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April 28, 2016

Public Utility Commission of Oregon  
Filing Center  
201 High Street SE, Suite 100  
P.O. Box 1088  
Salem, Oregon 97301

Re: Idaho Power Company's Electric Service Reliability Annual Report for the  
Year 2015

Attention Filing Center:

Idaho Power Company herewith transmits for electronic filing its Electric Service Reliability Annual Report for the Year 2015.

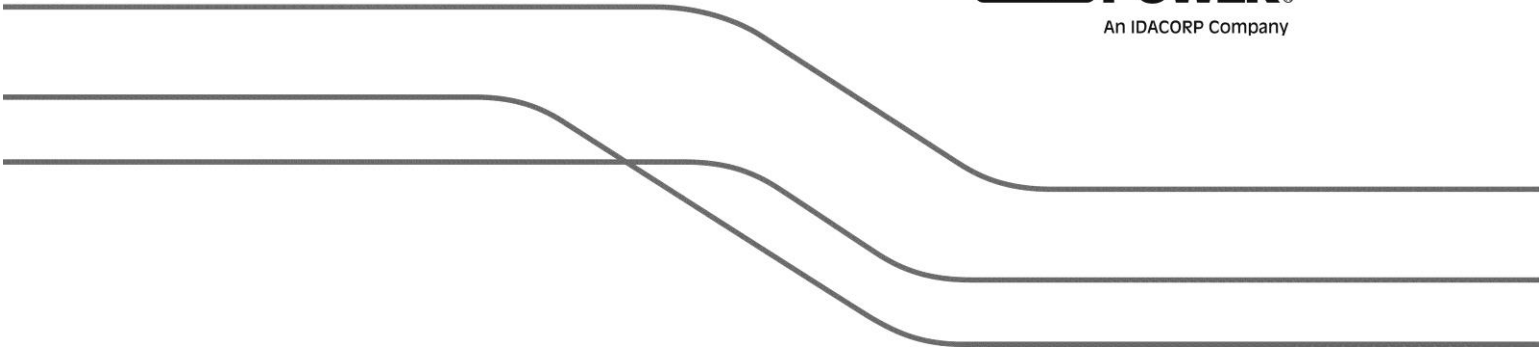
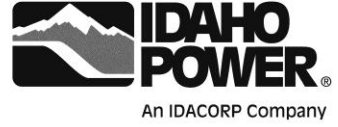
If you have any substantive questions, please call Perry Van Patten at 208-388-5944.

Very truly yours,

A handwritten signature in black ink that reads "Lisa D. Nordstrom".

Lisa D. Nordstrom

LDN:kkt  
Enclosure



**Idaho Power Company  
2015 Electric Service  
Reliability Annual Report**

**May 2016**  
2016 Idaho Power

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## EXECUTIVE SUMMARY

The information in this document presents Idaho Power's 2015 Electric Service Reliability Annual Report. The report discusses the performance of Idaho Power's Oregon electric service through a narrative summary and includes several tables and figures.

At year-end 2015, Idaho Power served 18,643 customers from 63 distribution circuits served by 30 substations in the far central-eastern portion of Oregon. The composite performance of the 63 circuits in 2015 included the following:

- 748 sustained (greater than five minutes) interruption events
- 36,335 customer interruptions
- 115,299 customer hours out
- System Average Interruption Frequency Index (SAIFI) of 1.95
- System Average Interruption Duration Index (SAIDI) of 6.18 hours
- Momentary Average Interruption Event Frequency Index (MAIFI<sub>E</sub>) of 3.86

Idaho Power used the calculation of a threshold for major event days (MEDs) as defined in the Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 and monitored its Oregon service territory for MED occurrences. All of the indices at the circuit and system levels in this report are shown with and without MED events for years 2012-2015. For 2011, only the index with all outages included are shown since Idaho Power did not start counting MEDs in its Oregon service territory until the beginning of 2012. Idaho Power's 2015 threshold in Oregon for a major event day ( $T_{MED}$ ) per the IEEE 1366 definition was a daily SAIDI of 14.19 minutes per customer. Along with the additional criterion of a daily customer average interruption duration index (CAIDI) of 5 hours (300 minutes) per OAR 860-023-0161, Idaho Power experienced three major event days in its Oregon service territory in 2015. These events are summarized in the Appendix in accordance with OAR 860-023-0151 (2)(c) and (d). Idaho Power's calculated  $T_{MED}$  for 2016 in Oregon is 16.36 minutes per customer. The calculation of the  $T_{MED}$  and identification of major event days is done while considering all of Idaho Power's Oregon customers.

Compared to last year, Idaho Power's Oregon service territory SAIFI increased by 0.32 interruptions per customer from 1.63 in 2014 to 1.95 in 2015. Excluding major events, SAIFI increased by 0.16 from 1.58 in 2014 to 1.74 in 2015. The average duration of sustained outages also increased since last year; SAIDI increased by 2.75 hours per customer from 3.43 in 2014 to 6.18 in 2015. The increase was less dramatic when excluding major events, however, as 2015 saw an increase of only 0.44 hours per customers over 2014 (3.16 to 3.60). Finally, after two consecutive years of a lower MAIFI<sub>E</sub> (compared to the previous year), 2015 increased by 1.38 momentary interruption events per customer from 2.48 in 2014 to 3.86 in 2015. The increases in SAIFI and SAIDI in 2015 were largely attributed to range fires that impacted customers in and around Jordan Valley and Halfway.

The attached charts and tables show Idaho Power's Oregon system performance over the previous five years for SAIFI, SAIDI and MAIFI<sub>E</sub> at the system and circuit level in accordance with OAR 860-023-0151 (2)(a). In addition to the reliability indices, a summary of sustained interruption causes is shown at the system level in accordance with OAR 860-023-0151 (2)(b). A table translating Idaho Power's cause categories to the cause categories listed in OAR 860-023-151

(2)(b) can be found in the Appendix. The Appendix also includes supplemental information such as substation, voltage, operating area and customers connected for each distribution circuit in accordance with OAR 860-023-0151 (2)(h). A map is also provided that shows the distribution circuits in Idaho Power's service territory with Oregon customers in accordance with OAR 860-023-0151 (2)(g).

Idaho Power continues to collect detailed outage information for all sustained outage events through its Outage Management System (OMS). Historical data from the OMS is stored and circuit performance is analyzed for the prioritization of capital projects to improve reliability. Idaho Power plans to replace its current OMS with a new one in late November 2016. This project will include bringing in historical data from the current OMS into the new OMS and continuing to collect the necessary outage data in accordance with OAR 860-023-0101. The change from the current OMS to the new OMS is not expected to dramatically change how outage data is reported and analyzed. Idaho Power also continues to utilize data from its Smart Grid Monitoring (SGM) system to calculate MAIFI<sub>E</sub> as it has in past years.

Idaho Power continues to implement programs and projects to improve customer service and electric service reliability. One such improvement to customer service that was implemented in April 2015 was a customer-facing outage map ([www.idahopower.com/Outages/map/](http://www.idahopower.com/Outages/map/)) that displays current outages and estimated restoration times. Company programs related to electric service reliability include the annual Oregon safety inspection/reliability patrols, the line clearing and vegetation management program, the pole inspection and treatment program, and annual maintenance and capital projects that replace aging assets and improve reliability.

## DEFINITIONS

**CAIDI** – Customer Average Interruption Duration Index; the average duration that a customer experienced per sustained outage (greater than 5 minutes).

**CI** – Customer Interruptions; the total number of customer interruptions from sustained outages (greater than 5 minutes).

**CMI** – Customer Minutes of Interruption; the total number of customer minutes of interruption from sustained outages (greater than 5 minutes). This is calculated as the product of customer interruptions and outage duration in minutes.

**IEEE** – The Institute of Electrical and Electronic Engineers.

**IEEE 1366** – The Institute of Electrical and Electronic Engineers (IEEE) Standard 1366 entitled *IEEE Guide for Electric Power Distribution Reliability Indices* (the 2012 edition), approved on May 14, 2012 by IEEE-SA Standards Board.

**MAIFI<sub>E</sub>** – Momentary Average Interruption Event Frequency Index; the average number of momentary interruption events per customer (less than or equal to 5 minutes).

**Major Event** – An event that exceeds the reasonable design and/or operational limits of the electric power system. A major event includes at least one major event day (MED).

**MED** – Major Event Day; a day when the daily SAIDI exceeds a predefined threshold value.

**MedEx** – Major Event Day Excluded; this suffix is used after a reliability index to indicate major event days are excluded. For example, SAIFI MedEx is SAIFI excluding major event days.

**Operating Area** – Idaho Power’s customers in Oregon are split into two operating areas: 1) the Jordan Valley region of the reporting area served by the Canyon Operations Center in Caldwell, ID and 2) the rest of the reporting area served by the Western Operations Center in Payette, ID. Approximately 97% of Idaho Power’s customers in Oregon are within the Western operating area, while the remaining 3% of Idaho Power’s customers in Oregon are within the Canyon operating area. For information about which operating area each distribution circuit is in, refer to the Appendix.

**Reporting Area** – Idaho Power’s entire service territory in Oregon.

**SAIDI** – System Average Interruption Duration Index; the average duration from all sustained outages that a customer experienced per year (greater than 5 minutes).

**SAIFI** – System Average Interruption Frequency Index; the average frequency of sustained outages that a customer experienced per year (greater than 5 minutes).

**SGM** – Smart Grid Monitor; refers to Idaho Power’s system for monitoring momentary interruption events on its distribution network.

**T<sub>MED</sub>** – A major event day threshold value.



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# SYSTEM SAIDI, SAIFI AND MAIFI<sub>E</sub>

## System SAIDI

	2011	2012	2013	2014	2015
SAIDI	3.47	3.57	6.99	3.43	6.18
SAIDI MedEx	NA	2.27	4.62	3.16	3.60

Table 1 Five Years of System SAIDI

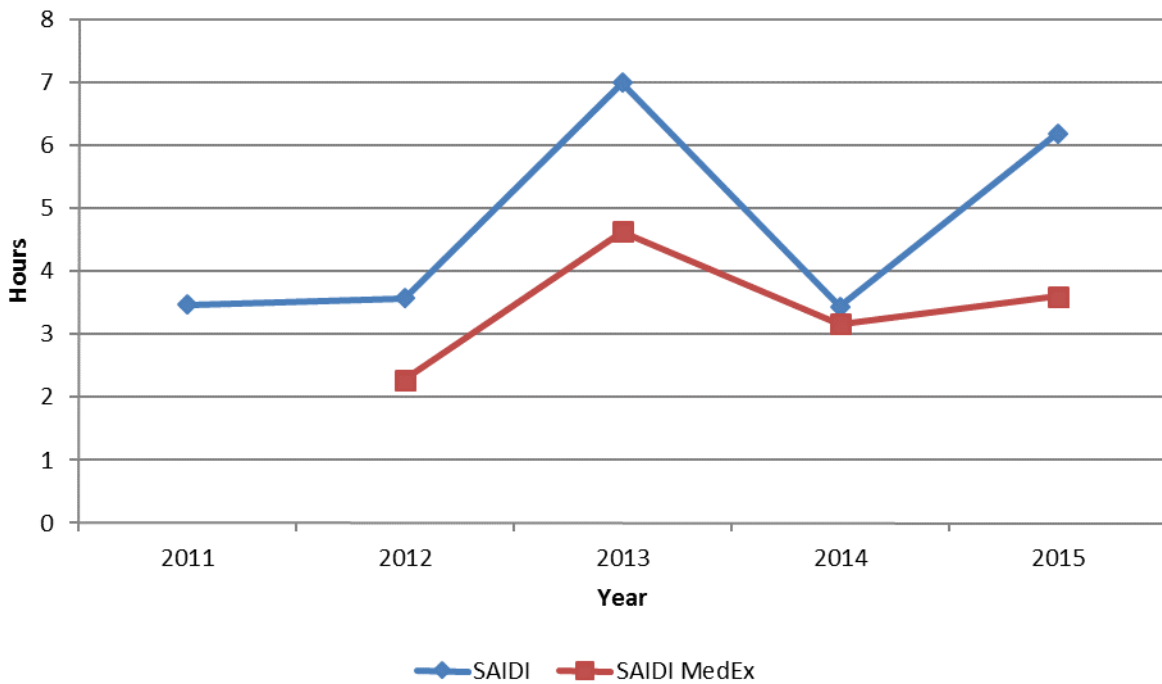


Figure 1 Five Years of System SAIDI

## System SAIFI

	2011	2012	2013	2014	2015
SAIFI	1.41	1.43	2.41	1.63	1.95
SAIFI MedEx	NA	1.20	2.01	1.58	1.74

Table 2 Five Years of System SAIFI

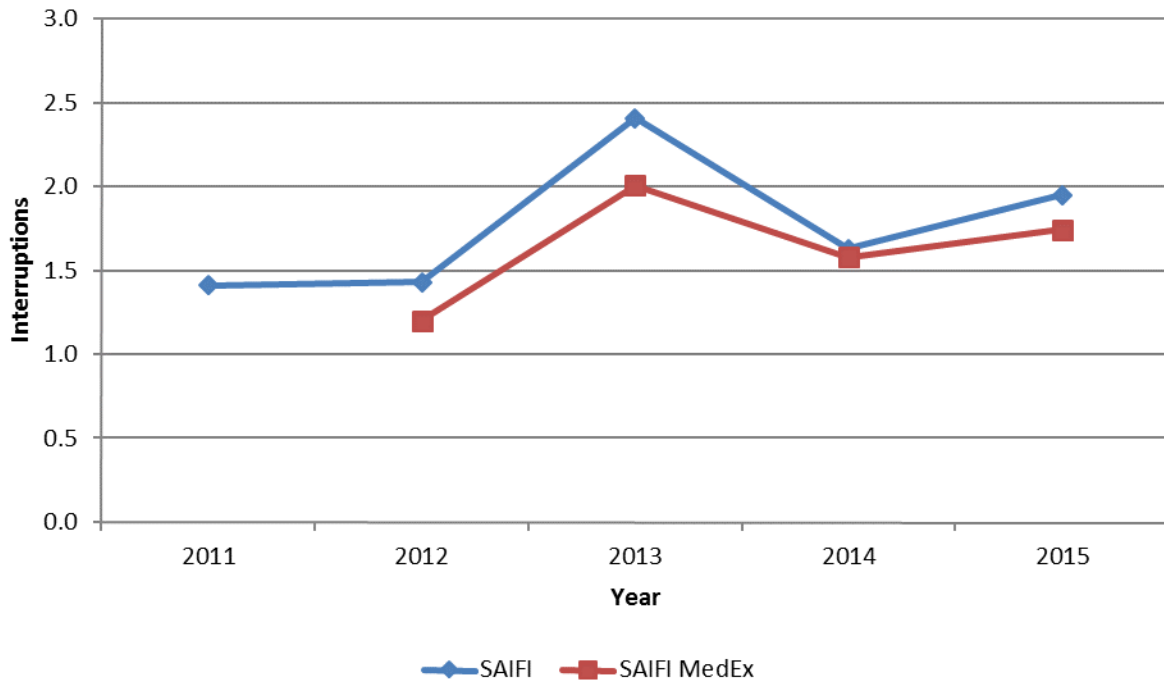


Figure 2 Five Years of System SAIFI

## System MAIFI<sub>E</sub>

	2011	2012	2013	2014	2015
MAIFI <sub>E</sub>	3.50	4.70	3.80	2.48	3.86
MAIFI <sub>E</sub> MedEx	NA	4.54	3.54	2.46	3.72

Table 3 Five Years of System MAIFI<sub>E</sub>

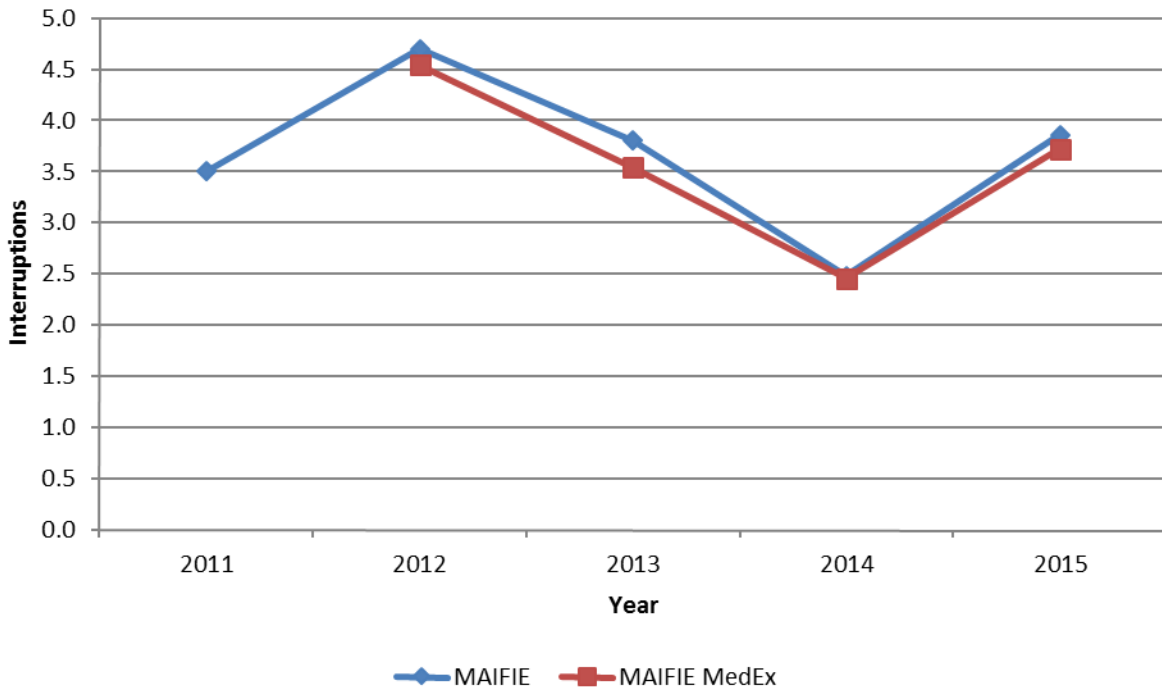


Figure 3 Five Years of System MAIFI<sub>E</sub>

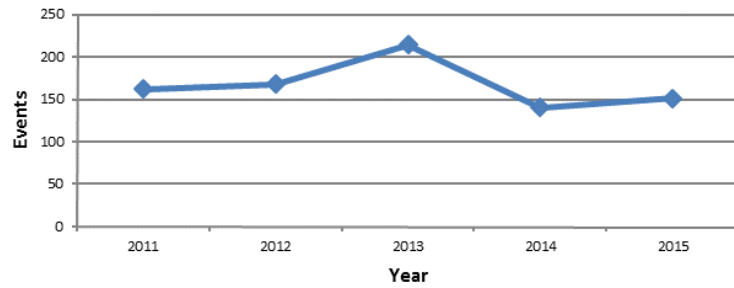
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## Sustained Interruption Event Causes

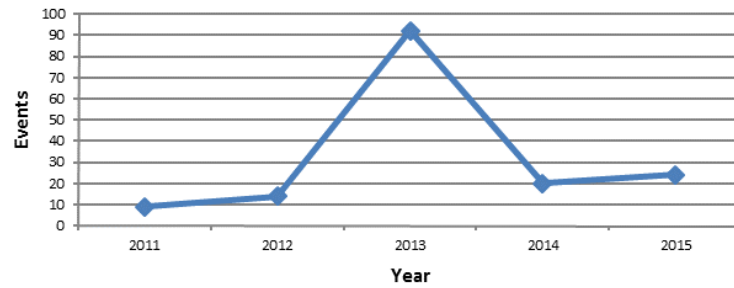
Cause	Number of Sustained Interruption Events					Percent of Total Sustained Interruption Events				
	2011	2012	2013	2014	2015	2011	2012	2013	2014	2015
Distribution – Equipment	162	168	214	140	151	21.6%	24.2%	24.3%	17.3%	20.2%
Distribution – Lightning	9	14	92	20	24	1.2%	2.0%	10.5%	2.5%	3.2%
Distribution – Other	41	43	37	36	40	5.5%	6.2%	4.2%	4.5%	5.3%
Distribution – Planned	145	136	187	237	140	19.3%	19.6%	21.3%	29.4%	18.7%
Distribution – Public	57	35	42	46	43	7.6%	5.0%	4.8%	5.7%	5.7%
Distribution – Unknown	106	103	57	63	90	14.1%	14.8%	6.5%	7.8%	12.0%
Distribution – Vegetation	45	57	63	47	44	6.0%	8.2%	7.2%	5.8%	5.9%
Distribution – Weather (Non-Lightning)	14	11	9	46	40	1.9%	1.6%	1.0%	5.7%	5.3%
Distribution – Wildlife	102	71	66	92	92	13.6%	10.2%	7.5%	11.4%	12.3%
Loss of Supply – Substation	6	5	17	35	23	0.8%	0.7%	1.9%	4.3%	3.1%
Loss of Supply – Transmission	63	51	95	45	61	8.4%	7.3%	10.8%	5.6%	8.2%
<b>Total</b>	<b>750</b>	<b>694</b>	<b>879</b>	<b>807</b>	<b>748</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Table 4 Five Years of Sustained Interruption Event Causes

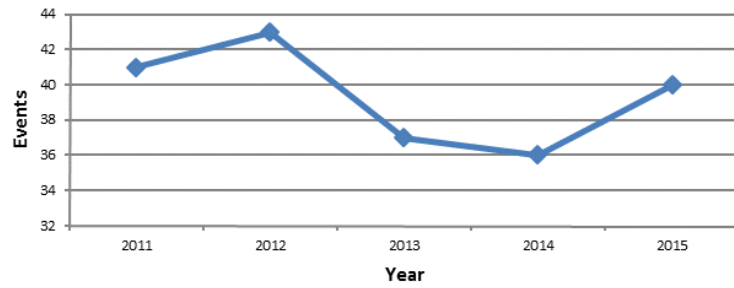
**DISTRIBUTION - EQUIPMENT**



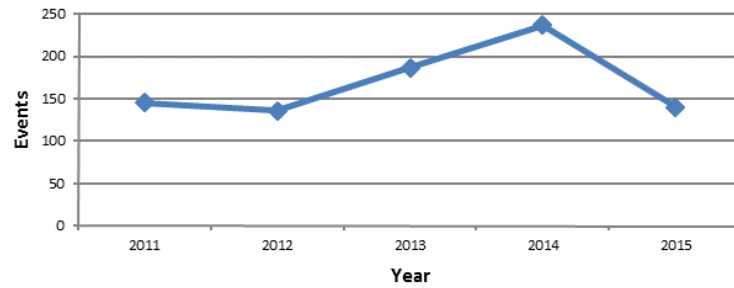
**DISTRIBUTION - LIGHTNING**



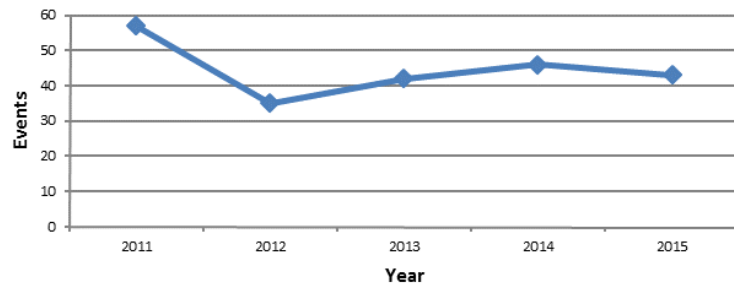
**DISTRIBUTION - OTHER**



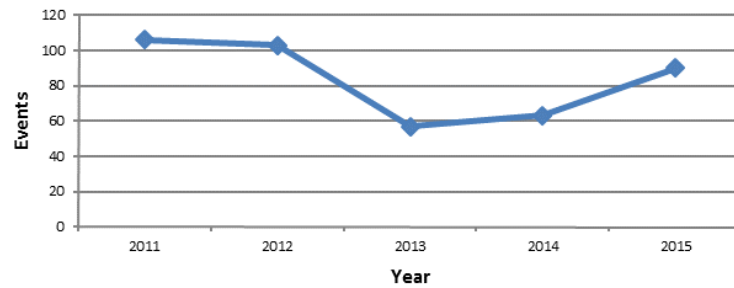
**DISTRIBUTION - PLANNED**



**DISTRIBUTION - PUBLIC**



**DISTRIBUTION - UNKNOWN**



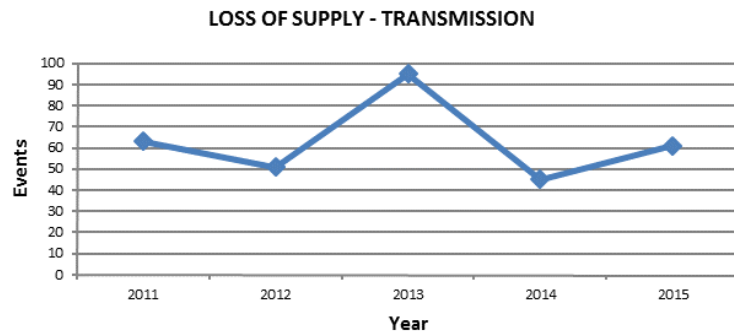
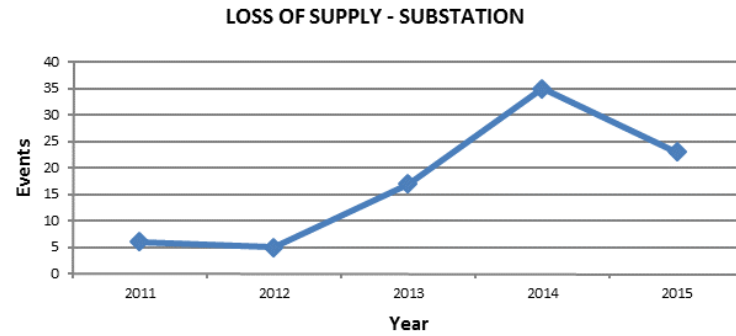
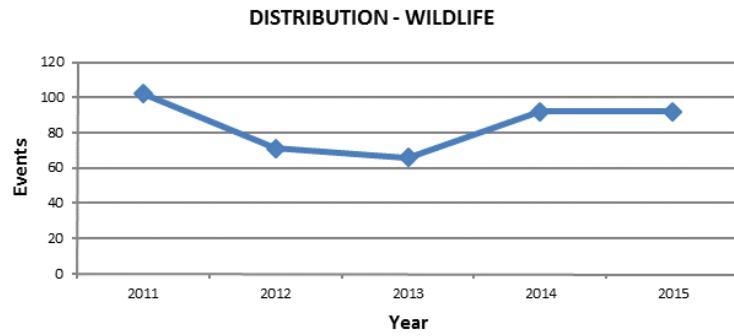
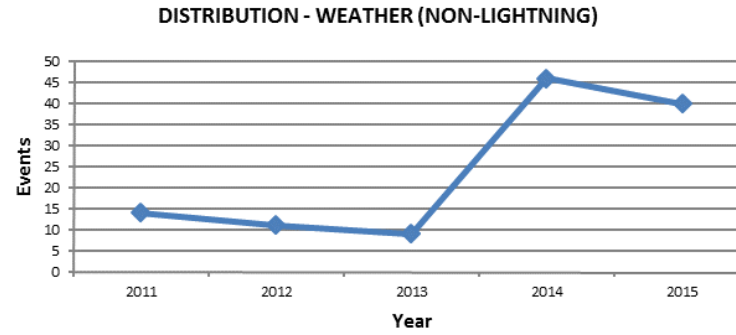
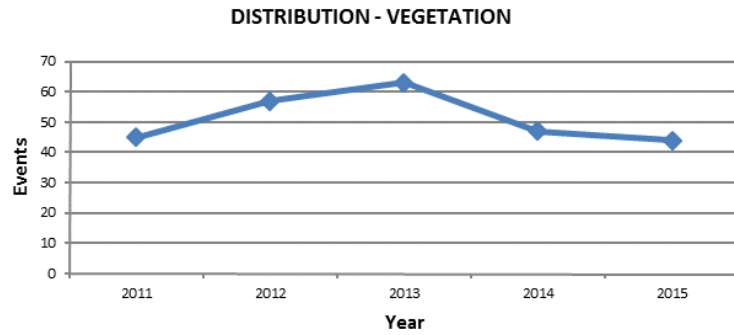


Figure 4 Five Years of Sustained Interruption Events by Cause



<b>Cause</b>	<b>Events</b>	<b>Customer Hours Out</b>	<b>Event Ranking</b>	<b>Hours Out Ranking</b>
Distribution – Equipment	151	15,916	1	3
Distribution – Lightning	24	1,305	10	11
Distribution – Other	40	6,179	8	6
Distribution – Planned	140	3,198	2	9
Distribution – Public	43	6,427	7	5
Distribution – Unknown	90	4,030	4	7
Distribution – Vegetation	44	3,443	6	8
Distribution – Weather (non-Lightning)	40	22,828	8	2
Distribution – Wildlife	92	2,598	3	10
Loss of Supply – Substation	23	9,947	11	4
Loss of Supply – Transmission	61	39,431	5	1
<b>Total</b>	<b>748</b>	<b>115,301</b>		

