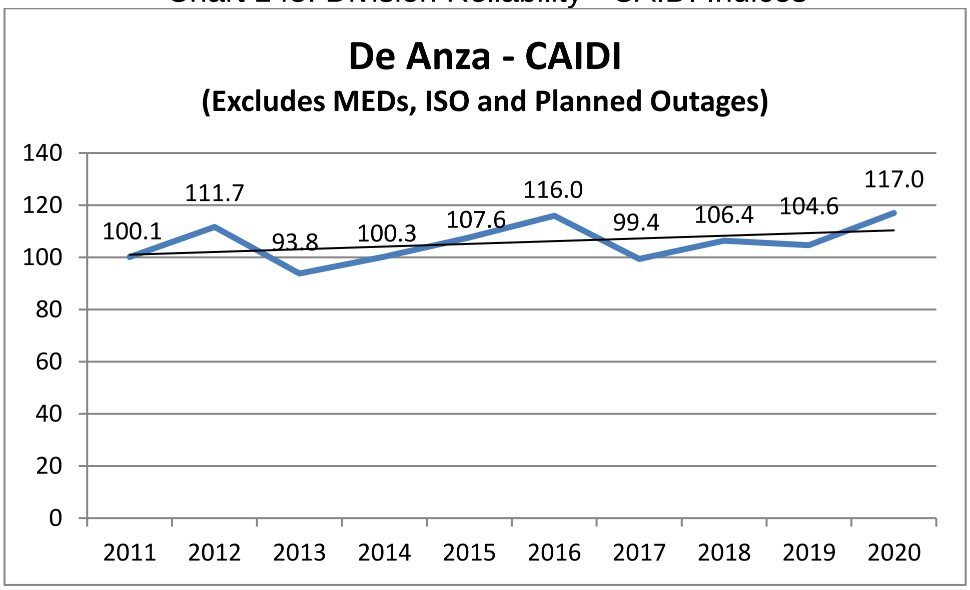


Chart 146: Division Reliability - CAIDI Indices

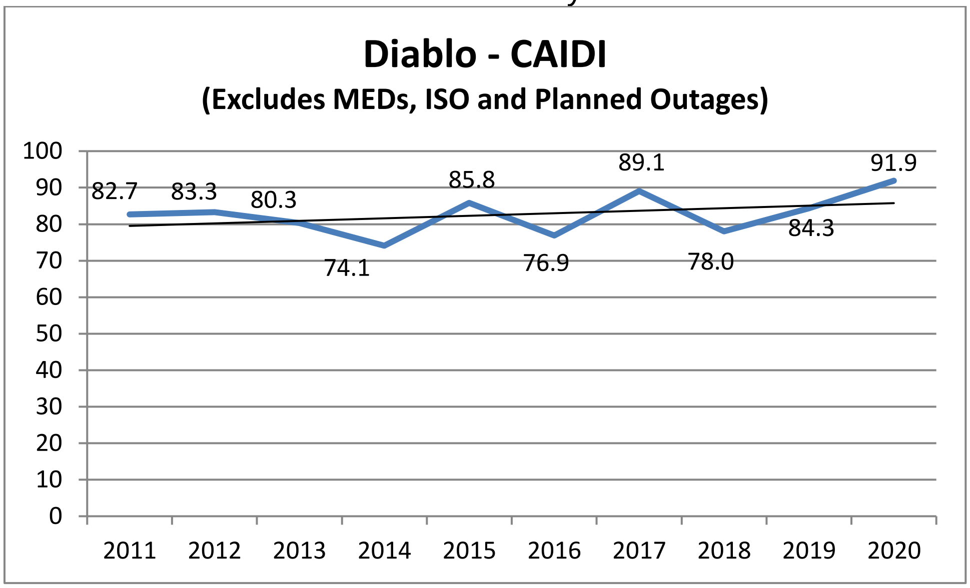


Chart 147: Division Reliability - CAIDI Indices

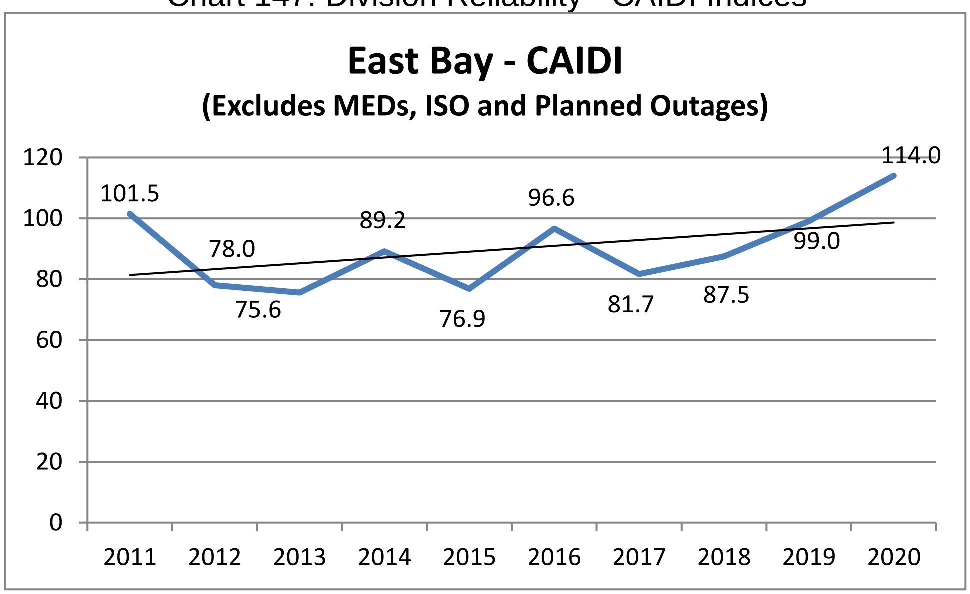


Chart 148: Division Reliability - CAIDI Indices

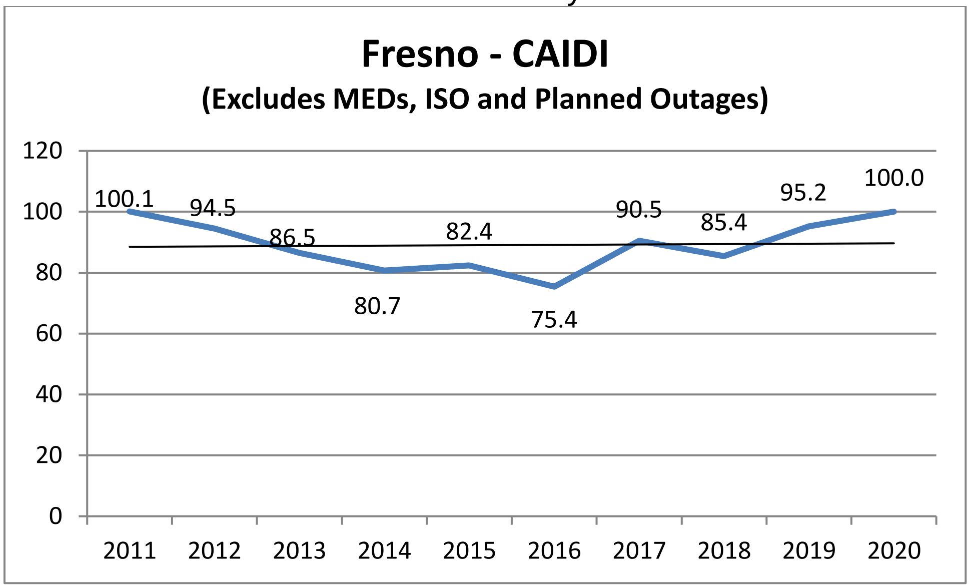


Chart 149: Division Reliability - CAIDI Indices

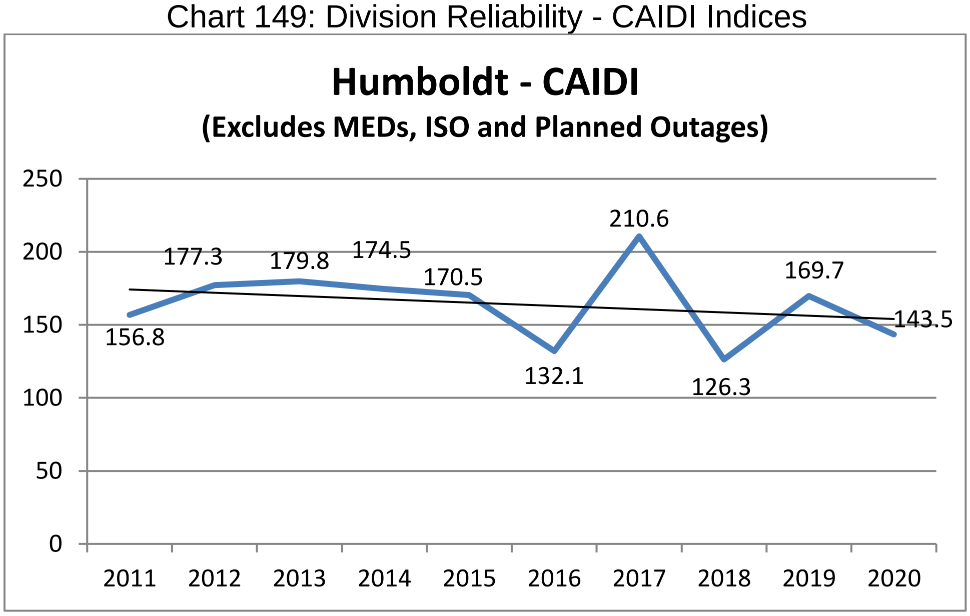


Chart 150: Division Reliability - CAIDI Indices

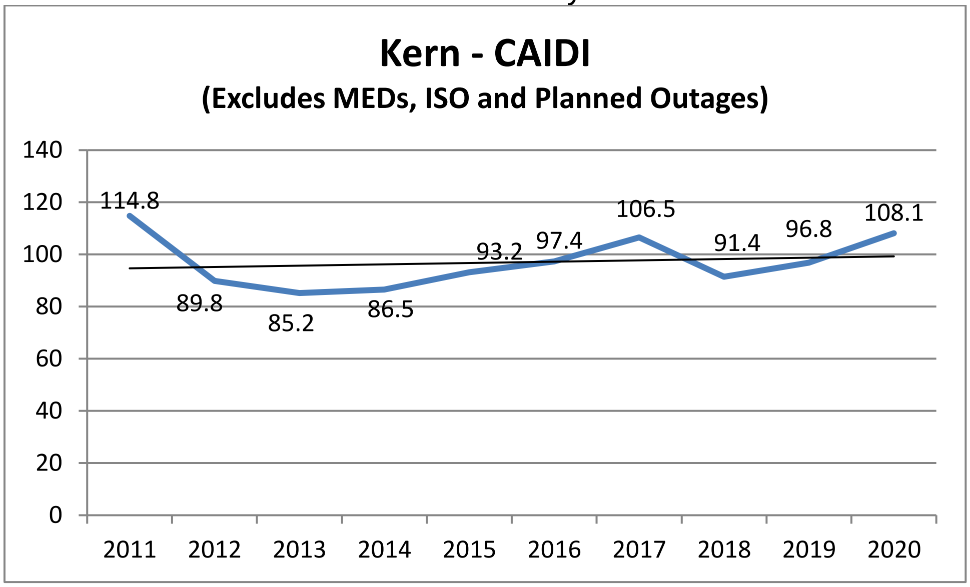


Chart 151: Division Reliability - CAIDI Indices

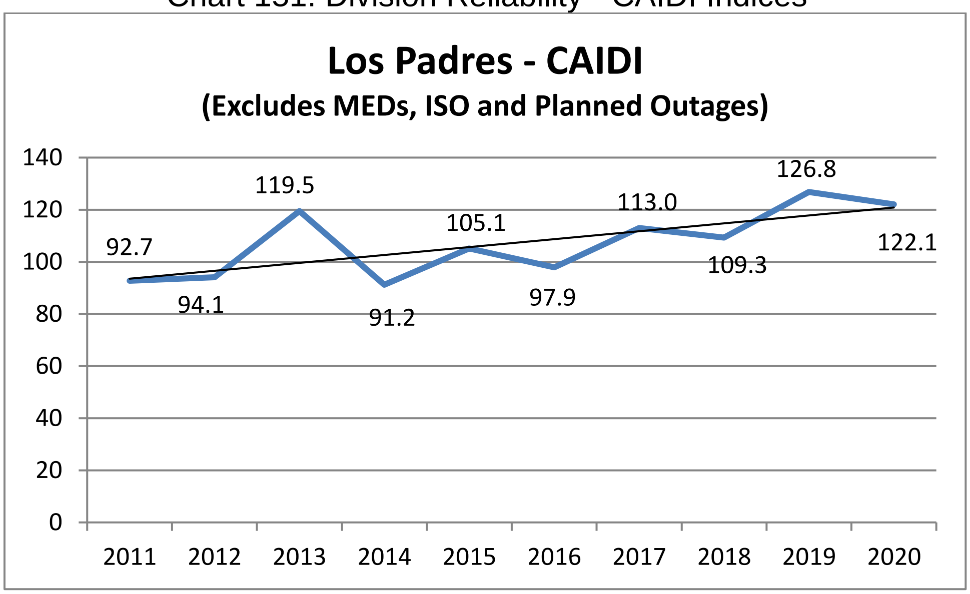


Chart 152: Division Reliability - CAIDI Indices

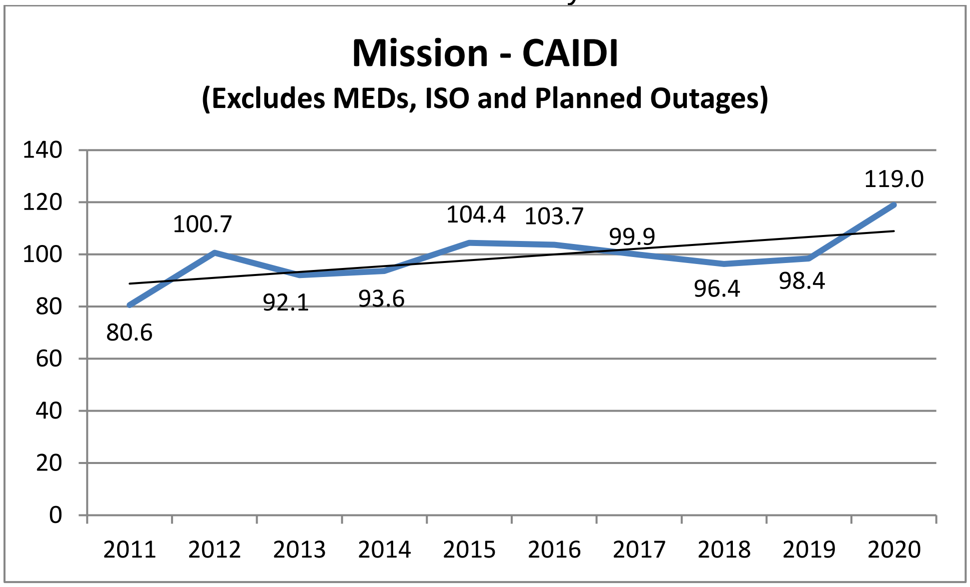


Chart 153: Division Reliability - CAIDI Indices

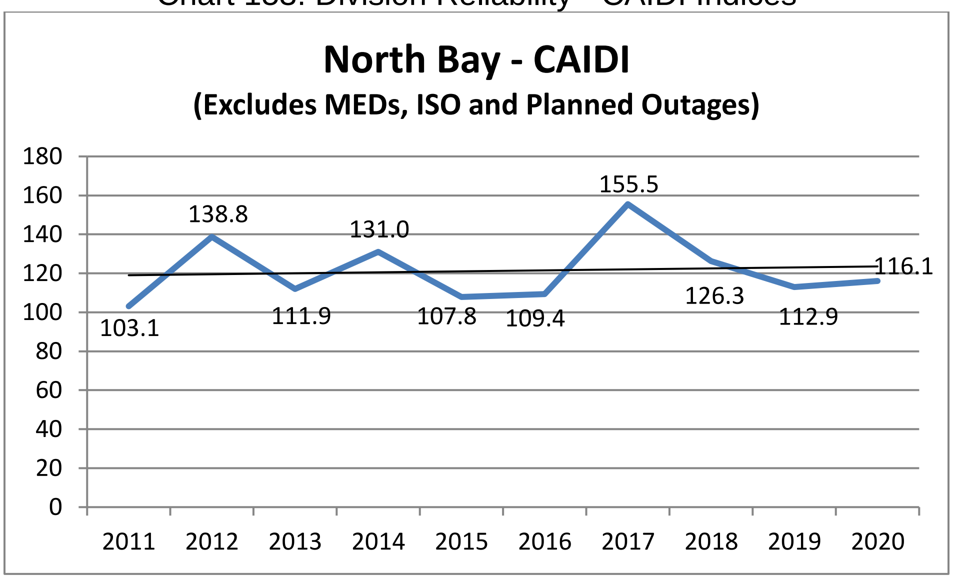


Chart 154: Division Reliability - CAIDI Indices

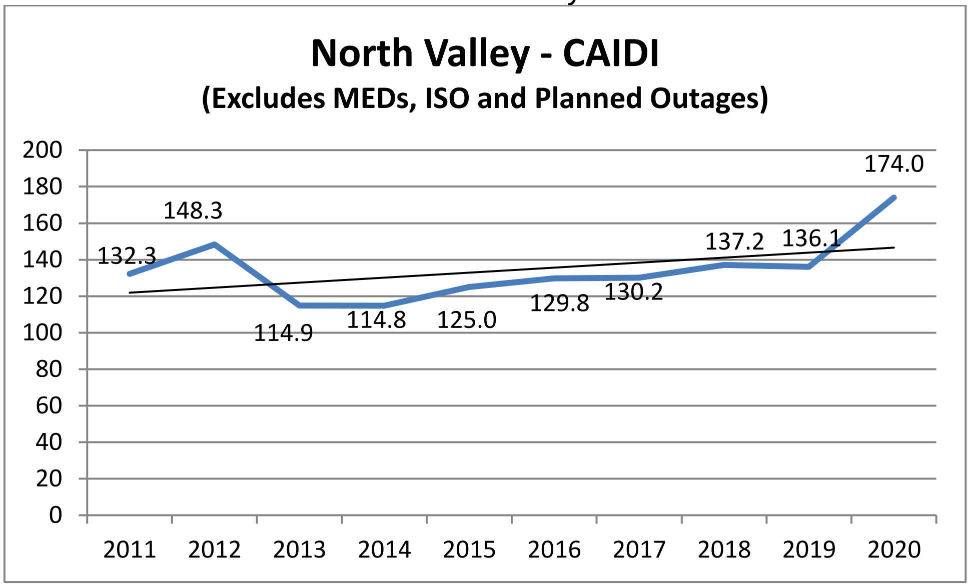


Chart 155: Division Reliability - CAIDI Indices

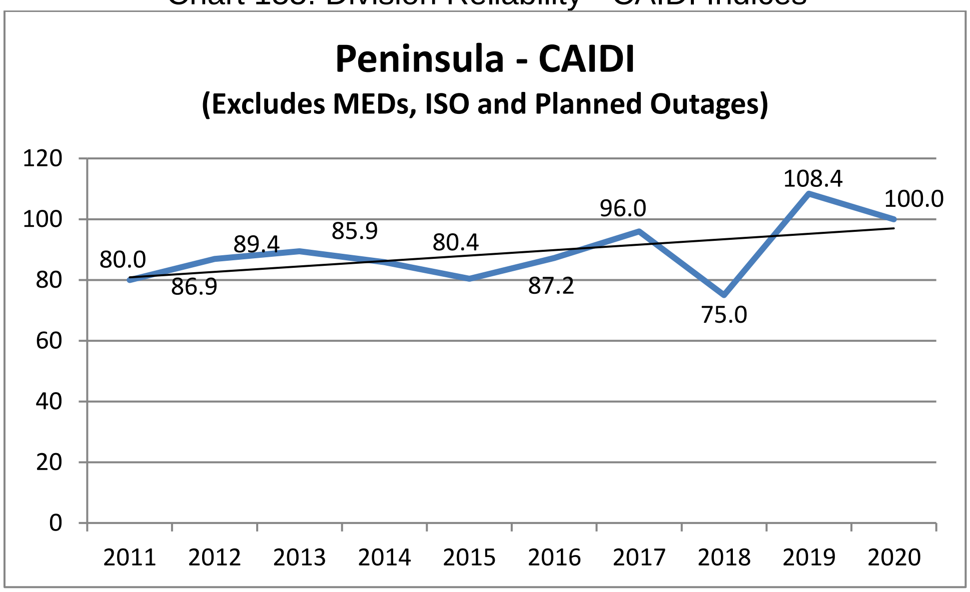


Chart 156: Division Reliability - CAIDI Indices

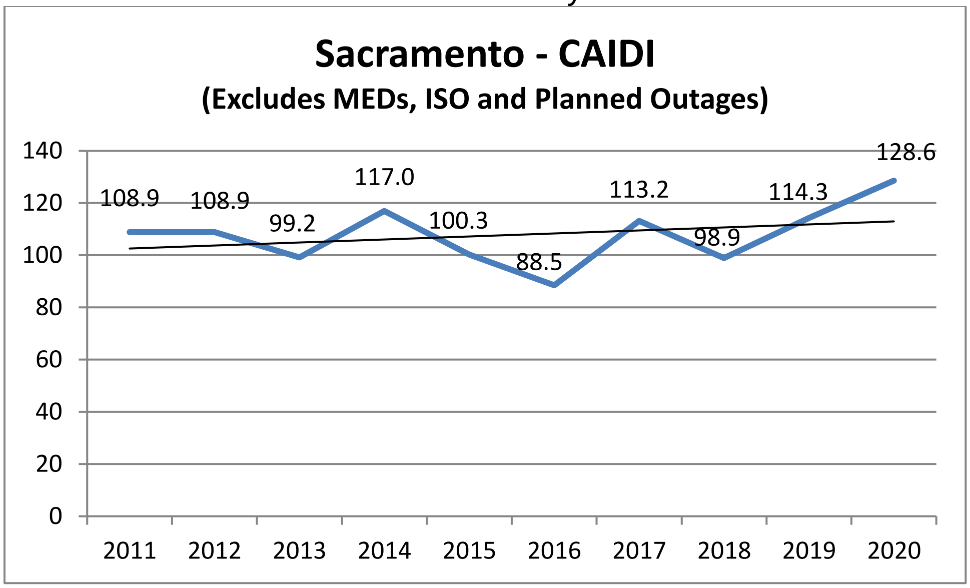


Chart 157: Division Reliability - CAIDI Indices

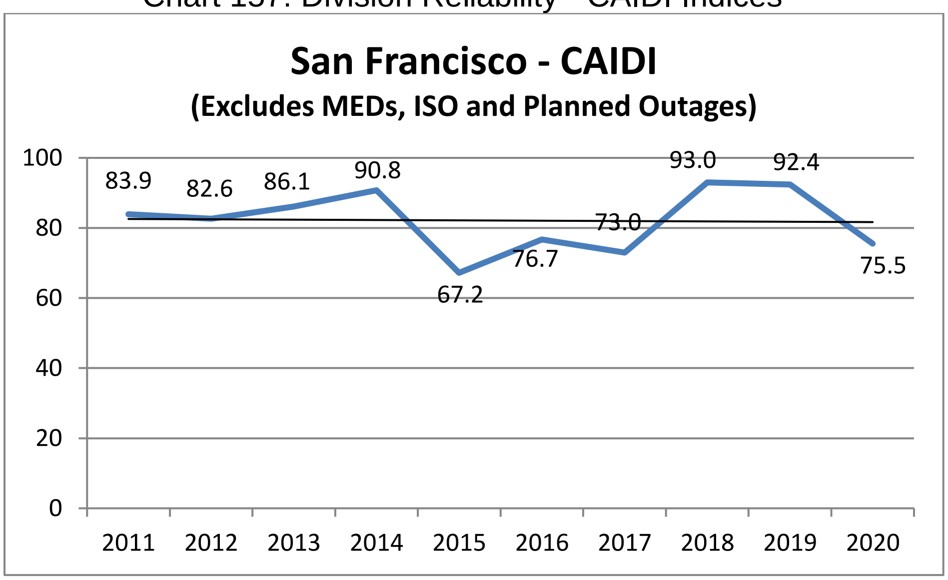


Chart 158: Division Reliability - CAIDI Indices

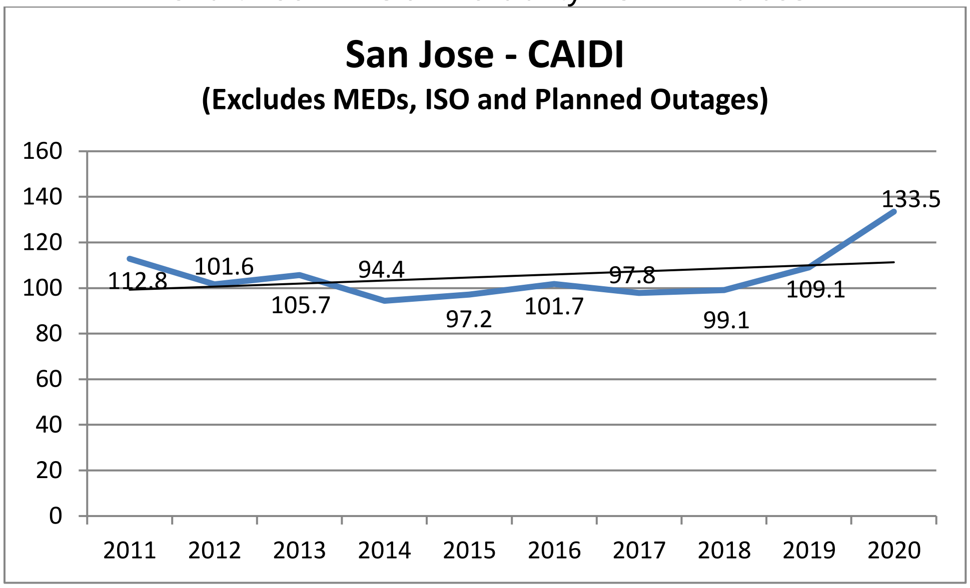


Chart 159: Division Reliability - CAIDI Indices

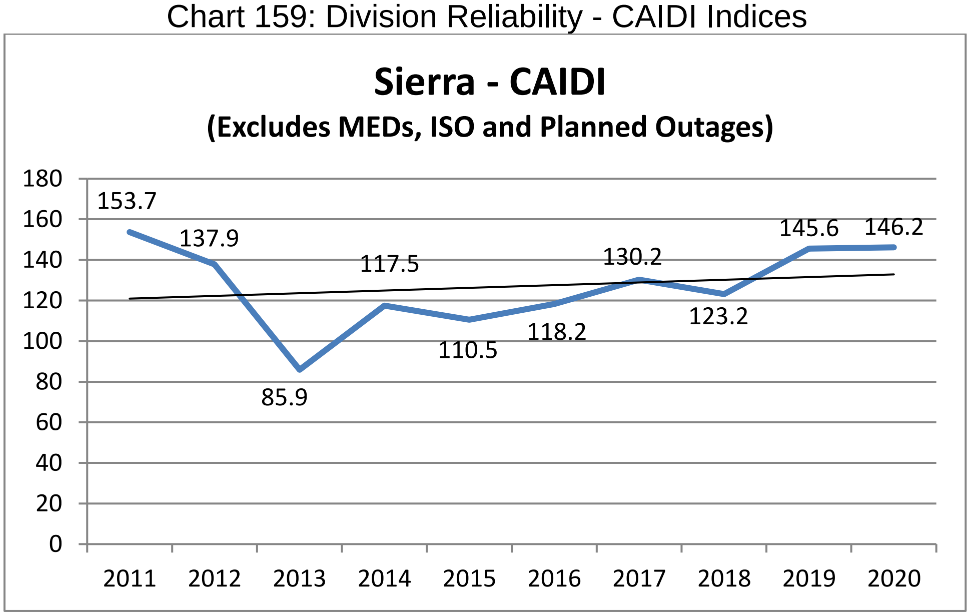


Chart 160: Division Reliability - CAIDI Indices\

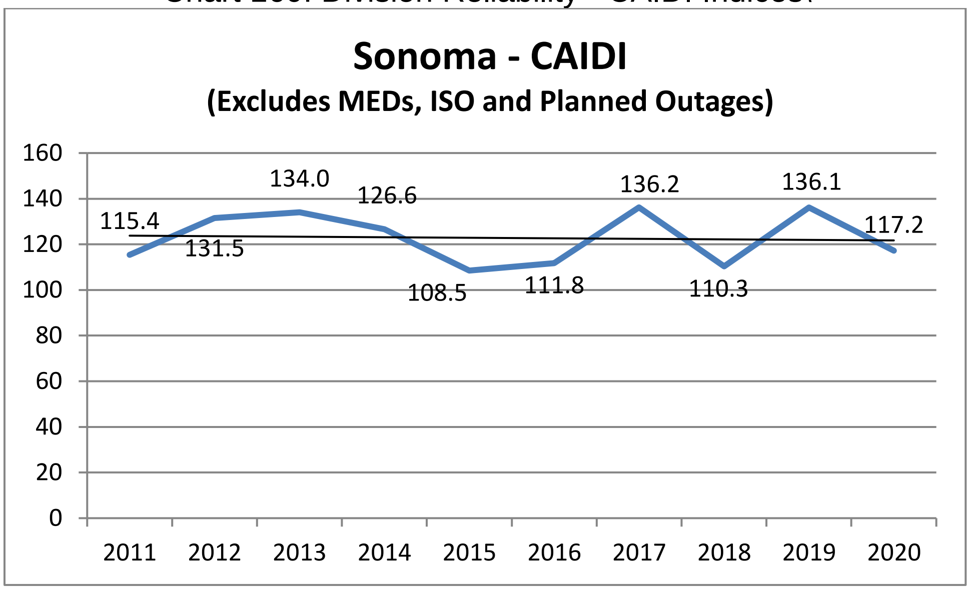


Chart 161: Division Reliability - CAIDI Indices

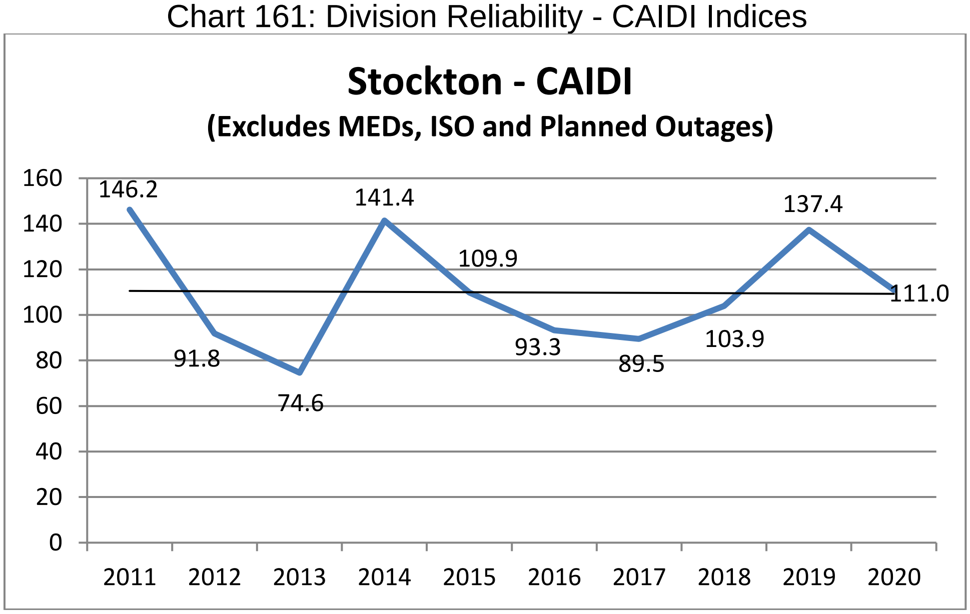
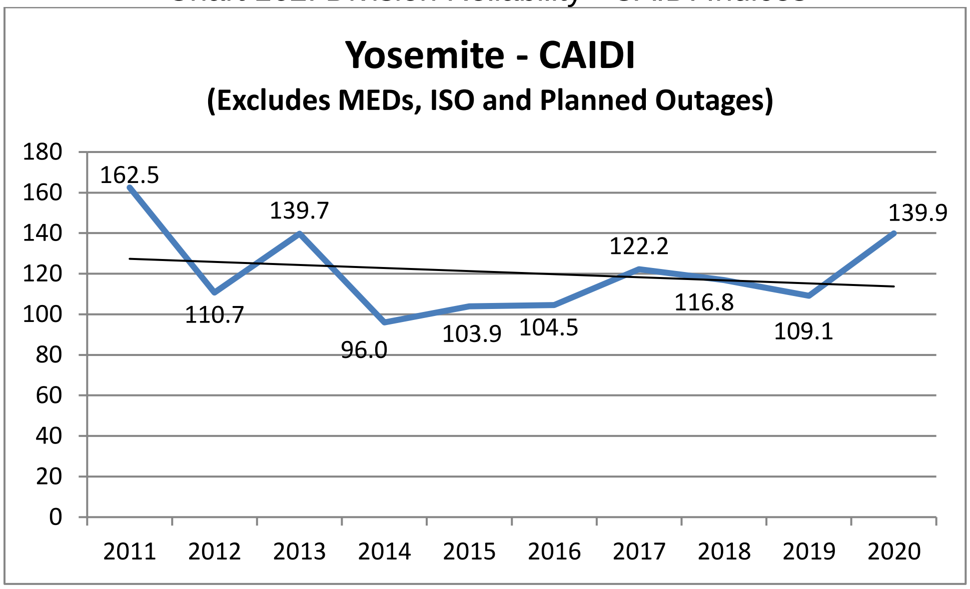


Chart 162: Division Reliability - CAIDI Indices



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 2020 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 2020 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 2020 reliability was better than the prior five-year average.

Table 7 – 2020 Indices excluding Major Events
(Meeting the Reporting Requirement Thresholds)

	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	X	X		X
CENTRAL COAST		X		
DE ANZA				X
DIABLO	X	X		X
EAST BAY	X		X	X
FRESNO	X			X
HUMBOLDT				
KERN	X	X		X
LOS PADRES	X	X		X
MISSION	X	X	X	X
NORTH BAY	X	X	X	
NORTH VALLEY	X	X		X
PENINSULA	X			X
SACRAMENTO	X	X		X
SAN FRANCISCO		X	X	
SAN JOSE	X	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	2015	80.7	0.787	1.585	102.5
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	1.269	116.6
5-Year Average	15-19 Avg	97.8	0.915	1.437	106.9
SYSTEM	2020	125.8	1.068	1.292	117.8
	%Difference	28.6%	16.8%	-10.1%	10.2%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	156.1	1.306	2.277	119.5
CENTRAL COAST	2020	159.1	1.724	1.600	92.3
	%Difference	2.0%	32.0%	-29.7%	-22.8%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	82.3	0.775	1.343	106.2
DE ANZA	2020	83.1	0.711	1.213	117.0
	%Difference	1.0%	-8.3%	-9.7%	10.1%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	77.1	0.934	1.538	82.5
DIABLO	2020	110.8	1.206	1.621	91.9
	%Difference	43.7%	29.1%	5.4%	11.4%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	76.7	0.859	1.146	89.3
EAST BAY	2020	95.5	0.838	1.455	114.0
	%Difference	24.5%	-2.4%	27.0%	27.6%

Division Reliability Indices
2015-2020
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	75.6	0.888	1.634	85.1
FRESNO	2020	86.5	0.865	1.352	100.0
	%Difference	14.4%	-2.7%	-17.3%	17.5%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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	1.834	169.7
5-Year Average	15-19 Avg	250.9	1.574	2.007	159.4
HUMBOLDT	2020	191.6	1.336	1.181	143.5
	%Difference	-23.6%	-15.1%	-41.2%	-10.0%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	85.2	0.879	1.756	96.9
KERN	2020	114.6	1.060	1.831	108.1
	%Difference	34.5%	20.6%	4.2%	11.6%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	114.5	1.032	1.266	110.9
LOS PADRES	2020	139.3	1.141	0.836	122.1
	%Difference	21.7%	10.6%	-33.9%	10.1%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	63.5	0.632	0.896	100.5
MISSION	2020	91.1	0.766	1.060	119
	%Difference	43.6%	21.2%	18.3%	18.5%

Division Reliability Indices
2015-2020
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	118.9	0.972	1.687	122.3
NORTH BAY	2020	143.2	1.233	2.093	116.1
	%Difference	20.5%	26.9%	24.1%	-5.1%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	156.7	1.185	1.732	132.3
NORTH VALLEY	2020	269.0	1.546	1.369	174.0
	%Difference	71.6%	30.5%	-20.9%	31.5%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	70.0	0.784	1.232	89.2
PENINSULA	2020	85.5	0.855	1.056	100.0
	%Difference	22.2%	9.1%	-14.3%	12.1%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	97.0	0.940	1.640	103.1
SACRAMENTO	2020	173.6	1.350	1.499	128.6
	%Difference	79.1%	43.6%	-8.6%	24.7%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	40.4	0.503	0.351	80.4
SAN FRANCISCO	2020	43.9	0.582	0.386	75.5
	%Difference	8.7%	15.7%	10.0%	-6.0%

Division Reliability Indices
2015-2020
(Excluding MED)

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	74.1	0.733	1.181	101.0
SAN JOSE	2020	120.9	0.906	1.274	133.5
	%Difference	63.3%	23.6%	7.9%	32.2%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	144.1	1.145	1.842	125.8
SIERRA	2020	208.0	1.422	1.169	146.2
	%Difference	44.4%	24.2%	-36.5%	16.2%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	106.7	0.876	1.408	121.9
SONOMA	2020	124.5	1.062	1.327	117.2
	%Difference	16.6%	21.3%	-5.7%	-3.8%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	109.6	1.007	1.575	108.8
STOCKTON	2020	131.8	1.187	1.268	111.0
	%Difference	20.3%	17.9%	-19.5%	2.0%
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
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
5-Year Average	15-19 Avg	137.4	1.231	2.038	111.6
YOSEMITE	2020	197.4	1.411	1.299	139.9
	%Difference	43.6%	14.6%	-36.2%	25.4%

i. System and Division Performance Assessment

1. System Performance Assessment

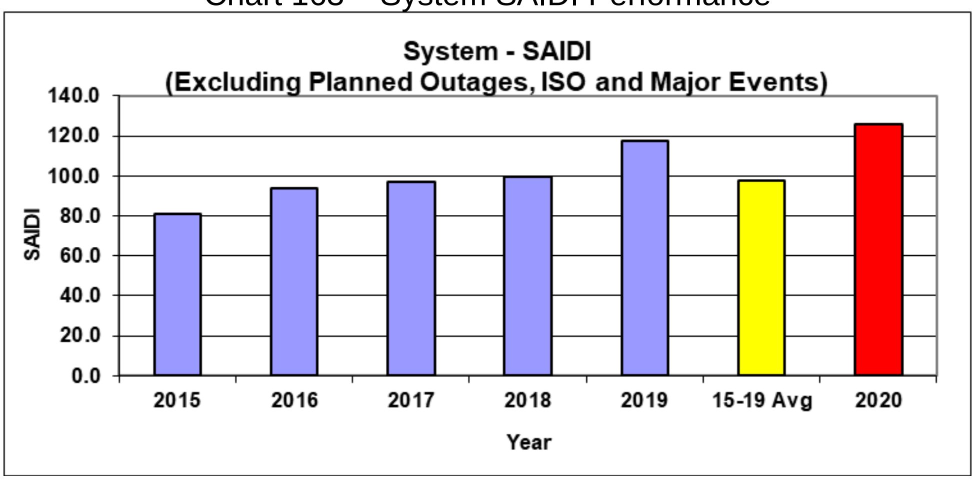
Table 9: System Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SYSTEM	2015	80.7	0.787	1.585	102.5
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	1.269	116.6
5-Year Average	15-19 Avg	97.8	0.915	1.437	106.9
SYSTEM	2020	125.8	1.068	1.292	117.8
	%Difference	28.6%	16.8%	-10.1%	10.2%

System SAIDI Performance

The system's 2020 SAIDI performance of 125.8 was 28 customer-minutes (or 28.6%) higher than the previous 5-year average of 97.8 as shown in the table above and illustrated in the figure below.

Chart 163 – System SAIDI Performance



The higher than average 2020 system SAIDI was attributed to the following:

1. The March 14th snow event brought heavy rain, gusty wind, and snow at lower elevations throughout the system leading to a major event on March 15th and 16th, the 5th largest outage event of the year. The outages on March 14th contributed 1.9 customer-minutes to the system's SAIDI performance.
2. The April 5th storm event brought heavy rain into the interior valleys followed by snow across the Northern and Sierra mountains at elevations of 3000'. The

eastern part of the valleys and foothills also experienced breezy to gusty winds of 35 mph and lighter winds across the territory. This event contributed 1.86 customer-minutes to the system's SAIDI performance.

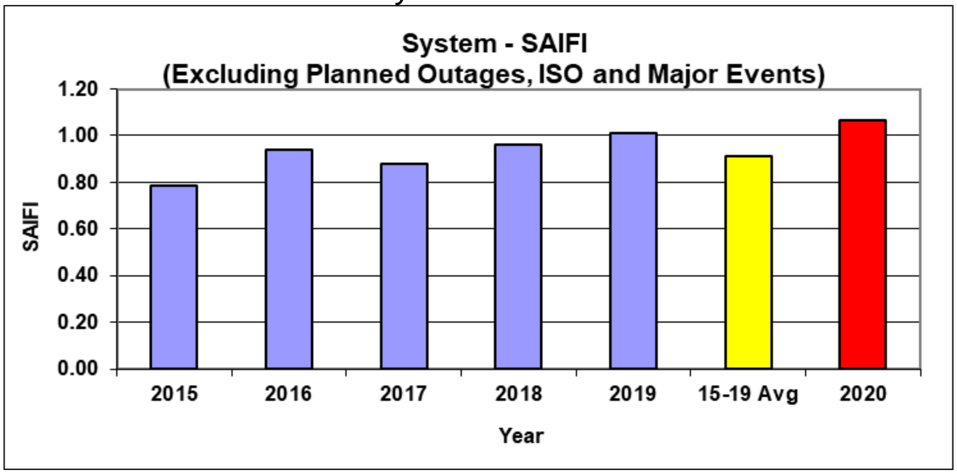
3. The June 2nd early-season heat wave brought 90^o to +100^o F temperatures to the Bay Area and central territory resulting in high electric loads and heat-related outage activity. This event lasted 4 days between June 1st – 4th and became the 6th largest outage of the year and contributed 2.16 customer-minutes to the system's SAIDI performance.
4. The August 14th – 19th event (excluding August 15th, 16th and 17th since these three days were ME days) brought a prolonged heat wave featuring widespread triple-digit temperatures resulting in significant heat-related outages across the territory over the course of several days. Additionally, abundant subtropical moisture from Tropical Storm Fausto produced widespread thunderstorm activity 8/15 – 8/18 resulting in over 7,700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events. Several transmission lines were affected by these lightning strikes which resulted in loss of power to multiple substations. This major event resulted in the largest outage event of the year and contributed 2.27, 2.57, and 1.2 customer-minutes on August 14th, 18th and 19th respectively to the system's SAIDI performance.
5. The September 6th – 8th event (excluding September 7th and 8th since these two days were ME days) brought a prolonged heat wave event that resulted in widespread triple-digit temperatures in the interior valleys and heat-related outage activity. Additionally, gusty offshore winds led to critical fire risk weather conditions and the execution of PSPS across the Northern area, along the Sierra mountains, and in southern Kern division. This major event was the 3rd largest outage event of the year and contributed 2.3 customer minutes on September 6th to the system's SAIDI performance.
6. The September 9th forest fire event that spread over 500-acre swath of land along the border of North Valley and Sacramento divisions required sections of distribution line to be de-energized at the request of Cal Fire. This event contributed 0.9 customer minutes to the system's SAIDI performance.
7. The October 4th transmission conductor failure on the Exchequer-Le Grand 115 kV transmission line caused an outage to three substations Bear Valley, Indian Flats and Mariposa. This event contributed 1.0 customer minutes to the system's SAIDI performance.

8. Outages on October 15th (the day after the excludable October 14th ME day) related to the critical fire risk danger event across the northern area due to gusty offshore winds, hot temperatures and low humidity resulted in the implementation of PSPS outages. In another event unrelated to the PSPS outages, a homeless camp located next to the Marysville substation caught on fire resulting in a transmission level outage. These outages on October 15th contributed 0.67 customer-minutes to the system's SAIDI performance.
9. Heat related outages occurred on October 26th (the day after the excludable October 25th ME day due to PSPS). The outages on October 26th contributed 2.12 customer-minutes to the system's SAIDI performance.
10. November 7th was the last day of the winter rain activity that started on November 4th. This 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. This event was the 10th largest outage event of the year. The November 7th outage activity contributed 1.34 customer-minutes to the system's SAIDI performance.
11. A November 13th storm system brought gusty winds and widespread rain to the north and central territory. This storm system brought the first precipitation in many months to several Bay Area locations, resulting in widespread flashover-related outage activity. This event contributed 1.61 customer-minutes to the system's SAIDI performance.
12. A November 17th storm event brought heavy rain (2-3") and gusty winds of 50-60mph associated with a cold front that spread quickly throughout the service territory. This event contributed 1.21 customer-minutes to the system's SAIDI performance.

System SAIFI Performance

The system's 2020 SAIFI performance of 1.068 was 0.153 customer-interruptions (or 16.8%) higher than the previous 5-year average of 0.915 as shown in the table above and illustrated in the figure below.

Chart 164 – System SAIFI Performance



The higher than average 2020 system SAIFI was attributed to the following:

1. May 18th was the second day of a heavy rainfall, mountain snow, lightning and thunderstorm event that contributed 0.122 customer-interruptions to the system SAIFI.
2. The August 14th – 19th event (excluding August 15th, 16th and 17th since these three days were ME days) brought a prolonged heat wave featuring widespread triple-digit temperatures resulting in significant heat-related outages across the territory over the course of several days. Additionally, abundant subtropical moisture from Tropical Storm Fausto produced widespread thunderstorm activity 8/15 – 8/18 resulting in over 7,700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events. Several transmission lines were affected by these lightning strikes which resulted in loss of power to multiple substations. This major event was the largest outage event of 2020. This event contributed 0.014, 0.0147 and 0.0134 customer-interruptions to the system's SAIFI on August 14th, 18th and 19th respectively.
3. The September 6th – 8th event (excluding September 7th and 8th since these two days were ME days) event brought a prolonged heat wave event that resulted in widespread triple-digit temperatures in the interior valleys and heat-related outage activity. Additionally, gusty offshore winds led to critical fire risk weather conditions and the execution of PSPS across the Northern area, along the Sierra mountains, and in southern Kern division. This major event was the 3rd largest outage event of 2020 and contributed 0.0124 customer-interruptions to the system's SAIFI.
4. The November 7th was the last day of the winter rain activity that started on

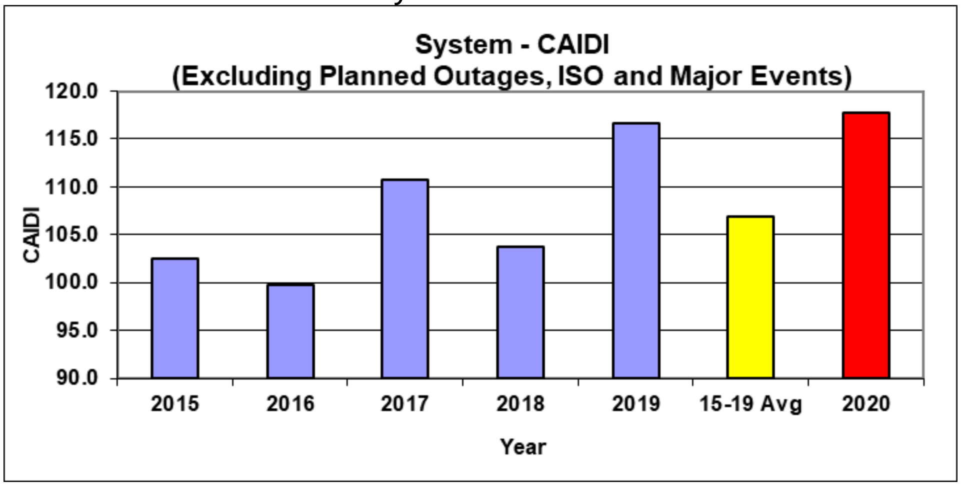
November 4th. This weather system delivered breezy winds, isolated thunderstorms and the first precipitation event of the season for most of the territory, which resulted in flashover-related outage activity. This event was the 10th largest outage event in the year. The November 7th outage activity contributed 0.0095 customer-interruptions to the system's SAIFI.

5. The November 13th storm system brought gusty winds and widespread rain to the north and central territory, including the first precipitation in many months to several Bay Area locations, resulting in widespread flashover-related outage activity. This event contributed 0.0168 customer-interruptions to the system's SAIFI.
6. A November 17th storm event brought heavy rain (2-3") and gusty winds of 50-60mph associated with a cold front that spread quickly throughout the service territory. This event contributed 0.0098 customer-interruptions to the system's SAIFI.
7. A December 15th storm event brought a high-pressure system leading to a slow-moving cold front in the North Coast area. This event brought scattered rain shower activity to the North Coast area and isolated shower activity into the North Valley-Shasta/Trinity area. In another event unrelated to this weather, a transmission-substation level forced outage was initiated to mitigate a relay mis-coordination issue thereby losing power to Arana, Cliff Drive, Paul Sweet, Rio Del Mar, Rob Roy, Roland, Sea Cliff and Soquel substations. These events contributed 0.0145 customer-interruptions to the system's SAIFI.

System CAIDI Performance

The system's 2020 CAIDI performance of 117.8 was 10.9 customer-minutes (or 10.2%) higher than the previous 5-year average of 106.9 as shown in the table above and illustrated in the figure below.

Chart 165 – System CAIDI Performance



The higher than average 2020 system CAIDI was attributed to the following:
<u>Weather-Events</u>:

1. The March 14th snow event brought heavy rain, gusty wind and snow at lower elevations throughout the system leading to the third Major event of the year on March 15th and 16th. This event was the 5th largest outage event of the year.
2. The April 5th storm event brought heavy rain into the interior Valleys followed by snow across the Northern and Sierra mountains at elevations of 3000'. The eastern part of the valleys and foothills also experienced breezy to gusty winds of 35mph and lighter winds across the territory.
3. The June 2nd early-season heat wave brought 90° to +100° F temperatures to the Bay Area and central territory resulting in high electric loads and heat-related outage activity. This event lasted 4 days between June 1st – 4th and was the 6th largest outage of the year.
4. The August 14th – 19th event (excluding August 15th, 16th and 17th since these three days were ME days) brought a prolonged heat wave featuring widespread triple-digit temperatures resulting in significant heat-related outages across the territory over the course of several days. Additionally, abundant subtropical moisture from Tropical Storm Fausto produced widespread thunderstorm activity 8/15 – 8/18 resulting in over 7,700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events. Several transmission lines were affected by these lightning strikes which resulted in loss of power to multiple substations. This 4th major event of the year also became the largest outage event of the year.

5. The September 6th – 8th event (excluding September 7th and 8th since these two days were ME days) brought a prolonged heat wave event that resulted in widespread triple-digit temperatures in the interior valleys and heat-related outage activity. Additionally, gusty offshore winds led to critical fire weather conditions and the execution of PSPS across the Northern area, along the Sierra mountains, and in southern Kern division. This major event was also the 3rd largest outage event of the year.
6. Heat related outages on October 26th (the day after the excludable October 25th ME day) involved a strong high-pressure system that resulted in triple-digit temperatures away from the coast, which eventually led to the implementation of a PSPS event. October 26th was the last day of the 9th major event of the year and resulted in the year's 2nd largest outage.

These weather-related events contributed 6.6 minutes to the overall CAIDI performance.

Non-Weather-Related Events:

7. January 10th – An insulator flash-over occurred on the distribution bus at Merced Substation resulting in an outage to the distribution feeders supplied by that transformer bank.
8. February 1st – A distribution bank load tap changer (LTC) at Templeton Substation experienced an oil leak and resulted in an unplanned outage to all feeders supplied by that transformer bank.
9. June 27th – A 3rd party car pole accident knocked a distribution main line pole to the ground that resulted in a breaker level outage on the Madison 2102 circuit.
10. September 9th – A forest fire spread over 500 acres along the border of North Valley and Sacramento divisions required sections of distribution lines to be de-energized at Cal Fire's request.
11. October 4th - Exchequer-Le Grand 115 kV transmission line was lost due to a conductor failure. This caused an outage to three substations: Bear Valley, Indian Flats and Mariposa.
12. October 15th - A homeless camp located next to the Marysville substation caught on fire resulting in a transmission level outage.
13. December 15th - 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.

14. September 29th - Outages on the Girvan 1101 related to fire activity, which are under review.

These non-weather-related outages contributed an additional 2.0 minutes to the overall system CAIDI.

2. Central Coast Division Performance Assessment

Central Coast Division Performance

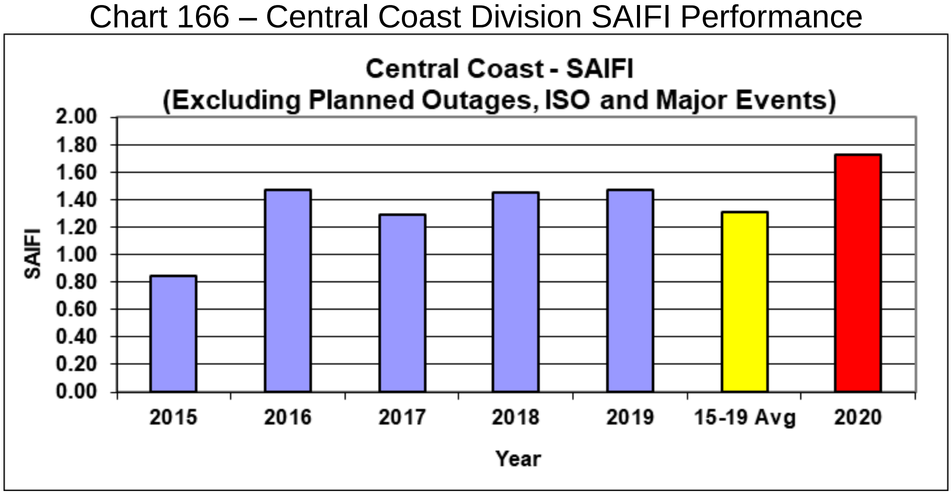
Table 10: Central Coast Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	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
5-Year Average	15-19 Avg	156.1	1.306	2.277	119.5
CENTRAL COAST	2020	159.1	1.724	1.600	92.3
	%Difference	2.0%	32.0%	-29.7%	-22.8%

Central Coast Division SAIFI Performance

Central Coast Division's 2020 SAIFI performance of 1.724 was 0.418 customer-interruptions (or 32%) higher than the previous 5-year average of 1.306 as shown in the table above and illustrated in the figure below.

Chart 166 – Central Coast Division SAIFI Performance



The higher than average 2020 Central Coast SAIFI was attributed to the following:

1. On January 10th, a section of the 21kV bus at the Green Valley substation flashed due to a bird resulting in a substation bank outage that contributed 0.039 customer-interruptions to the division's SAIFI.
2. On April 24th, a Del Monte 2105 outage occurred due to a splice failure on the overhead distribution line and contributed 0.042 customer-interruptions to the division's SAIFI.
3. On August 14th, a broken insulator caused on outage on the Paul Sweet 2106 and contributed 0.016 customer-interruptions to the division's SAIFI.
4. On August 14th, a large oak tree fell into the distribution line bringing wire down and resulting in a Paul Sweet 2105 feeder breaker outage that contributed 0.022 customer-interruptions to the division's SAIFI.
5. On December 15th, a 3rd party underground cable failure caused an outage on the Paul Sweet 2102 feeder and contributed 0.027 customer-interruptions to the division's SAIFI.
6. On December 15th a relay on the transmission line tripped due to an unknown cause and all the substations connected to this transmission line experienced an outage that contributed 0.212 customer- interruptions to the division's SAIFI.

3. De Anza Division Performance Assessment

De Anza Division Performance

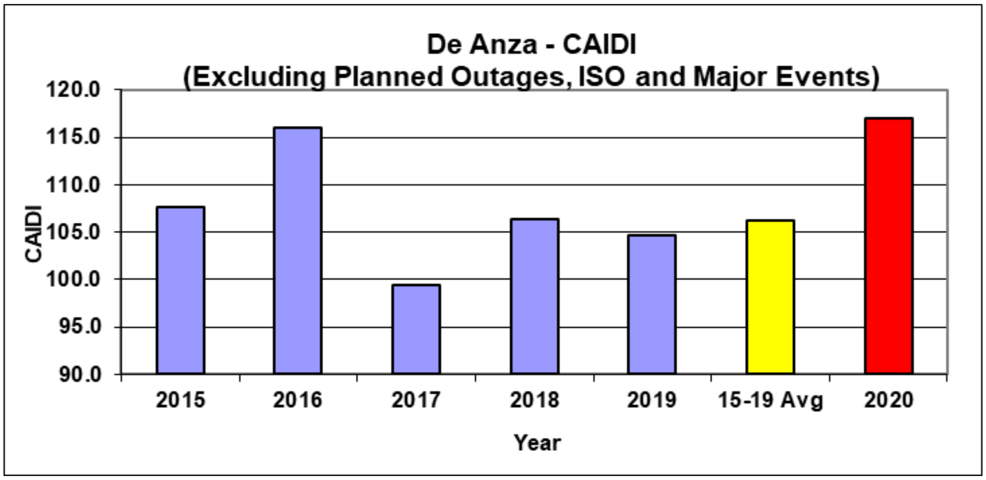
Table 11: De Anza Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	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
5-Year Average	15-19 Avg	82.3	0.775	1.343	106.2
DE ANZA	2020	83.1	0.711	1.213	117.0
	%Difference	1.0%	-8.3%	-9.7%	10.1%

De Anza Division CAIDI Performance

De Anza Division's 2020 CAIDI performance of 117.0 was 10.8 (or 10.1%) minutes higher than the previous 5-year average of 106.2 as shown in the table above and illustrated in the figure below.

Chart 167 – De Anza Division CAIDI Performance



The higher than average 2020 De Anza Division CAIDI was attributed to the following outages experienced on August 14th:

1. A section of overhead conductor failed and caused an outage on the Los Gatos 1106 feeder.
2. An unknown caused outage occurred on the Camp Ever 2106 feeder.
3. A prolonged heat wave (from August 13 to August 20 with August 15-17 being excludable ME days) resulted in multiple heat-related equipment failure outages in De Anza division, such as distribution line transformers and fuse failures. All the outages that occurred on August 14th contributed 11.4 minutes to the division's overall CAIDI performance.

4. Diablo Division Performance Assessment

Diablo Division Performance

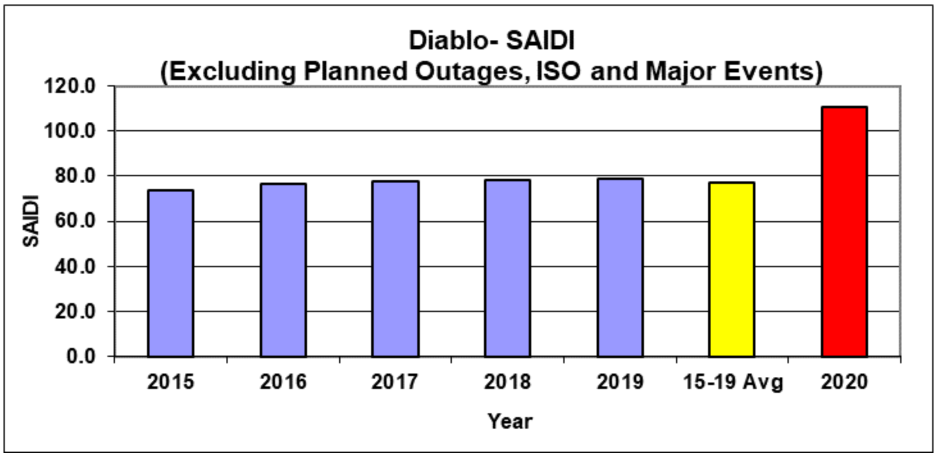
Table 12: Diablo Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	77.1	0.934	1.538	82.5
DIABLO	2020	110.8	1.206	1.621	91.9
	%Difference	43.7%	29.1%	5.4%	11.4%

Diablo Division SAIDI Performance

Diablo Division's 2020 SAIDI performance of 110.8 was 33.7 customer-minutes (or 43.7%) higher than the previous 5-year average of 77.1 as shown in the table above and illustrated in the figure below.

Chart 168 – Diablo Division SAIDI Performance



The higher than average 2020 Diablo Division SAIDI was attributed to the following:

1. On January 25th, a vehicle hit the distribution line guy wire causing conductor to slap together and damaging an insulator on the Kirker 2103 circuit. This outage contributed 1.76 customer-minutes to the division's SAIDI performance.
2. On February 27th, the current transformer at the Contra Costa 2203 substation breaker was found burned and flashed due to a racoon contact. This incident contributed 1.35 customer-minutes to the division's SAIDI performance.
3. On April 3rd, an underground cable failure on the Rossmoor 1105 circuit caused an outage that contributed 1.3 customer-minutes to the division's SAIDI performance.
4. On April 26th, a tree branch tree fell into our distribution line and broke the overhead conductor resulting in an outage on the Lakewood 2224 circuit that contributed 1.4 customer-minutes to the division's SAIDI performance.
5. On May 12th, a high side breaker at Contra Costa substation malfunctioned resulting in a substation bank outage that contributed 1.74 customer-minutes to the division's SAIDI performance.
6. On May 27th, an underground elbow failed resulting in a fuse outage on the Meadow Lane 2108 circuit that contributed 1.2 customer-minutes to the

division's SAIDI performance.

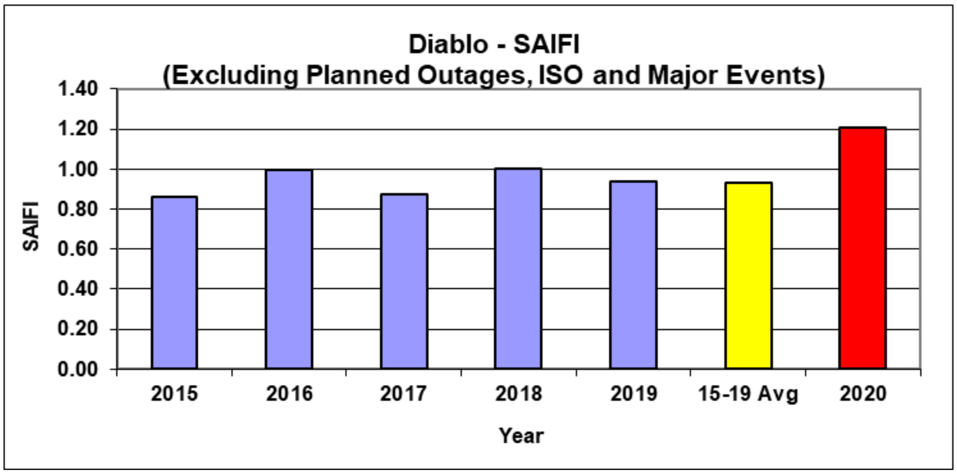
7. On July 4th, a car hit a distribution wood pole and broke it resulting in a Fairview 2206 breaker outage that contributed 2.16 customer-minutes to the division's SAIDI performance.
8. On July 28th, an underground cable failure caused a Rossmoor 1107 feeder breaker outage that contributed 2.07 customer-minutes to the division's SAIDI performance.
9. On August 14th, an underground switch failure caused a Contra Costa 2110 feeder breaker outage that contributed 1.01 customer-minutes to the division's SAIDI performance.
10. A prolonged heat wave (from August 13 to August 20 with August 15-17 being ME days) resulted in multiple heat-related equipment level outages in Diablo division that contributed 4.8 customer-minutes to the Division SAIDI performance.
11. On August 29th, an underground elbow failed and resulted in a Tassajara 2104 feeder breaker outage that contributed 3.03 customer-minutes to the division's SAIDI.
12. An underground cable failure on September 6th resulted in a feeder breaker outage on the Tassajara 2103 circuit and contributed 1.63 customer-minutes to the division's SAIDI.
13. On September 6th, a car hit a distribution wood pole resulting in a Clayton 2213 feeder breaker outage that contributed 1.14 customer-minutes to the division's SAIDI performance.
14. The October 15th (excluding October 14th since it was an ME day) critical fire risk danger event across the northern area was due to gusty offshore winds, hot temperatures and low humidity which resulted in the implementation of a PSPS outages. October 15th was the last day of the 7th major event of the year and contributed 2.45 customer-minutes to the division's SAIDI performance.
15. The October 26th (excluding October 25th since it was an ME day) heat event was caused by a strong high-pressure system that resulted in triple-digit temperatures away from the coast, which eventually led to the implementation of PSPS event. October 26th was the last day of the 9th major event of the year and resulted in the year's 2nd largest outage. This event on October 26th contributed 1.57 customer-minutes to the division SAIDI performance.
16. On November 5th, while the Meadow Lane 2106 was abnormally switched, tree bark fell across 2 phases causing a wire down situation and setting a set of

fuse cutouts on fire. This outage event contributed 1.42 customer-minutes to the division's SAIDI performance.

Diablo Division SAIFI Performance

Diablo Division's 2020 SAIFI performance of 1.206 was 0.272 customer-interruptions (or 29.1%) higher than the previous 5-year average of 0.934 as shown in the table above and illustrated in the figure below.

Chart 169 – Diablo Division SAIFI Performance



The higher than average 2020 Diablo Division SAIFI was attributed to the following:

1. On February 7th, while the Contra Costa Sub 115 kV test program was in progress, an operating error occurred causing this event. This outage contributed 0.025 customer-interruptions to the division's SAIFI performance.
2. On February 27th, the current transformer at the Contra Costa 2203 substation breaker failed due to a racoon contact. This outage contributed 0.025 customer-interruptions to the division's SAIFI performance.
3. On July 4th, a 3rd party vehicle broke a wooden pole resulting in a Fairview 2206 feeder breaker outage that contributed 0.014 customer-interruptions to the division's SAIFI performance.
4. On January 25th, a 3rd party vehicle caused the conductor to slap together, broke an insulator and caused a line recloser outage on the Kirker 2103 circuit that contributed 0.014 customer-interruptions to the division's SAIFI performance.
5. On March 31st, an underground connector failed and caused an outage on the Kirker 2109 circuit that contributed 0.023 customer-interruptions to the

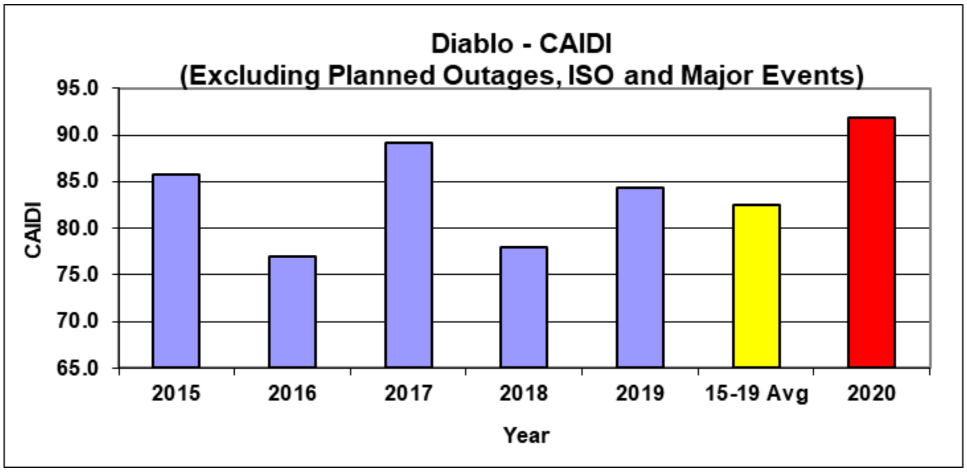
division's SAIFI performance.

6. On May 12th, a high side breaker at Contra Costa substation malfunctioned causing the substation transformer to lose power and resulted in outages of 4 distribution feeders supplied by this transformer bank. This outage contributed 0.043 customer-interruptions to the division's SAIFI performance.
7. On July 28th, a pole fire occurred on a distribution line serving the Naval Base at Willow Pass and the Tidewater 2106 feeder breaker was manually opened to isolate the faulted line and make repairs. This outage contributed 0.012 customer-interruptions to the division's SAIFI performance.
8. On August 14th, an underground distribution transformer failed and resulted in a Clayton 2212 feeder breaker outage that contributed 0.011 customer-interruptions to the division's SAIFI performance.
9. A prolonged heat wave (from August 13th – 20th with August 15-17 being excludable ME days) resulted in multiple heat-related equipment failure outages on August 14th that contributed 0.037 customer-interruptions to the division's SAIFI performance.
10. On November 5th, while the Meadow Lane 2106 was abnormally configured, tree bark fell across 2 phases, resulted in equipment damage and an outage that contributed 0.012 customer-interruptions to the division's SAIFI performance.
11. On November 6th, an underground transformer failed and caused a Meadow Lane 2108 feeder breaker outage that contributed 0.012 customer-interruptions to the division's SAIFI performance.
12. On November 6th, a 3rd party vehicle hit a distribution pole causing a guy wire to entangle with the primary overhead conductor resulting in an outage on the Contra Costa 2116 feeder that contributed 0.011 customer-interruptions to the division's SAIFI performance.

Diablo Division CAIDI Performance

Diablo Division's 2020 CAIDI performance of 91.9 was 9.4 (or 11.4%) minutes higher than the previous 5-year average of 82.5 as shown in the table above and illustrated in the figure below.

Chart 170 – Diablo Division CAIDI Performance



The higher than average 2020 Diablo Division CAIDI was attributed to the following:

1. On August 29th, the following outages occurred: 1) an elbow on the primary underground cable resulted in a Tassajara 2104 feeder level outage, 2) an underground cable failure caused a fuse level outage on Rossmoor 1103 circuit, 3) an unknown cause resulted in a fuse outage on the Tidewater 2110 circuit. These three outages contributed a total of 1.9 minutes to the division's overall CAIDI performance.

5. East Bay Division Performance Assessment

East Bay Division Performance

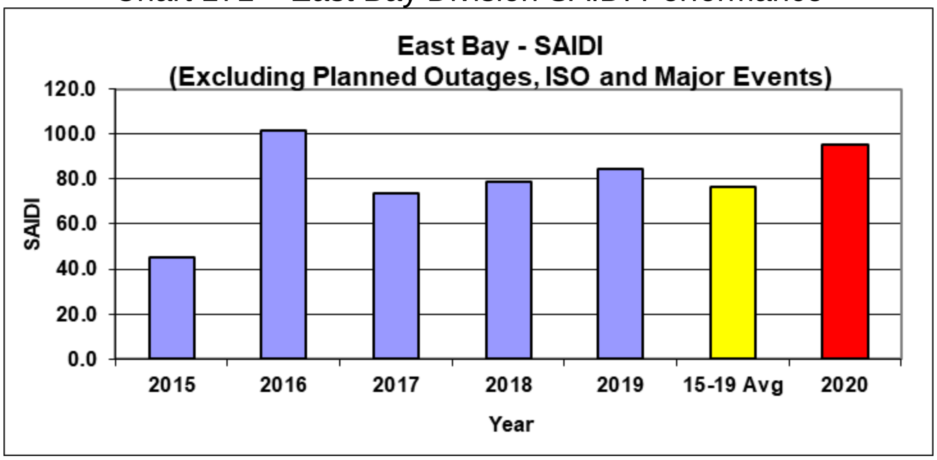
Table 13: East Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	76.7	0.859	1.146	89.3
EAST BAY	2020	95.5	0.838	1.455	114.0
	%Difference	24.5%	-2.4%	27.0%	27.6%

East Bay Division SAIDI Performance

East Bay Division's 2020 SAIDI performance of 95.5 was 18.8 customer-minutes (or 24.5%) higher than the previous 5-year average of 76.7 as shown in the table above and illustrated in the figure below.

Chart 171 – East Bay Division SAIDI Performance



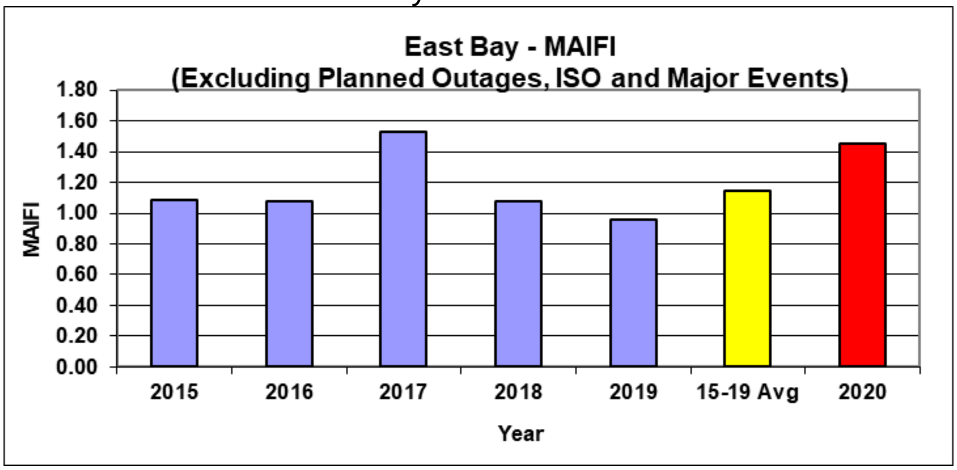
The higher than average 2020 East Bay Division SAIDI was attributed to the following:

1. On October 26th, an Oakland X-1104 distribution recloser zone PSPS outage event was initiated in response to a severe weather forecast to help prevent wildfire and keep communities safe. This outage contributed 4.18 customer-minutes to the division's overall SAIDI performance.
2. On October 26th, a tree branch fell into the Bancroft 402 distribution feeder resulting in a breaker level outage that contributed 1.66 customer-minutes to the division's overall SAIDI performance.
3. On October 26th, a tree branch fell into the San Leandro 1114 distribution feeder resulting in a fuse level outage that contributed 1.02 customer-minutes to the division's overall SAIDI performance.
4. On October 26th, a tree branch fell into the Oakland J-1116 distribution feeder resulting in a fuse level outage that contributed 0.63 customer-minutes to the division's overall SAIDI performance.

East Bay Division MAIFI Performance

East Bay Division's 2020 MAIFI performance of 1.455 was 0.310 customer-interruptions (or 27%) higher than the previous 5-year average of 1.146 as shown in the table above and illustrated in the figure below.

Chart 172 – East Bay Division MAIFI Performance



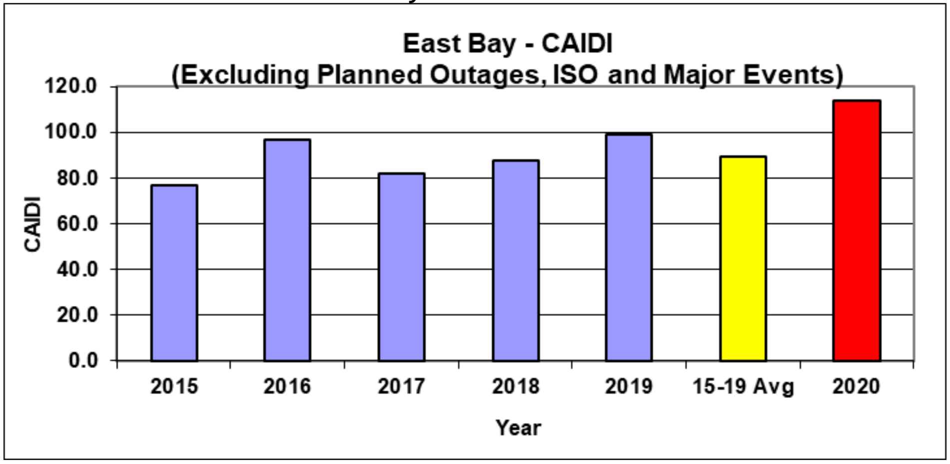
The higher than average 2020 East Bay Division MAIFI was attributed to the following:

1. On April 1st, momentary outages of unknown cause were experienced at the Oakland Substation that contributed 0.091 customer-interruptions to the division's MAIFI performance.
2. On September 3rd, momentary outages of unknown cause were experienced at the Oakland Substation that contributed 0.129 customer-interruptions to the division's MAIFI performance.

East Bay Division CAIDI Performance

East Bay Division's 2020 CAIDI performance of 114.0 was 24.7 minutes (or 27.6%) higher than the previous 5-year average of 89.3 as shown in the table above and illustrated in the figure below.

Chart 173 – East Bay Division CAIDI Performance



The higher than average 2020 East Bay Division CAIDI was attributed to the following:

On October 26th, a PSPS outage event was initiated in response to a severe weather forecast to help prevent wildfires and keep communities safe. All outages on October 26th contributed 10.1 minutes to the division's overall CAIDI performance.

6. resno Division Performance Assessment

Fresno Division Performance

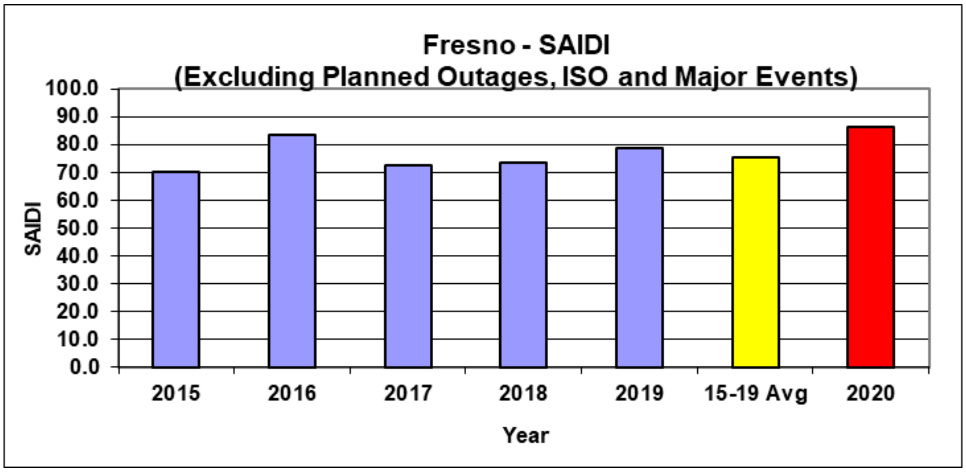
Table 14: Fresno Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	75.6	0.888	1.634	85.1
FRESNO	2020	86.5	0.865	1.352	100.0
	%Difference	14.4%	-2.7%	-17.3%	17.5%

Fresno Division SAIDI Performance

Fresno Division's 2020 SAIDI performance of 86.5 was 10.9 customer-minutes (or 14.4%) higher than the previous 5-year average of 75.6 as shown in the table above and illustrated in the figure below.

Chart 174 – Fresno Division SAIDI Performance



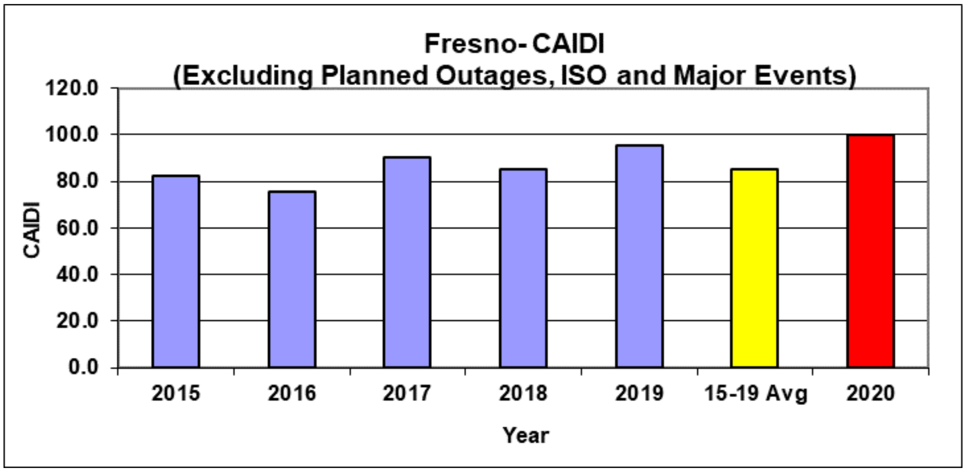
The higher than average 2020 Fresno Division SAIDI was attributed to the following:

1. On July 11th, a tree fell into the Auberry 1101 distribution feeder breaking a pole and causing a wire down incident resulting is a recloser level outage that contributed 2.21 customer-minutes to the division's SAIDI.
2. On November 7th, a riser termination flashed on the Clovis 1105 feeder resulting in a fuse level outage that contributed 0.73 customer-minutes to the division's SAIDI.
3. On November 7th, a flashover occurred at a wood cross arm on the Dinuba 1102 feeder and resulted in a feeder breaker outage that contributed 0.67 customer-minutes to the division's SAIDI.
4. On November 7th, the top of a wood pole caught fire that resulted in an overhead conductor down and an outage on the Sanger 1116 circuit breaker that contributed 0.48 customer-minutes to the division's SAIDI.

<u>Fresno Division CAIDI Performance</u>

Fresno Division's 2020 CAIDI performance of 100.0 was 14.9 minutes (or 17.5%) higher than the previous 5-year average of 85.1 as shown in the table above and illustrated in the figure below.

Chart 175 – Fresno Division CAIDI Performance



The higher than average 2020 CAIDI performance was mainly due to the following:

1. On July 11th, 1) a tree fell into the Auberry 1101 distribution line and broke a pole causing a wire down incident, 2) a section of Kerckhoff 1101 circuit needed to be de-energized due to and to limit the spread of a forest fire.

All outages on July 11th, contributed 1.6 minutes to the division's overall CAIDI.

7. Kern Division Performance Assessment

Kern Division Performance

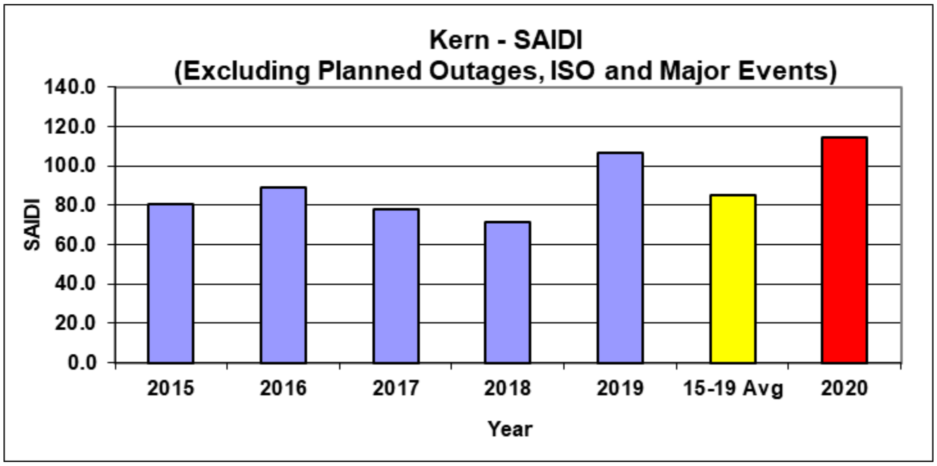
Table 15: Kern Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	85.2	0.879	1.756	96.9
KERN	2020	114.6	1.060	1.831	108.1
	%Difference	34.5%	20.6%	4.2%	11.6%

Kern Division SAIDI Performance

Kern Division's 2020 SAIDI performance of 114.6 is 29.4 customer-minutes (or 34.5%) higher than the previous 5-year average of 85.2 as shown in the table above and illustrated below.

Chart 176 – Kern Division SAIDI Performance



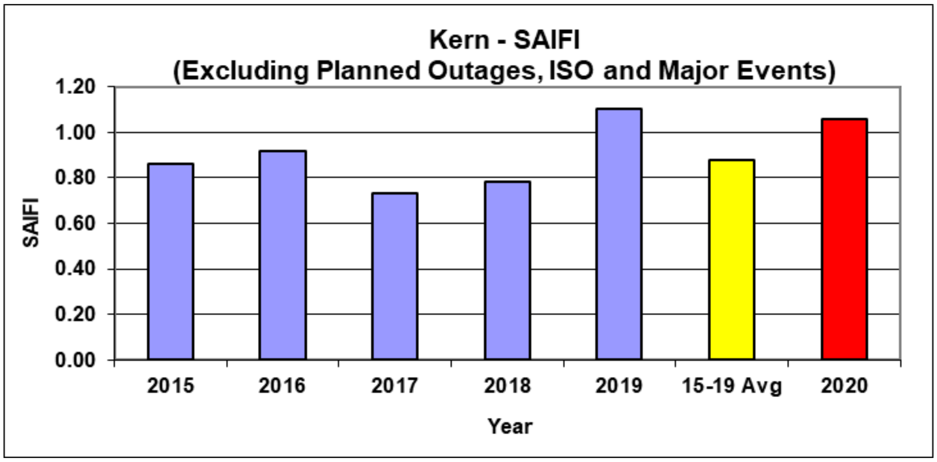
The higher than average 2020 SAIDI performance is due the following outage events:

1. On June 27th, an underground switch on the Kern Power 2101 feeder failed and resulted in a recloser outage that contributed 2.65 customer-minutes to the division's SAIDI.
2. On November 7th, an underground cable failure on the Kern Power 2104 feeder resulted in s device level outage that contributed 2.7 customer-minutes to the division's SAIDI.
3. On November 7th, a wood pole on the Fruitvale 1103 feeder flashed and caught on fire resulting in a recloser level outage that contributed 3.89 customer-minutes to the division's SAIDI.
4. On November 7th, a wood pole on the Bakersfield 2104 feeder flashed and caught on fire resulting in a feeder breaker outage that contributed 1.01 customer-minutes to the division's SAIDI.
5. On December 2nd, a PSPS outage on the Tejon 1102 feeder contributed 2.9 customer-minutes to the division's SAIDI.
6. On December 17th, a tree branch fell on the Bakersfield 2103 circuit contributing 1.5 customer-minutes to the division's SAIDI.
7. On December 19th, a 3rd party flew a metallic balloon into the overhead conductors served by Bakersfield 1102 feeder resulting in a breaker outage that contributed 4.0 customer-minutes to the division's SAIDI.
8. On December 23rd, an owl flew into the bus structure at the Weedpatch substation resulting in a high side breaker outage that contributed 2.68 customer-minutes to the division's SAIDI.

<u>Kern Division SAIFI Performance</u>

Kern Division's 2020 SAIFI performance of 1.060 is 0.181 customer-interruptions (or 20.6%) higher than the previous 5-year average of 0.879 as shown in the table above and illustrated below.

Chart 177 – Kern Division SAIFI Performance



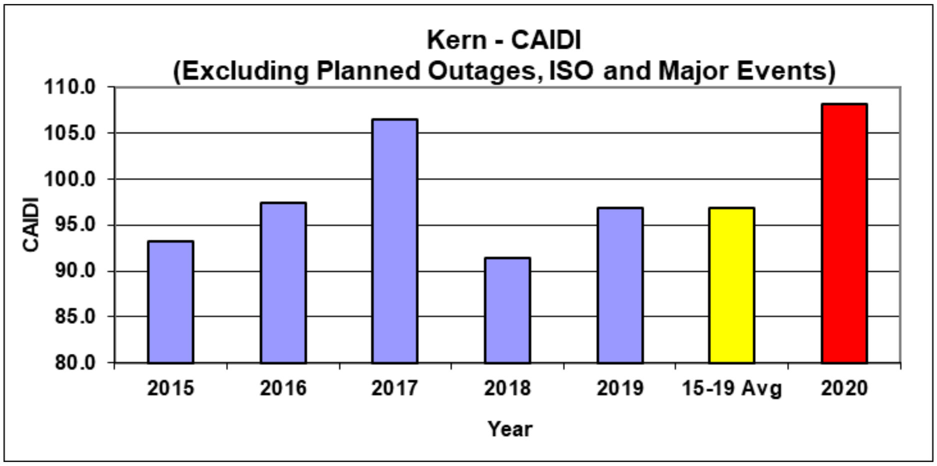
The higher than average 2020 SAIFI performance is due the following outage events:

1. On November 7th, a wood pole on the Fruitvale 1103 feeder flashed and caught on fire resulting in a recloser level outage that contributed 0.012 customer-interruptions to the division's SAIFI.
2. On December 2nd, a PSPS event on Tejon 1102 feeder contributed 0.014 customer-interruptions to the division's SAIFI.
3. On December 17th, a tree branch fell on the Bakersfield 2103 circuit contributing 0.024 customer-interruptions to the division's SAIFI.
4. On December 19th, a 3rd party flew a metallic balloon into the overhead conductors served by Bakersfield 1102 feeder resulting in a breaker level outage that contributed 0.055 customer-interruptions to the division's SAIFI.

<u>Kern Division CAIDI Performance</u>

Kern Division's 2020 CAIDI performance of 108.1 was 11.2 minutes (or 11.6%) higher than the previous 5-year average of 96.9 as shown in the table above and illustrated in the figure below.

Chart 178 – Kern Division CAIDI Performance



The higher than average 2020 CAIDI performance was due to the outages experienced on November 7th as described below:

1. A section of underground cable on Kern Power 2104 feeder failed resulting in a sectionalizing device outage
2. This was the last day of four consecutive days of winter storm activity that brought breezy winds, isolated thunderstorms and light precipitation for most of the territory, which resulted in flashover-related outage activity.

All outages on November 7th contributed 6.4 minutes to the division's overall CAIDI.

8. Los Padres Division Performance Assessment

Los Padres Division Performance

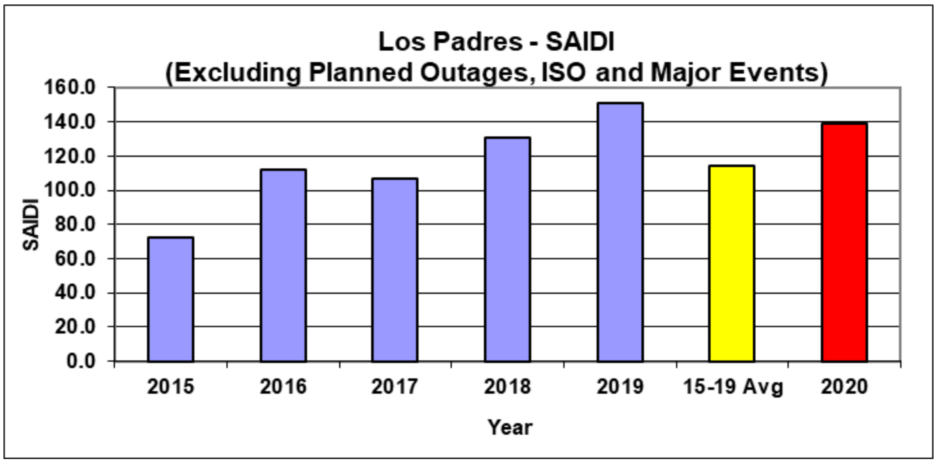
Table 16: Los Padres Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	114.5	1.032	1.266	110.9
LOS PADRES	2020	139.3	1.141	0.836	122.1
	%Difference	21.7%	10.6%	-33.9%	10.1%

Los Padres Division SAIDI Performance

Los Padres Division's 2020 SAIDI performance of 139.3 was 24.8 customer-minutes (or 21.7%) higher than the previous 5-year average of 114.5 as shown in the table above and illustrated in the figure below.

Chart 179 – Los Padres Division SAIDI Performance



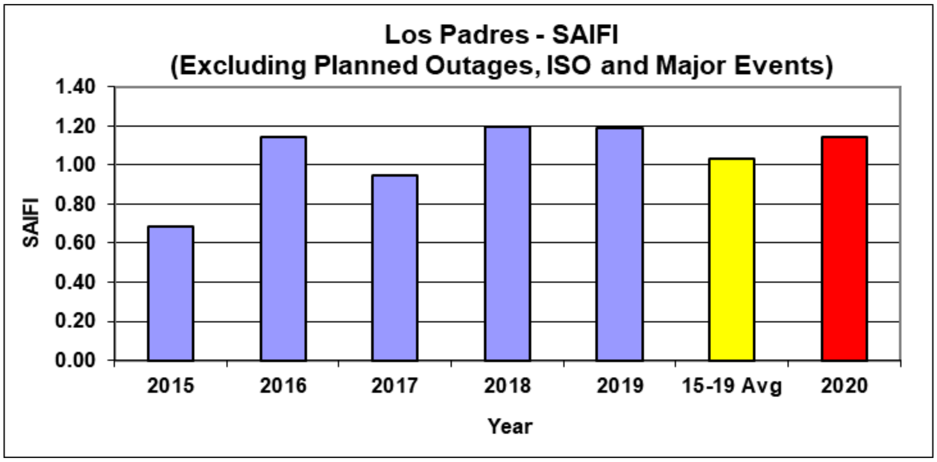
The higher than average 2020 Los Padres Division SAIDI was attributed to the following:

1. On February 1st, a distribution bank LTC at Templeton Substation experienced an oil leak and resulted in an unplanned outage to all feeders supplied by that transformer. This outage contributed 25.82 customer-minutes to the division's SAIDI performance.

Los Padres Division SAIFI Performance

Los Padres Division's 2020 SAIFI performance of 1.141 was 0.109 customer-interruptions (or 10.6%) higher than the previous 5-year average of 1.032 as shown in the table above and illustrated in the figure below.

Chart 180 – Los Padres Division SAIFI Performance



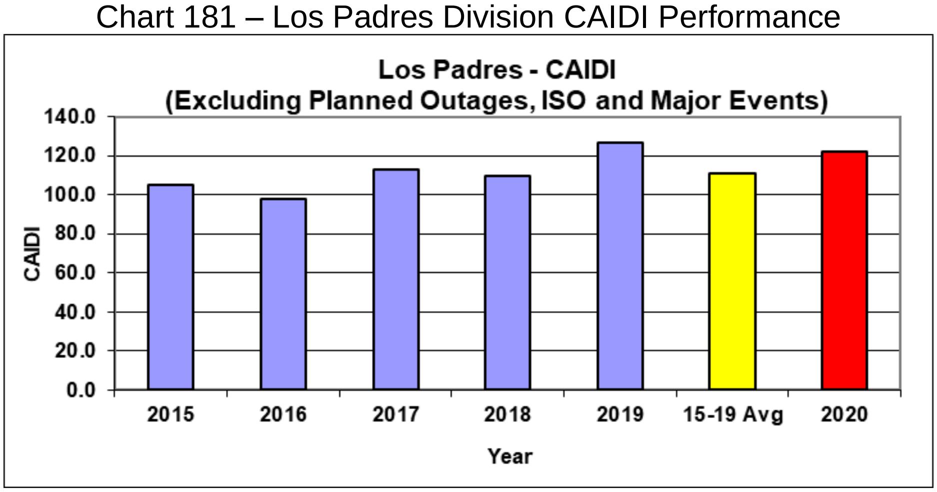
The higher than average 2020 Los Padres Division SAIFI was attributed to the following:

1. On February 1st, a distribution bank LTC at Templeton Substation experienced an oil leak and resulted in an unplanned outage to all feeders supplied by that transformer bank. This outage contributed 0.130 customer-interruptions to the division's SAIFI performance.

<u>Los Padres Division CAIDI Performance</u>

Los Padres Division's 2020 CAIDI performance of 122.1 was 11.2 minutes (or 10.1%) higher than the previous 5-year average of 110.9 as shown in the table above and illustrated in the figure below.

Chart 181 – Los Padres Division CAIDI Performance



The higher than average 2020 Los Padres Division CAIDI was attributed to the following:

1. On February 1st, a distribution bank LTC at Templeton Substation experienced an oil leak and resulted in an unplanned outage to all feeders supplied by that transformer bank. This outage contributed 13.0 minutes to the division's overall CAIDI.

9. Mission Division Performance Assessment

Mission Division Performance

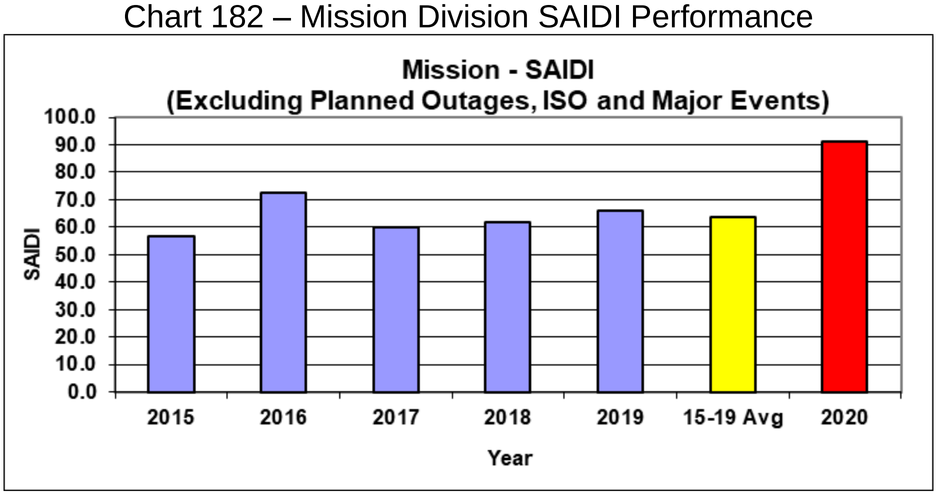
Table 17: Mission Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	63.5	0.632	0.896	100.5
MISSION	2020	91.1	0.766	1.060	119
	%Difference	43.6%	21.2%	18.3%	18.5%

Mission Division SAIDI Performance

Mission Division's 2020 SAIDI performance of 91.1 was 27.7 customer-minutes (or 43.6%) higher than the previous 5-year average of 63.5 as shown in the table above and illustrated in the figure below.

Chart 182 – Mission Division SAIDI Performance



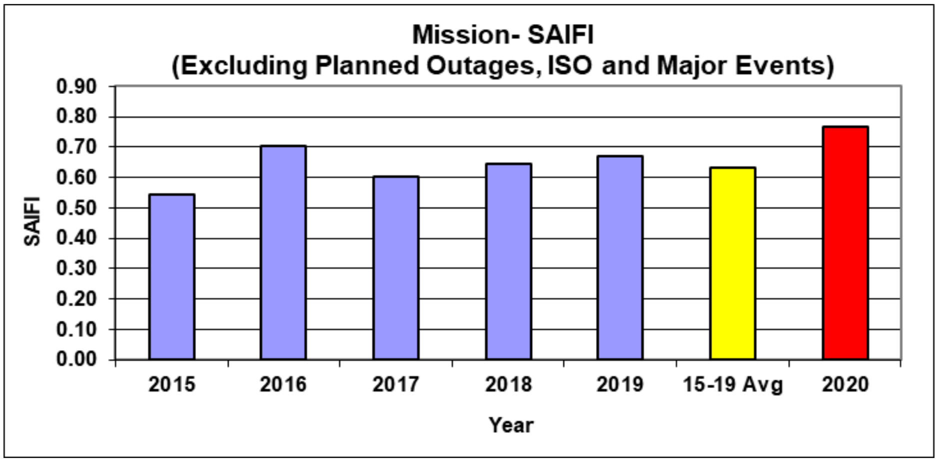
The higher than average 2020 Mission Division SAIDI was attributed to the following:

1. On February 26th, a tree fell into the Castro Valley 1108 distribution line, broke a wood pole, and resulted in a feeder breaker level outage that contributed 2.2 customer-minutes to the division's SAIDI.
2. On March 25th, a failed underground switch on the Vineyard 2108 circuit resulted in a feeder breaker level outage that contributed 1.6 customer-minutes to the division's SAIDI.
3. On April 7th, an insulator failure on the 115kV bus at Newark substation resulted in a transmission substation level outage that contributed 2.5 customer-minutes to the division's SAIDI performance.
4. On June 23rd, an UG cable splice failure on the Vineyard 2109 circuit resulted in a feeder breaker level outage that contributed 4.6 customer-minutes to the division's SAIDI performance.
5. On August 15th, a failed substation transformer bushing at Las Positas substation resulted in a substation bank level outage that contributed 5.4 customer-minutes to the division's SAIDI performance.
6. On August 19th, an UG cable splice failure on the Cayetano 2109 feeder resulted in a recloser level outage that contributed 1.3 customer-minutes to the division's SAIDI.
7. On September 6th, an OH conductor splice failure on the Cayetano 2109 feeder resulted in a recloser level outage that contributed 1.4 customer-minutes to the division's SAIDI.
8. On October 26th, a fuse level outage occurred on the Castro Valley 1108 circuit due to an unknown cause that contributed 3.3 customer-minutes to the division's SAIDI performance.
9. On October 26th, a distribution line UG cable failure resulted in a Dumbarton 1108 recloser level outage that contributed 1.1 customer-minutes to the division's SAIDI performance.
10. On November 13th, an overhead line insulator failure on the Castro Valley 1105 circuit resulted in recloser level outage that contributed 1.3 customer-minutes to the division's SAIDI performance.

Mission Division SAIFI Performance

Mission Division's 2020 SAIFI performance of 0.766 was 0.134 customer-interruptions (or 21.2%) higher than the previous 5-year average of 0.632 as shown in the table above and illustrated in the figure below.

Chart 183 – Mission Division SAIFI Performance



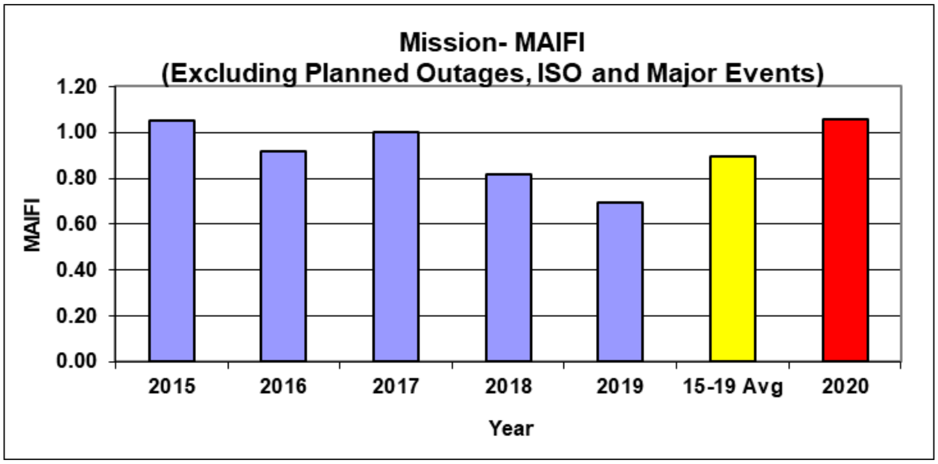
The higher than average 2020 Mission Division SAIFI was attributed to the following:

1. On February 26th, a tree fell into the Castro Valley 1108 distribution line and broke a wood pole resulting in a feeder breaker level outage that contributed 0.020 customer-interruptions to the division's SAIFI performance.
2. On March 25th, a failed underground (UG) switch on the Vineyard 2108 circuit resulted in a feeder breaker level outage that contributed 0.015 customer-interruptions to the division's SAIFI performance.
3. On April 7th, an insulator failure on the 115kV bus at Newark substation resulted in a transmission-substation level outage that contributed 0.020 customer-interruptions to the division's SAIFI performance.
4. On June 23rd, an UG cable splice failure on the Vineyard 2109 feeder resulted in a feeder breaker level outage that contributed 0.023 customer-interruptions to the division's SAIFI performance.
5. On August 15th, a failed substation transformer bushing at Las Positas substation resulted in a substation level bank level outage that contributed 0.0170 customer-interruptions to the division's SAIFI performance.

Mission Division MAIFI Performance

Mission Division's 2020 MAIFI performance of 1.060 was 0.164 customer-interruptions (or 18.3%) higher than the previous 5-year average of 0.896 as shown in the table above and illustrated in the figure below.

Chart 184 – Mission Division MAIFI Performance

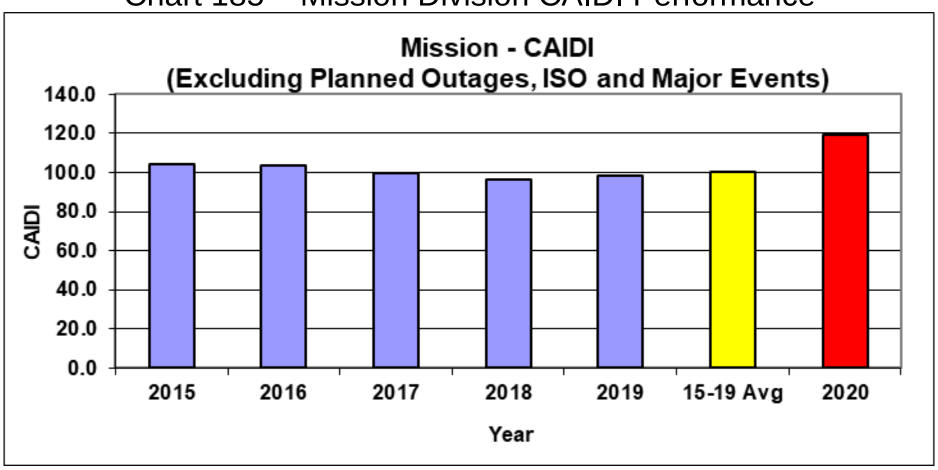


The higher than average 2020 Mission Division MAIFI was attributed to the momentary outages on the transmission line serving Grant substation. These outages contributed 0.055 customer-interruptions to the division's MAIFI performance.

Mission Division CAIDI Performance

Mission Division's 2020 CAIDI performance of 119.0 was 18.5 minutes (or 18.5%) higher than the previous 5-year average of 100.5 as shown in the table above and illustrated in the figure below.

Chart 185 – Mission Division CAIDI Performance



The higher than average 2020 Mission Division CAIDI was attributed to the following:

1. On August 15th, a failed substation transformer bushing at Las Positas substation resulted in a substation bank level outage.

2. On October 26th, a fuse on the Castro Valley 1108 distribution line tripped due to an unknown cause.
3. On October 26th, a fuse on the San Leandro 1102 distribution line tripped due to an unknown cause.
4. On October 26th, a failed underground transformer on the San Leandro 1102 feeder resulted in a fuse level outage.
5. During strong winds on October 26th, the San Leandro 1105 feeder experienced an outage due to an overhead (OH) conductor failure.
6. On October 26th, jumpers burned open on the Soto 402 feeder.
7. During strong winds on October 26th, the San Leandro 1109 distribution line experienced damage at multiple locations involving broken wood cross arms and poles.
8. During strong winds on October 26th, a secondary wire down incident resulted in a fuse level outage on the Castro Valley 1102 feeder.

All the outages that occurred on August 18th and October 26th contributed 5.2 minutes to the division's overall CAIDI.

10. North Bay Division Performance Assessment

North Bay Division Performance

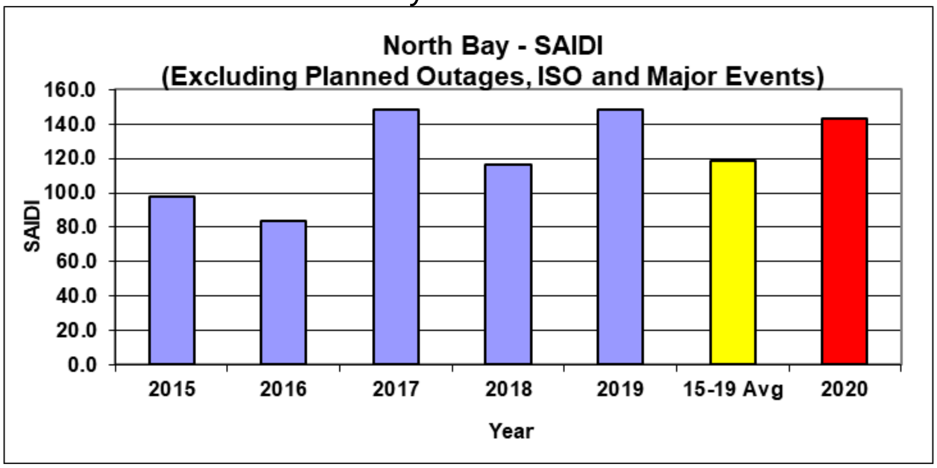
Table 18: North Bay Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	118.9	0.972	1.687	122.3
NORTH BAY	2020	143.2	1.233	2.093	116.1
	%Difference	20.5%	26.9%	24.1%	-5.1%

North Bay Division SAIDI Performance

North Bay Division's 2020 SAIDI performance of 143.2 was 24.3 customer-minutes (or 20.5%) higher than the previous 5-year average of 118.9 as shown in the table above and illustrated in the figure below.

Chart 186 – North Bay Division SAIDI Performance



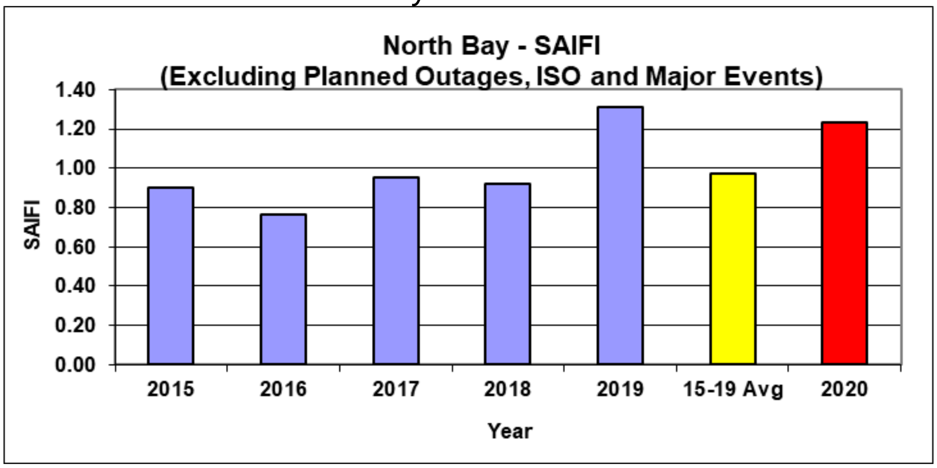
The higher than average 2020 North Bay Division SAIDI was attributed to the following outage events:

1. On August 18th, a transmission-substation level event occurred due to an unknown cause resulting in outages at both Pueblo and Silverado substations. This event contributed 11.7 customer-minutes to the division's SAIDI performance.
2. On November 13th, a failed elbow on the North Tower 1103 circuit resulted in a feeder breaker level outage that contributed 2.18 customer-minutes to the division's SAIDI performance.
3. On November 13th, a failed recloser bushing on the San Rafael 1101 circuit resulted in a circuit breaker level outage that contributed 2.15 customer-minutes to the division's SAIDI performance.
4. On November 13th, a pole fire on the Highway 1102 circuit resulted in a fuse level outage that contributed 0.61 customer-minutes to the division's SAIDI performance.
5. On November 13th, a pole fire on the Highway 1104 circuit resulted in a fuse level outage that contributed 0.38 customer-minutes to the division's SAIDI performance

<u>North Bay Division SAIFI Performance</u>

North Bay Division's 2020 SAIFI performance of 1.233 was 0.262 customer-interruptions (or 26.9%) higher than the previous 5-year average of 0.972 as shown in the table above and illustrated in the figure below.

Chart 187 – North Bay Division SAIFI Performance



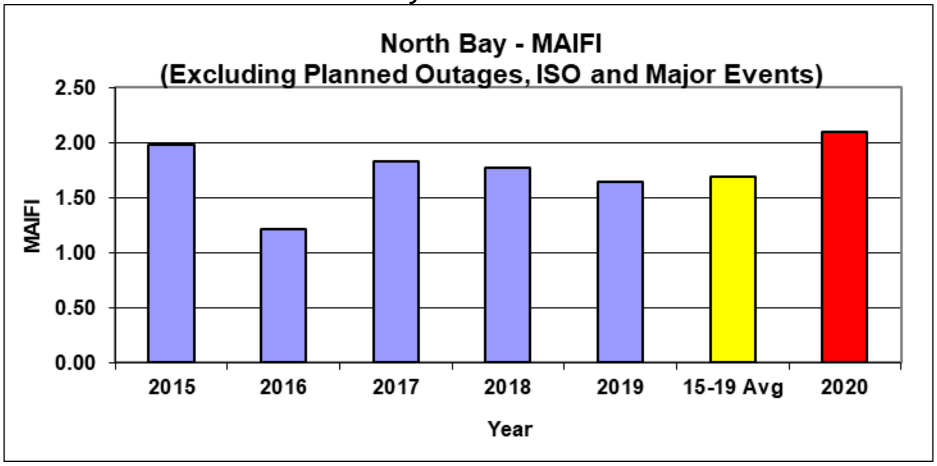
The higher than average 2020 North Bay Division SAIFI was attributed to the following outage events:

1. On August 18th, a transmission-substation level event occurred due to an unknown cause resulting in outages at both Pueblo and Silverado substations. This event contributed 0.090 customer-interruptions to the division's SAIFI performance.
2. On November 13th, a failed elbow on the North Tower 1103 circuit resulted in a feeder breaker outage that contributed 0.014 customer-interruptions to the division's SAIFI performance.
3. On June 9th, a failed overhead conductor on the North Tower 1108 circuit and a failed line recloser on the Alto 1125 circuit contributed 0.015 customer-interruptions to the division's SAIFI performance.
4. On November 13th, a failed recloser bushing on the San Rafael 1101 circuit resulted in circuit breaker level outage that contributed 0.015 customer-interruptions to the division's SAIFI performance.

<u>North Bay Division MAIFI Performance</u>

North Bay Division's 2020 MAIFI performance of 2.093 was 0.406 customer-interruptions (or 24.1%) higher than the previous 5-year average of 1.687 as shown in the table above and illustrated in the figure below.

Chart 188 – North Bay Division MAIFI Performance



The higher than average 2020 North Bay Division MAIFI was attributed to the high winds on March 12th.

1. On February 15th, the 115kV transmission line feeding the North Tower Substation experienced a momentary outage due to an unknown cause that contributed 0.115 customer-interruptions to the division's MAIFI performance.
2. On February 27th, a bird strike damaged an insulator located on the 115kV transmission line feeding the North Tower Substation. This momentary outage contributed 0.115 customer-interruptions to the division's MAIFI performance.
3. On March 5th, the 115kV transmission line feeding the North Tower Substation experienced a momentary outage due to an unknown cause and contributed 0.115 customer-interruptions to the division's MAIFI performance.
4. On March 5th, the 115kV transmission line feeding the North Tower Substation experienced a second momentary outage that day due to an unknown cause that contributed 0.064 customer-interruptions to the division's MAIFI performance.
5. On March 5th, an unknown cause tripped the substation breaker at the North Tower substation. This momentary outage contributed 0.043 customer-interruptions to the division's MAIFI performance.
6. On November 25th, an unknown cause tripped the 12kV distribution line recloser on the North Tower 1102 feeder. This momentary outage contributed 0.054 customer-interruptions to the division's SAIFI performance

11. North Valley Division Performance Assessment

North Valley Division Performance

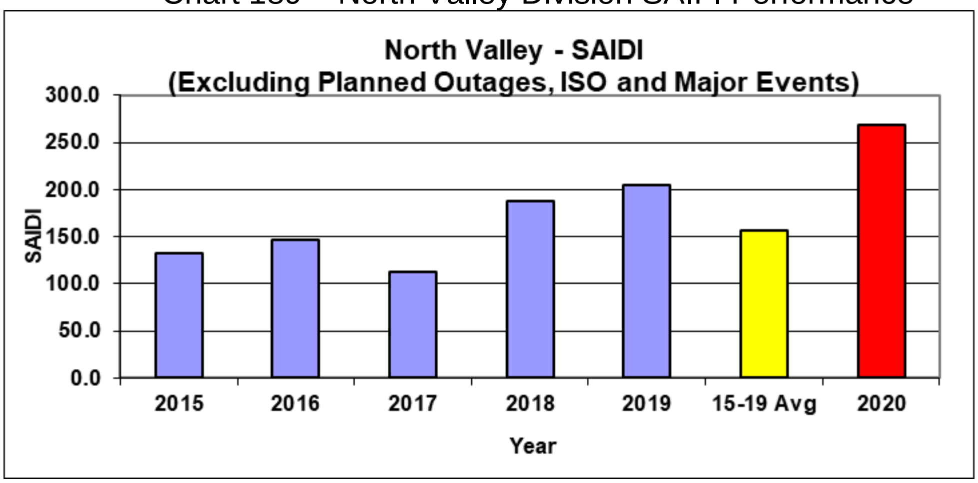
Table 19: North Valley Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	156.7	1.185	1.732	132.3
NORTH VALLEY	2020	269.0	1.546	1.369	174.0
	%Difference	71.6%	30.5%	-20.9%	31.5%

North Valley Division SAIDI Performance

North Valley Division's 2020 SAIDI performance of 269.0 was 112.2 customer-minutes (or 71.6%) higher than the previous 5-year average of 156.7 as shown in the table above and illustrated in the figure below.

Chart 189 – North Valley Division SAIFI Performance



The higher than average 2020 North Valley Division SAIDI was attributed to the following outage events:

1. On September 9th, a section of the Wyandotte 1110 circuit had to be manually de-energized due to fire activity. This outage contributed 23.5 customer-minutes to the division's SAIDI performance.
2. On September 27th, a sectionalizing device tripped due to grass fire beyond it. This outage lasted up to October 2nd and contributed 21.3 customer-minutes to the division's SAIDI performance.
3. On September 28th, a 3rd party vehicle broke an anchor and caused the guy wire to wrap around the overhead conductor thereby tripping the Wyandotte

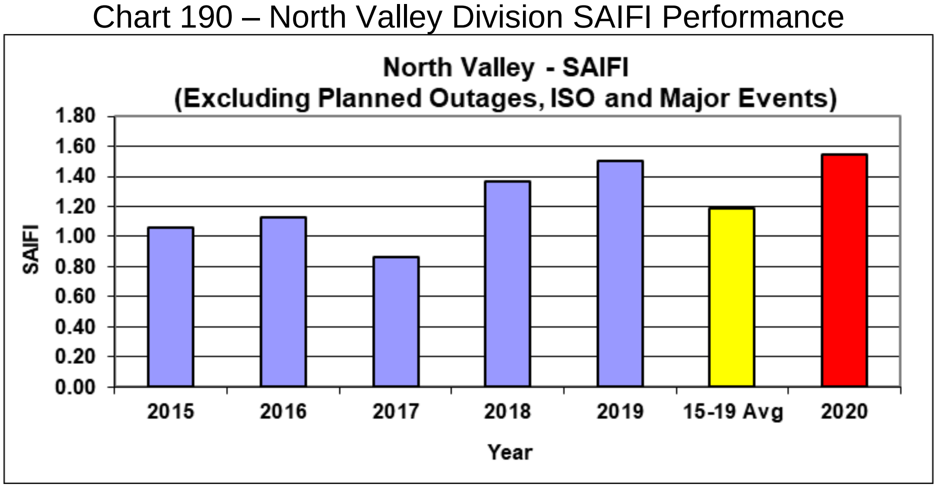
1109 feeder breaker. This outage contributed 7.0 customer-minutes to the division's SAIDI performance.

4. On October 21st, a Public Safety Public Shut-off (PSPS) event took place on Cedar Creek 1101 circuit and contributed 9.1 customer-minutes to the division's SAIDI performance.
5. On October 27th, a section of overhead conductor failed causing a sectionalizing device outage on Oro Fino 1102 circuit that contributed 6.4 customer-minutes to the division's SAIDI performance.
6. On October 18th, a car-pole incident on the transmission line feeding the Anderson substation caused an outage. This event contributed 6.7 customer-minutes to the division's SAIDI performance.
7. On May 12th, a substation asset failure at the Red Bluff substation caused an outage that contributed 4.5 customer-minutes to the division's SAIDI performance.

<u>North Valley Division SAIFI Performance</u>

North Valley Division's 2020 SAIFI performance of 1.546 was 0.361 customer-interruptions (or 30.5%) higher than the previous 5-year average of 1.185 as shown in the table above and illustrated in the figure below.

Chart 190 – North Valley Division SAIFI Performance



The higher than average 2020 North Valley Division SAIFI was attributed to the following:

1. On September 28th, a 3rd party vehicle broke an anchor and caused the guy wire to wrap around the overhead conductor thereby tripping the Wyandotte 1109 feeder breaker. This event contributed 0.018 customer-interruptions to

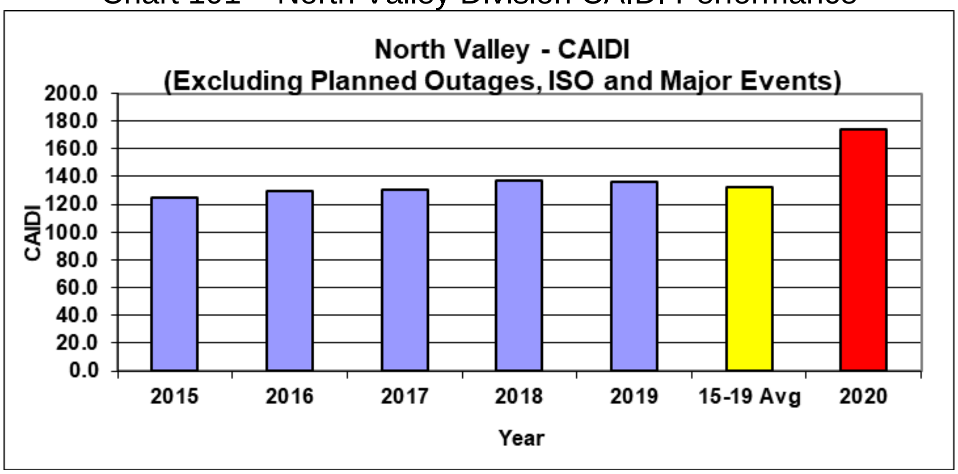
the division's SAIFI performance.

2. On October 18th, a car-pole incident on the transmission line feeding the Anderson substation caused an outage. This event contributed 0.027 customer-interruptions to the division's SAIFI performance.
3. On May 12th, a substation asset failure at the Red Bluff substation caused an outage. This event contributed 0.024 customer-interruptions to the division's SAIFI performance.

North Valley Division CAIDI Performance

North Valley Division's 2020 CAIDI performance of 174.0 was 41.7 minutes (or 31.5%) higher than the previous 5-year average of 132.3 as shown in the table above and illustrated in the figure below.

Chart 191 – North Valley Division CAIDI Performance



The higher than average 2020 North Valley Division CAIDI was attributed to the following:

1. On September 27th, a sectionalizing device tripped due to a grass fire beyond it. This outage lasted up to October 2nd.
2. On September 9th, a section of the Wyandotte 1110 circuit had to be manually de-energized due to fire activity.
3. On October 21st, a PSPS event took place on Cedar Creek 1101 circuit.

All outages that occurred on September 9th, 29th, and October 21st, contributed 11.3 minutes to the division's overall CAIDI.

12. Peninsula Division Performance Assessment

Peninsula Division Performance

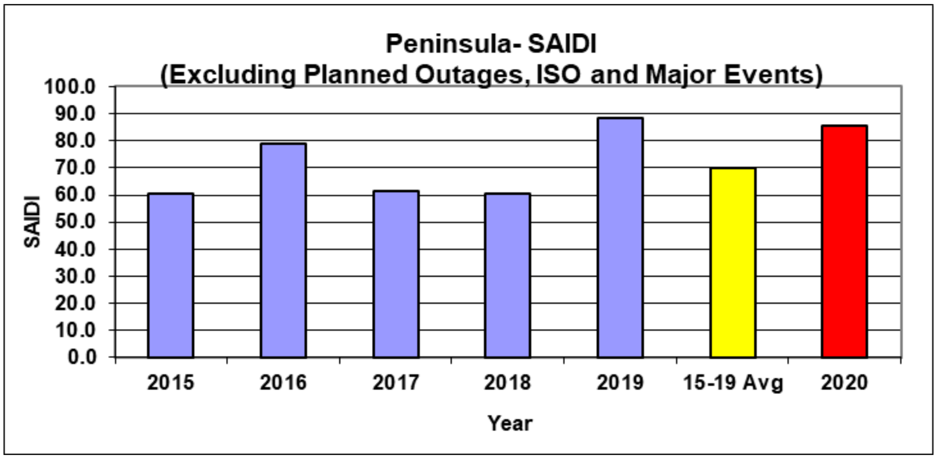
Table 20: Peninsula Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	70.0	0.784	1.232	89.2
PENINSULA	2020	85.5	0.855	1.056	100.0
	%Difference	22.2%	9.1%	-14.3%	12.1%

Peninsula Division SAIDI Performance

Peninsula Division's 2020 SAIDI performance of 85.5 was 15.5 customer-minutes (or 22.2%) higher than the previous 5-year average of 70.0 as shown in the table above and illustrated in the figure below.

Chart 192 – Peninsula Division SAIDI Performance



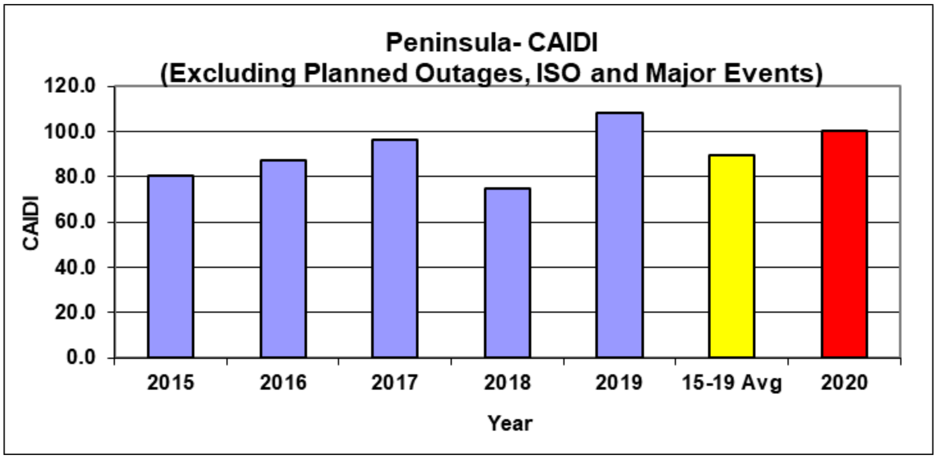
The higher than average 2020 Peninsula Division SAIDI was attributed to the following:

1. On August 27th, a 3rd party related fire on Half Moon Bay 1103 circuit was spreading fast and a sectionalizing device had to be manually opened for safety and restoration. This event contributed 8.4 customer-minutes to the division's SAIDI performance.

Peninsula Division CAIDI Performance

Peninsula Division's 2020 CAIDI performance of 100.0 was 10.8 minutes (or 12.1%) higher than the previous 5-year average of 89.2 as shown in the table above and illustrated in the figure below.

Chart 193 – Peninsula Division CAIDI Performance



The higher than average 2020 Peninsula Division CAIDI was attributed to the following:

1. On August 27th, a 3rd party related fire on Half Moon Bay 1103 circuit was spreading fast and a sectionalizing device had to be manually opened for safety and restoration.

All the outages that occurred on August 27th contributed 9.8 minutes to the division's CAIDI performance.

13. Sacramento Division Performance Assessment

Sacramento Division Performance

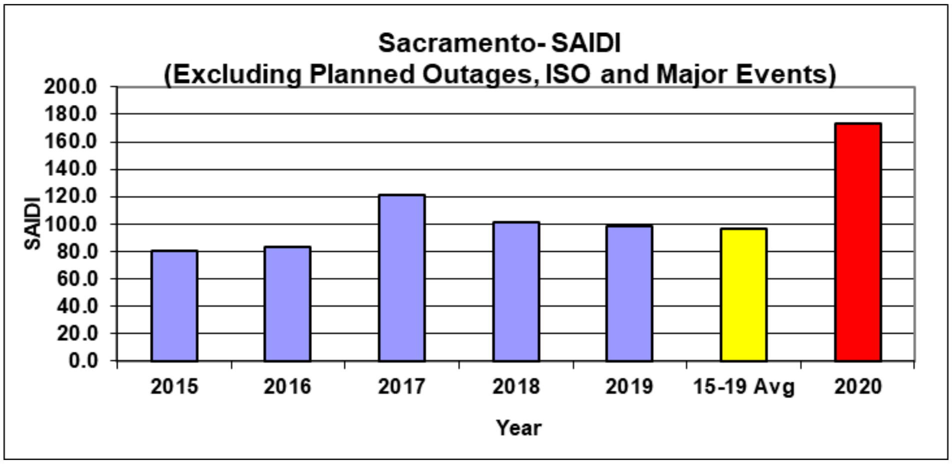
Table 21: Sacramento Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	97.0	0.940	1.640	103.1
SACRAMENTO	2020	173.6	1.350	1.499	128.6
	%Difference	79.1%	43.6%	-8.6%	24.7%

Sacramento Division SAIDI Performance

Sacramento Division's 2020 SAIDI performance of 173.6 was 76.7 customer-minutes (or 79.1%) higher than the previous 5-year average of 97.0 as shown in the table above and illustrated in the figure below.

Chart 194 – Sacramento Division SAIFI Performance



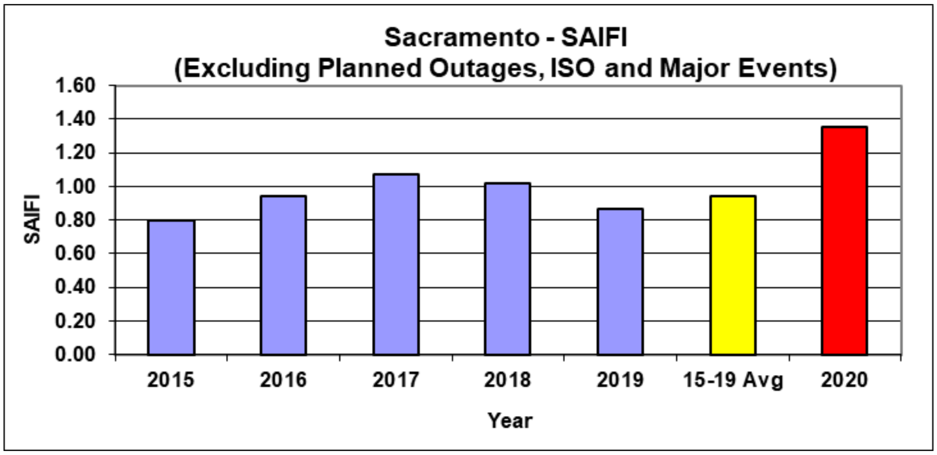
The higher than average 2020 Sacramento Division SAIDI was attributed to the following outage events:

1. On June 2nd, a 3rd party aircraft caused a fire on the transmission line feeding the Suisun and Jameson substations and both substations were de-energized for safety. This event contributed 37.74 customer-minutes to the division's SAIDI performance.
2. On October 15th, a homeless camp located next to the Marysville substation caught on fire resulting in transmission level outage that contributed 10.08 customer-minutes to the system's SAIDI performance.
3. On June 2nd, a 3rd party vehicle knocked a wood pole to the ground resulting in a Madison 2101 circuit breaker outage and caused a fire on the transmission line feeding Suisun substation, with the substation de-energized for safety. This event contributed 4.95 customer-minutes to the division's SAIDI performance.
4. On August 19th, load shedding of the Suisun 1104 feeder contributed 2.72 customer-minutes to the division's SAIDI performance.
5. On August 19th, a failed underground transformer tripped a line recloser on the Cordelia 1101 feeder. This event contributed 1.66 customer-minutes to the division's SAIDI performance.
6. On April 28th, a failed overhead conductor resulted in a feeder breaker outage on the Peabody 2105 circuit that contributed 1.04 customer-minutes to the division's SAIDI performance.

Sacramento Division SAIFI Performance

Sacramento Division's 2020 SAIFI performance of 1.350 was 0.410 customer-interruptions (or 43.6%) higher than the previous 5-year average of 0.940 as shown in the table above and illustrated in the figure below.

Chart 195 – Sacramento Division SAIFI Performance



The higher than average 2020 Sacramento Division SAIFI was attributed to the following:

1. On June 2nd, a 3rd party aircraft caused a fire on the transmission line feeding the Suisun and Jameson substation and both substations were de-energized for safety. This event contributed 0.121 customer-interruptions to the division's SAIFI performance.
2. On October 15th, a homeless camp located next to the Marysville substation caught on fire resulting in transmission level outage that contributed 0.029 customer-interruptions to the system's SAIFI performance.
3. On December 19th, Marysville substation lost power due to an outage on the transmission line feeding the substation and the cause was unknown. This event contributed 0.054 customer-interruptions to the division's SAIFI performance.
4. On August 19th, load shedding of the Suisun 1104 at the substation contributed 0.011 customer-interruptions to the division's SAIFI performance.
5. On December 11th, a malfunctioning switch at the Olivehurst substation caused single phasing resulting in a feeder breaker level outage on the Olivehurst 1101 that contributed 0.029 customer-interruptions to the division's SAIFI performance.
6. On April 28th, a failed overhead conductor resulted in a feeder breaker outage

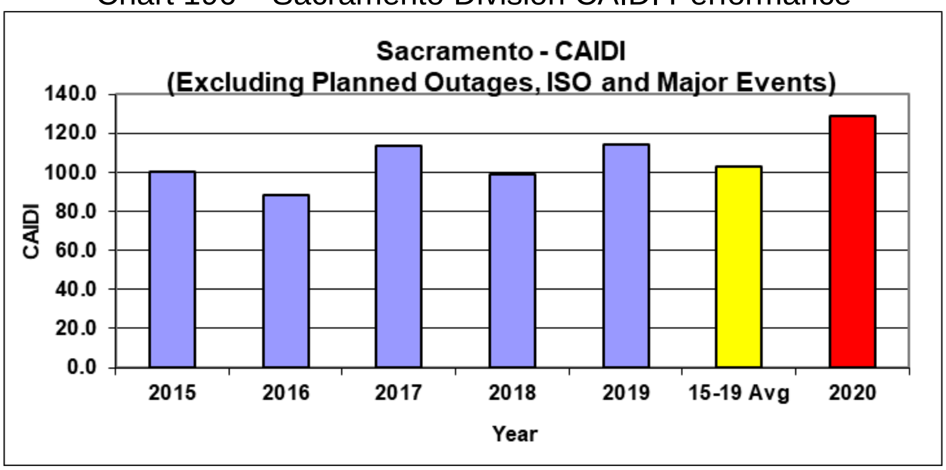
on the Peabody 2105 circuit that contributed 0.016 customer-interruptions to the division's SAIFI performance.

7. On August 19th, a broken wood pole on the Vaca- Dixon 1105 feeder resulted in an outage that contributed 0.026 customer-interruptions to the division's SAIFI performance.
8. On November 14th, the Peabody 2106 feeder breaker experienced an outage due to an unknown cause and contributed 0.010 customer-interruptions to the division's SAIFI performance.

Sacramento Division CAIDI Performance

Sacramento Division's 2020 CAIDI performance of 128.6 was 25.5 minutes (or 24.7%) higher than the previous 5-year average of 103.1 as shown in the table above and illustrated in the figure below.

Chart 196 – Sacramento Division CAIDI Performance



The higher than average 2020 Sacramento Division CAIDI was attributed to the following:

1) On June 2nd, a 3rd party aircraft caused a fire on the transmission line feeding the Suisun and Jameson substation and both substations were de-energized for safety.

All the outages that occurred on August 27th contributed 18.0 minutes to the division's CAIDI performance.

14. San Francisco Division Performance Assessment

San Francisco Division Performance

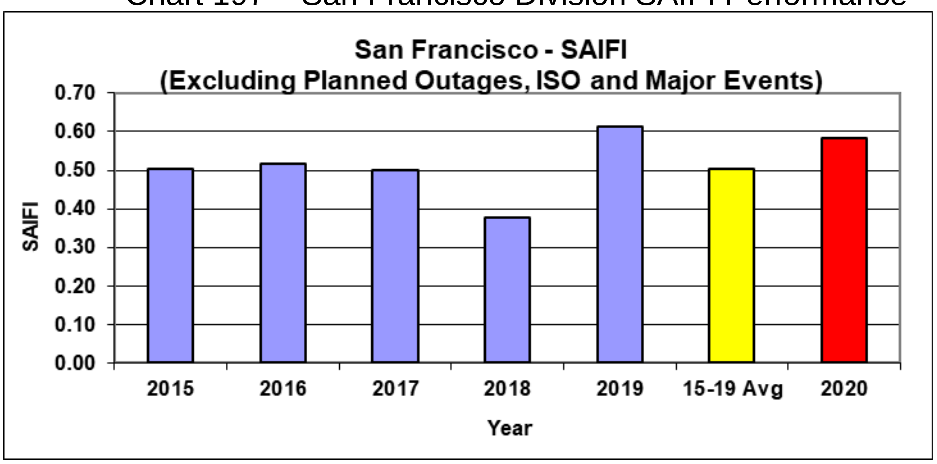
Table 22: San Francisco Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	40.4	0.503	0.351	80.4
SAN FRANCISCO	2020	43.9	0.582	0.386	75.5
	%Difference	8.7%	15.7%	10.0%	-6.0%

San Francisco Division SAIFI Performance

San Francisco Division's 2020 SAIFI performance of 0.582 was 0.079 customer-interruptions (or 15.7%) higher than the previous 5-year average of 0.503 as shown in the table above and illustrated in the figure below.

Chart 197 – San Francisco Division SAIFI Performance



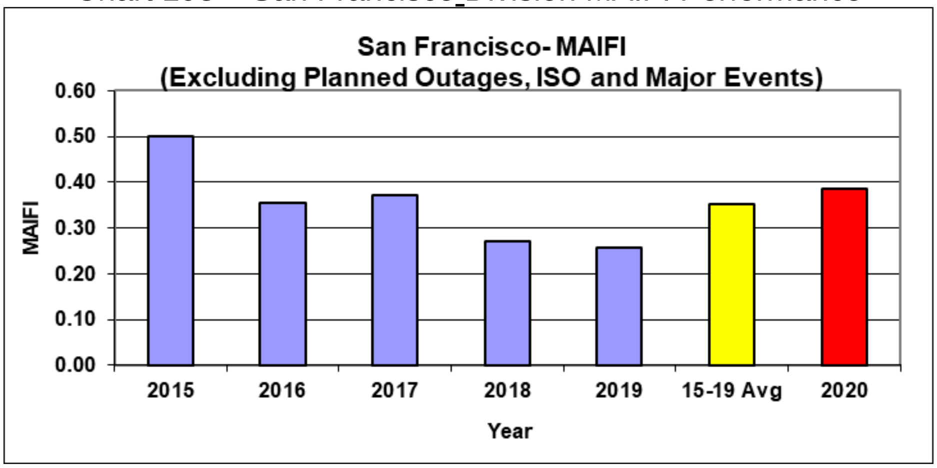
The higher than average 2020 San Francisco Division SAIFI was attributed to the following:

1. On July 15th, underground cable failure, malfunctioning equipment, lack of access to switching points as well as poor signal strength on radio network resulted in an extended outage on SF X-1109, SF A-1118 and SF E-1103 circuits. This outage contributed 0.029 customer-interruptions to the division's SAIFI performance.
2. On November 13th, a pole fire on the SF E-1103 circuit occurred that resulted in a feeder breaker outage that contributed 0.014 customer-interruptions to the division's SAIFI performance.

San Francisco Division MAIFI Performance

San Francisco Division's 2020 MAIFI performance of 0.386 was 0.035 customer-interruptions (or 10.0%) higher than the previous 5-year average of 0.351 as shown in the table above and illustrated in the figure below.

Chart 198 – San Francisco Division MAIFI Performance



The higher than average 2020 San Francisco Division MAIFI was attributed to the following:

1. On October 10th, a racoon flashed the distribution bus at the substation. This momentary outage contributed 0.022 customer-interruptions to the division's MAIFI performance.
2. On October 1st, a recloser on Acton 401 circuit tripped due to unknown cause resulting in a momentary outage that contributed 0.016 customer-interruptions to the division's MAIFI performance.
3. On August 11th, an unknown cause tripped the circuit breaker on the SF Y-1119 feeder. This momentary outage contributed 0.019 customer-interruptions to the division's MAIFI performance.
4. On July 5th, an unknown cause tripped the circuit breaker on the Castro 401 feeder. This momentary outage contributed 0.015 customer-interruptions to the division's MAIFI performance.
5. On May 5th, an unknown cause tripped a recloser on the SF A-1101 feeder. This momentary outage contributed 0.011 customer-interruptions to the division's MAIFI performance.
6. On April 19th, an unknown cause tripped the circuit breaker on the SF Y-1135 feeder. This momentary outage contributed 0.011 customer-interruptions to the

division's SAIFI performance

7. On February 12th, an unknown cause tripped the circuit breaker on the SF Y-1113 feeder. This momentary outage contributed 0.015 customer-interruptions to the division's SAIFI performance

These outages contributed 0.241 customer-interruptions to the division's MAIFI performance.