*Table 5 2015 Sustained Interruption Event Cause Ranking*

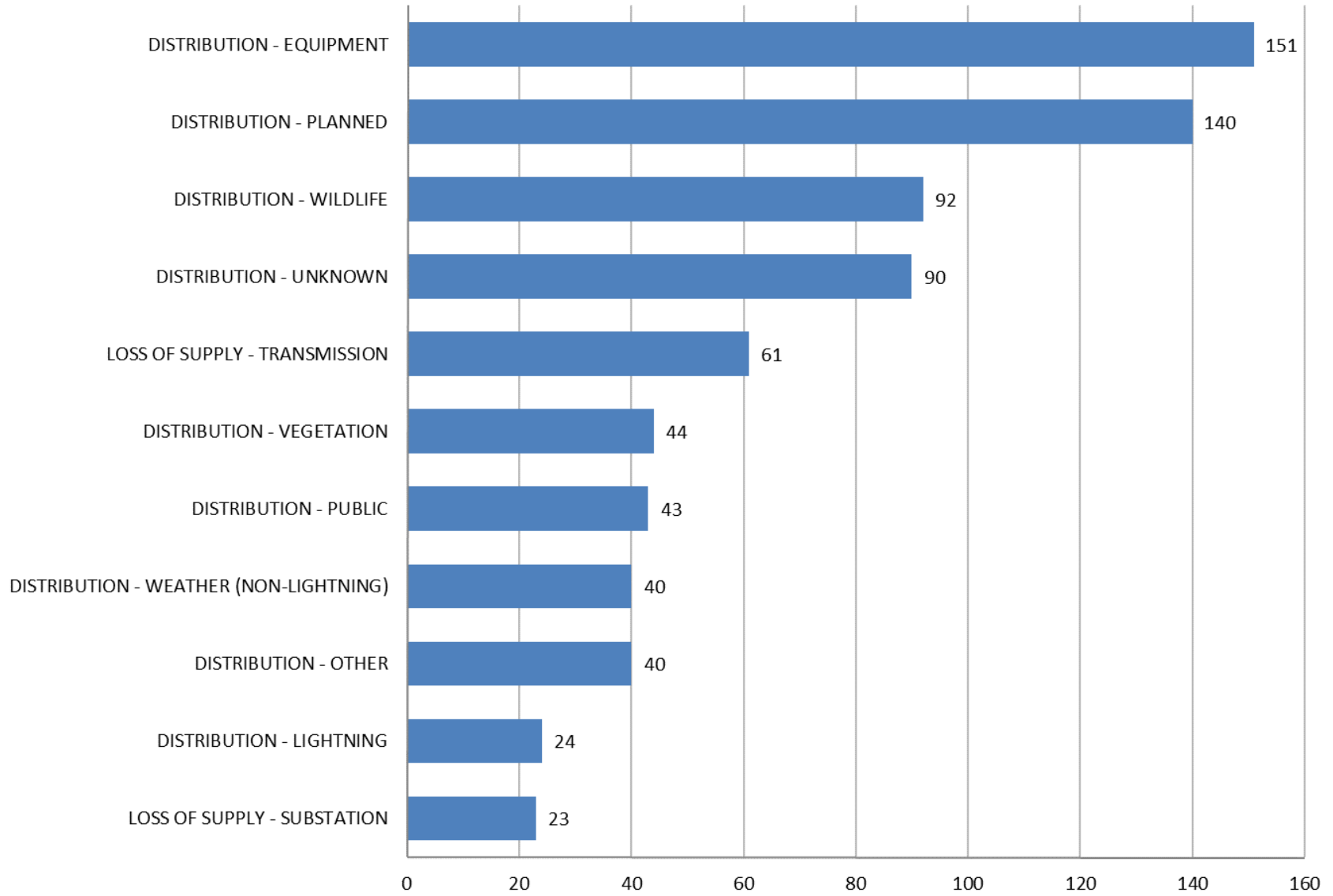


Figure 5 2015 Ranking of Sustained Interruption Event Causes

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## CIRCUIT SAIFI, SAIDI AND MAIFI<sub>E</sub>

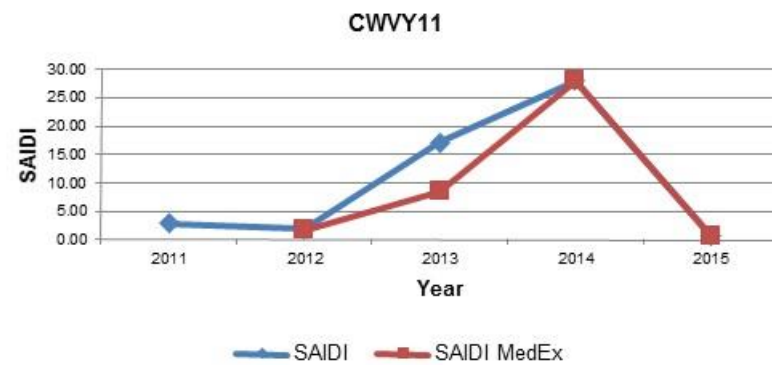
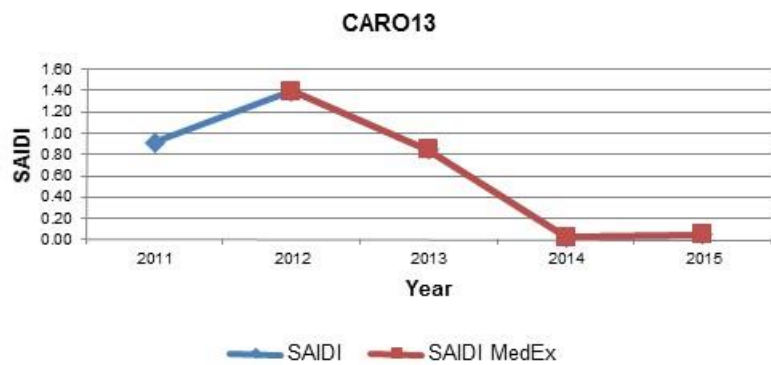
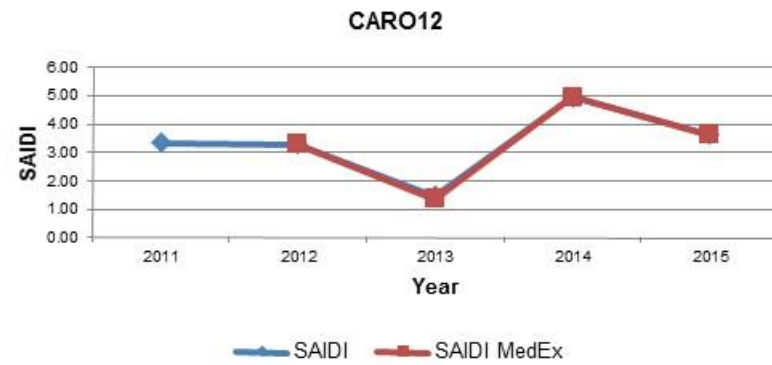
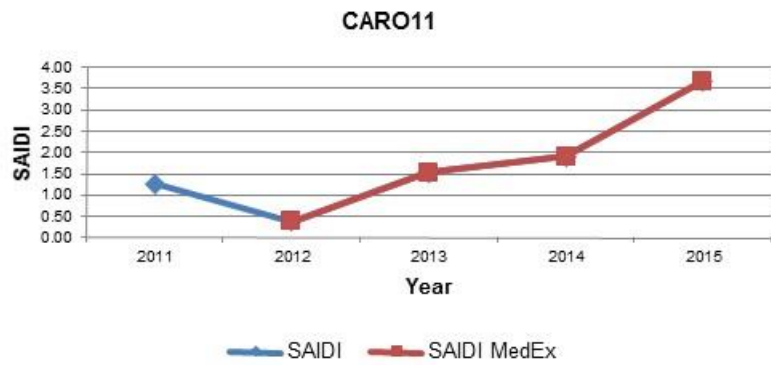
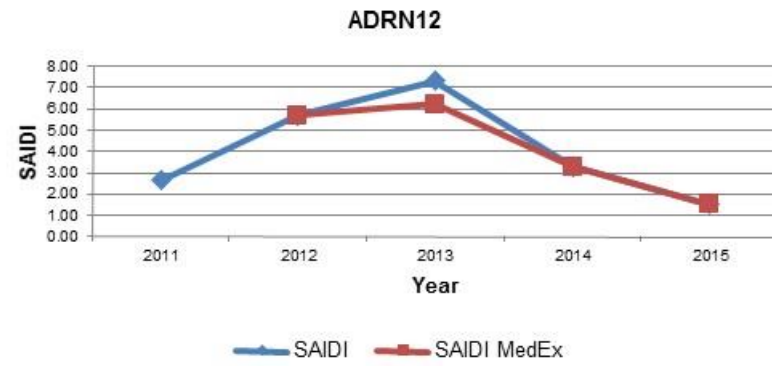
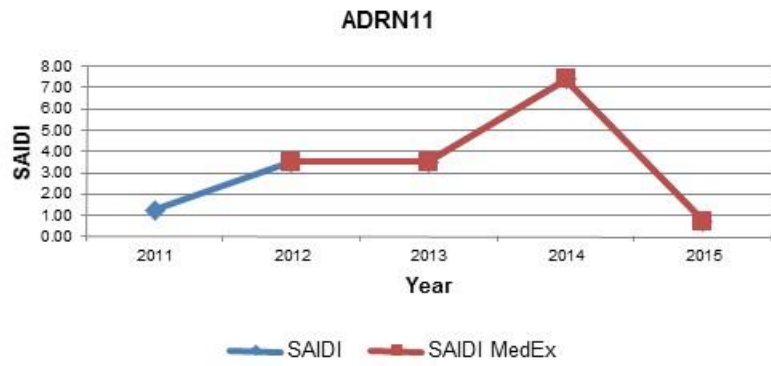
### Five Years of Circuit SAIDI

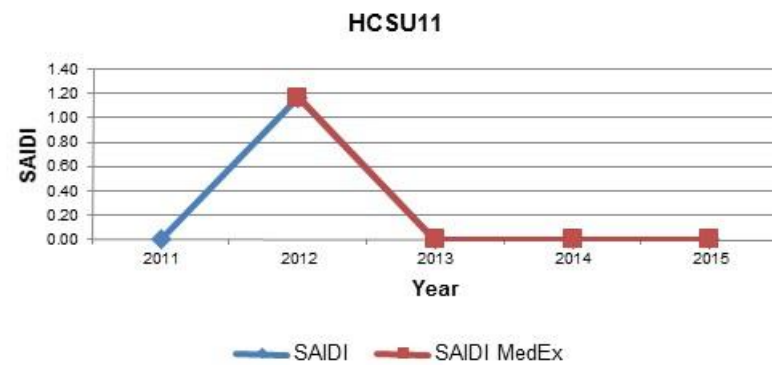
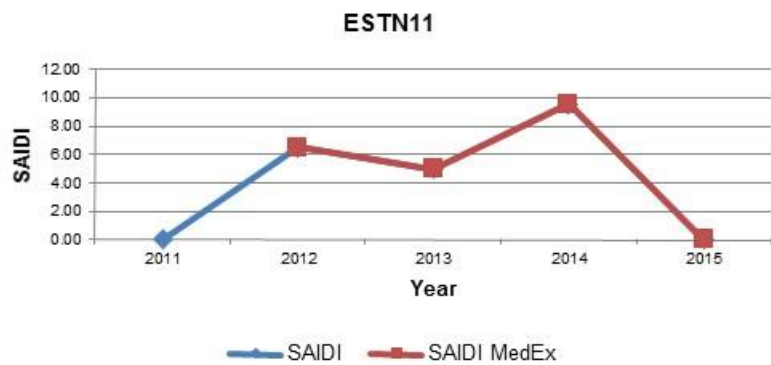
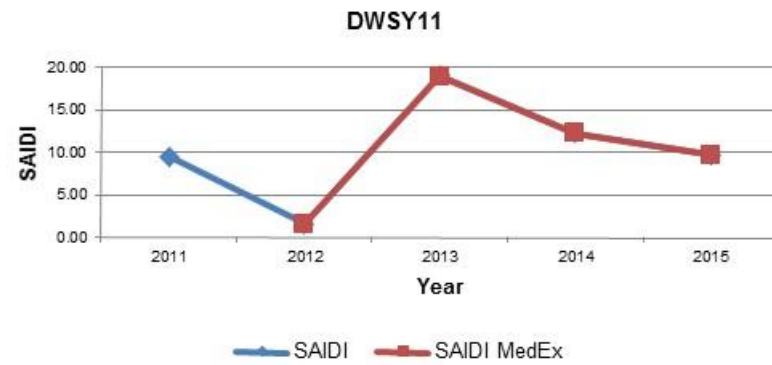
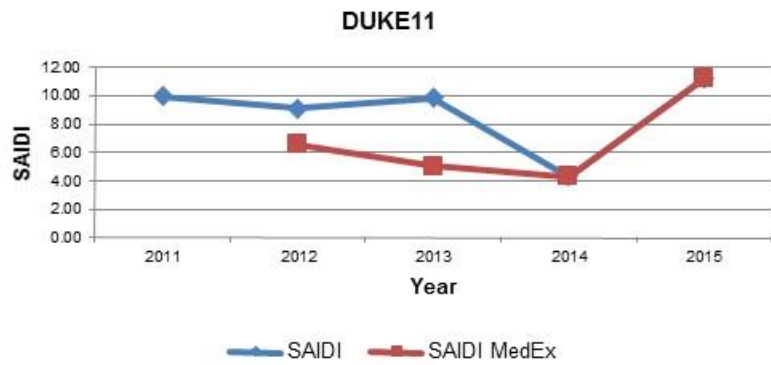
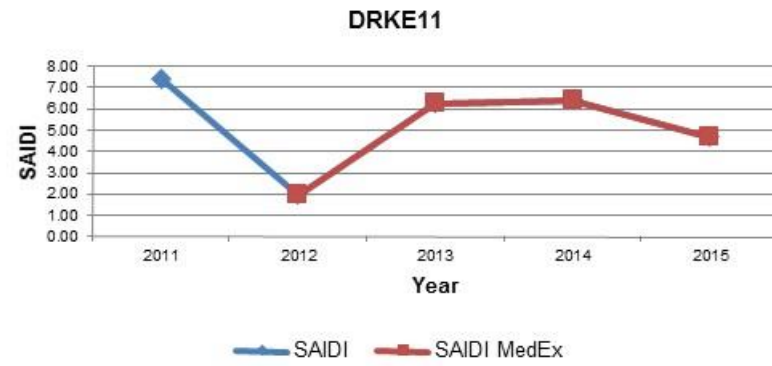
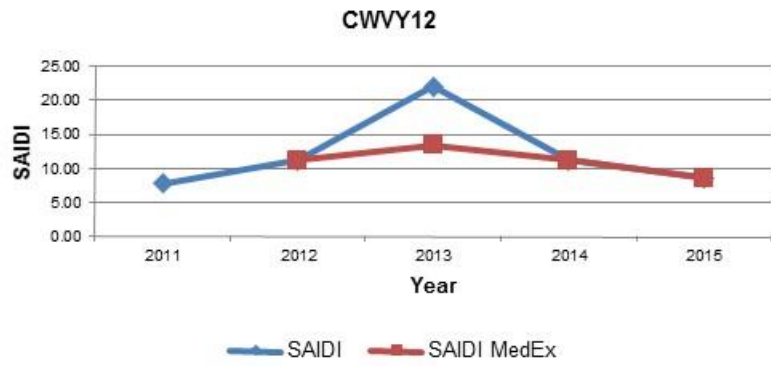
Circuit	2011	2012	2013	2014	2015	2015 SAIDI MED Excluded
ADRN11	1.26	3.52	3.52	7.40	0.73	0.73
ADRN12	2.63	5.69	7.31	3.30	1.52	1.52
CARO11	1.26	0.39	1.54	1.91	3.67	3.67
CARO12	3.35	3.27	1.48	4.95	3.63	3.63
CARO13	0.91	1.40	0.85	0.02	0.05	0.05
CWVY11	2.86	1.88	17.05	28.03	0.70	0.70
CWVY12	7.80	11.19	22.04	11.21	8.68	8.68
DRKE11	7.41	1.95	6.25	6.42	4.68	4.68
DUKE11	9.94	9.08	9.82	4.31	11.21	11.21
DWSY11	9.50	1.63	19.03	12.29	9.74	9.74
ESTN11	0.00	6.53	4.99	9.55	0.00	0.00
HCSU11	0.00	1.17	0.00	0.00	0.00	0.00
HFVY11	9.59	10.66	41.28	6.02	7.17	7.17
HFVY12	13.12	9.72	40.71	2.60	38.25	7.50
HGTN11	2.15	7.67	1.33	14.05	1.08	1.08
HGTN12	0.13	1.82	0.03	10.62	0.14	0.14
HMDL12	0.79	3.38	9.62	0.40	0.21	0.21
HOLY11	0.84	1.56	4.02	1.73	9.03	9.03
HOLY12	0.89	1.23	3.25	0.02	4.09	4.09
HOLY13	0.50	4.56	1.64	0.66	3.29	3.29
HOPE11	3.25	1.62	8.34	9.46	1.13	1.13
HRPR11	8.45	1.41	3.53	12.42	2.88	2.88
HRPR12	7.12	5.81	11.67	26.47	8.20	8.20
JMSN11	4.78	1.79	21.53	4.95	3.17	3.17
JMSN12	0.44	13.04	17.00	19.63	4.07	4.07
JNTA11	7.19	1.57	13.45	14.74	5.92	5.92
JNTA12	5.23	5.44	13.97	18.42	11.28	11.28
JNVY11	36.21	31.27	13.73	3.83	67.85	23.60
JNVY12	38.47	31.19	15.21	2.05	71.83	21.30
JNVY31	42.42	34.08	19.33	6.24	86.67	25.70
LIME11	2.41	3.18	0.38	10.02	5.65	5.65

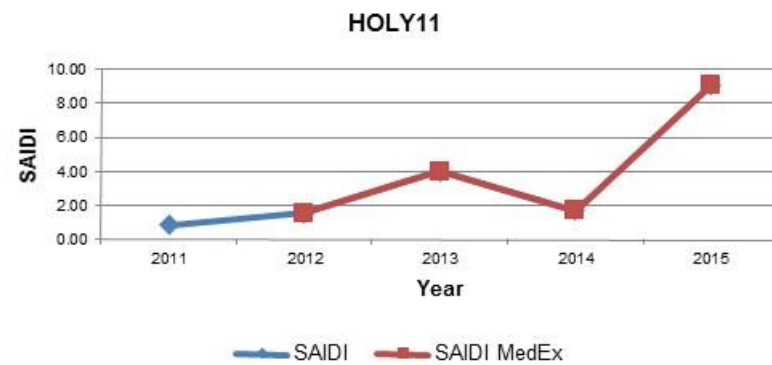
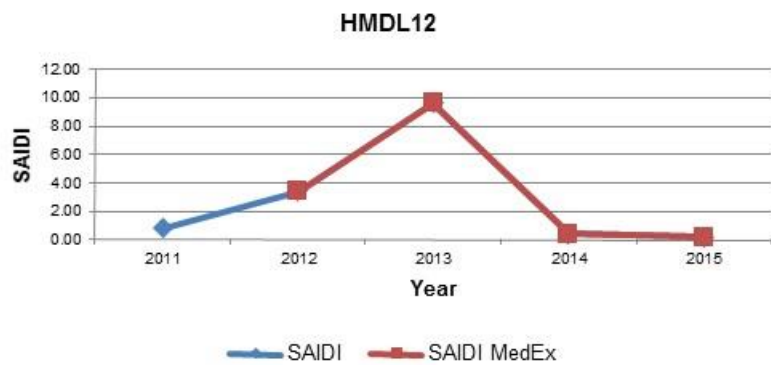
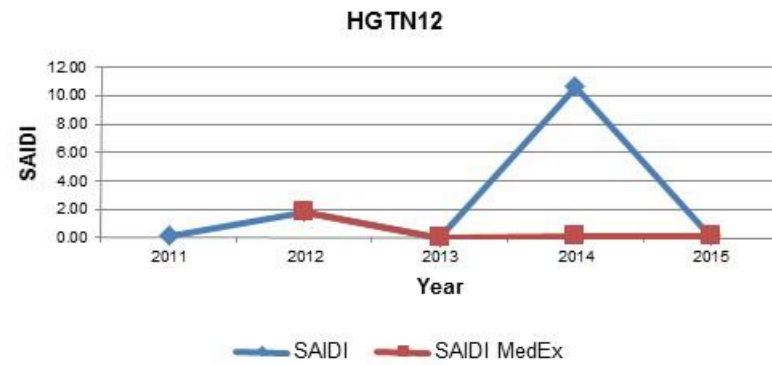
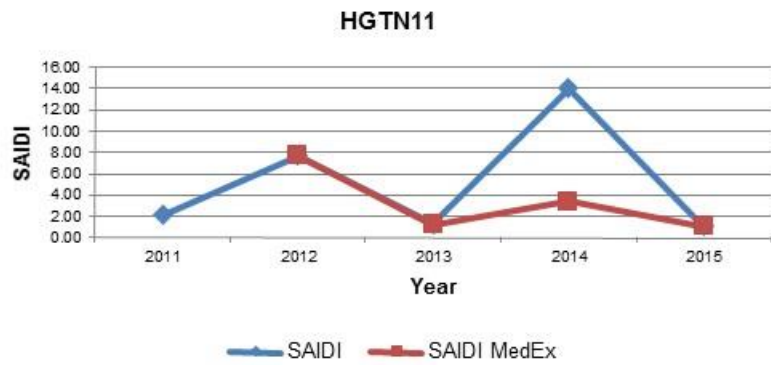
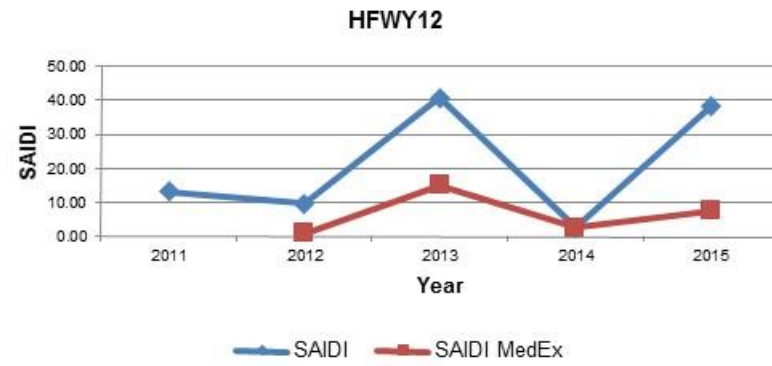
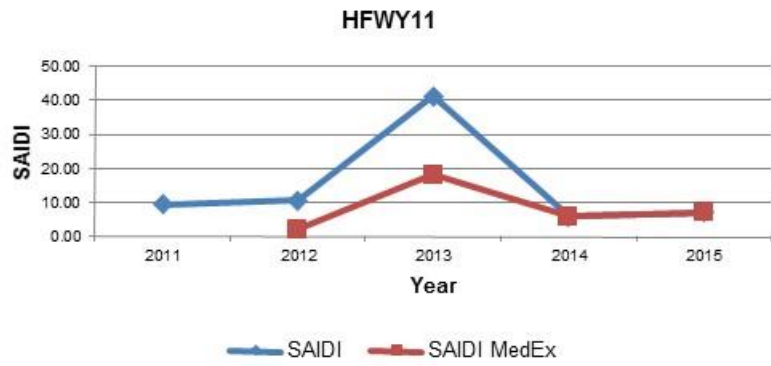
Table 6 Five Years of Circuit SAIDI Part I

<b>Circuit</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2015 SAIDI MED Excluded</b>
LIME12	8.11	0.00	0.00	0.00	0.00	0.00
MRBT41	56.83	0.65	0.34	4.82	0.29	0.29
MRBT42	0.10	5.44	0.00	4.62	0.40	0.40
NYSA11	0.39	0.22	2.82	2.39	2.59	2.59
NYSA12	2.65	2.48	8.13	2.58	1.31	1.31
NYSA13	1.08	3.94	1.41	4.01	0.23	0.23
NYSA14	0.48	0.94	3.77	3.72	0.11	0.11
OBPR11	0.00	0.00	0.00	0.00	0.00	0.00
OBPR12	0.00	0.00	0.00	0.00	0.00	0.00
OIDA11	0.72	1.67	1.35	0.29	0.26	0.26
OIDA12	4.92	0.00	3.07	1.47	1.92	1.92
ONTO14	1.37	0.18	8.26	0.00	0.06	0.06
ONTO18	0.27	1.68	0.19	0.05	0.26	0.26
ONTO19	0.33	0.64	0.42	0.20	3.15	3.15
ONTO20	1.66	0.31	1.63	0.68	0.23	0.23
ONTO23	0.29	2.40	0.68	0.00	0.11	0.11
ONTO24	0.14	0.25	1.25	2.75	3.46	3.46
ONTO25	0.32	1.35	0.15	0.03	0.25	0.25
OYDM11	0.00	0.00	0.00	0.00	0.00	0.00
PNCK11	14.37	10.47	9.06	1.47	7.45	7.45
PNCK12	14.20	2.52	4.97	0.00	5.63	5.63
PRMA12	4.42	14.92	7.59	14.63	3.45	3.45
PRMA42	0.27	0.34	8.16	8.39	4.75	4.75
RKVL11	29.68	21.49	15.12	7.77	129.17	20.67
UNTY11	1.89	1.76	28.17	8.33	2.15	2.15
UNTY12	1.66	3.82	21.64	2.81	7.45	7.45
VALE11	1.08	0.99	3.23	2.53	3.82	3.82
VALE13	2.14	9.85	5.21	3.64	1.06	1.06
VALE14	5.43	0.62	0.94	4.65	13.76	13.76
VALE15	0.63	3.01	0.33	2.42	3.49	3.49
WESR13	0.35	0.40	3.57	0.24	0.93	0.93
WESR14	0.42	2.60	0.57	7.20	2.81	2.81

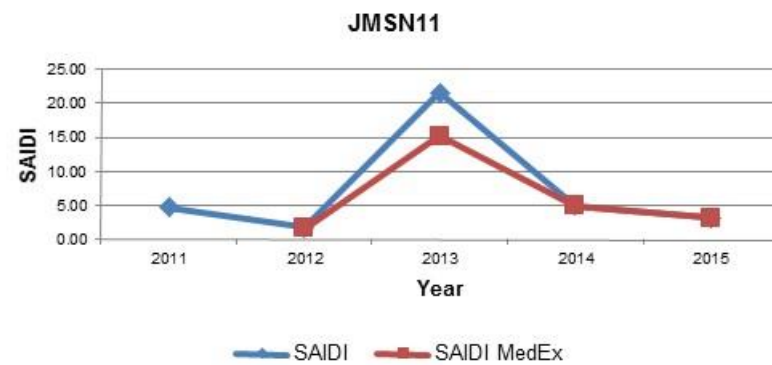
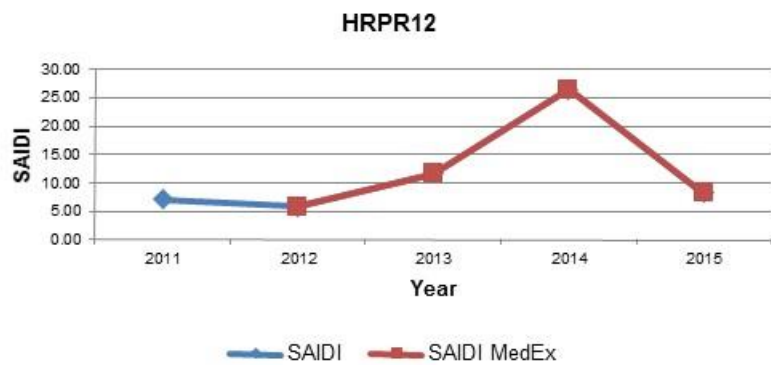
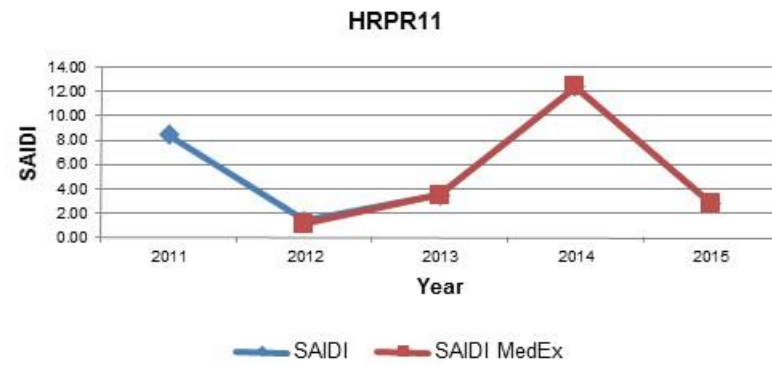
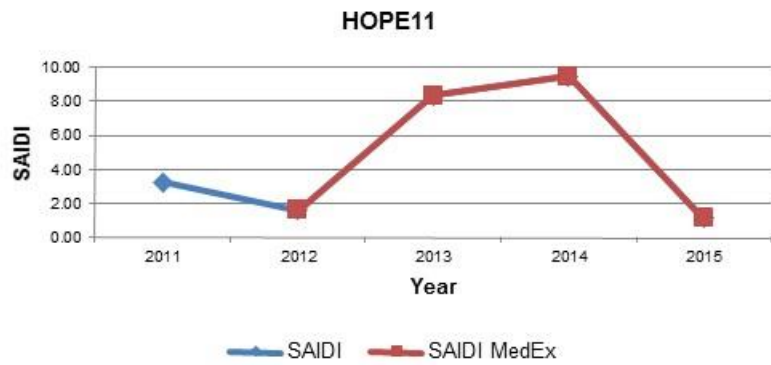
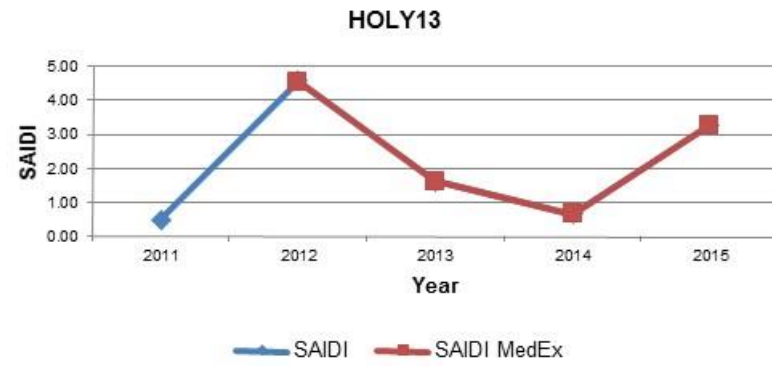
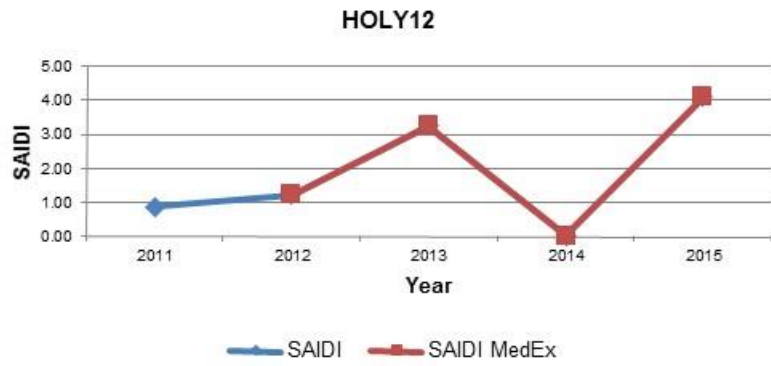
Table 7 Five Years of Circuit SAIDI Part II