15. San Jose Division Performance Assessment

San Jose Division Performance

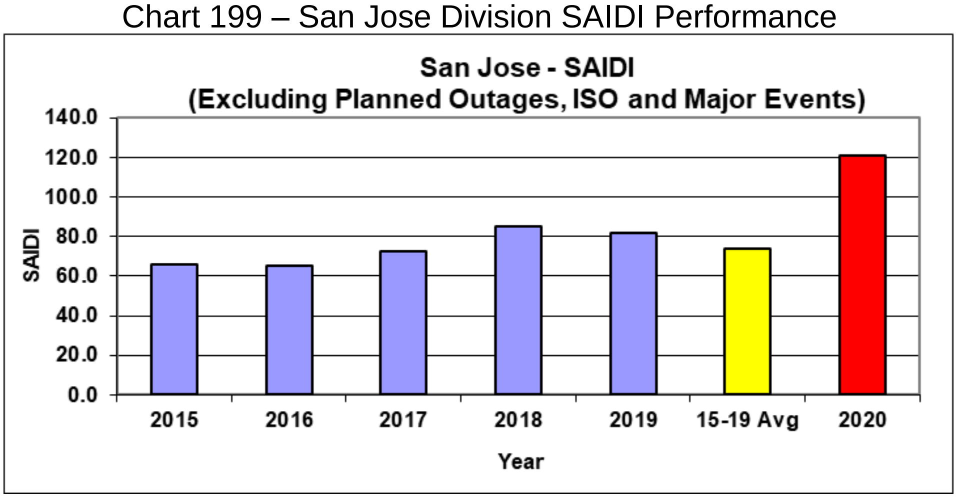
Table 23: San Jose Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	74.1	0.733	1.181	101.0
SAN JOSE	2020	120.9	0.906	1.274	133.5
	%Difference	63.3%	23.6%	7.9%	32.2%

San Jose Division SAIDI Performance

San Jose Division's 2020 SAIDI performance of 120.9 was 46.9 customer-minutes (or 63.3%) higher than the previous 5-year average of 74.1 as shown in the table above and illustrated in the figure below.

Chart 199 – San Jose Division SAIDI Performance



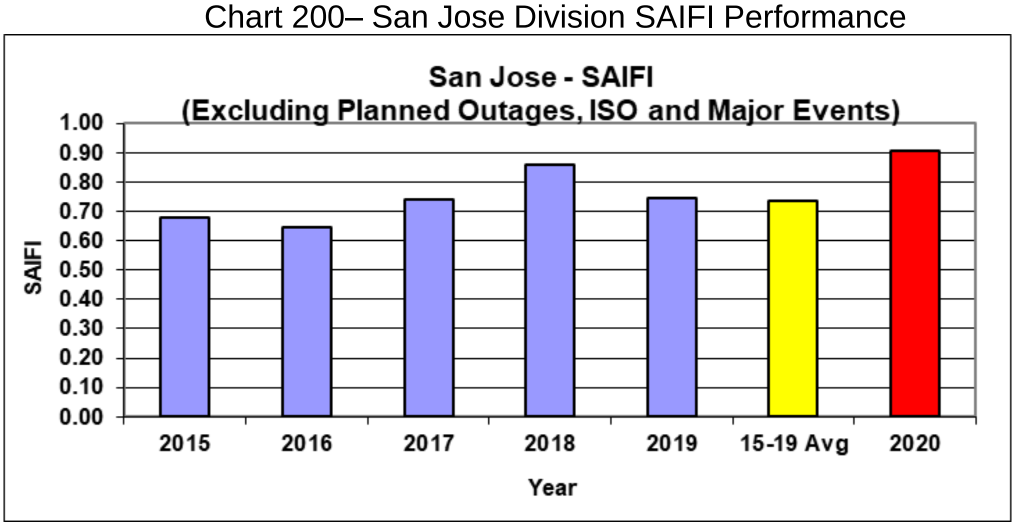
The higher than average 2020 San Jose Division SAIDI was attributed to the following:

1) August 18th heat wave contributed 11.7 customer-minutes to the division's SAIDI performance.
2) On May 27th, a section of OH conductor failed and resulted in an Edenvale 1101 feeder breaker level outage that contributed 1.2 customer-minutes to the division's SAIDI performance.
3) On June 30th, a mylar balloon contact with the overhead conductor on Morgan Hill 2106 feeder caused a circuit breaker outage that contributed 1.8 customer-minutes to the division's SAIDI performance.
4) On September 28th, an underground transformer failure on the Dixon Landing 2101 feeder resulted in a fuse outage that contributed 1.2 customer-minutes to the division's SAIDI performance.
5) On September 6th, an underground elbow failure on the Almaden 1111 feeder resulted in a recloser outage that contributed 1.2 customer-minutes to the division's SAIDI performance.
6) On May 29th, both the San Jose B-1116 and San Jose B-1117 circuits running on the same pole line sagged and wrapped around each other, resulting in two circuit breaker level outages that contributed 1.1 customer-minutes to the division's SAIDI performance.

San Jose Division SAIFI Performance

San Jose Division's 2020 SAIFI performance of 0.906 was 0.173 customer-interruptions (or 23.6%) higher than the previous 5-year average of 0.733 as shown in the table above and illustrated in the figure below.

Chart 200– San Jose Division SAIFI Performance



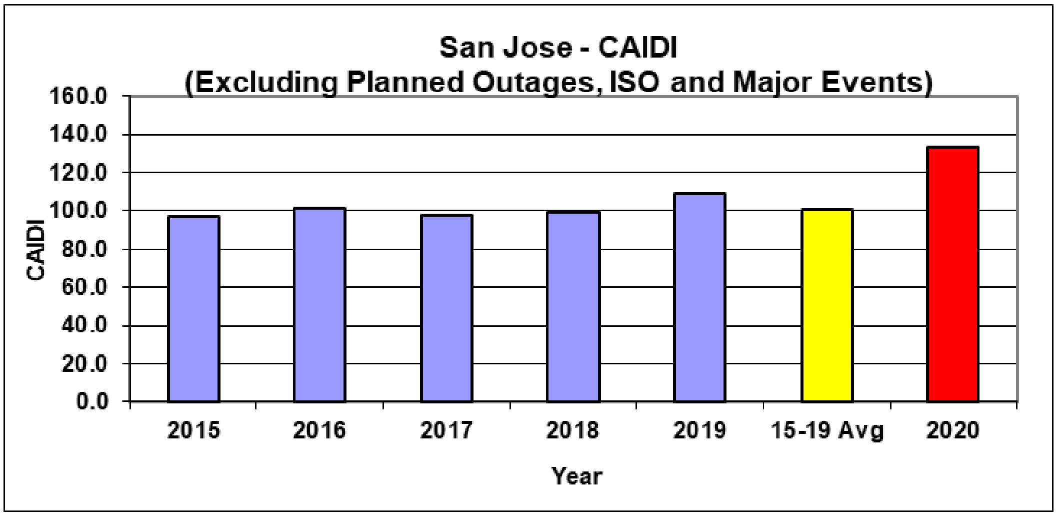
The higher than average 2020 San Jose Division SAIFI was attributed to the

August 18th heat wave which contributed 0.048 customer-interruptions to the division's SAIFI performance.

San Jose Division CAIDI Performance

San Jose Division's 2020 CAIDI performance of 133.5 was 32.5 minutes (or 32.2%) higher than the previous 5-year average of 101.0 as shown in the table above and illustrated in the figure below.

Chart 201 – San Jose Division CAIDI Performance



The higher than average 2020 San Jose Division CAIDI is attributed to the following:

1. The high temperatures experienced between August 12th and 21st, resulted in significant heat-related outages along with abundant subtropical moisture from Tropical Storm Fausto that produced widespread thunderstorm activity and resulting in over 7,700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events. Several transmission lines were affected by these lightning strikes which resulted in loss of power to multiple substations. Several distribution line equipment also failed as a result of the heat wave. This event resulted in the year's largest outage event.
2. On September 28th, an underground transformer failed on the Dixon Landing 2101 feeder resulting in a fuse level outage.

All the outages that occurred on the three non-MEDs of August 14th, 18th and September 28th contributed 4.6 minutes to the division's CAIDI performance.

16. Sierra Division Performance Assessment

Sierra Division Performance

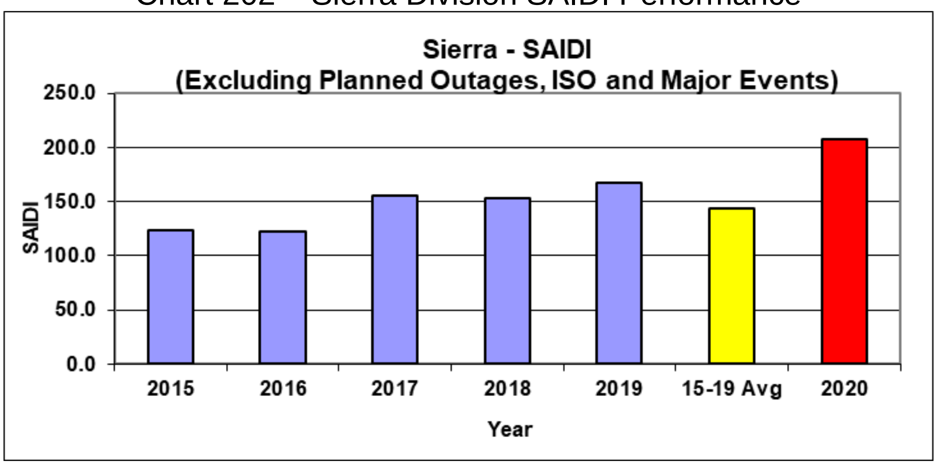
Table 24: Sierra Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	144.1	1.145	1.842	125.8
SIERRA	2020	208.0	1.422	1.169	146.2
	%Difference	44.4%	24.2%	-36.5%	16.2%

Sierra Division SAIDI Performance

Sierra Division's 2020 SAIDI performance of 208.0 was 63.9 customer-minutes (or 44.4%) higher than the previous 5-year average of 144.1 as shown in the table above and illustrated in the figure below.

Chart 202 – Sierra Division SAIDI Performance



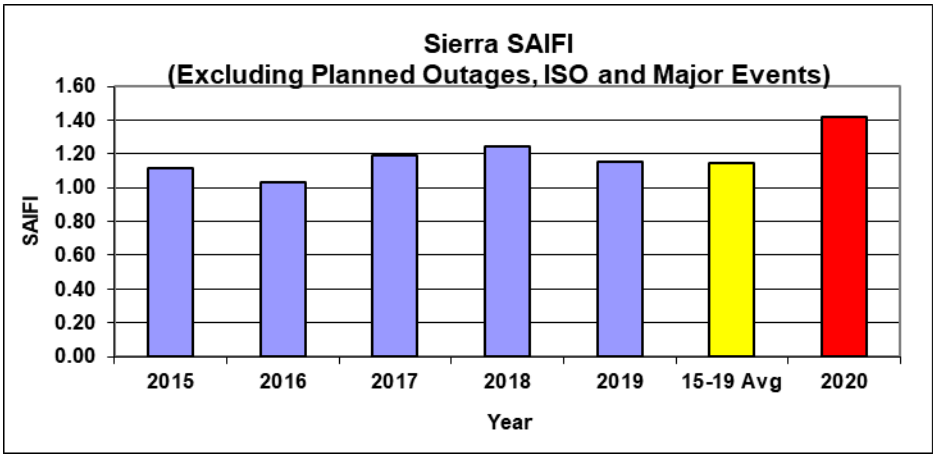
The higher than average 2020 Sierra Division SAIDI was attributed to the following:

1. On March 14th, the first day of a multi-day low snow event resulted in significant storm activity and outages that contributed 37.1 customer-minutes to the division's SAIDI performance.
2. On April 5th, vegetation related outages occurred and contributed 18.0 customer-minutes to the division's SAIDI performance.
3. On November 6th, a failed fuse on the Clarksville 2110 circuit contributed 1.0 customer-minutes to the division's SAIDI performance.

Sierra Division SAIFI Performance

Sierra Division's 2020 SAIFI performance of 1.422 was 0.277 customer-interruptions (or 24.2%) higher than the previous 5-year average of 1.145 as shown in the table above and illustrated in the figure below.

Chart 203 – Sierra Division SAIFI Performance



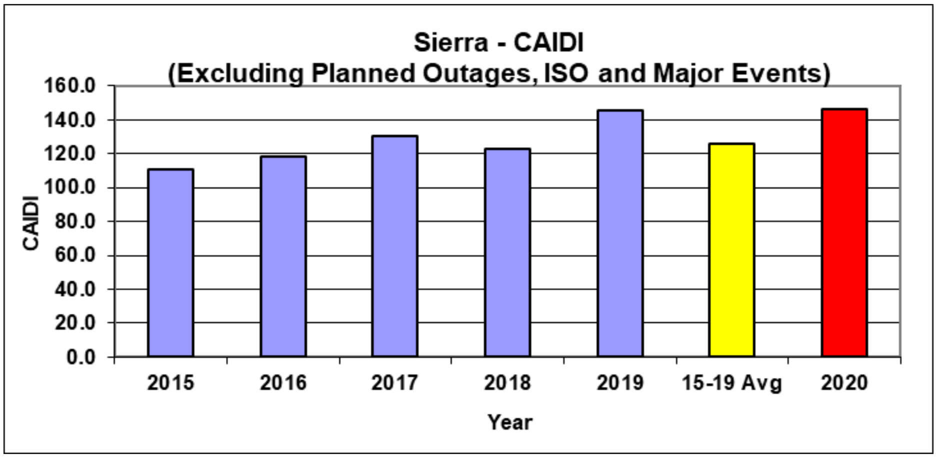
The higher than average 2020 Sierra Division SAIFI was attributed to the following:

1. On March 14th, the first day of a multi-day low snow event resulted in significant storm activity and outages that contributed 0.025 customer-interruptions to the division's SAIFI performance.
2. On November 6th, a failed fuse on the Clarksville 2110 circuit contributed 0.017 customer-interruptions to the division's SAIFI performance.

Sierra Division CAIDI Performance

Sierra Division's 2020 CAIDI performance of 146.2 was 20.4 minutes (or 16.2%) higher than the previous 5-year average of 125.8 as shown in the table above and illustrated in the figure below.

Chart 204 – Sierra Division CAIDI Performance



The higher than average 2020 Sierra Division CAIDI was attributed to the following:

1. On April 5th, the following outages occurred; (a) a tree fell into the El Dorado PH 2101 circuit at three locations (b) a tree fell into the El Dorado PH 2102 circuit, (c) a tree fell into the Alleghany 1101 circuit, (d) a tree fell into the Apple Hill 1104 circuit, (e) a tree fell into the Apple Hill 2102 circuit, (f) a tree fell into the Brunswick 1106 circuit, (d) an insulator flashed and failed resulting in a Weimar 1101 circuit outage.
2. On March 14th, the first day of a multi-day low snow event resulted in a significant storm activity and prolonged outages.

These outages contributed 19.1 minutes to the division's overall CAIDI performance.

17. Sonoma Division Performance Assessment

Sonoma Division Performance

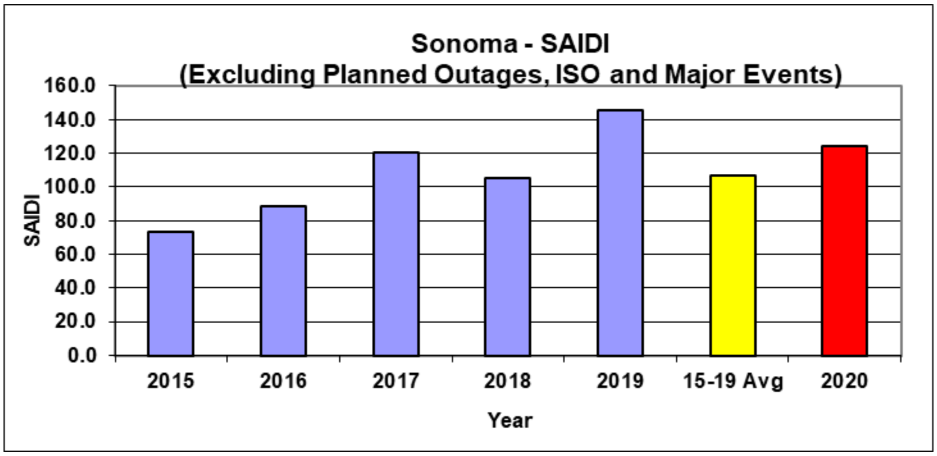
Table 25: Sonoma Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	106.7	0.876	1.408	121.9
SONOMA	2020	124.5	1.062	1.327	117.2
	%Difference	16.6%	21.3%	-5.7%	-3.8%

<u>Sonoma Division SAIDI Performance</u>

Sonoma Division's 2020 SAIDI performance of 124.5 was 17.8 customer-minutes (or 16.6%) higher than the previous 5-year average of 106.7 as shown in the table above and illustrated in the figure below.

Chart 205 – Sonoma Division SAIDI Performance



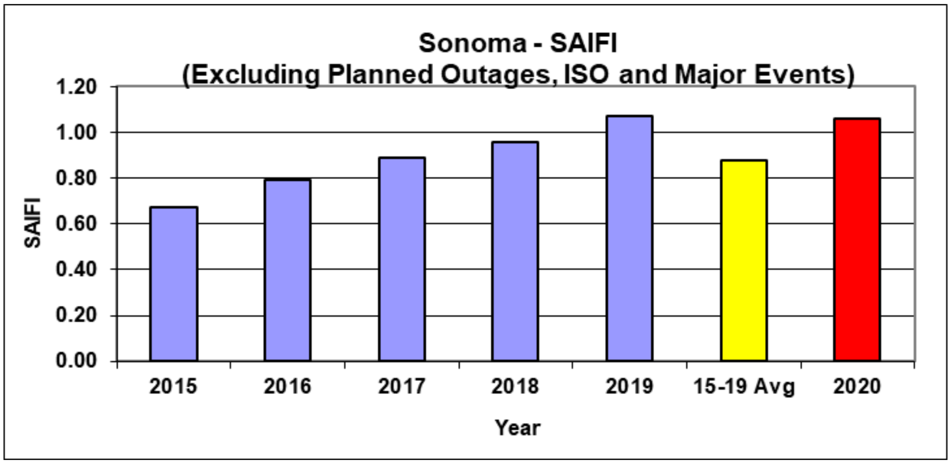
The higher than average 2020 Sonoma Division SAIDI was attributed to the following:

1. On October 26th, vegetation related outages occurred at two locations on Molino 1101 circuit and contributed 3.2 customer-minutes to the division's SAIDI performance.
2. On October 26th, another vegetation related outage occurred on the Sonoma 1104 circuit and contributed 1.2 customer-minutes to the division's SAIDI performance.
3. On March 29th, an overhead transformer failed on Cotati 1103 circuit and resulted in a circuit breaker level outage that contributed 1.4 customer-minutes to the division's SAIDI performance.
4. On March 29th, a line recloser outage on the Dunbar 1102 circuit occurred due to an unknown cause that contributed 2.0 customer-minutes to the division's SAIDI performance.
5. On November 30th, an underground transformer failed resulting in a Bellevue 2105 circuit breaker outage that contributed 10.3 customer-minutes to the division's SAIDI performance.

Sonoma Division SAIFI Performance

Sonoma Division's 2020 SAIFI performance of 1.062 was 0.186 customer-interruptions (or 21.3%) higher than the previous 5-year average of 0.876 as shown in the table above and illustrated in the figure below.

Chart 206 – Sonoma Division SAIFI Performance



The higher than average 2020 Sonoma Division SAIFI was attributed to the following:

1. On March 29th, a line recloser outage on the Dunbar 1102 circuit occurred due to an unknown cause that contributed 0.022 customer-interruptions to the division's SAIFI performance.
2. On November 30th, an underground transformer failed resulting in a Bellevue 2105 circuit breaker outage that contributed 0.052 customer-interruptions to the division's SAIFI performance.
3. On October 9th, an unknown fault caused a transmission line outage on the line feeding Windsor, Geyserville and Fitch Mountain substations. This event contributed 0.050 customer-interruptions to the division's SAIFI performance.

18. Stockton Division Performance Assessment

Stockton Division Performance

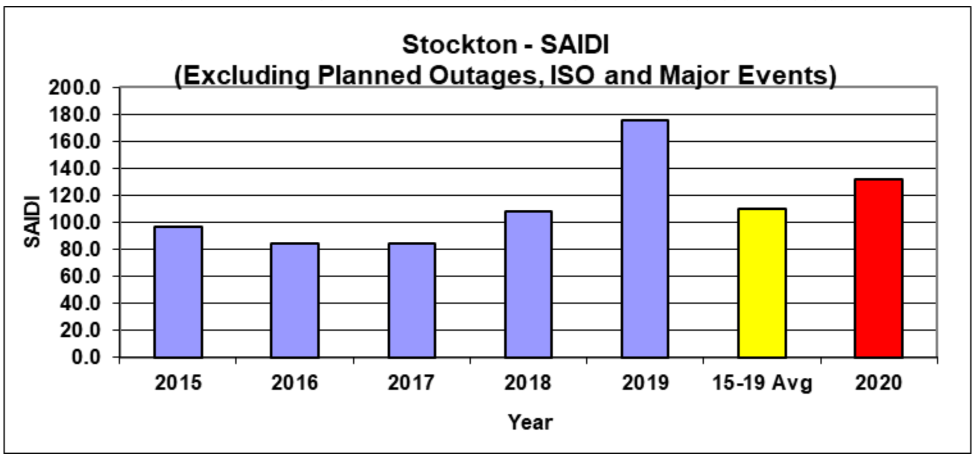
Table 26: Stockton Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	109.6	1.007	1.575	108.8
STOCKTON	2020	131.8	1.187	1.268	111.0
	%Difference	20.3%	17.9%	-19.5%	2.0%

Stockton Division SAIDI Performance

Stockton Division's 2020 SAIDI performance of 131.8 was 22.2 customer-minutes (or 20.3%) higher than the previous 5-year average of 109.6 as shown in the table above and illustrated in the figure below.

Chart 207 – Stockton Division SAIDI Performance



The higher than average 2020 Stockton Division SAIDI was attributed to the following:

1. On May 24th, a failed underground switch resulted in a circuit breaker outage on the Eight Mile 2105 feeder that contributed 5.6 customer-minutes to the division's SAIDI performance.
2. On June 4th, a failed substation transformer load tap changer at the Calaveras Cement Substation resulted in a substation transformer bank outage that contributed 3.5 customer-minutes to the division's SAIDI performance.
3. On May 26th, an underground elbow failure on the Stagg 2103 feeder

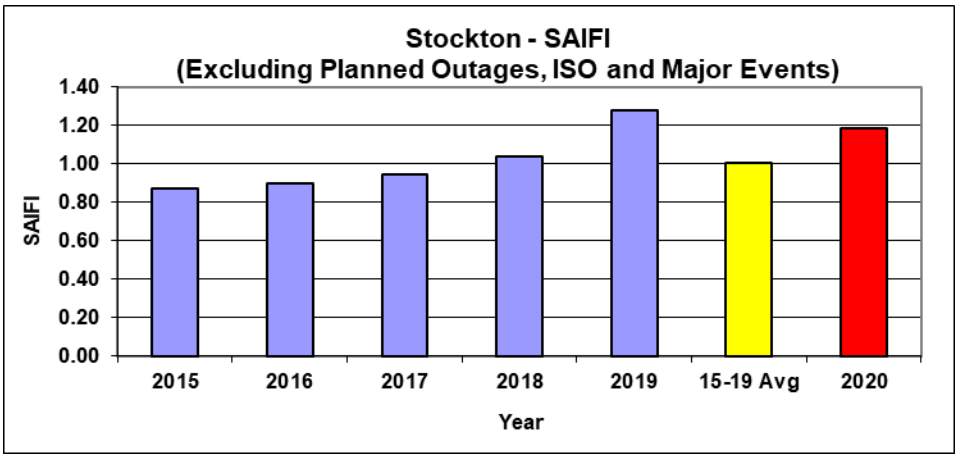
resulting in a circuit breaker outage that contributed 1.3 customer-minutes to the division's SAIDI performance.

4. On May 24th, an underground cable splice failed resulting in a line recloser outage on the Stagg 2108 feeder that contributed 1.3 customer-minutes to the division's SAIDI performance.

Stockton Division SAIFI Performance

Stockton Division's 2020 SAIFI performance of 1.187 was 0.180 customer-interruptions (or 17.9%) higher than the previous 5-year average of 1.007 as shown in the table above and illustrated in the figure below.

Chart 208 – Stockton Division SAIFI Performance



The higher than average 2020 Stockton Division SAIFI was attributed to the following:

1. On May 26th, an underground elbow failed and resulted in a circuit breaker outage on the Stagg 2103 feeder that contributed 0.013 customer-interruptions to the division's SAIFI performance.
2. On June 4th, a failed substation transformer load tap changer at the Calaveras Cement Substation resulted in a substation transformer bank outage that contributed 0.012 customer-interruptions to the division's SAIFI performance.
3. On January 28th, a cable dig-in on the Eight Mile 2105 feeder resulted in a circuit breaker level outage that contributed 0.018 customer-interruptions to the division's SAIFI performance.
4. On June 4th, a vegetation caused circuit breaker outage occurred on Frogtown 1702 feeder that contributed 0.014 customer-interruptions to the

division's SAIFI performance.

5. On May 18th, an unknown cause tripped the transmission feeding Clay substation. This outage contributed 0.011 customer-interruptions to the division's SAIFI performance.

19. Yosemite Division Performance Assessment

Yosemite Division Performance

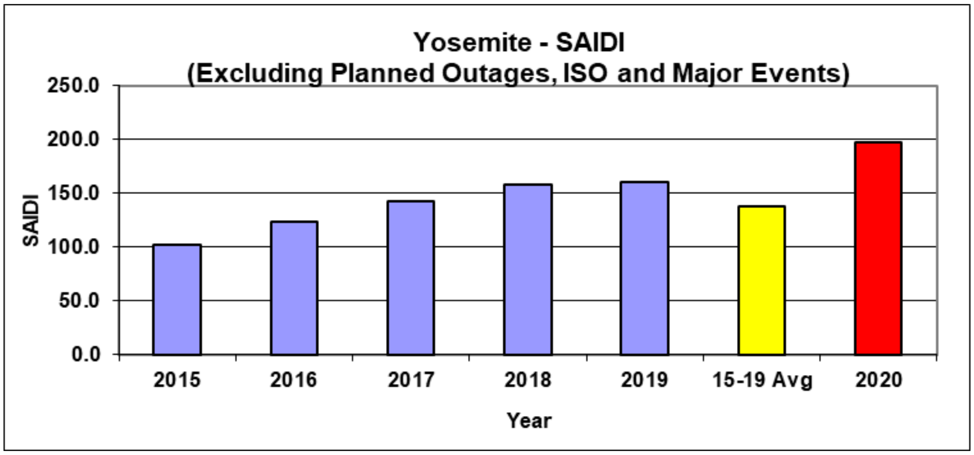
Table 27: Yosemite Division Performance

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
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
5-Year Average	15-19 Avg	137.4	1.231	2.038	111.6
YOSEMITE	2020	197.4	1.411	1.299	139.9
	%Difference	43.6%	14.6%	-36.2%	25.4%

Yosemite Division SAIDI Performance

Yosemite Division's 2020 SAIDI performance of 197.4 was 60.0 customer-minutes (or 43.6%) higher than the previous 5-year average of 137.4 as shown in the table above and illustrated in the figure below.

Chart 209 – Yosemite Division SAIDI Performance



The higher than average 2020 Yosemite Division SAIDI was attributed to the following:

1. On October 4th, an overhead conductor failed on Exchequer-Le Grande 115kV transmission line and resulted in an outage that contributed 22.7

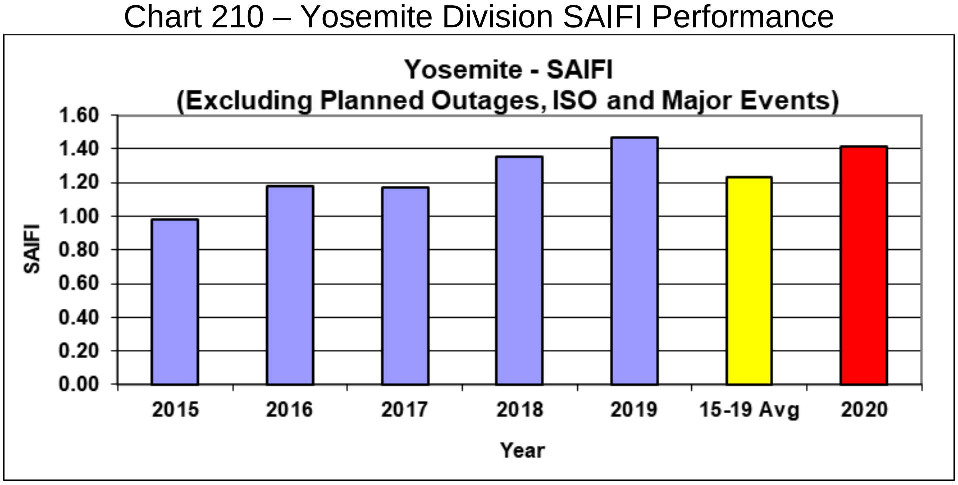
customer-minutes to the division's SAIDI performance.

2. On January 10th, an overhead insulator at Merced substation failed and contributed 8.84 customer-minutes to the division's SAIDI performance.
3. On April 5th, snow in the area caused a fuse to fail and contributed 6.05 customer-minutes to the division's SAIDI performance.
4. On July 29th, a 3rd party building caught on fire resulting in a 115kV transmission line outage that contributed 5.52 customer-minutes to the division's SAIDI performance.
5. On July 29th, a wood pole caught fire that resulted in a Curtis 1705 feeder breaker outage that contributed 1.76 customer-minutes to the division's SAIDI performance.
6. On July 29th, a planned outage led to an unplanned outage when PG&E field personnel attempted to open flying bells that led to the conductor dislodging from its shoe and contacted a primary riser resulting in an outage on the Oakhurst 1101 circuit. This outage contributed 1.33 customer-minutes to the division's SAIDI performance.

Yosemite Division SAIFI Performance

Yosemite Division's 2020 SAIFI performance of 1.411 was 0.179 customer-interruptions (or 14.6%) higher than the previous 5-year average of 1.231 as shown in the table above and illustrated in the figure below.

Chart 210 – Yosemite Division SAIFI Performance



The higher than average 2020 Yosemite Division SAIFI was attributed to the following:

1. On October 4th, an overhead conductor failed on Exchequer-Le Grande

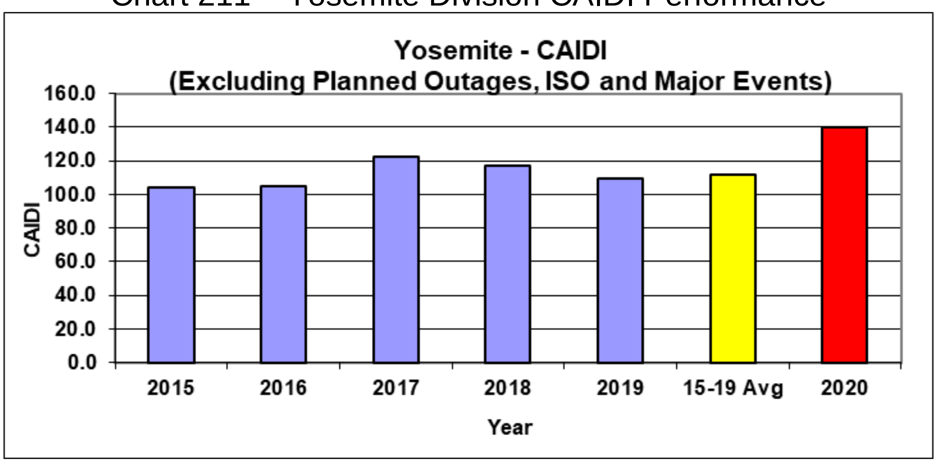
115kV transmission line and resulted in an outage that contributed 0.042 customer-interruptions to the division's SAIFI performance.

2. On January 10th, an overhead insulator at Merced substation failed and contributed 0.059 customer-interruptions to the division's SAIFI performance.
3. On July 29th, a 3rd party building caught fire tripping the 115kV transmission line and contributed 0.037 customer-interruptions to the division's SAIFI performance.
4. On July 29th, a wood pole caught fire resulting in a Curtis 1705 feeder breaker outage and contributed 0.011 customer-interruptions to the division's SAIFI performance.
5. On July 29th, a planned outage led to an unplanned outage when PG&E personnel attempted to open flying bells that led to the conductor dislodging from its shoe and contacted a primary riser resulting in an outage on the Oakhurst 1101 circuit. This outage contributed 0.012 customer-interruptions to the division's SAIFI performance.

Yosemite Division CAIDI Performance

Yosemite Division's 2020 CAIDI performance of 139.9 was 28.3 minutes (or 25.4%) higher than the previous 5-year average of 116.6 as shown in the table above and illustrated in the figure below.

Chart 211 – Yosemite Division CAIDI Performance



The higher than average 2020 Yosemite Division CAIDI was attributed to the following:

1. On October 4th, a conductor failed on the Exchequer-Le Grande 115kV and resulted in an outage.

2. The April 5th storm event brought heavy rain and snow into the area resulting in prolonged outages.

These outages contributed 8.3 minutes to the division's overall CAIDI performance.

ii. 2020 Excludable Major Event Day (MED) CAIDI Performance

Excludable Major Event Days (MED) In 2020

This section contains PG&E's report on weather related excludable major event days (MED) for each division in which CAIDI[8] 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 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 nine weather-related major events totaling 14 weather-related Major Event Days in 2020.

Table 28 – Summary MED days

2020 Weather-Related Major Event Days	# Weather-Related Events	MEDs
January 16-17, 2020	1	2
February 9, 2020	2	1
March 15-16, 2020	3	2
August 15-17, 2020	4	3
September 7-8, 2020	5	2
September 27, 2020	6	1
October 14, 2020	7	1
October 22, 2020	8	1
October 25, 2020	9	1
		14

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.

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.

1. January 16-17, 2020 Major Event Day

The first weather-related major event of the year resulted in MEDs on January 16-17, 2020 involving a winter storm system that moved into PG&E's service territory producing heavy rain, gusty winds, and significant snow over three consecutive days on the 14th, 15th and 16th, with storm activity on the 16th and 17th. This potent cold front delivered strong winds, rain, and snow even at lower elevations leading to the year's 7th largest outage event that impacted a total of 147,270 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.

(January 16-17, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	January 16-17, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	381.9	18.6%	NO
CENTRAL COAST	1,610.7	105.0	6.5%	NO
DE ANZA	1,206.3	5.0	0.4%	NO
DIABLO	1,149.4	98.6	8.6%	NO
EAST BAY	1,322.0	163.3	12.4%	NO
FRESNO	303.6	81.4	26.8%	NO
HUMBOLDT	2,822.2	557.8	19.8%	NO
KERN	368.9	122.5	33.2%	NO
LOS PADRES	164.2	71.9	43.8%	NO
MISSION	1,067.5	163.8	15.3%	NO
NORTH BAY	2,343.7	260.1	11.1%	NO
NORTH VALLEY	2,200.6	362.5	16.5%	NO
PENINSULA	1,654.4	123.1	7.4%	NO
SACRAMENTO	921.5	125.5	13.6%	NO
SAN FRANCISCO	76.4	316.4	414.2%	Yes
SAN JOSE	932.2	139.3	14.9%	NO
SIERRA	2,365.6	508.7	21.5%	NO
SONOMA	3,168.3	84.6	2.7%	NO
STOCKTON	2,249.4	190.8	8.5%	NO
YOSEMITE	1,859.6	81.3	4.4%	NO

Table 29 – January 16-17, 2020 CAIDI Performance

1.1 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	June 8, 2019	601.0	1
SAN FRANCISCO	June 10, 2019	110.9	2
SAN FRANCISCO	August 15, 2019	31.6	2
SAN FRANCISCO	September 25, 2019	379.0	1
SAN FRANCISCO	October 5, 2019	567.0	1
SAN FRANCISCO	September 9-10, 2019	359.5	1
SAN FRANCISCO	October 23, 2019	37.9	2
SAN FRANCISCO	October 27, 2019	204.9	6
SAN FRANCISCO	October 29, 2019	57.8	1
SAN FRANCISCO	November 26-27, 2019	49.8	5
	Average of 10 excludable major events	76.4	2
SAN FRANCISCO	January 16-17, 2020	316.4	2
	% Difference	314.2%	-11%

Table 30 – San Francisco Historical Performance

As indicated in Table 30, the San Francisco Division CAIDI value of 316.4 minutes for the January 16th - 17th major event was 314.2% higher than the 76.4-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:

- SF E-0409 circuit – due to failed underground cable with damage at multiple sections.

This outage contributed 218.3 minutes to the overall January 16th-17th CAIDI performance.

2. February 9th, 2020 Major Event Day

The second major event was on February 9th, 2020, which was driven by a powerful northeast wind event that led to storm activity on February 9th and lasted 3 consecutive days that resulted in considerable outage activity in the service territory. This storm activity delivered strong winds and rain leading to the year's 4th largest outage event that impacted a total of 323,381 customers in the service territory.

Table 31 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(February 9, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	February 9, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	750.0	36.5%	NO
CENTRAL COAST	1,610.7	670.5	41.6%	NO
DE ANZA	1,206.3	287.2	23.8%	NO
DIABLO	1,149.4	224.2	19.5%	NO
EAST BAY	1,322.0	222.8	16.9%	NO
FRESNO	303.6	376.0	123.8%	NO
HUMBOLDT	2,822.2	209.1	7.4%	NO
KERN	368.9	22.0	6.0%	NO
LOS PADRES	164.2	263.3	160.3%	Yes
MISSION	1,067.5	242.9	22.8%	NO
NORTH BAY	2,343.7	171.0	7.3%	NO
NORTH VALLEY	2,200.6	93.5	4.2%	NO
PENINSULA	1,654.4	190.4	11.5%	NO
SACRAMENTO	921.5	183.0	19.9%	NO
SAN FRANCISCO	76.4	82.1	107.5%	NO
SAN JOSE	932.2	225.6	24.2%	NO
SIERRA	2,365.6	99.1	4.2%	NO
SONOMA	3,168.3	118.0	3.7%	NO
STOCKTON	2,249.4	166.5	7.4%	NO
YOSEMITE	1,859.6	285.5	15.4%	NO

Table 31 – February 9, 2020 CAIDI Performance

2.1 Los Padres CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	August 15, 2019	86.9	5
LOS PADRES	September 23, 2019	249.7	3
LOS PADRES	September 25, 2019	444.9	5
LOS PADRES	October 5, 2019	504.2	3
LOS PADRES	October 9-10, 2019	122.8	3
LOS PADRES	October 23, 2019	124.0	1
LOS PADRES	October 27, 2019	193.0	1
LOS PADRES	October 29, 2019	316.0	2
LOS PADRES	November 20, 2019	570.6	3
LOS PADRES	November 26-27, 2019	156.4	15
	Average of 10 excludable major events	164.2	5
LOS PADRES	February 9, 2020	263.3	1
	% Difference	60.3%	-79%

Table 32 – Los Padres Historical Performance

As indicated in Table 32, the Los Padres Division CAIDI value of 263.3 minutes for the February 9, 2020 major event day was 60.3% higher than the 164.2-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:

- Morro Bay 1101 – due to the failure of a deteriorated transformer

This outage contributed 263 minutes to the overall February 9th, 2020 CAIDI performance.

3. March 15 and 16, 2020 Major Event Days

The third major event resulted in MEDs on March 15 and 16, 2020 involving a major winter storm that delivered rain, heavy mountain snow and thunderstorms to the territory, resulting in significant low-snow related outage activity across Humboldt and along the Sierra Mountains. This weather condition lasted three consecutive days resulting in periods of strong gusty south winds, heavy rain, thunderstorms and low elevation snowfall leading to the year's 5th largest outage event that impacted a total of 203,685 customers in the service territory. Table 33 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(March 15 and 16, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	March 15-16, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	700.5	34.1%	NO
CENTRAL COAST	1,610.7	91.9	5.7%	NO
DE ANZA	1,206.3	200.0	16.6%	NO
DIABLO	1,149.4	143.8	12.5%	NO
EAST BAY	1,322.0	113.9	8.6%	NO
FRESNO	303.6	20.1	6.6%	NO
HUMBOLDT	2,822.2	318.6	11.3%	NO
KERN	368.9	241.3	65.4%	NO
LOS PADRES	164.2	199.1	121.3%	NO
MISSION	1,067.5	38.6	3.6%	NO
NORTH BAY	2,343.7	219.9	9.4%	NO
NORTH VALLEY	2,200.6	685.0	31.1%	NO
PENINSULA	1,654.4	88.7	5.4%	NO
SACRAMENTO	921.5	107.2	11.6%	NO
SAN FRANCISCO	76.4	43.3	56.7%	NO
SAN JOSE	932.2	51.6	5.5%	NO
SIERRA	2,365.6	2488.1	105.2%	NO
SONOMA	3,168.3	602.3	19.0%	NO
STOCKTON	2,249.4	1540.7	68.5%	NO
YOSEMITE	1,859.6	632.2	34.0%	NO

Table 33 – March 15 and 16, 2020 CAIDI Performance

As indicated in the table above, the CAIDI threshold was not met at the system nor any of the divisions.

4. August 15-17, 2020 Major Event Days

The fourth major event resulted in MEDs on August 15-17, 2020 involving a prolonged heat wave featuring widespread triple-digit temperatures resulting in significant heat-related outages across the territory over the course of several days. Additionally, abundant subtropical moisture from Tropical Storm Fausto produced widespread thunderstorm activity 8/15 – 8/18 that resulted in over 7,700 lightning strikes and the ignition of several hundred wildfires, which formed into several large complex events. Several transmission lines were affected by these lightning strikes which resulted in loss of power to multiple substations. This event resulted in the year's #1 largest outage event that impacted a total of 834,760 customers in the service territory. Table 34 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major 834,760 customers in the service territory. Table 34 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(August 15-17, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	August 15-17, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	285.3	13.9%	NO
CENTRAL COAST	1,610.7	377.4	23.4%	NO
DE ANZA	1,206.3	861.2	71.4%	NO
DIABLO	1,149.4	299.9	26.1%	NO
EAST BAY	1,322.0	155.3	11.8%	NO
FRESNO	303.6	174.4	57.4%	NO
HUMBOLDT	2,822.2	150.0	5.3%	NO
KERN	368.9	127.3	34.5%	NO
LOS PADRES	164.2	418.7	255.0%	Yes
MISSION	1,067.5	261.9	24.5%	NO
NORTH BAY	2,343.7	209.3	8.9%	NO
NORTH VALLEY	2,200.6	213.5	9.7%	NO
PENINSULA	1,654.4	133.7	8.1%	NO
SACRAMENTO	921.5	308.7	33.5%	NO
SAN FRANCISCO	76.4	48.8	63.8%	NO
SAN JOSE	932.2	547.6	58.7%	NO
SIERRA	2,365.6	206.2	8.7%	NO
SONOMA	3,168.3	317.5	10.0%	NO
STOCKTON	2,249.4	200.4	8.9%	NO
YOSEMITE	1,859.6	191.5	10.3%	NO

Table 34 – August 15-17, 2020 CAIDI Performance

4.1 Los Padres Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
LOS PADRES	August 15, 2019	86.9	5
LOS PADRES	September 23, 2019	249.7	3
LOS PADRES	September 25, 2019	444.9	5
LOS PADRES	October 5, 2019	504.2	3
LOS PADRES	October 9-10, 2019	122.8	3
LOS PADRES	October 23, 2019	124.0	1
LOS PADRES	October 27, 2019	193.0	1
LOS PADRES	October 29, 2019	316.0	2
LOS PADRES	November 20, 2019	570.6	3
LOS PADRES	November 26-27, 2019	156.4	15
	Average of 10 excludable major events	164.2	5
LOS PADRES	August 15-17 2020	418.7	45
	% Difference	155.0%	838%

Table 35 –Los Padres Division Historical Performance

As indicated in Table 35, the Los Padres Division CAIDI value of 418.7 minutes for the August 15-17, 2020 major event days was 155% higher than the 164.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was due to lightning. These lightning related outages contributed 131.8 minutes to the August 15-17,2020 overall CAIDI performance.

5. September 7-8, 2020 Major Event Days

The fifth major event resulted in MEDs on September 7-8, 2020, when a significant heat wave resulted in widespread triple-digit temperatures in the interior valleys and heat-related outage activity. Additionally, gusty offshore winds led to critical fire risk weather conditions and the execution of PSPS across the Northern area, along the Sierra mountains, and in southern Kern division. This event resulted in the year’s 3rd largest outage event that impacted a total of 354,169 customers in the service territory. Table 36 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(September 7-8, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	September 7-8, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	1376.7	67.0%	NO
CENTRAL COAST	1,610.7	255.2	15.8%	NO
DE ANZA	1,206.3	74.6	6.2%	NO
DIABLO	1,149.4	119.7	10.4%	NO
EAST BAY	1,322.0	26.7	2.0%	NO
FRESNO	303.6	42.7	14.0%	NO
HUMBOLDT	2,822.2	1827.5	64.8%	NO
KERN	368.9	792.5	214.9%	Yes
LOS PADRES	164.2	151.3	92.1%	NO
MISSION	1,067.5	237.5	22.3%	NO
NORTH BAY	2,343.7	1063.2	45.4%	NO
NORTH VALLEY	2,200.6	2263.6	102.9%	NO
PENINSULA	1,654.4	237.4	14.4%	NO
SACRAMENTO	921.5	299.5	32.5%	NO
SAN FRANCISCO	76.4	222.9	291.8%	Yes
SAN JOSE	932.2	131.1	14.1%	NO
SIERRA	2,365.6	2010.2	85.0%	NO
SONOMA	3,168.3	1009.6	31.9%	NO
STOCKTON	2,249.4	1951.5	86.8%	NO
YOSEMITE	1,859.6	1712.2	92.1%	NO

Table 36 – September 7-8, 2020 CAIDI Performance

5.1 Kern Division CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
KERN	August 15, 2019	148.5	2
KERN	September 23, 2019	224.2	6
KERN	September 25, 2019	226.2	5
KERN	October 5, 2019	67.6	6
KERN	October 9-10, 2019	1,713.8	21
KERN	October 23, 2019	263.7	8
KERN	October 27, 2019	74.4	3
KERN	October 29, 2019	2,206.2	11
KERN	November 20, 2019	51.2	26
KERN	November 26-27, 2019	79.5	7
	Average of 10 excludable major events	368.9	10
KERN	September 7-8, 2020	792.5	10
	% Difference	114.9%	-7%

Table 37 – Kern Division Historical Performance

As indicated in Table 37, the Kern Division CAIDI value of 792.5 minutes for the September 7-8, 2020 major event days was 114.9% higher than the 368.9-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This PSPS outage event contributed 410.3 minutes to the September 7-8, 2020 overall CAIDI performance.

5.2 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	June 8, 2019	601.0	1
SAN FRANCISCO	June 10, 2019	110.9	2
SAN FRANCISCO	August 15, 2019	31.6	2
SAN FRANCISCO	September 25, 2019	379.0	1
SAN FRANCISCO	October 5, 2019	567.0	1
SAN FRANCISCO	September 9-10, 2019	359.5	1
SAN FRANCISCO	October 23, 2019	37.9	2
SAN FRANCISCO	October 27, 2019	204.9	6
SAN FRANCISCO	October 29, 2019	57.8	1
SAN FRANCISCO	November 26-27, 2019	49.8	5
	Average of 10 excludable major events	76.4	2
SAN FRANCISCO	September 7-8, 2020	222.9	2
	% Difference	191.8%	-97%

Table 38 – San Francisco Division Historical Performance

As indicated in Table 38, the San Francisco Division CAIDI value of 222.9 minutes for the September 7-8, 2020 major event days was 191.8% higher than the 76.4-minute average of the prior 10 weather-related excludable major events.

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

- SF E-0406 circuit – due to a failed overhead conductor.

This outage contributed 73.2 minutes to the September 7-8, 2020 overall CAIDI performance.

6. September 27, 2020 Major Event Days

The sixth major event was on September 27, 2020 involving gusty offshore winds that led to critical fire risk weather conditions and the execution of PSPS across the Northern area and southern Kern. This event resulted in the year's 9th largest outage event that impacted a total of 132,498 customers in the service territory. Table 39 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(September 27, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	September 27, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	743.0	36.2%	NO
CENTRAL COAST	1,610.7	33.9	2.1%	NO
DE ANZA	1,206.3	519.1	43.0%	NO
DIABLO	1,149.4	65.7	5.7%	NO
EAST BAY	1,322.0	158.9	12.0%	NO
FRESNO	303.6	51.9	17.1%	NO
HUMBOLDT	2,822.2	273.9	9.7%	NO
KERN	368.9	80.6	21.9%	NO
LOS PADRES	164.2	77.3	47.1%	NO
MISSION	1,067.5	300.3	28.1%	NO
NORTH BAY	2,343.7	32.0	1.4%	NO
NORTH VALLEY	2,200.6	1530.3	69.5%	NO
PENINSULA	1,654.4	758.9	45.9%	NO
SACRAMENTO	921.5	267.3	29.0%	NO
SAN FRANCISCO	76.4	291.0	380.9%	Yes
SAN JOSE	932.2	464.7	49.9%	NO
SIERRA	2,365.6	1183.5	50.0%	NO
SONOMA	3,168.3	17.3	0.5%	NO
STOCKTON	2,249.4	1079.7	48.0%	NO
YOSEMITE	1,859.6	226.0	12.2%	NO

Table 39 – September 27, 2020 CAIDI Performance

6.1 San Francisco CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN FRANCISCO	June 8, 2019	601.0	1
SAN FRANCISCO	June 10, 2019	110.9	2
SAN FRANCISCO	August 15, 2019	31.6	2
SAN FRANCISCO	September 25, 2019	379.0	1
SAN FRANCISCO	October 5, 2019	567.0	1
SAN FRANCISCO	September 9-10, 2019	359.5	1
SAN FRANCISCO	October 23, 2019	37.9	2
SAN FRANCISCO	October 27, 2019	204.9	6
SAN FRANCISCO	October 29, 2019	57.8	1
SAN FRANCISCO	November 26-27, 2019	49.8	5
	Average of 10 excludable major events	76.4	2
SAN FRANCISCO	September 27, 2020	291.0	1
	% Difference	280.9%	-99%

Table 40 – San Francisco Division Historical Performance

As indicated in Table 40, the San Francisco Division CAIDI value of 291.0 minutes for the September 27, 2020 major event day was 280.9% higher than the 76.4-minute average of the prior 10 weather-related excludable major events.

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

- SF P-1105 circuit – due to a failed overhead transformer

This outage contributed 291.0 minutes to the September 27, 2020 overall CAIDI performance.

7. October 14, 2020 Major Event Day

The seventh major event was on October 14, 2020 involving gusty offshore winds, hot temperatures and low humidity resulting in critical fire risk danger across the north and the implementation of PSPS outages. This event impacted a total of 50,973 customers in the service territory was not one of the ten largest outage events of 2020. Table 41 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 14, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 14, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	1740.1	84.7%	NO
CENTRAL COAST	1,610.7	999.7	62.1%	NO
DE ANZA	1,206.3	1438.1	119.2%	NO
DIABLO	1,149.4	1117.7	97.2%	NO
EAST BAY	1,322.0	1096.2	82.9%	NO
FRESNO	303.6	49.2	16.2%	NO
HUMBOLDT	2,822.2	1048.0	37.1%	NO
KERN	368.9	55.4	15.0%	NO
LOS PADRES	164.2	62.2	37.9%	NO
MISSION	1,067.5	1047.1	98.1%	NO
NORTH BAY	2,343.7	2423.3	103.4%	NO
NORTH VALLEY	2,200.6	2563.8	116.5%	NO
PENINSULA	1,654.4	2316.1	140.0%	Yes
SACRAMENTO	921.5	2008.4	217.9%	Yes
SAN FRANCISCO	76.4	0.0	0.0%	NO
SAN JOSE	932.2	805.1	86.4%	NO
SIERRA	2,365.6	78.2	3.3%	NO
SONOMA	3,168.3	1931.1	61.0%	NO
STOCKTON	2,249.4	16.6	0.7%	NO
YOSEMITE	1,859.6	248.8	13.4%	NO

Table 41 – October 14, 2020 CAIDI Performance

7.1 Peninsula CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
PENINSULA	June 10, 2019	76.0	21
PENINSULA	August 15, 2019	1,393.0	2
PENINSULA	September 23, 2019	143.0	1
PENINSULA	September 25, 2019	100.7	8
PENINSULA	October 5, 2019	152.4	2
PENINSULA	October 9-10, 2019	1,010.1	25
PENINSULA	October 23, 2019	66.2	3
PENINSULA	October 26-27, 2019	2,490.4	56
PENINSULA	October 29, 2019	395.9	2
PENINSULA	November 26-27, 2019	167.6	20
	Average of 10 excludable major events	1,654.4	18
PENINSULA	October 14, 2020	2,316.1	12
	% Difference	40.0%	-34%

Table 42 – Peninsula Division Historical Performance

As indicated in Table 42, the Peninsula Division CAIDI value of 2,316.1 minutes for the October 14, 2020 major event day was 40% higher than the 1,654.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 2,206.7 minutes to the October 14, 2020 overall CAIDI performance.

7.2 Sacramento CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SACRAMENTO	August 15, 2019	159.7	5
SACRAMENTO	September 23, 2019	1,122.8	27
SACRAMENTO	September 25, 2019	830.1	26
SACRAMENTO	October 5, 2019	175.9	4
SACRAMENTO	October 9-10, 2019	1,080.3	76
SACRAMENTO	October 23, 2019	896.5	29
SACRAMENTO	October 26-27, 2019	938.0	102
SACRAMENTO	October 29, 2019	517.6	22
SACRAMENTO	November 20, 2019	372.7	21
SACRAMENTO	November 26-27, 2019	182.9	27
	Average of 10 excludable major events	921.5	42
SACRAMENTO	October 14, 2020	2,008.4	14
	% Difference	117.9%	-66%

Table 43 – Sacramento Division Historical Performance

As indicated in Table 43, the Sacramento Division CAIDI value of 2,008.4 minutes for the October 14, 2020 major event day was 117.9% higher than the 921.5-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,835.6 minutes to the October 14, 2020 overall CAIDI performance.

8. October 22, 2020 Major Event Day

The eighth major event was on October 22, 2020 involving a strong high-pressure system that resulted in hot and dry weather across the territory with daytime highs ranging from the 90’s to around 105° F across the territory. This event impacted a total of 50,084 customers in the service territory but was not one of the ten largest outage events of 2020. Table 44 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 22, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 22, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	703.9	34.3%	NO
CENTRAL COAST	1,610.7	132.1	8.2%	NO
DE ANZA	1,206.3	140.5	11.6%	NO
DIABLO	1,149.4	748.0	65.1%	NO
EAST BAY	1,322.0	535.0	40.5%	NO
FRESNO	303.6	300.1	98.8%	NO
HUMBOLDT	2,822.2	318.3	11.3%	NO
KERN	368.9	279.9	75.9%	NO
LOS PADRES	164.2	62.2	37.9%	NO
MISSION	1,067.5	323.0	30.3%	NO
NORTH BAY	2,343.7	170.5	7.3%	NO
NORTH VALLEY	2,200.6	1041.4	47.3%	NO
PENINSULA	1,654.4	430.5	26.0%	NO
SACRAMENTO	921.5	176.1	19.1%	NO
SAN FRANCISCO	76.4	55.0	72.0%	NO
SAN JOSE	932.2	899.0	96.4%	NO
SIERRA	2,365.6	9.0	0.4%	NO
SONOMA	3,168.3	431.0	13.6%	NO
STOCKTON	2,249.4	114.7	5.1%	NO
YOSEMITE	1,859.6	150.0	8.1%	NO

Table 44 – October 22, 2020 CAIDI Performance

As indicated in the table above, the CAIDI threshold was not met at the system nor for any of the divisions.

9. October 25, 2020 Major Event Day

The ninth and last major event was on October 25, 2020 involving a strong high-pressure system that resulted in triple-digit inland temperatures. This event resulted in the year's 2nd largest outage event that impacted a total of 399,863 customers in the service territory. Table 45 summarizes the system and division CAIDI performances during this event and the average of the prior ten weather related major events.

(October 25, 2020 vs. Prior 10 MED)

System / Division	Average CAIDI of Prior 10 System / Division Specific Excludable ME	October 25, 2020 / Division Specific CAIDI	Percent Difference From the Prior CAIDI Average	Exceeds the Investigation Threshold?
SYSTEM	2,054.2	1951.1	95.0%	NO
CENTRAL COAST	1,610.7	1620.5	100.6%	NO
DE ANZA	1,206.3	1641.3	136.1%	Yes
DIABLO	1,149.4	1836.5	159.8%	Yes
EAST BAY	1,322.0	1627.6	123.1%	NO
FRESNO	303.6	1168.6	384.9%	Yes
HUMBOLDT	2,822.2	2319.5	82.2%	NO
KERN	368.9	233.5	63.3%	NO
LOS PADRES	164.2	0.0	0.0%	NO
MISSION	1,067.5	845.4	79.2%	NO
NORTH BAY	2,343.7	1988.3	84.8%	NO
NORTH VALLEY	2,200.6	2054.9	93.4%	NO
PENINSULA	1,654.4	1635.7	98.9%	NO
SACRAMENTO	921.5	1052.2	114.2%	NO
SAN FRANCISCO	76.4	10.2	13.4%	NO
SAN JOSE	932.2	1433.5	153.8%	Yes
SIERRA	2,365.6	279.0	11.8%	NO
SONOMA	3,168.3	2232.7	70.5%	NO
STOCKTON	2,249.4	2238.8	99.5%	NO
YOSEMITE	1,859.6	1687.0	90.7%	NO

Table 45 – October 25, 2020 CAIDI Performance

9.1 De Anza CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DE ANZA	June 10, 2019	118.6	14
DE ANZA	August 15, 2019	340.6	8
DE ANZA	September 23, 2019	978.0	1
DE ANZA	September 25, 2019	388.4	3
DE ANZA	October 5, 2019	37.7	9
DE ANZA	October 9-10, 2019	1,176.9	22
DE ANZA	October 23, 2019	188.0	4
DE ANZA	October 26-27, 2019	2,600.5	71
DE ANZA	October 29, 2019	138.7	3
DE ANZA	November 26-27, 2019	57.3	7
	Average of 10 excludable major events	1,206.3	19
DE ANZA	October 25, 2020	1,641.3	28
	% Difference	36.1%	51%

Table 46 – De Anza Division Historical Performance

As indicated in Table 46, the De Anza Division CAIDI value of 1,641.3 minutes for the October 25, 2020 major event day was 36.1% higher than the 1,206.3-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,546.3 minutes to the October 25, 2020 overall CAIDI performance.

9.2 Diablo CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
DIABLO	August 15, 2019	111.4	14
DIABLO	September 23, 2019	62.9	5
DIABLO	September 25, 2019	236.0	1
DIABLO	October 5, 2019	11.5	1
DIABLO	October 9-10, 2019	1,262.8	35
DIABLO	October 23, 2019	60.2	2
DIABLO	October 26-27, 2019	1,434.6	76
DIABLO	October 29, 2019	489.0	9
DIABLO	November 20, 2019	155.5	5
DIABLO	November 26-27, 2019	113.8	14
	Average of 10 excludable major events	1,149.4	22
DIABLO	October 25, 2020	1,836.5	66
	% Difference	59.8%	201%

Table 47 – Diablo Division Historical Performance

As indicated in Table 47, the Diablo Division CAIDI value of 1,836.5 minutes for the October 25, 2020 major event day was 59.8% higher than the 1,149.4-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,759.8 minutes to the October 25, 2020 overall CAIDI performance.

9.3 Fresno CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
FRESNO	August 15, 2019	101.8	8
FRESNO	September 23, 2019	172.5	4
FRESNO	September 25, 2019	154.3	3
FRESNO	October 5, 2019	91.8	4
FRESNO	October 9-10, 2019	82.8	3
FRESNO	October 23, 2019	140.0	7
FRESNO	October 26-27, 2019	1,111.9	16
FRESNO	October 29, 2019	234.5	5
FRESNO	November 20, 2019	52.8	4
FRESNO	November 26-27, 2019	169.7	31
	Average of 10 excludable major events	303.6	10
FRESNO	October 25, 2020	1,168.6	33
	% Difference	284.9%	218%

Table 48 – Fresno Division Historical Performance

As indicated in Table 48, the Fresno Division CAIDI value of 1,168.6 minutes for the October 25, 2020 major event day was 284.9% higher than the 303.6-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,136.9 minutes to the October 25, 2020 overall CAIDI performance.

9.4 San Jose CAIDI Assessment

System / Division	Major Event Day	CAIDI	SO / Day
SAN JOSE	August 15, 2019	223.8	22
SAN JOSE	September 23, 2019	128.8	7
SAN JOSE	September 25, 2019	147.3	5
SAN JOSE	October 5, 2019	212.3	2
SAN JOSE	October 9-10, 2019	939.2	51
SAN JOSE	October 23, 2019	218.2	3
SAN JOSE	October 26-27, 2019	1,643.4	42
SAN JOSE	October 29, 2019	115.7	8
SAN JOSE	November 20, 2019	312.1	2
SAN JOSE	November 26-27, 2019	80.6	14
	Average of 10 excludable major events	932.2	20
SAN JOSE	October 25, 2020	1,433.5	17
	% Difference	53.8%	-15%

Table 49 – San Jose Division Historical Performance

As indicated in Table 49, the San Jose Division CAIDI value of 1,433.5 minutes for the October 25, 2020 major event day was 53.8% higher than the 932.2-minute average of the prior 10 weather-related excludable major events.

The top contributing factor to the higher division CAIDI value was the implementation of PSPS. This outage event contributed 1,242.7 minutes to the October 25, 2020 overall 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 50 below provides the T&D system reliability indices from 2011 to 2020 (excluding ISO outages) for unplanned and planned outages combined (both including and excluding Major Event Days).