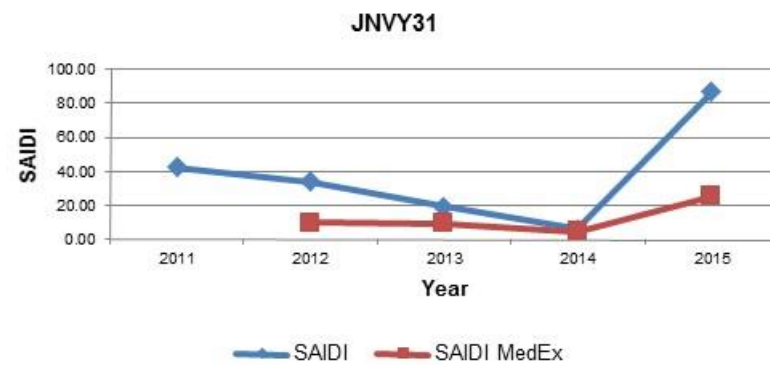
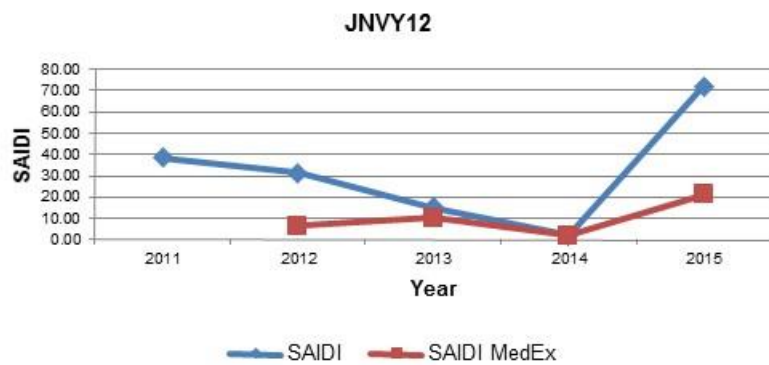
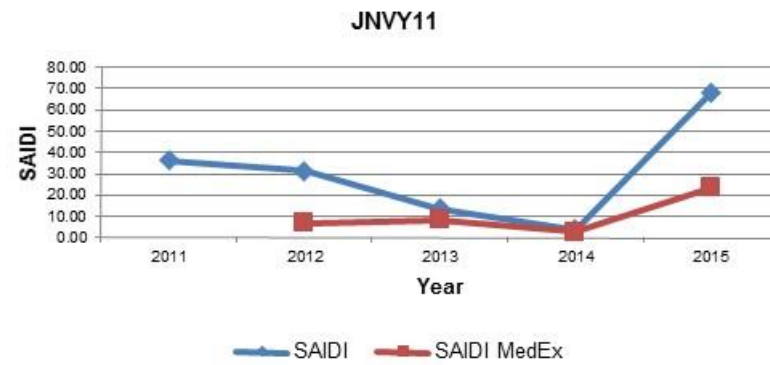
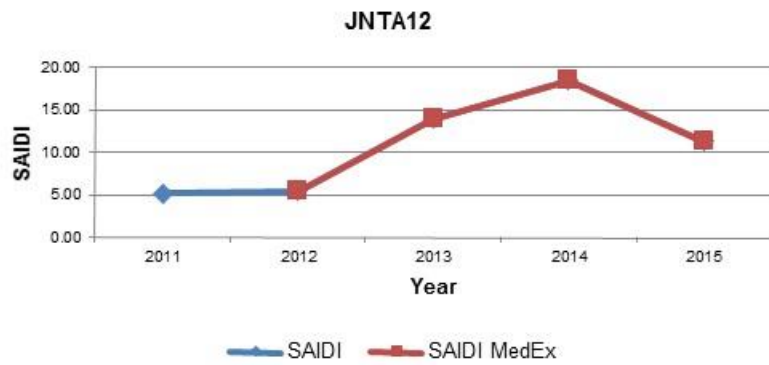
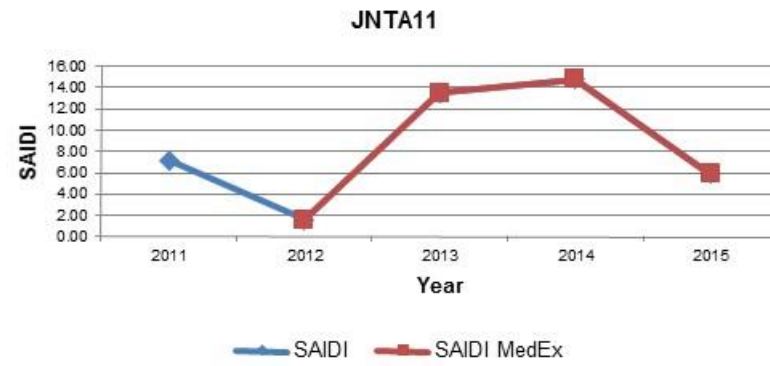
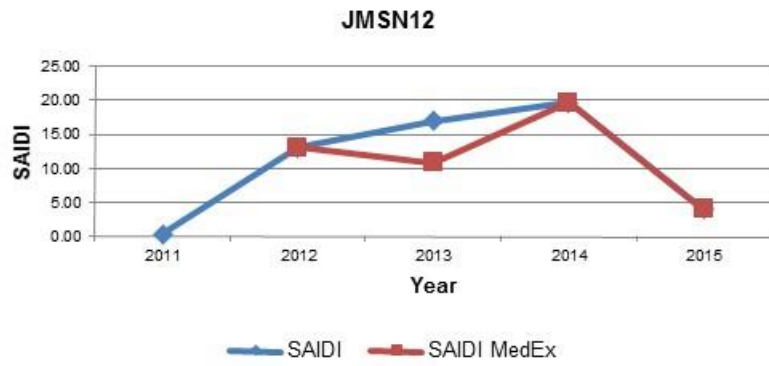


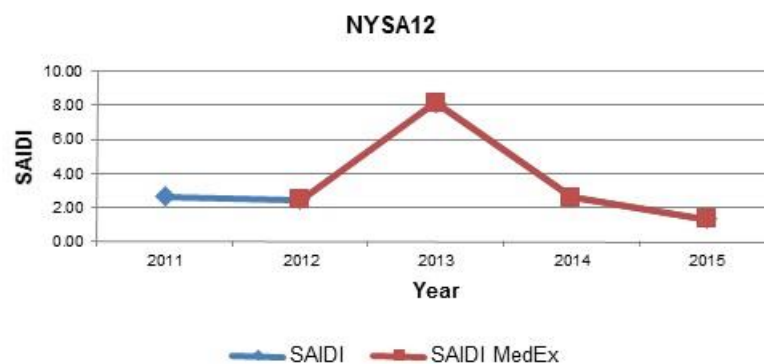
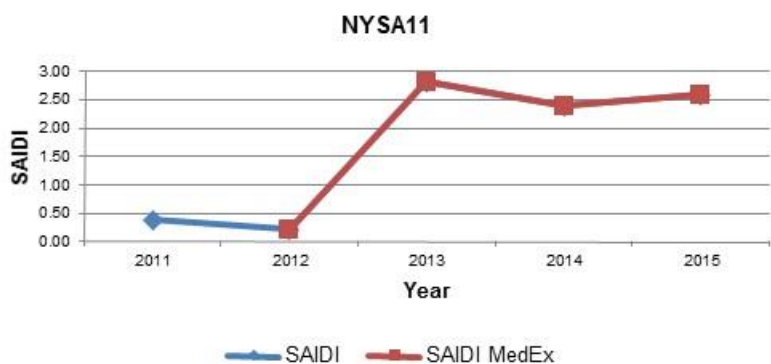
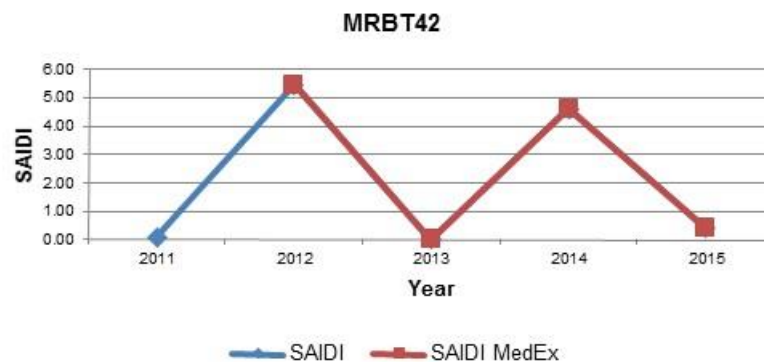
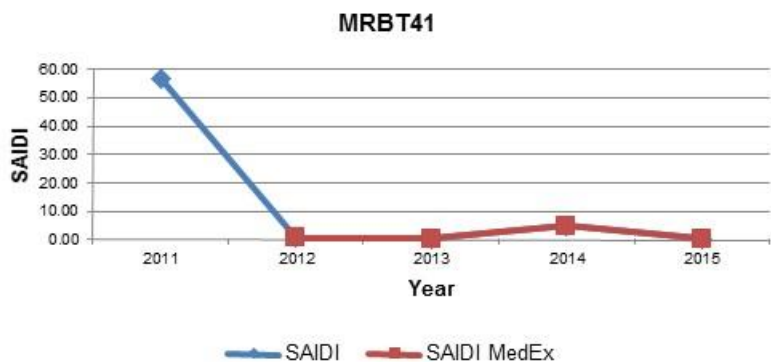
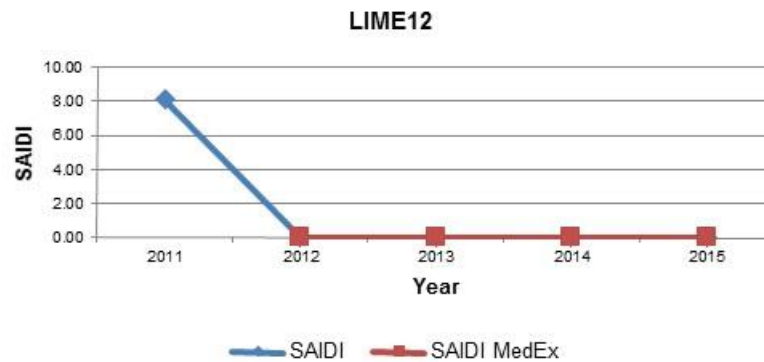
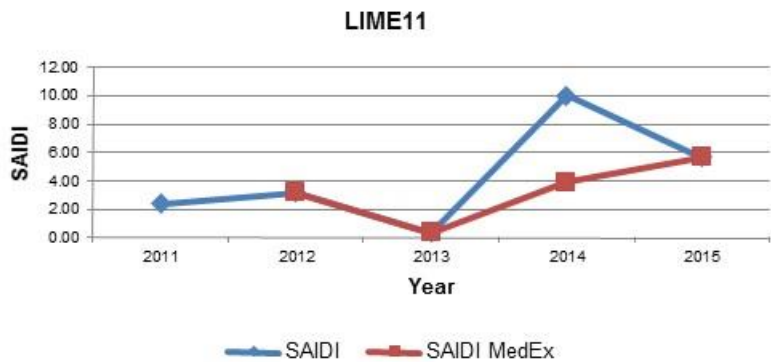


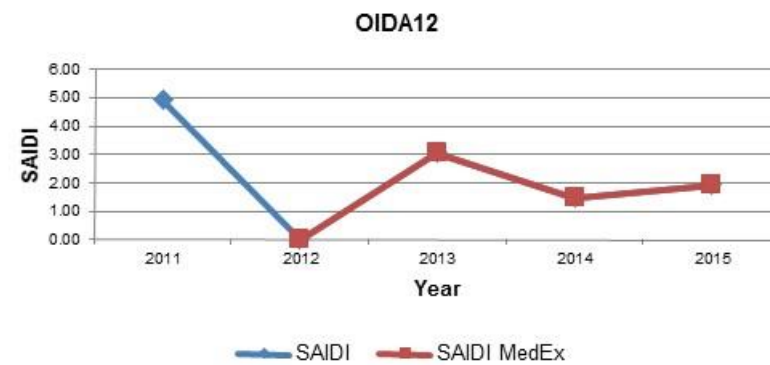
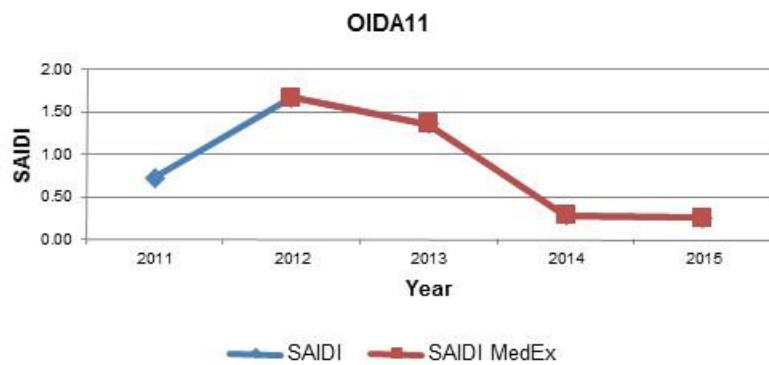
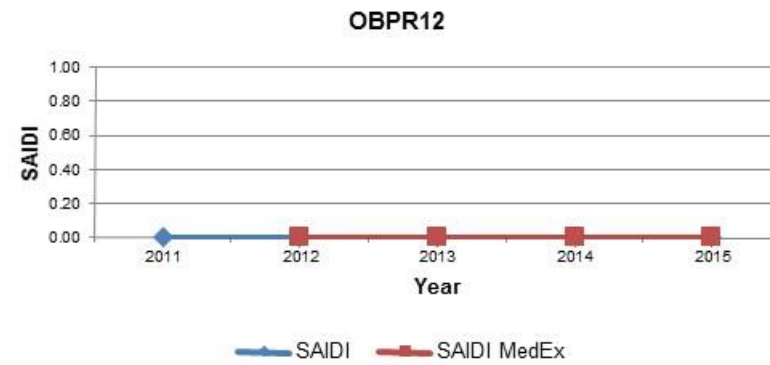
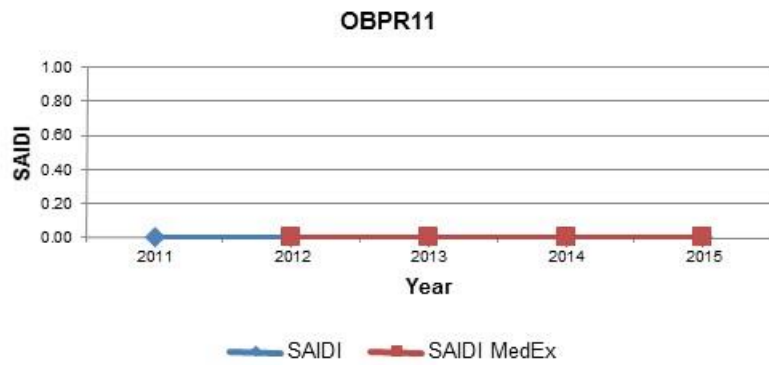
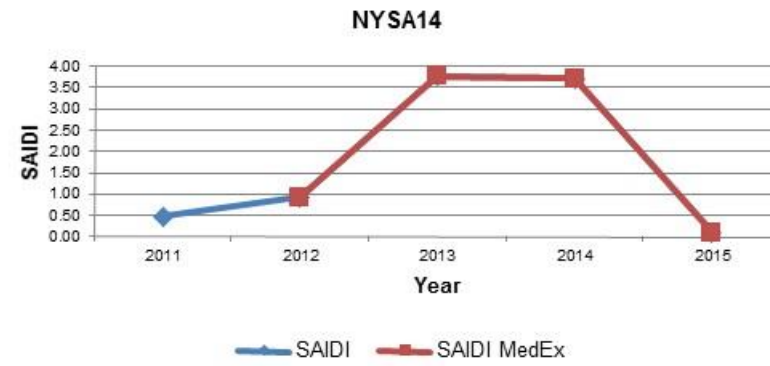
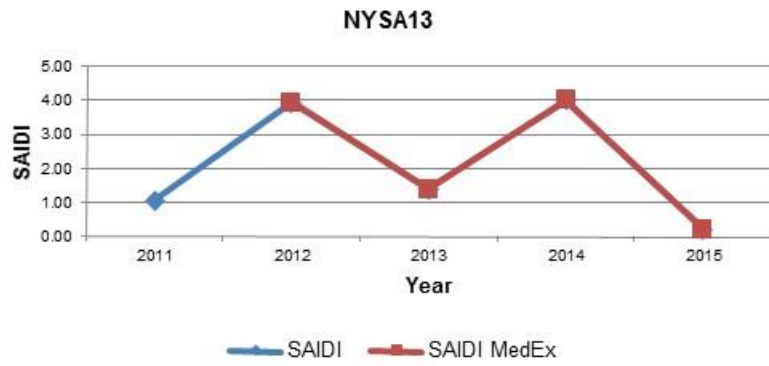


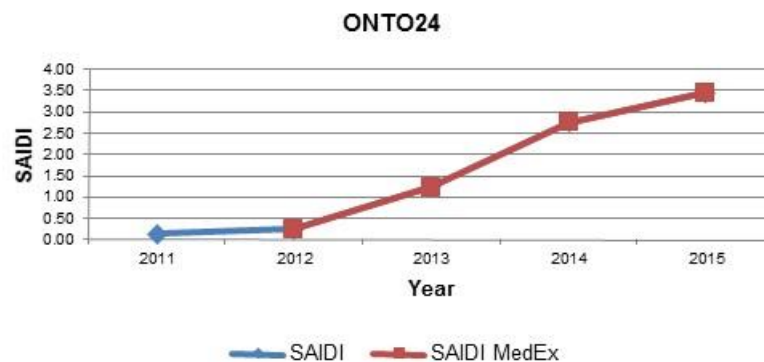
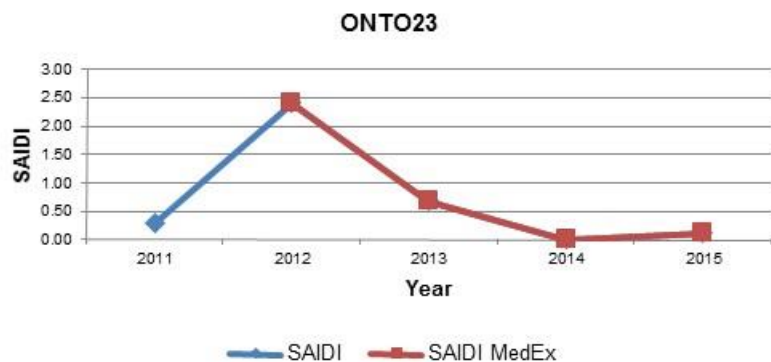
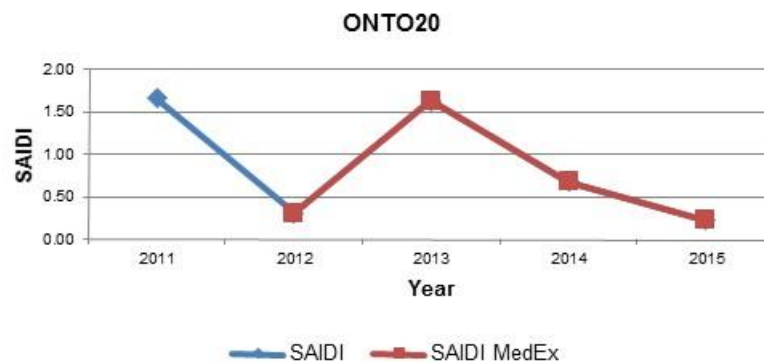
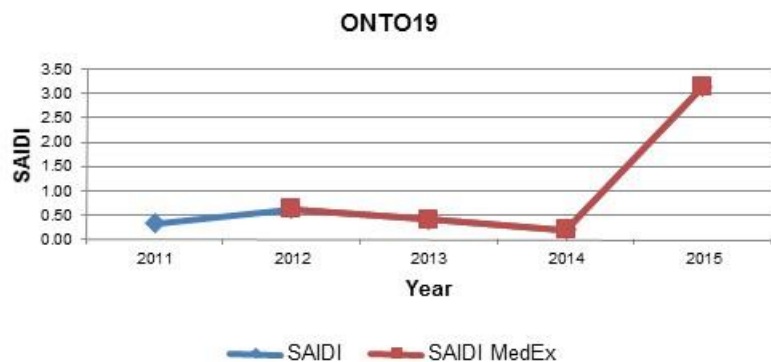
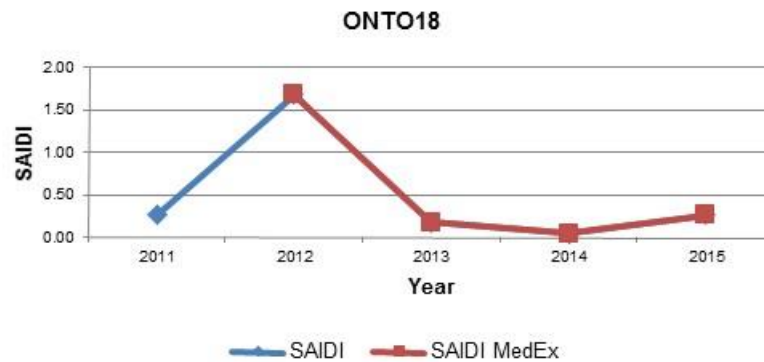
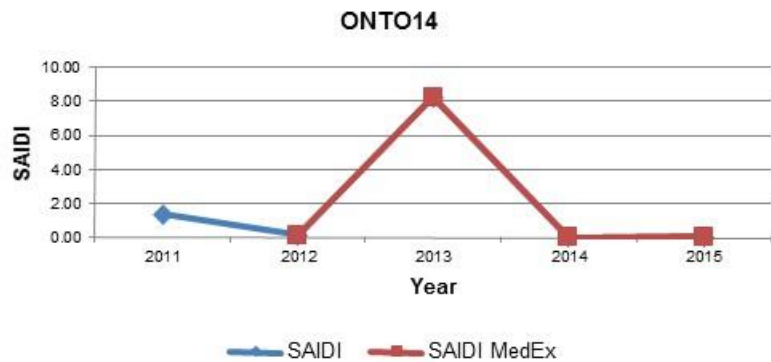


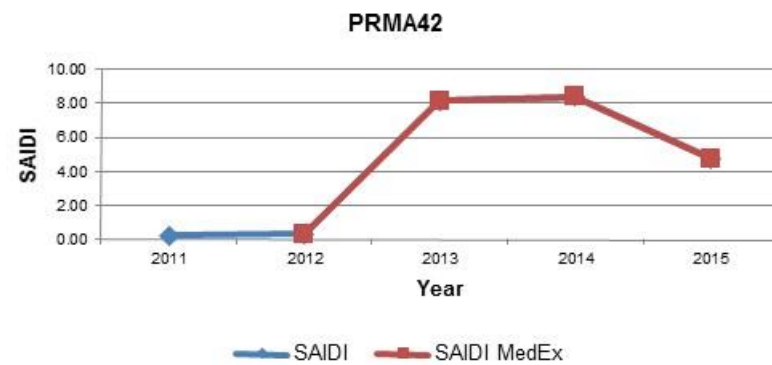
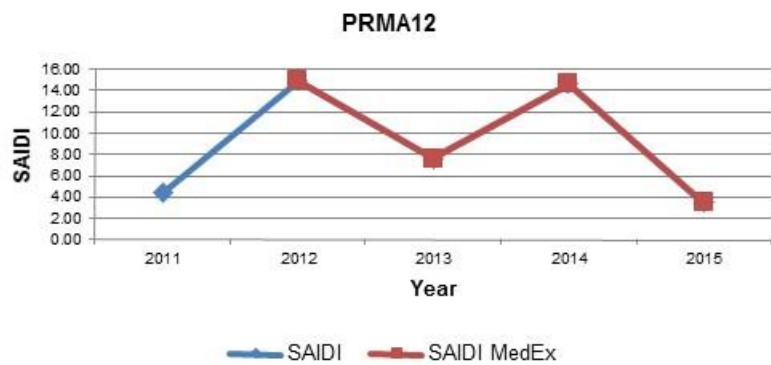
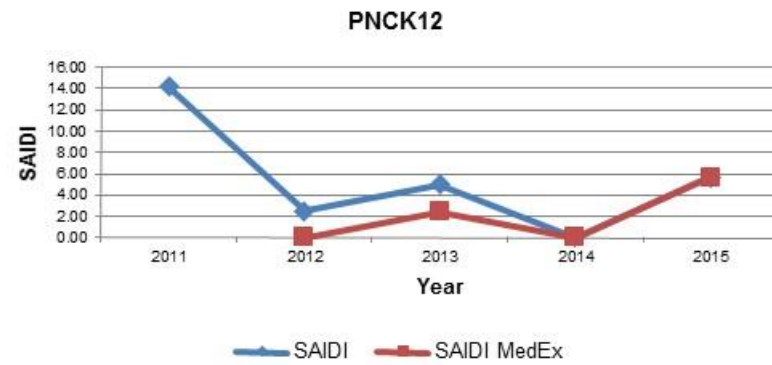
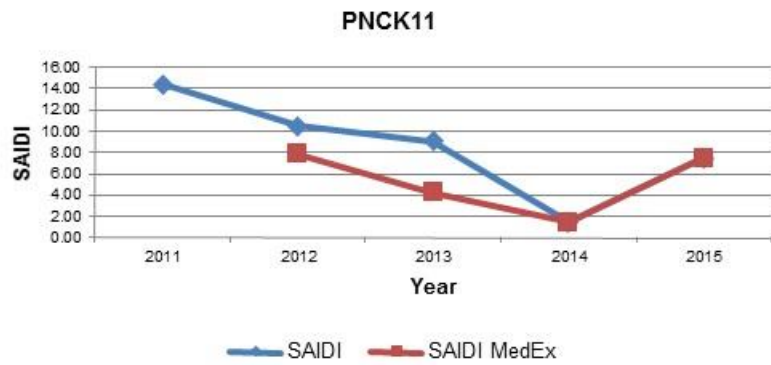
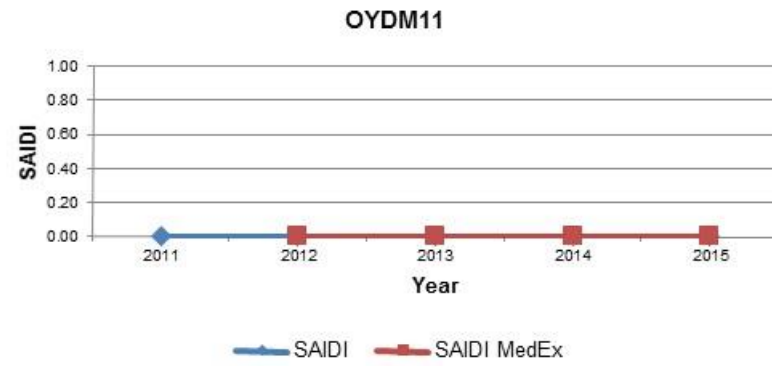
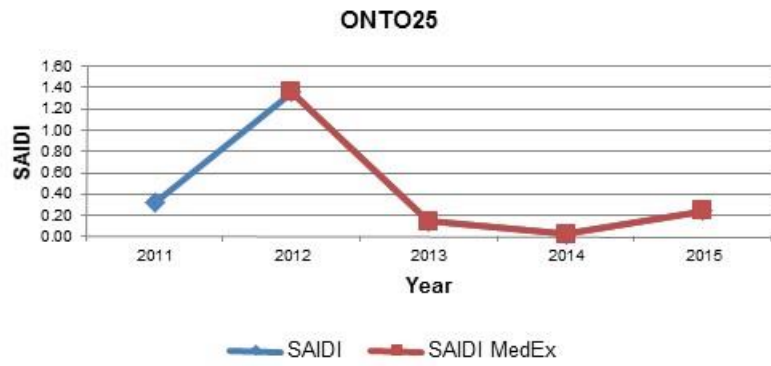


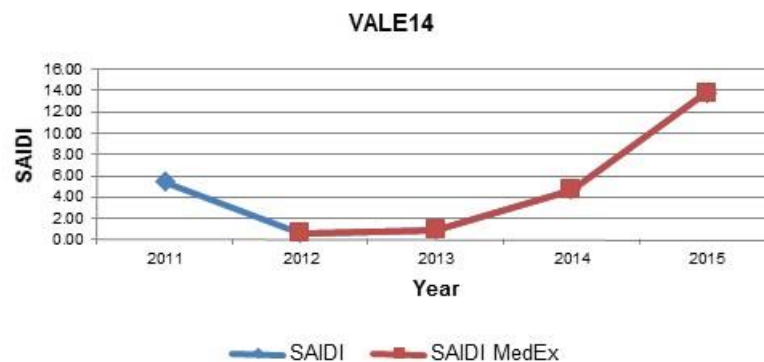
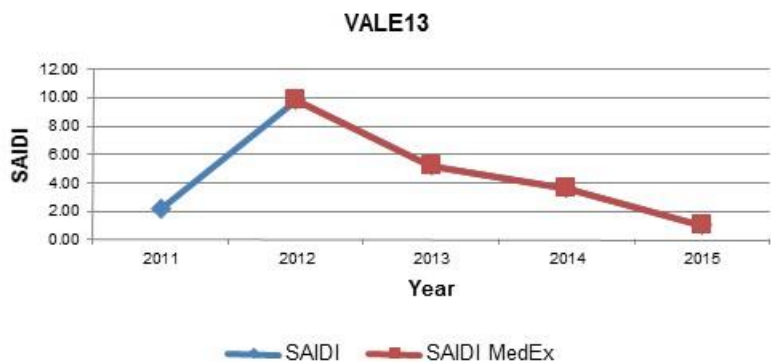
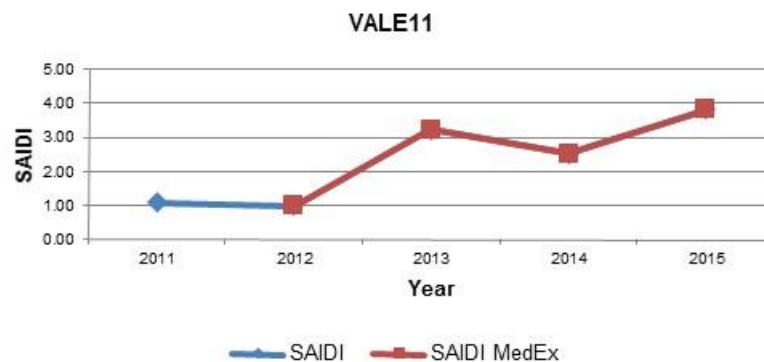
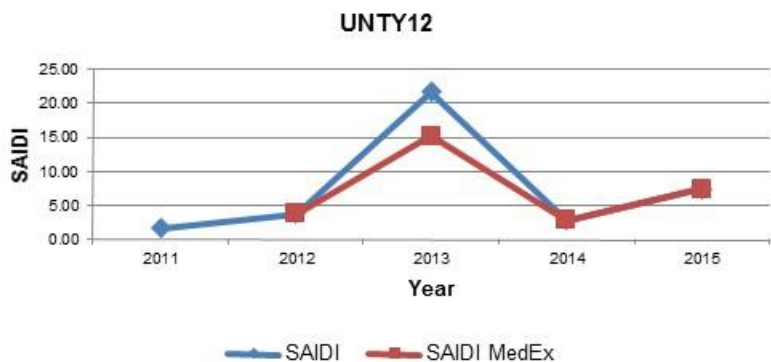
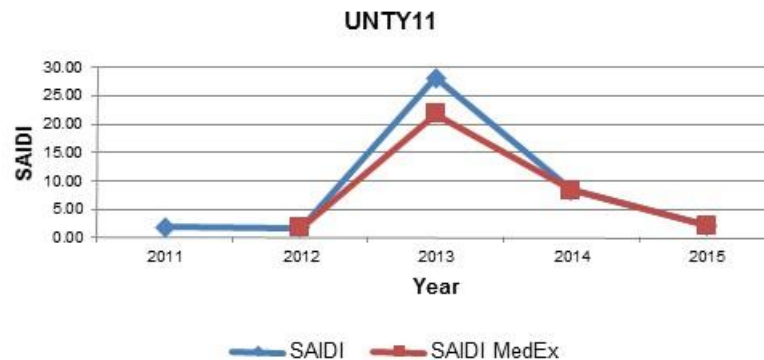
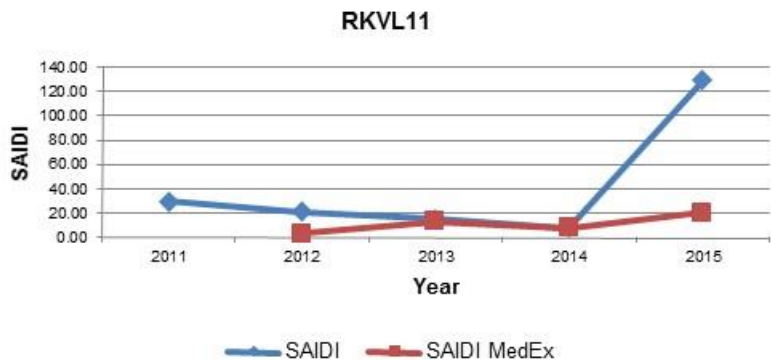














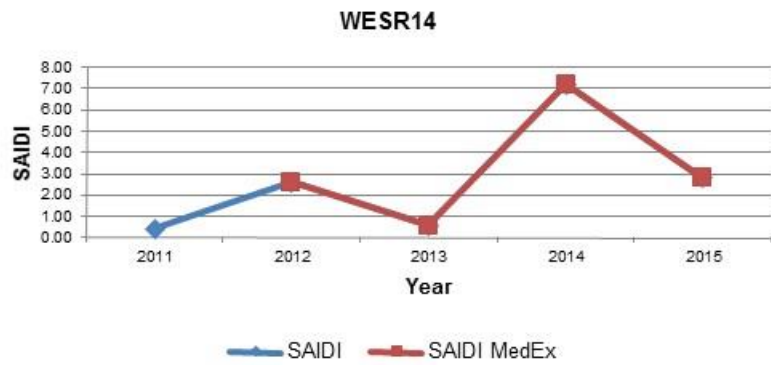
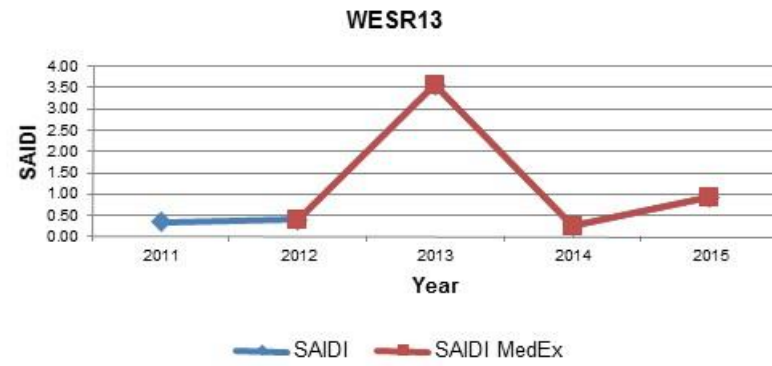
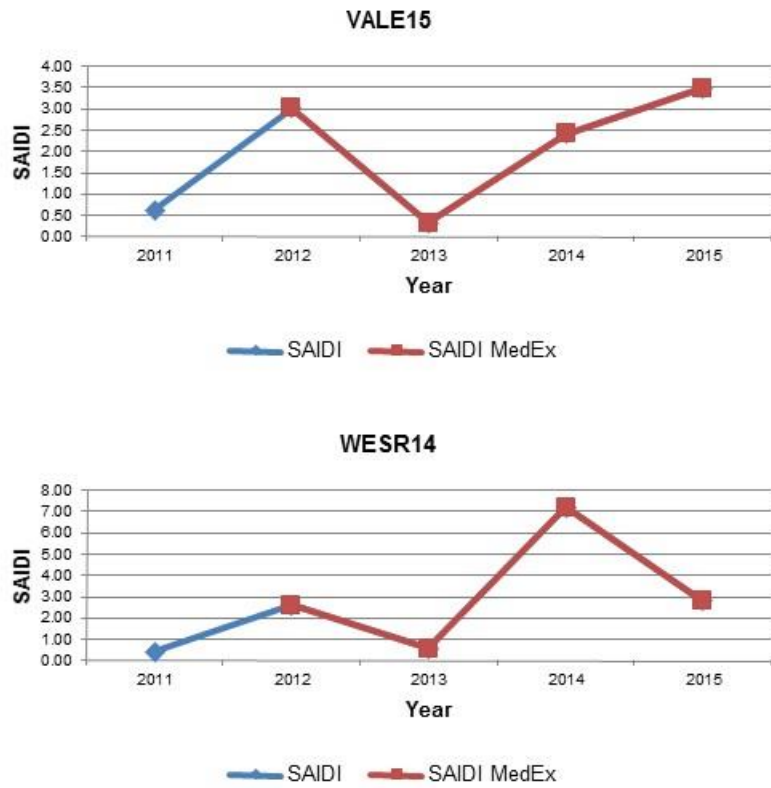


Figure 6 Five Years of Circuit SAIDI



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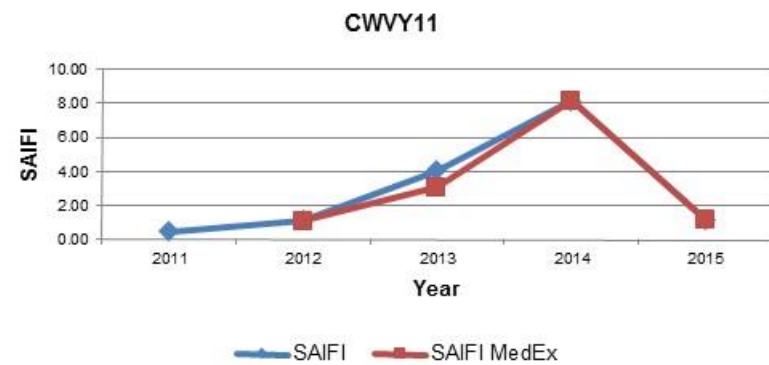
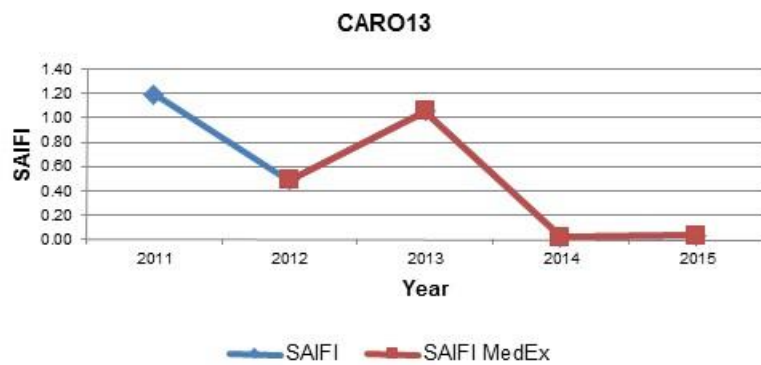
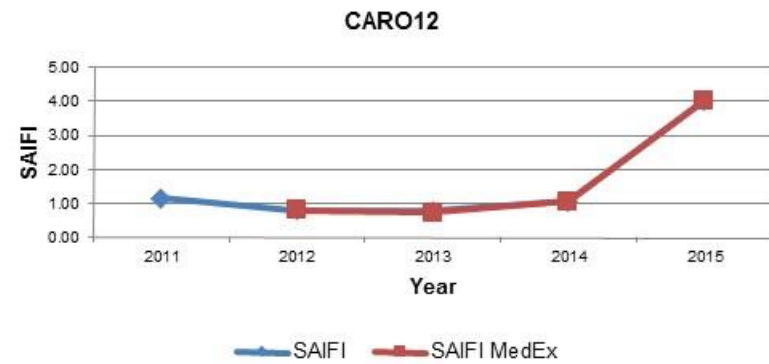
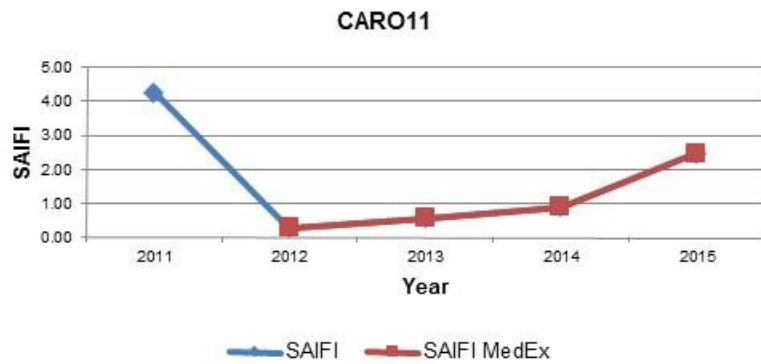
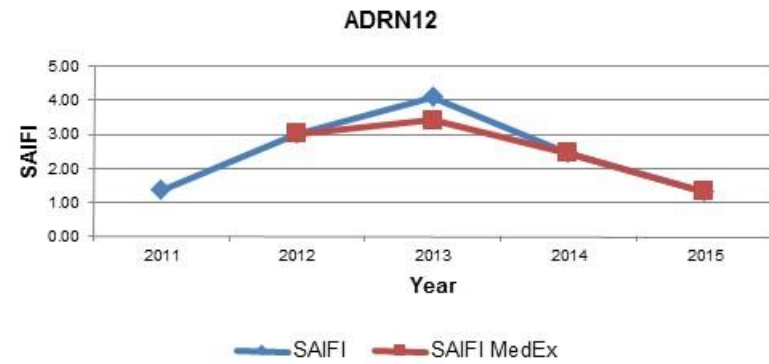
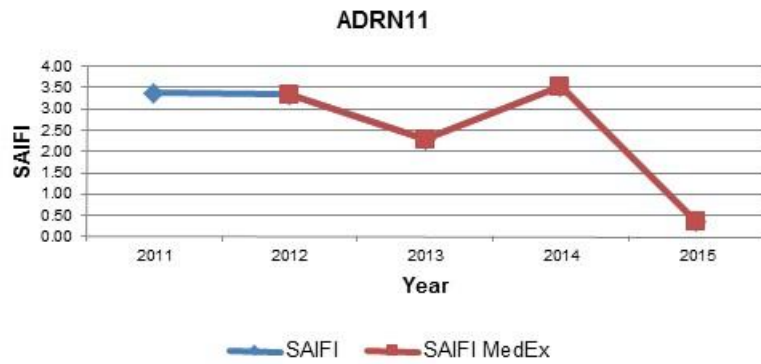
## Five Years of Circuit SAIFI

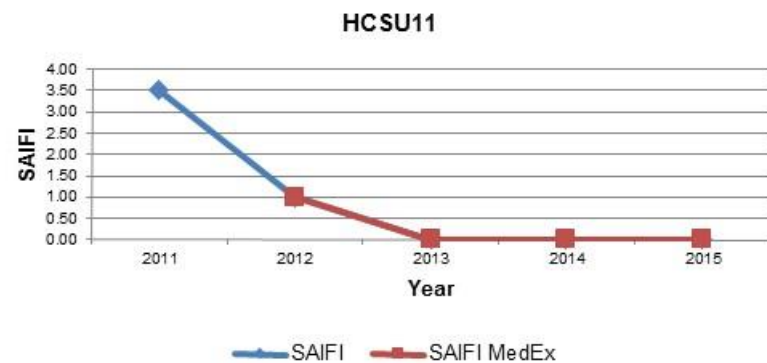
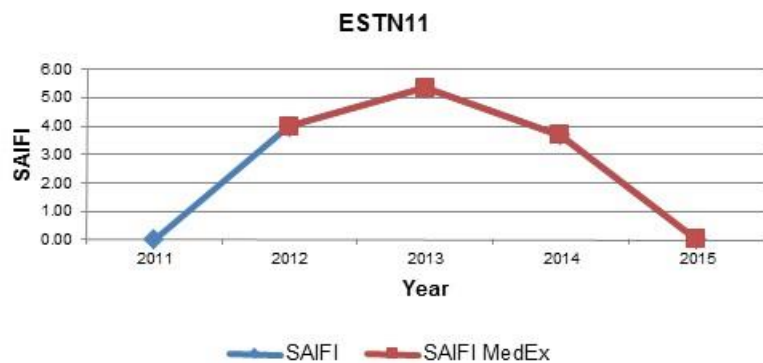
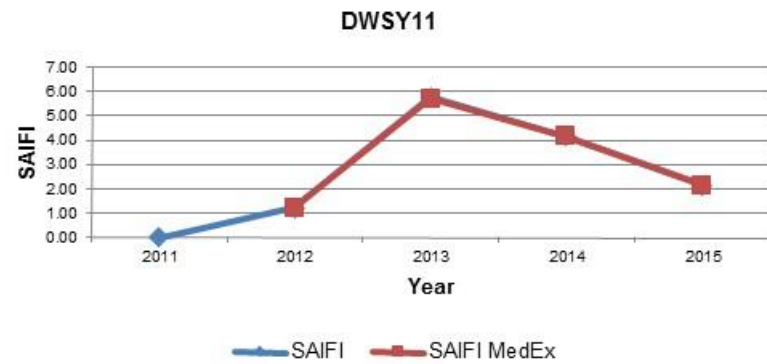
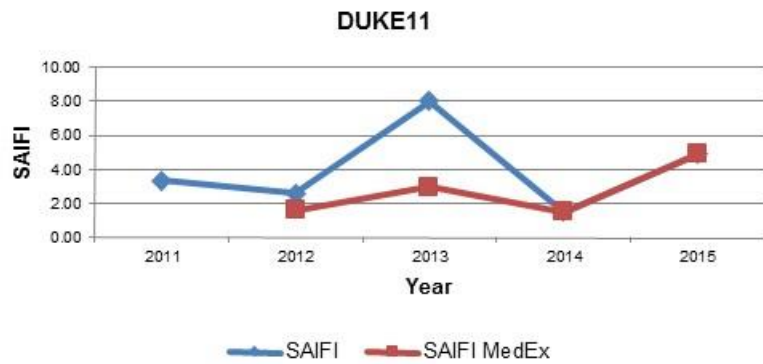
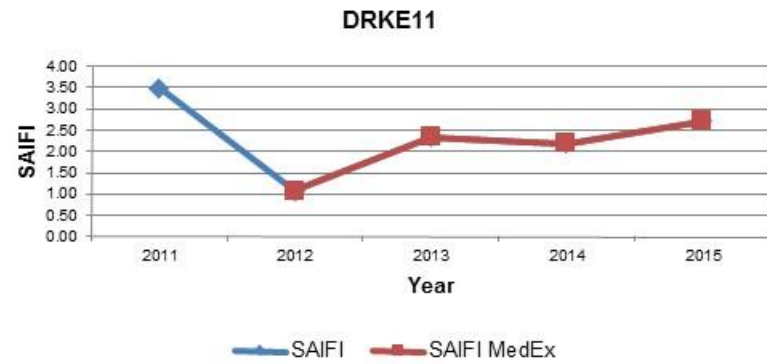
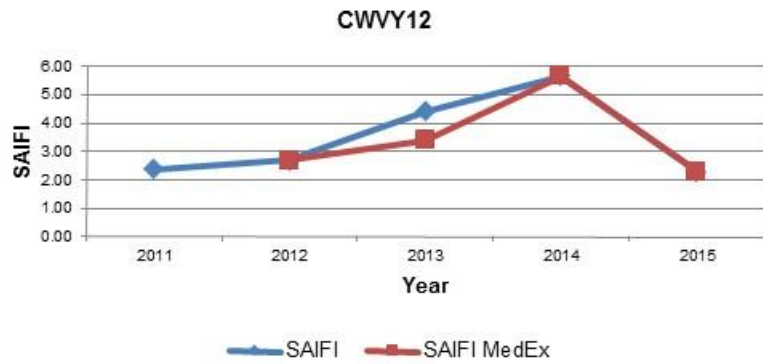
Circuit	2011	2012	2013	2014	2015	2015 SAIFI
						MED Excluded
ADRN11	3.37	3.34	2.29	3.52	0.34	0.34
ADRN12	1.38	3.02	4.10	2.46	1.33	1.33
CARO11	4.27	0.29	0.58	0.91	2.48	2.48
CARO12	1.16	0.82	0.77	1.06	4.03	4.03
CARO13	1.20	0.49	1.05	0.02	0.04	0.04
CWVY11	0.47	1.13	4.07	8.13	1.18	1.18
CWVY12	2.37	2.68	4.40	5.65	2.29	2.29
DRKE11	3.48	1.07	2.34	2.19	2.72	2.72
DUKE11	3.37	2.59	8.00	1.50	4.93	4.93
DWSY11	0.00	1.23	5.76	4.16	2.13	2.13
ESTN11	0.00	4.00	5.33	3.67	0.00	0.00
HCSU11	3.51	1.00	0.00	0.00	0.00	0.00
HFVY11	4.33	2.90	11.46	2.26	3.58	3.58
HFVY12	1.69	1.71	10.44	1.21	5.42	3.51
HGTN11	0.99	2.84	0.30	2.13	0.24	0.24
HGTN12	0.55	1.04	0.02	1.04	0.03	0.03
HMDL12	1.29	1.50	2.27	0.18	0.13	0.13
HOLY11	1.28	0.43	1.28	1.45	2.46	2.46
HOLY12	1.06	0.38	2.08	0.01	2.38	2.38
HOLY13	1.87	1.46	2.05	0.35	1.66	1.66
HOPE11	3.87	0.46	3.40	4.02	0.45	0.45
HRPR11	3.25	0.29	1.77	4.61	1.22	1.22
HRPR12	4.06	1.23	3.00	7.20	2.46	2.46
JMSN11	0.24	1.21	6.92	4.45	2.01	2.01
JMSN12	3.38	2.83	5.08	5.35	2.16	2.16
JNTA11	2.06	1.37	5.05	4.80	2.30	2.30
JNTA12	7.00	1.04	5.00	4.67	2.13	2.13
JNVY11	7.43	6.18	4.14	3.20	16.77	9.77
JNVY12	7.62	6.12	4.89	1.98	21.36	9.14
JNVY31	1.32	8.36	4.51	3.73	12.96	9.65
LIME11	3.55	1.94	0.29	2.46	2.31	2.31
LIME12	1.83	0.00	0.00	0.00	0.00	0.00
MRBT41	0.10	1.15	0.11	1.58	0.13	0.13
MRBT42	0.14	1.10	0.00	1.14	0.11	0.11

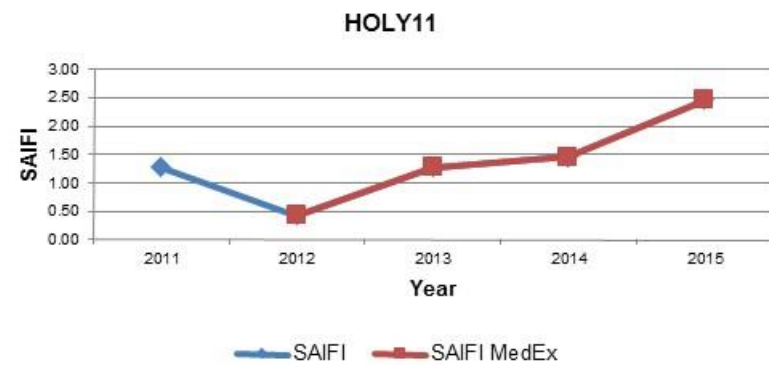
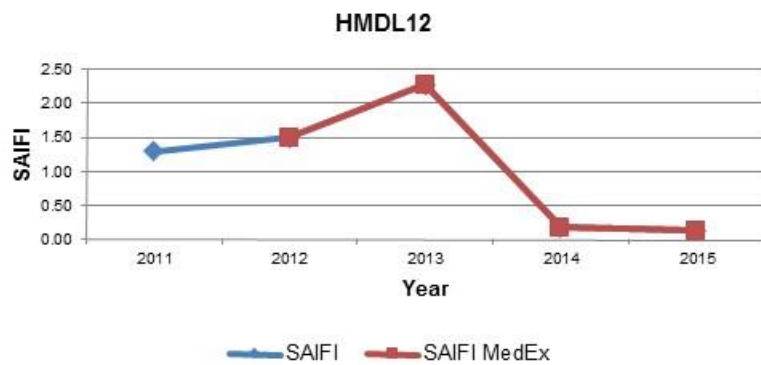
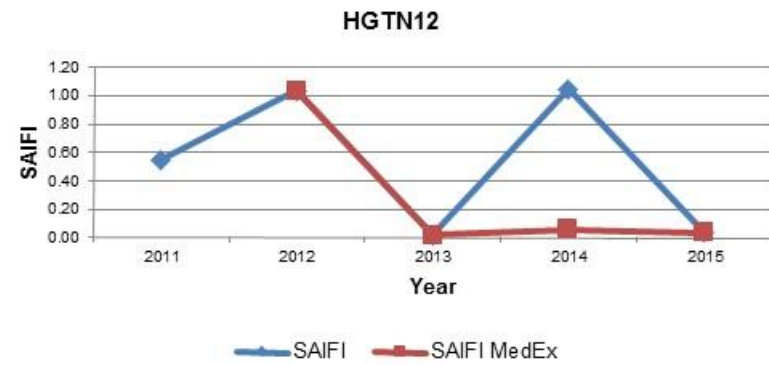
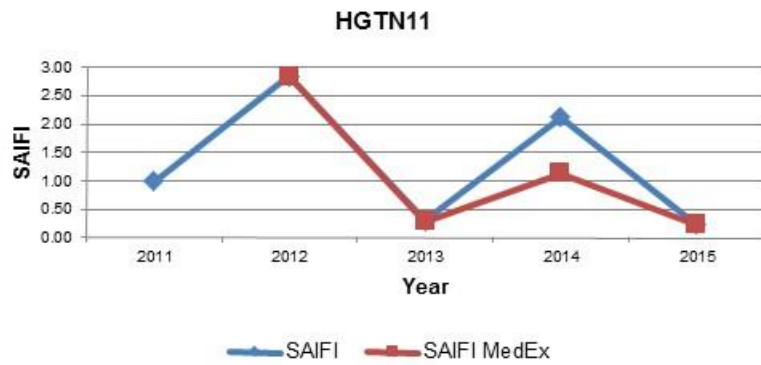
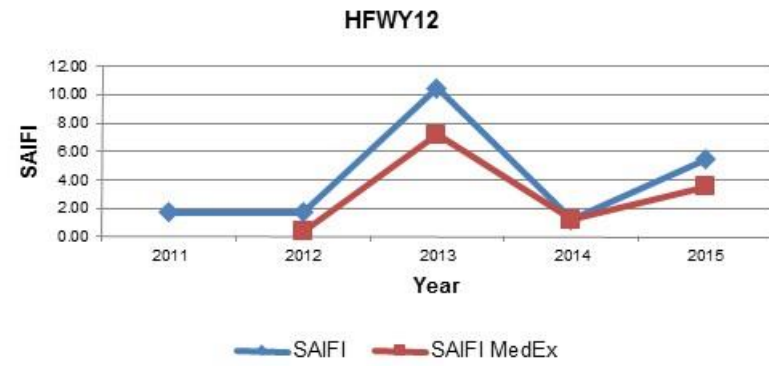
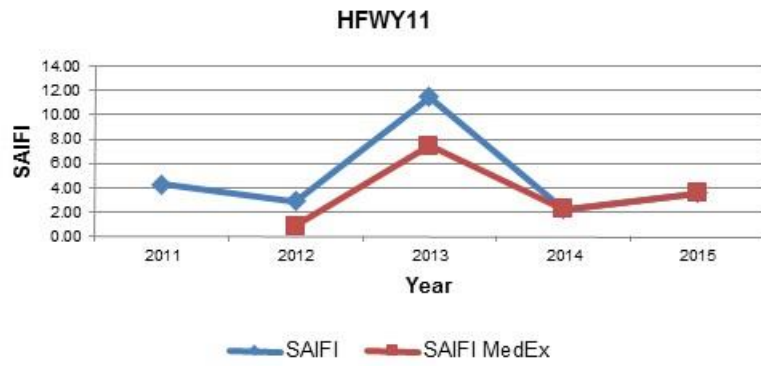
Table 8 Five Years of Circuit SAIFI Part I