Table 50: Combined Transmission and Distribution System Indices with Planned Outages

Year	Major Events Included				Major Events Excluded			
	SAIDI	SAIFI	MAIFI	CAIDI	SAIDI	SAIFI	MAIFI	CAIDI
2011	312.5	1.402	1.478	222.9	141.7	1.097	1.170	129.3
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	1.572	307.5	153.2	1.179	1.317	130.0

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 51:

Division	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2011	539.9	2.154	2.074	250.7
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
DE ANZA	2011	101.3	0.798	1.495	126.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
DIABLO	2011	110.1	1.071	1.396	102.8
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
EAST BAY	2011	123.3	1.039	1.060	118.7
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	1.649	202.9

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2011	186.0	1.220	2.013	152.5
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
HUMBOLDT	2011	762.1	2.437	2.282	312.8
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	2.474	1,483.6
HUMBOLDT	2020	1,058.7	2.460	1.499	430.4
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
KERN	2011	190.1	1.356	1.617	140.2
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
LOS PADRES	2011	159.1	1.333	2.195	119.3
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2011	88.5	0.937	0.656	94.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH BAY	2011	243.9	1.501	1.231	162.4
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	555.1	1.896	2.536	292.8
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH VALLEY	2011	703.7	2.334	2.138	301.5
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
PENINSULA	2011	131.7	1.279	0.939	102.9
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	1.397	152.8

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2011	209.6	1.327	1.900	157.9
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN FRANCISCO	2011	58.8	0.621	0.217	94.6
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SAN JOSE	2011	131.6	1.080	0.794	121.9
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SIERRA	2011	1,088.2	2.414	2.891	450.8
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2011	286.4	1.435	1.532	199.6
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	354.0
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
STOCKTON	2011	502.3	1.882	1.182	266.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
YOSEMITE	2011	1,201.6	2.107	2.632	570.3
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SYSTEM	2011	312.5	1.402	1.478	222.9
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	1.572	307.5

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

Table 52:

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
CENTRAL COAST	2011	198.9	1.670	1.590	119.1
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DE ANZA	2011	81.5	0.711	1.187	114.6
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
DIABLO	2011	98.0	0.942	1.237	104.0
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
Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
EAST BAY	2011	106.5	0.925	0.830	115.1
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	1.455	124.0

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
FRESNO	2011	97.3	0.893	1.686	109.0
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
HUMBOLDT	2011	439.7	1.912	1.888	230.0
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	1.884	199.2
HUMBOLDT	2020	280.3	1.631	1.346	171.8
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
KERN	2011	132.7	1.062	1.340	125.0
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
LOS PADRES	2011	113.5	1.073	1.667	105.8
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
MISSION	2011	76.9	0.847	0.586	90.8
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH BAY	2011	150.6	1.239	1.094	121.5
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	1.411	2.107	133.7
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
NORTH VALLEY	2011	239.3	1.517	1.562	157.7
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
PENINSULA	2011	102.7	1.131	0.782	90.8
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	1.057	119.3

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SACRAMENTO	2011	135.2	1.114	1.696	121.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN FRANCISCO	2011	55.0	0.590	0.211	93.1
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SAN JOSE	2011	119.2	0.990	0.686	120.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SIERRA	2011	232.8	1.387	1.528	167.8
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

Division/System	Year	SAIDI	SAIFI	MAIFI	CAIDI
SONOMA	2011	143.2	1.045	1.341	137.0
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
STOCKTON	2011	209.0	1.350	0.898	154.9
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
YOSEMITE	2011	237.2	1.401	1.811	169.4
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
Division/System	**Year**	**SAIDI**	**SAIFI**	**MAIFI**	**CAIDI**
SYSTEM	2011	141.7	1.097	1.170	129.3
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	1.317	130.0

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 212: Division Reliability – AIDI Indices

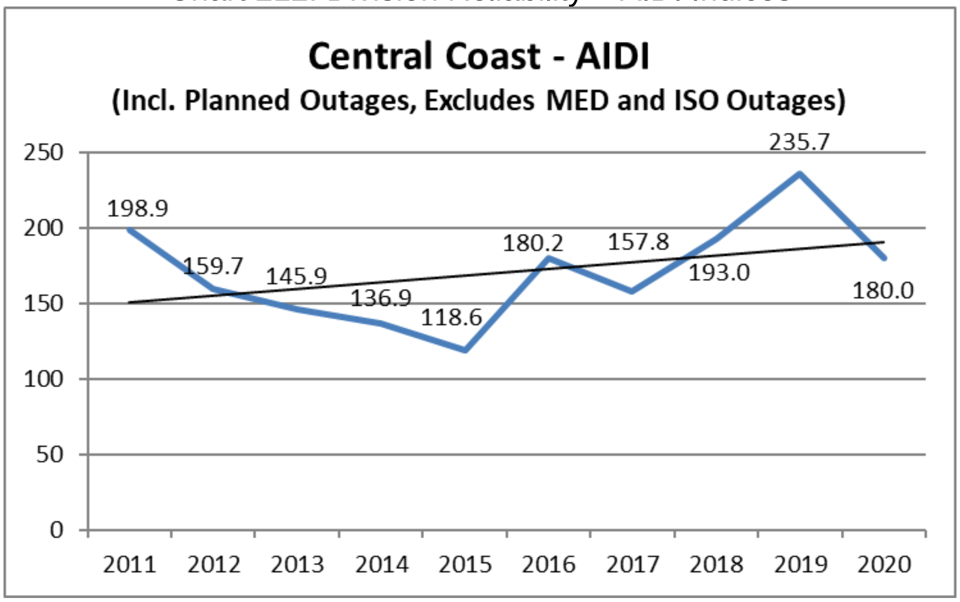


Chart 213: Division Reliability – AIDI Indices

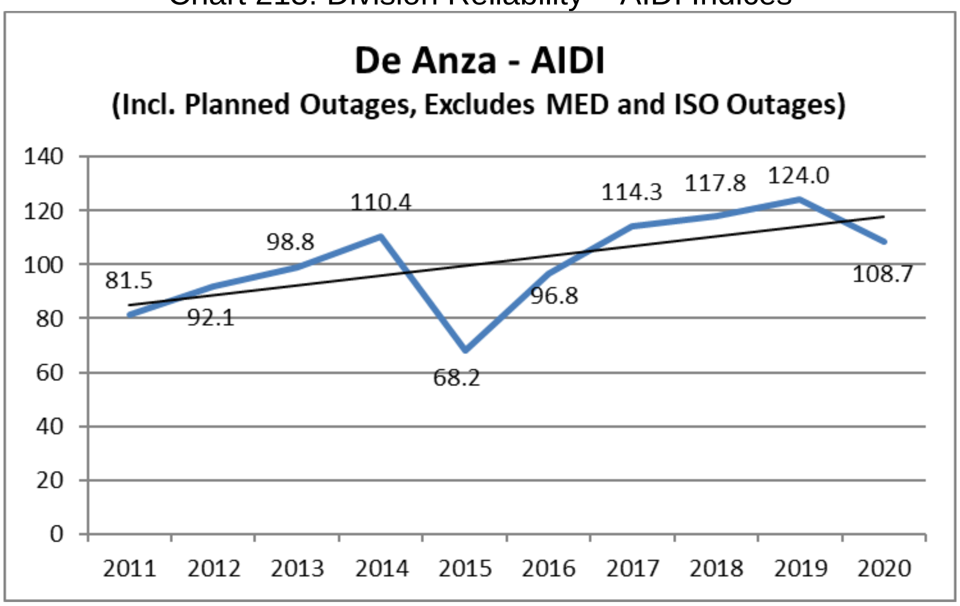


Chart 214: Division Reliability – AIDI Indices

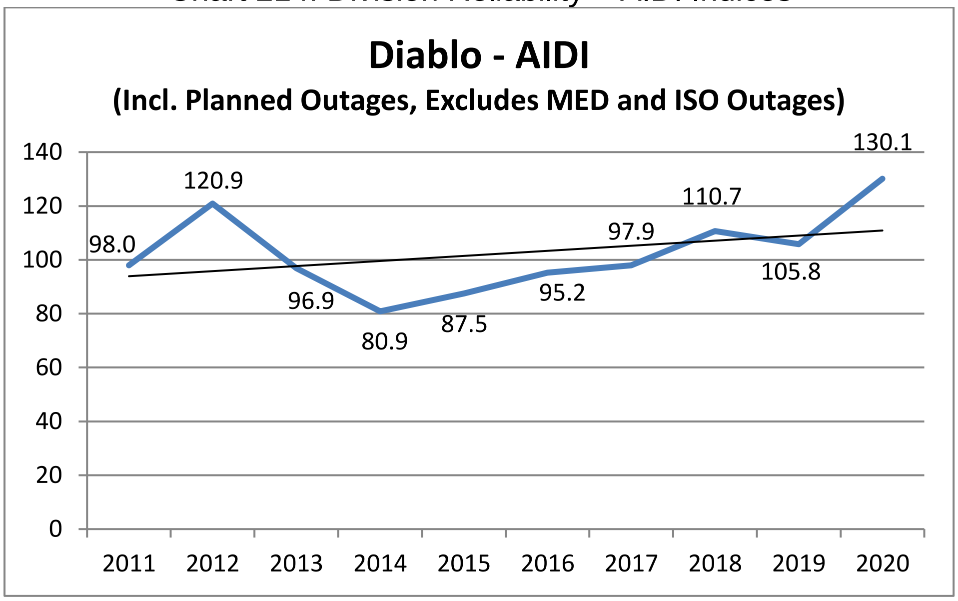


Chart 215: Division Reliability – AIDI Indices

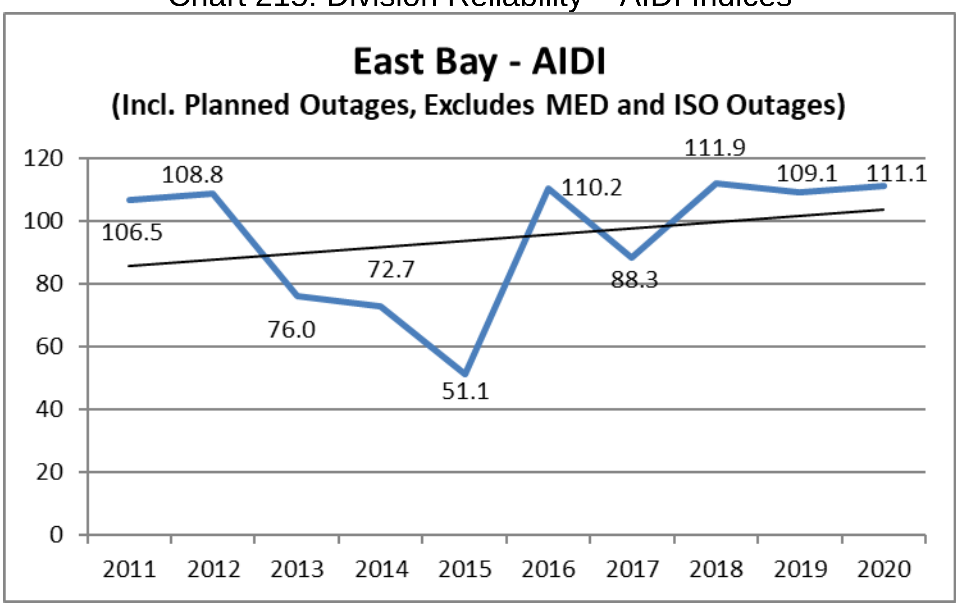


Chart 216: Division Reliability – AIDI Indices

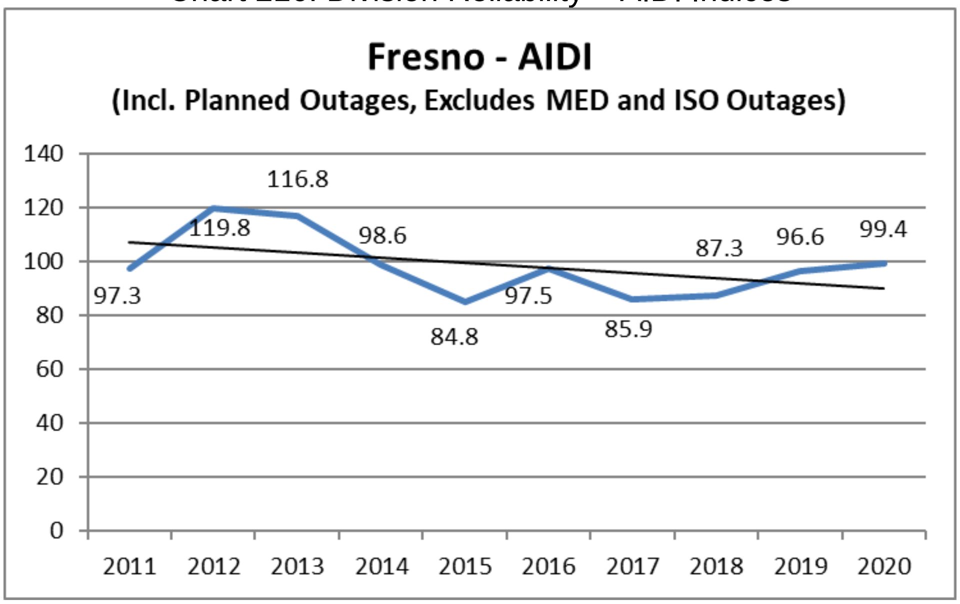


Chart 217: Division Reliability – AIDI Indices

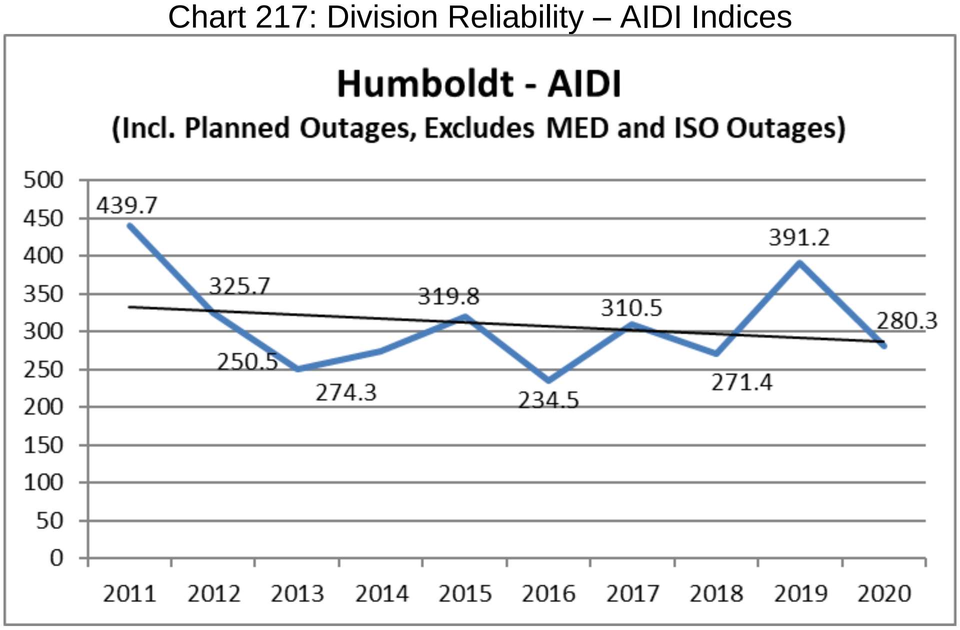


Chart 218: Division Reliability – AIDI Indices

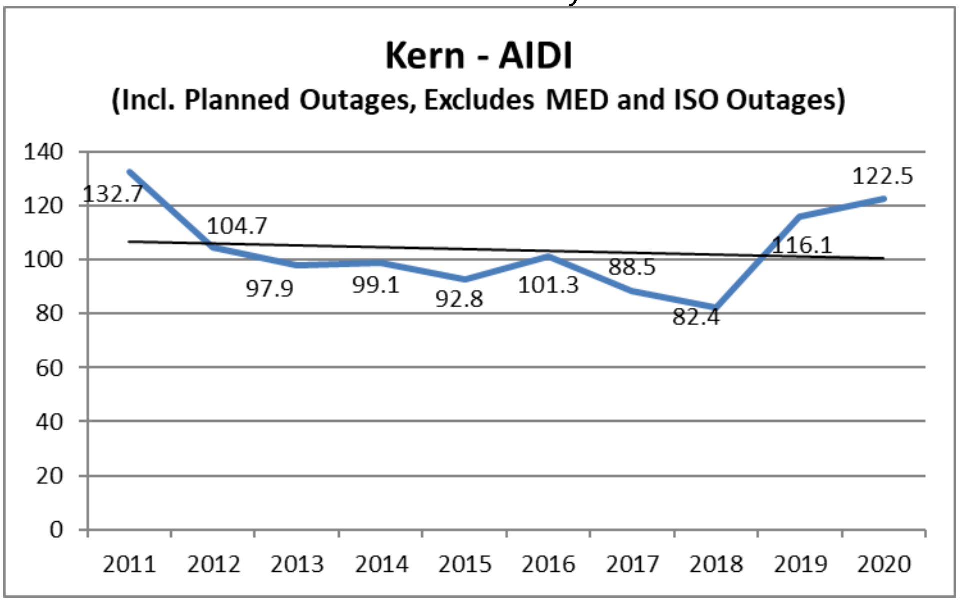


Chart 219: Division Reliability – AIDI Indices

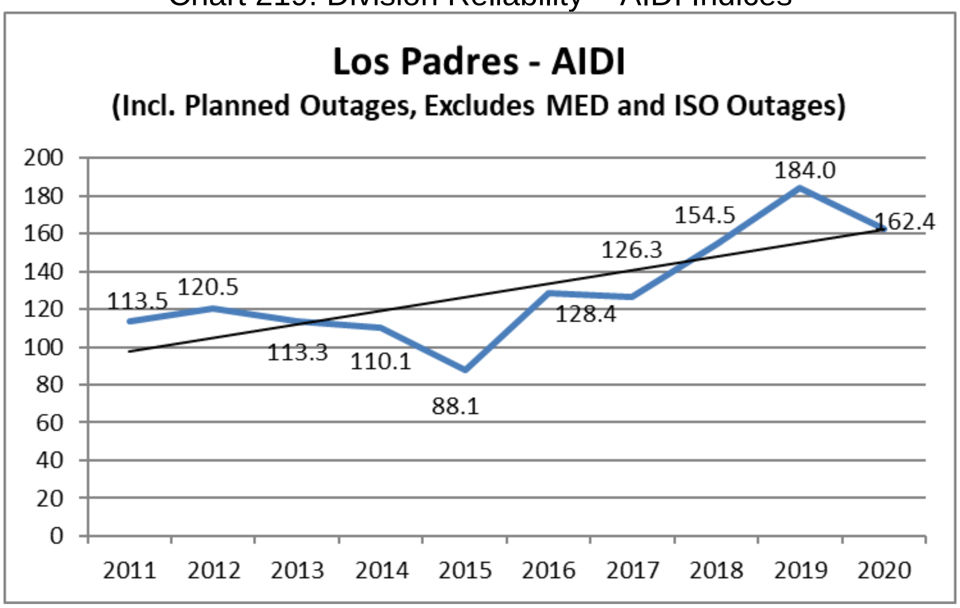


Chart 220: Division Reliability – AIDI Indices

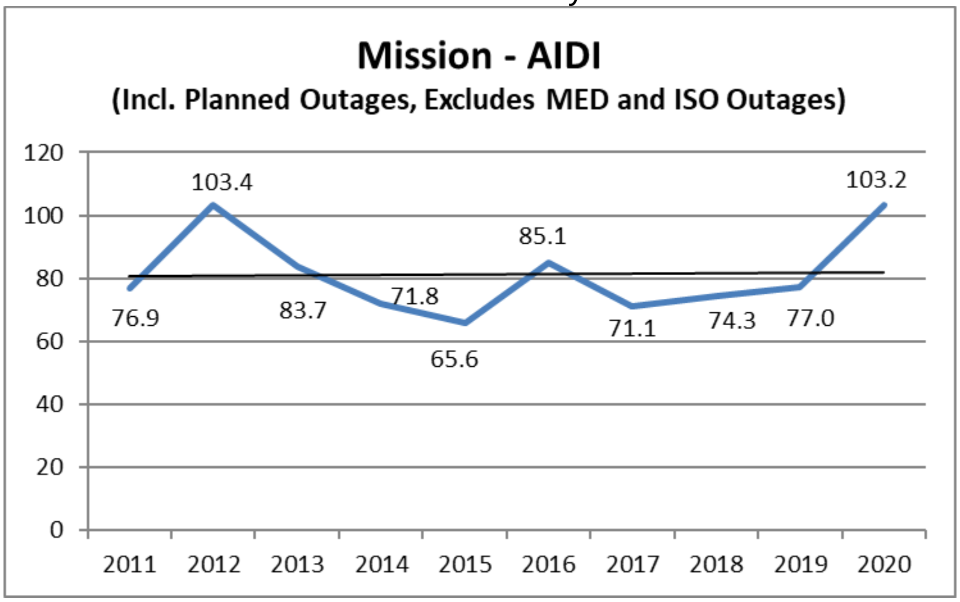


Chart 221: Division Reliability – AIDI Indices

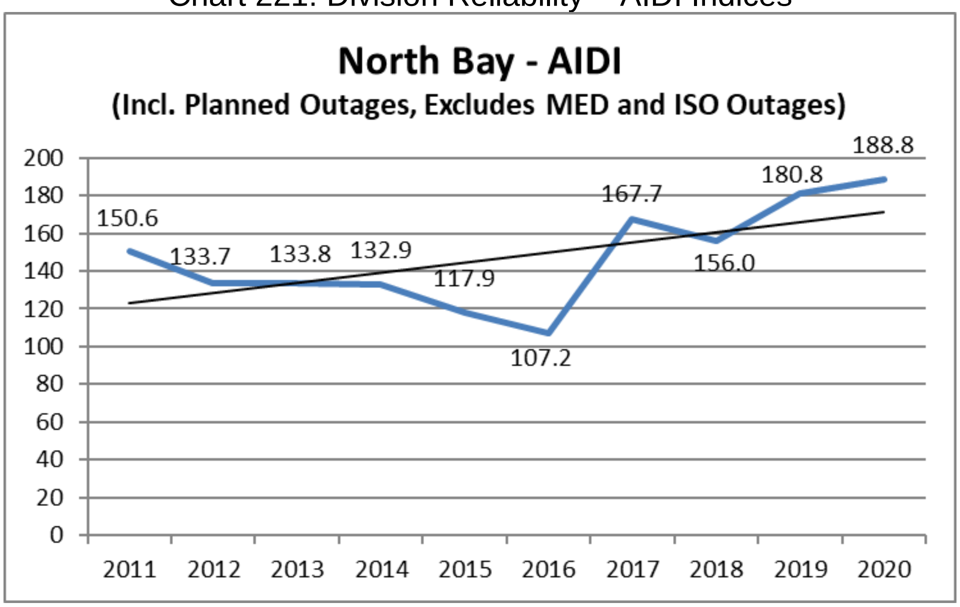


Chart 222: Division Reliability – AIDI Indices

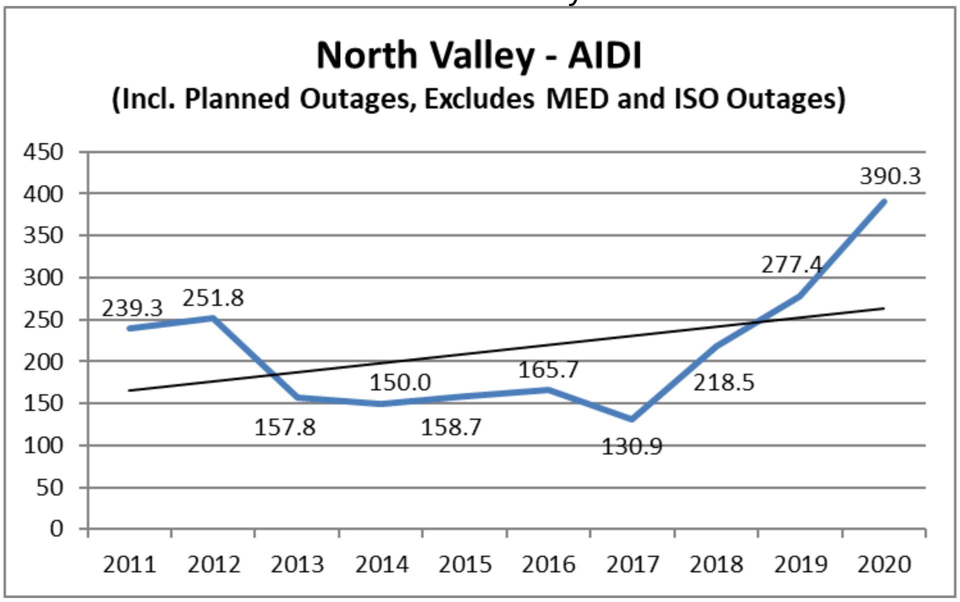


Chart 223: Division Reliability – AIDI Indices

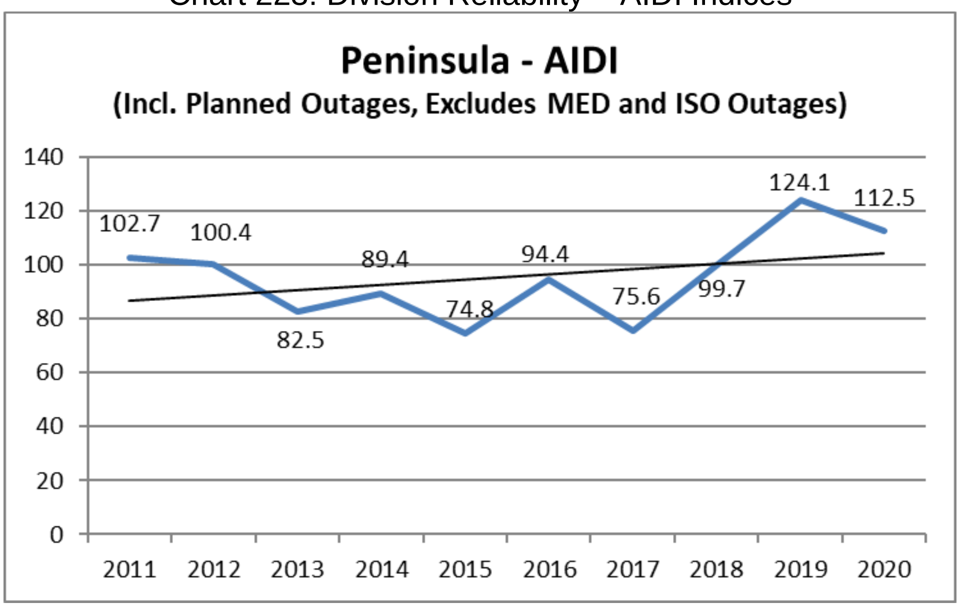


Chart 224: Division Reliability – AIDI Indices

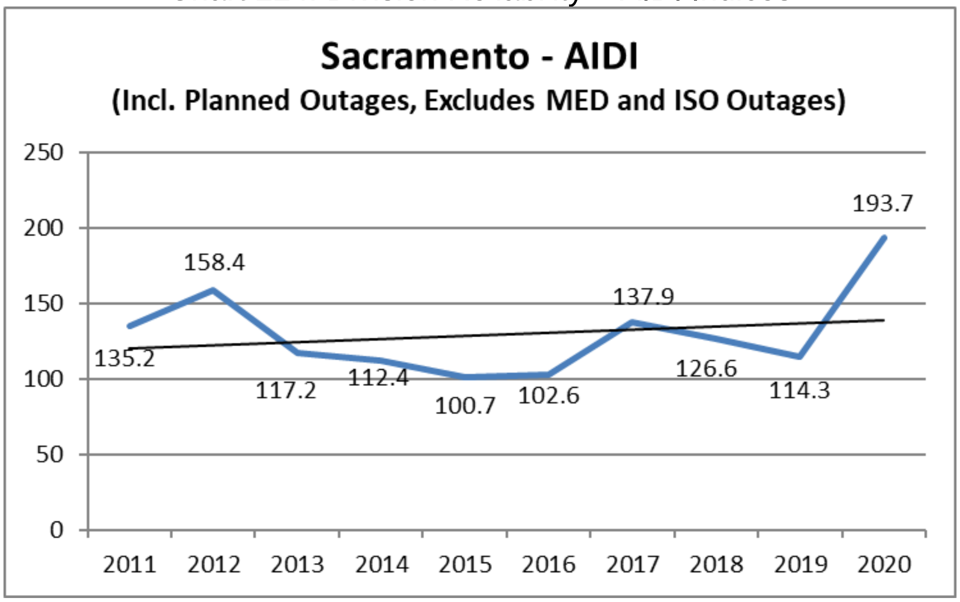


Chart 225: Division Reliability – AIDI Indices

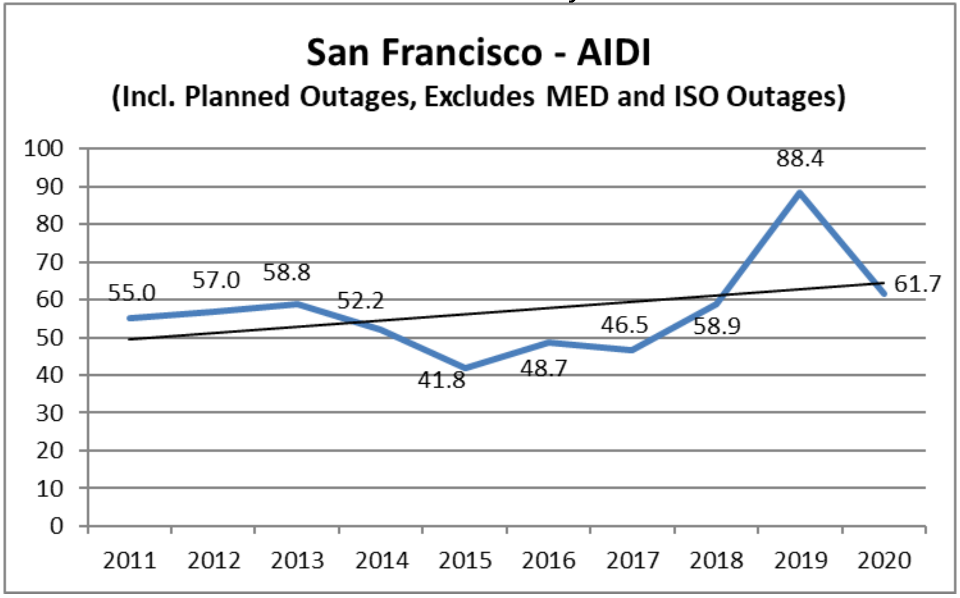


Chart 226: Division Reliability – AIDI Indices

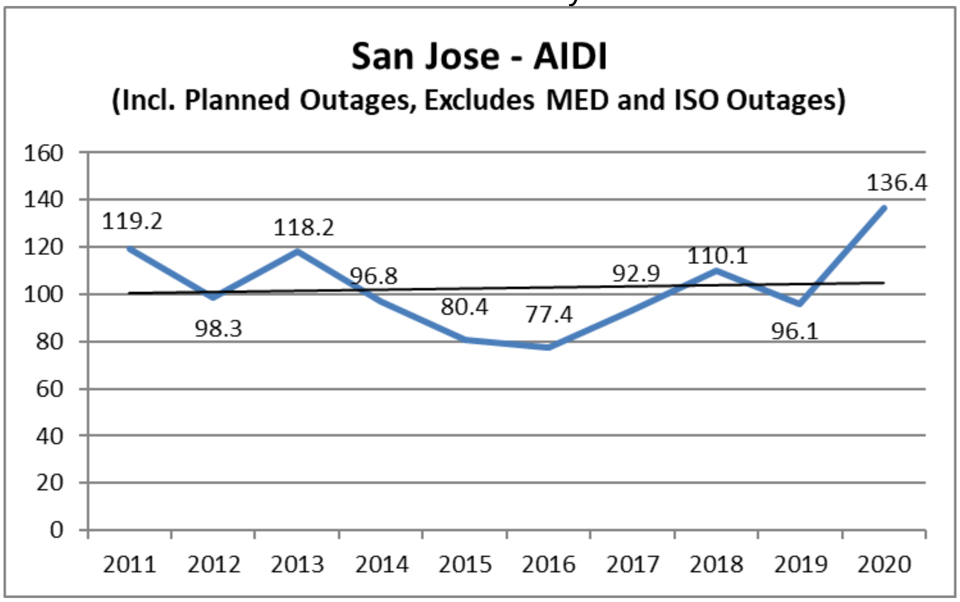


Chart 227: Division Reliability – AIDI Indices

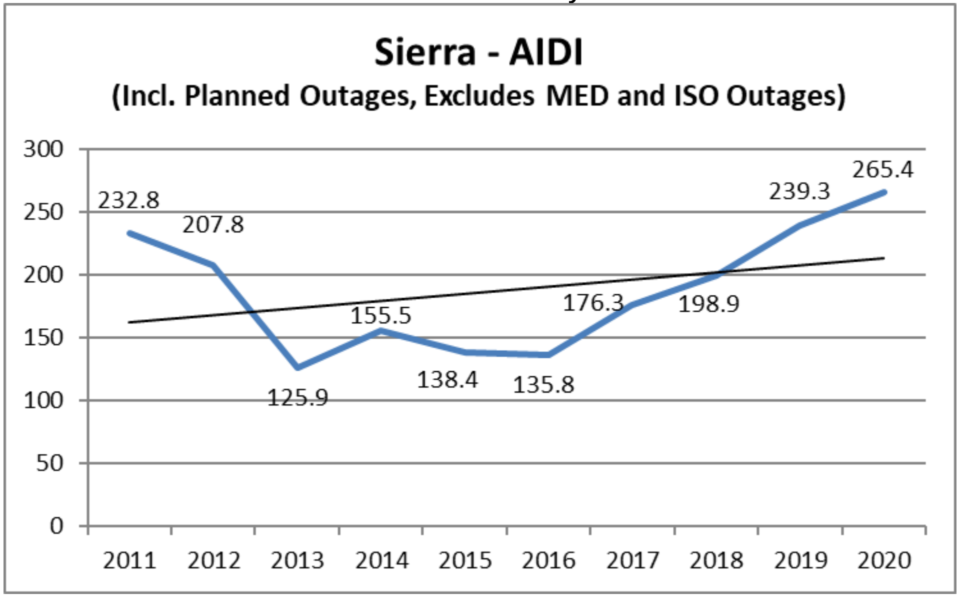


Chart 228: Division Reliability – AIDI Indices

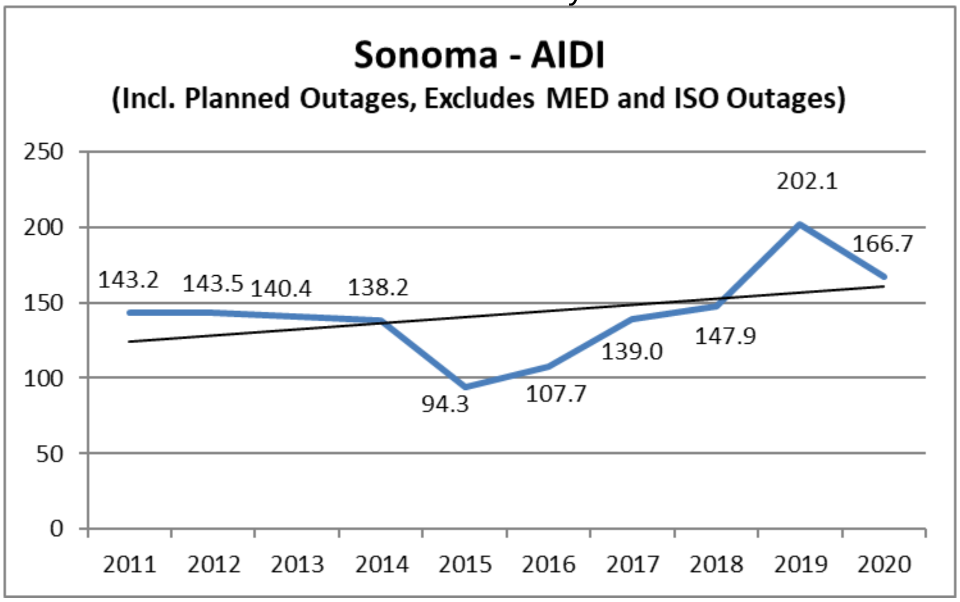


Chart 229: Division Reliability – AIDI Indices

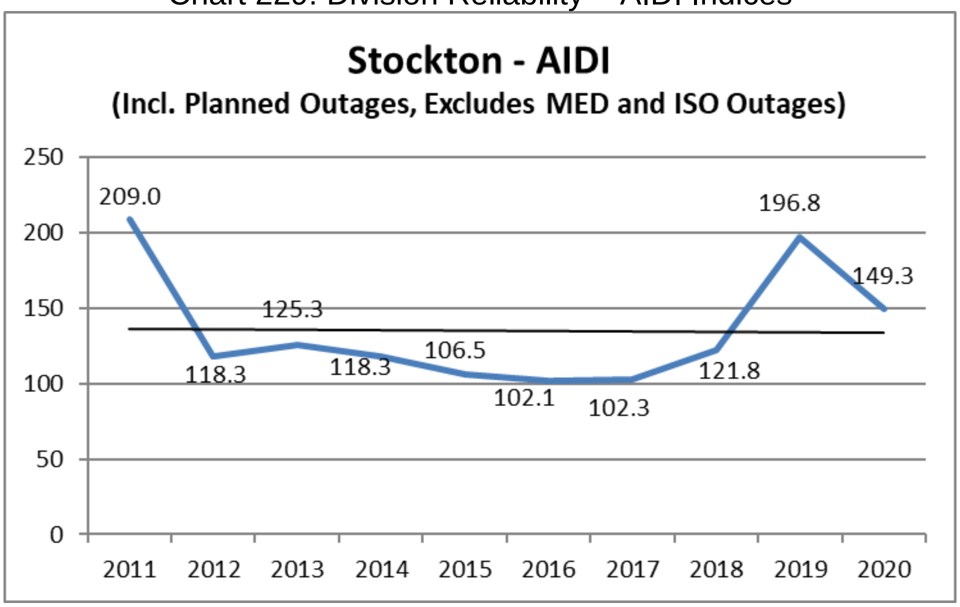


Chart 230: Division Reliability – AIDI Indices

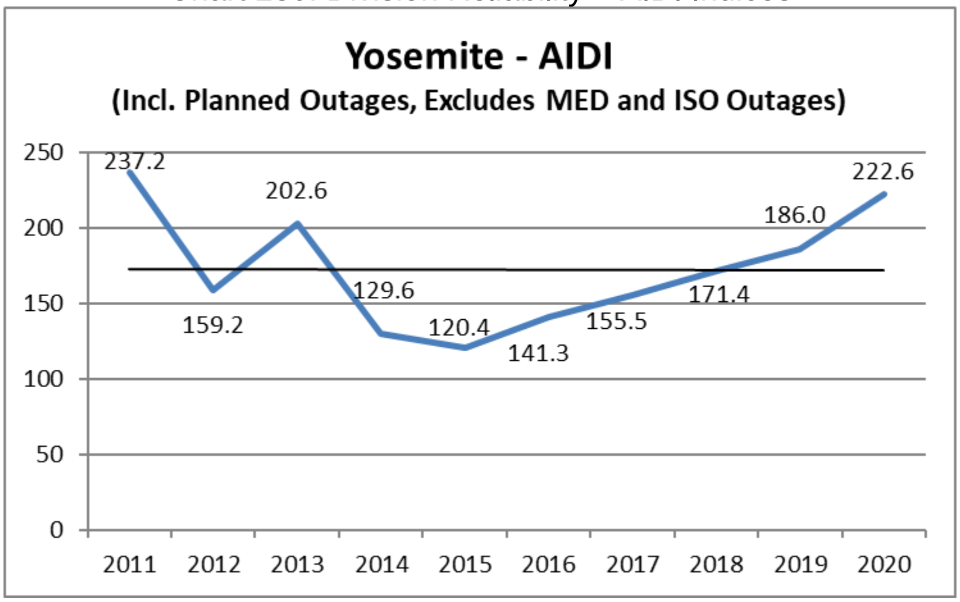
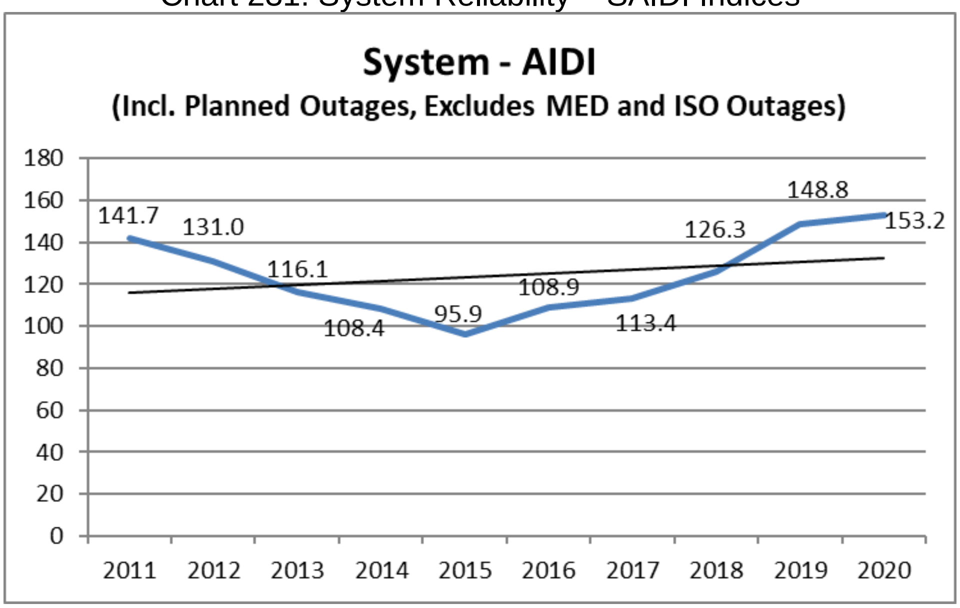


Chart 231: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Excluded)

Chart 232: Division Reliability – AIFI Indices

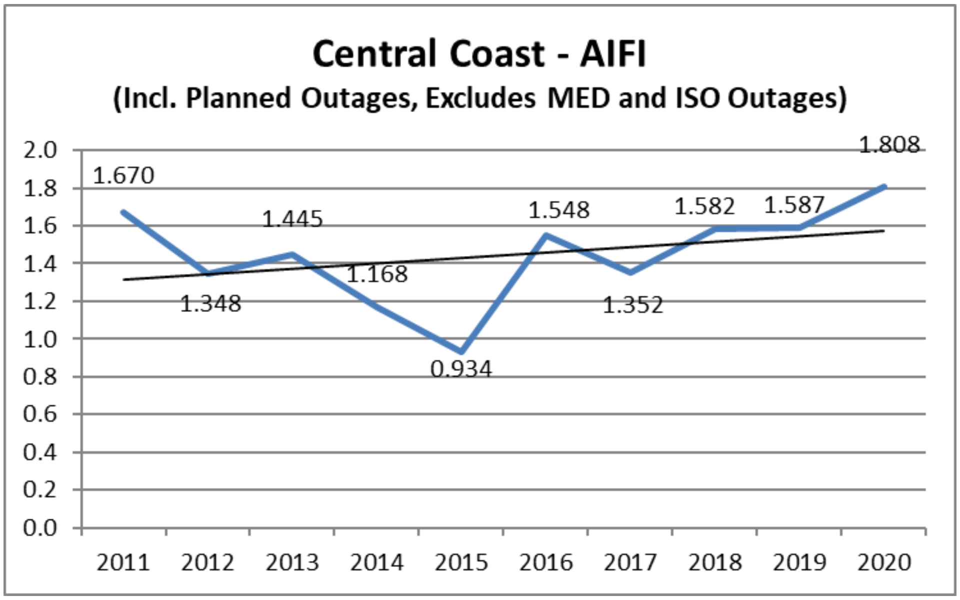


Chart 233: Division Reliability – AIFI Indices

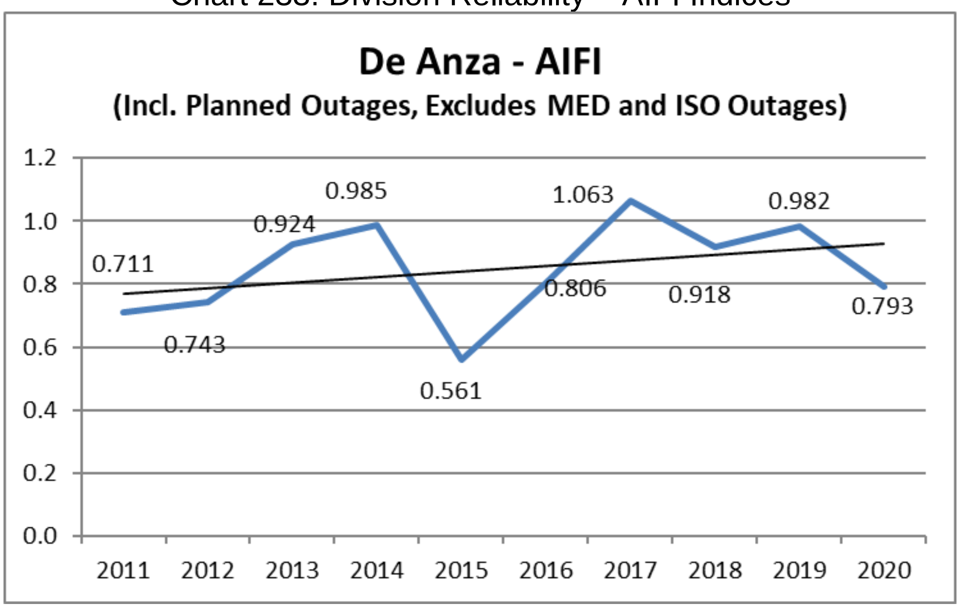


Chart 234: Division Reliability – AIFI Indices

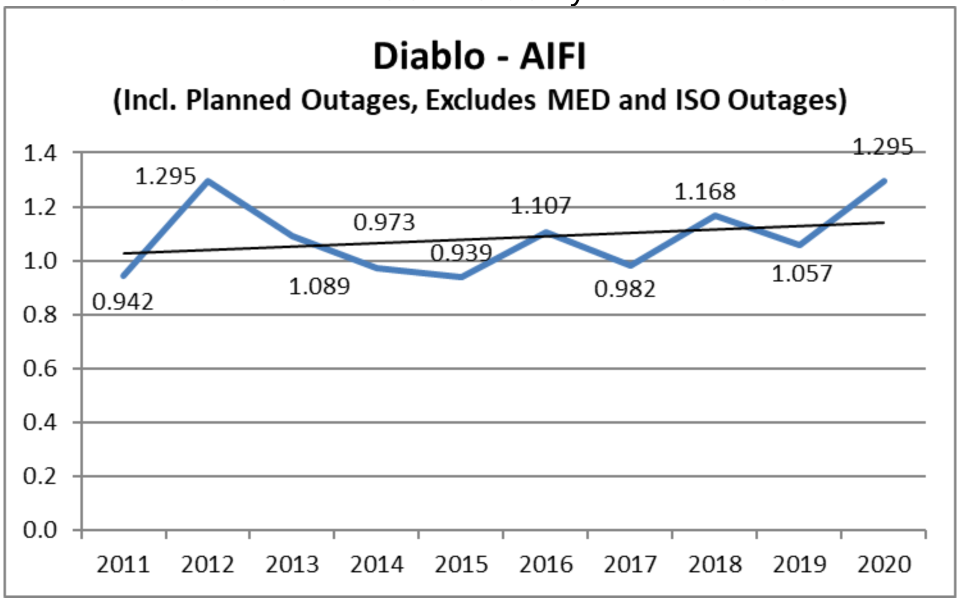


Chart 235: Division Reliability – AIFI Indices

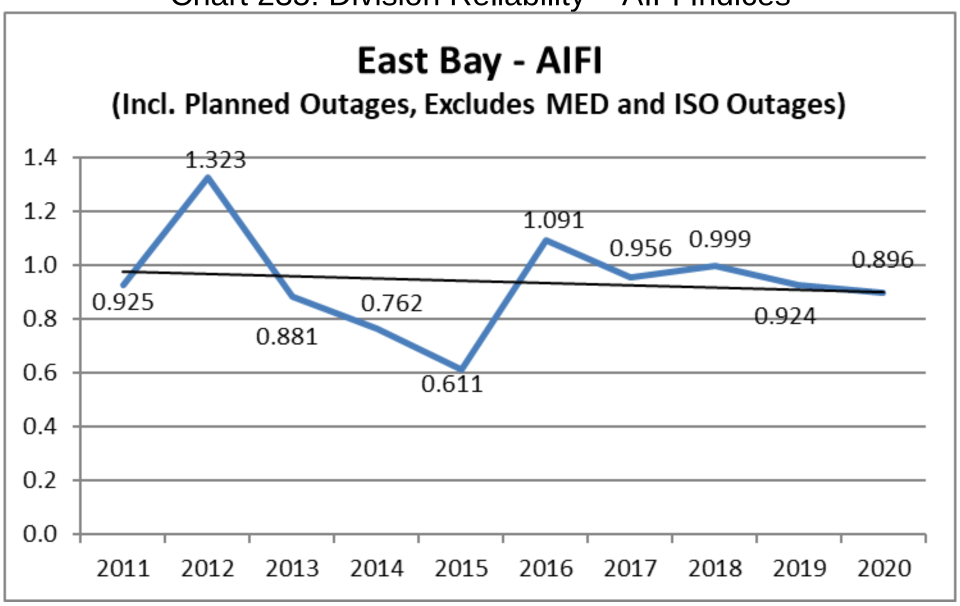


Chart 236: Division Reliability – AIFI Indices

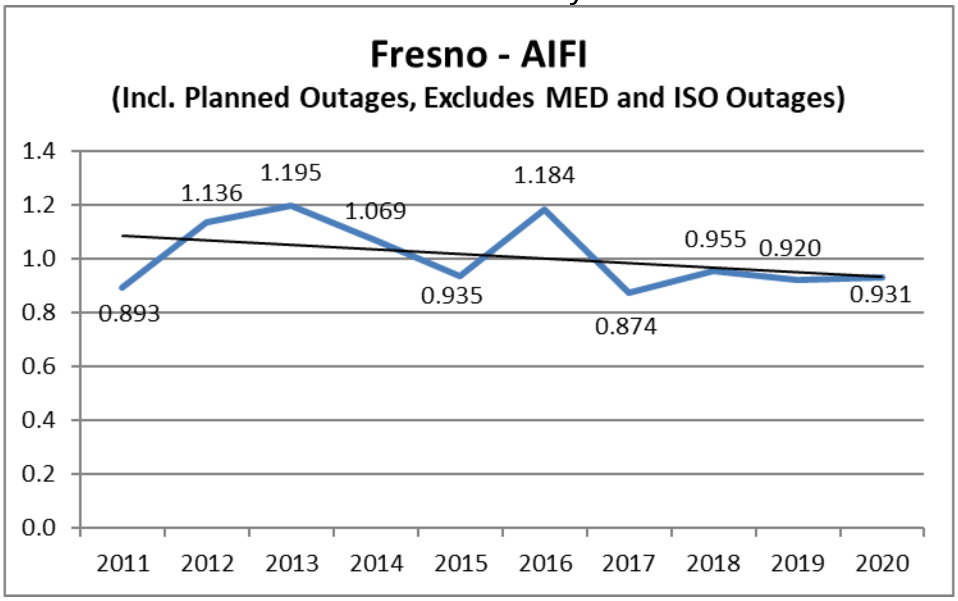


Chart 237: Division Reliability – AIFI Indices

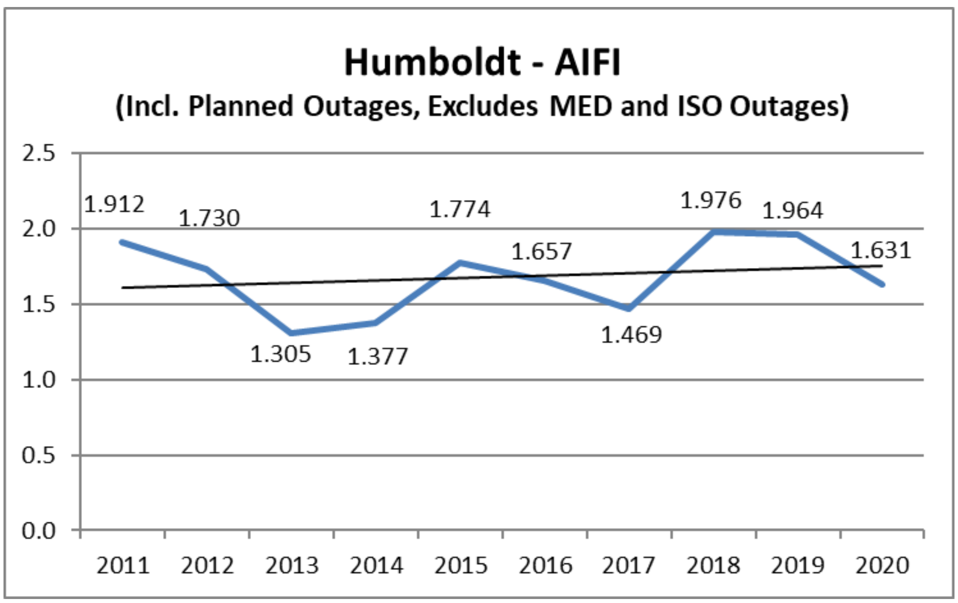


Chart 238: Division Reliability – AIFI Indices

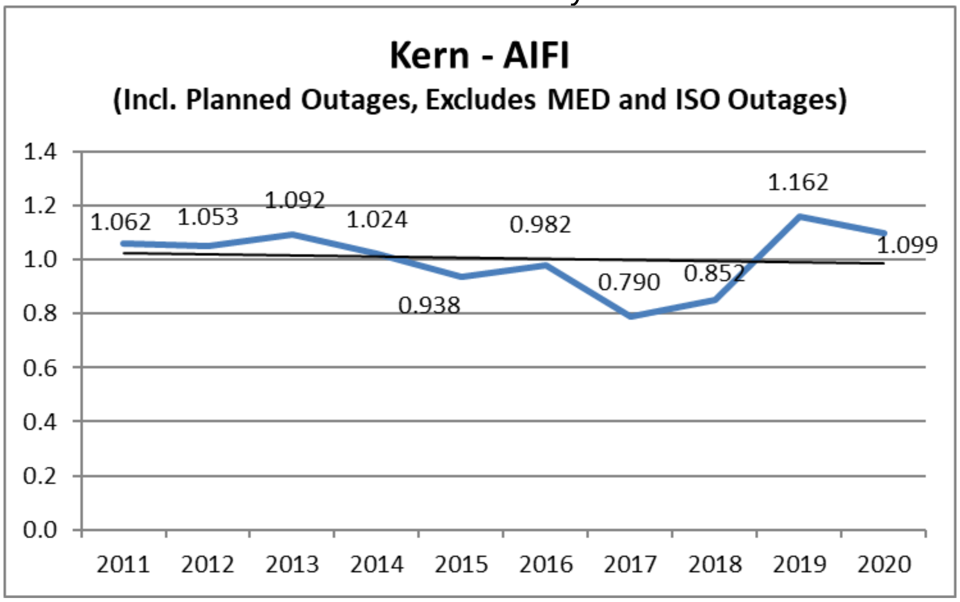


Chart 239: Division Reliability – AIFI Indices

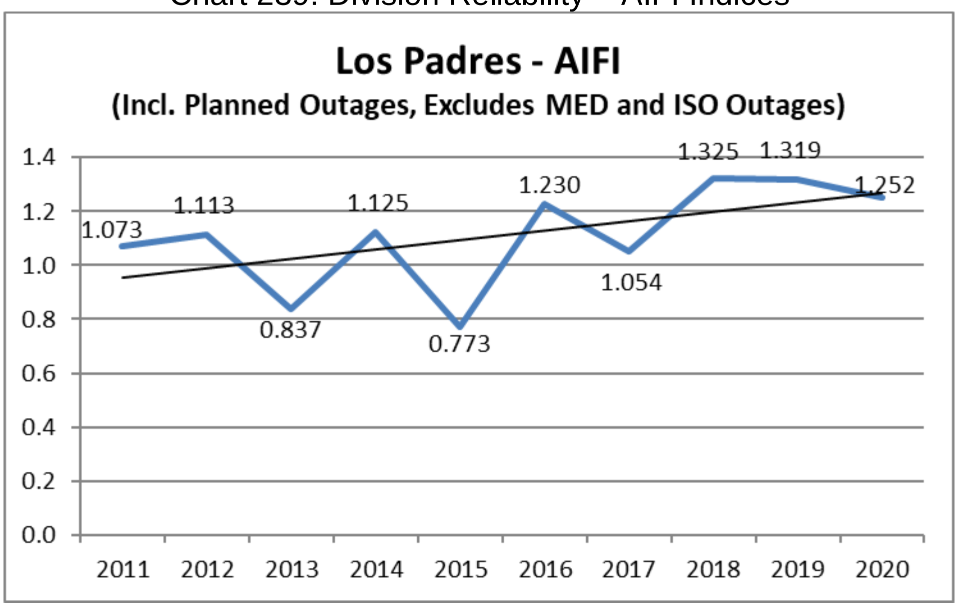


Chart 240: Division Reliability – AIFI Indices

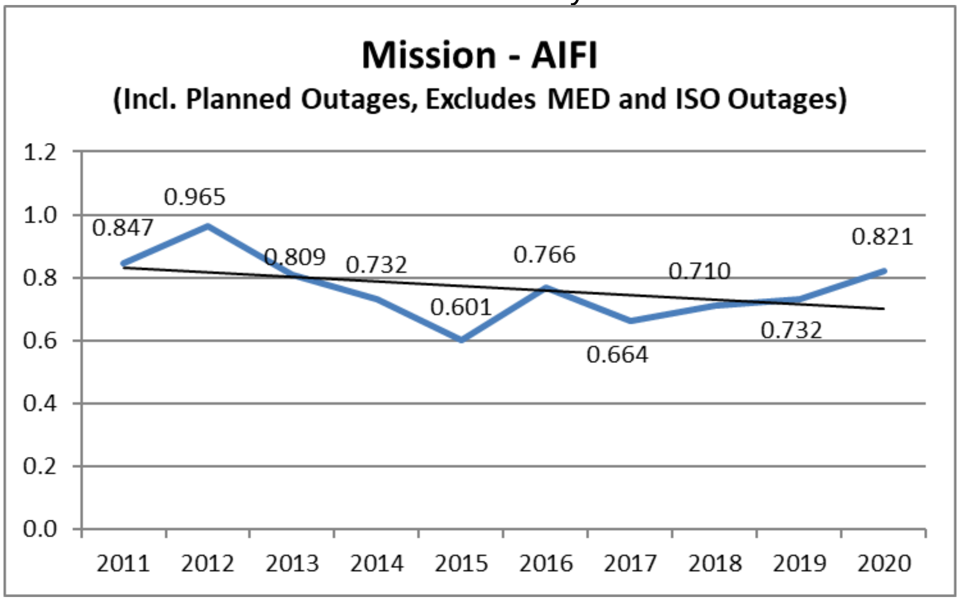


Chart 241: Division Reliability – AIFI Indices

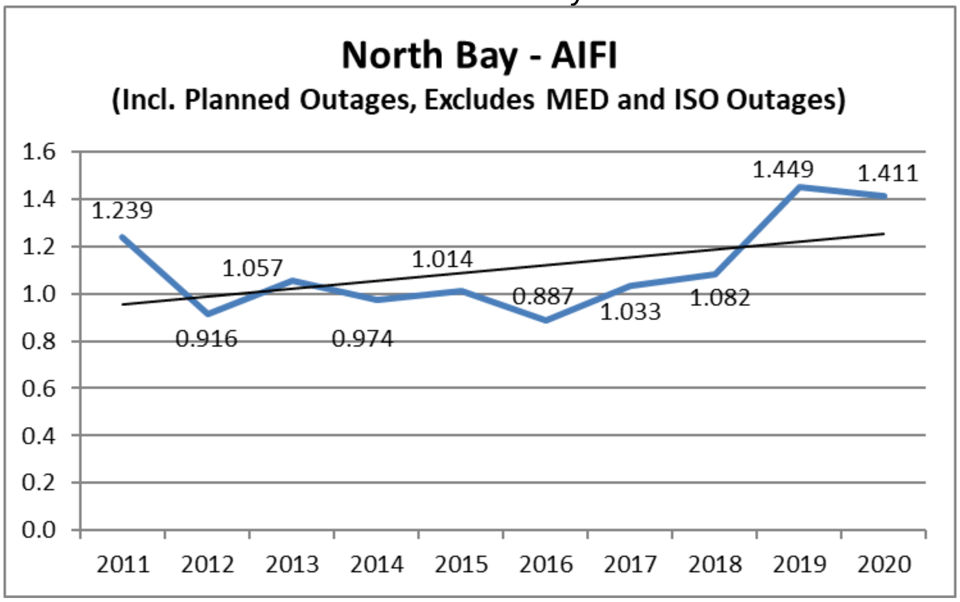


Chart 242: Division Reliability – AIFI Indices

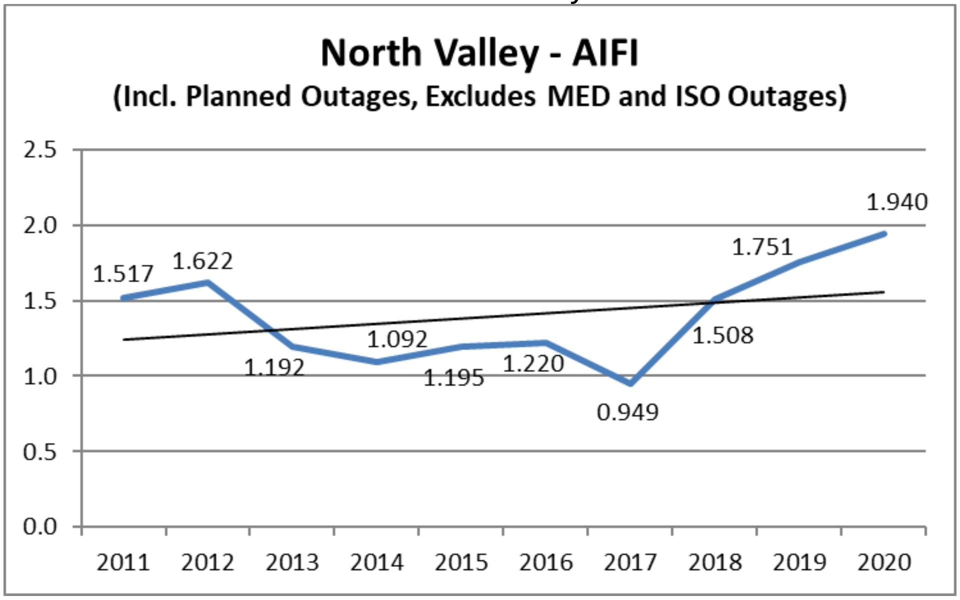


Chart 243: Division Reliability – AIFI Indices

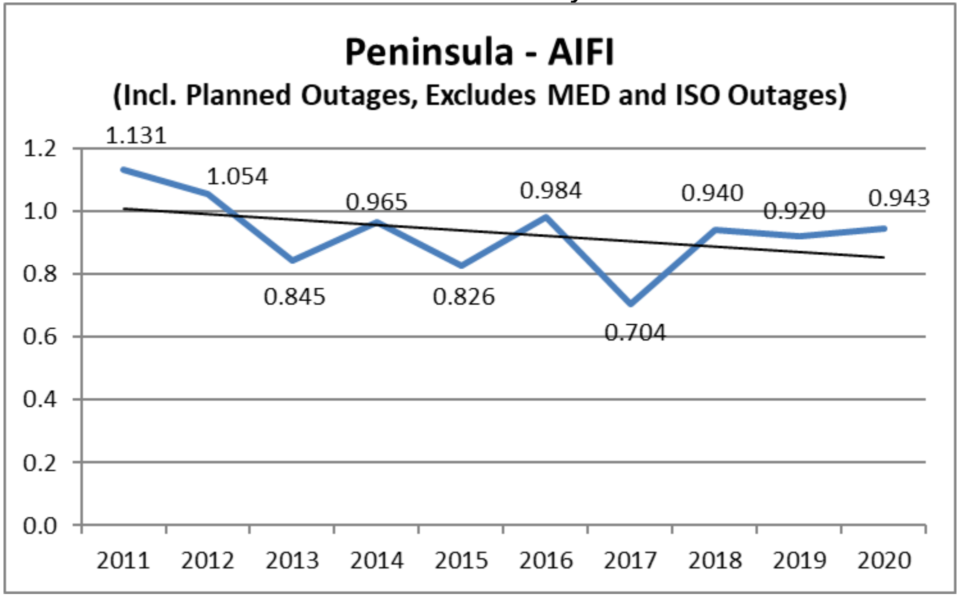


Chart 244: Division Reliability – AIFI Indices

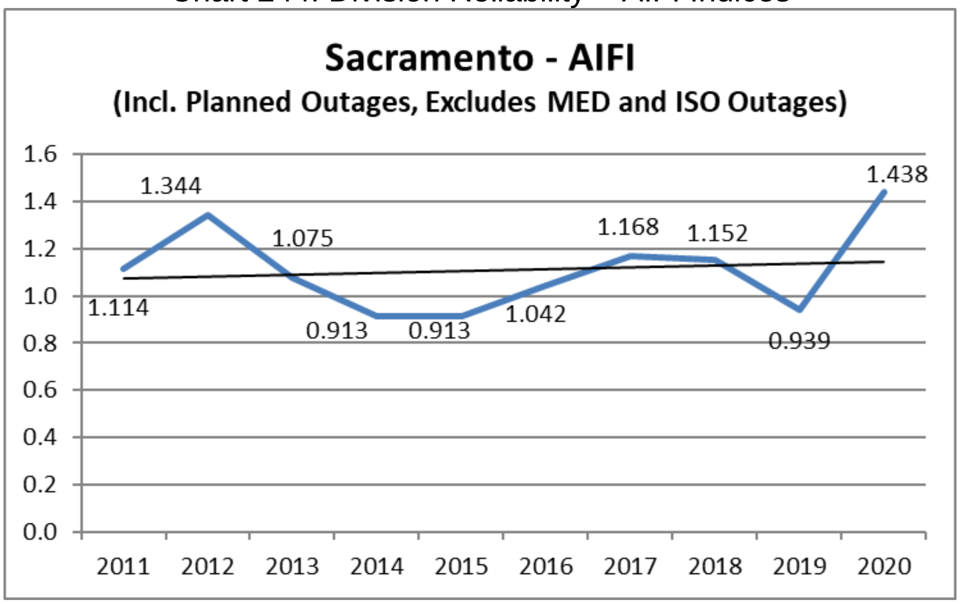


Chart 245: Division Reliability – AIFI Indices

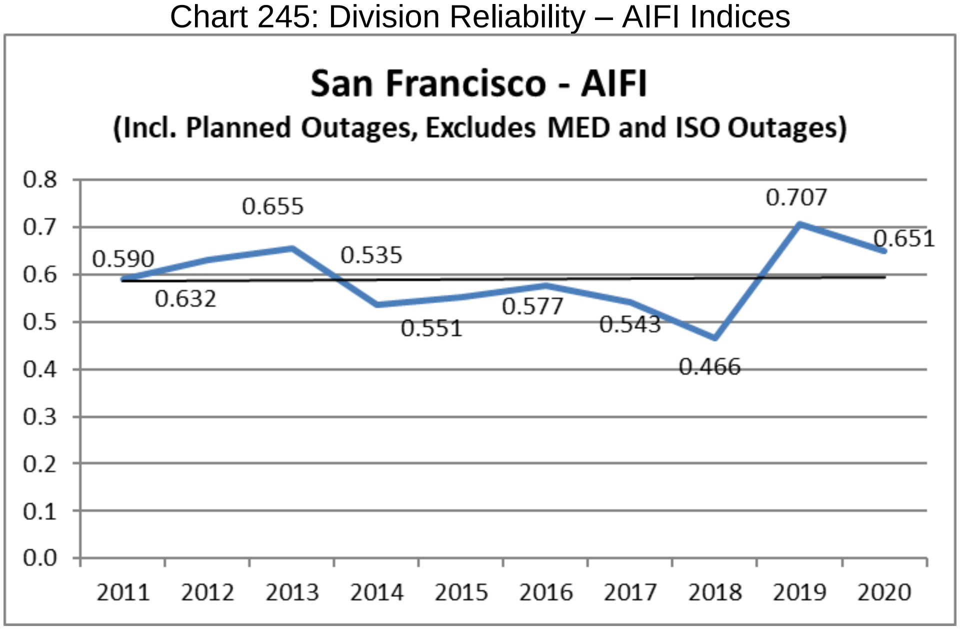


Chart 246: Division Reliability – AIFI Indices

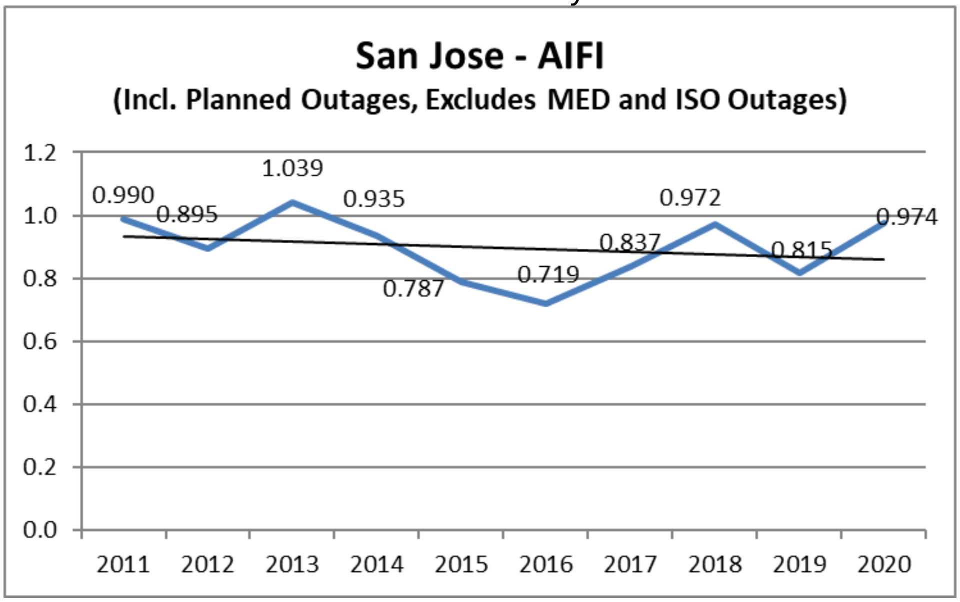


Chart 247: Division Reliability – AIFI Indices

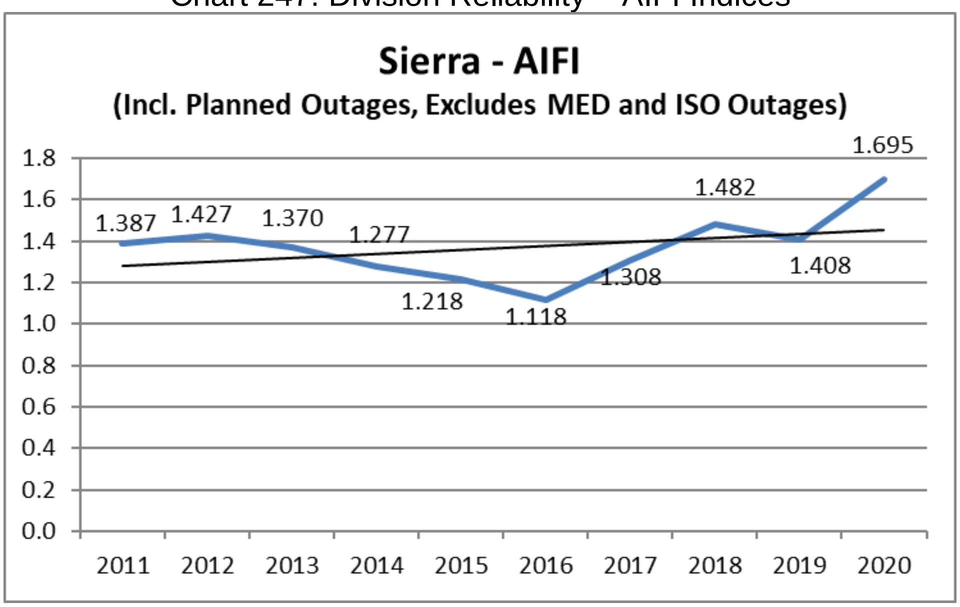


Chart 248: Division Reliability – AIFI Indices

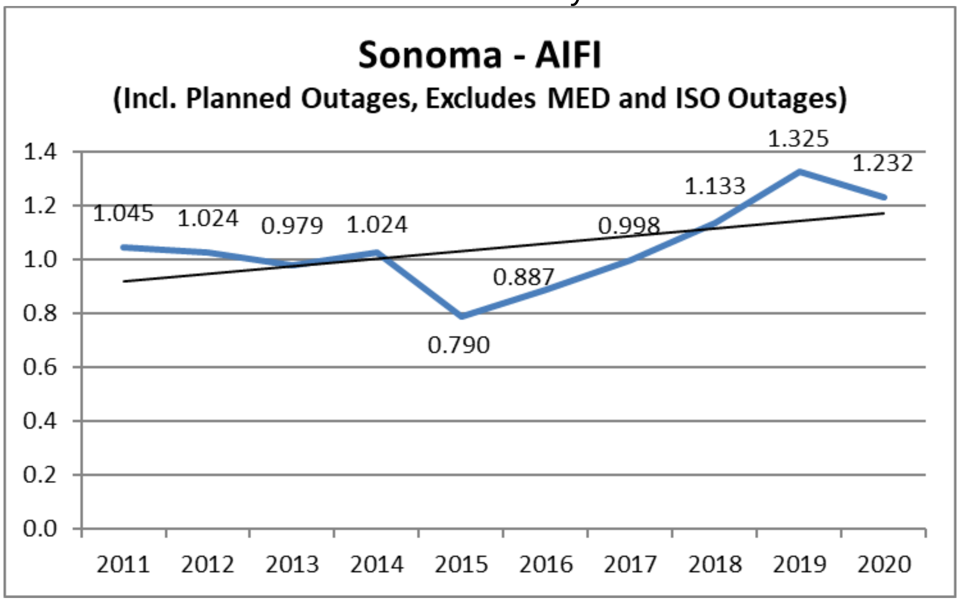


Chart 249: Division Reliability – AIFI Indices

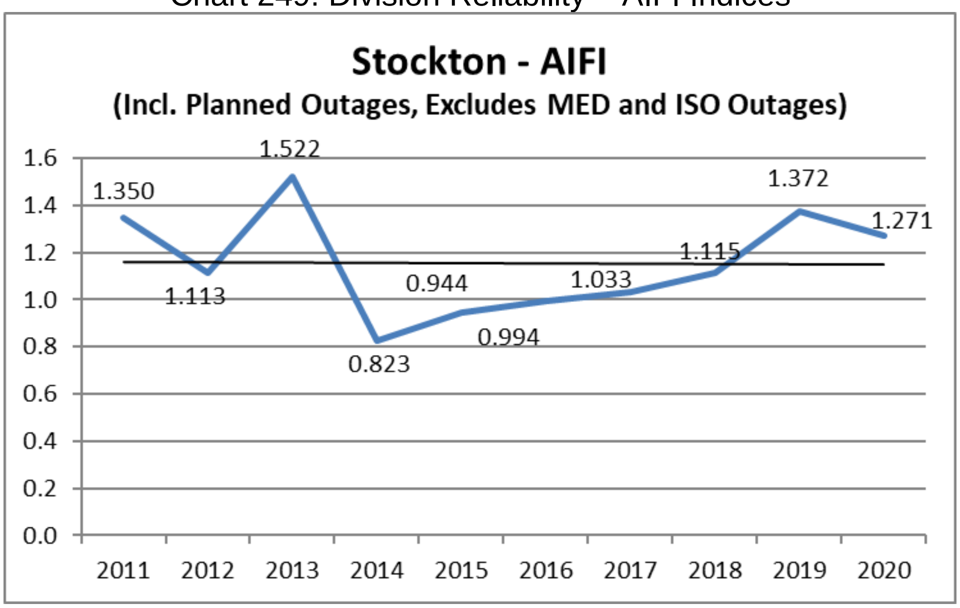


Chart 250: Division Reliability – AIFI Indices

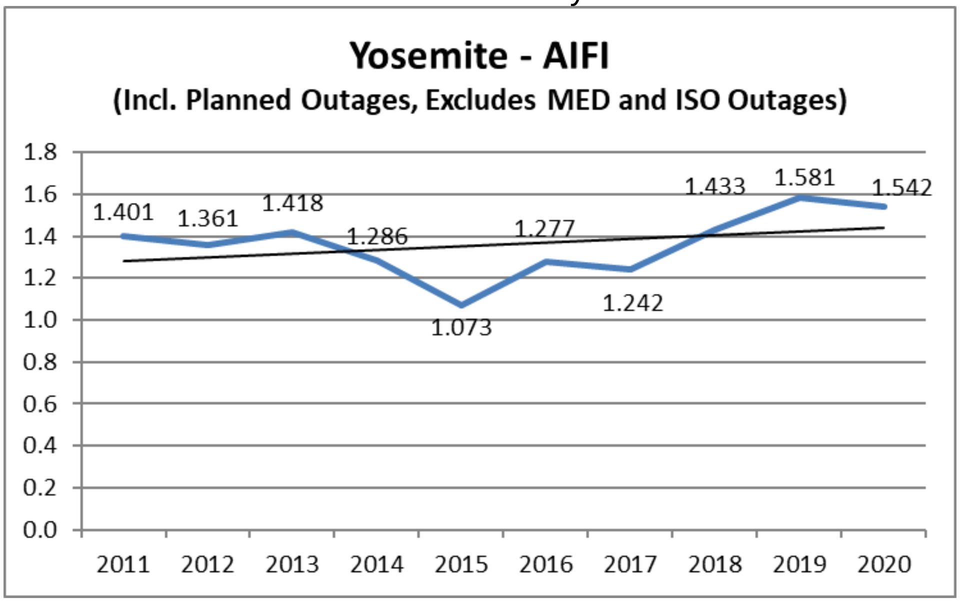
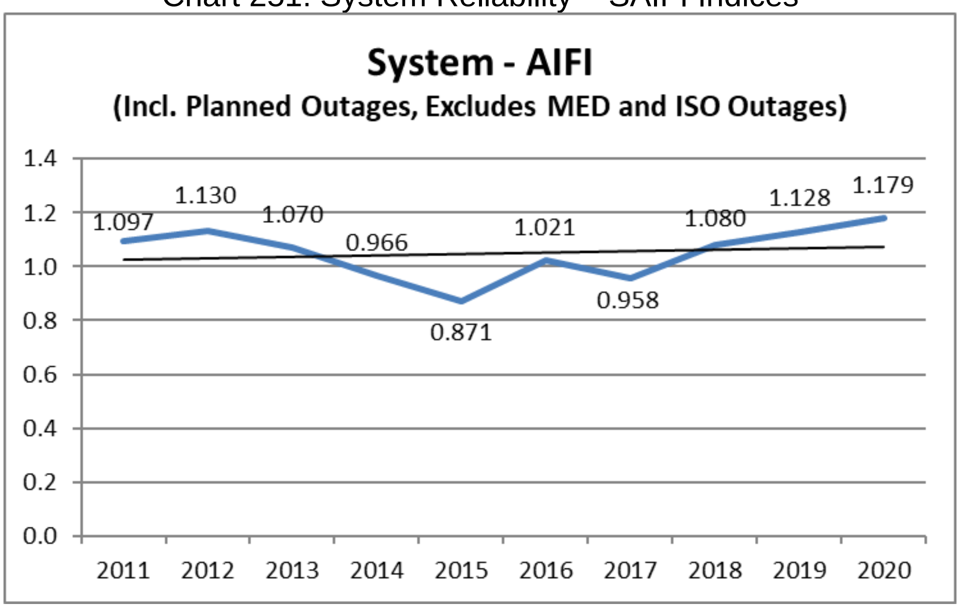