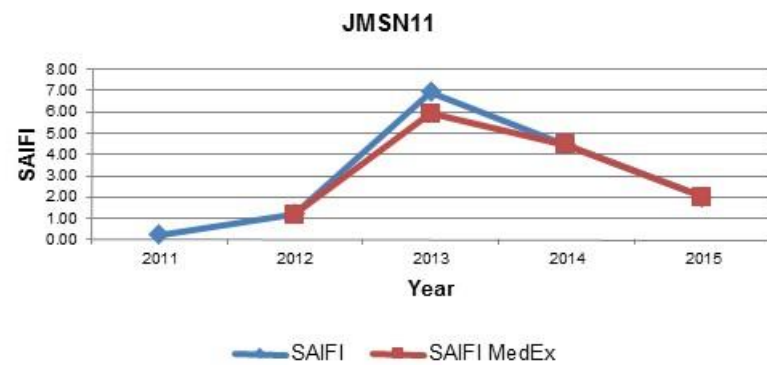
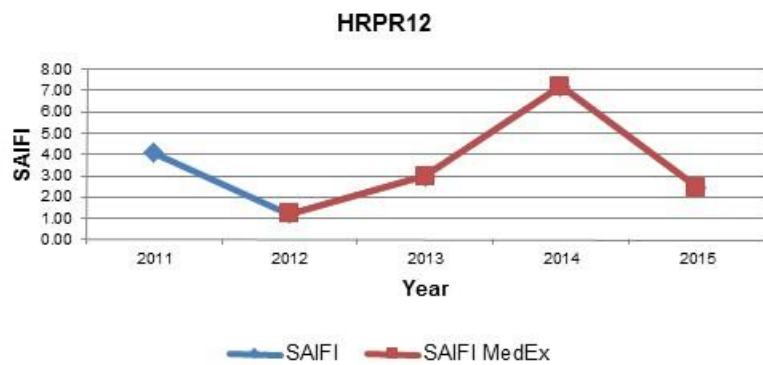
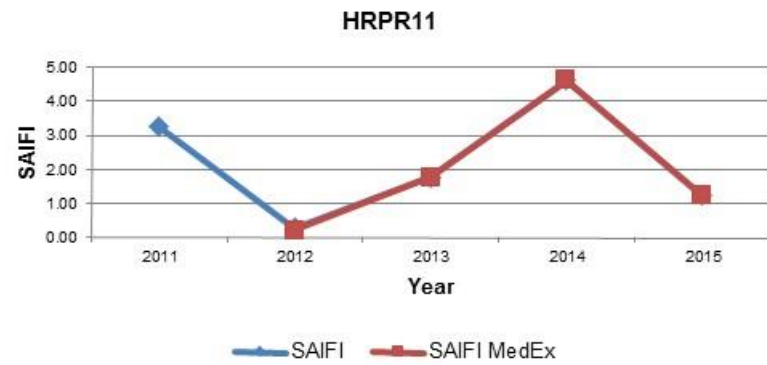
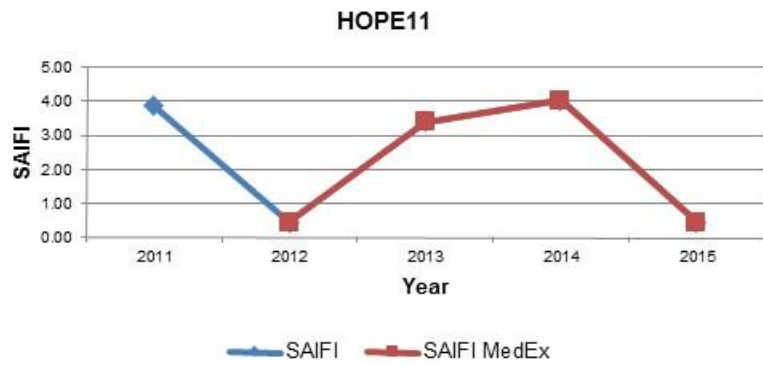
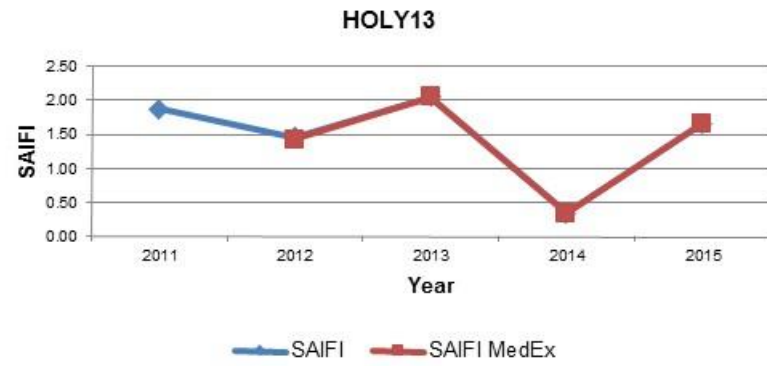
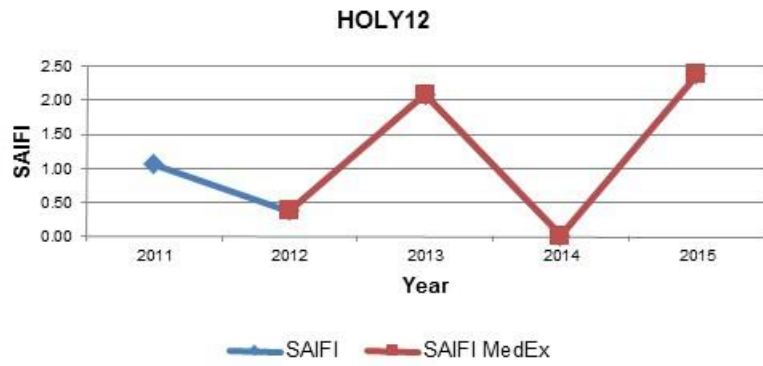
<b>Circuit</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2015 SAIFI MED Excluded</b>
NYSA11	2.01	0.13	1.12	2.03	2.75	2.75
NYSA12	0.40	2.49	3.27	1.26	0.68	0.68
NYSA13	0.30	1.51	1.36	2.21	0.15	0.15
NYSA14	0.00	0.60	2.02	2.16	0.08	0.08
OBPR11	0.00	0.00	0.00	0.00	0.00	0.00
OBPR12	1.14	0.00	0.00	0.00	0.00	0.00
OIDA11	3.00	1.09	2.10	0.08	0.10	0.10
OIDA12	3.10	0.00	3.00	2.00	2.00	2.00
ONTO14	0.20	0.14	0.97	0.00	0.03	0.03
ONTO18	0.16	1.02	0.07	0.04	0.17	0.17
ONTO19	0.46	1.10	0.14	0.07	1.60	1.60
ONTO20	0.22	0.18	1.06	0.34	0.19	0.19
ONTO23	0.07	2.00	1.04	0.00	0.15	0.15
ONTO24	0.19	0.16	0.61	1.27	2.61	2.61
ONTO25	0.00	1.07	0.09	0.02	0.16	0.16
OYDM11	4.31	0.00	0.00	0.00	0.00	0.00
PNCK11	5.00	2.27	7.07	0.63	3.63	3.63
PNCK12	3.00	1.00	4.00	0.00	4.00	4.00
PRMA12	0.18	3.00	5.50	6.50	2.00	2.00
PRMA42	6.11	0.22	3.30	2.42	3.37	3.37
RKVL11	0.44	5.22	4.81	3.96	9.25	7.25
UNTY11	0.55	1.08	6.99	3.22	1.39	1.39
UNTY12	0.66	1.68	5.32	2.22	2.07	2.07
VALE11	0.81	1.07	2.52	2.45	1.16	1.16
VALE13	3.08	4.37	1.34	2.86	0.83	0.83
VALE14	0.56	0.59	0.68	3.13	5.62	5.62
VALE15	0.02	1.76	0.17	2.24	1.33	1.33
WESR13	0.24	0.30	0.23	0.14	0.29	0.29
WESR14	0.00	1.21	0.38	2.61	2.61	2.61

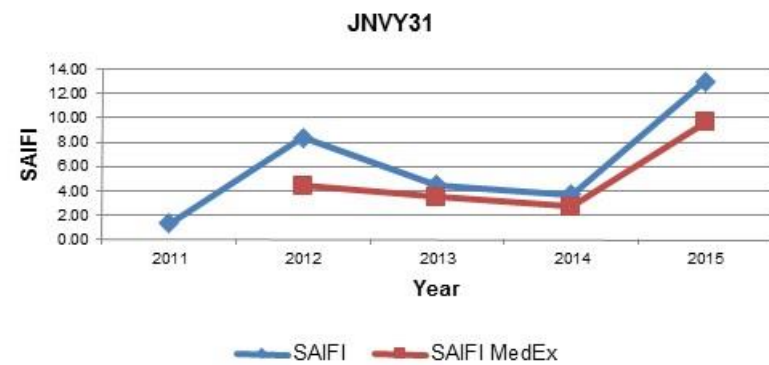
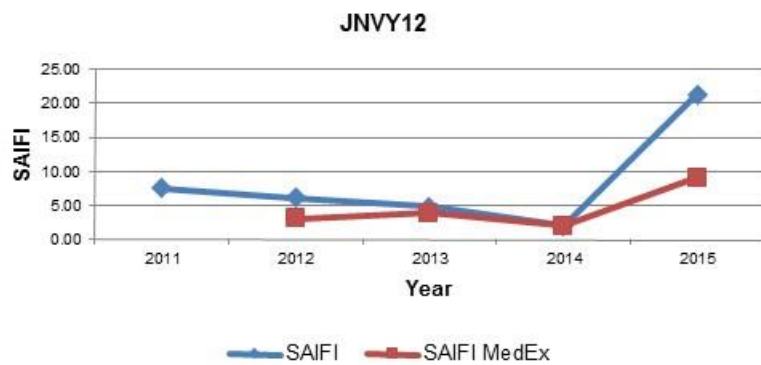
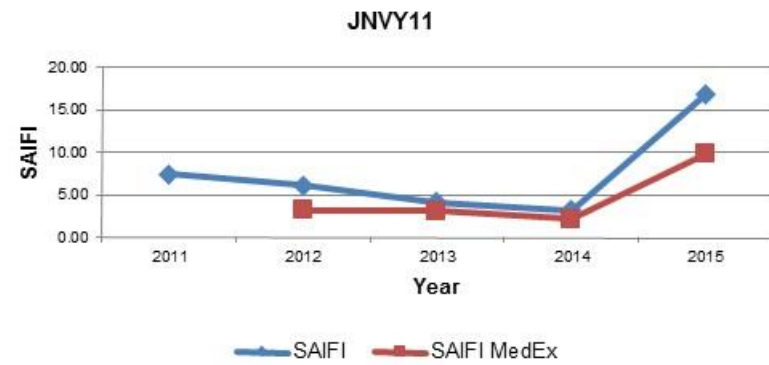
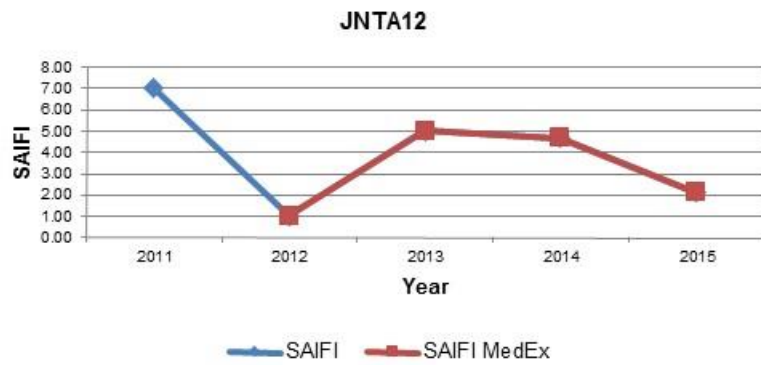
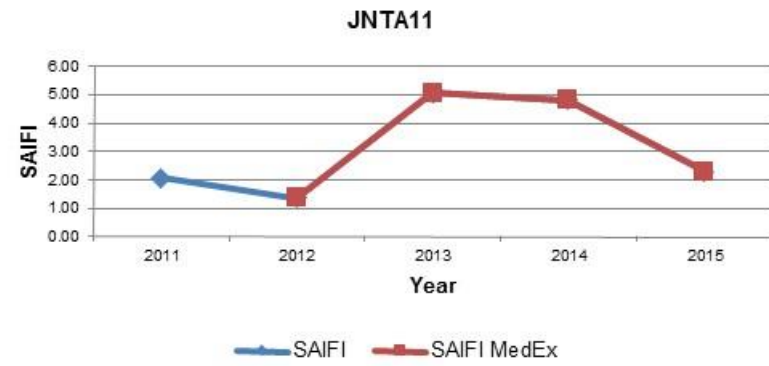
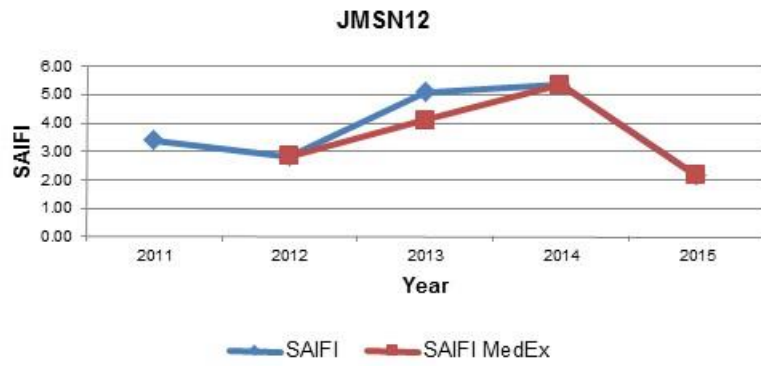
Table 9 Five Years of Circuit SAIFI Part II



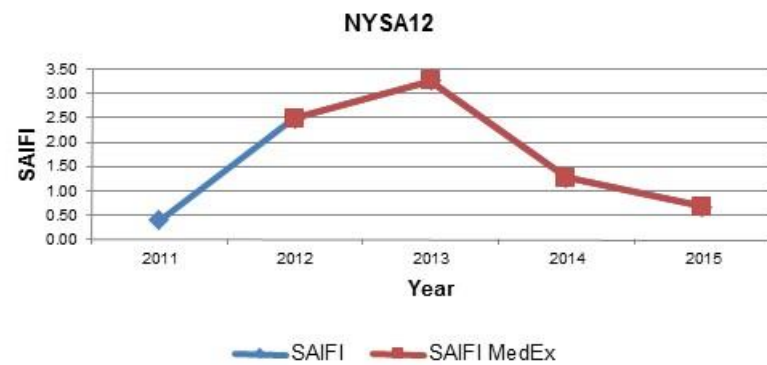
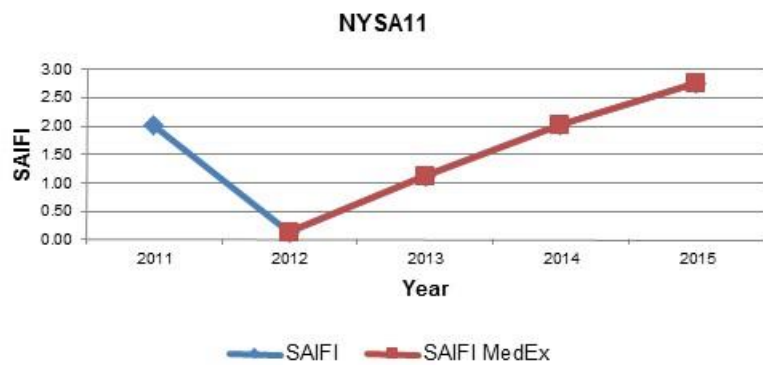
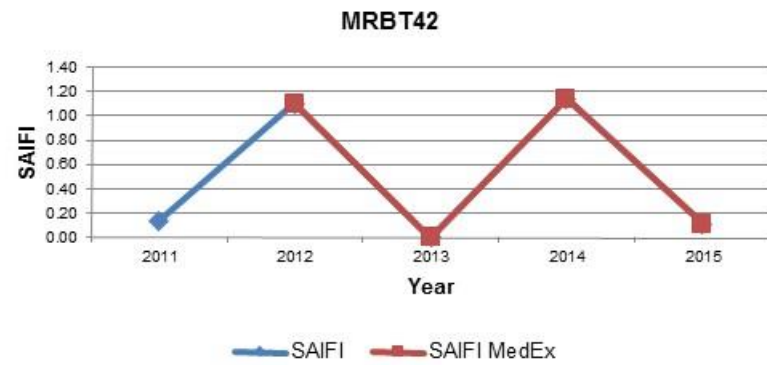
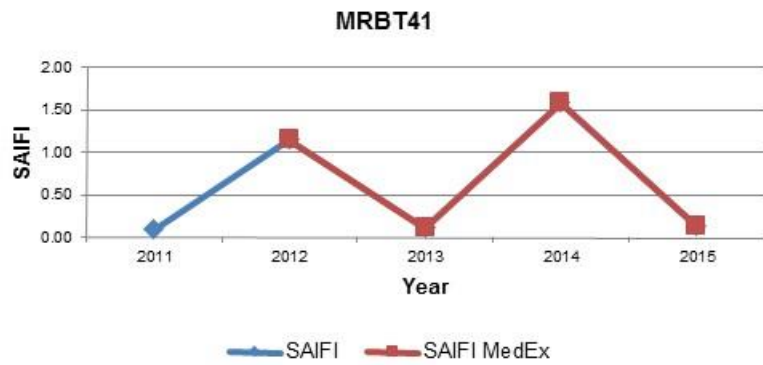
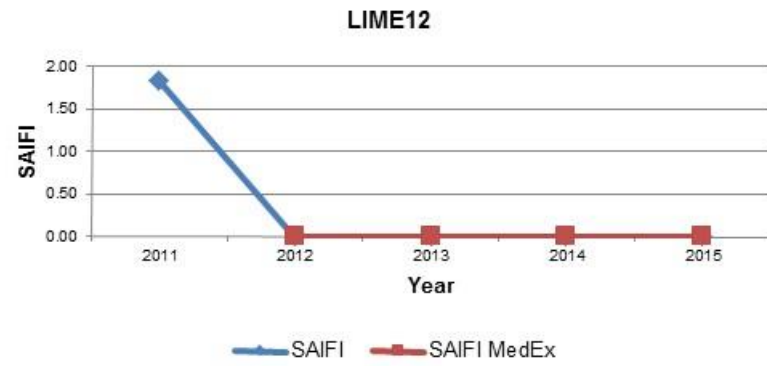
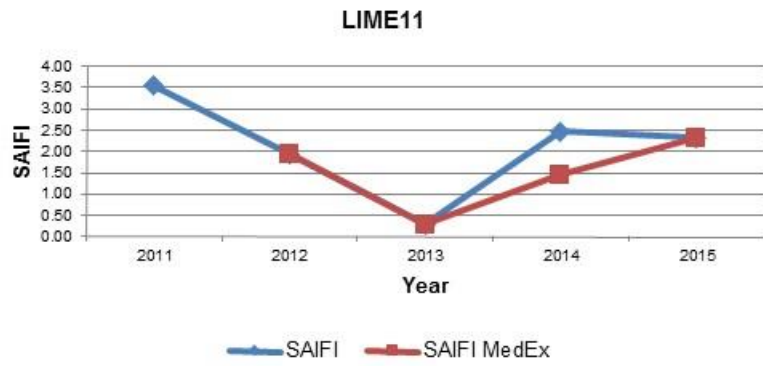


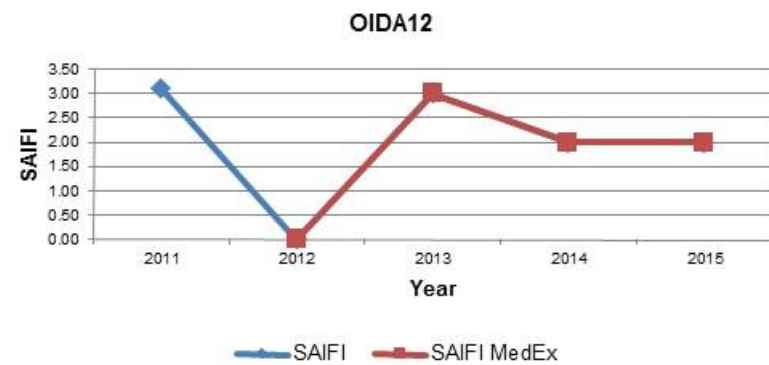
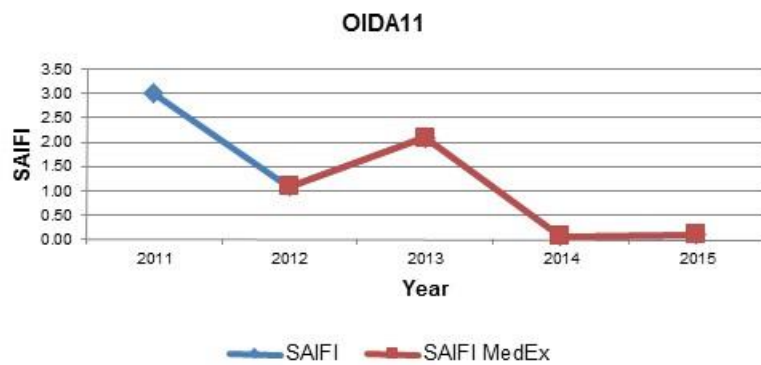
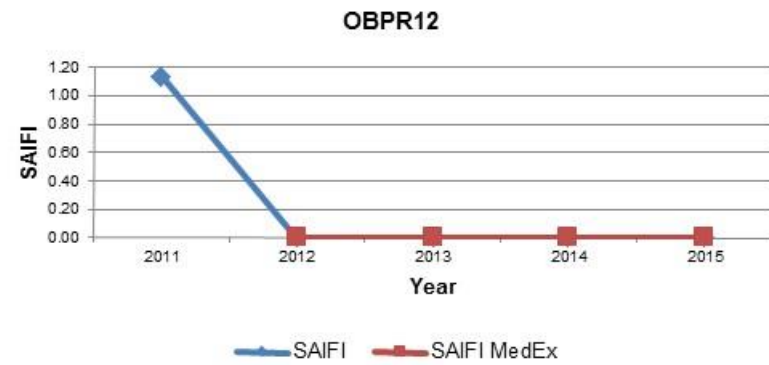
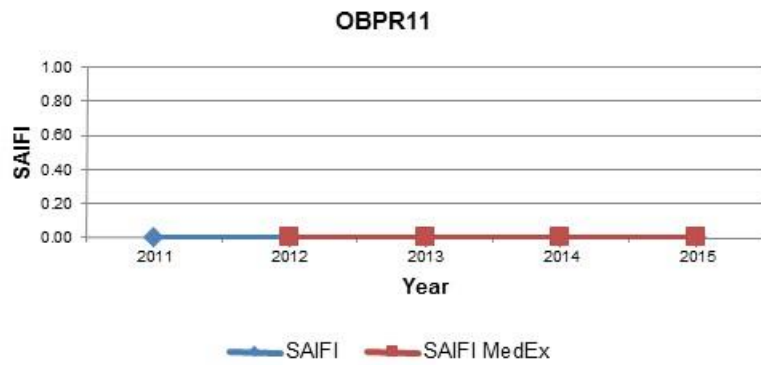
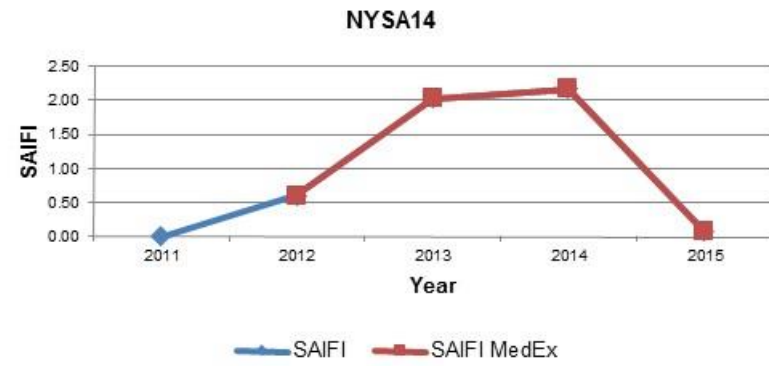
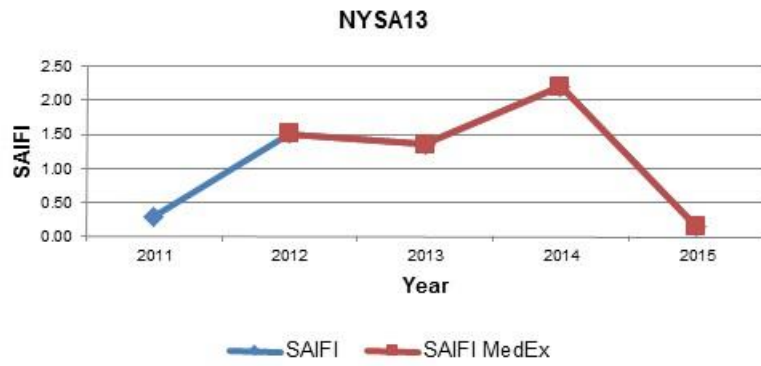


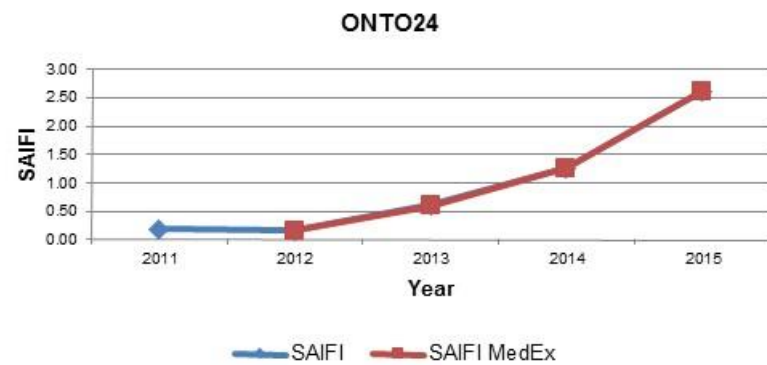
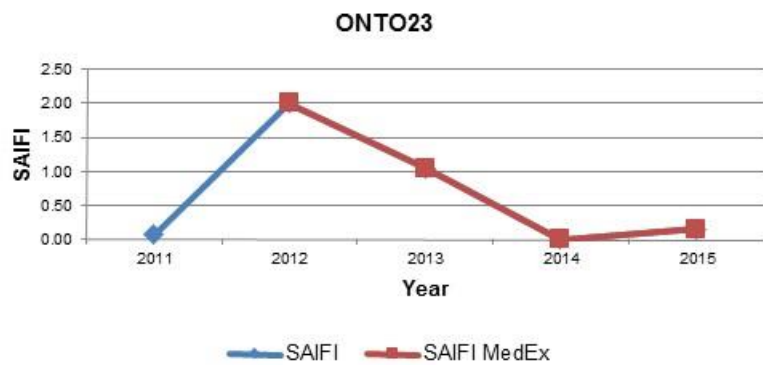
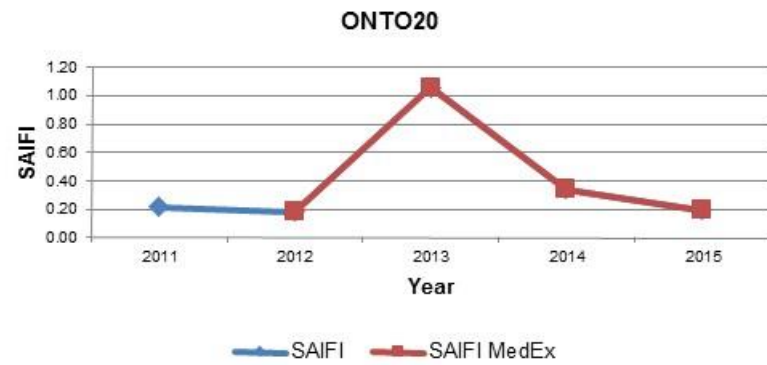
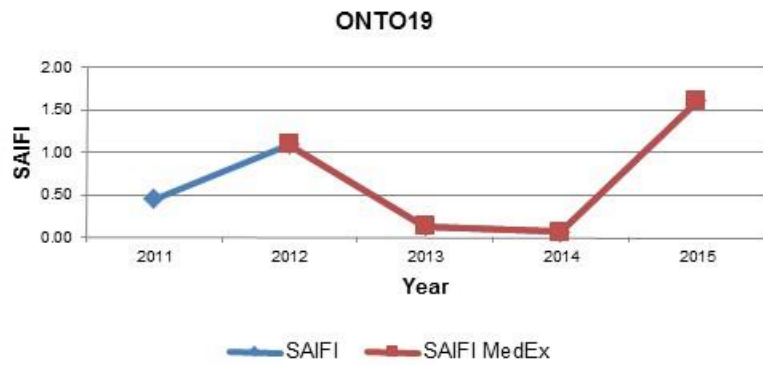
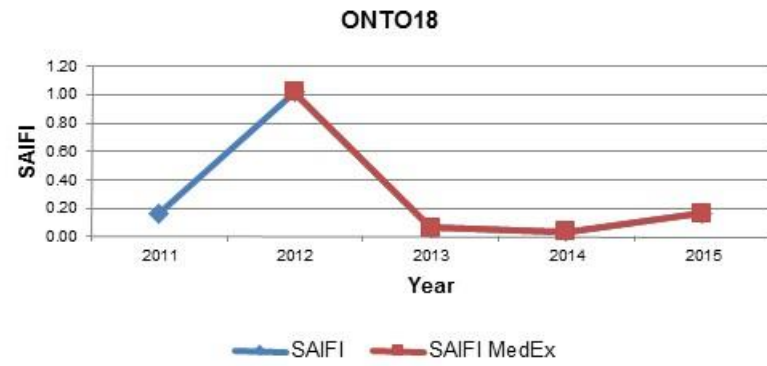
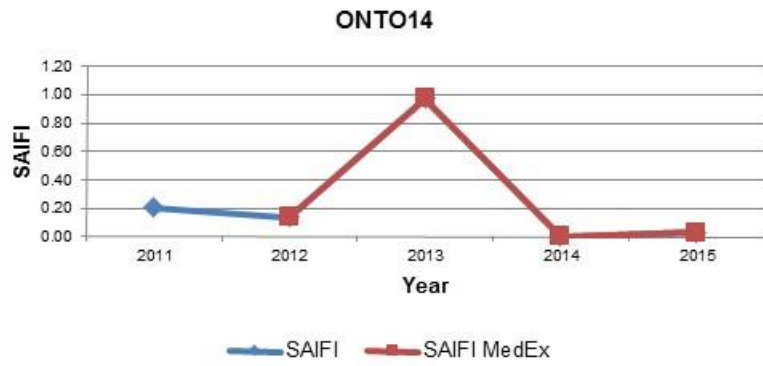