Chart 251: System Reliability – SAIFI Indices



3. MAIFI[10] Performance Results (MED Excluded)

Chart 252: Division Reliability – MAIFI Indices

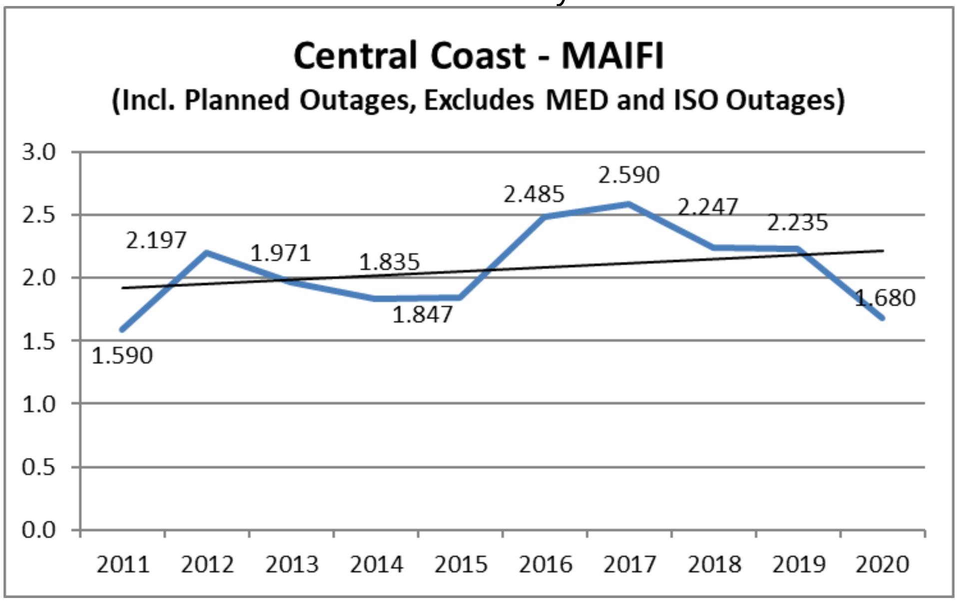
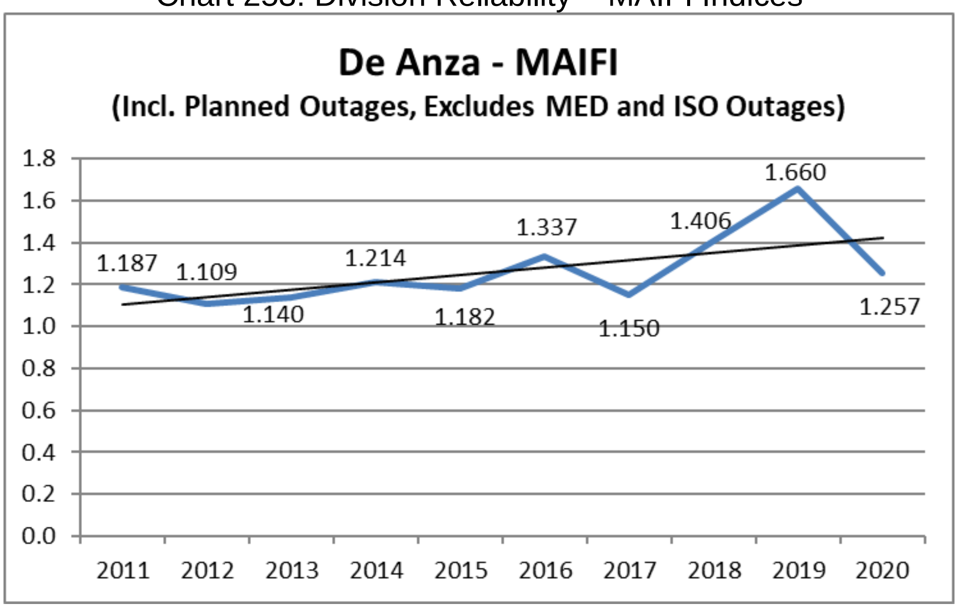


Chart 253: Division Reliability – MAIFI Indices



10 See footnote 4.

Chart 254: Division Reliability – MAIFI Indices

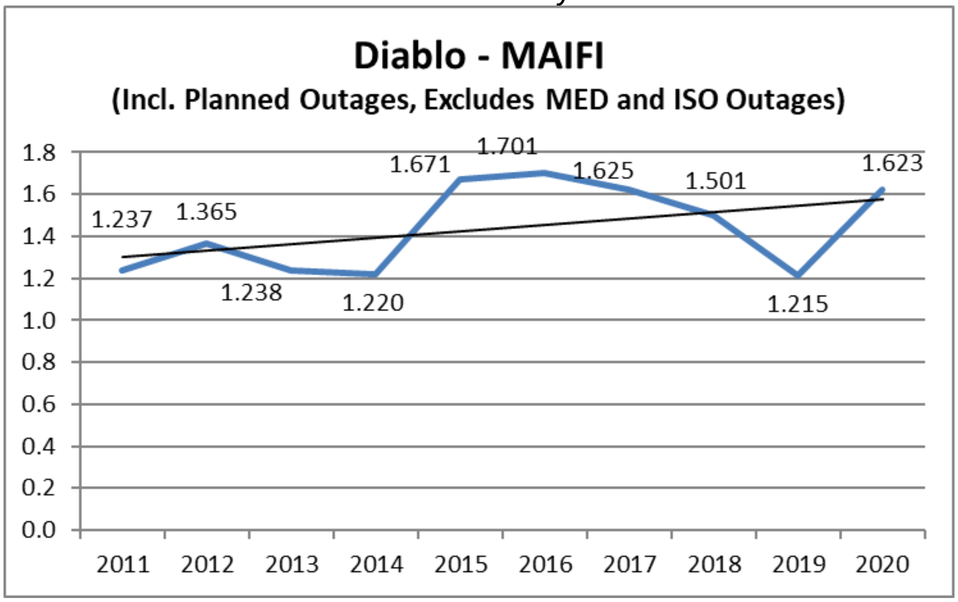


Chart 255: Division Reliability – MAIFI Indices

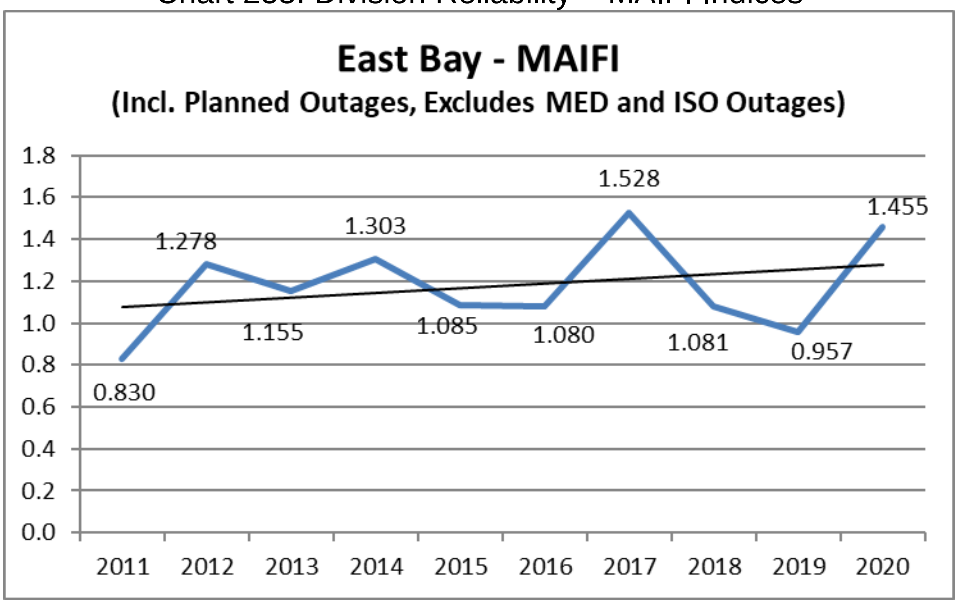


Chart 256: Division Reliability – MAIFI Indices

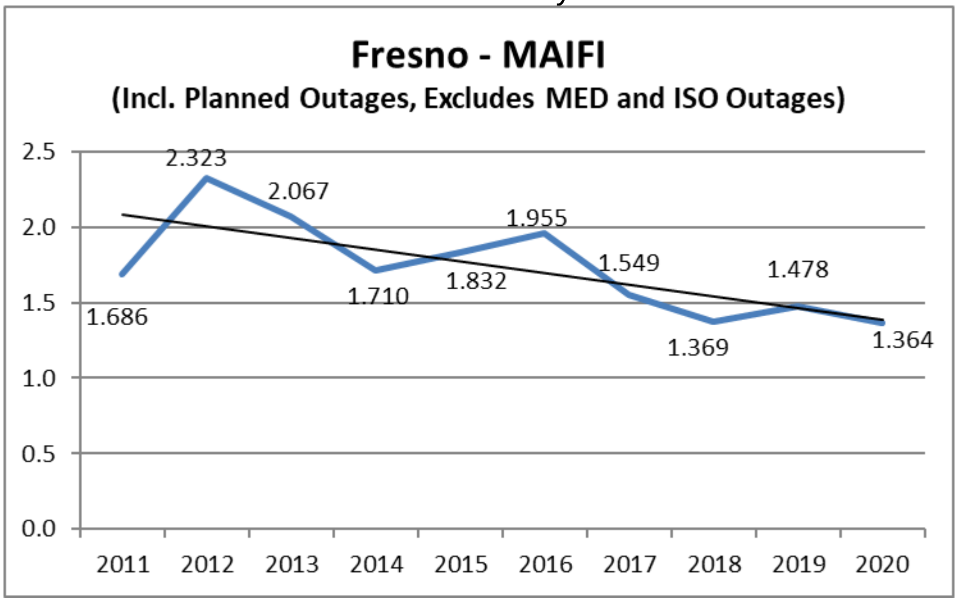


Chart 257: Division Reliability – MAIFI Indices

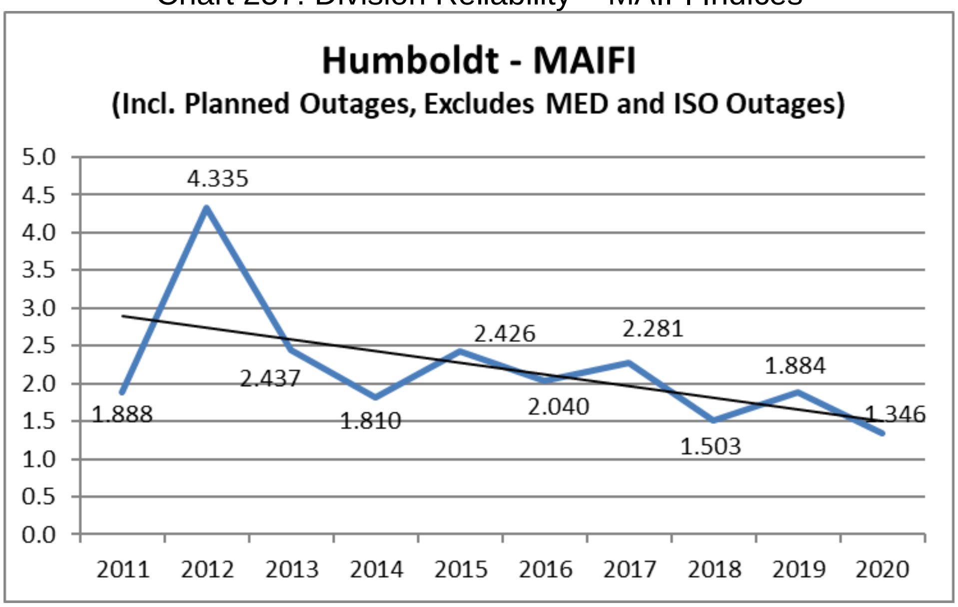


Chart 258: Division Reliability – MAIFI Indices

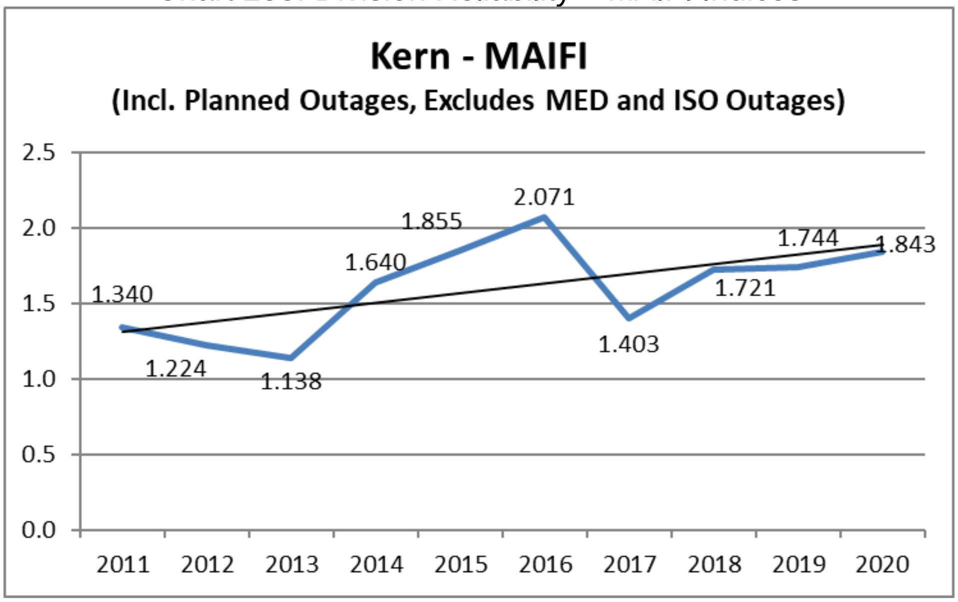


Chart 259: Division Reliability – MAIFI Indices

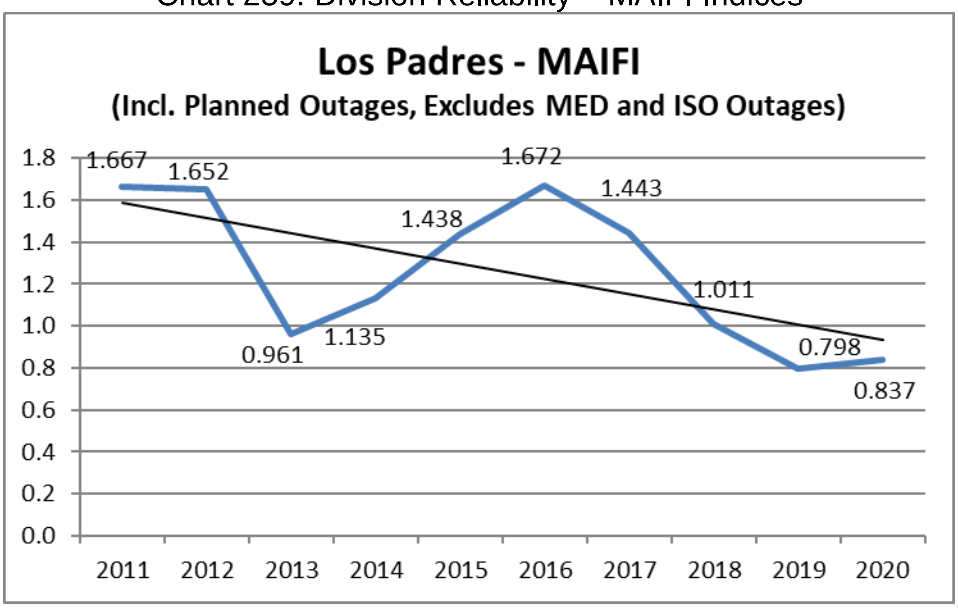


Chart 260: Division Reliability – MAIFI Indices

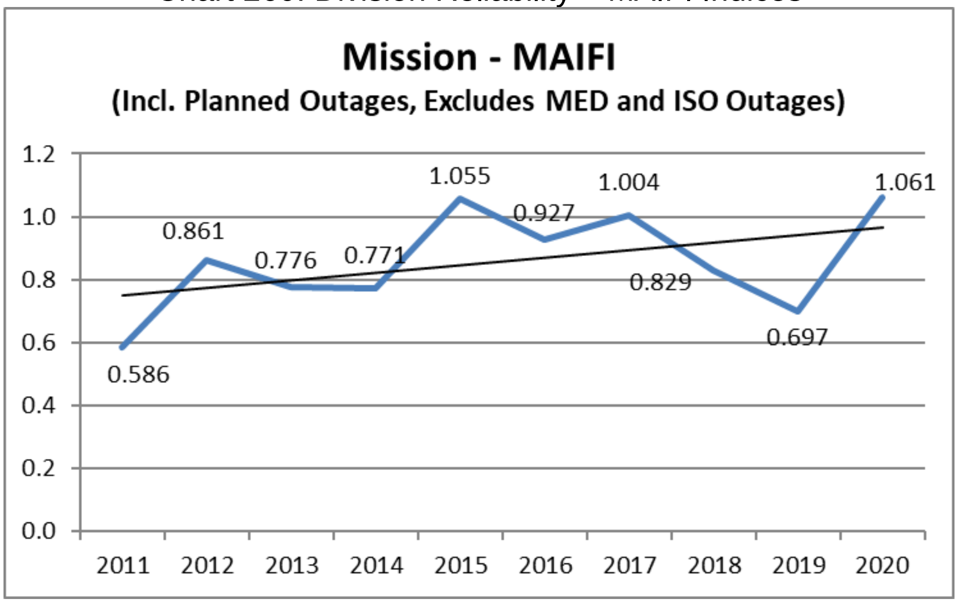


Chart 261: Division Reliability – MAIFI Indices

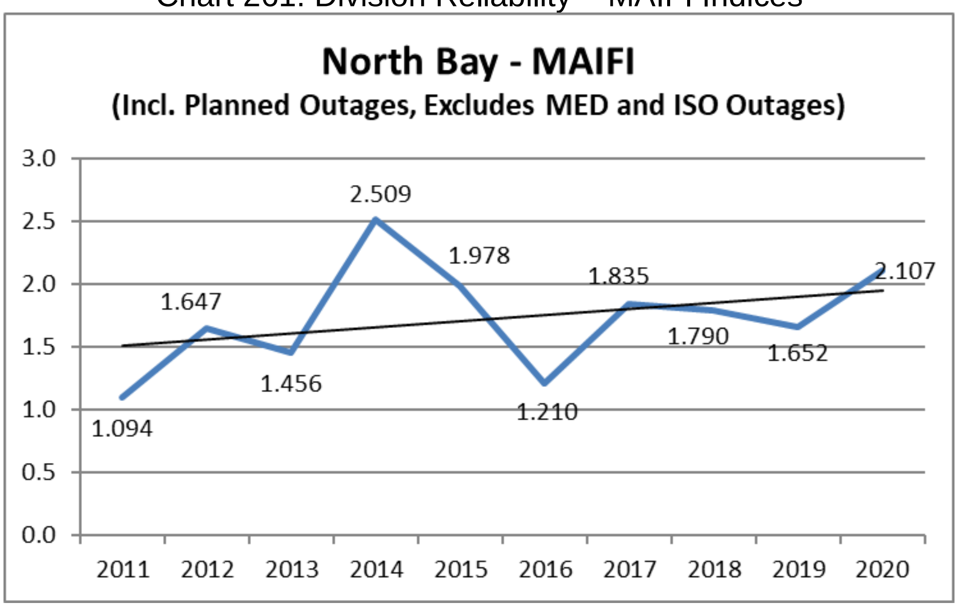


Chart 262: Division Reliability – MAIFI Indices

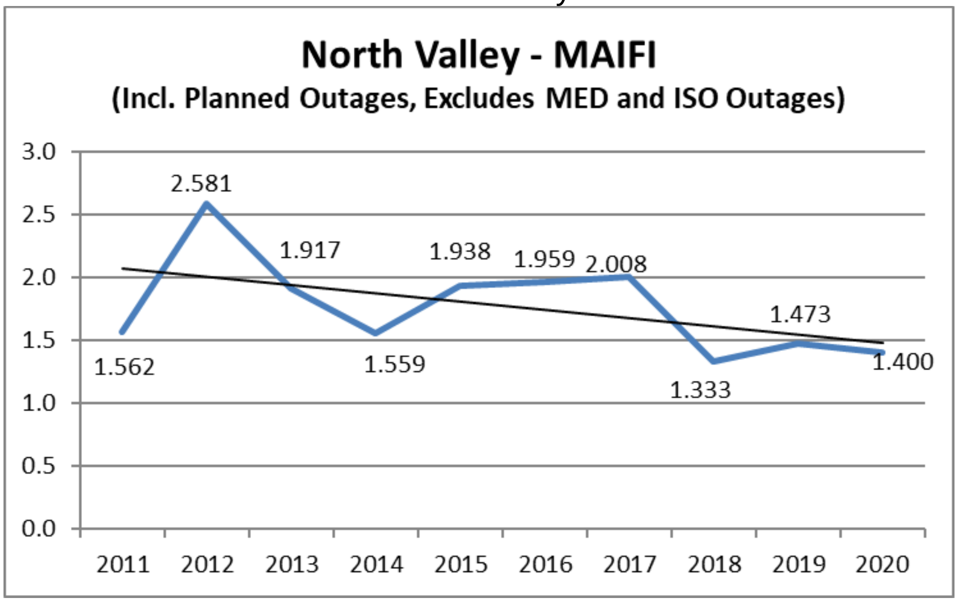


Chart 263: Division Reliability – MAIFI Indices

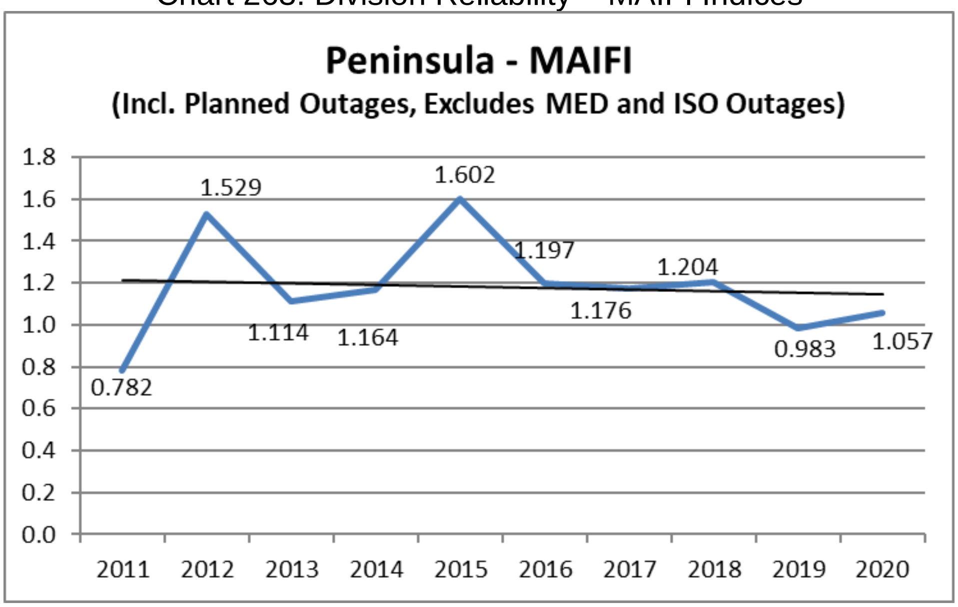


Chart 264: Division Reliability – MAIFI Indices

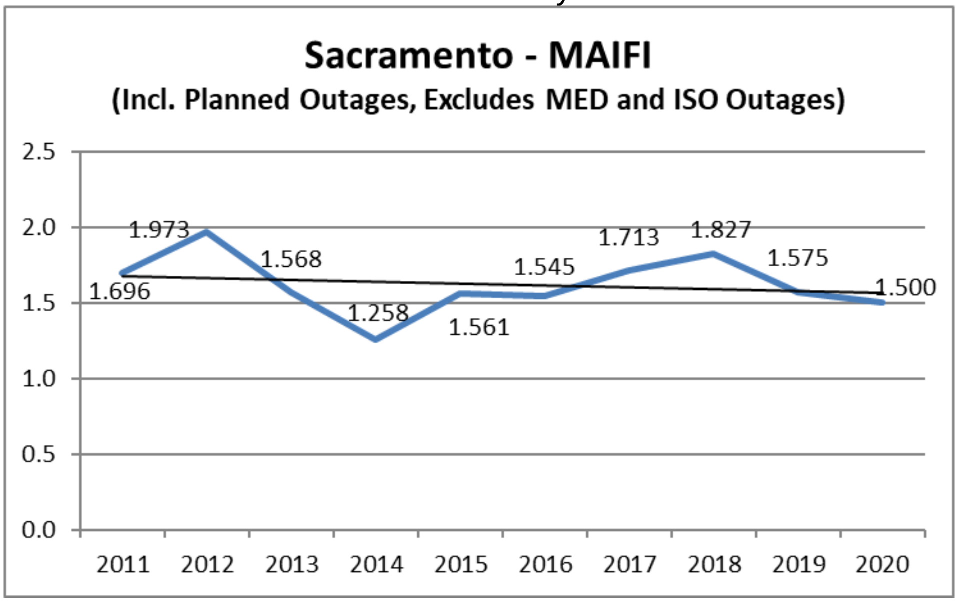


Chart 265: Division Reliability – MAIFI Indices

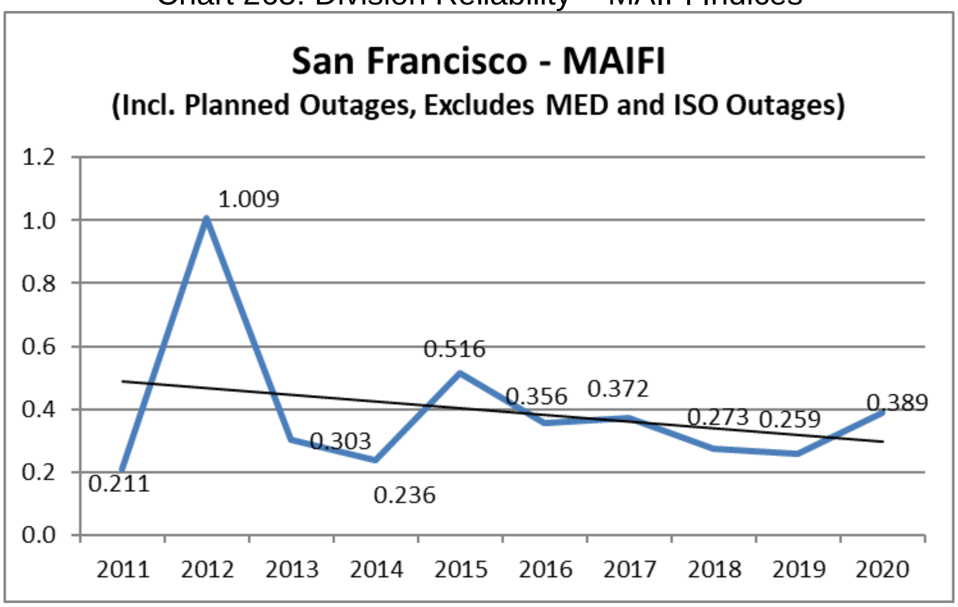


Chart 266: Division Reliability – MAIFI Indices

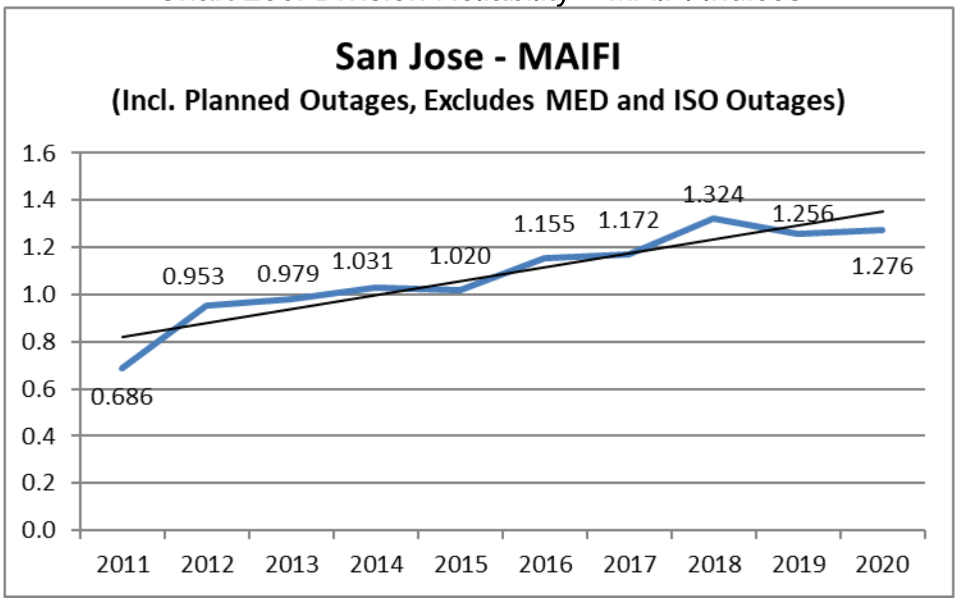


Chart 267: Division Reliability – MAIFI Indices

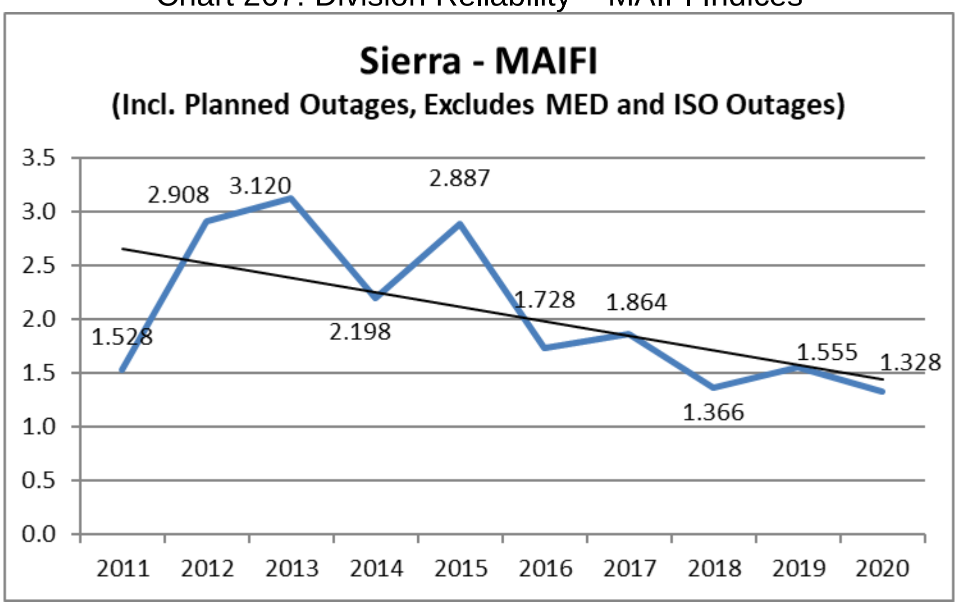


Chart 268: Division Reliability – MAIFI Indices

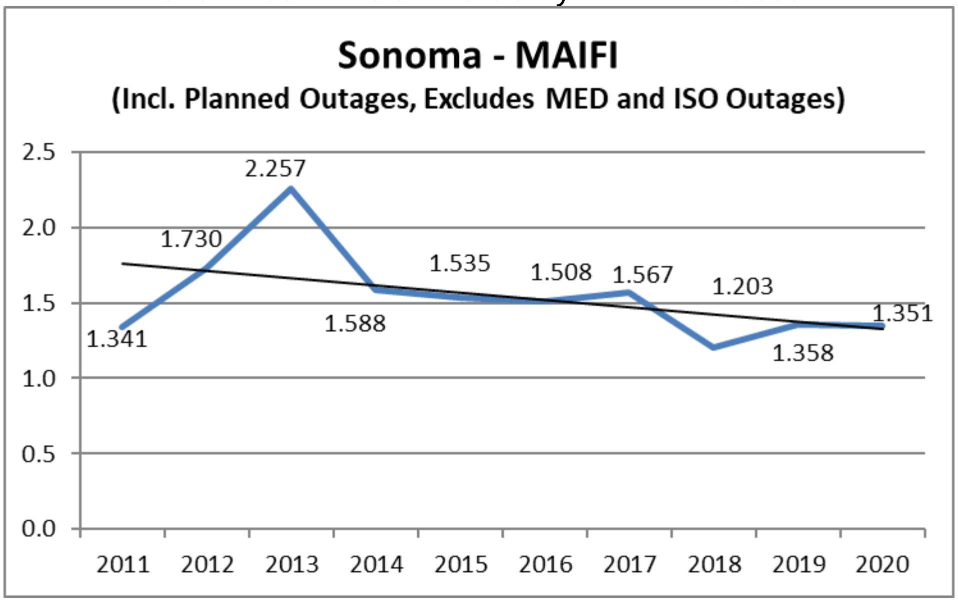


Chart 269: Division Reliability – MAIFI Indices

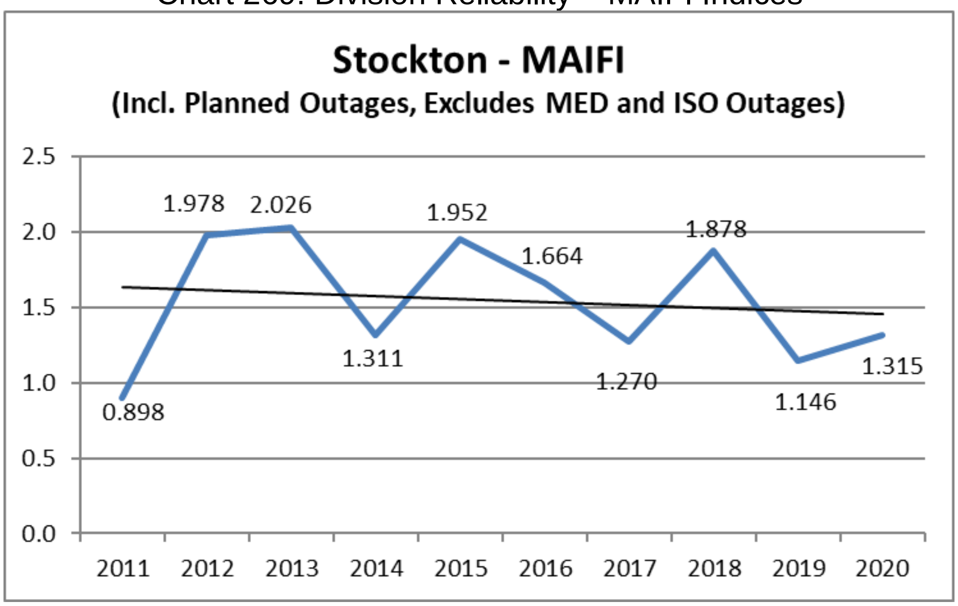


Chart 270: Division Reliability – MAIFI Indices

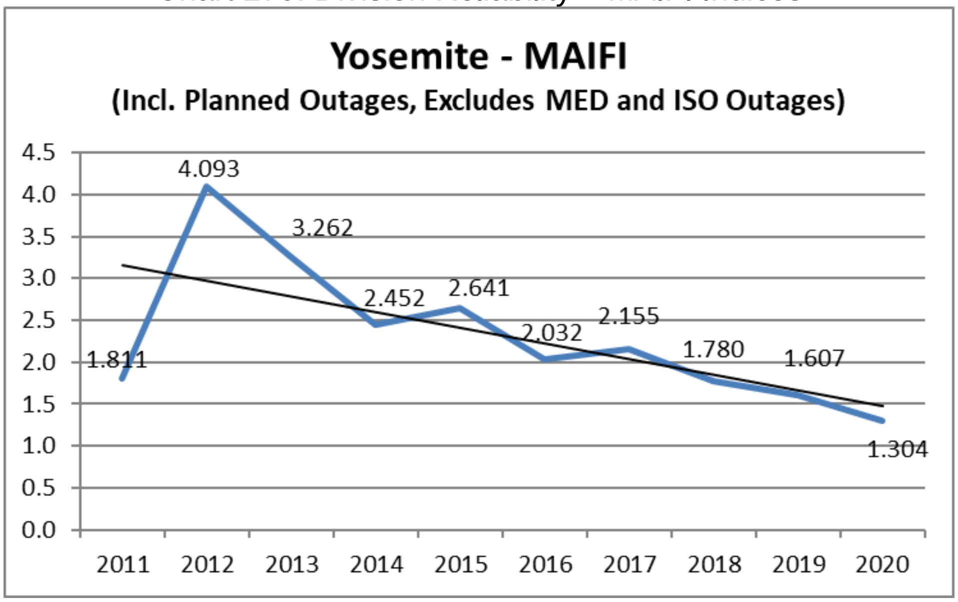
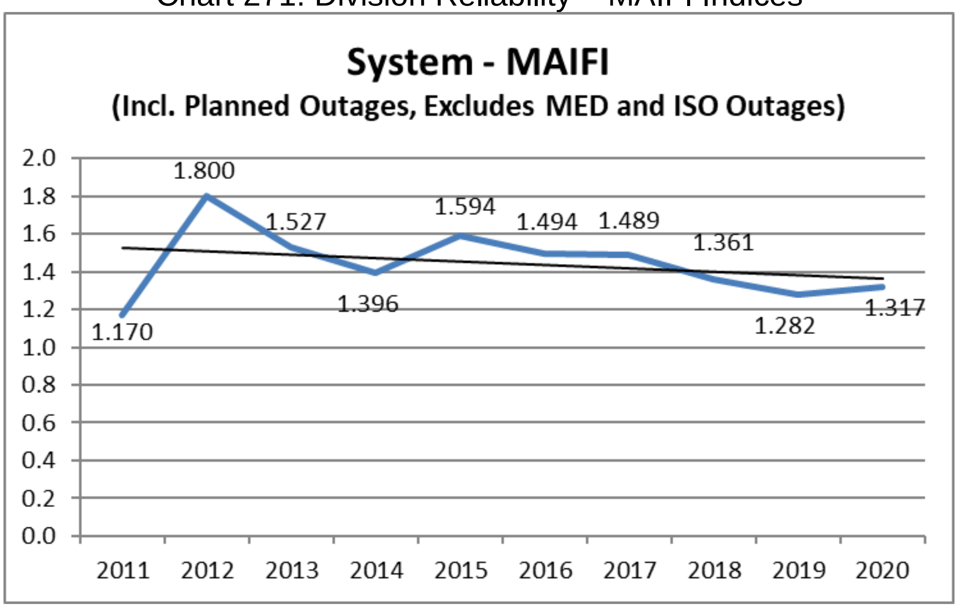


Chart 271: Division Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Excluded)

Chart 272: Division Reliability – CAIDI Indices

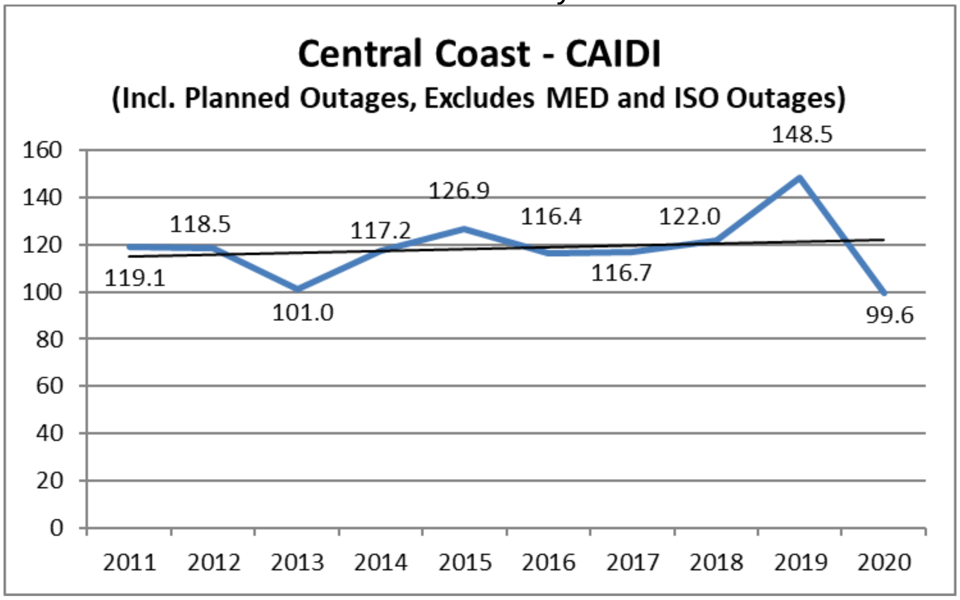


Chart 273: Division Reliability – CAIDI Indices

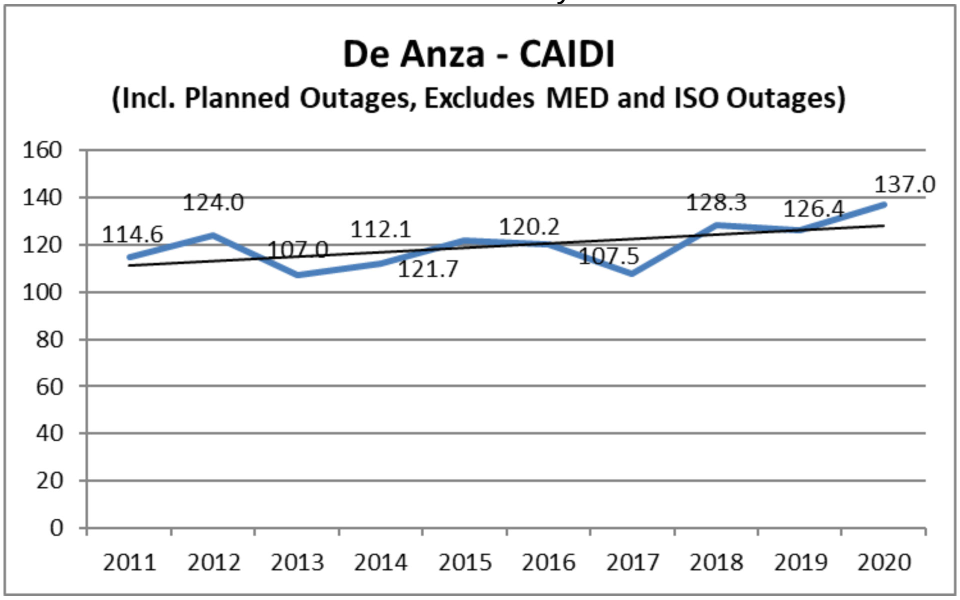


Chart 274: Division Reliability – CAIDI Indices

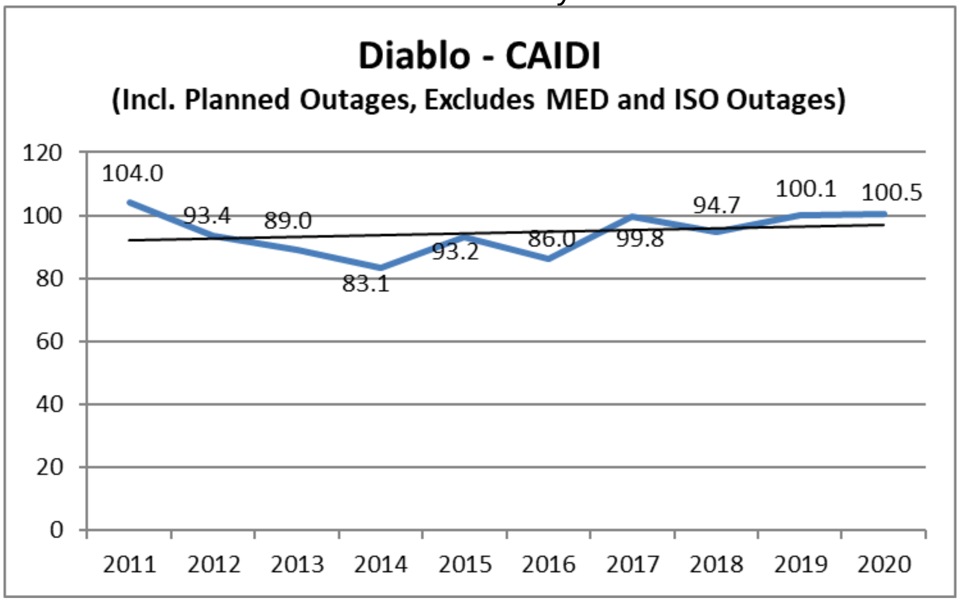


Chart 275: Division Reliability – CAIDI Indices

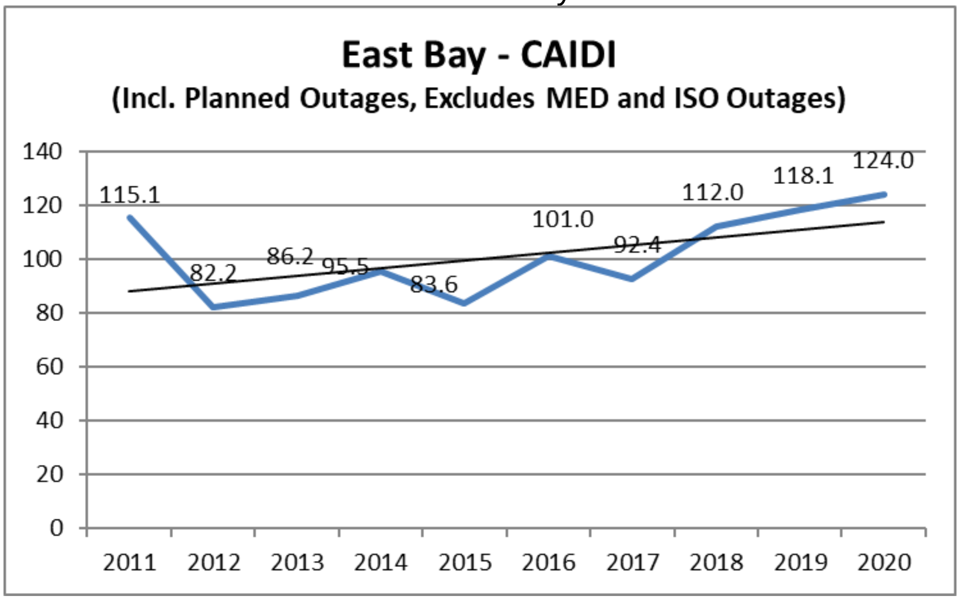


Chart 276: Division Reliability – CAIDI Indices

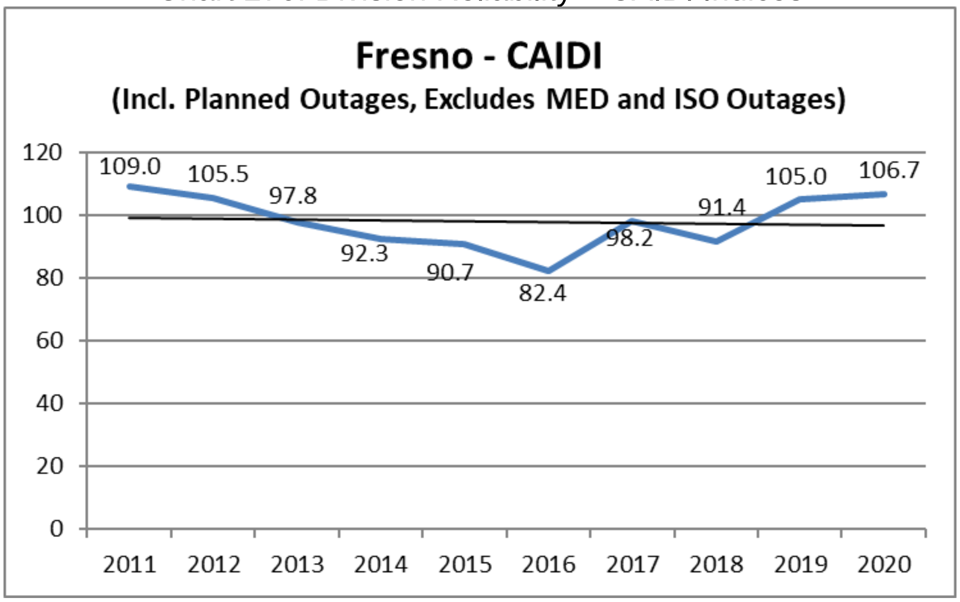


Chart 277: Division Reliability – CAIDI Indices

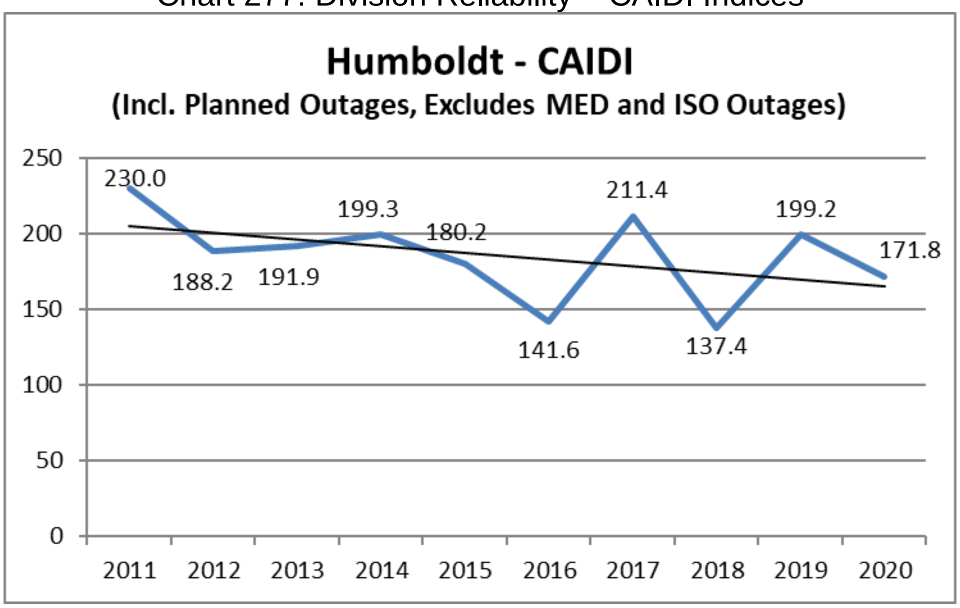


Chart 278: Division Reliability – CAIDI Indices

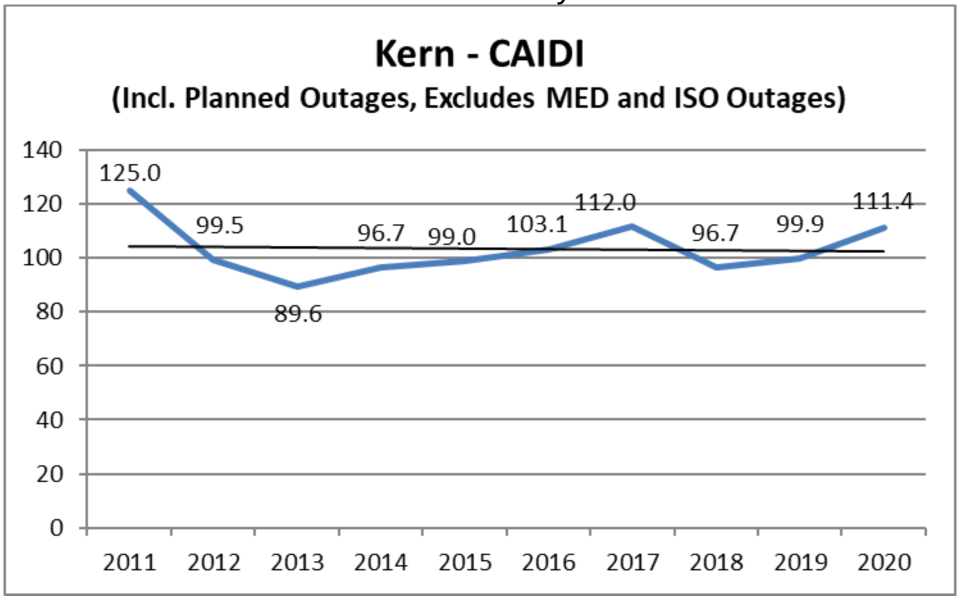


Chart 279: Division Reliability – CAIDI Indices

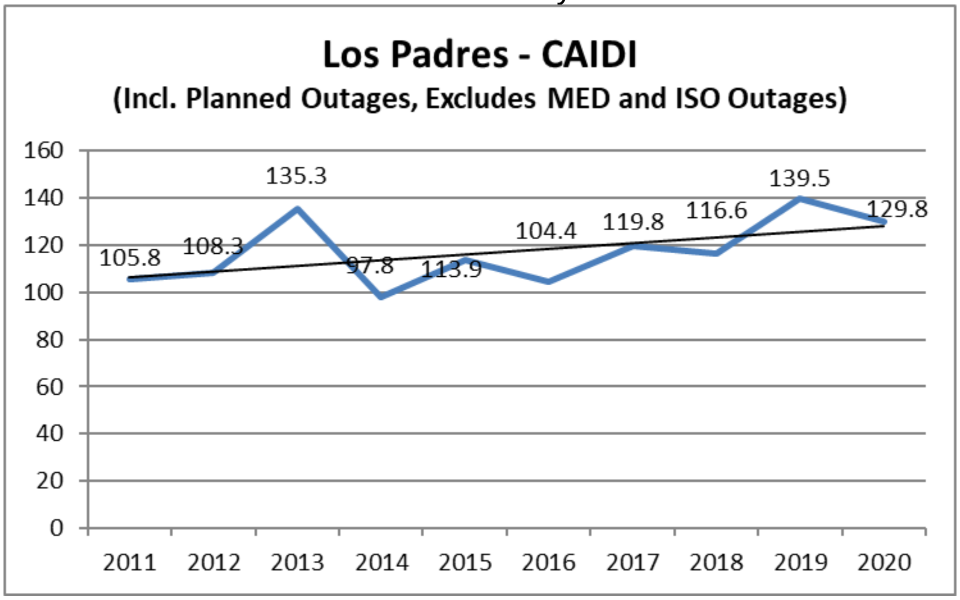


Chart 280: Division Reliability – CAIDI Indices

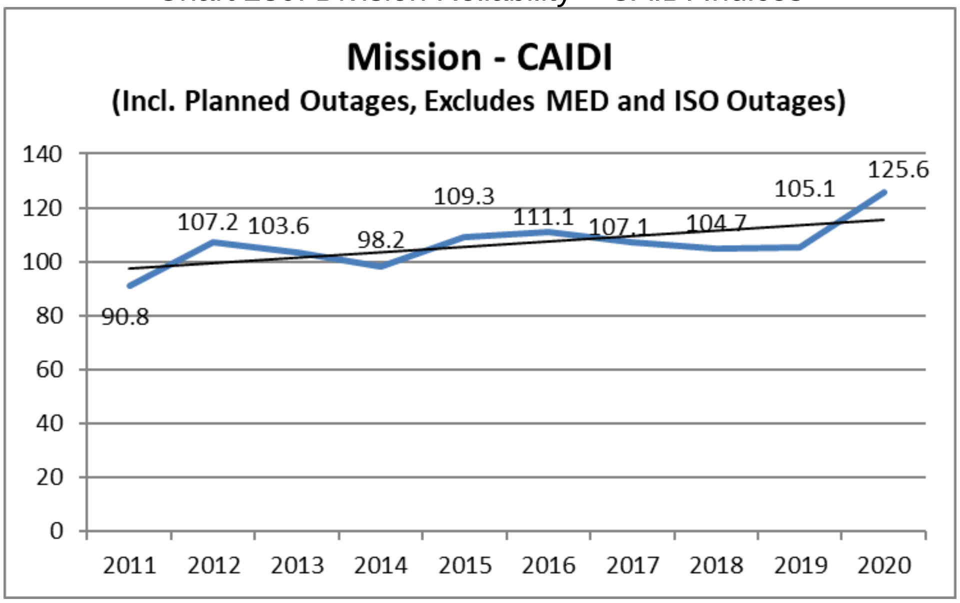


Chart 281: Division Reliability – CAIDI Indices

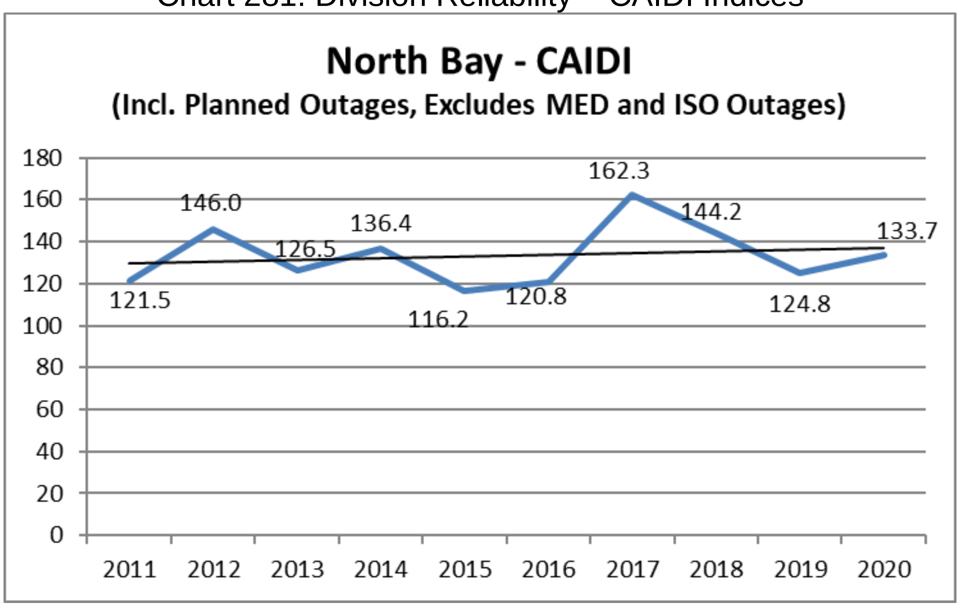


Chart 282: Division Reliability – CAIDI Indices

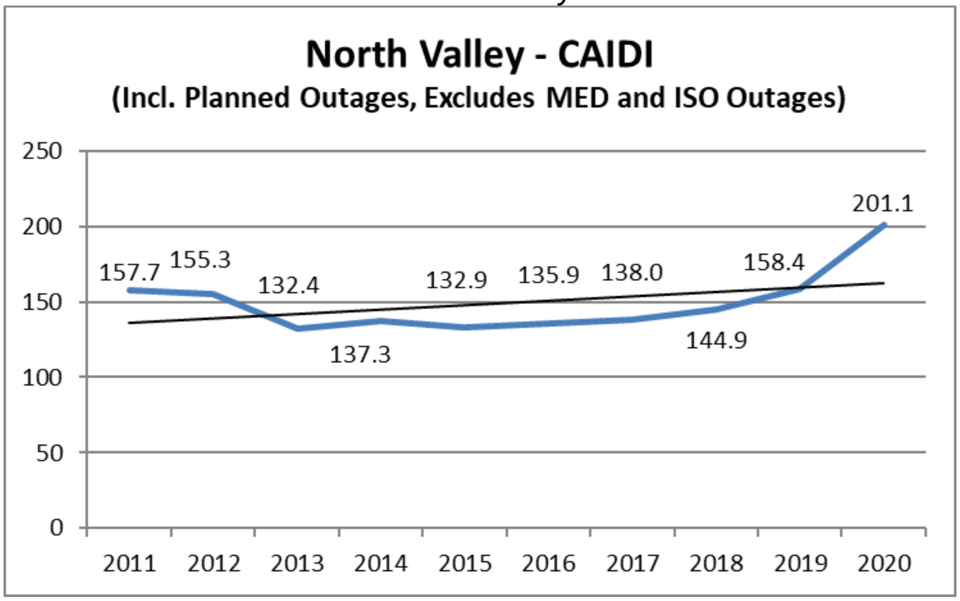


Chart 283: Division Reliability – CAIDI Indices

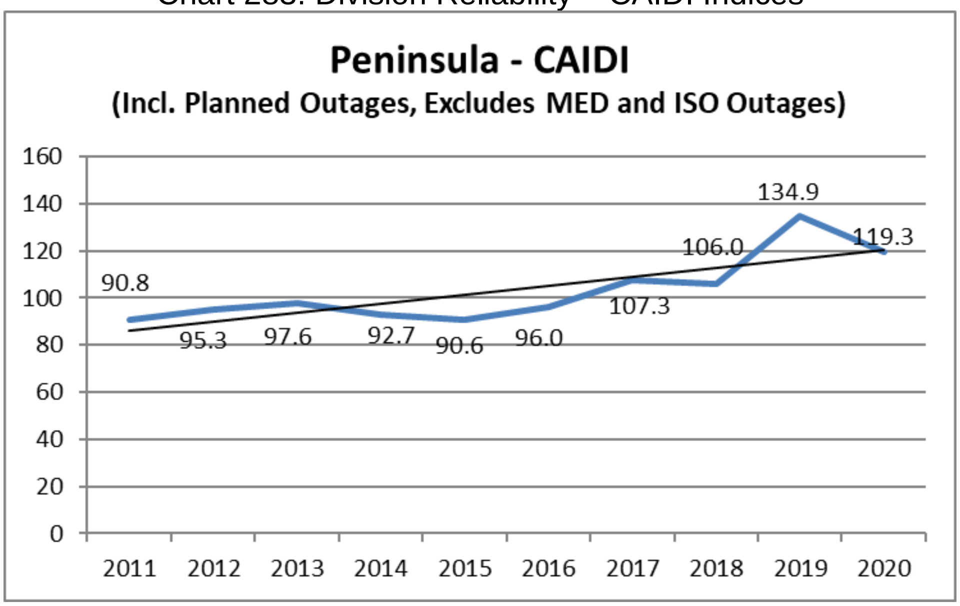


Chart 284: Division Reliability – CAIDI Indices

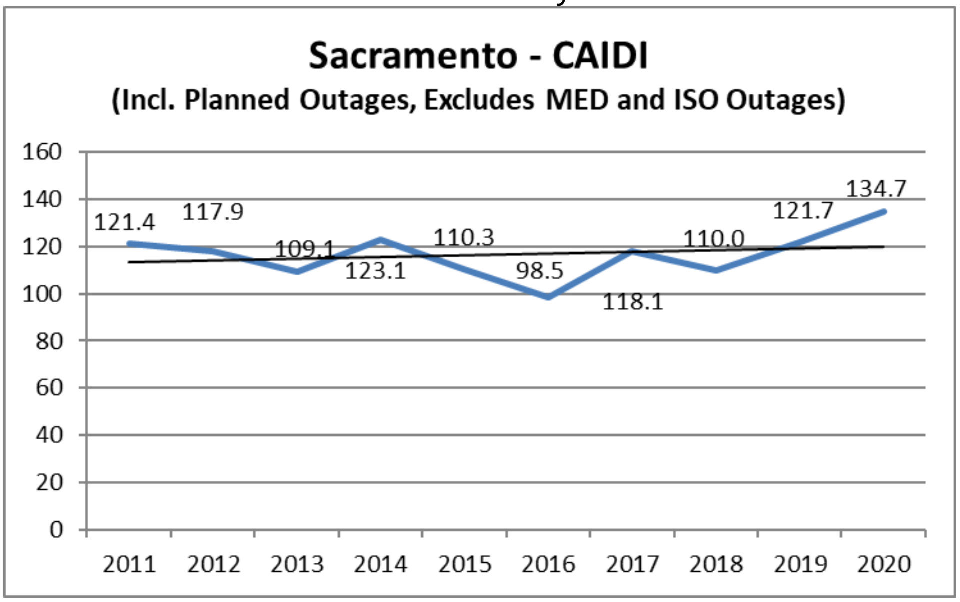


Chart 285: Division Reliability – CAIDI Indices

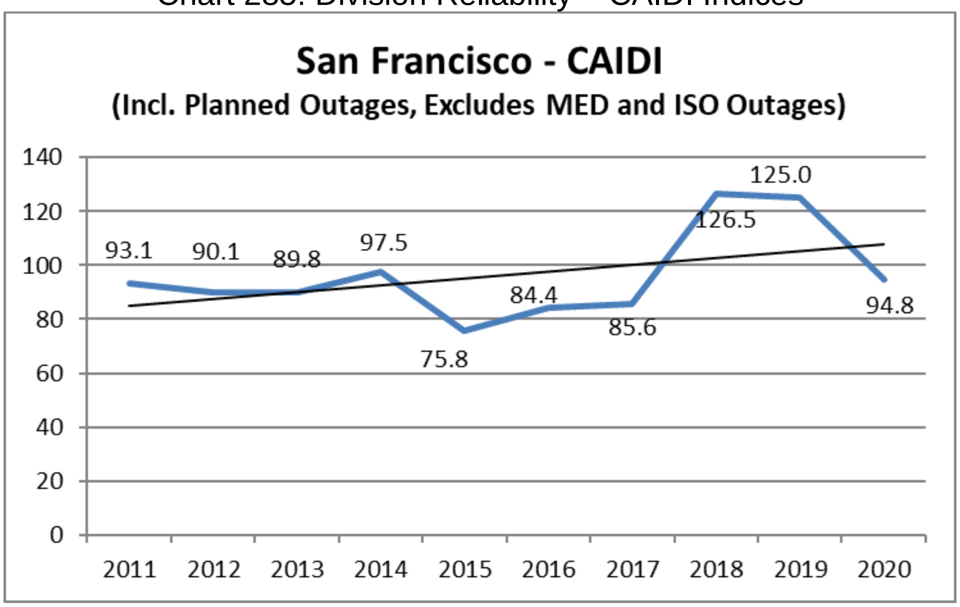


Chart 286: Division Reliability – CAIDI Indices

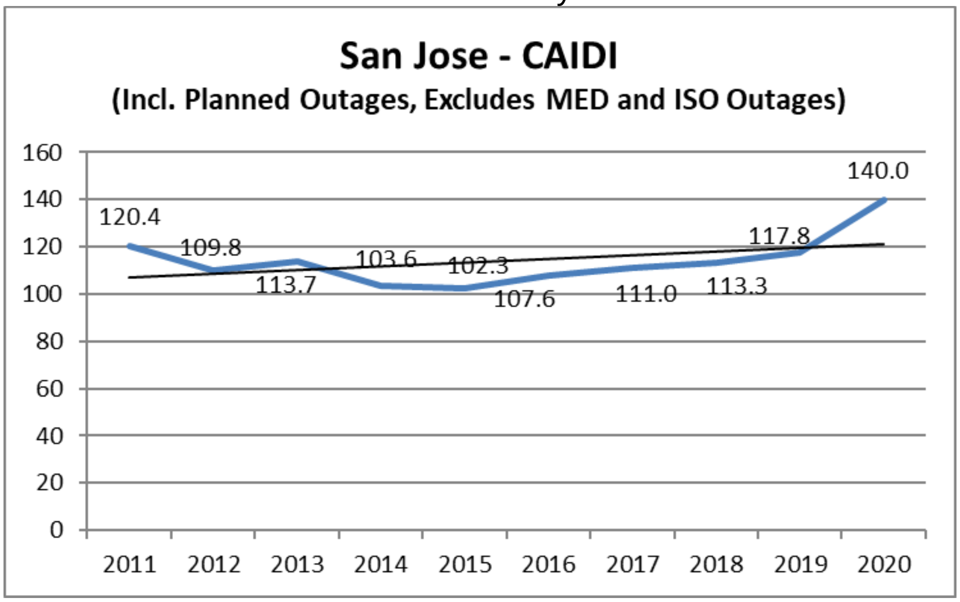


Chart 287: Division Reliability – CAIDI Indices

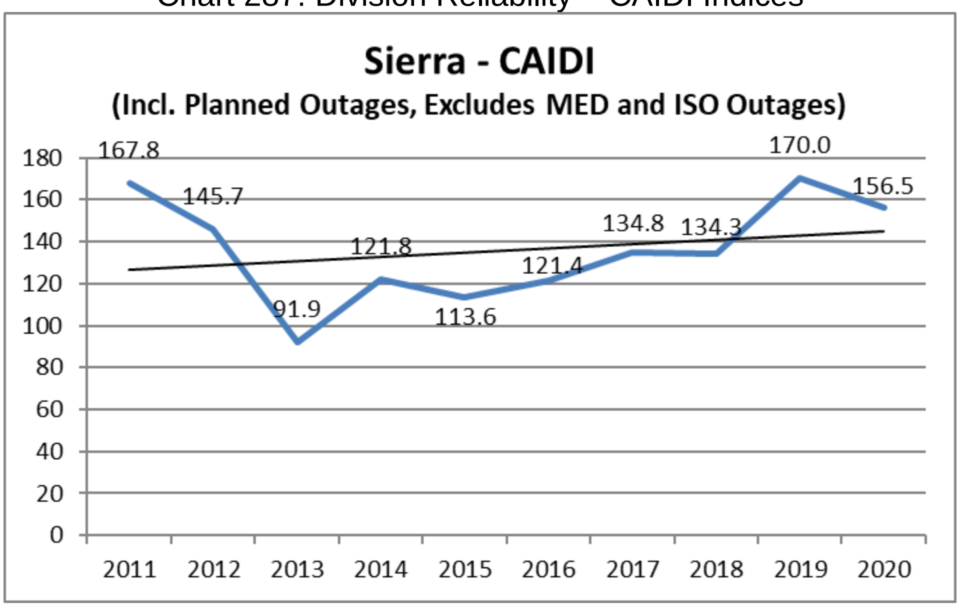


Chart 288: Division Reliability – CAIDI Indices

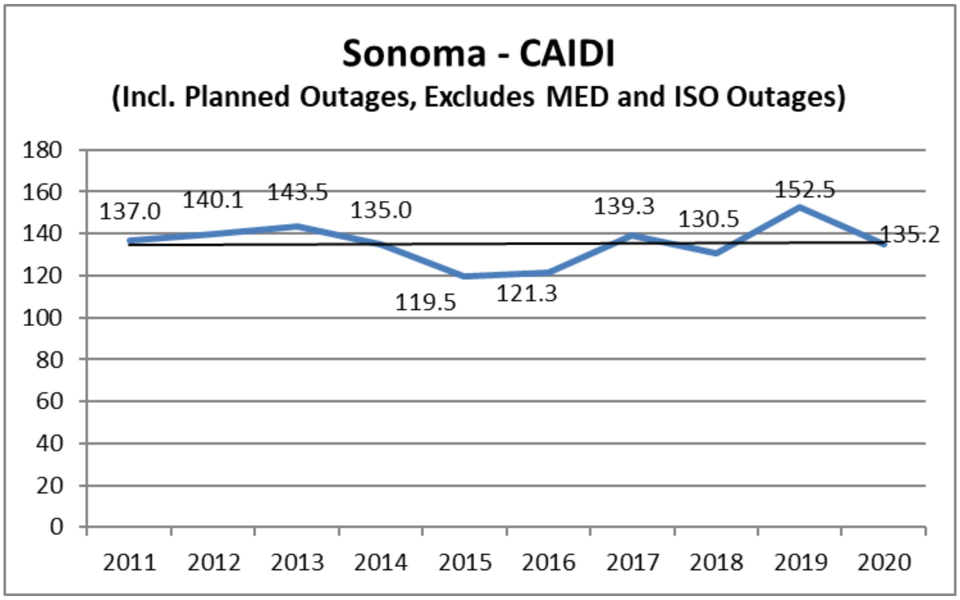


Chart 289: Division Reliability – CAIDI Indices

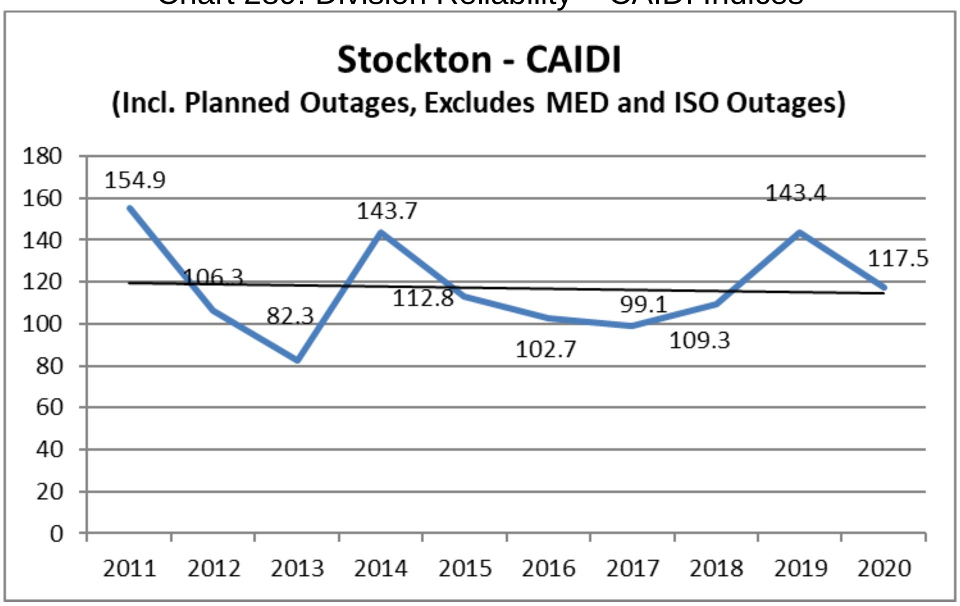


Chart 290: Division Reliability – CAIDI Indices

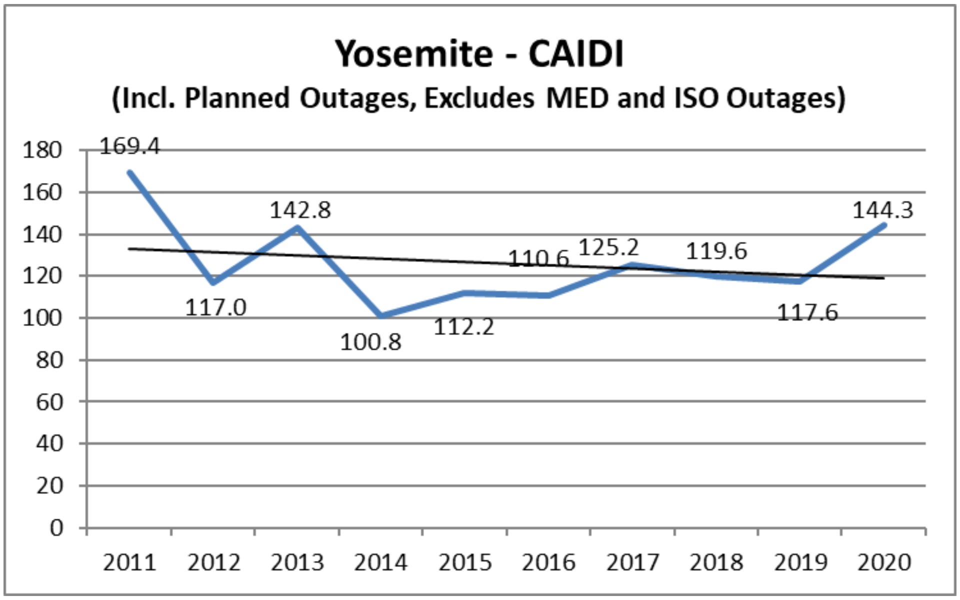
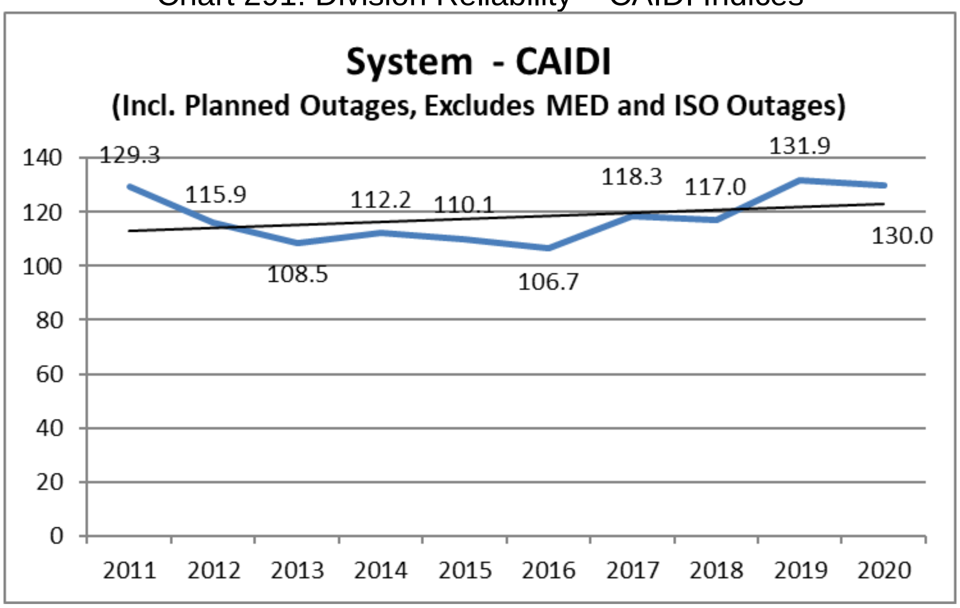


Chart 291: Division Reliability – CAIDI Indices



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

1. SAIDI Performance Results <u>(MED Included)</u>

Chart 292: Division Reliability – AIDI Indices

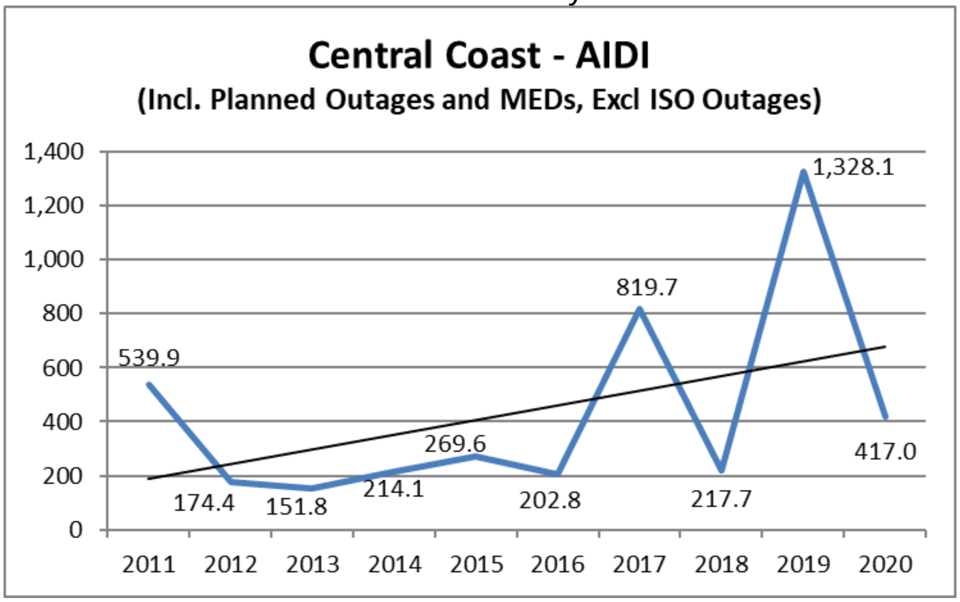


Chart 293: Division Reliability – AIDI Indices

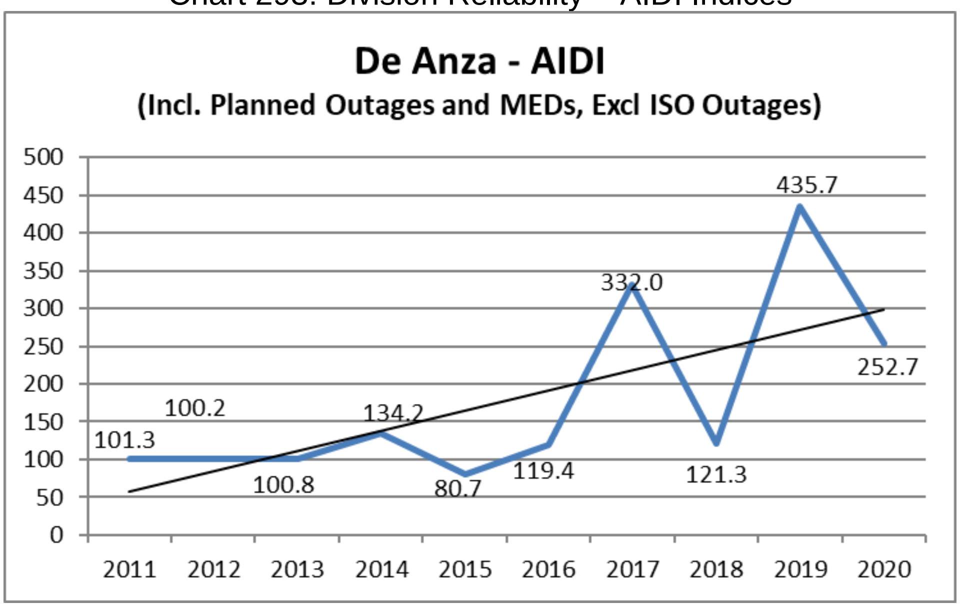


Chart 294: Division Reliability – AIDI Indices

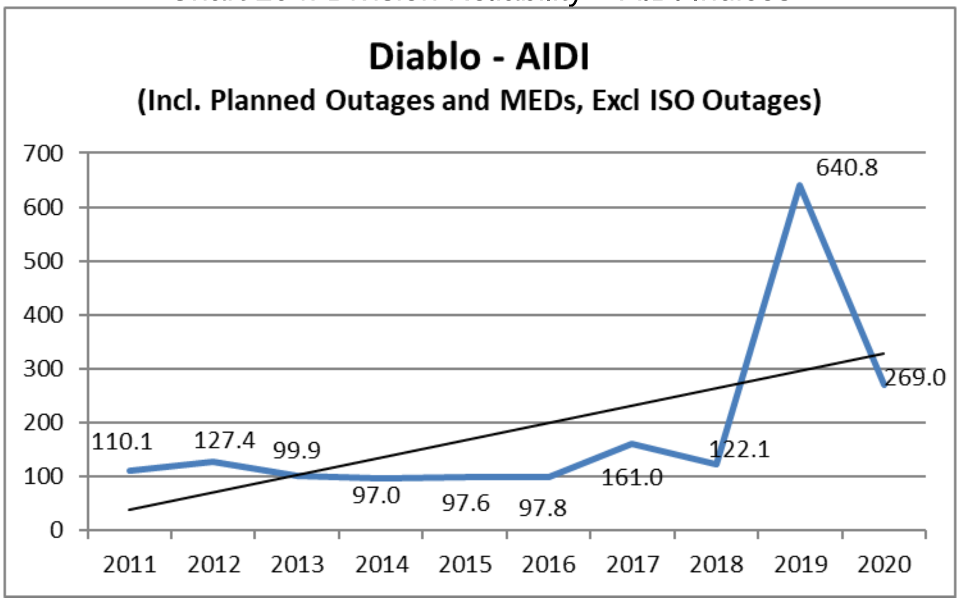


Chart 295: Division Reliability – AIDI Indices

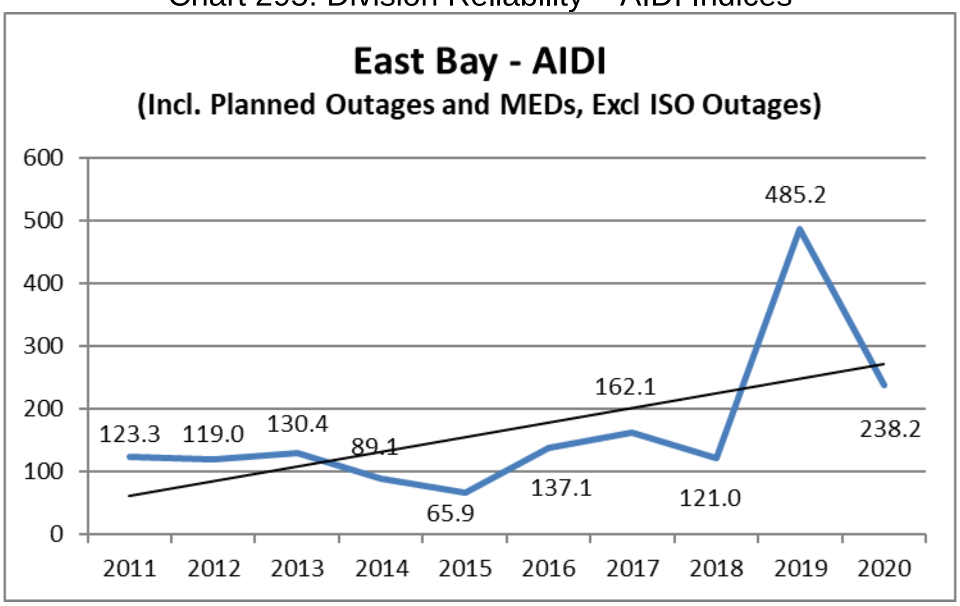


Chart 296: Division Reliability – AIDI Indices

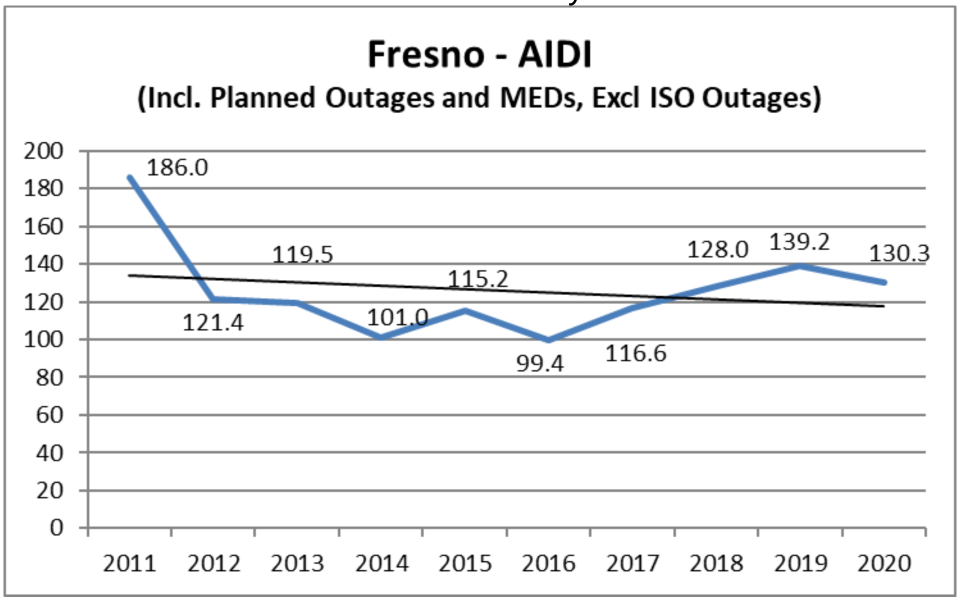


Chart 297: Division Reliability – AIDI Indices

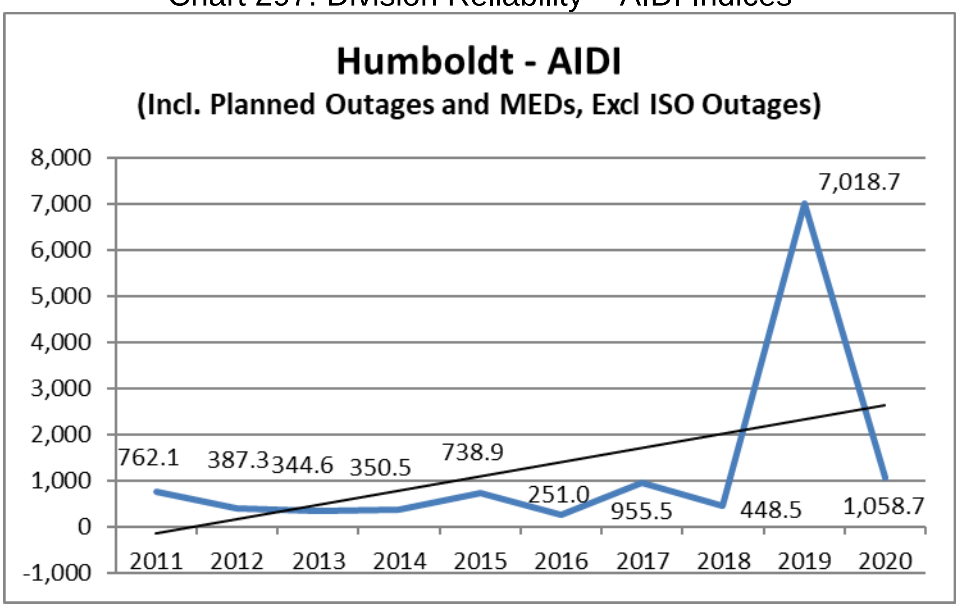


Chart 298: Division Reliability – AIDI Indices

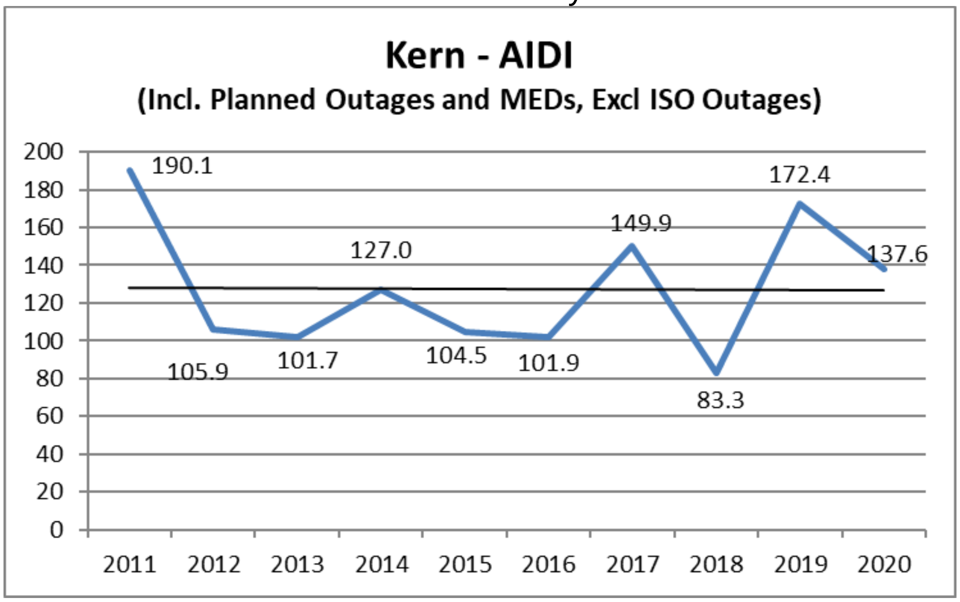


Chart 299: Division Reliability – AIDI Indices

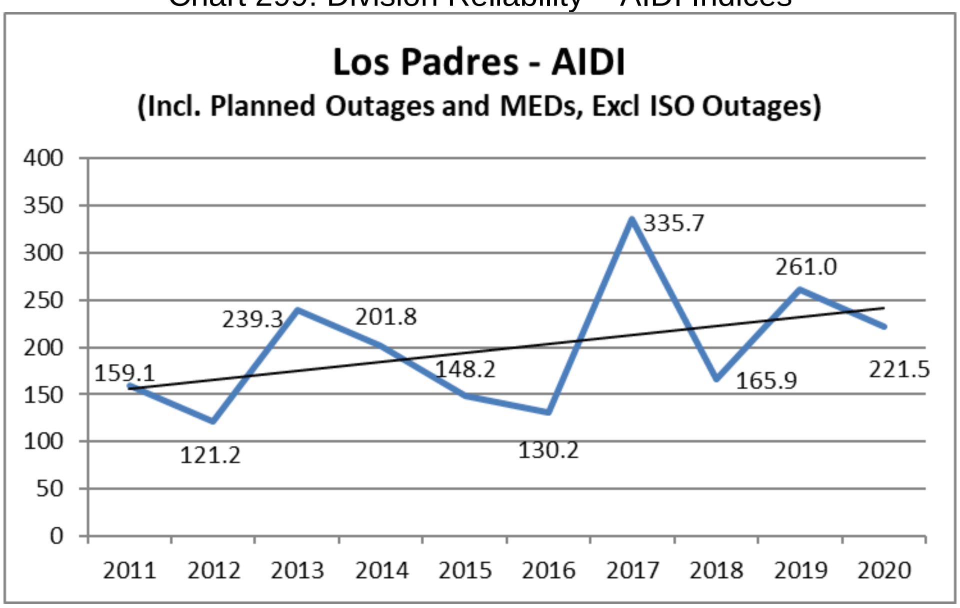


Chart 300: Division Reliability – AIDI Indices

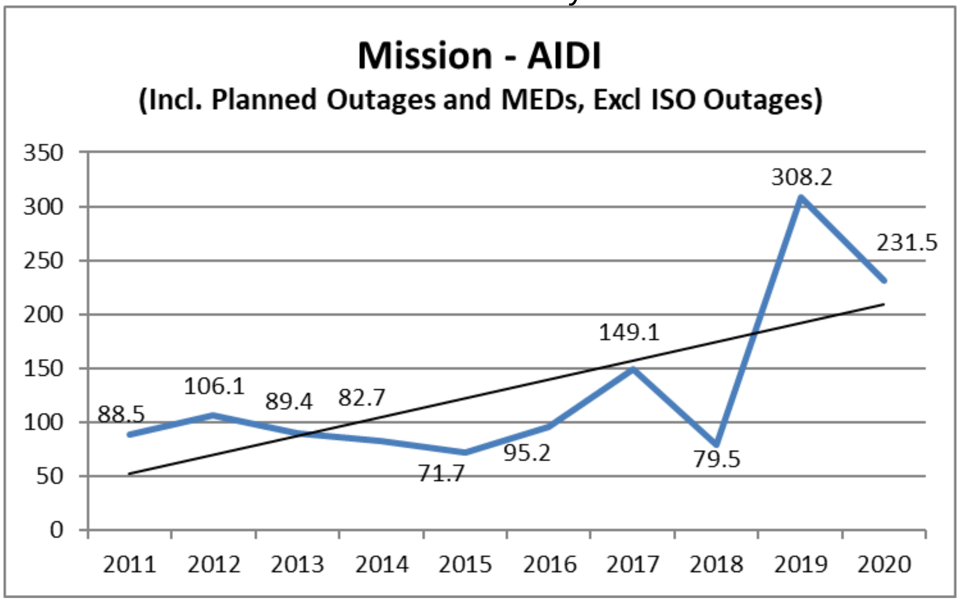


Chart 301: Division Reliability – AIDI Indices

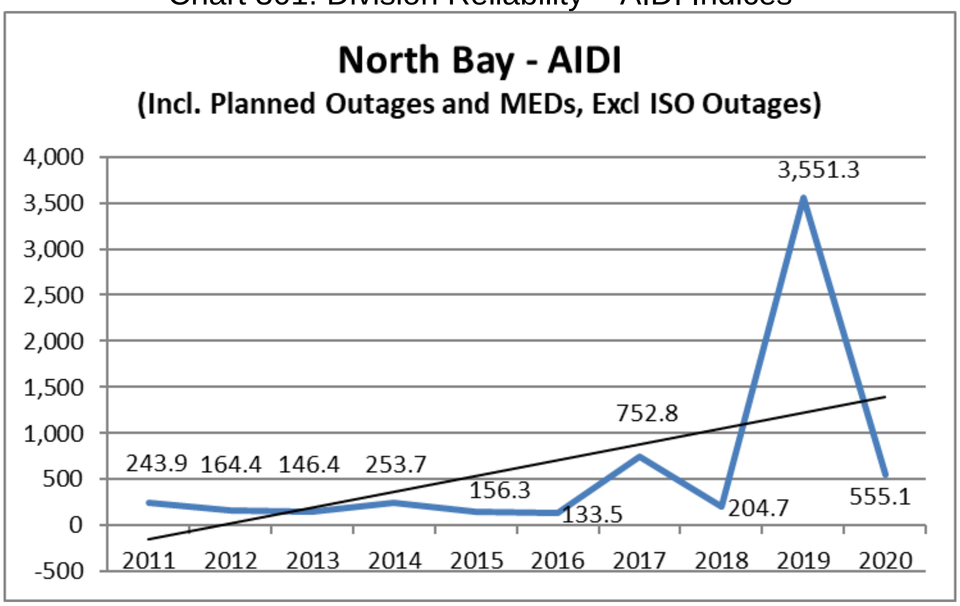


Chart 302: Division Reliability – AIDI Indices

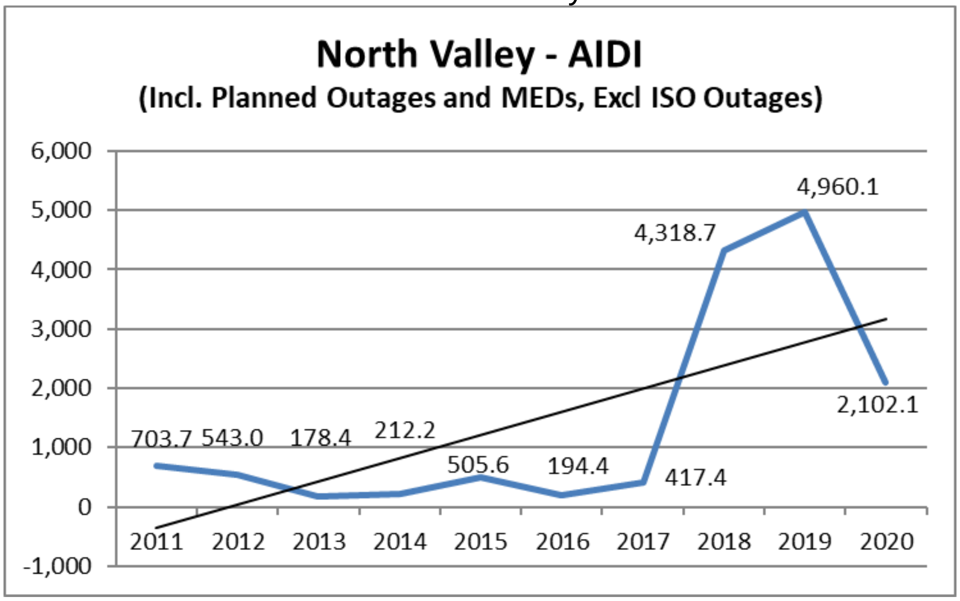


Chart 303: Division Reliability – AIDI Indices

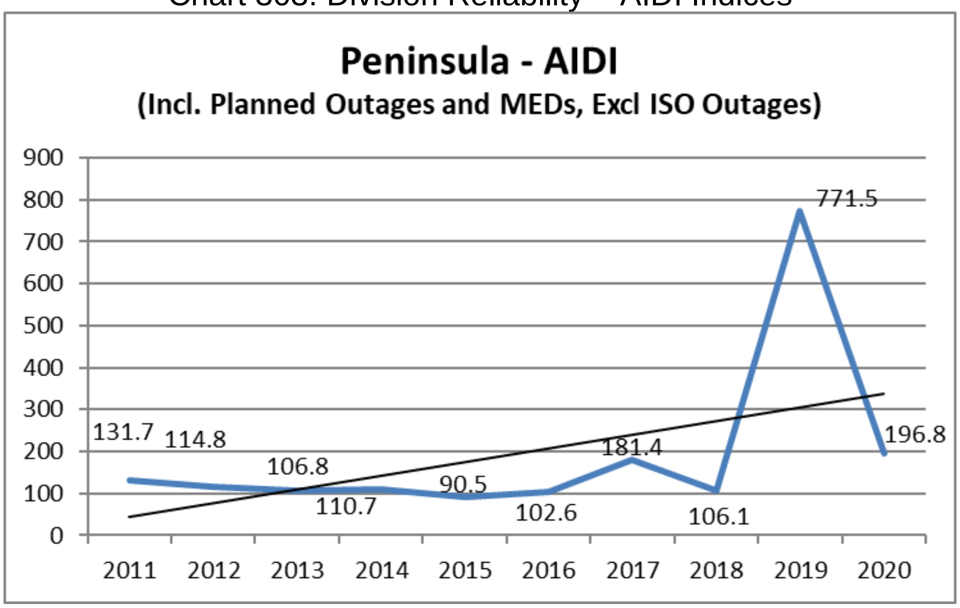


Chart 304: Division Reliability – AIDI Indices

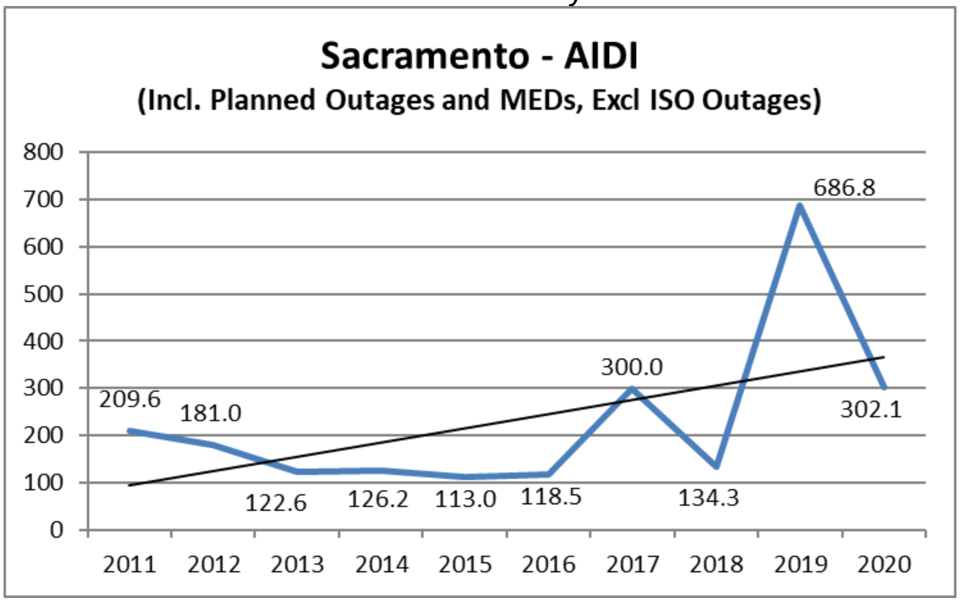


Chart 305: Division Reliability – AIDI Indices

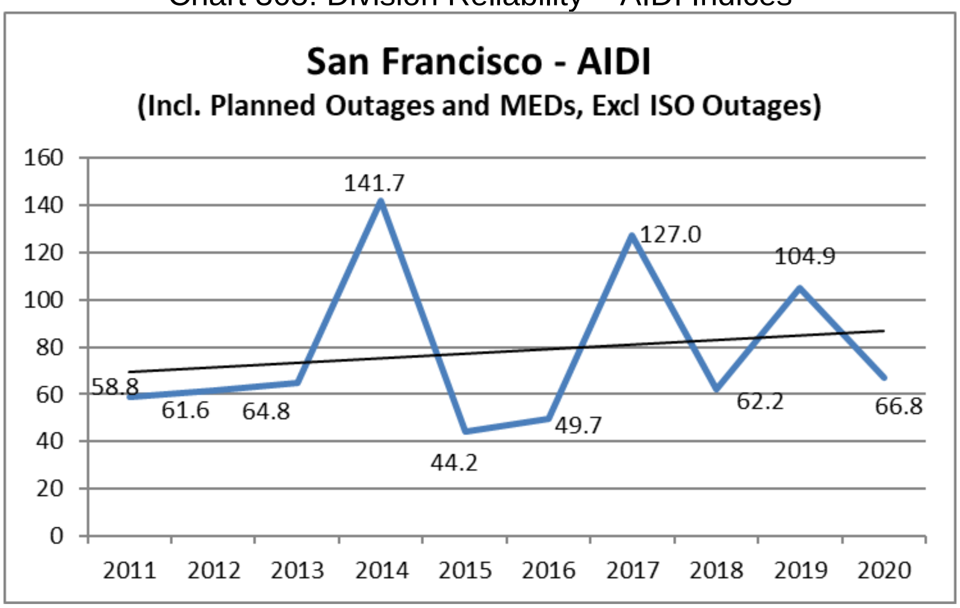


Chart 306: Division Reliability – AIDI Indices

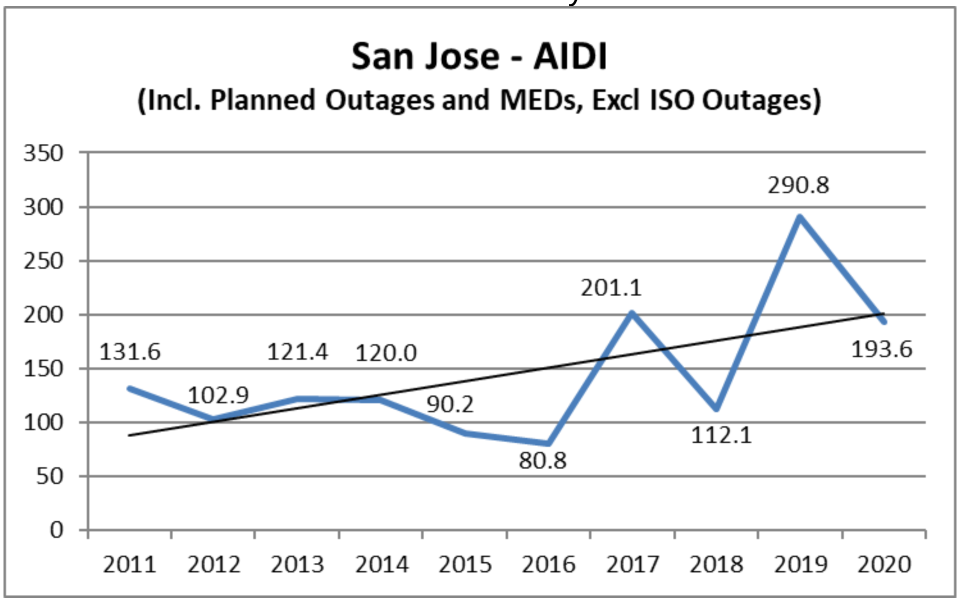


Chart 307: Division Reliability – AIDI Indices

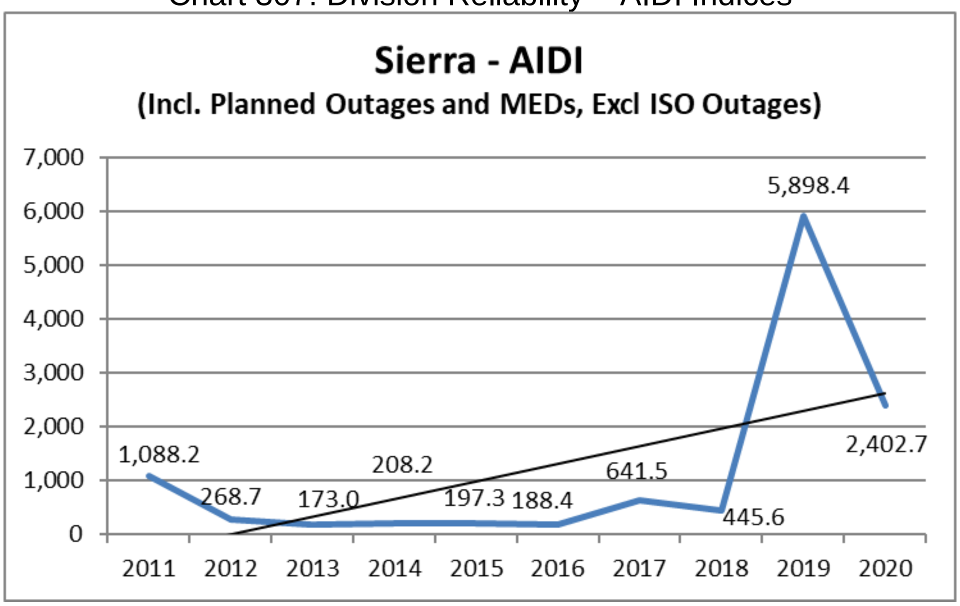


Chart 308: Division Reliability – AIDI Indices

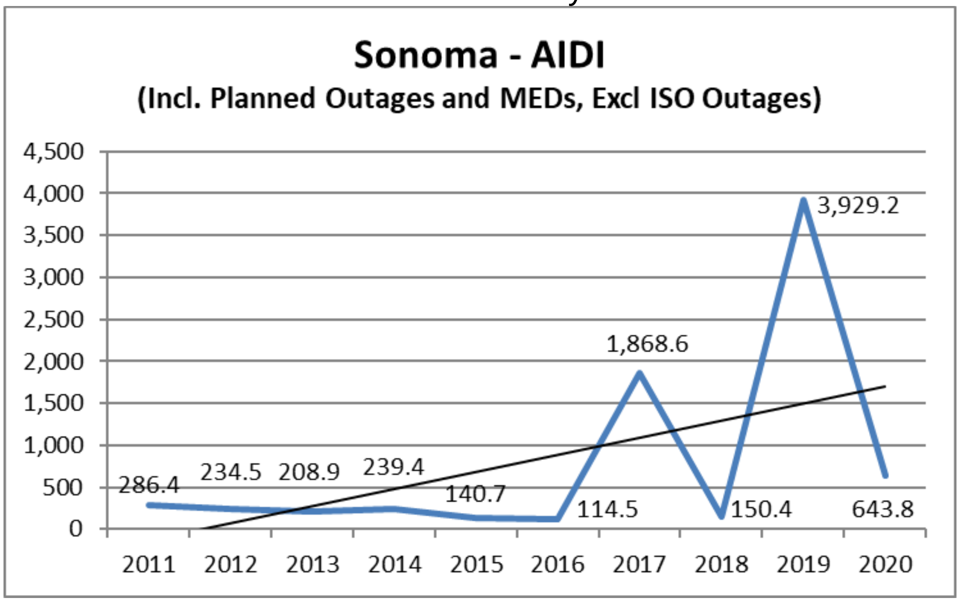


Chart 309: Division Reliability – AIDI Indices

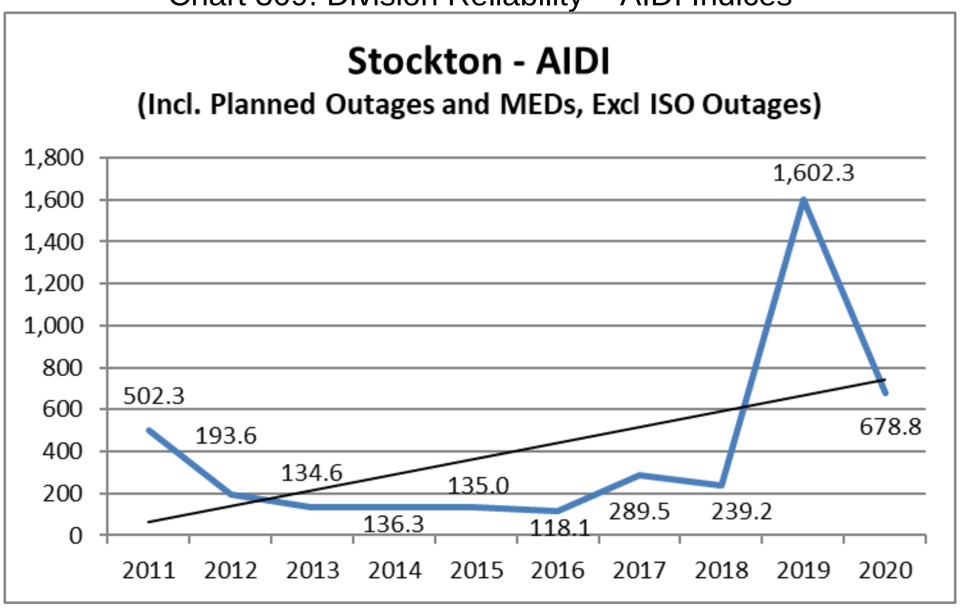


Chart 310: Division Reliability – AIDI Indices

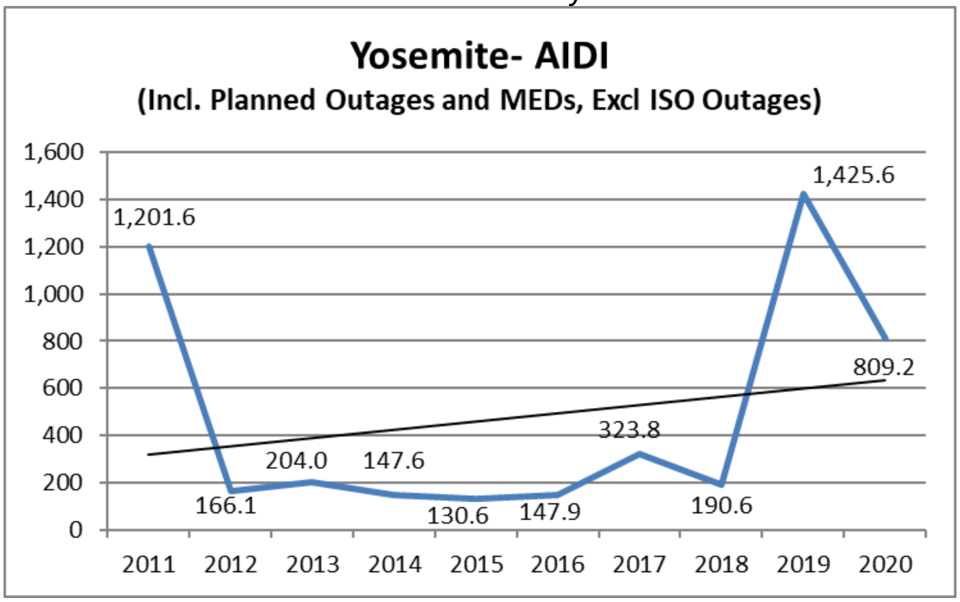
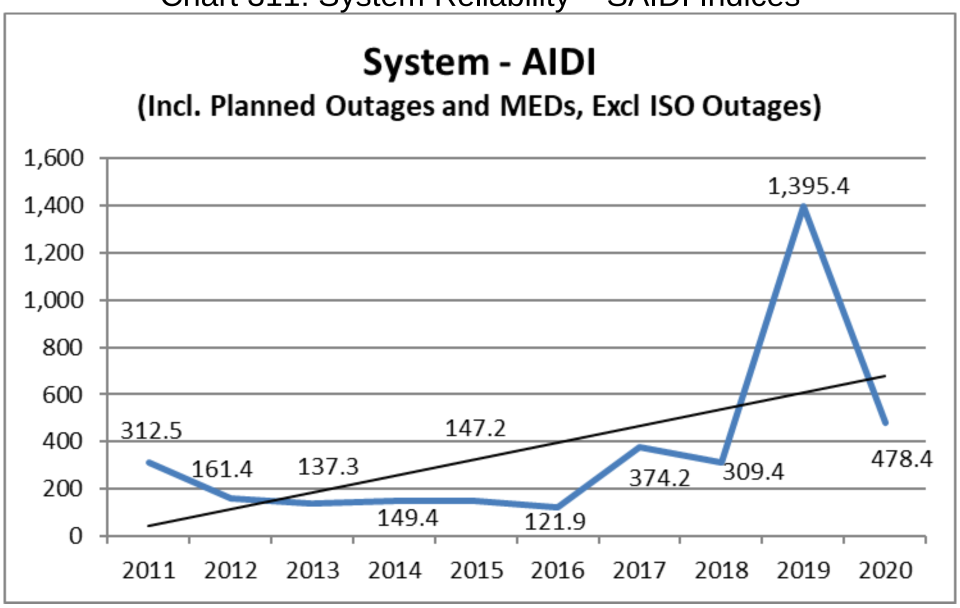