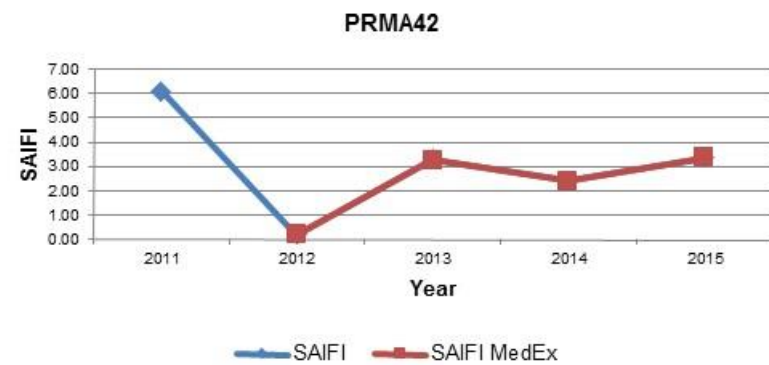
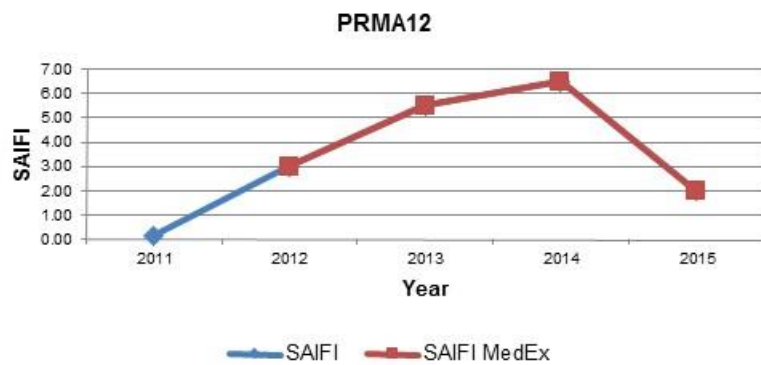
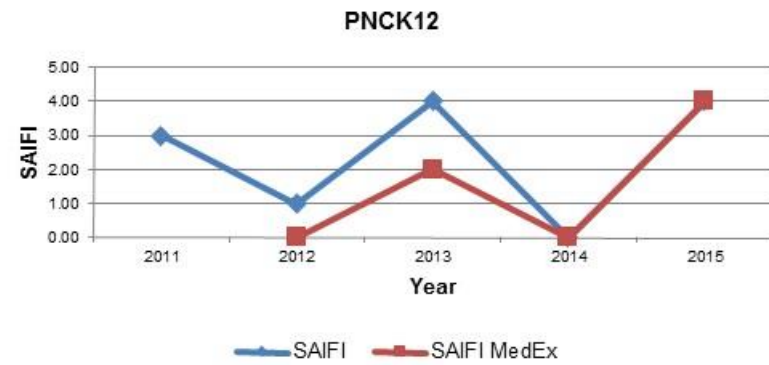
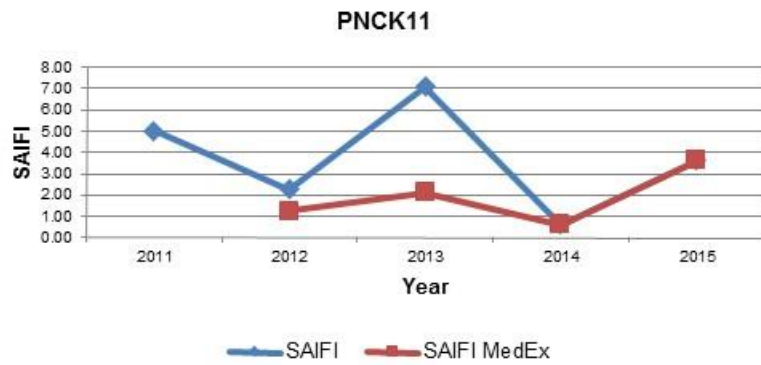
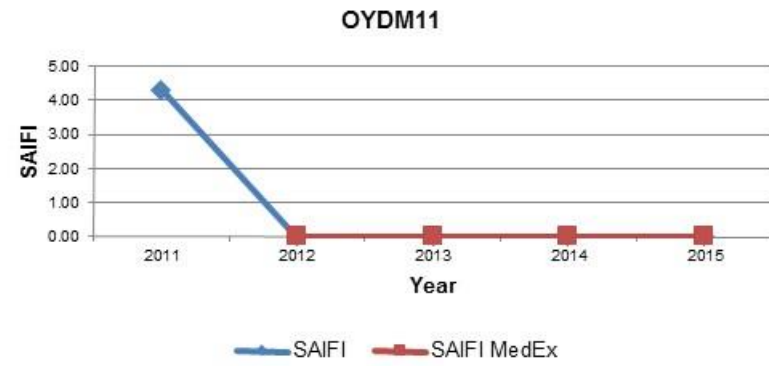
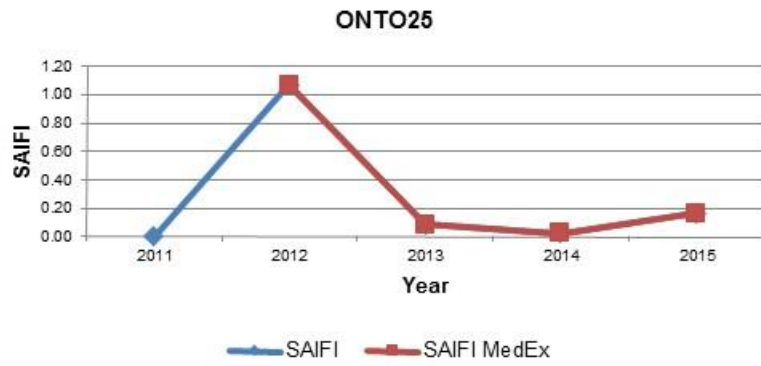


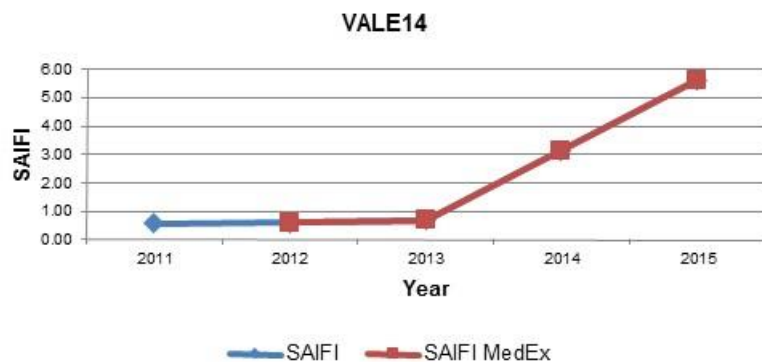
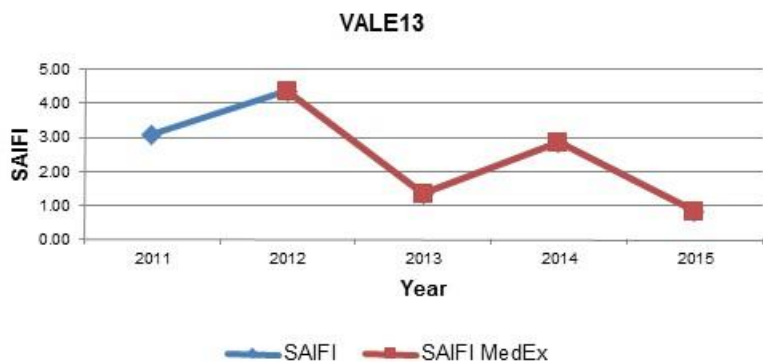
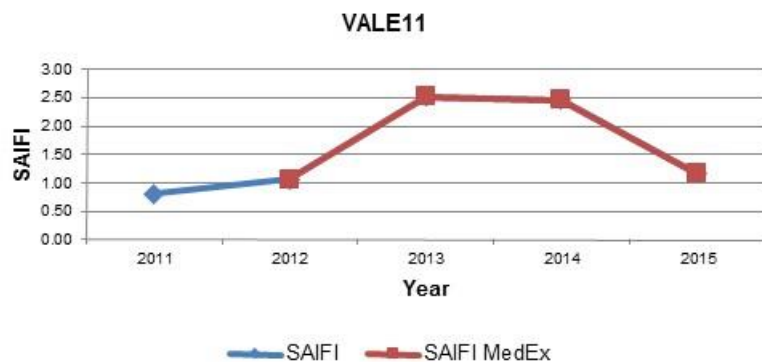
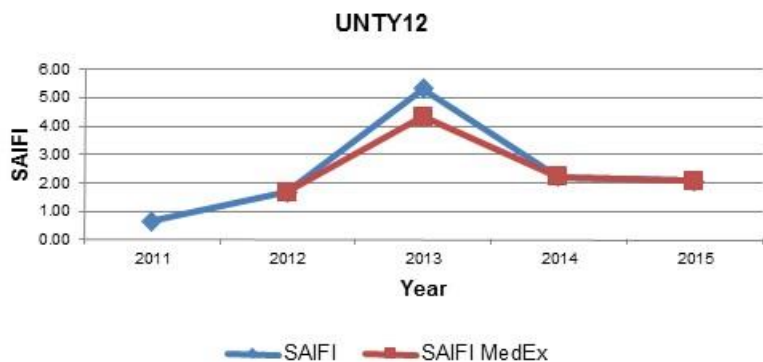
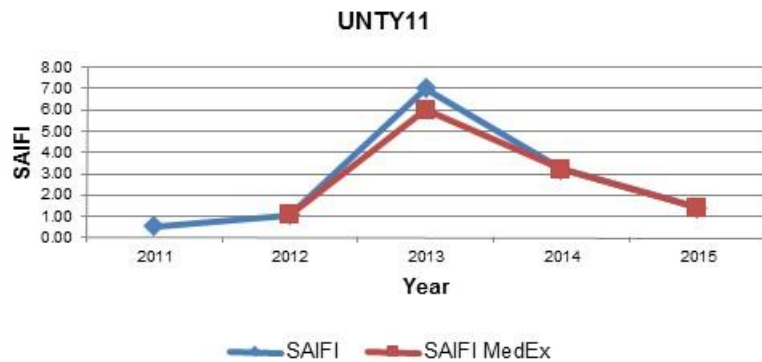
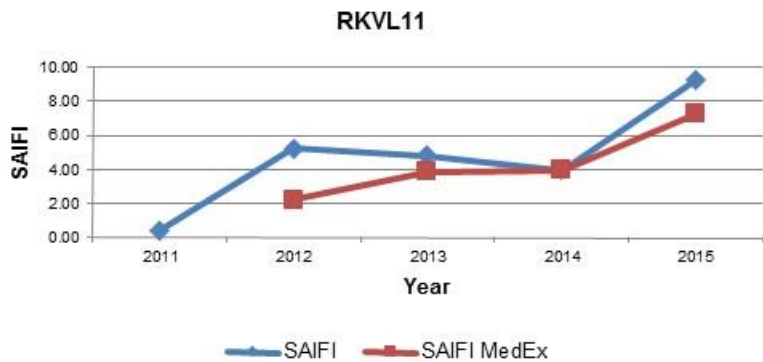












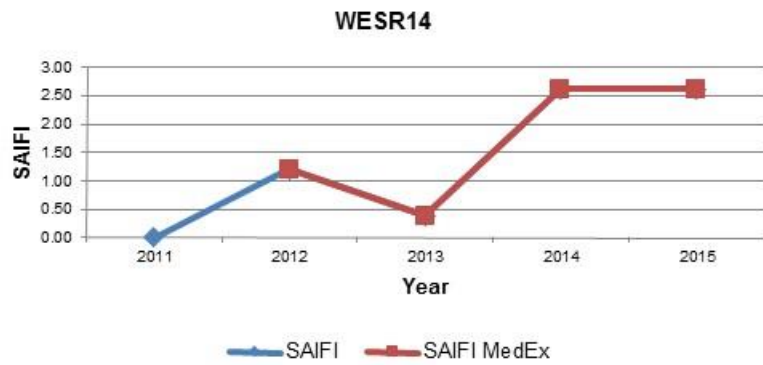
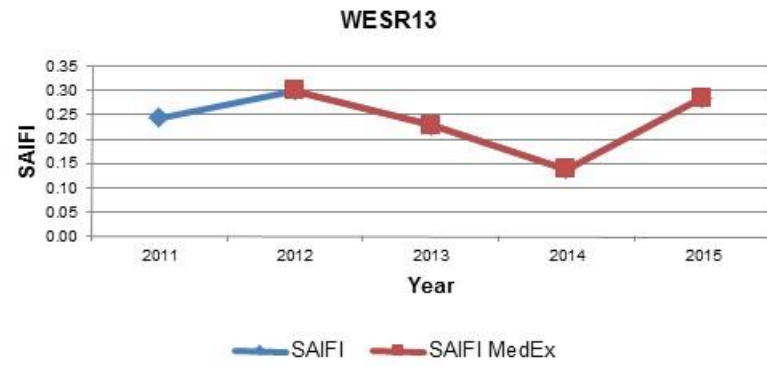
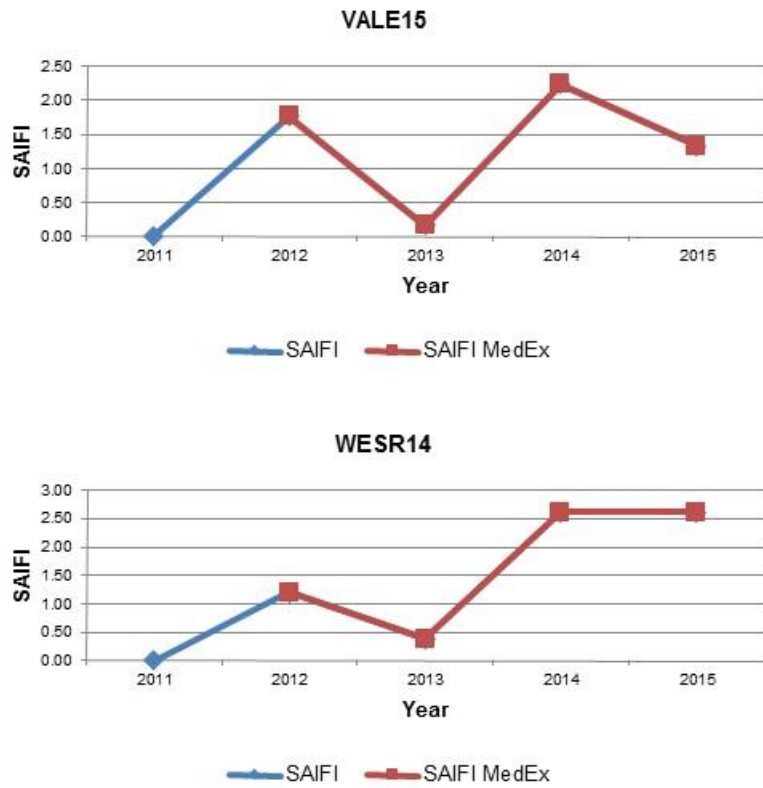


Figure 7 Five Years of Circuit SAIFI

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## Five Years of Circuit MAIFI<sub>E</sub>

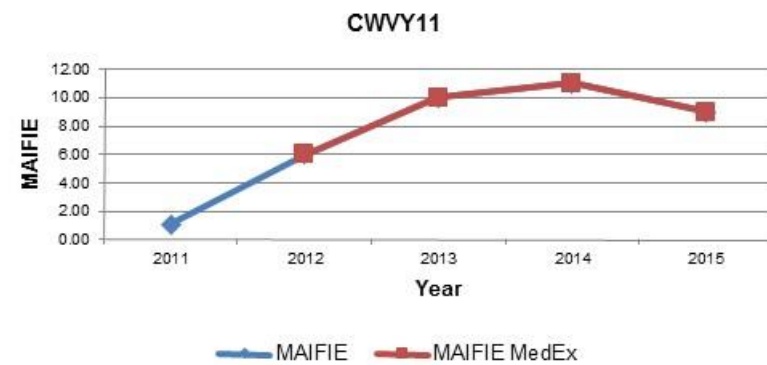
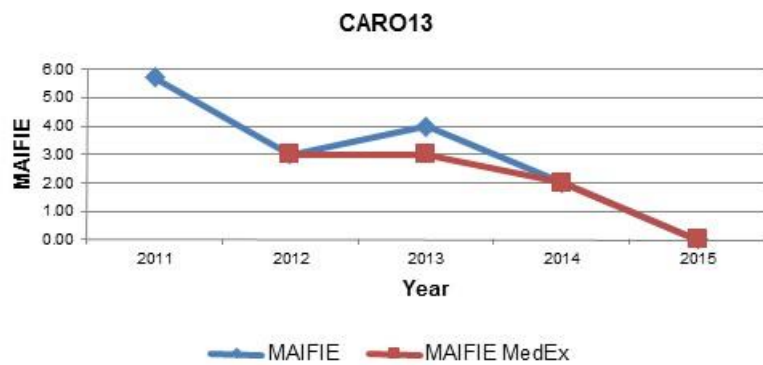
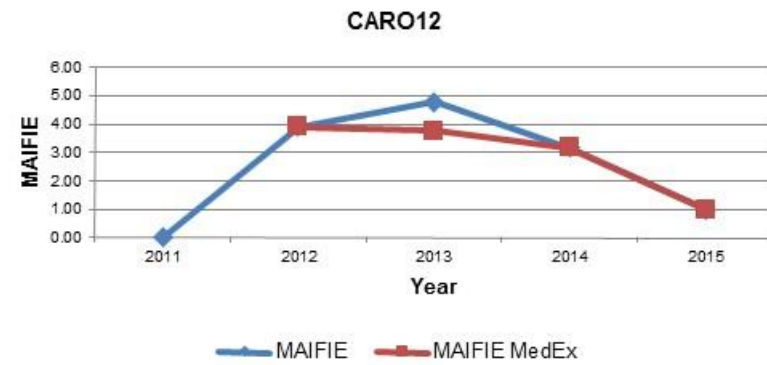
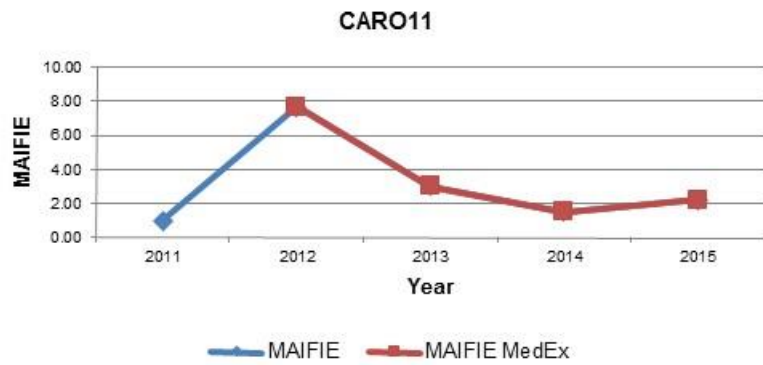
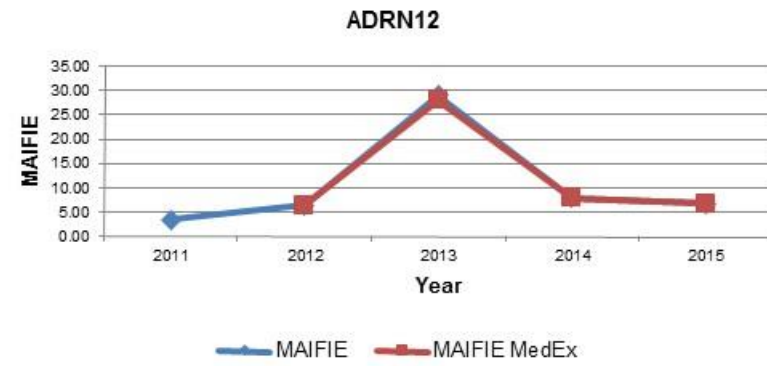
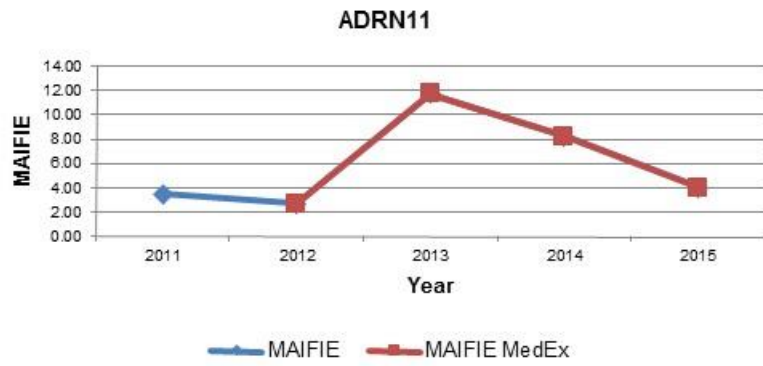
Circuit	2011	2012	2013	2014	2015	2015 MAIFI <sub>E</sub>
						MED Excluded
ADRN11	3.52	2.73	11.73	8.25	4.05	4.05
ADRN12	3.44	6.44	28.94	7.94	6.84	6.84
CARO11	1.00	7.69	3.04	1.53	2.23	2.23
CARO12	0.00	3.90	4.77	3.17	1.00	1.00
CARO13	5.71	3.00	4.00	2.00	0.00	0.00
CWVY11	1.09	6.00	10.00	11.00	9.00	9.00
CWVY12	7.00	6.13	8.31	9.31	5.94	5.94
DRKE11	18.26	11.59	3.00	5.00	9.42	9.42
DUKE11	0.00	0.00	5.00	0.00	7.00	6.00
DWSY11	0.00	12.00	22.00	21.00	10.13	10.13
ESTN11	12.75	0.00	0.00	0.00	0.00	0.00
HCSU11	14.32	0.00	0.00	0.00	0.00	0.00
HFVY11	3.00	14.15	14.00	3.35	9.74	8.73
HFVY12	2.00	3.81	13.00	0.00	12.77	11.77
HGTN11	4.52	5.00	5.00	3.27	2.31	2.31
HGTN12	0.00	0.00	5.00	2.00	2.31	2.31
HMDL12	2.00	3.50	5.00	7.33	9.76	8.76
HOLY11	1.29	2.00	4.00	3.00	3.00	3.00
HOLY12	3.22	1.00	3.00	3.00	5.00	5.00
HOLY13	0.00	3.34	3.00	3.00	4.00	4.00
HOPE11	8.27	1.44	0.00	0.00	1.00	1.00
HRPR11	0.00	0.00	0.00	4.00	1.10	1.10
HRPR12	6.38	4.99	15.38	10.82	4.86	4.86
JMSN11	17.00	6.00	8.00	5.00	0.00	0.00
JMSN12	0.00	6.18	8.00	4.00	6.00	6.00
JNTA11	16.85	12.00	0.00	23.00	9.00	9.00
JNTA12	16.00	0.00	21.98	24.73	9.76	9.76
JNVY11	21.16	6.31	8.00	8.00	12.70	11.23
JNVY12	1.25	8.00	9.00	8.00	7.00	6.00
JNVY31	0.00	9.84	11.35	12.75	7.81	6.81
LIME11	0.00	1.70	4.98	2.32	3.45	3.45
LIME12	4.00	0.00	0.00	0.00	0.00	0.00
MRBT41	0.68	0.00	0.00	0.00	1.00	1.00
MRBT42	4.07	2.00	0.00	4.00	0.00	0.00

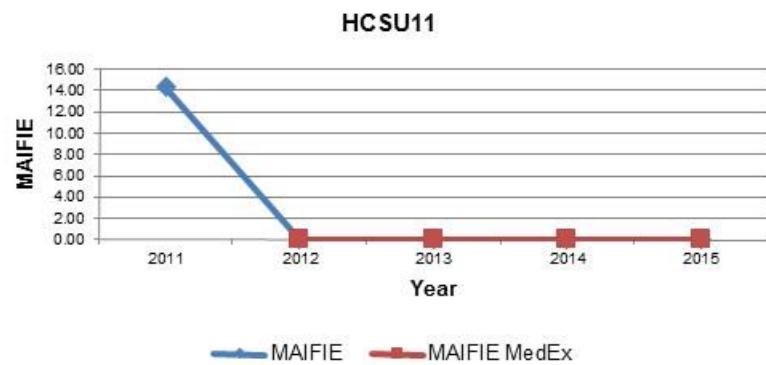
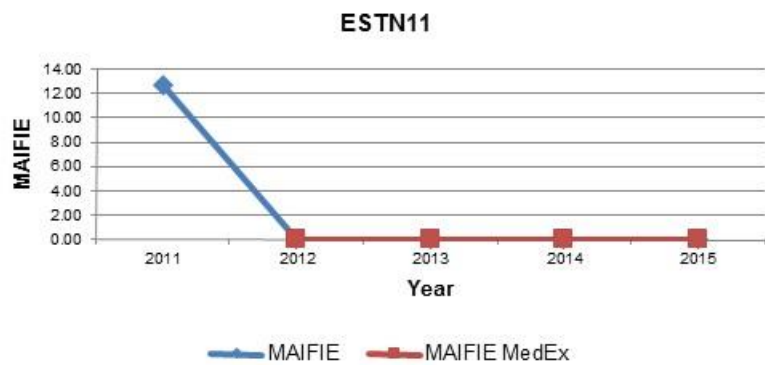
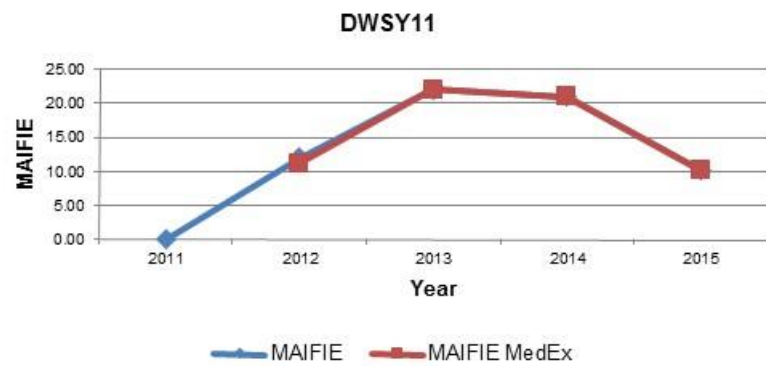
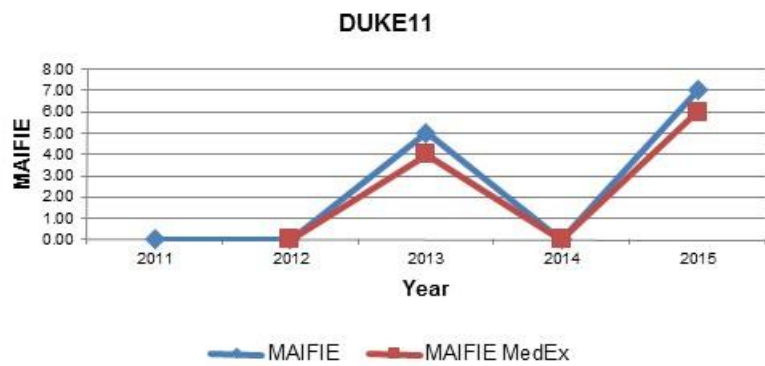
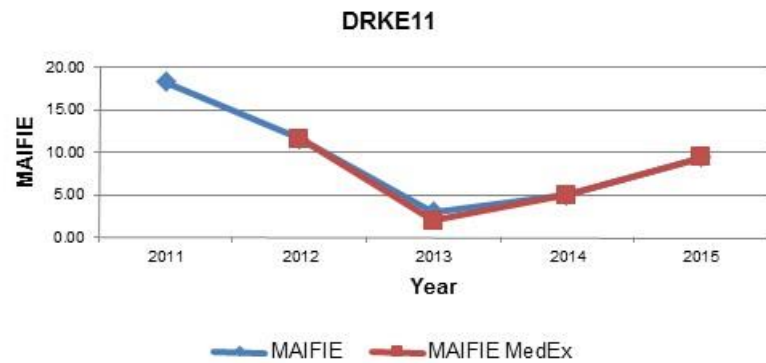
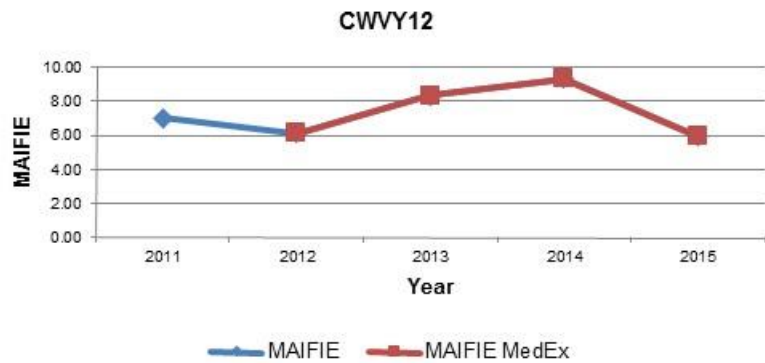
Table 10 Five Years of Circuit MAIFI<sub>E</sub> Part I

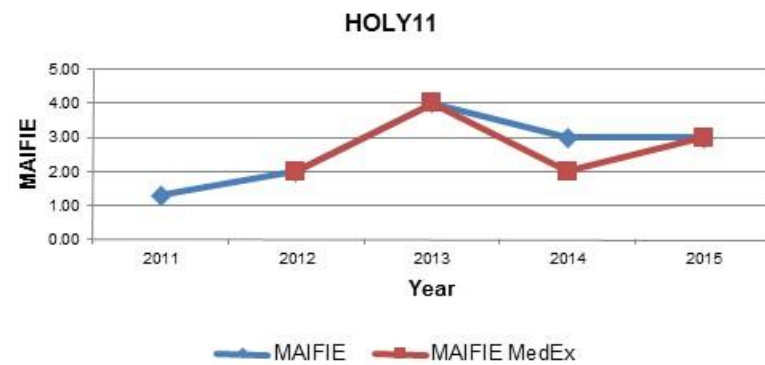
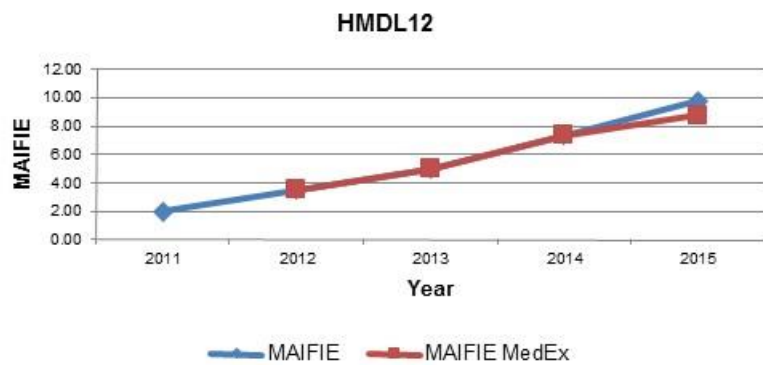
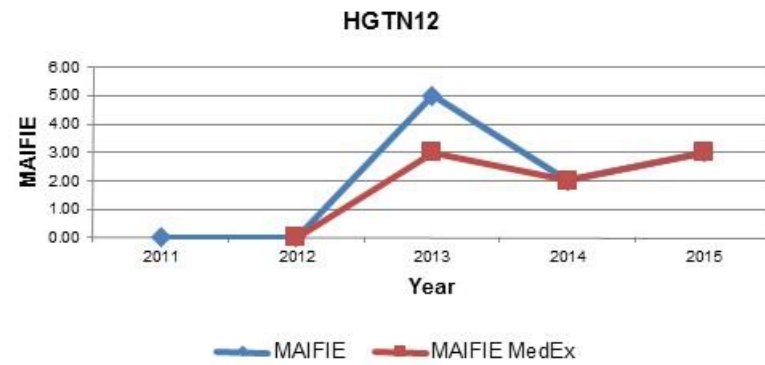
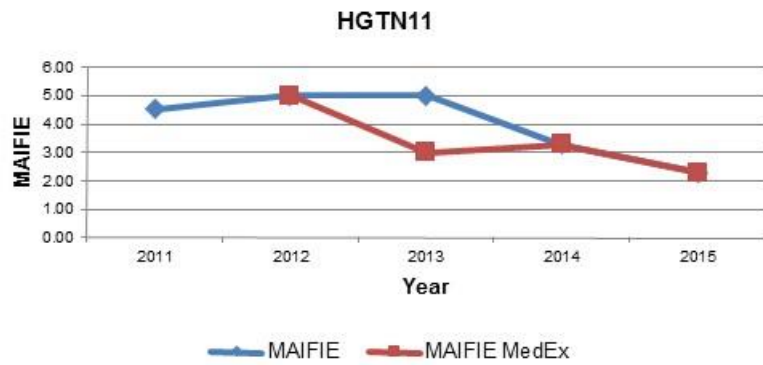
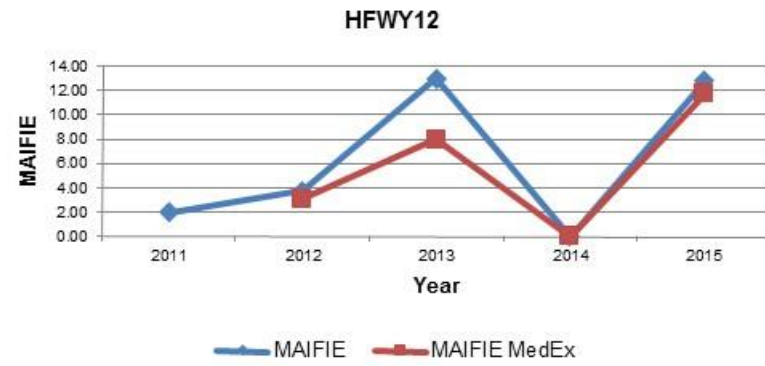
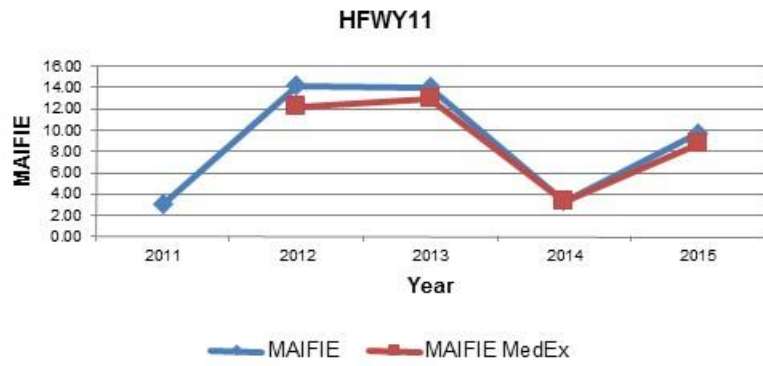


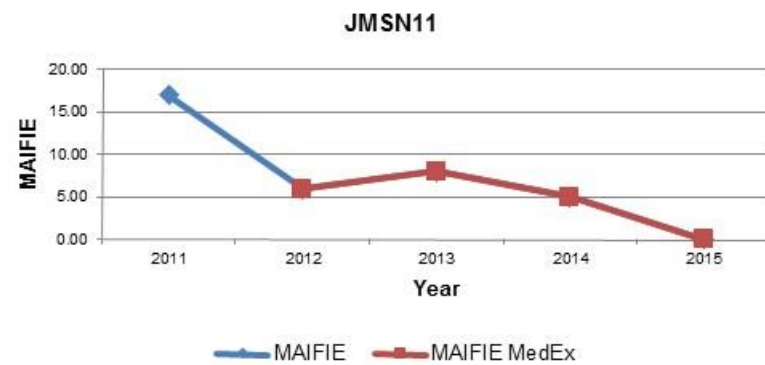
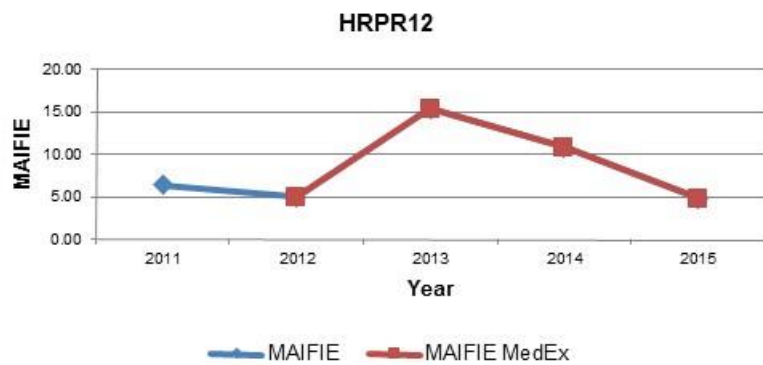
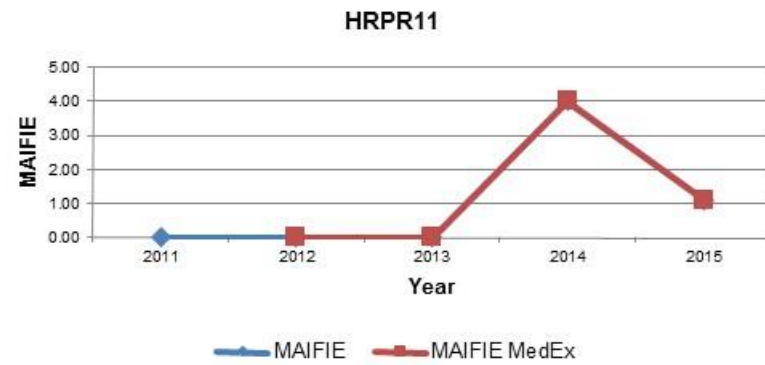
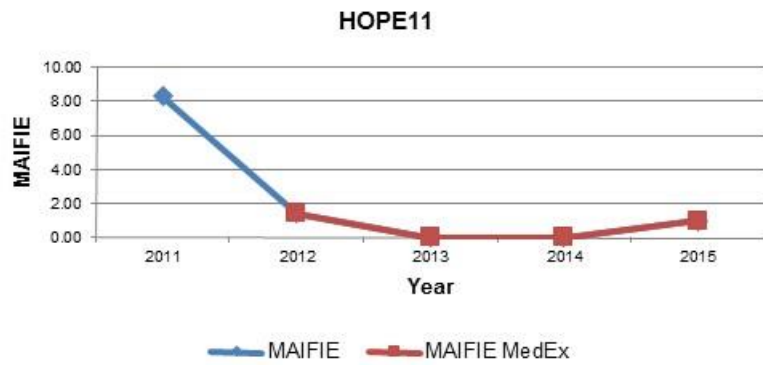
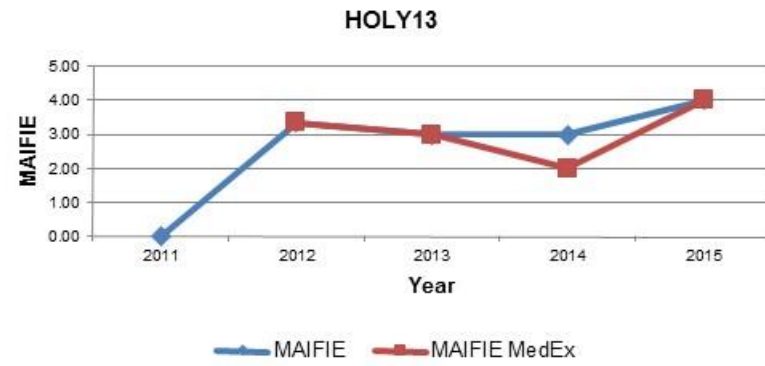
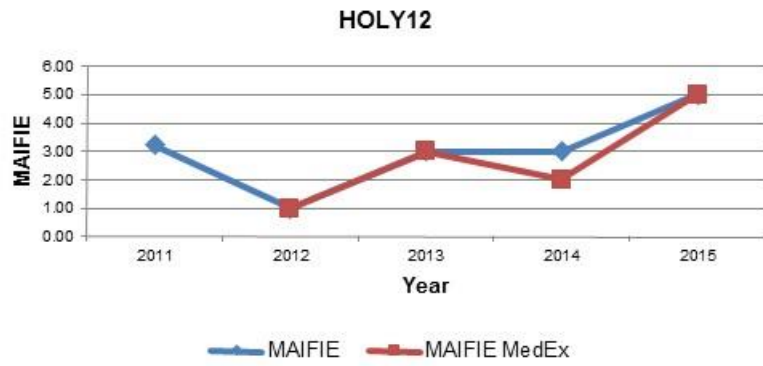
<b>Circuit</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2015 MAIFI<sub>E</sub></b> MED Excluded
NYSA11	0.00	0.00	8.00	2.00	1.00	1.00
NYSA12	0.00	7.86	7.98	1.06	1.48	1.48
NYSA13	0.00	0.00	0.00	0.00	0.00	0.00
NYSA14	0.00	1.00	7.00	1.00	0.00	0.00
OBPR11	0.14	0.00	0.00	0.00	0.00	0.00
OBPR12	0.00	0.00	0.00	0.00	0.00	0.00
OIDA11	0.00	1.07	1.29	0.00	2.94	2.94
OIDA12	0.00	0.00	0.00	0.00	0.00	0.00
ONTO14	1.11	0.00	0.00	0.00	0.00	0.00
ONTO18	0.00	2.00	0.00	3.00	3.00	3.00
ONTO19	4.00	4.87	1.00	1.66	1.50	1.50
ONTO20	1.49	0.00	0.00	2.00	0.00	0.00
ONTO23	0.00	6.00	2.00	0.00	1.00	1.00
ONTO24	0.00	5.96	2.00	0.00	1.32	1.08
ONTO25	7.55	3.00	1.00	2.00	1.00	1.00
OYDM11	0.00	0.00	0.00	0.00	0.00	0.00
PNCK11	3.00	3.14	6.00	0.00	12.17	11.17
PNCK12	2.00	0.00	0.00	0.00	0.00	0.00
PRMA12	17.00	4.00	6.00	11.00	2.00	2.00
PRMA42	9.40	6.57	7.00	10.00	6.32	6.32
RKVL11	5.91	8.00	11.00	10.00	6.00	5.00
UNTY11	3.67	7.27	9.00	7.00	6.00	6.00
UNTY12	3.56	6.30	8.00	0.00	6.73	6.62
VALE11	0.00	2.68	0.00	0.00	1.00	1.00
VALE13	4.00	7.83	9.18	1.09	1.88	1.88
VALE14	0.00	9.00	0.00	0.00	12.62	12.62
VALE15	0.00	4.00	0.00	0.00	2.37	2.37
WESR13	0.00	1.00	2.00	2.44	0.84	0.84
WESR14	0.00	3.45	0.00	0.00	0.00	0.00

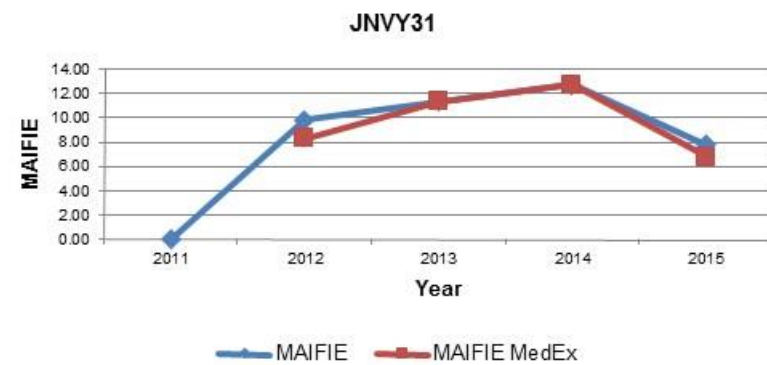
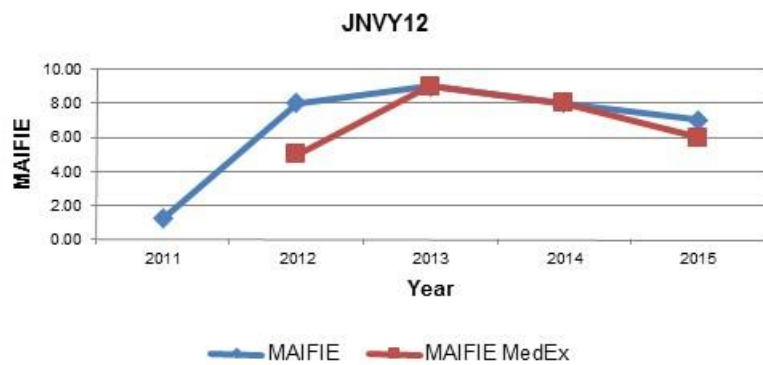
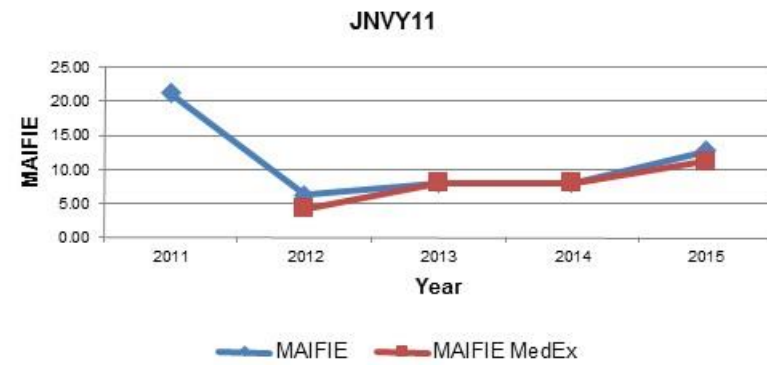
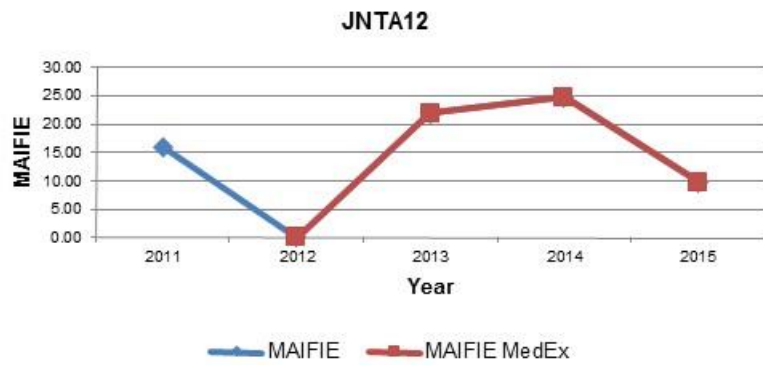
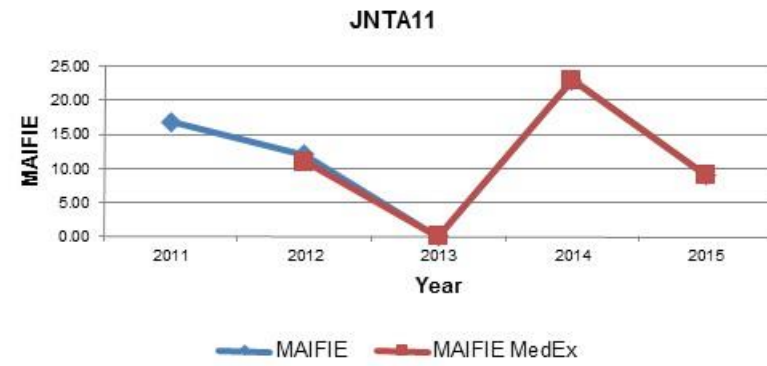
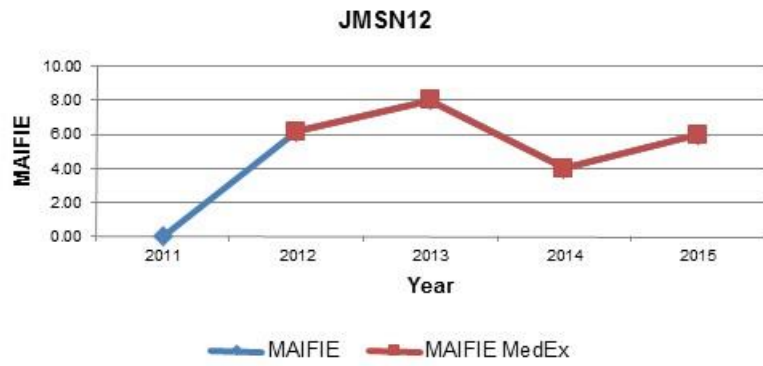
Table 11 Five Years of Circuit MAIFI<sub>E</sub> Part II

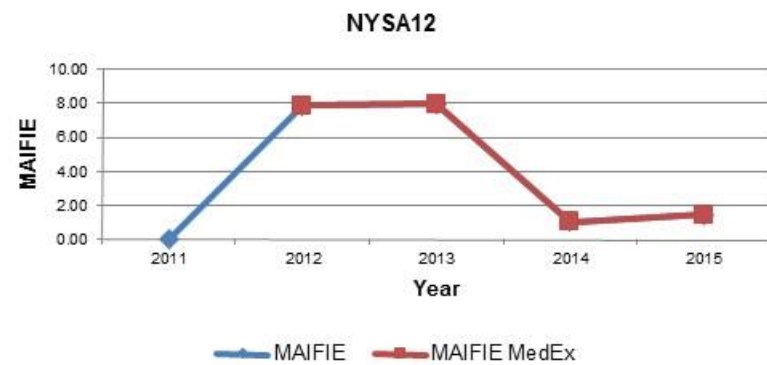
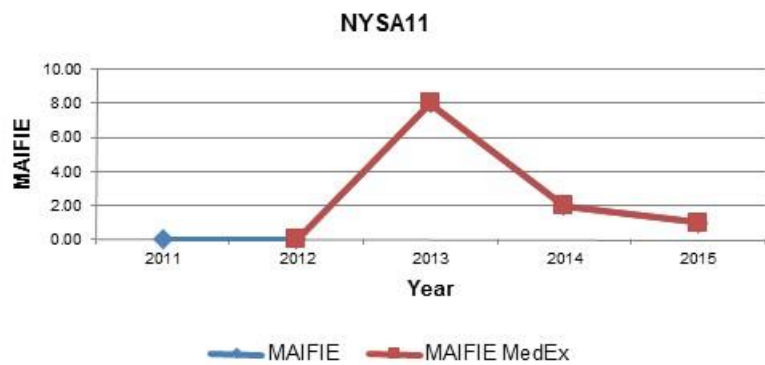
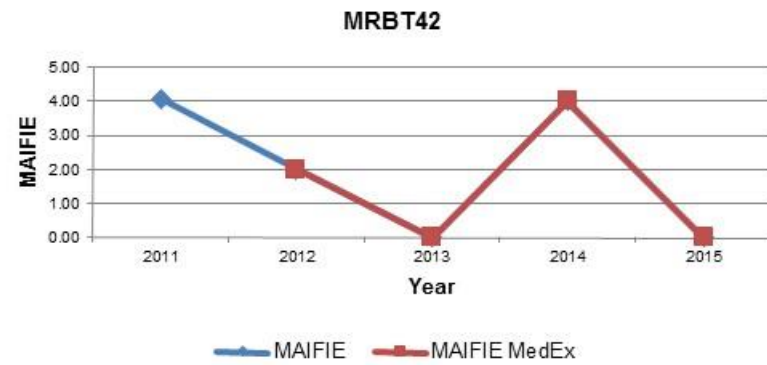
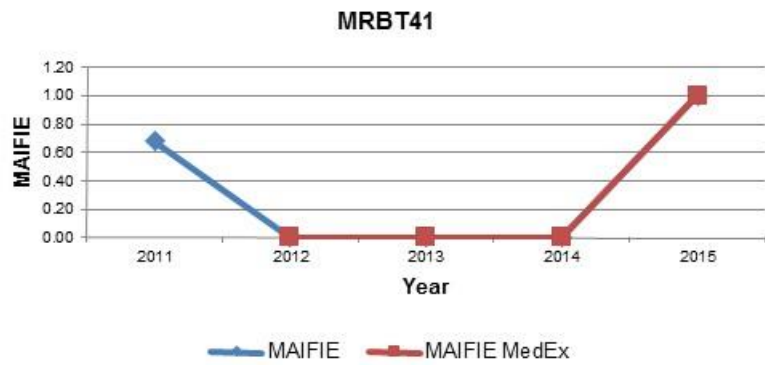
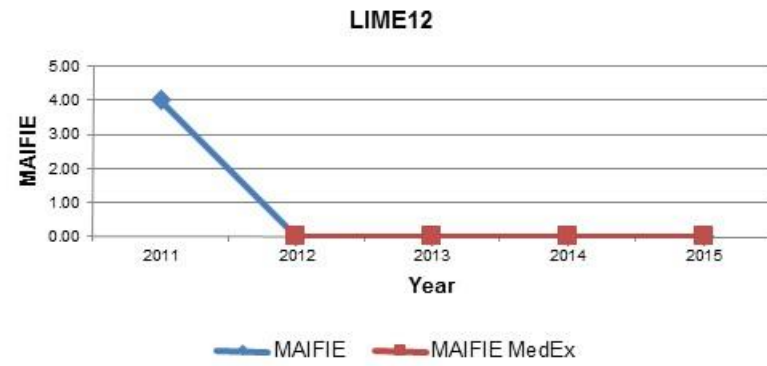
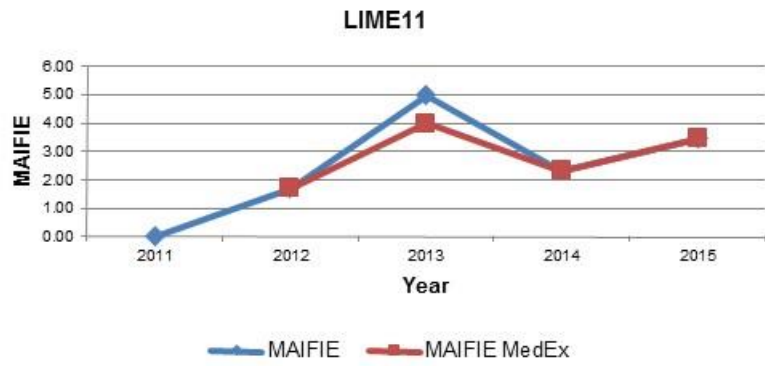


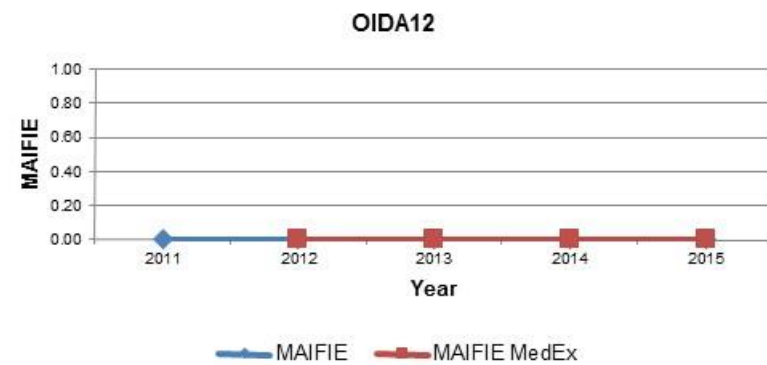
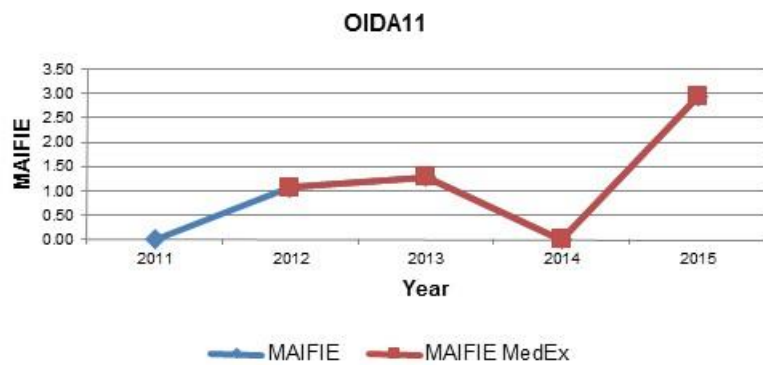
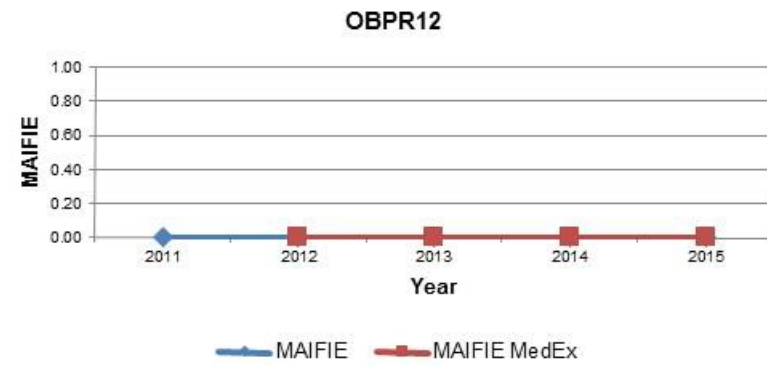
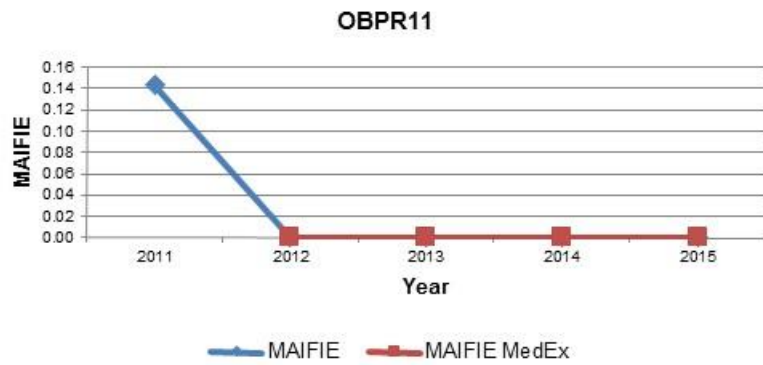
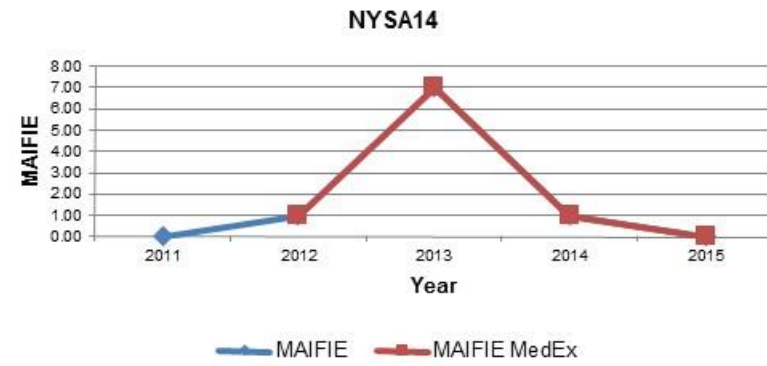
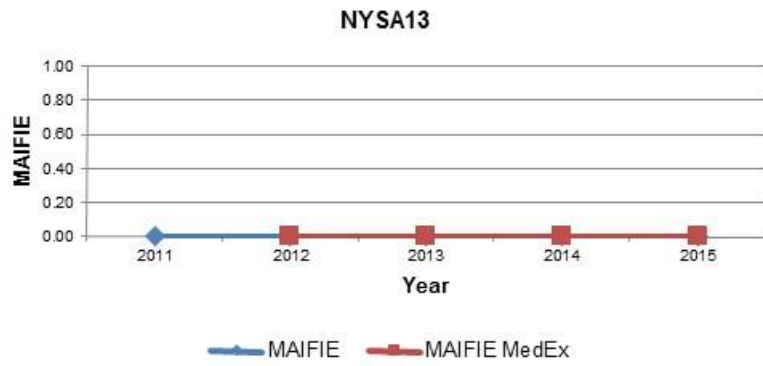