Chart 311: System Reliability – SAIDI Indices



2. SAIFI Performance Results (MED Included)

Chart 312: Division Reliability – AIFI Indices

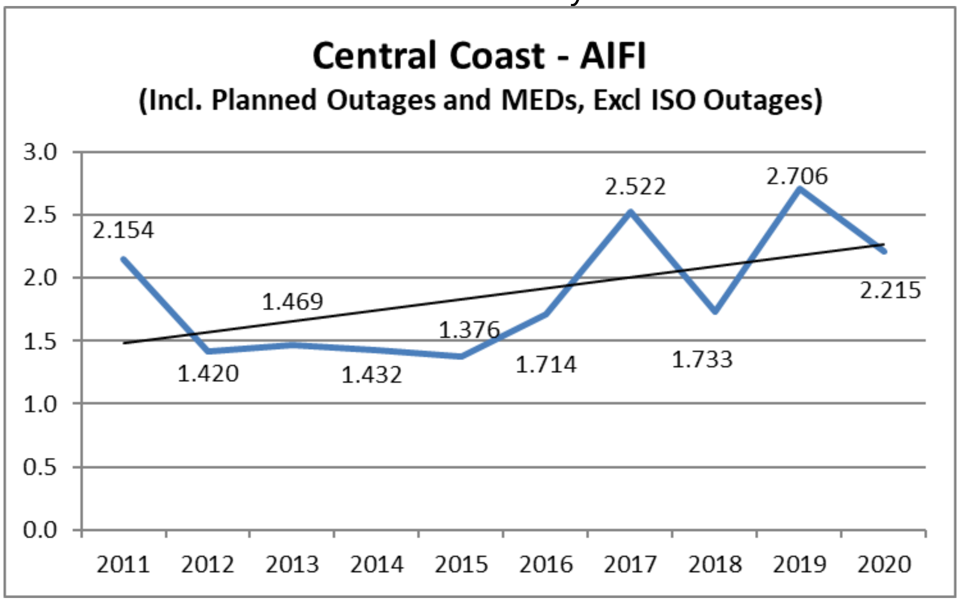


Chart 313: Division Reliability – AIFI Indices

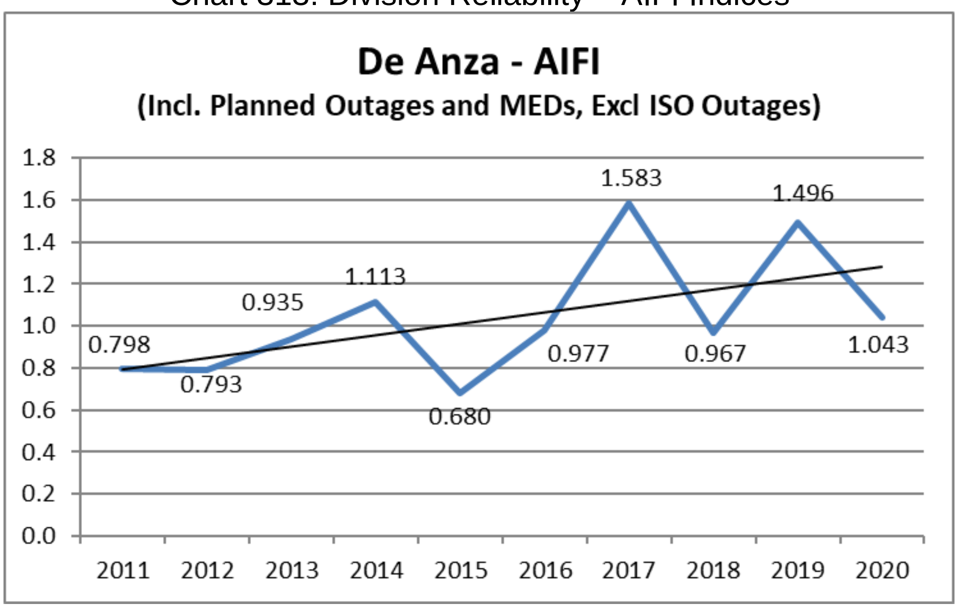


Chart 314: Division Reliability – AIFI Indices

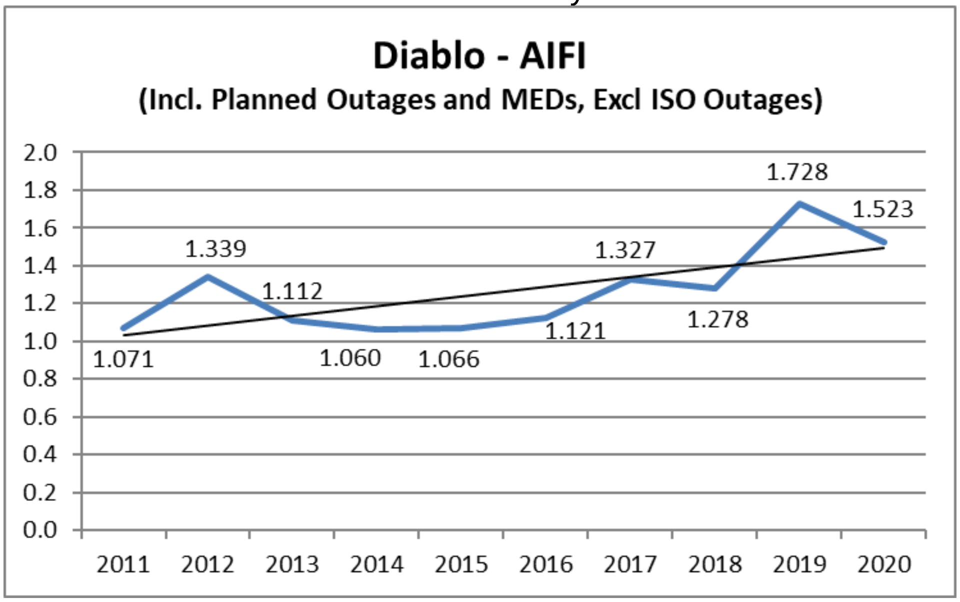


Chart 315: Division Reliability – AIFI Indices

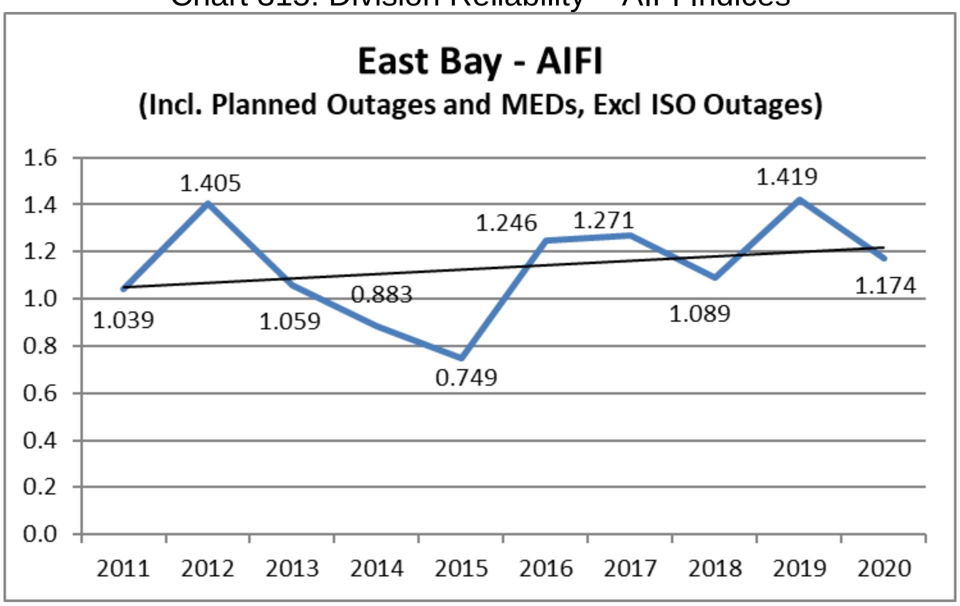


Chart 316: Division Reliability – AIFI Indices

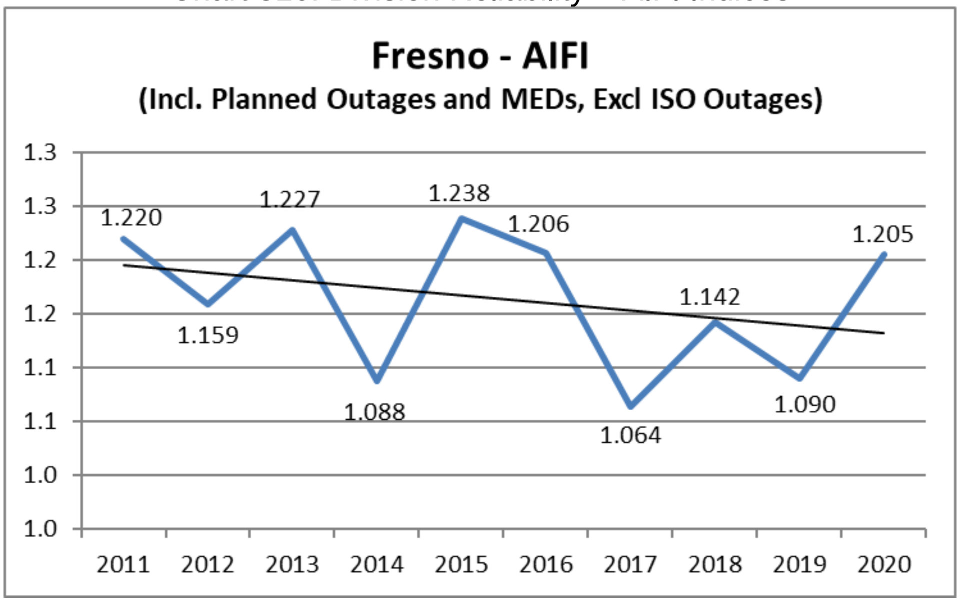


Chart 317: Division Reliability – AIFI Indices

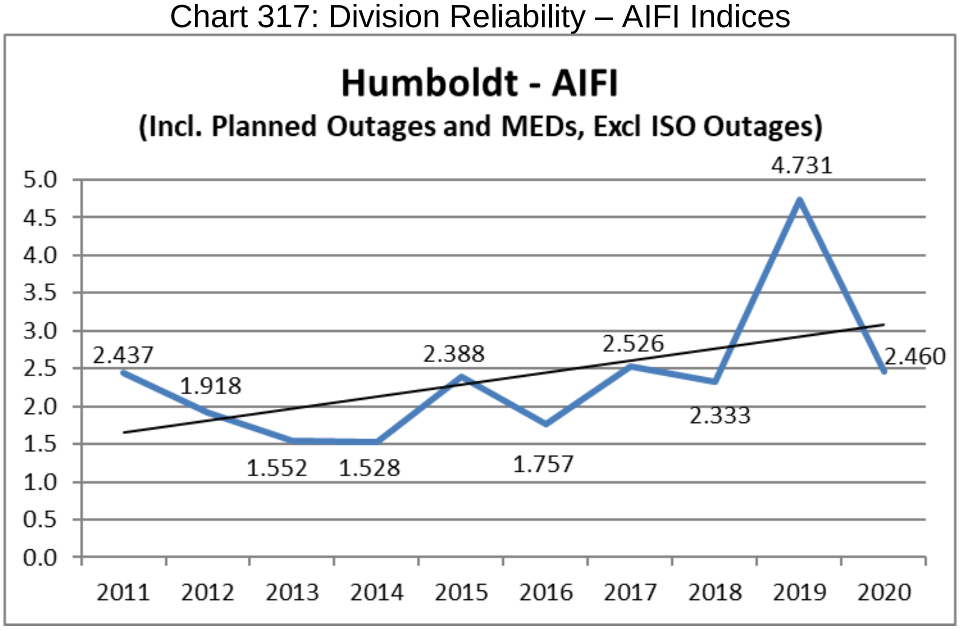


Chart 318: Division Reliability – AIFI Indices

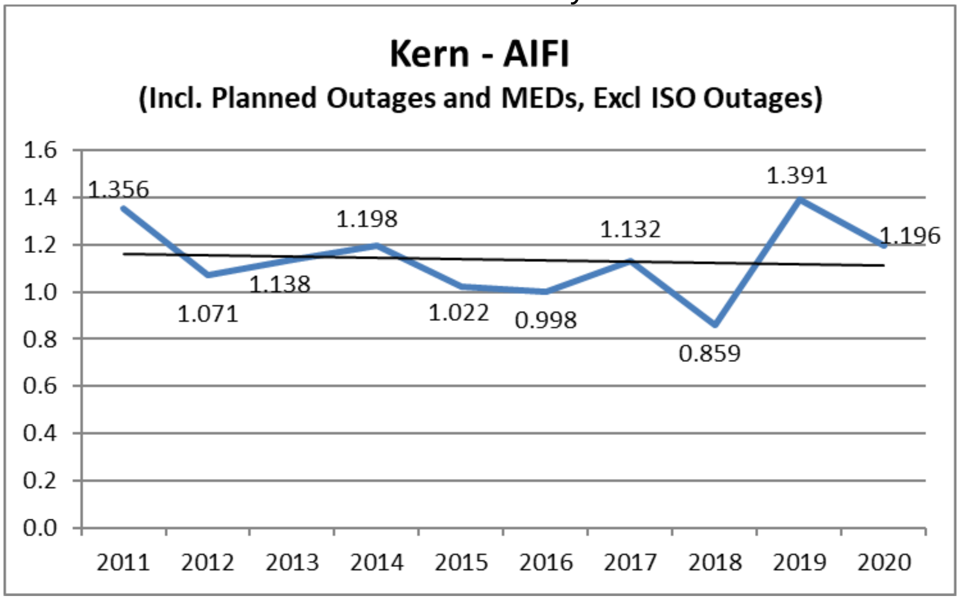


Chart 319: Division Reliability – AIFI Indices

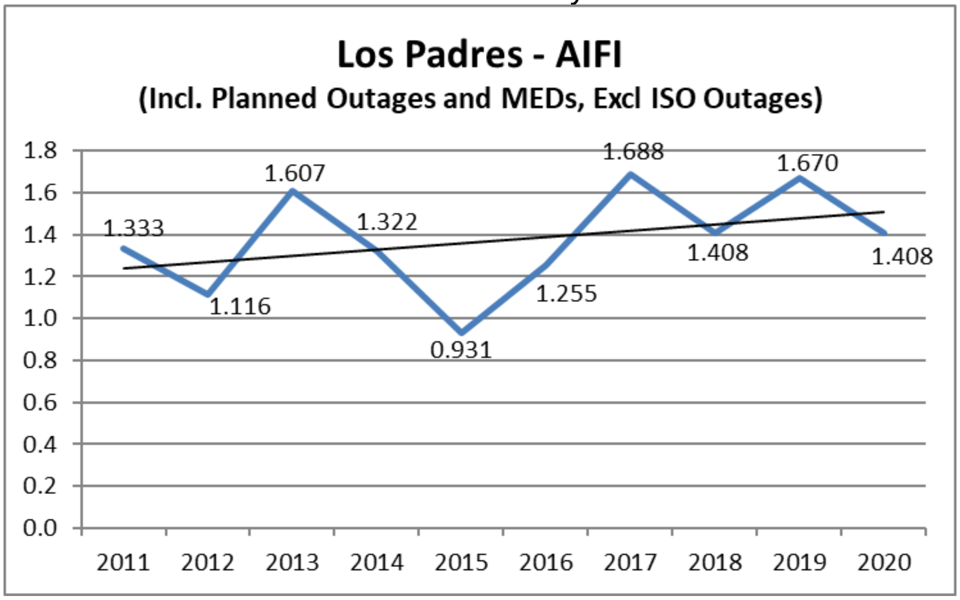


Chart 320: Division Reliability – AIFI Indices

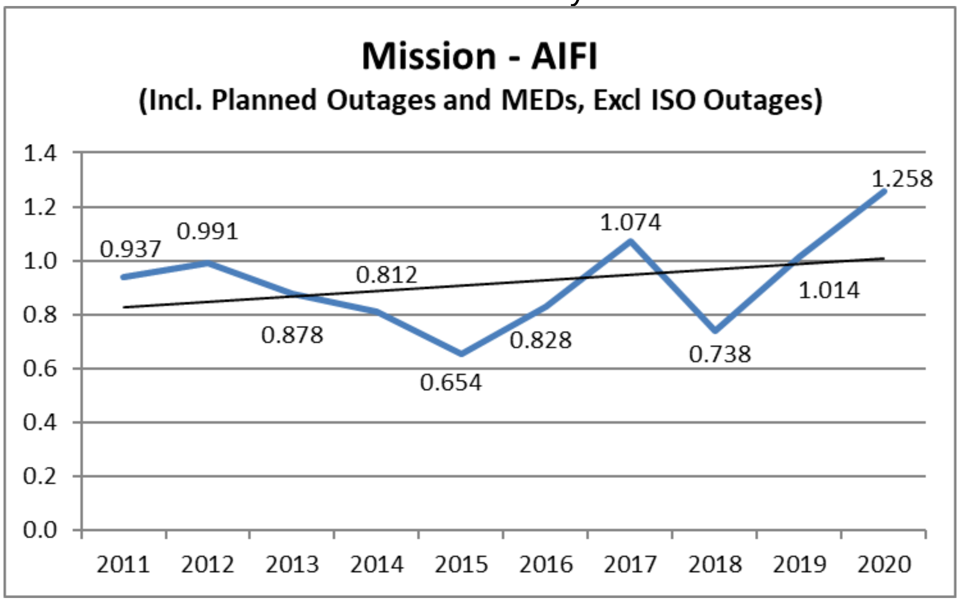


Chart 321: Division Reliability – AIFI Indices

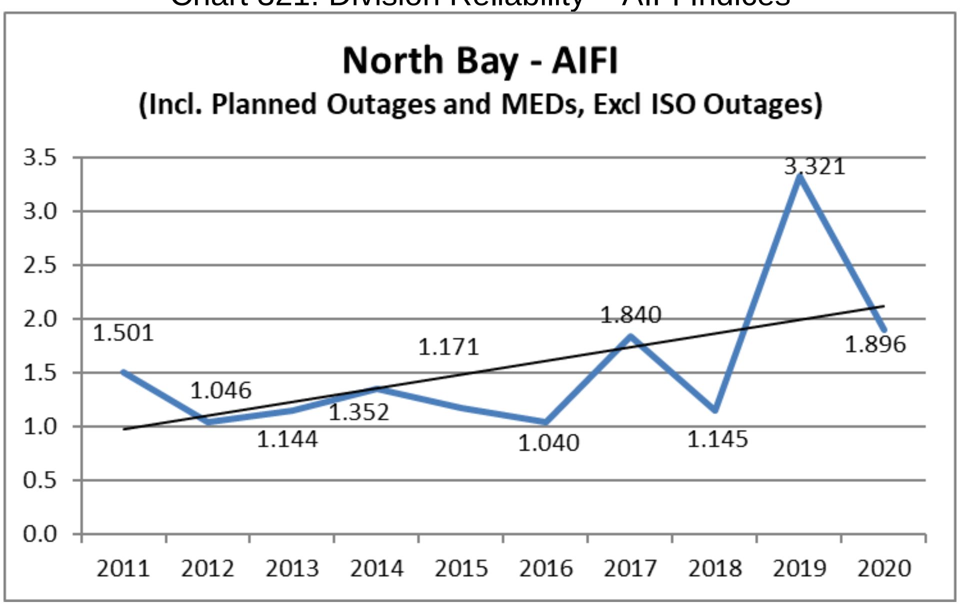


Chart 322: Division Reliability – AIFI Indices

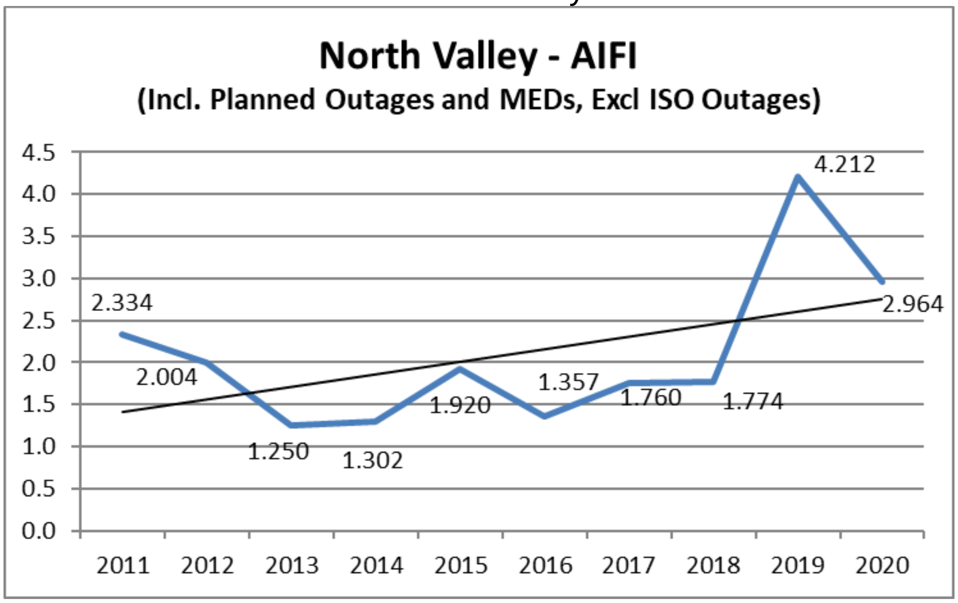


Chart 323: Division Reliability – AIFI Indices

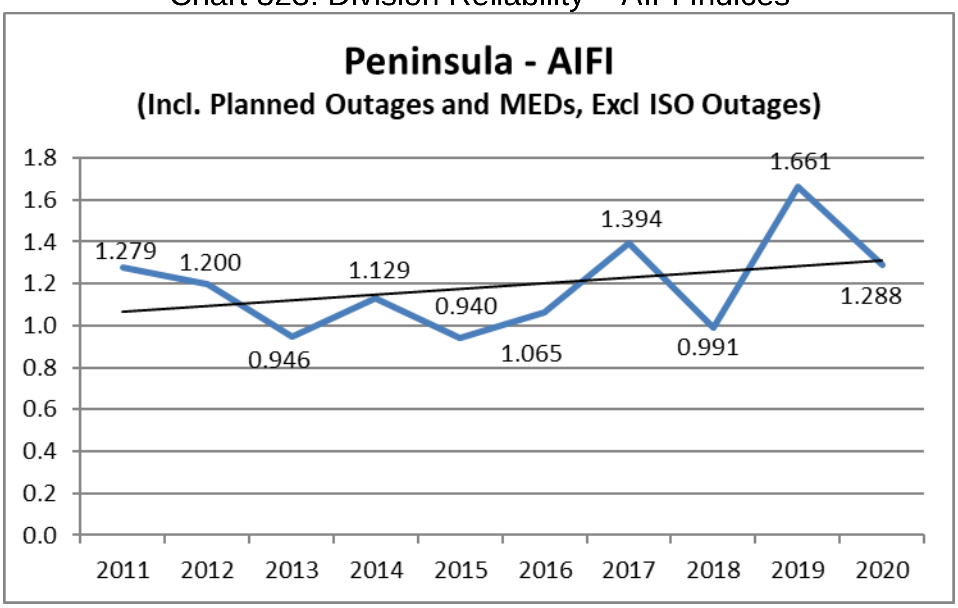


Chart 324: Division Reliability – AIFI Indices

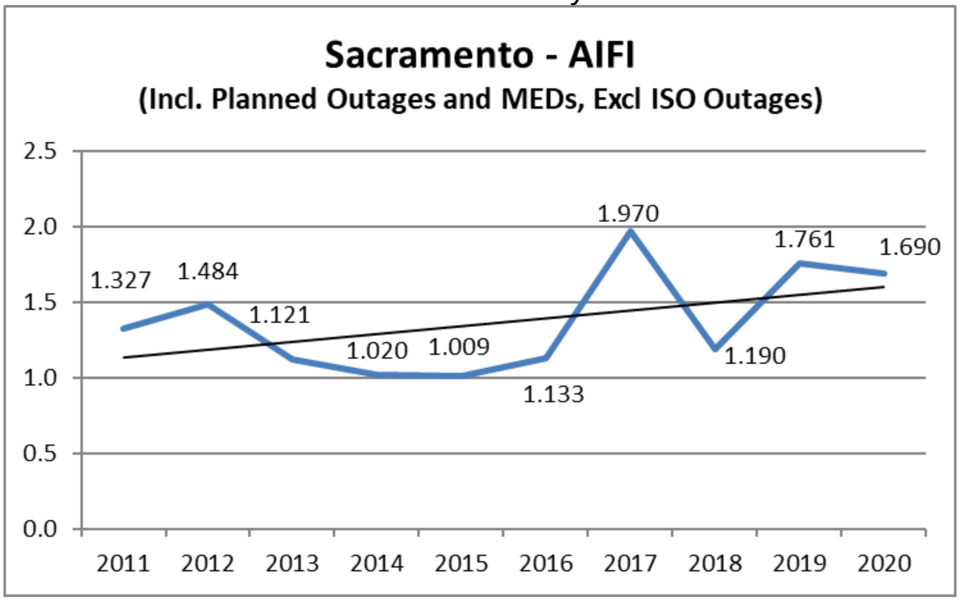


Chart 325: Division Reliability – AIFI Indices

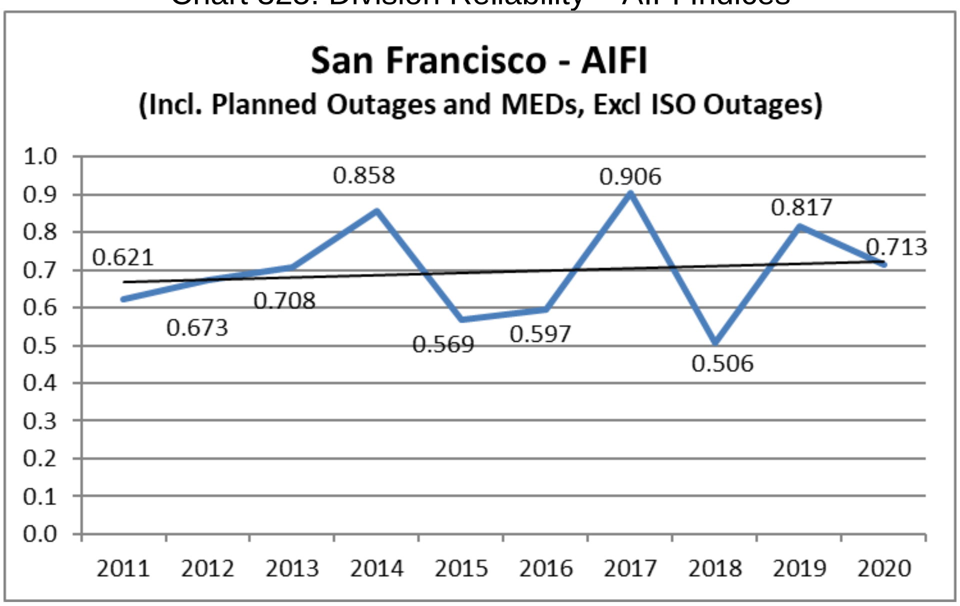


Chart 326: Division Reliability – AIFI Indices

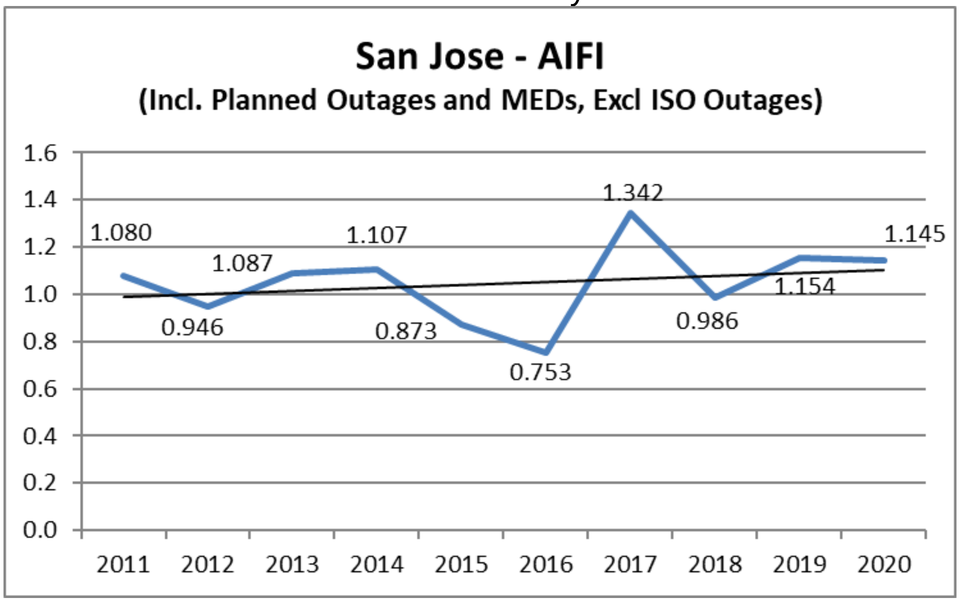


Chart 327: Division Reliability – AIFI Indices

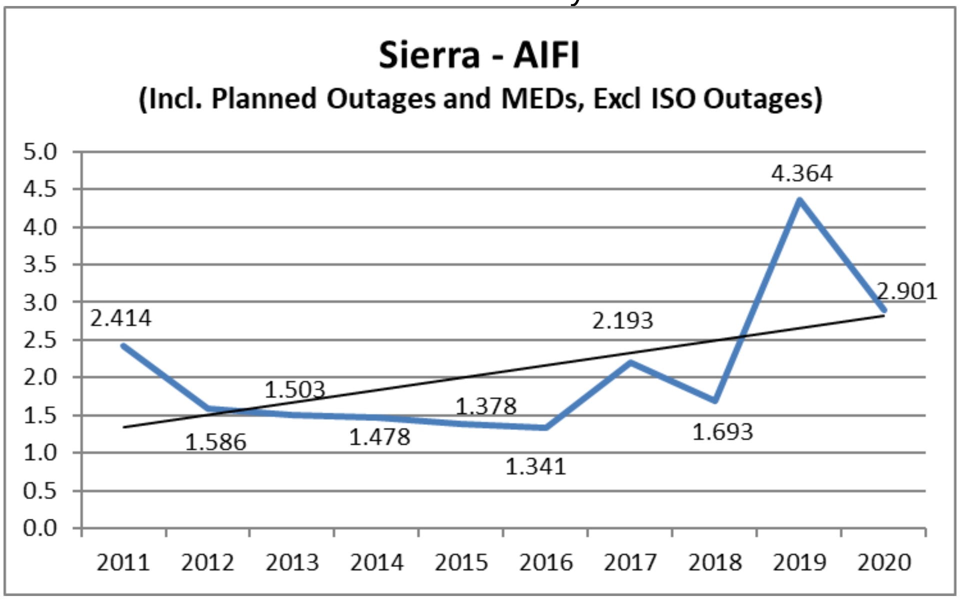


Chart 328: Division Reliability – AIFI Indices

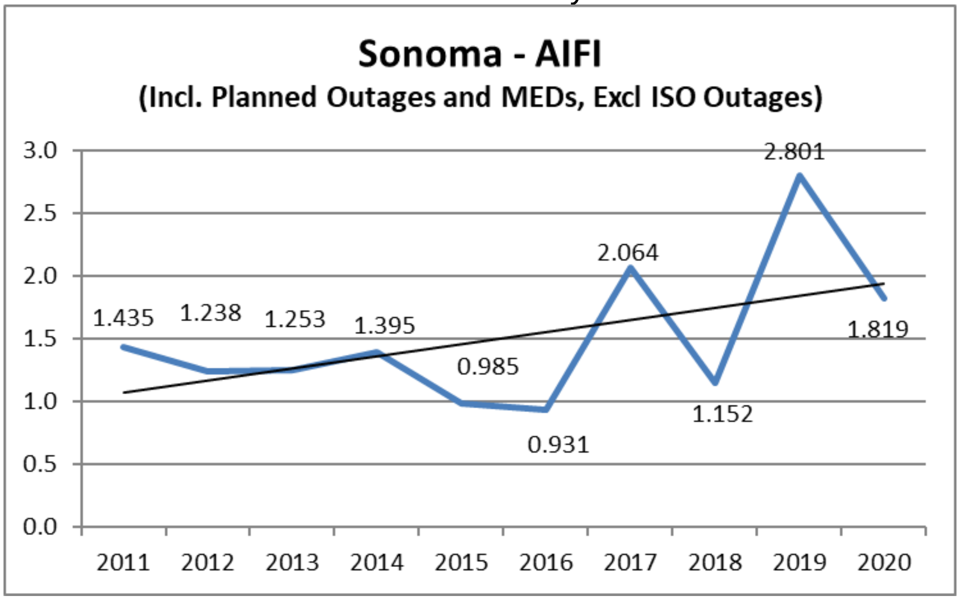


Chart 329: Division Reliability – AIFI Indices

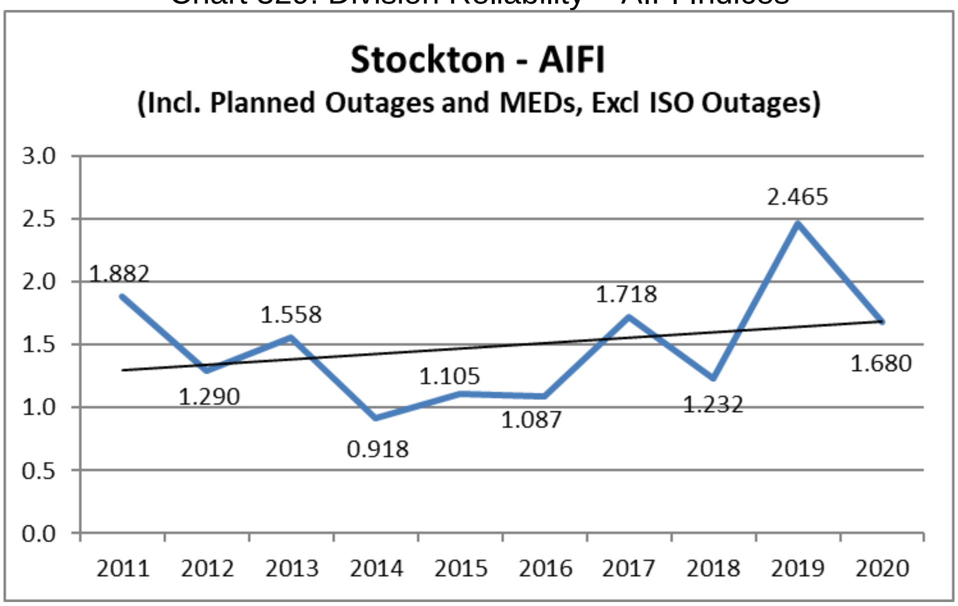


Chart 330: Division Reliability – AIFI Indices

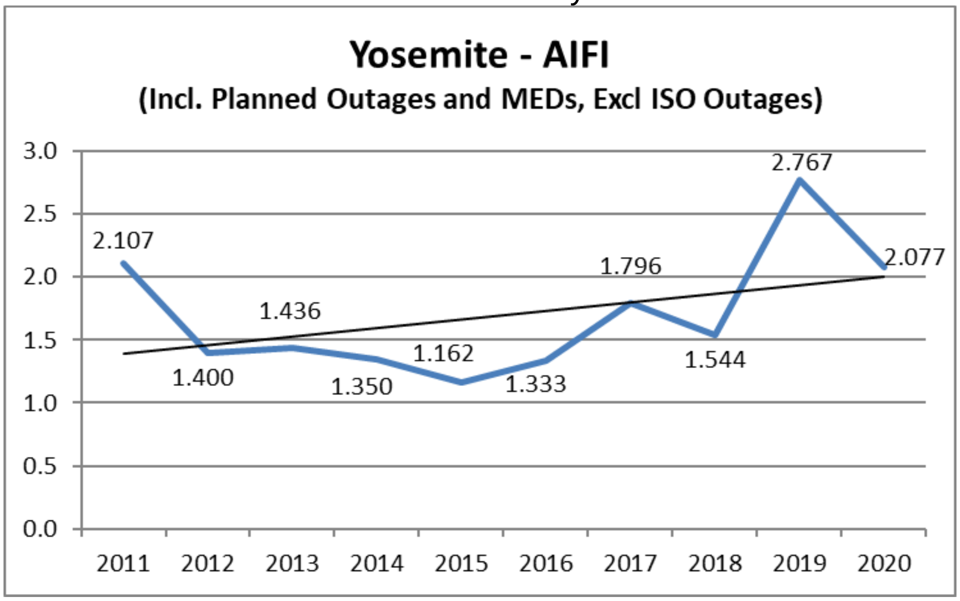
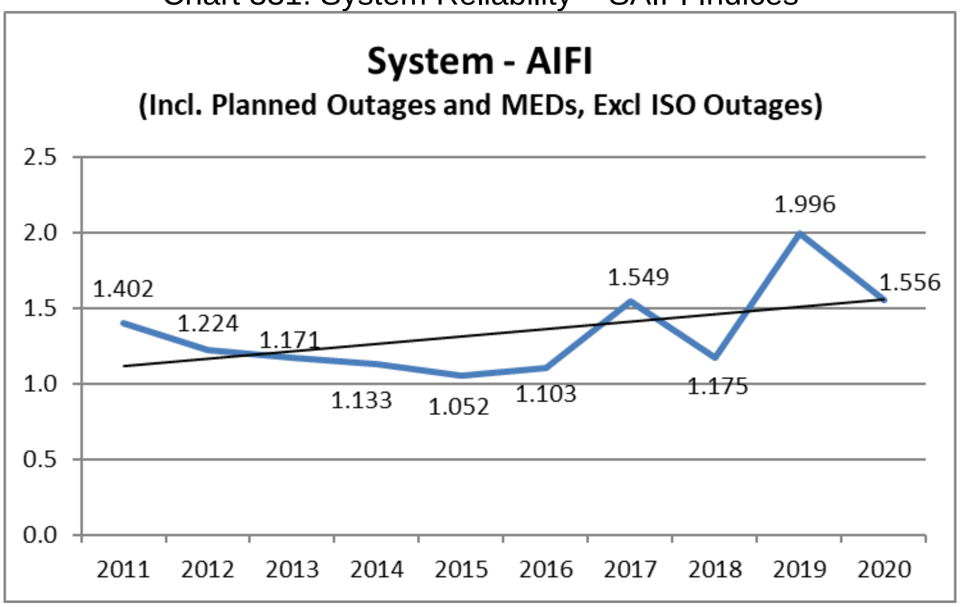


Chart 331: System Reliability – SAIFI Indices



3. MAIFI[11] Performance Results (MED Included)

Chart 332: Division Reliability – MAIFI Indices

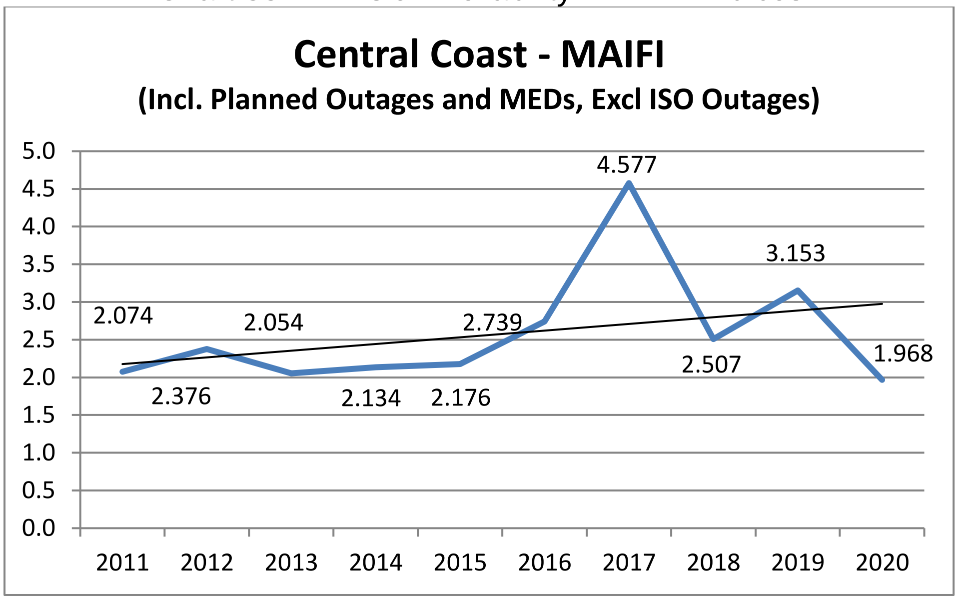
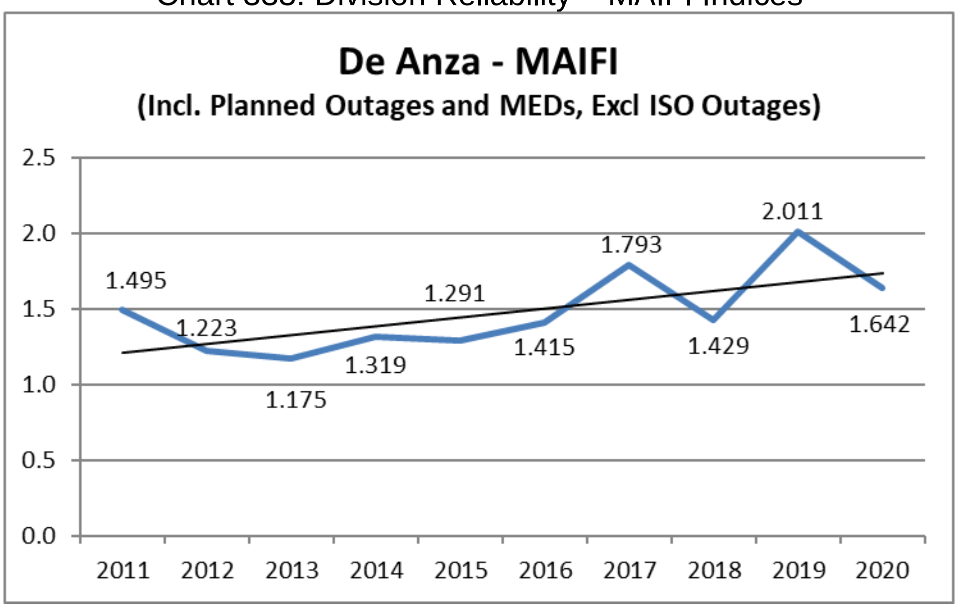


Chart 333: Division Reliability – MAIFI Indices



11 See footnote 4 above.

Chart 334: Division Reliability – MAIFI Indices

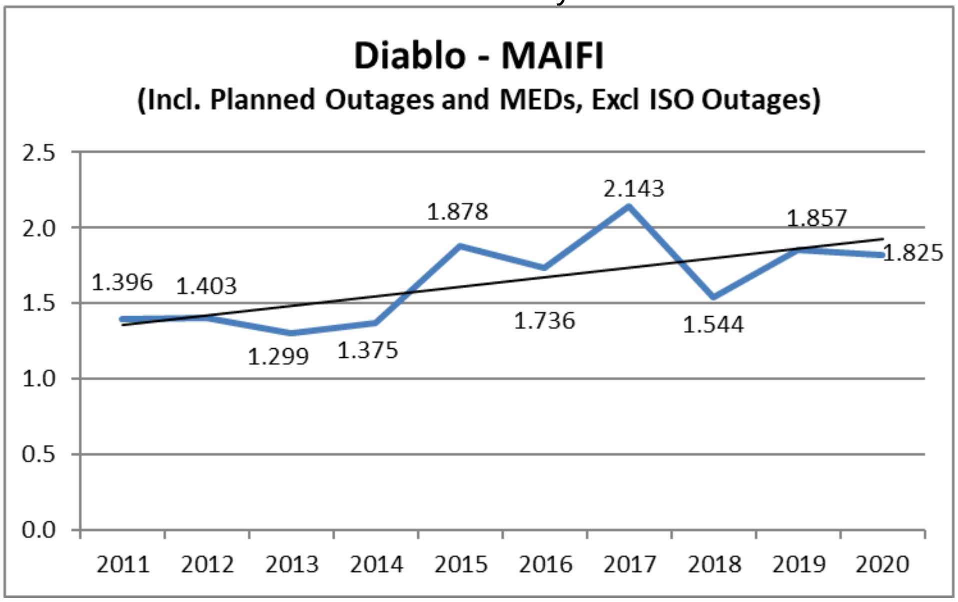


Chart 335: Division Reliability – MAIFI Indices

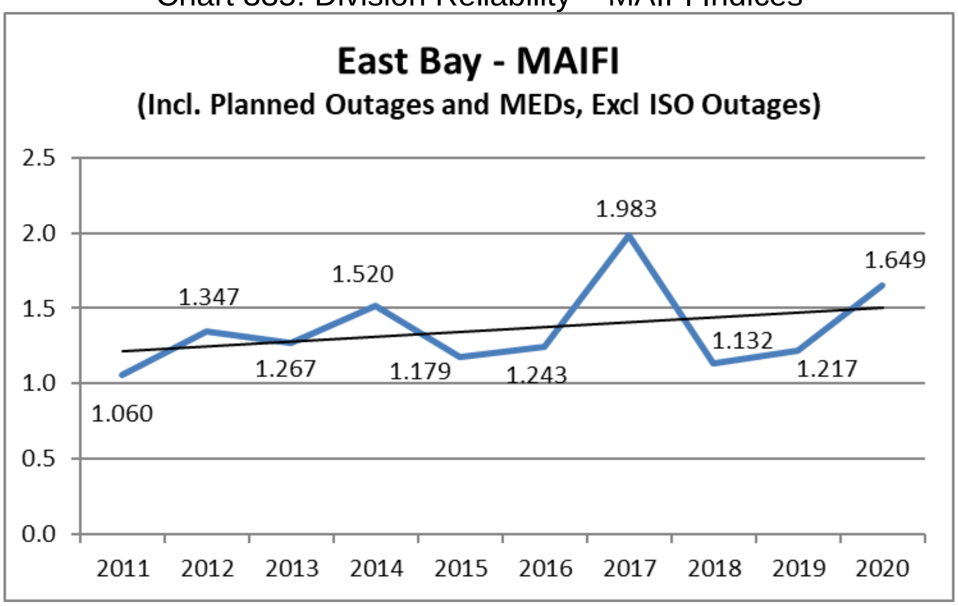


Chart 336: Division Reliability – MAIFI Indices

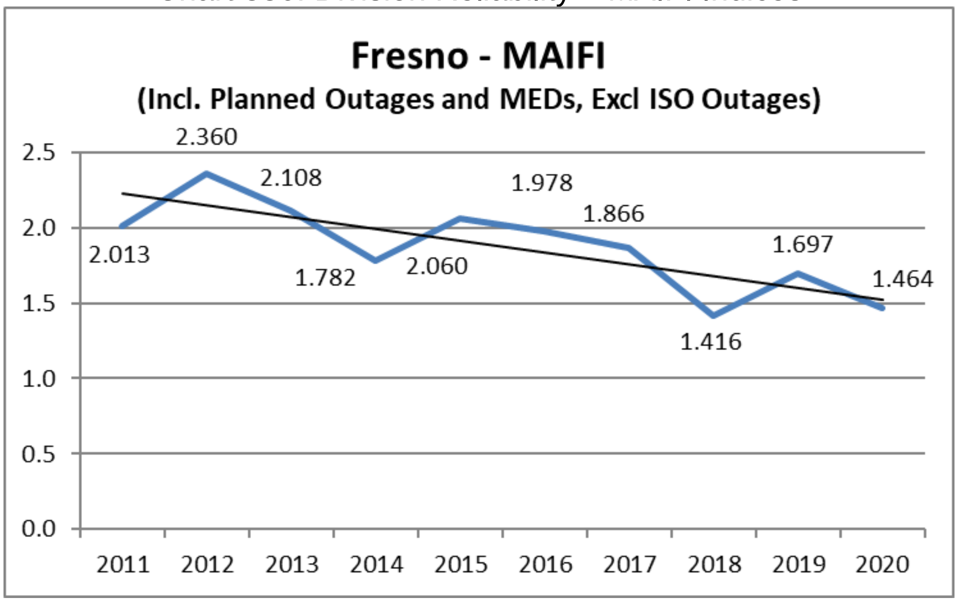


Chart 337: Division Reliability – MAIFI Indices

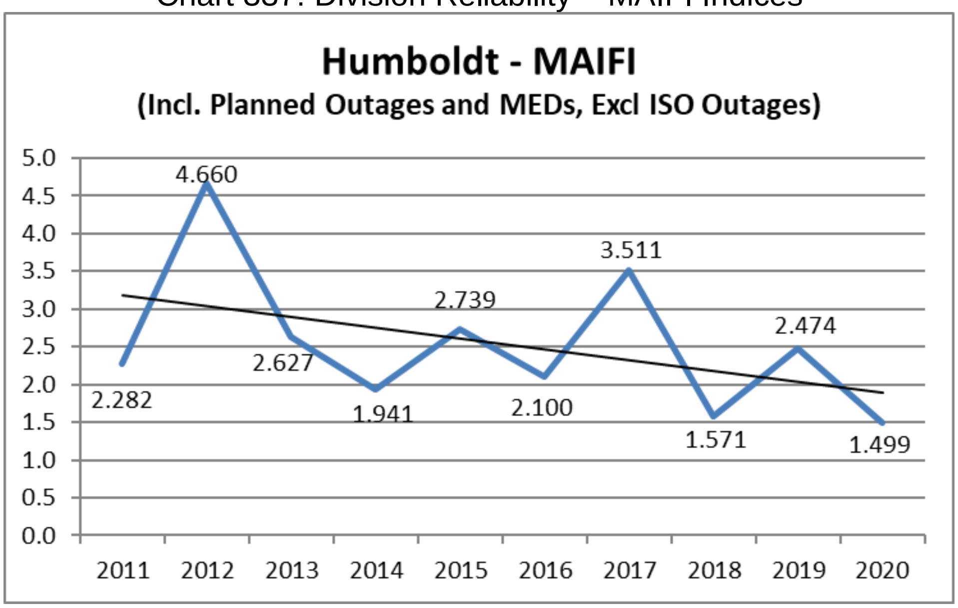


Chart 338: Division Reliability – MAIFI Indices

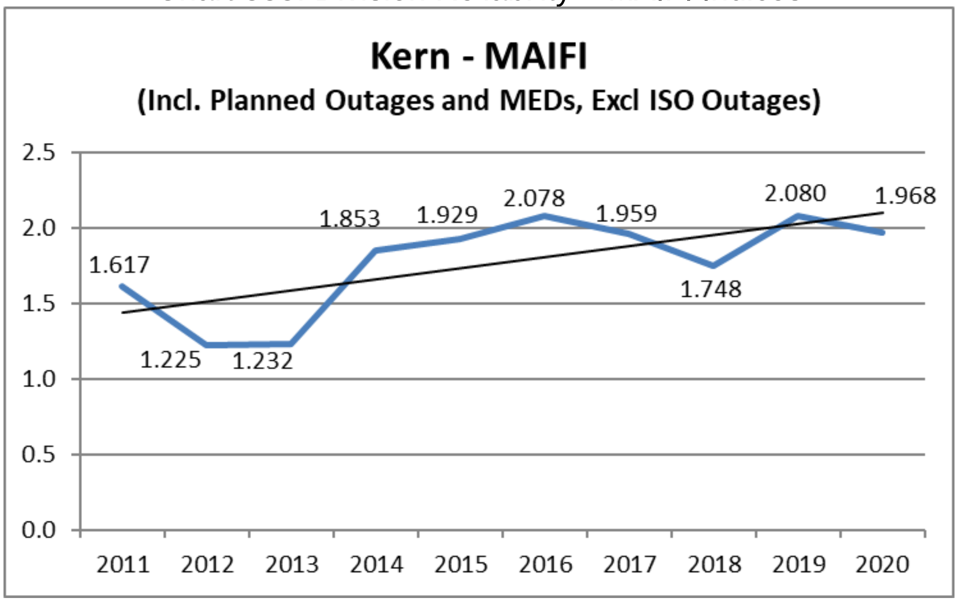


Chart 339: Division Reliability – MAIFI Indices

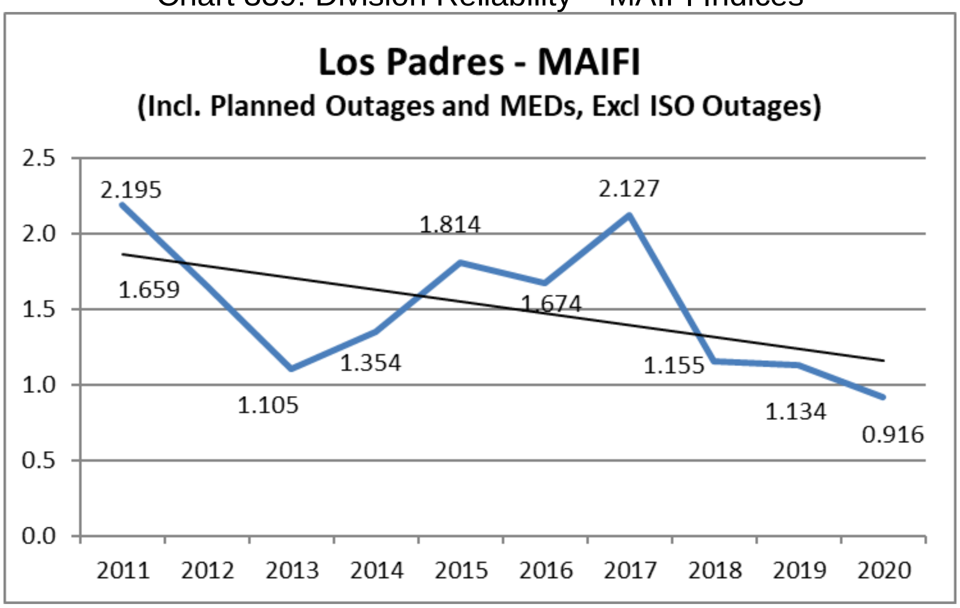


Chart 340: Division Reliability – MAIFI Indices

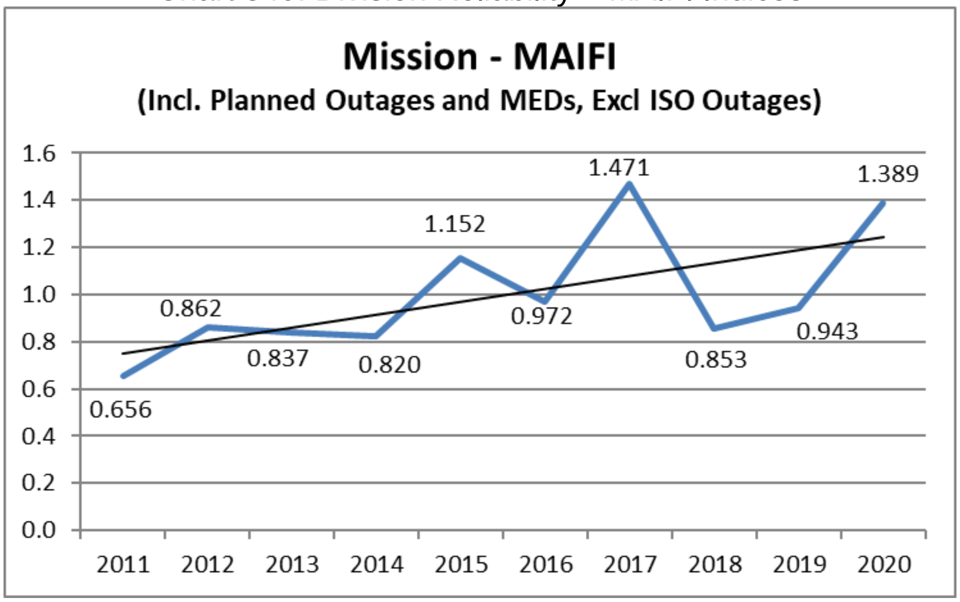


Chart 341: Division Reliability – MAIFI Indices

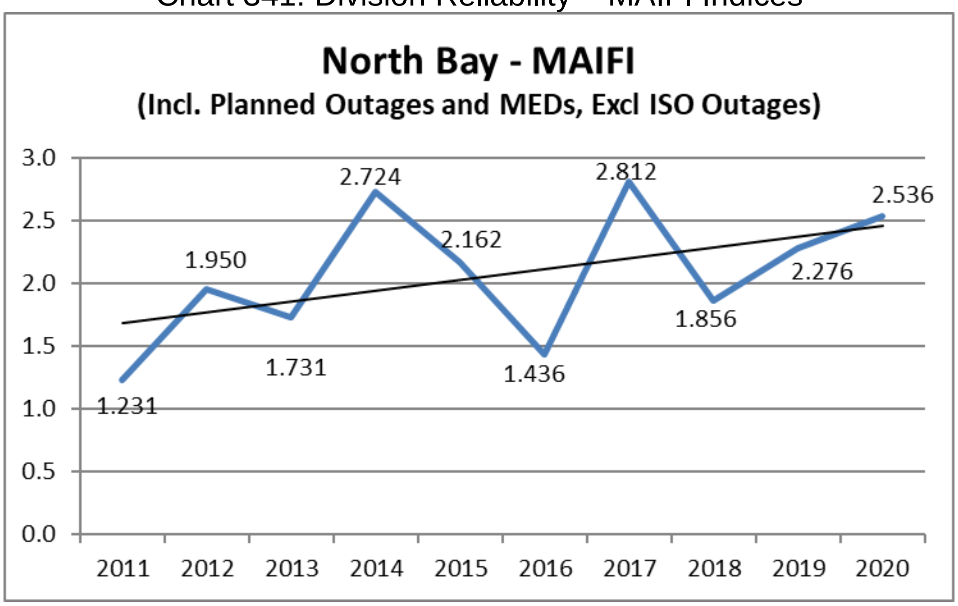


Chart 342: Division Reliability – MAIFI Indices

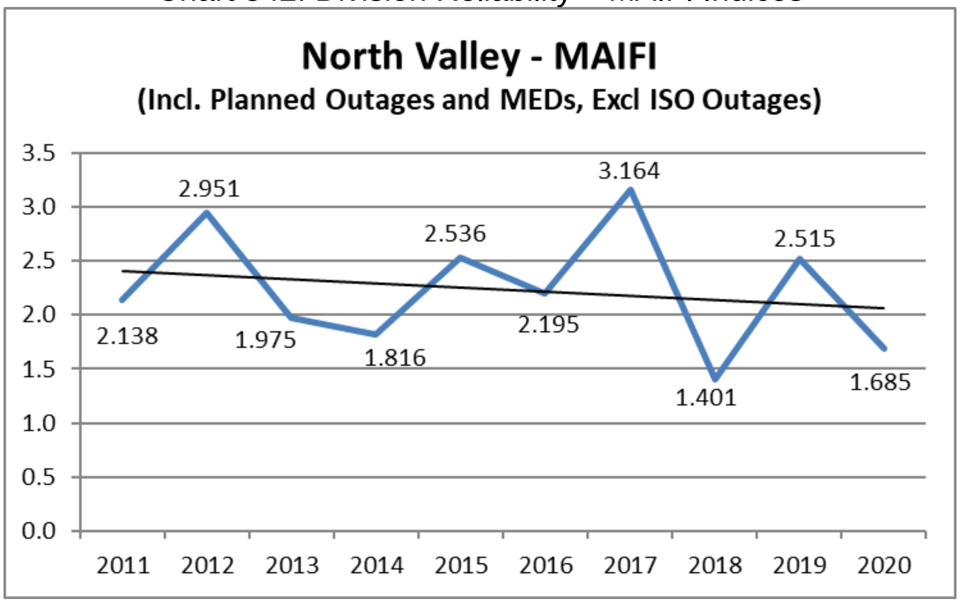


Chart 343: Division Reliability – MAIFI Indices

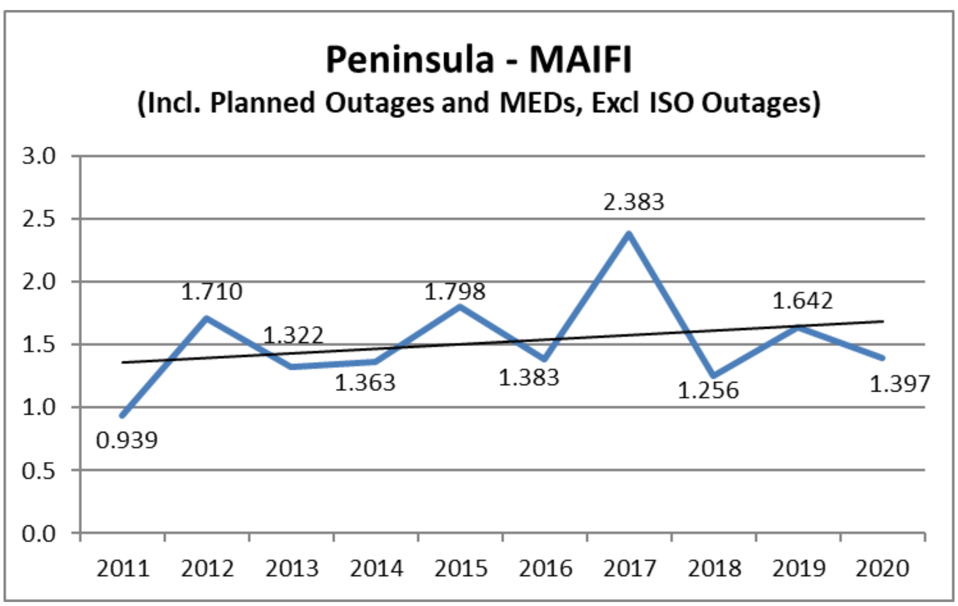


Chart 344: Division Reliability – MAIFI Indices

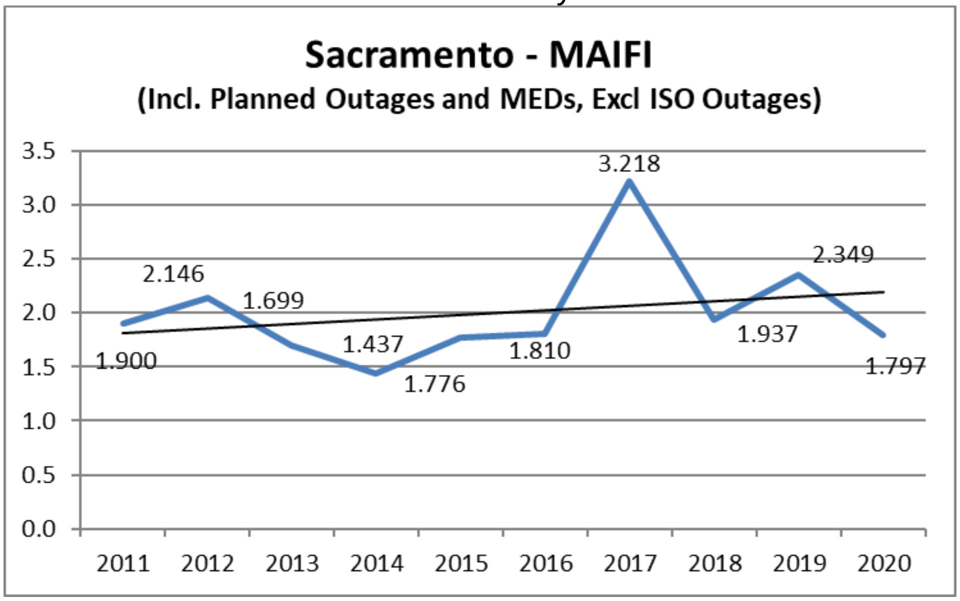


Chart 345: Division Reliability – MAIFI Indices

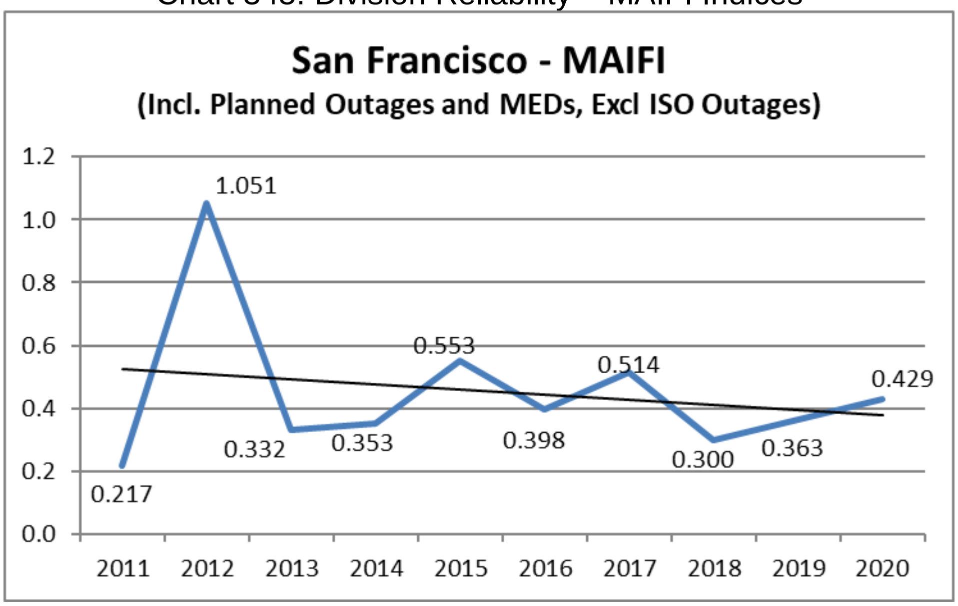


Chart 346: Division Reliability – MAIFI Indices

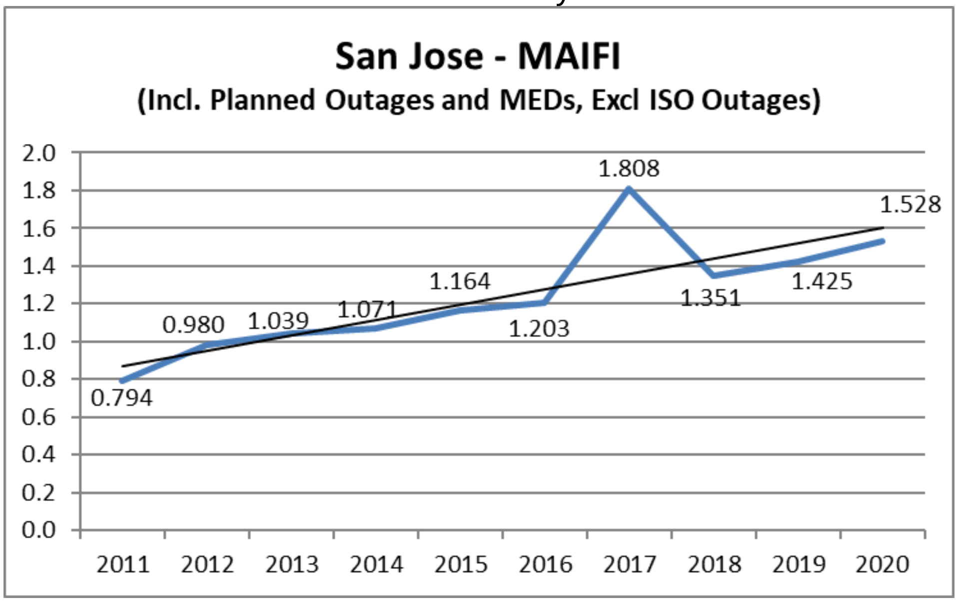


Chart 347: Division Reliability – MAIFI Indices

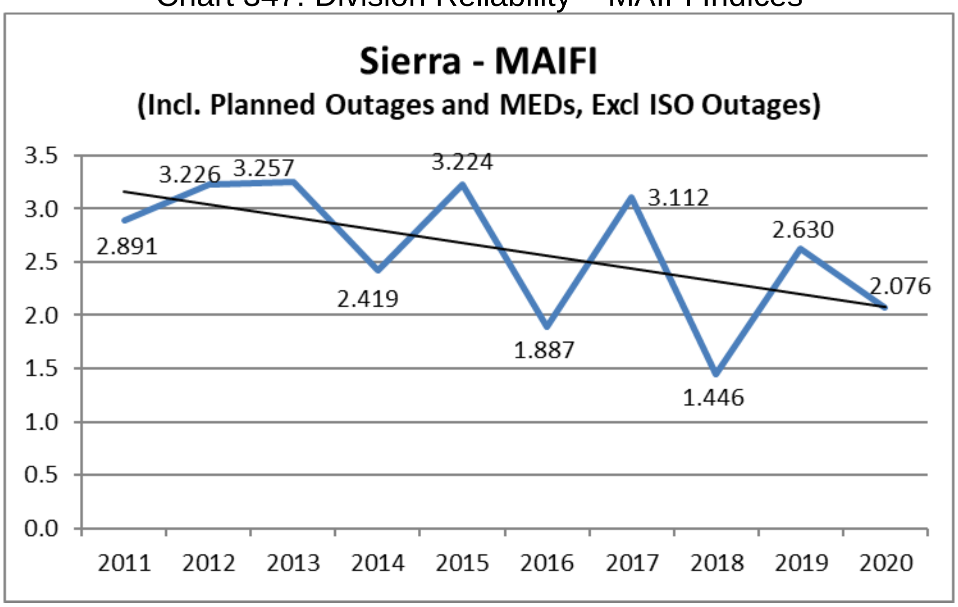


Chart 348: Division Reliability – MAIFI Indices

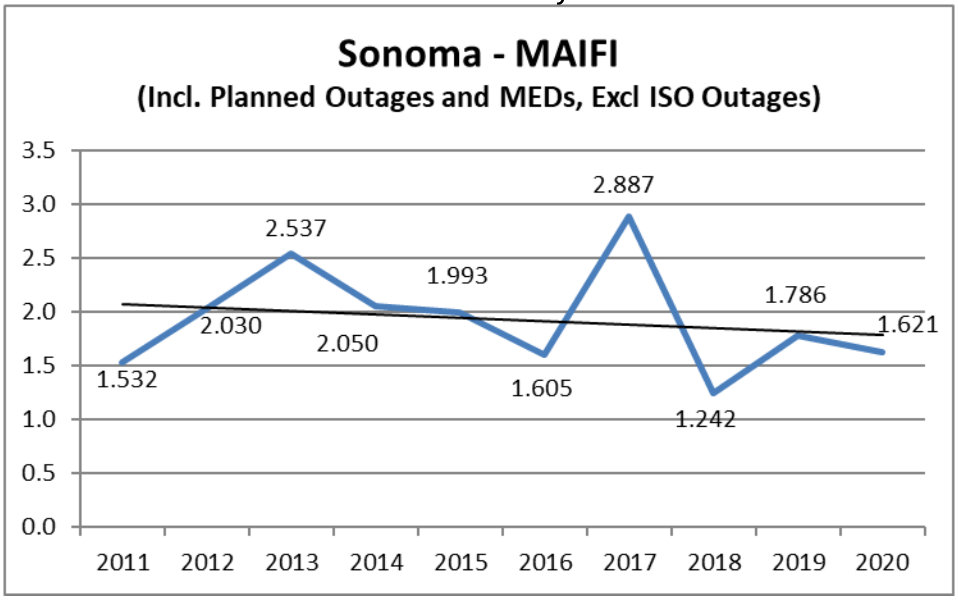


Chart 349: Division Reliability – MAIFI Indices

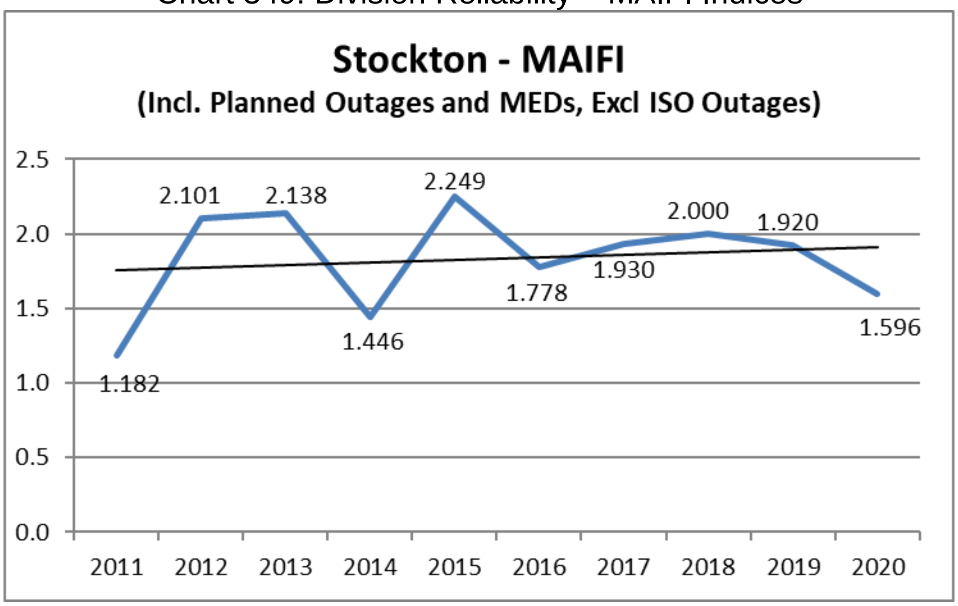


Chart 350: Division Reliability – MAIFI Indices

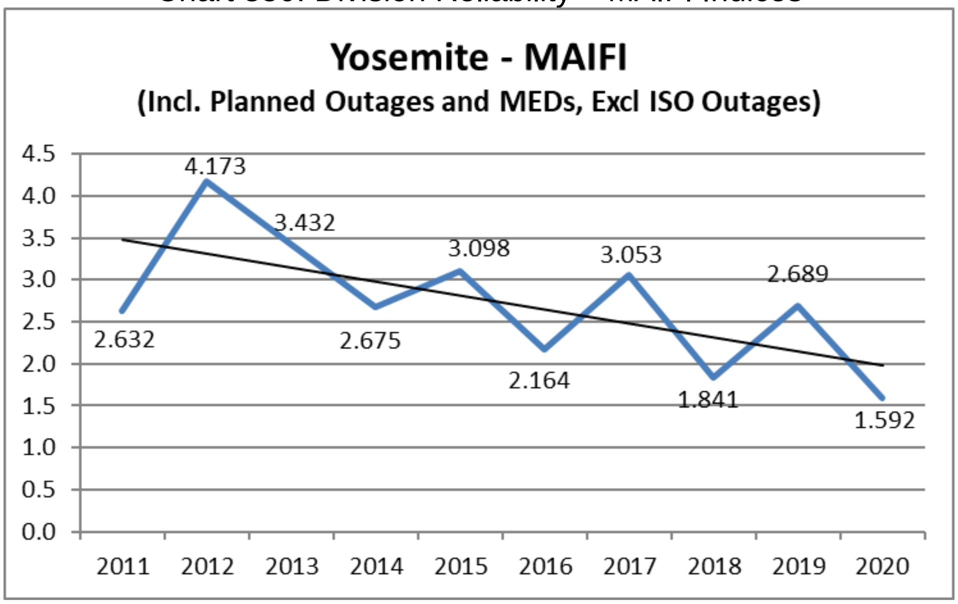
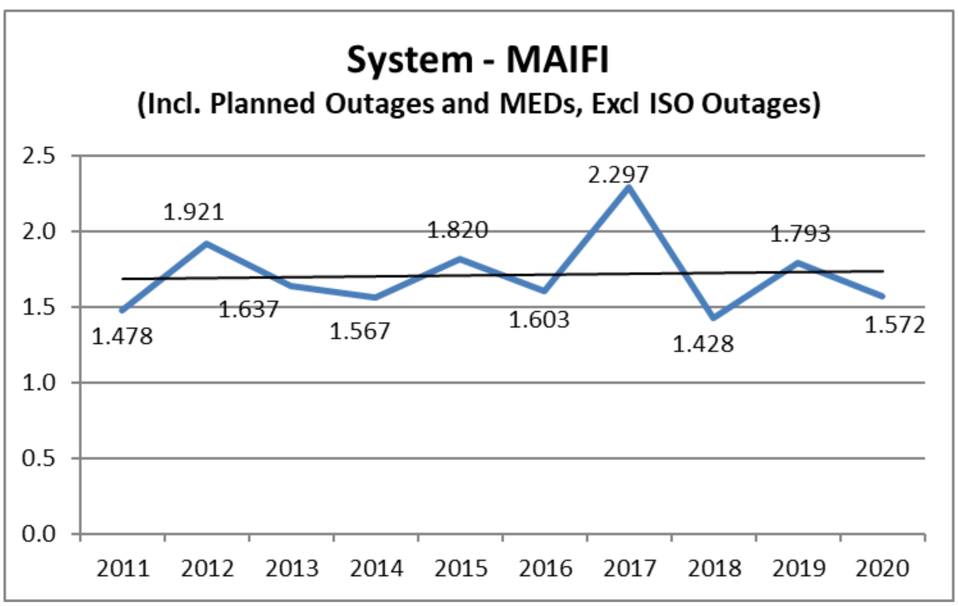


Chart 351: System Reliability – MAIFI Indices



4. CAIDI Performance Results (MED Included)

Chart 352: Division Reliability – CAIDI Indices

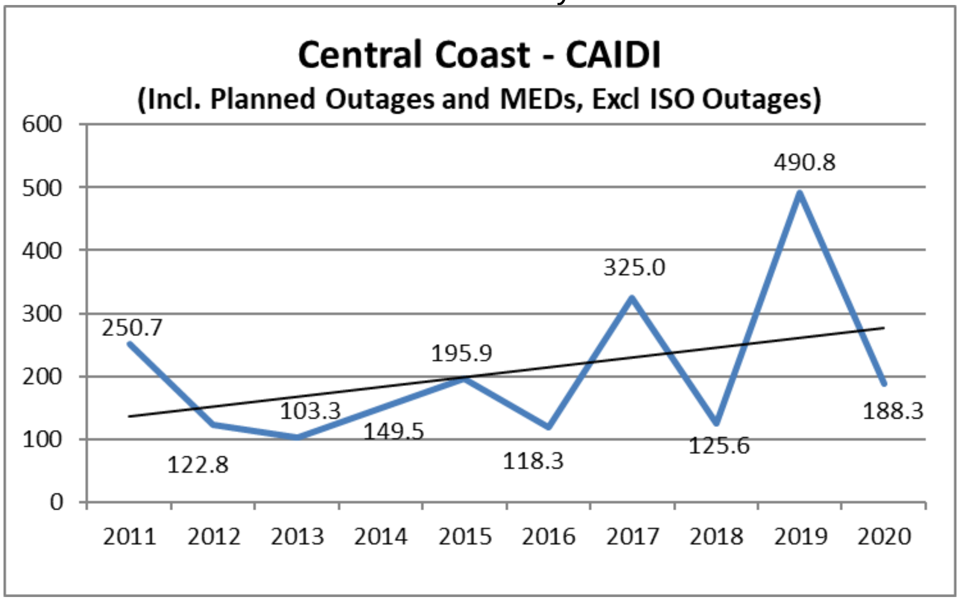


Chart 353: Division Reliability – CAIDI Indices

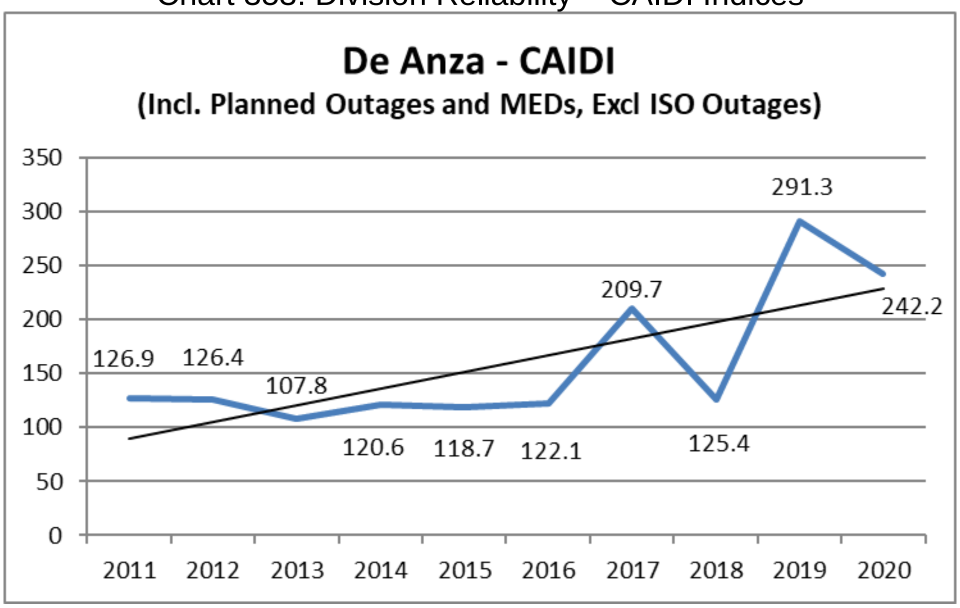


Chart 354: Division Reliability – CAIDI Indices

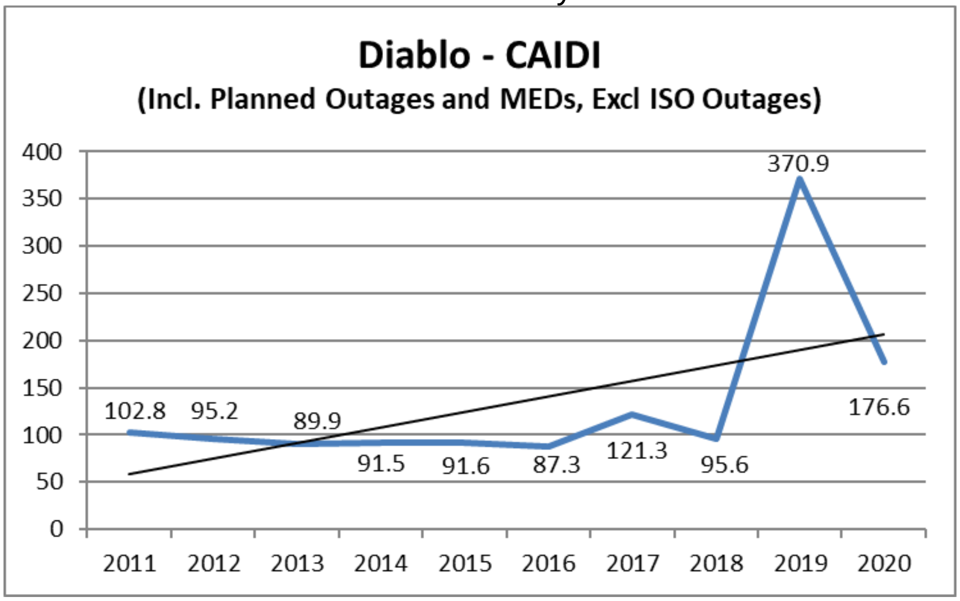


Chart 355: Division Reliability – CAIDI Indices

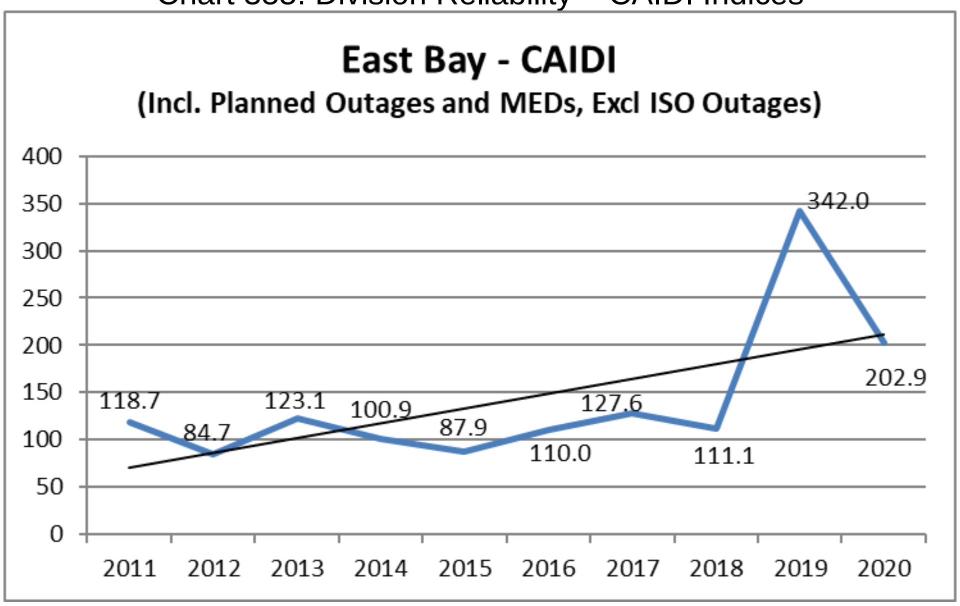


Chart 356: Division Reliability – CAIDI Indices

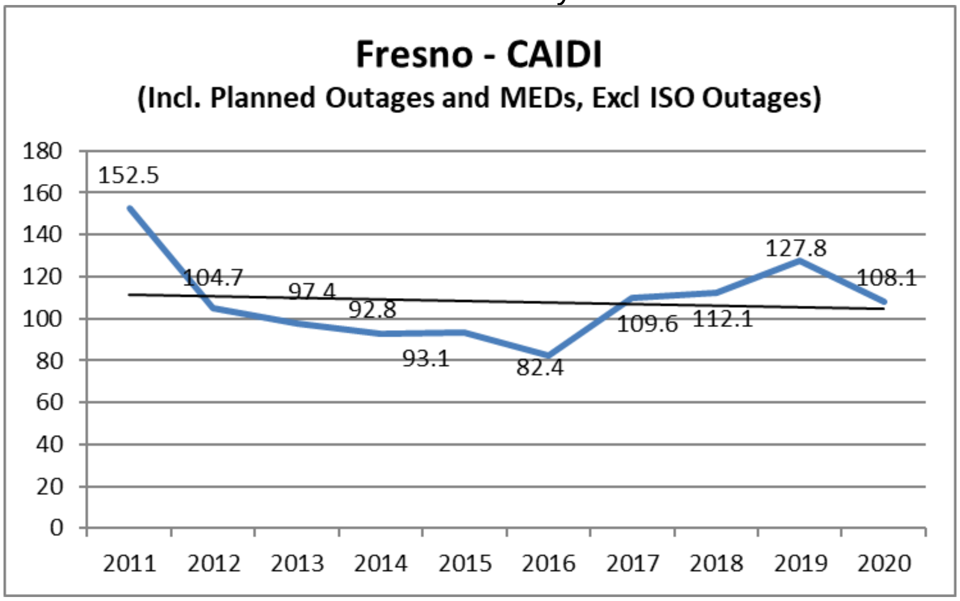


Chart 357: Division Reliability – CAIDI Indices

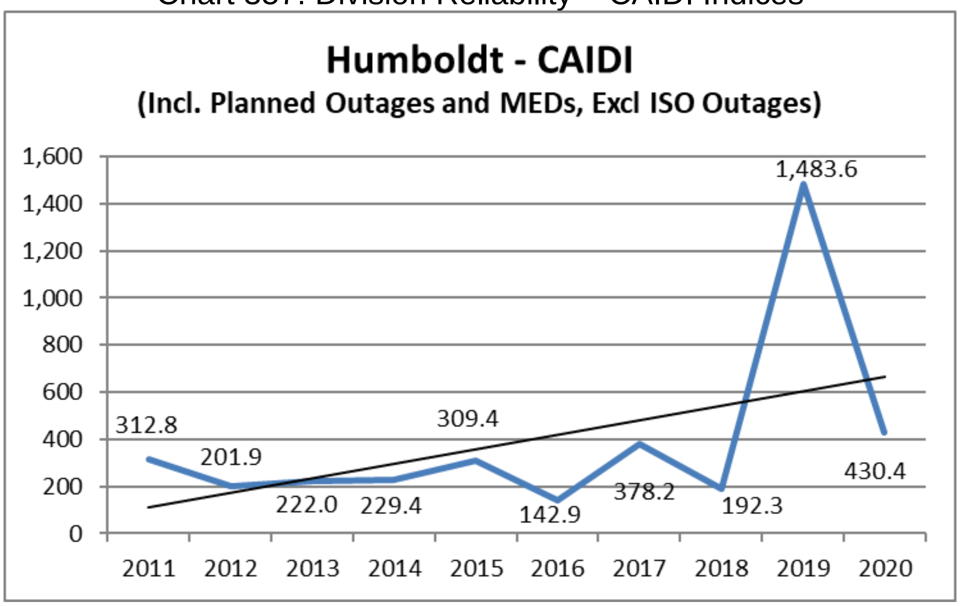


Chart 358: Division Reliability – CAIDI Indices

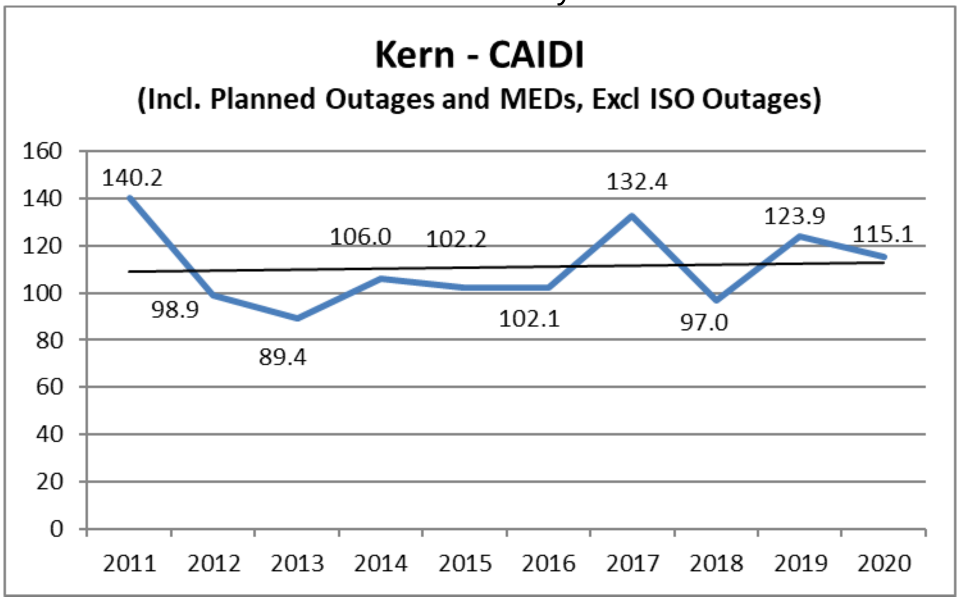


Chart 359: Division Reliability – CAIDI Indices

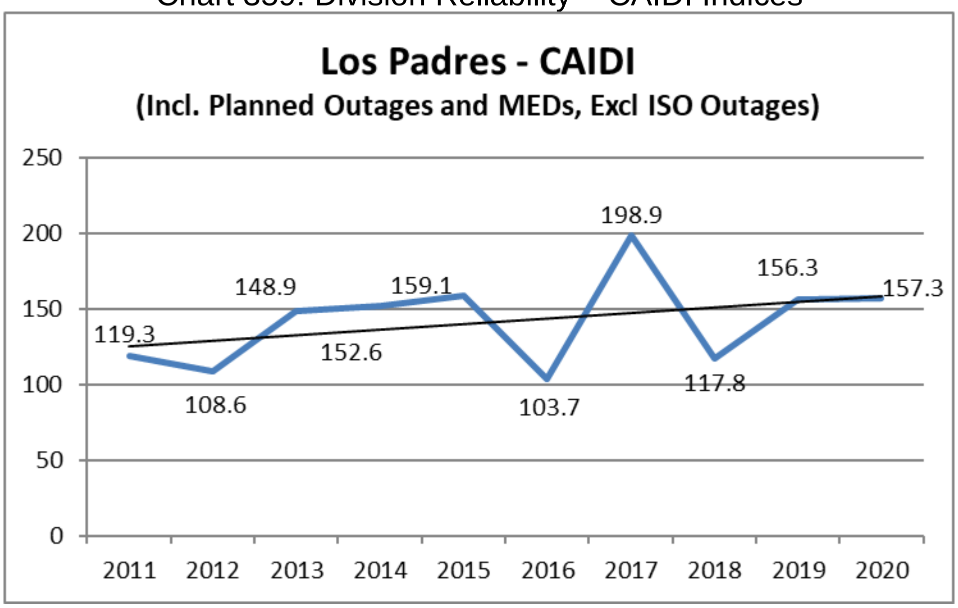


Chart 360: Division Reliability – CAIDI Indices

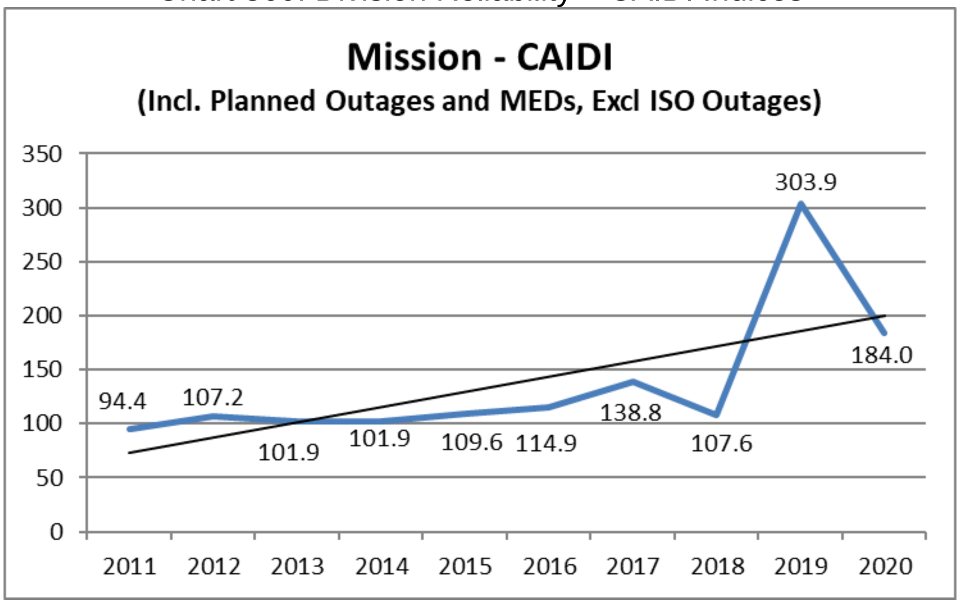


Chart 361: Division Reliability – CAIDI Indices

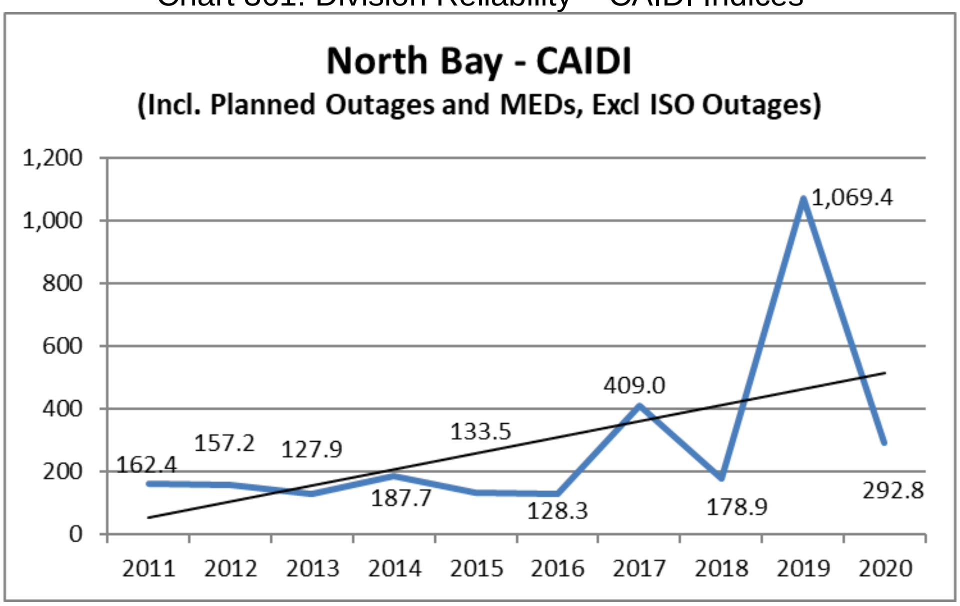


Chart 362: Division Reliability – CAIDI Indices

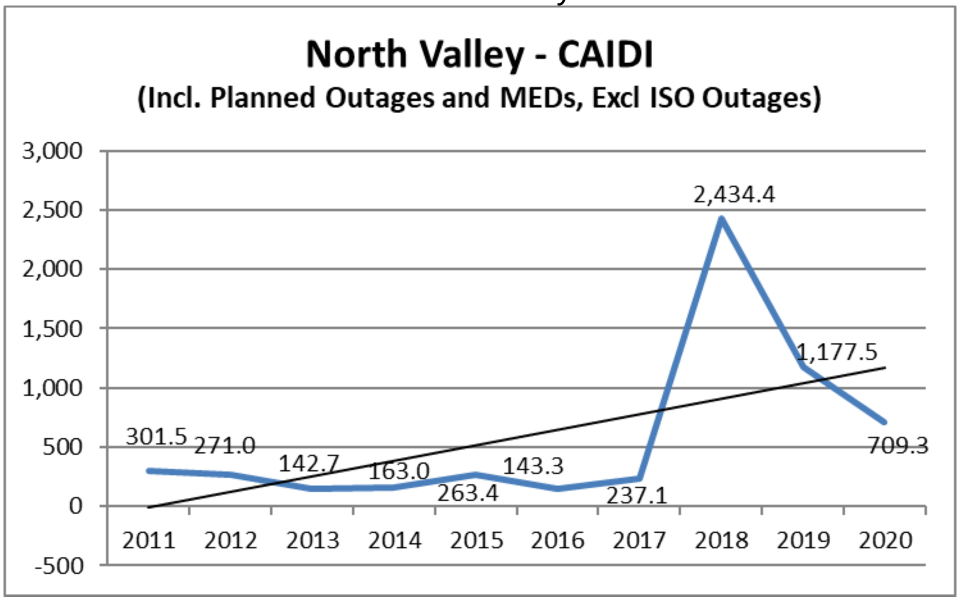


Chart 363: Division Reliability – CAIDI Indices

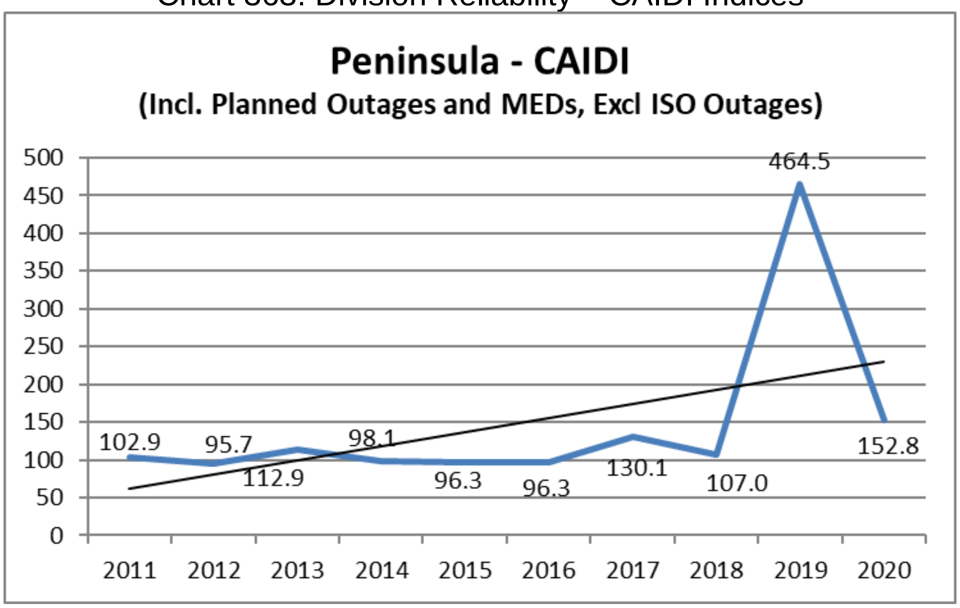


Chart 364: Division Reliability – CAIDI Indices

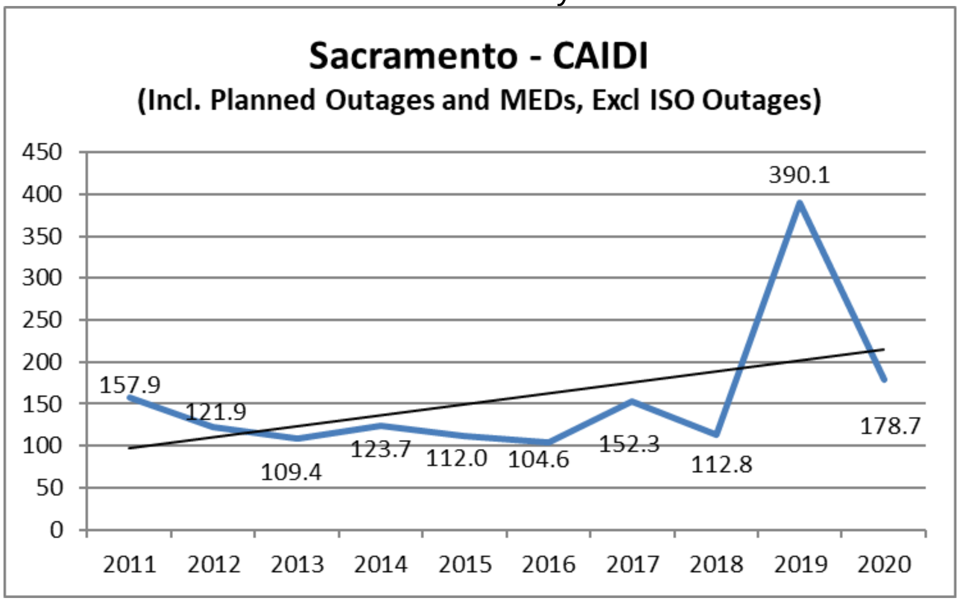


Chart 365: Division Reliability – CAIDI Indices

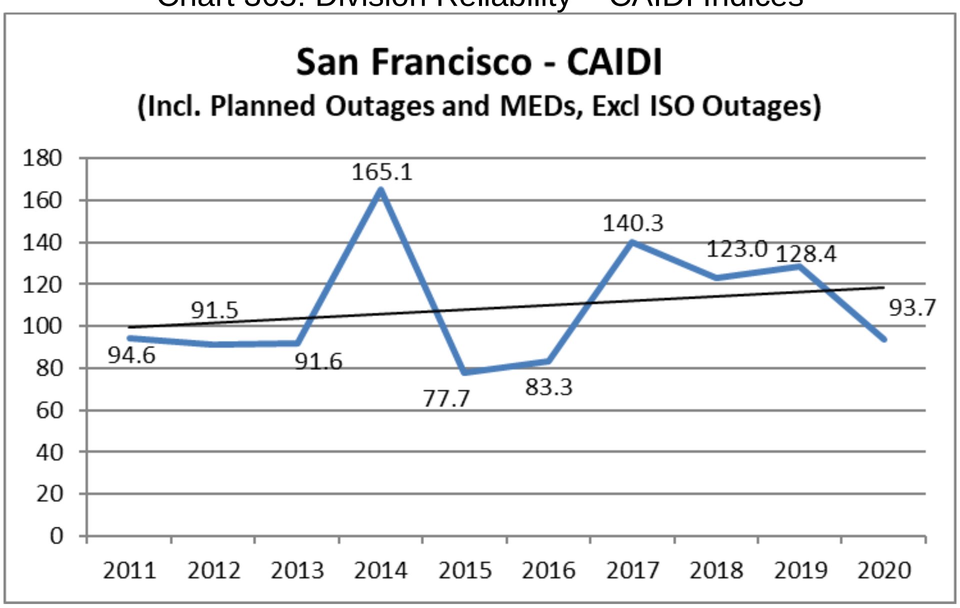


Chart 366: Division Reliability – CAIDI Indices

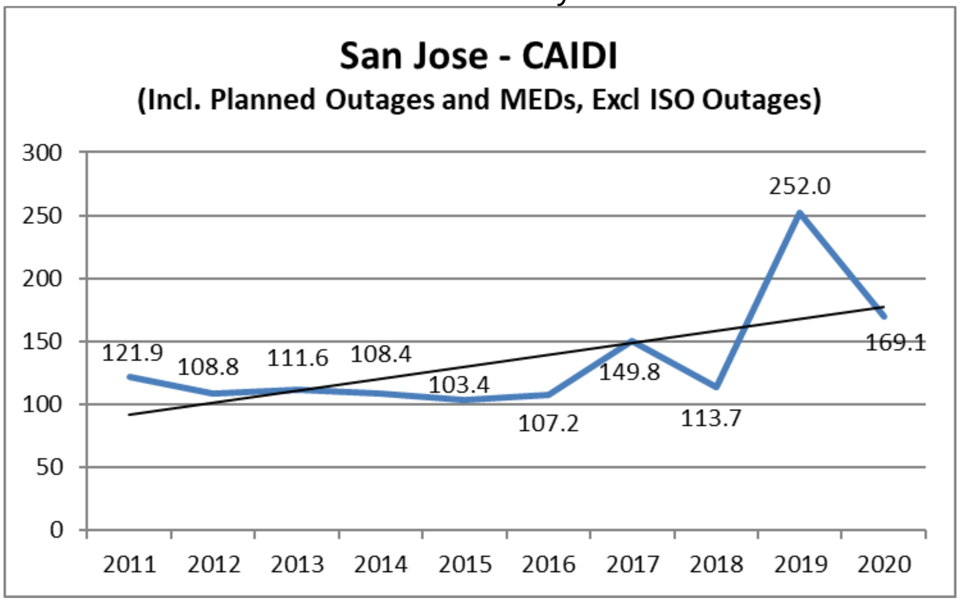


Chart 367: Division Reliability – CAIDI Indices

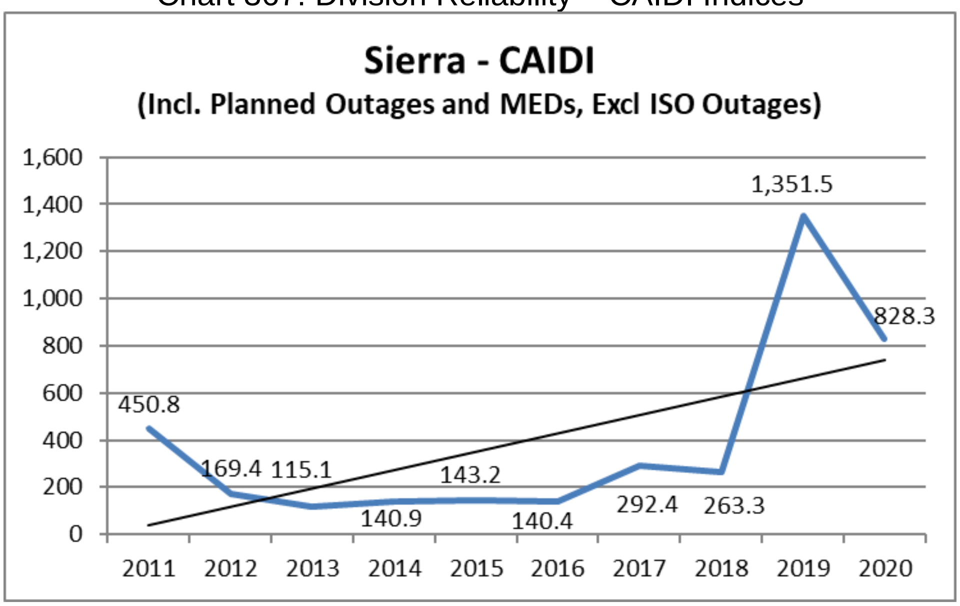


Chart 368: Division Reliability – CAIDI Indices

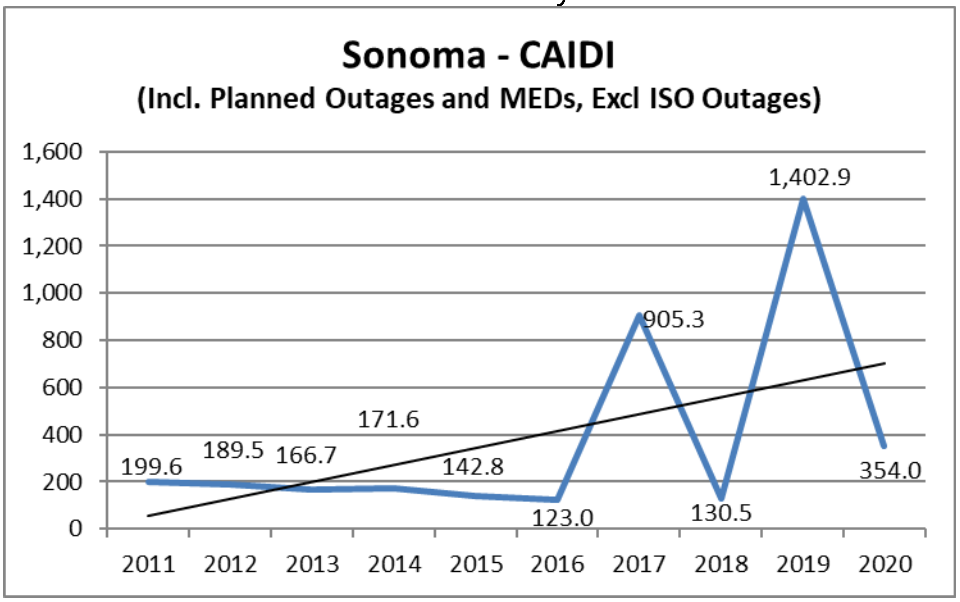


Chart 369: Division Reliability – CAIDI Indices

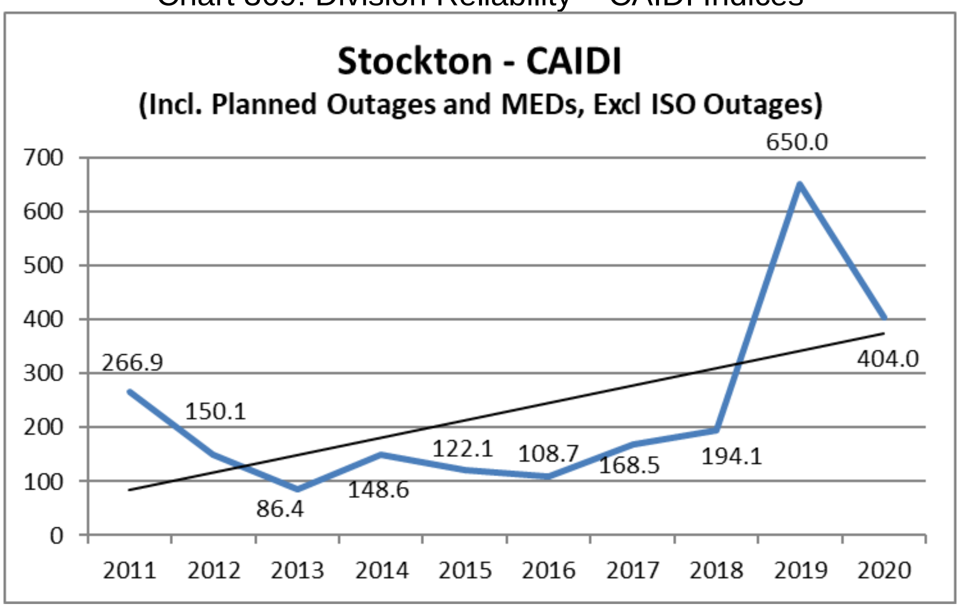


Chart 370: Division Reliability – CAIDI Indices

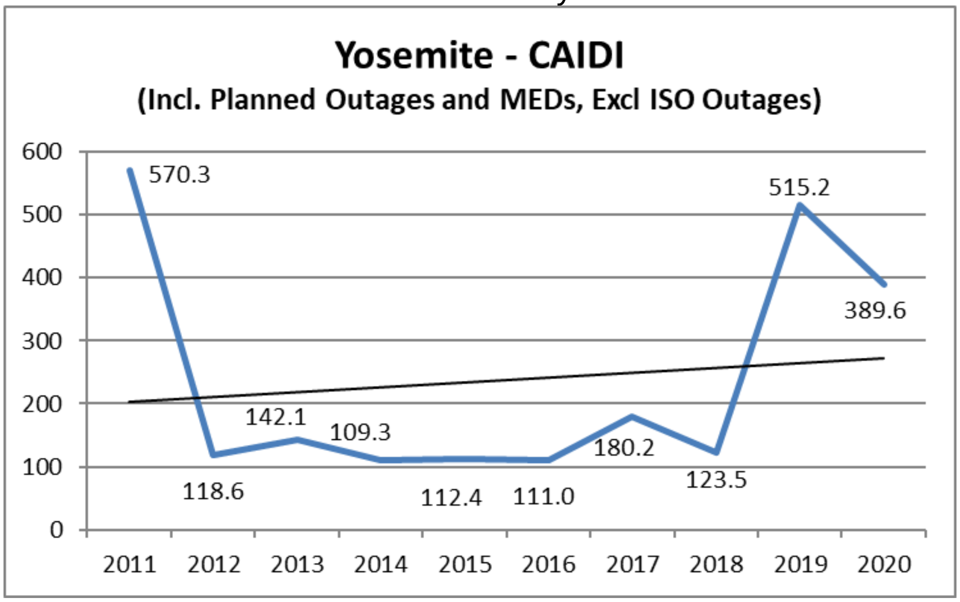
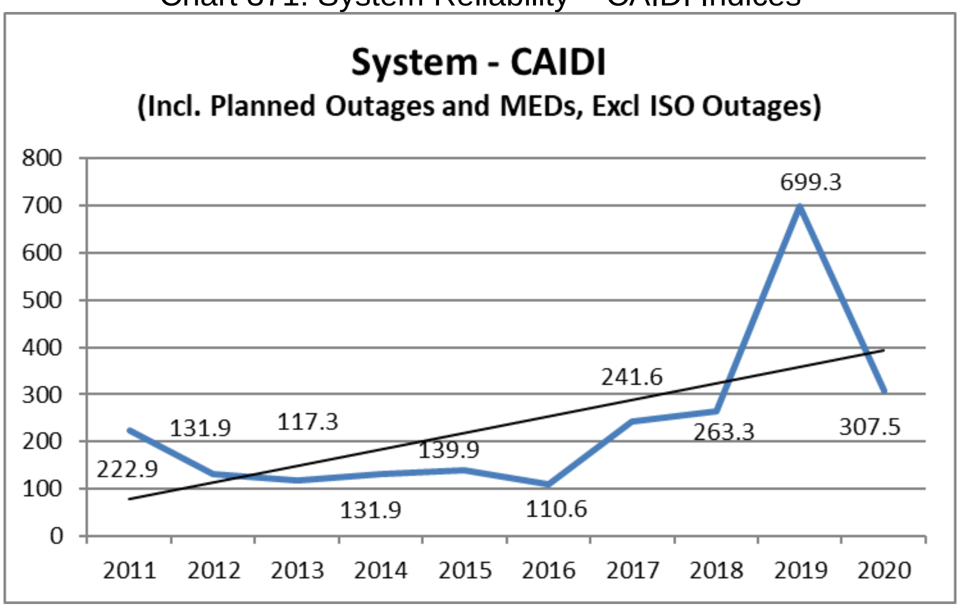


Chart 371: System Reliability – CAIDI Indices



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

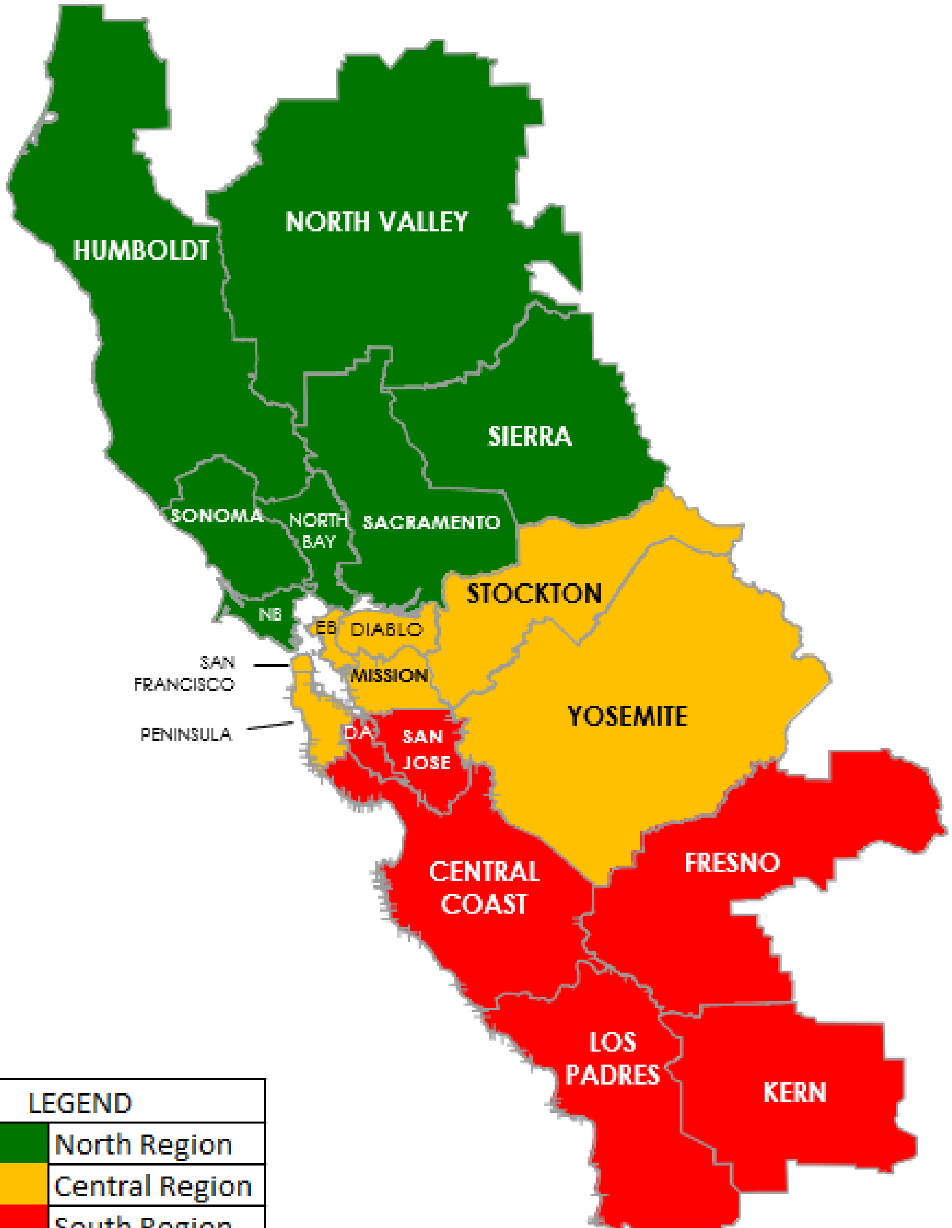
PG&E is submitting detailed planned outage information on a confidential basis under seal as required by Appendix B of Decision 16-01-008, footnote 7. Listed below is a summary of planned outages by year from 2011 through 2020:

Table 53: Ten Years Planned Outage Summary (2011-2020)

Year	Total Planned Outages
2010	12,373
2011	17,244
2012	17,006
2013	21,982
2014	18,026
2015	18,891
2016	20,253
2017	18,912
2018	36,575
2019	31,407
2020	36,115

4. Service Territory Map

PG&E Electric Service Territory



LEGEND	
green	North Region
amber	Central Region
red	South Region

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 54 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 55 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 19 circuits on each list with five 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 (2018 - 2020) 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 54 lists the worst performing circuits by outage frequency and indicates the worst AIFI circuit was the Wheeler Ridge 1101 circuit. The average customer on the Wheeler Ridge 1101 circuit experienced 4.24 sustained mainline outages per year from 2018-2020 (resulting from the operation of a circuit breaker or an automatic recloser).

Table 55 focuses on the duration of the sustained outages. Here, the Pit No 7 1101 circuit was identified as the worst AIDI performing circuit. For this circuit, the average customer on the circuit experienced 2,233 sustained mainline outage minutes per year from 2018-2020 (resulting from the operation of a circuit breaker or an automatic recloser).

Five circuits (Otter 1102, Elk Creek 1101, Willow Creek 1101, El Dorado PH 2101, and Alleghany 1101) appear on both lists. These five circuits are highlighted in red within Tables 54 and 55. 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	KERN	WHEELER RIDGE-1101	WHEELER RIDGE-1101	345	68	99	1	1	7	4.24
2	HUMBOLDT	GARBERVILLE	GARBERVILLE-1101*	1281	165	98	2	1 & 2	13	4.12
3	DE ANZA	LOS GATOS	LOS GATOS-1106*	1606	74	96	4	2 & 3	8	3.89
4	NORTH VALLEY	ELK CREEK	ELK CREEK-1101	917	182	99	1	1 & 2	7	3.87
5	NORTH VALLEY	PARADISE	PARADISE-1103	611	24	37	63	1 & 3	3	3.81
6	HUMBOLDT	WILLOW CREEK	WILLOW CREEK-1101	783	61	93	7	1, 2 & 3	6	3.73
7	STOCKTON	ALPINE	ALPINE-1101*	280	8	12	88	1	4	3.73
8	CENTRAL COAST	BEN LOMOND	BEN LOMOND-0401	759	22	95	5	3	4	3.66
9	NORTH BAY	CALISTOGA	CALISTOGA-1101	1658	124	91	9	1, 2 & 3	9	3.62
10	STOCKTON	WEBER	WEBER-1105	2616	19	84	16	1	4	3.54
11	SIERRA	EL DORADO PH	EL DORADO PH-2101	4655	168	99	1	1, 2 & 3	12	3.25
12	SACRAMENTO	GRAND ISLAND	GRAND ISLAND-2224*	611	65	98	2	1	8	3.19
13	DE ANZA	CAMP EVERS	CAMP EVERS-2106	5556	157	87	13	1, 2 & 3	16	3.14
14	CENTRAL COAST	OTTER	OTTER-1102*	529	65	83	17	2 & 3	5	3.10
15	STOCKTON	EIGHT MILE	EIGHT MILE-2101	2655	91	73	27	1	5	3.10
16	SIERRA	ALLEGHANY	ALLEGHANY-1101	1074	79	97	3	1, 2 & 3	7	3.09
17	CENTRAL COAST	CASSERLY	CASSERLY-0401	215	3	100	0	1	3	2.98
18	SACRAMENTO	GRAND ISLAND	GRAND ISLAND-2223	1397	101	96	4	1	6	2.98
19	LOS PADRES	TEMPLETON	TEMPLETON-2113	5501	352	92	8	1, 2 & 3	10	2.93

Table 54

#	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 55

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 or will not be submitted in the 2020 and 2023 General Rate Cases (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 Wildfire Safety Plan to minimize the risk of catastrophic wildfires. A key component in the Wildfire Safety Plan submittal is the System Hardening Program.

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, and targeted conversion of overhead equipment to underground 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 miles of system hardening work in HFTD areas in 2020 as part of the PG&E's Wildfire Safety Plan. In 2021-2023, PG&E forecasts completing approximately 1,140 circuit miles.

Another key component of the Wildfire Safety Plan is 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 EMV circuit is to minimize vegetation caused outages. As part of the 2020 Wildfire Safety Plan, PG&E completed 1,878 circuit miles of EVM work in HFTD areas. In 2021, PG&E forecasts completing approximately 1,800 circuit miles. The program will be a multi-year effort to address the approximately 25,200 distribution circuit miles in the HFTD areas.

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 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 54 and 55, 12 and 17 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 (2016-2018) average AIDI score of 630
      - Three-year (2017-2019) average AIDI score of 1,151
      - Three-year (2018-2020) average AIDI score of 994
   ii. A historical record of the metric:
      - AIDI 2016 = 590
      - AIDI 2017 = 846
      - AIDI 2018 = 420
      - AIDI 2019 = 2,231
      - AIDI 2020 = 330
   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 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. Delayed restoration efforts were associated with securing helicopter resources to perform visual patrols of the inaccessible mainline sections in the Tier 3 HFTD.
   iv. An explanation of what is being done to improve the circuit's future performance:

      This circuit was part of PG&E’s 2013 Targeted Circuit program. Specifically, the 2013 targeted circuit project replaced 2,700 feet of overhead conductor with larger wire to be more resilient to snow loading conditions. This project also upgraded 2 reclosers to provide remote operation capability. As of the date of this report, no system hardening project nor base reliability work has been initiated for the Alleghany 1101 circuit.
   v. A quantitative description of the utility's expectation for that circuit's future performance:

      A 25% or better improvement in reliability performance had been observed after completion of the 2013 targeted circuit project. Incremental reliability improvement is also 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 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 ORT Process.

2. ALPINE 1101

i. An explanation of why it was ranked as a "deficient" circuit:
   - Three-year (2016-2018) average AIFI score of 3.33
   - Three-year (2017-2019) average AIFI score of 3.80
   - Three-year (2018-2020) average AIFI score of 3.73

ii. A historical record of the metric:
   - AIFI 2016 = 4.00
   - AIFI 2017 = 2.01
   - AIFI 2018 = 3.99
   - AIFI 2019 = 5.40
   - AIFI 2020 = 1.80

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 7 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. The major factor driving the Alpine 1101 reliability performance is the reliability performance of the Salt Springs 2101 circuit. The Salt Springs 2101 circuit also serves customers located in the 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. As of the date of this report, no system hardening project nor base reliability improvement work 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 ORT Process.

3. BUCKS CREEK 1103

i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2016-2018) average AIDI score of 1,175
- Three-year (2017-2019) average AIDI score of 1,029
- Three-year (2018-2020) average AIDI score of 803

ii. A historical record of the metric:
- AIDI 2016 = 1,199
- AIDI 2017 = 1,084
- AIDI 2018 = 1,242
- AIDI 2019 = 761
- AIDI 2020 = 405

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

The Bucks Creek 1103 circuit provides electric service to approximately 321 customers in Plumas County through 26 circuit-miles of OH conductor and UG cable. This circuit also serves customers located in the High Fire Threat District - Tier 3 (Extreme Risk). The Bucks Creek 1103 circuit is comprised of one main branch that travels east along OHV Road 9 through a 15 mile stretch of mountainous terrain including Plumas National Forest to the Bucks Lake community. The major factors driving Bucks Creek 1103 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:

As of the date of this report, no system hardening project nor base reliability improvement work has been initiated on the Bucks Creek 1103 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 3 High Fire Threat District. Bucks Creek 1103 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 ORT Process.

4. CORDELIA 1104

vi. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2016-2018) average AIDI score of 826
- Three-year (2017-2019) average AIDI score of 683
- Three-year (2018-2020) average AIDI score of 586

vii. A historical record of the metric:

- AIDI 2016 = 427
- AIDI 2017 = 290
- AIDI 2018 = 1,752
- AIDI 2019 = 0
- AIDI 2020 = 0

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

The Cordelia 1104 circuit provides electric service to approximately 332 customers in Solano County through 68 circuit-miles of predominantly overhead conductor. The Cordelia 1104 circuit is comprised of one main branch that travels southeast from the city of Cordelia through a 10 mile stretch of slough wetlands including Joice Island State Game Refuge and Grizzly Island Wildlife Area. The major factors driving Cordelia 1104 reliability performance are overhead equipment exposed to elevated corrosion conditions, remote unincorporated wetland terrain which limits restoration and maintenance accessibility, increased bird activity risks during the bird migration season, and minimal ties to adjacent circuits for outage restoration support. Specifically, the overall 2018 AIDI performance was driven by a single environmental/external caused (fire) event resulting in 3 spans of wire down. Delayed restoration efforts were associated with inaccessibility to the wire down location due to the fire activity.

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

As of the date of this report, no base reliability improvement work has been initiated on the Cordelia 1104 circuit.

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

Although no reliability improvement work has been initiated on the Cordelia 1104 circuit as of the date of this report, circuit performance will continue to be actively monitored. This includes initiating any base reliability improvement work to minimize re-occurring outage activities part of the ORT process.

5. ELK CREEK 1101

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

- Three-year (2016-2018) average AIDI score of 684
- Three-year (2017-2019) average AIDI score of 1,011
- Three-year (2018-2020) average AIDI score of 1,173

ii. A historical record of the metric:

- AIDI 2016 = 0
- AIDI 2017 = 118
- AIDI 2018 = 1,936
- AIDI 2019 = 971

- AIDI 2020 = 614

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

The Elk Creek 1101 circuit provides electric service to approximately 917 customers in Southern Glenn and Northern Colusa Counties through 182 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the 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. The 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:

As of the date of this report, no system hardening project nor base reliability improvement work has been initiated on the Elk Creek 1101 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. 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 ORT Process.

6. GARBERVILLE 1101

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

- Three-year (2016-2018) average AIFI score of 4.99
- Three-year (2017-2019) average AIFI score of 3.92
- Three-year (2018-2020) average AIFI score of 4.12

ii. A historical record of the metric:

- AIFI 2016 = 8.76
- AIFI 2017 = 3.81
- AIFI 2018 = 2.49
- AIFI 2019 = 5.46
- AIFI 2020 = 4.40

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

The Garberville 1101 circuit provides electric service to approximately 1,279 customers in Southern Humboldt and Northern Mendocino Counties through 165 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the 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 the 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:

This circuit was part of the 2012 Targeted Circuit program. Specifically, the 2012 targeted circuit project upgraded 700 feet of overhead conductor, installed two overhead switches, and performed miscellaneous reliability work like pole reframing and self-protecting transformer replacement. An additional 4,400 feet of mainline conductor was successfully replaced in 2016 as part of the OH Conductor Replacement Program. A system hardening project to replace 9,000' of OH 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:

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. 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 ORT Process.

7. GRAND ISLAND 2224

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

- Three-year (2016-2018) average AIFI score of 2.90
- Three-year (2017-2019) average AIFI score of 3.08
- Three-year (2018-2020) average AIFI score of 3.19

vi. A historical record of the metric:

- AIFI 2016 = 3.94
- AIFI 2017 = 0.55

- AIFI 2018 = 4.10
- AIFI 2019 = 4.45
- AIFI 2020 = 1.03

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

The Grand Island 2224 circuit provides electric service to approximately 1,397 customers in Sacramento County through 101 circuit-miles of primarily overhead conductor. The Grand Island 2224 circuit is comprised of one main branch that travels south along Steamboat Slough through a 5 mile stretch of predominantly agriculture fields and vineyards. The primary mainline section splits into various branches near the community of Isleton and extends throughout the slough wetlands of the Sacramento-San Joaquin River Delta. The major factors driving the Grand Island 2224 reliability performance are overhead equipment exposed to elevated corrosion conditions, agriculture terrain which limits restoration and maintenance accessibility, increased bird activity risks during the bird migration season, and minimal ties to adjacent circuits for outage restoration support.

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

An Asset Replacement Project to replace 800 feet of mainline conductor work was successfully completed in 2020. An Asset Replacement Project to replace 1,454’ of conductor is planned for 2021. An additional Asset Replacement Project to potentially relocate the main branch exiting Grand Island Substation for improved accessibility and maintenance has also been recently initiated with a planned completion date of 2022.

iv. 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 2020 and 2021. Significant improvement to mainline reliability performance is anticipated after completion of the planned substation outlet relocation work. Grand Island 2224 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 ORT Process.

8. LOS GATOS 1106

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

- Three-year (2016-2018) average AIFI score of 4.51
- Three-year (2017-2019) average AIFI score of 3.45
- Three-year (2018-2020) average AIFI score of 3.89

ii. A historical record of the metric:

- AIFI 2016 = 4.42

- AIFI 2017 = 3.58
- AIFI 2018 = 5.54
- AIFI 2019 = 1.24
- AIFI 2020 = 4.88

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 1,603 customers in Santa Clara county through 74 miles of primary overhead conductor. This circuit also serves customers located in the High Fire Threat District - Tier 2 (Elevated Risk) and Tier 3 (Extreme Risk). The Los Gatos 1107 circuit is comprised of one main branch that travels south along Highway 50 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.

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

A targeted circuit project had been initiated on the Los Gatos 1106 circuit but has since been repurposed to support the wildfire mitigation efforts. Several system hardening projects have been initiated to replace over 30 miles of OH conductor as part of the Wildfire Safety Plan with 5.3 miles successfully completed in 2019-2021. The remaining 24.7 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.

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

Incremental reliability improvement is anticipated after completion of the system hardening projects, but the anticipated reliability benefits have not been quantified. 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 ORT Process.

9. LOW GAP 1101

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

- Three-year (2016-2018) average AIDI score of 661
- Three-year (2017-2019) average AIDI score of 704

- Three-year (2018-2020) average AIDI score of 595

i. A historical record of the metric:
- AIDI 2016 = 148
- AIDI 2017 = 619
- AIDI 2018 = 1,215
- AIDI 2019 = 277
- AIDI 2020 = 295

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

The Low Gap 1101 circuit provides electric service to approximately 734 customers in Trinity and Humboldt counties through 74 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the High Fire Threat District - Tier 2 (Elevated Risk). The Low Gap 1101 circuit is comprised of two main branches: the north branch serves approximately 320 customers through mountainous terrain along Hwy 36 and the south branch serves approximately 410 customers through mountainous terrain along Ruth Reservoir. The major factors driving the Low Gap 1101 reliability performance are the remote service territory, overhead conductor exposure with increased vegetation caused outage risks, and minimal ties to adjacent circuits for outage restoration support. The 2018 reliability performance was primarily driven by several unknown and vegetation caused outages impacting a recloser zone with 285 customers.

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

As of the date of this report, no system hardening project nor base reliability improvement work has been initiated on the Low Gap 1101 circuit.

iv. 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. Low Gap 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.

10. OTTER 1102

i. An explanation of why it was ranked as a "deficient" circuit:
- Three-year (2016-2018) average AIFI score of 3.84 and AIDI score of 976
- Three-year (2017-2019) average AIFI score of 3.23 and AIDI score of 1,745

- Three-year (2018-2020) average AIFI score of 3.10 and AIDI score of 1,849

ii. A historical record of the metric:

- AIFI 2016 = 5.90
- AIFI 2017 = 1.84
- AIFI 2018 = 3.80
- AIFI 2019 = 4.07
- AIFI 2020 = 1.44

- AIDI 2016 = 1,110
- AIDI 2017 = 103
- AIDI 2018 = 1,713
- AIDI 2019 = 3,421
- AIDI 2020 = 411

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

The Otter 1102 circuit provides electric service to approximately 530 customers in Monterey County through 65 circuit-miles of primarily overhead conductor. This circuit also serves customers located in the 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.

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

This circuit was part of the 2014 Targeted Circuit program. Specifically, the targeted circuit project replaced 1,000 feet of overhead conductor, installed seven fuses, replaced 7 poles, reframed 14 cross arms, and installed 9 animal guards. An additional 19,100 feet of reconductor work was completed from 2015-2016 with another 10,100 feet of reconductor work to be re-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. Additional outage review investigations will be explored to help identify targeted opportunities like installing a temporary generation site at the end of the circuit to support restoration efforts.

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

A 25% or better improvement in reliability performance had been observed after completion of the 2014 targeted circuit project. Incremental reliability improvement is anticipated after completion of overhead reconductor work and the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District. 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 ORT Process.

11. POSO MOUNTAIN 2101

i. An explanation of why it was ranked as a "deficient" circuit:
   - Three-year (2016-2018) average AIDI score of 884
   - Three-year (2017-2019) average AIDI score of 711
   - Three-year (2018-2020) average AIDI score of 654

ii. A historical record of the metric:
   - AIDI 2016 = 1,379
   - AIDI 2017 = 192
   - AIDI 2018 = 1,082
   - AIDI 2019 = 866
   - AIDI 2020 = 13

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

   The Poso Mountain 2101 circuit provides electric service to approximately 144 customers in Kern County through 60 circuit-miles of entirely overhead conductor. This circuit also serves customers located in the High Fire Threat District - Tier 2 (Elevated Risk). The Poso Mountain 2101 circuit is comprised of several branches that support a predominately unincorporated community north of Bakersfield. The major factors driving the Poso Mountain 2101 reliability performance are overhead conductor exposure, animal (bird) caused outages, 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:

   As part of PG&E's base reliability work, three failed reclosers were replaced with bird guard protection in 2016. A base reliability project had been initiated for installing 6 fuses and installing 2 overhead fault indicators with a target 2021 completion date. As of the date of this report, no system hardening project has been initiated for the Poso Mountain 2101 circuit.

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

   Although difficult to quantify the anticipated reliability benefits after completion of the 2016 base reliability project, a positive trend in AIDI improvement has been observed from 2016 to 2020. Incremental reliability improvement is also anticipated after completion of the base reliability project and completion of the comprehensive Wildfire Safety Plan to minimize wildfire ignition risks in the Tier 2 High Fire Threat District. Poso Mountain 2101 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 ORT Process.

12. SALT SPRINGS 2101

ii. An explanation of why it was ranked as a "deficient" circuit:
   - Three-year (2016-2018) average AIDI score of 568
   - Three-year (2017-2019) average AIDI score of 770
   - Three-year (2018-2020) average AIDI score of 698

iii. A historical record of the metric:
   - AIDI 2016 = 151
   - AIDI 2017 = 386
   - AIDI 2018 = 1,167
   - AIDI 2019 = 757
   - AIDI 2020 = 170

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

   The Salt Springs 2101 circuit provides electric service to approximately 393 customers in Amador, Calaveras, and Alpine Counties through 45 circuit-miles of both overhead and underground conductor. The primary mainline section of the Salt Springs 2101 circuit travels south along Highway 4 through a stretch of mountainous terrain including El Dorado and Stanislaus National Forests. Poor 2018 performance is the driver for the Salt Springs 2101 circuit making the deficient circuit list. The major factors driving the Salt Springs 2101 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.

v. An explanation of what is being done to improve the circuit's future 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. As of the date of this report, no system hardening project nor base reliability improvement work has been initiated on the Salt Springs 2101 circuit.

vi. 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. Salt Springs 2101 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 ORT Process.

6. Top 10 major unplanned power outage events of 2020

Significant Outage Events Of 2020

The table below lists the ten largest outage events experienced during 2020. 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 56 - 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, 2020. PSPS event data reflects PG&E crew repairs only (excludes patrols, inspections and vegetation management). Contractor information not readily available.

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 57 – 2020 Major Event Day

Date	Description	Reason
1/16/2020 – 1/17/2020	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.	IEEE MED
02/09/2020	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.	IEEE MED
3/15/2020 – 3/16/2020	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.	IEEE MED
8/15/2020 – 8/17/2020	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.	IEEE MED
9/7/2020 – 9/8/2020	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.	IEEE MED
09/27/2020	Gusty offshore winds led to critical fire weather conditions and the execution of PSPS across the North and in southern Kern.	IEEE MED
10/14/2020	High gusts of wind that started in the Diablo region let to critical fire weather conditions and the implementation of PSPS in many parts of the service territory. Several weather stations reported wind gusts in excess of 50 mph with peak gusts near 65 mph.	IEEE MED
10/22//2020	High gusts of wind that started in the Diablo region. A strong offshore wind event developed across a wide swath of the territory resulting in critical fire weather conditions and the implementation of PSPS.	IEEE MED
10/25/2020	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.	IEEE MED

*MED is defined as Major Events Day

7.1 Major Event Day (MED) Discussions:

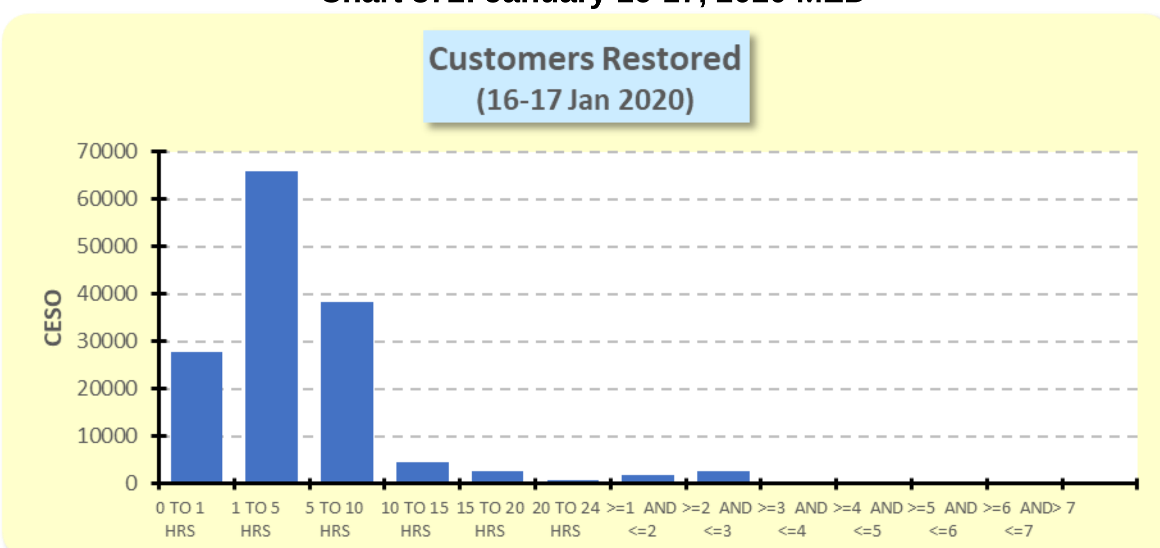
January 16-17, 2020 Major Event Day

Table 58 below indicates the number of customers without service at periodic intervals for this event (01/16/2020 – 01/17/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 58 – January 16-17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	27,762	19.08%
1 TO 5 HRS	65,887	45.29%
5 TO 10 HRS	38,354	26.37%
10 TO 15 HRS	4,433	3.05%
15 TO 20 HRS	2,558	1.76%
20 TO 24 HRS	784	0.54%
>=1 AND <=2	1,887	1.30%
>=2 AND <=3	2,665	1.83%
>=3 AND <=4	617	0.42%
>=4 AND <=5	411	0.28%
>=5 AND <=6	11	0.01%
>=6 AND <=7	94	0.06%
> 7	4	0.00%
Total	145,467	

Chart 372: January 16-17, 2020 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%.

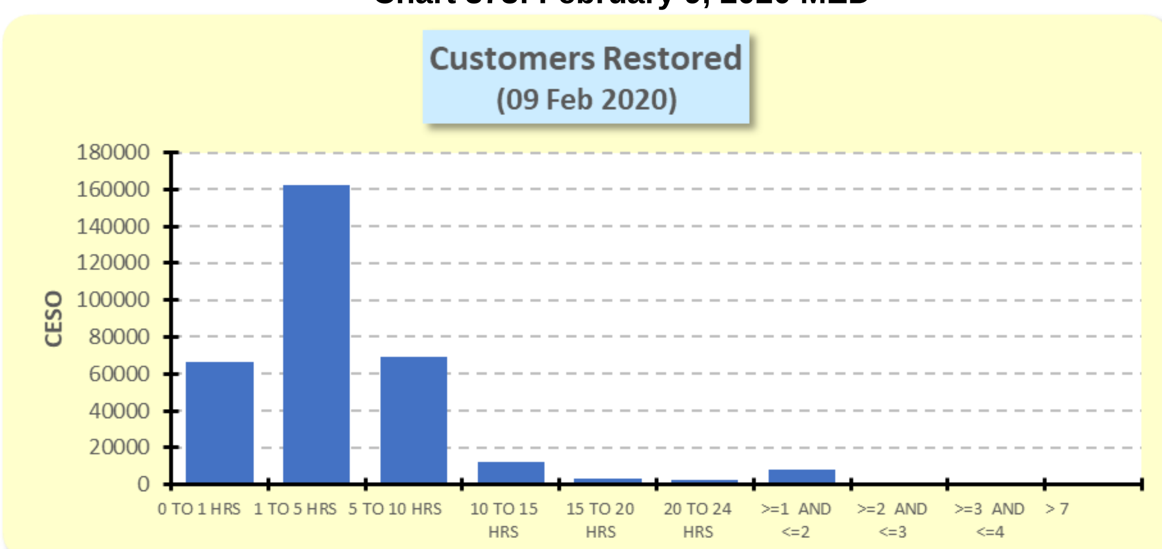
February 9, 2020 Major Event Day

Table 59 below indicates the number of customers without service at periodic intervals for this event (02/09/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 59 – February 9

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	66,376	20.45%
1 TO 5 HRS	162,338	50.00%
5 TO 10 HRS	68,877	21.22%
10 TO 15 HRS	12,502	3.85%
15 TO 20 HRS	2,885	0.89%
20 TO 24 HRS	2,481	0.76%
>=1 AND <=2	7,991	2.46%
>=2 AND <=3	1,194	0.37%
>=3 AND <=4	9	0.00%
> 7	2	0.00%
Total	324,655	

Chart 373: February 9, 2020 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%.

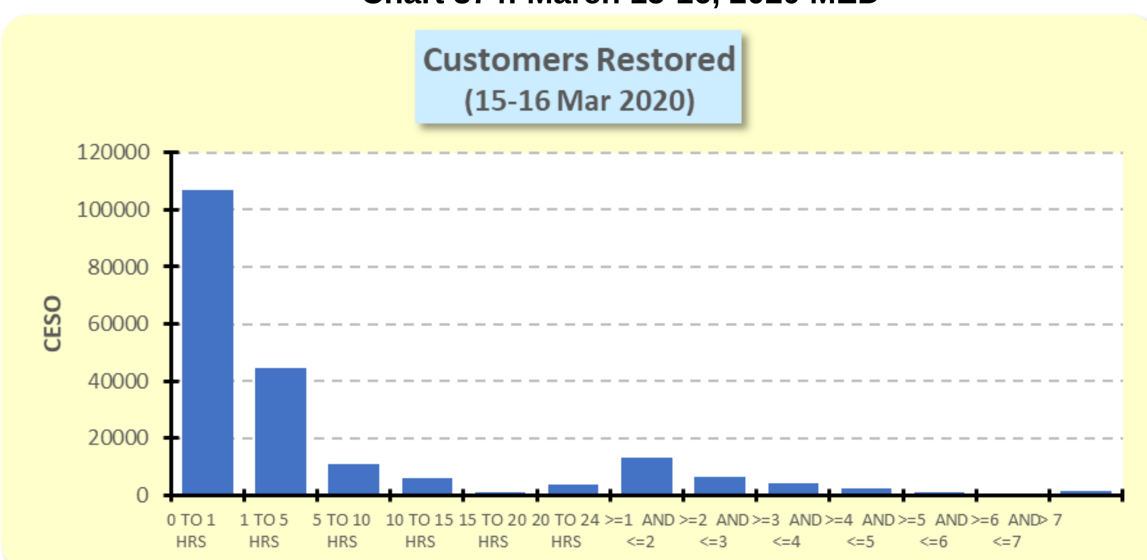
March 15-16, 2020 Major Event Day

Table 60 below indicates the number of customers without service at periodic intervals for this event (03/15/2020 – 03/16/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 60 – March 15-16

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	106,843	52.64%
1 TO 5 HRS	44,409	21.88%
5 TO 10 HRS	11,041	5.44%
10 TO 15 HRS	6,063	2.99%
15 TO 20 HRS	1,267	0.62%
20 TO 24 HRS	3,945	1.94%
>=1 AND <=2	13,117	6.46%
>=2 AND <=3	6,483	3.19%
>=3 AND <=4	4,238	2.09%
>=4 AND <=5	2,621	1.29%
>=5 AND <=6	857	0.42%
>=6 AND <=7	757	0.37%
> 7	1,322	0.65%
Total	202,963	

Chart 374: March 15-16, 2020 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%.

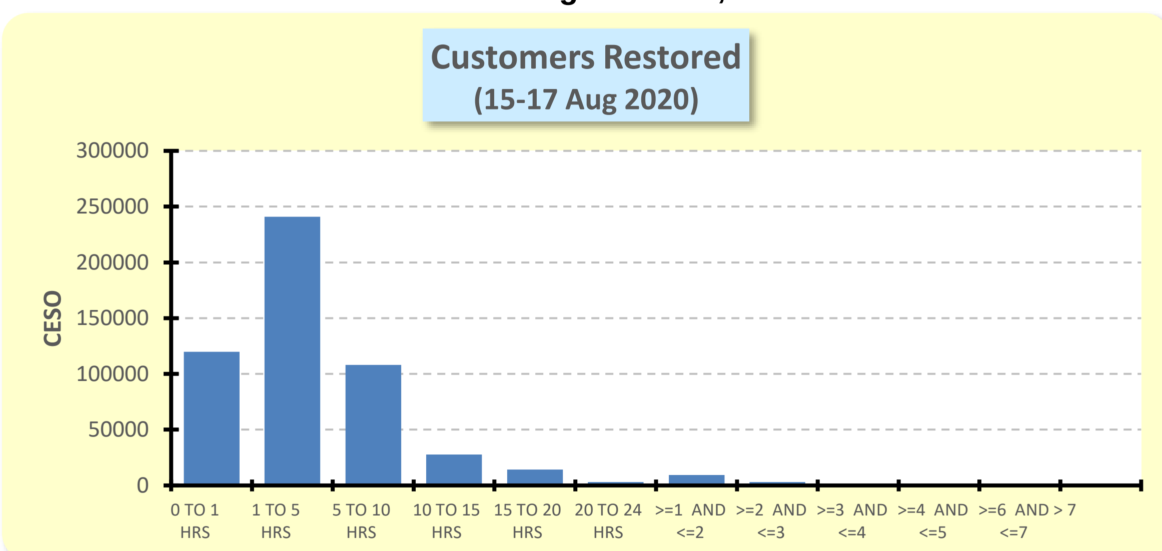
August 15-17 Major Event Day

Table 61 below indicates the number of customers without service at periodic intervals for this event (08/15/2020 – 08/17/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 61 – August 15-17

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	119,958	22.72%
1 TO 5 HRS	240,803	45.61%
5 TO 10 HRS	108,000	20.46%
10 TO 15 HRS	27,823	5.27%
15 TO 20 HRS	14,369	2.72%
20 TO 24 HRS	3,034	0.57%
>=1 AND <=2	9,416	1.78%
>=2 AND <=3	2,967	0.56%
>=3 AND <=4	1,082	0.20%
>=4 AND <=5	12	0.00%
>=6 AND <=7	121	0.02%
> 7	351	0.07%
Total	527,936	

Chart 375: August 15-17, 2020 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%.

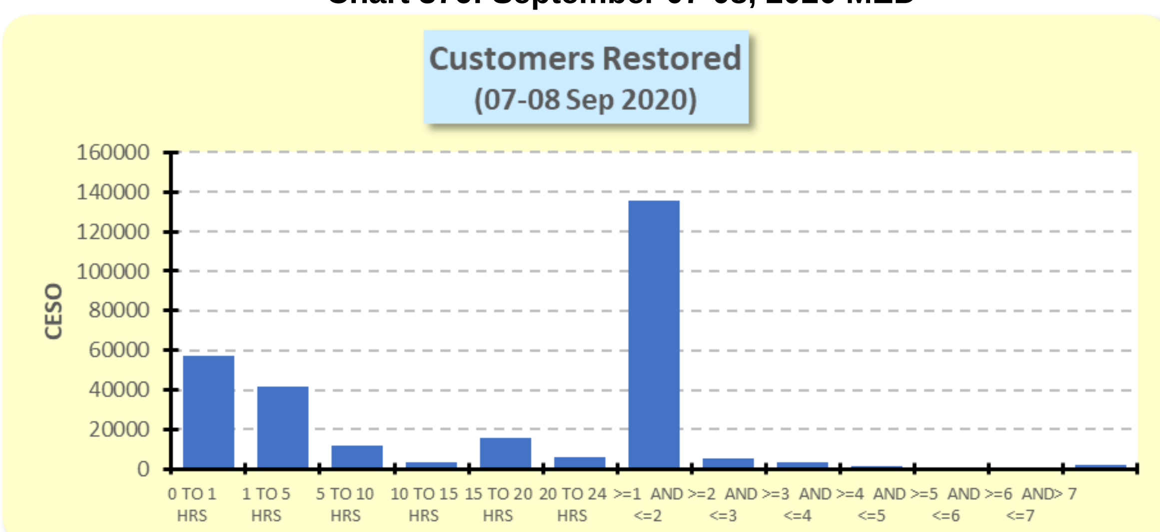
September 7-8 Major Event Day

Table 62 below indicates the number of customers without service at periodic intervals for this event (09/07/2020 – 09/08/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 62 – September 7-8

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	57,262	20.07%
1 TO 5 HRS	41,420	14.52%
5 TO 10 HRS	11,884	4.17%
10 TO 15 HRS	3,084	1.08%
15 TO 20 HRS	15,909	5.58%
20 TO 24 HRS	6,040	2.12%
>=1 AND <=2	135,910	47.65%
>=2 AND <=3	5,279	1.85%
>=3 AND <=4	3,657	1.28%
>=4 AND <=5	1,594	0.56%
>=5 AND <=6	452	0.16%
>=6 AND <=7	477	0.17%
> 7	2,276	0.80%
Total	285,244	

Chart 376: September 07-08, 2020 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%.

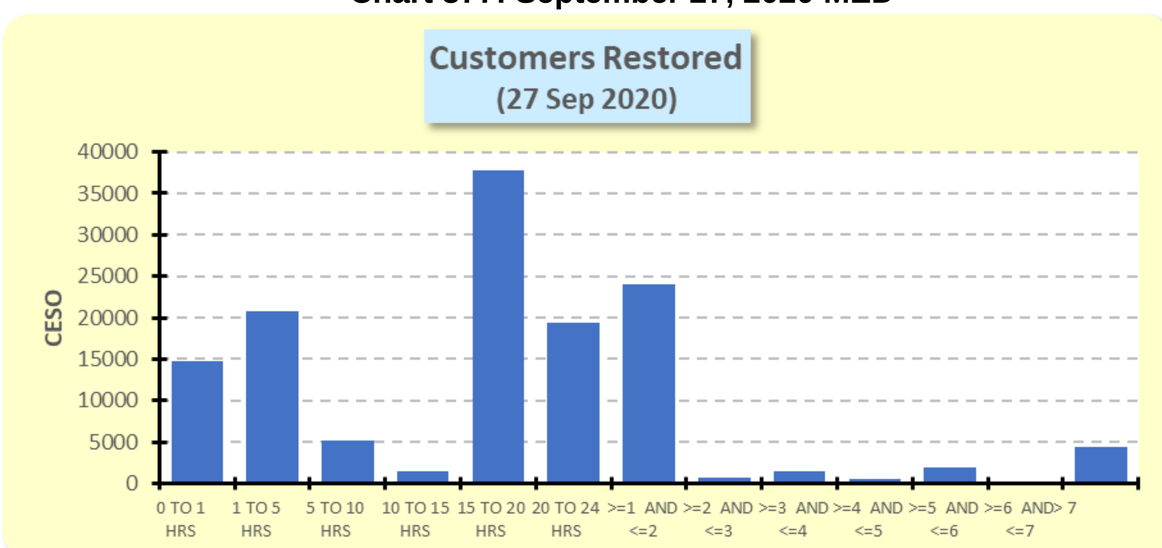
September 27 Major Event Day

Table 63 below indicates the number of customers without service at periodic intervals for this event (09/27/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 63 – September 27

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	14,826	11.21%
1 TO 5 HRS	20,773	15.71%
5 TO 10 HRS	5,121	3.87%
10 TO 15 HRS	1,463	1.11%
15 TO 20 HRS	37,726	28.52%
20 TO 24 HRS	19,382	14.65%
>=1 AND <=2	23,956	18.11%
>=2 AND <=3	715	0.54%
>=3 AND <=4	1,416	1.07%
>=4 AND <=5	554	0.42%
>=5 AND <=6	1,927	1.46%
>=6 AND <=7	52	0.04%
> 7	4,353	3.29%
Total	132,264	

Chart 377: September 27, 2020 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%.

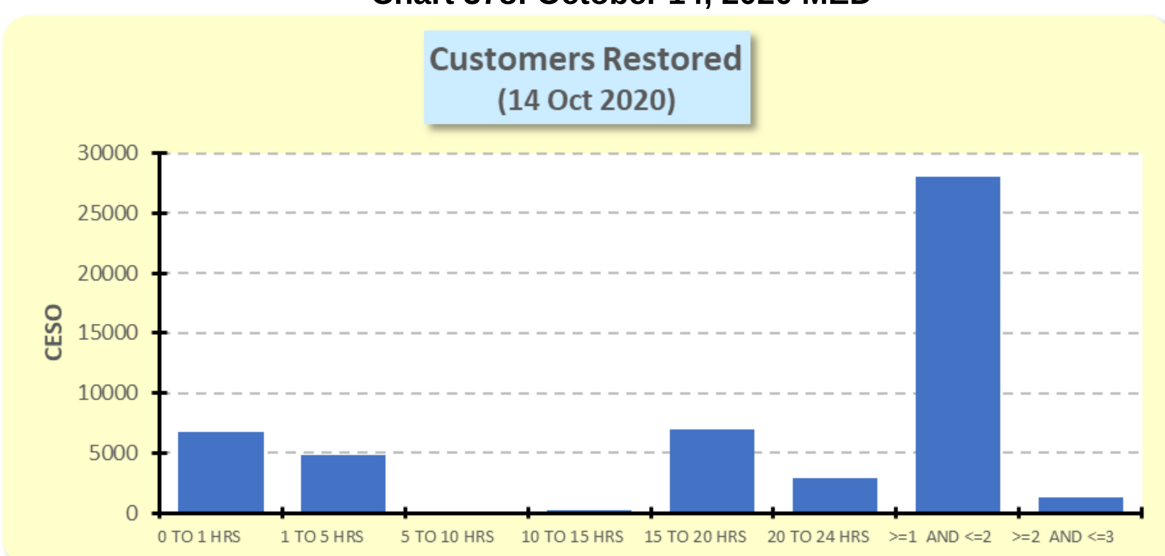
October 14 Major Event Day

Table 64 below indicates the number of customers without service at periodic intervals for this event (10/14/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 64 – October 14

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	6,761	13.19%
1 TO 5 HRS	4,860	9.48%
5 TO 10 HRS	130	0.25%
10 TO 15 HRS	222	0.43%
15 TO 20 HRS	6,922	13.51%
20 TO 24 HRS	2,947	5.75%
>=1 AND <=2	28,070	54.77%
>=2 AND <=3	1,337	2.61%
Total	51,249	

Chart 378: October 14, 2020 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%.

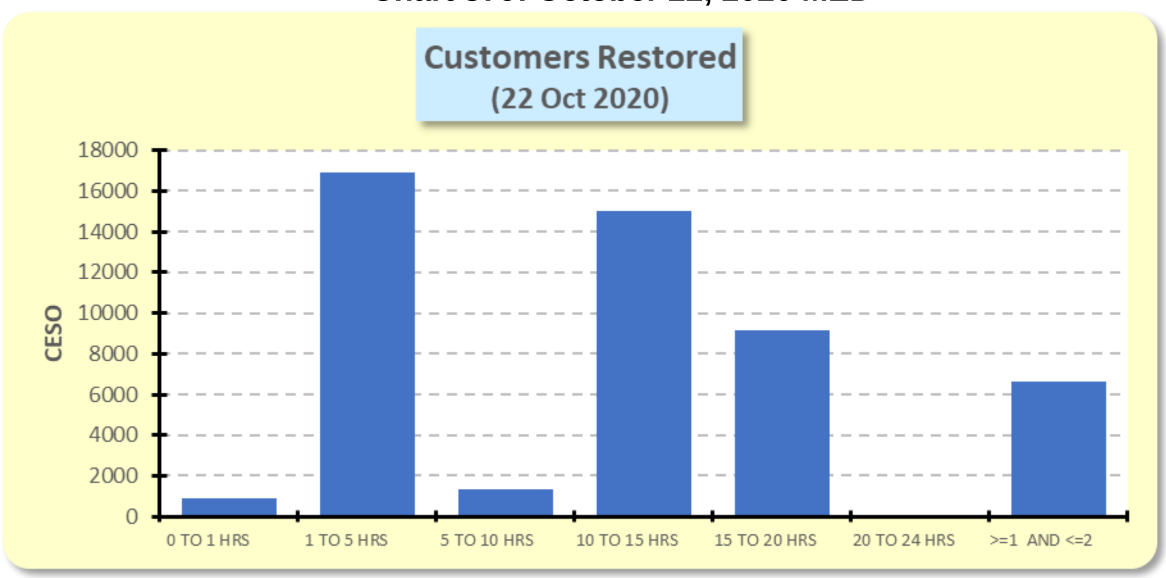
October 22 Major Event Day

Table 65 below indicates the number of customers without service at periodic intervals for this event (10/22/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 65 – October 22

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	890	1.78%
1 TO 5 HRS	16,907	33.85%
5 TO 10 HRS	1,344	2.69%
10 TO 15 HRS	15,007	30.05%
15 TO 20 HRS	9,136	18.29%
20 TO 24 HRS	13	0.03%
>=1 AND <=2	6,648	13.31%
Total	49,945	

Chart 379: October 22, 2020 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%.

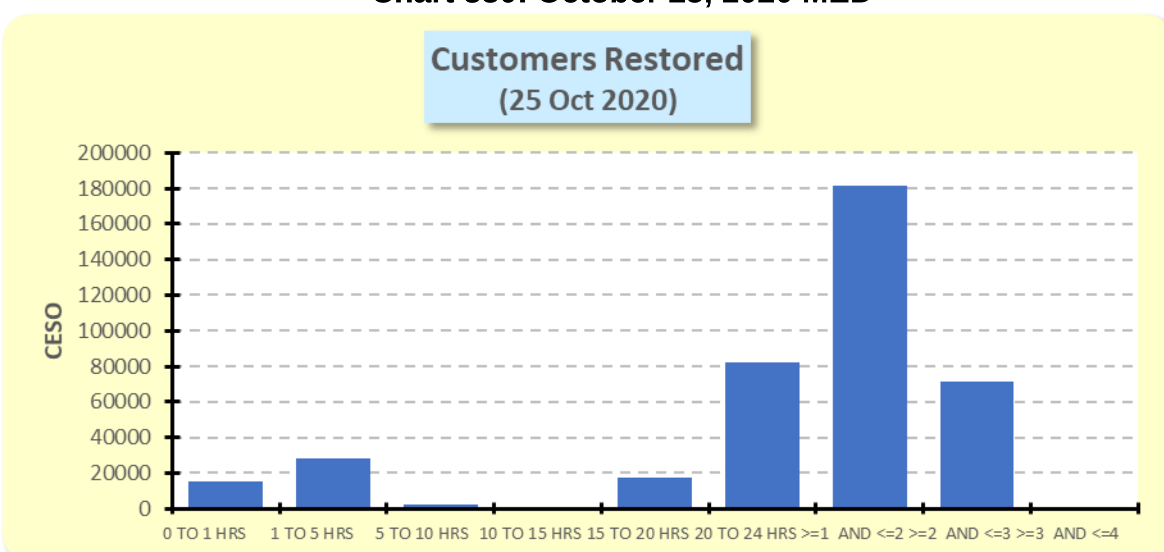
October 25 Major Event Day

Table 66 below indicates the number of customers without service at periodic intervals for this event (10/25/2020). The numbers of customers noted in the table are for only those divisions impacted by this event.

Table 66 – October 25

Outage Duration	Customers Impacted	Cumulative %
0 TO 1 HRS	15,209	3.81%
1 TO 5 HRS	28,527	7.14%
5 TO 10 HRS	2,178	0.55%
10 TO 15 HRS	800	0.20%
15 TO 20 HRS	17,714	4.43%
20 TO 24 HRS	81,922	20.51%
>=1 AND <=2	181,126	45.34%
>=2 AND <=3	71,727	17.96%
>=3 AND <=4	253	0.06%
Total	399,456	

Chart 380: October 25, 2020 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 2010-2019

Table 67 - 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 68 - 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 69 - 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 70 - 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 5th)
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 14th)
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 17th)
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 71 - 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 lighting 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 72 - 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 30th)
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 3rd)
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 73 - 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 rain storm 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 4th 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 74 - 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 75 - 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 19th to Sun 20th 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 24th. 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 17th 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.

Table 76 - Ten Largest 2010 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 strong jet stream developed over the Eastern Pacific, which spawned a series of outage producing weather events that included: - Three impulses of strong winds; gust above 50 mph each day (Jan 18, 19, 20) - Periods of moderate to heavy rainfall (Jan 18, 19, 20, 21) - Bands of thundershower activity (several thousand strikes Jan 18-21) - Heavy snowfall at low elevations of the Sierra Nevada (Jan 21, 22)	Jan 18-24, 2010	1,169,513	497	3,830 ***	Y
2	A strong storm system with several impulses moved through the entire Service Area during the Dec 17 – 20 period bringing gusty winds and heavy rain. Wind gusts during the period: 43 mph at Stockton, 43 mph at Salinas, 46 mph at SFO, 43 at Red Bluff.	Dec 17-20, 2010	215,116	120		N
3	A series of cold storms brought significant snow to low elevations in the Sierra Nevada foothills. The snow came early in the season, when deciduous trees still retained most of their leaves. Excessive snow loading occurred on trees causing large limbs to break off and fall onto power lines. Snowfall amounts ranged from near 1 foot at the 3000' elevation, to several feet above 5000'. This storm produced the least - low level elevations snow in November in the last 15 years.	Nov 20-21, 2010	215,245	186		N
4	Storm system with strong south winds on Dec 28 (gusts to 47 mph at Marysville, 41mph at Stockton, 46 mph SFO) followed by strong northwest winds on Dec 29 (gusts to 46 mph at San Jose, 41 mph at Stockton, 43 at Bakersfield, 46 mph at SFO).	Dec 28-29, 2010	180,370	47		N
5	A late season storm brought rain, thunderstorms, and wind. Over 500 lightning strikes were recorded. The storm was particularly strong along the Central Coast and in the southern San Joaquin Valley. Reported wind gusts: 45 mph at Salinas, 46 mph at Santa Maria, 46 mph at Bakersfield 46.	Apr 11-12, 2010	122,050	73		N
6	Early season storm brought thunderstorms to Northern Region (over 1000 strikes recorded) along with rain to other parts of the Service Area. In many cases, this was the first rain of the season causing flashover outages.	Sep 8-10, 2010	114,402	60		N
7	An early season storm brought high winds and heavy rain to primarily the Northern Region. Redding recorded a peak wind gust of 49 mph. Santa Rosa recorded 4.75" of rainfall.	Oct 24, 2010	111,522	43		N
8	Storm system swept across the Service Area bringing rain and gusty winds. Reported wind gusts: 41 mph at Salinas, 41 mph at Bakersfield.	Dec 4-5, 2010	98,041	21		N
9	Heat wave conditions resulted in the hottest two days of the summer. Maximum temperatures exceeded 110 in portions of the Central Valley (111 at Bakersfield on 8/25). Maximum temperatures between 100 and 110 were reported both days at many coastal valley areas (109 at Ukiah on 8/25, 107 at Santa Rosa on 8/24, 105 at Livermore on 8/25).	Aug 24-25, 2010	97,616	82		N
10	Heat wave affected the service area, on both days Central Valley maximum temperatures ranged between 100 and 110; maximum temperatures above 100 were reported in coastal valleys on 6/27.	Jun 27-28, 2010	87,751	38		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 January 18, 2010 Storm approximately 3,830 PG&E Operations, Maintenance and Construction (OM&C) employees responded. These employees included electric and gas construction crews, troublemen, gas service representatives, meter technicians, clerical staff, gas and electric estimators and meter readers. Resources

were dispatched and moved from lesser areas to the more heavily impacted areas. In addition to PG&E personnel, 1000 vegetation workers and 60 contract crews (approximately 360 individuals) were utilized to supplement existing resources.
impacted areas to the more heavily impacted areas. In addition to PG&E personnel, 1000 vegetation workers and 60 contract crews (approximately 360 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 2020.

YTD 2020 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	119	119	0	0	100%	0%	0%
DeAnza	75	75	0	0	100%	0%	0%
Diablo	135	134	1	0	99%	1%	0%
East Bay	79	78	1	0	99%	1%	0%
Fresno	40	40	0	0	100%	0%	0%
Humboldt	14	14	0	0	100%	0%	0%
Kern	51	51	0	0	100%	0%	0%
Los Padres	25	25	0	0	100%	0%	0%
Mission	119	119	0	0	100%	0%	0%
North Bay	198	198	0	0	100%	0%	0%
North Valley	55	55	0	0	100%	0%	0%
Peninsula	72	72	0	0	100%	0%	0%
Sacramento	111	111	0	0	100%	0%	0%
San Francisco	74	74	0	0	100%	0%	0%
San Jose	176	176	0	0	100%	0%	0%
Sierra	195	195	0	0	100%	0%	0%
Sonoma	200	200	0	0	100%	0%	0%
Stockton	74	74	0	0	100%	0%	0%
Yosemite	35	35	0	0	100%	0%	0%
Grand Total	1847	1845	2	0	100%	0%	0%

Note: ESR = Electric Service Reliability (Recurring Outages). This Includes ESR cases created on or after January 1, 2020 and closed as of December 31, 2020. 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.

EON: EON stands for Enhanced Outage Notification, now retired, that was used to identify and record momentary outages. Customers agreed to put EON devices in their homes and the device would send PG&E information when the customer experienced and outages. The EON project was used prior to the availability of Smart Meter data.

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.