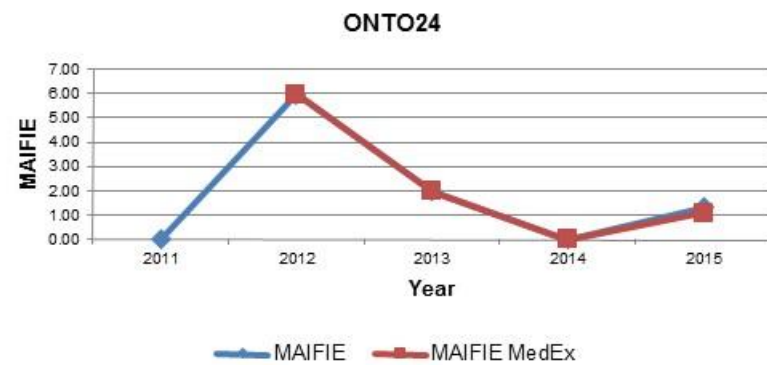
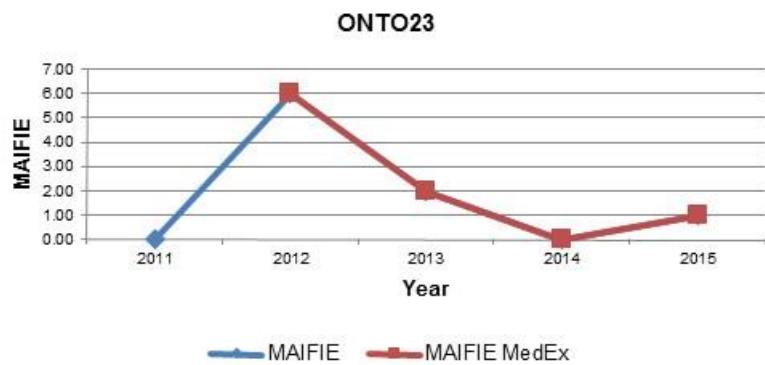
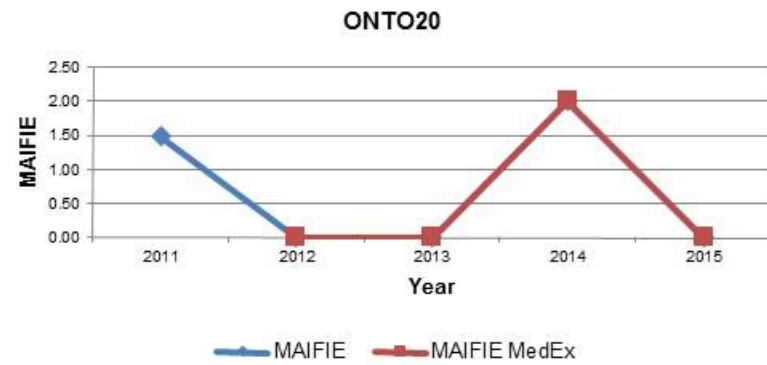
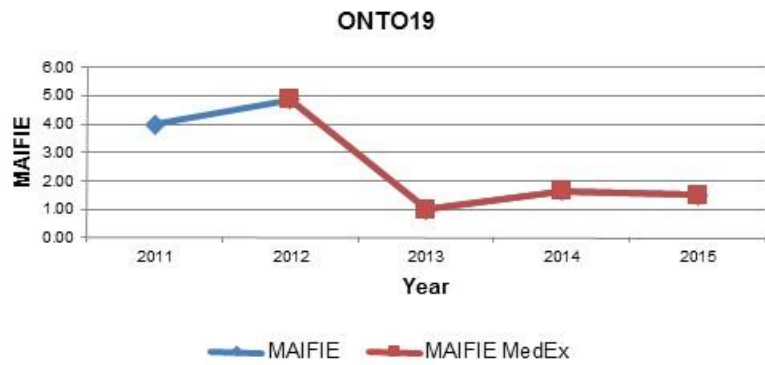
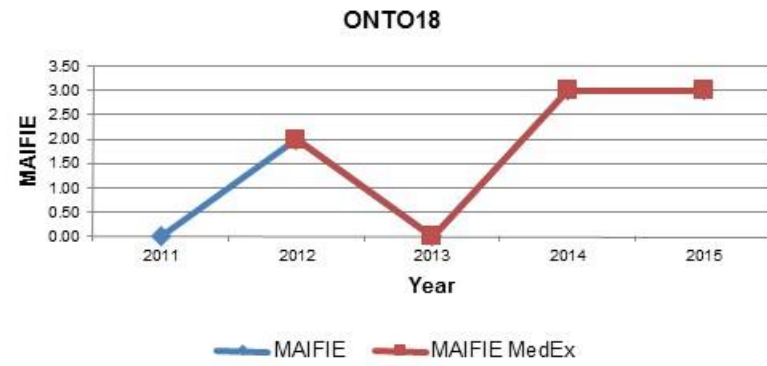
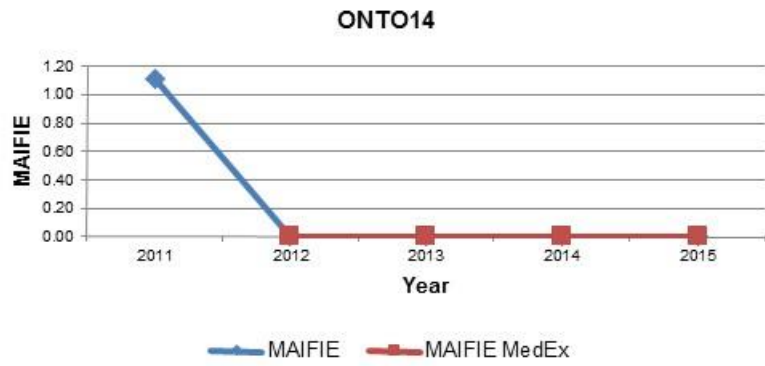




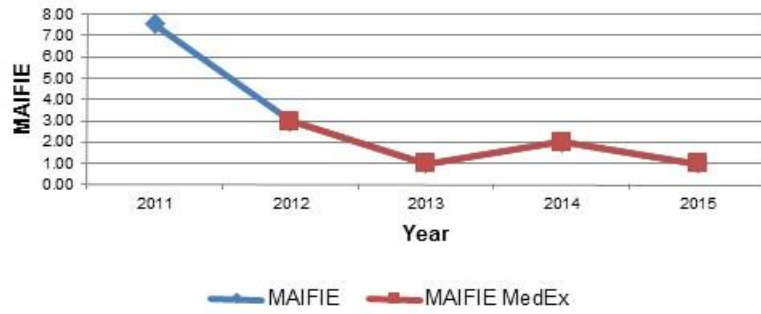




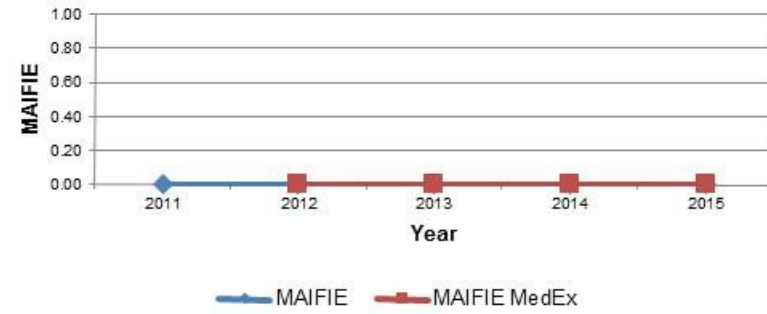




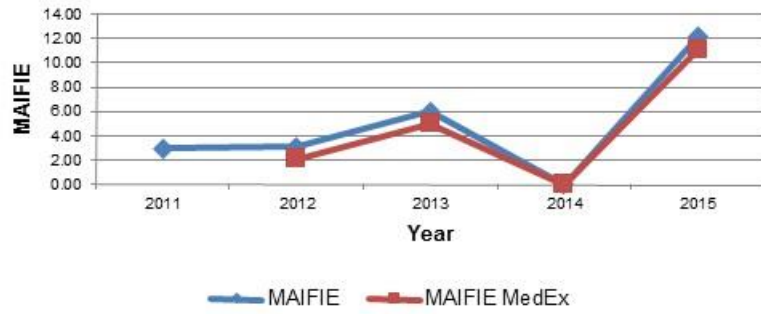
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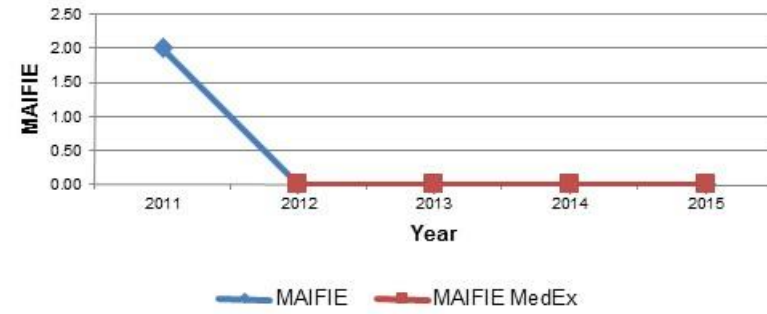
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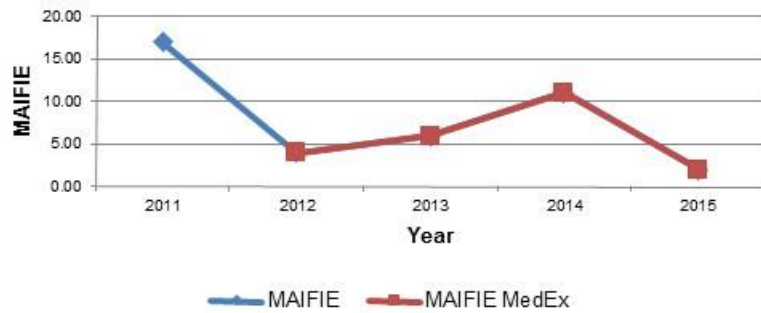
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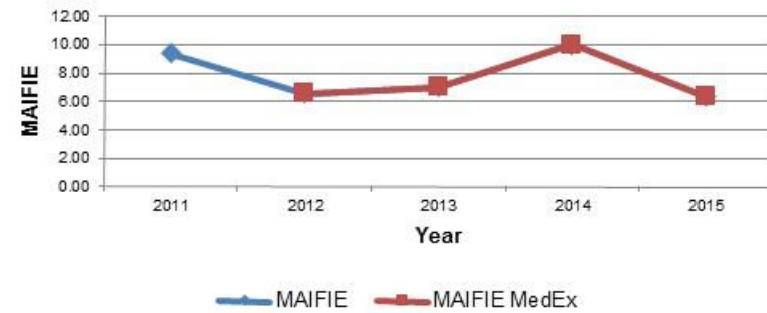
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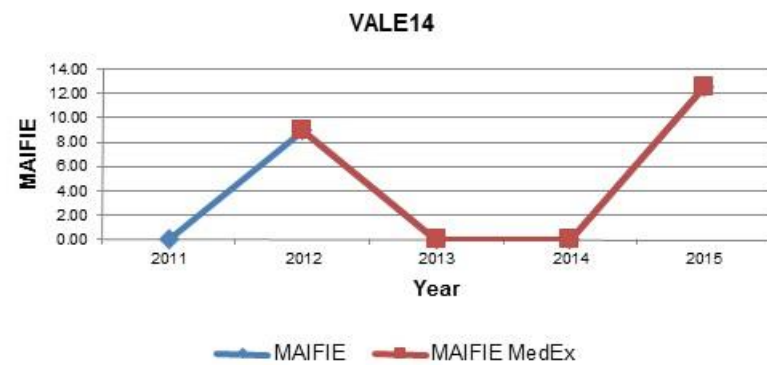
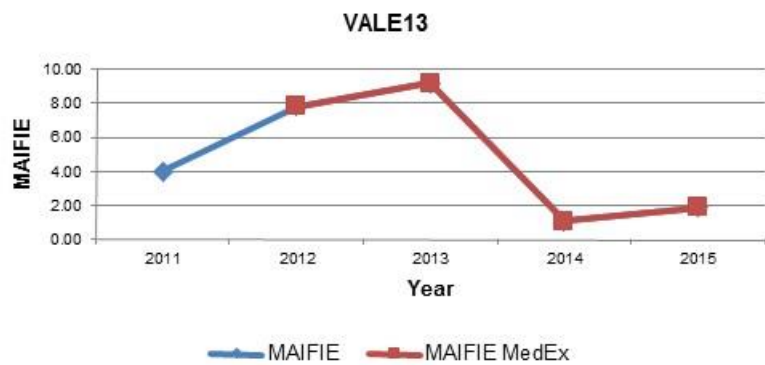
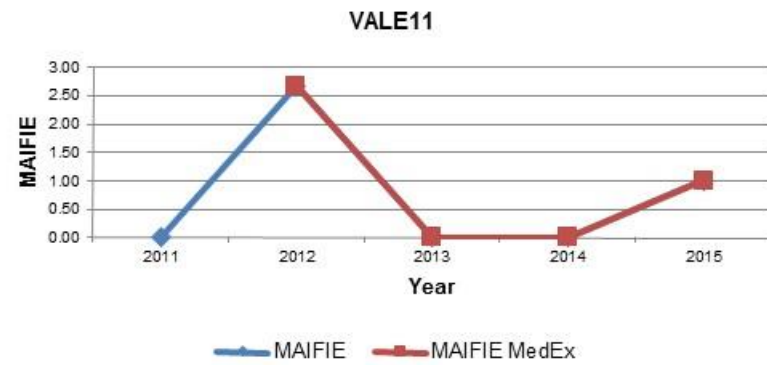
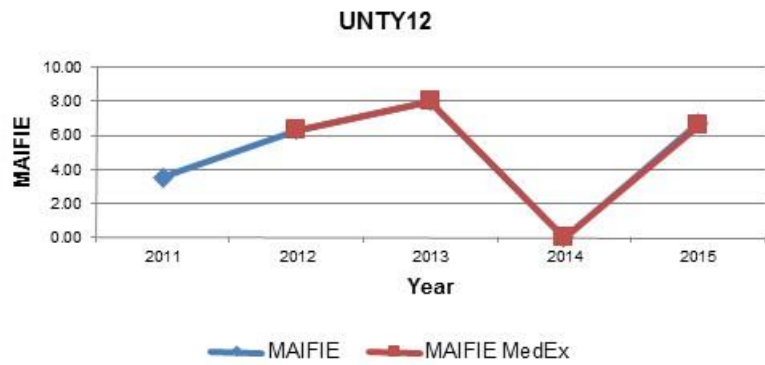
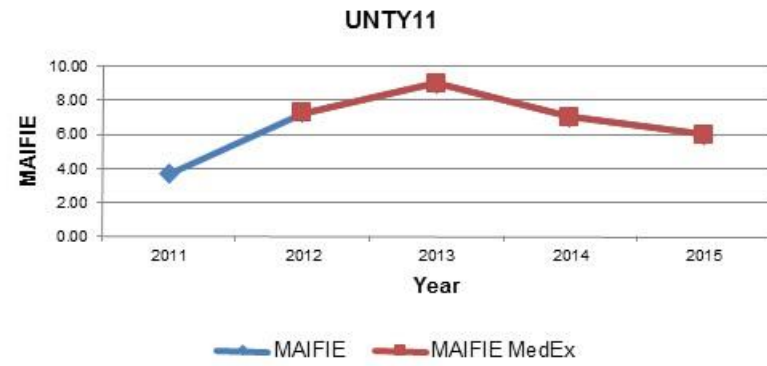
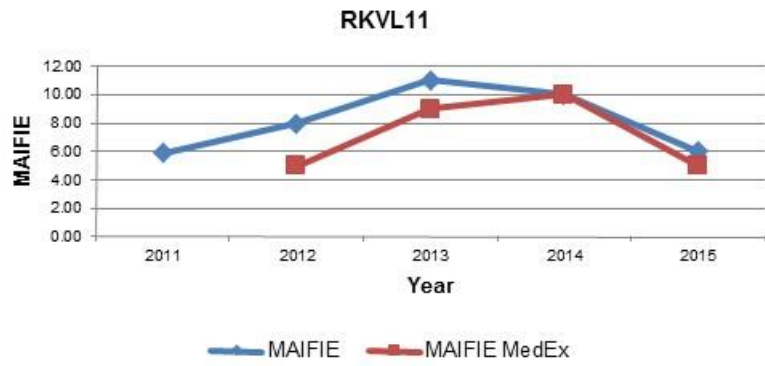


**PRMA12**



**PRMA42**





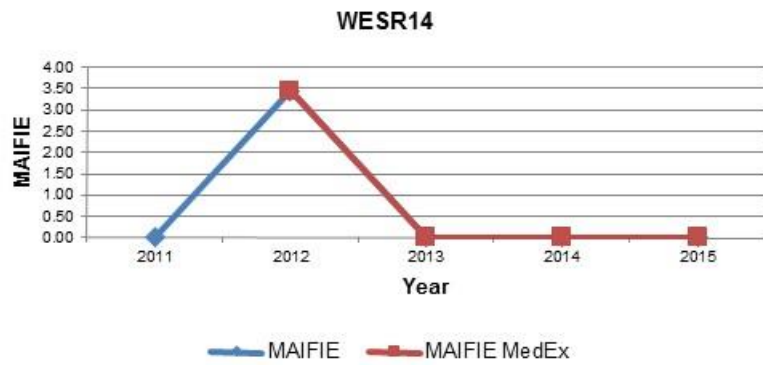
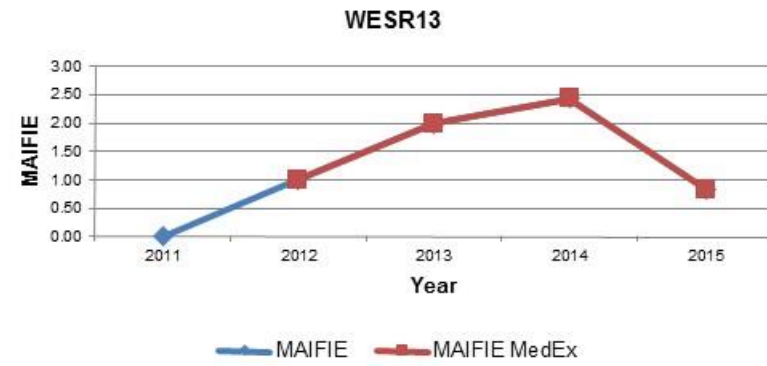
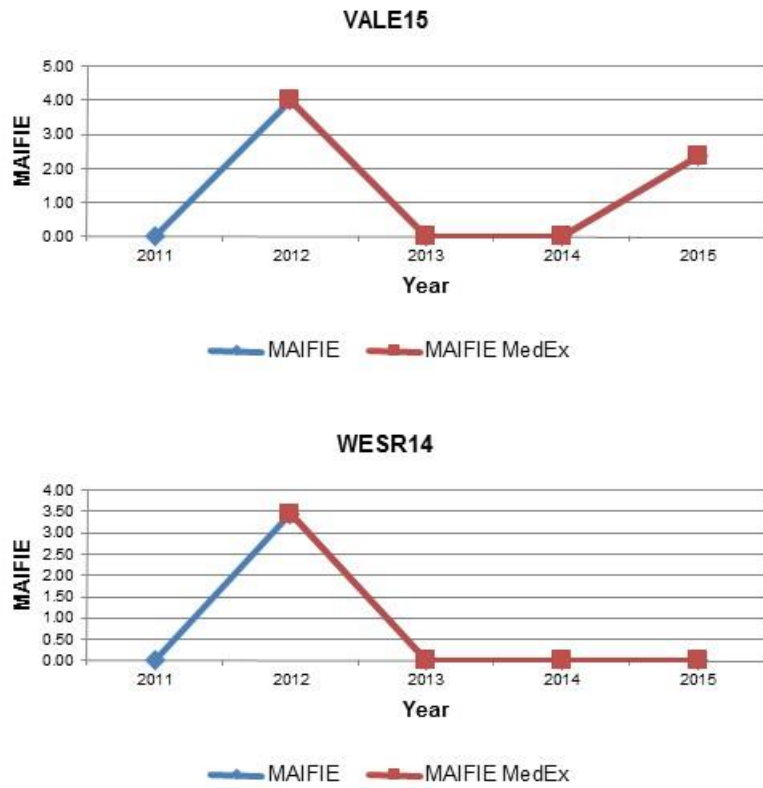


Figure 8 Five Years of Circuit MAIFIE

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## 2015 Descending Indices by Circuit

Circuit	SAIDI		Circuit	SAIFI		Circuit	MAIFI <sub>E</sub>	
	SAIDI	MED Excluded		SAIFI	MED Excluded		MAIFI <sub>E</sub>	MED Excluded
RKVL11	129.17	20.67	JNVY12	18.47	7.91	HFVY12	12.79	11.79
JNVY31	86.67	25.70	JNVY11	16.77	9.77	JNVY11	12.68	11.21
JNVY11	67.85	23.60	JNVY31	12.96	9.65	VALE14	12.62	12.62
JNVY12	62.10	18.42	RKVL11	9.25	7.25	PNCK11	12.19	11.19
HFVY12	37.96	7.44	VALE14	5.62	5.62	DWSY11	10.13	10.13
VALE14	13.76	13.76	HFVY12	5.38	3.49	HMDL12	9.78	8.78
JNTA12	11.28	11.28	DUKE11	4.93	4.93	JNTA12	9.76	9.76
DUKE11	11.21	11.21	PNCK12	4.00	4.00	HFVY11	9.72	8.71
DWSY11	9.74	9.74	CARO12	3.95	3.95	DRKE11	9.43	9.43
HOLY11	8.87	8.87	PNCK11	3.59	3.59	CWVY11	9.00	9.00
CWVY12	8.68	8.68	HFVY11	3.56	3.56	JNTA11	9.00	9.00
HRPR12	8.07	8.07	PRMA42	3.37	3.37	JNVY31	8.08	7.08
UNTY12	7.45	7.45	NYSA11	2.73	2.73	DUKE11	7.00	6.00
PNCK11	7.38	7.38	DRKE11	2.70	2.70	JNVY12	7.00	6.00
HFVY11	7.13	7.13	WESR14	2.61	2.61	ADRN12	6.83	6.83
JNTA11	5.83	5.83	ONTO24	2.58	2.58	UNTY12	6.73	6.62
PNCK12	5.63	5.63	CARO11	2.48	2.48	PRMA42	6.32	6.32
LIME11	5.60	5.60	HRPR12	2.43	2.43	JMSN12	6.00	6.00
PRMA42	4.75	4.75	HOLY11	2.42	2.42	RKVL11	6.00	5.00
DRKE11	4.66	4.66	HOLY12	2.38	2.38	UNTY11	6.00	6.00
HOLY12	4.09	4.09	LIME11	2.29	2.29	CWVY12	5.94	5.94
JMSN12	4.07	4.07	CWVY12	2.29	2.29	HOLY12	5.00	5.00
VALE11	3.80	3.80	JNTA11	2.27	2.27	HRPR12	4.83	4.83
CARO11	3.67	3.67	JMSN12	2.16	2.16	ADRN11	4.05	4.05
CARO12	3.56	3.56	DWSY11	2.13	2.13	HOLY13	4.00	4.00
VALE15	3.46	3.46	JNTA12	2.13	2.13	LIME11	3.46	3.46
PRMA12	3.45	3.45	UNTY12	2.07	2.07	HGTN12	3.00	3.00
ONTO24	3.42	3.42	OIDA12	2.00	2.00	HOLY11	3.00	3.00
HOLY13	3.25	3.25	PRMA12	2.00	2.00	ONTO18	3.00	3.00
ONTO19	3.14	3.14	JMSN11	1.97	1.97	OIDA11	2.93	2.93
JMSN11	3.11	3.11	HOLY13	1.64	1.64	VALE15	2.35	2.35
HRPR11	2.82	2.82	ONTO19	1.60	1.60	HGTN11	2.31	2.31
WESR14	2.81	2.81	UNTY11	1.37	1.37	CARO11	2.24	2.24
NYSA11	2.56	2.56	ADRN12	1.32	1.32	PRMA12	2.00	2.00
UNTY11	2.12	2.12	VALE15	1.32	1.32	VALE13	1.88	1.88

Table 12 2015 Descending Indices by Circuit Part I

Circuit	SAIDI	SAIDI	Circuit	SAIFI	SAIFI	Circuit	MAIFI <sub>E</sub>	MAIFI <sub>E</sub>
		MED Excluded			MED Excluded			MED Excluded
OIDA12	1.92	1.92	HRPR11	1.20	1.20	ONTO19	1.50	1.50
ADRN12	1.51	1.51	CWVY11	1.18	1.18	NYSA12	1.49	1.49
NYSA12	1.31	1.31	VALE11	1.16	1.16	ONTO24	1.32	1.09
HOPE11	1.13	1.13	VALE13	0.83	0.83	HRPR11	1.11	1.11
HGTN11	1.08	1.08	NYSA12	0.67	0.67	CARO12	1.00	1.00
VALE13	1.06	1.06	HOPE11	0.45	0.45	HOPE11	1.00	1.00
WESR13	0.91	0.91	ADRN11	0.34	0.34	MRBT41	1.00	1.00
ADRN11	0.73	0.73	WESR13	0.28	0.28	NYSA11	1.00	1.00
CWVY11	0.70	0.70	HGTN11	0.24	0.24	ONTO23	1.00	1.00
MRBT42	0.40	0.40	ONTO20	0.19	0.19	ONTO25	1.00	1.00
MRBT41	0.28	0.28	ONTO18	0.17	0.17	VALE11	1.00	1.00
ONTO18	0.26	0.26	ONTO25	0.16	0.16	WESR13	0.88	0.88
OIDA11	0.26	0.26	ONTO23	0.15	0.15	CARO13	0.00	0.00
ONTO25	0.24	0.24	NYSA13	0.15	0.15	ESTN11	0.00	0.00
NYSA13	0.23	0.23	HMDL12	0.13	0.13	HCSU11	0.00	0.00
ONTO20	0.23	0.23	MRBT41	0.13	0.13	JMSN11	0.00	0.00
HMDL12	0.20	0.20	MRBT42	0.11	0.11	LIME12	0.00	0.00
HGTN13	0.14	0.14	OIDA11	0.10	0.10	MRBT42	0.00	0.00
ONTO23	0.11	0.11	NYSA14	0.08	0.08	NYSA13	0.00	0.00
NYSA14	0.11	0.11	CARO13	0.03	0.03	NYSA14	0.00	0.00
ONTO14	0.06	0.06	HGTN12	0.03	0.03	OBPR11	0.00	0.00
CARO13	0.05	0.05	ONTO14	0.03	0.03	OBPR12	0.00	0.00
ESTN11	0.00	0.00	ESTN11	0.00	0.00	OIDA12	0.00	0.00
HCSU11	0.00	0.00	HCSU11	0.00	0.00	ONTO14	0.00	0.00
LIME12	0.00	0.00	LIME12	0.00	0.00	ONTO20	0.00	0.00
OBPR11	0.00	0.00	OBPR11	0.00	0.00	OYDM11	0.00	0.00
OBPR12	0.00	0.00	OBPR12	0.00	0.00	PNCK12	0.00	0.00
OYDM11	0.00	0.00	OYDM11	0.00	0.00	WESR14	0.00	0.00

Table 13 2015 Descending Indices by Circuit Part II

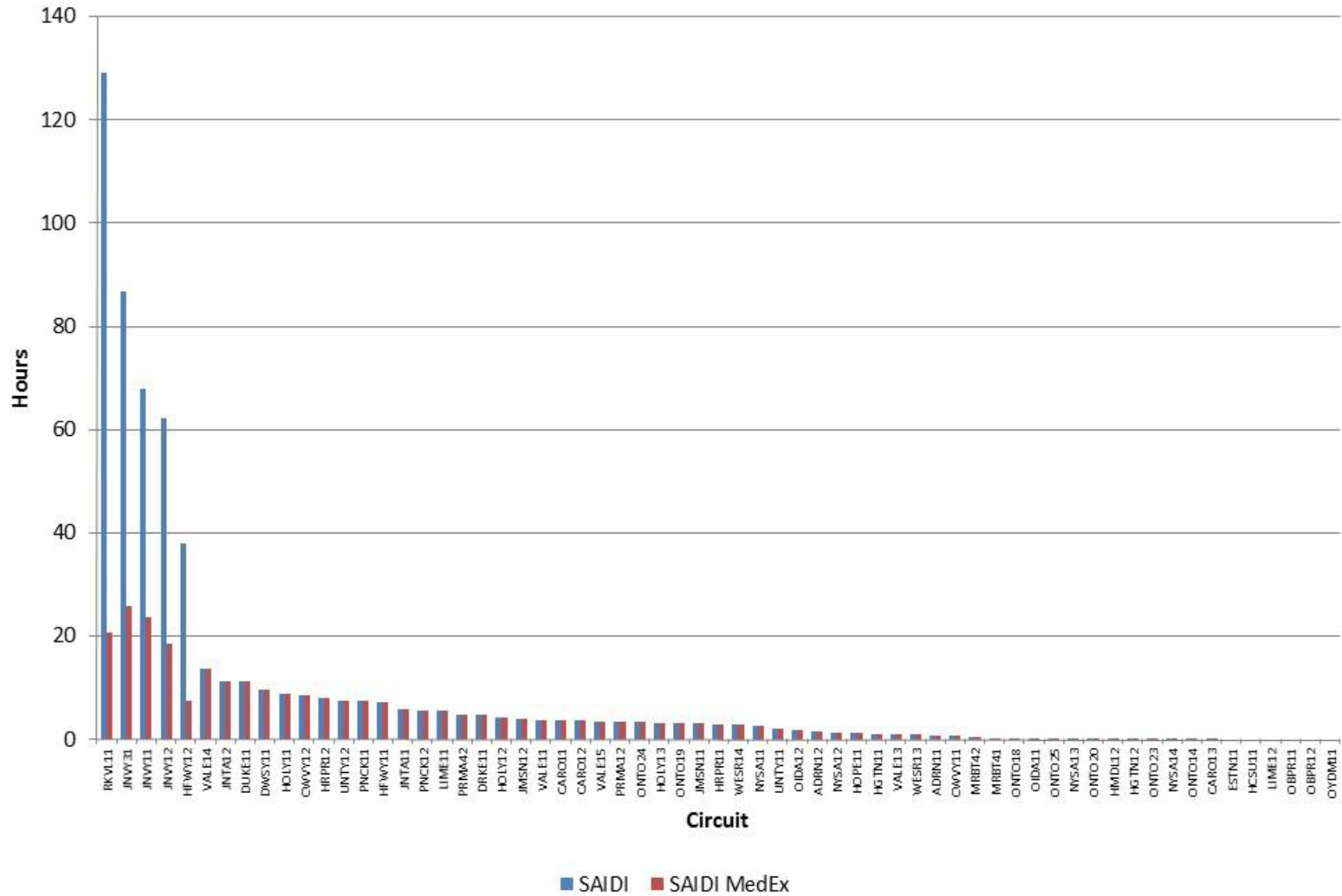


Figure 9 2015 Descending SAIDI by Circuit



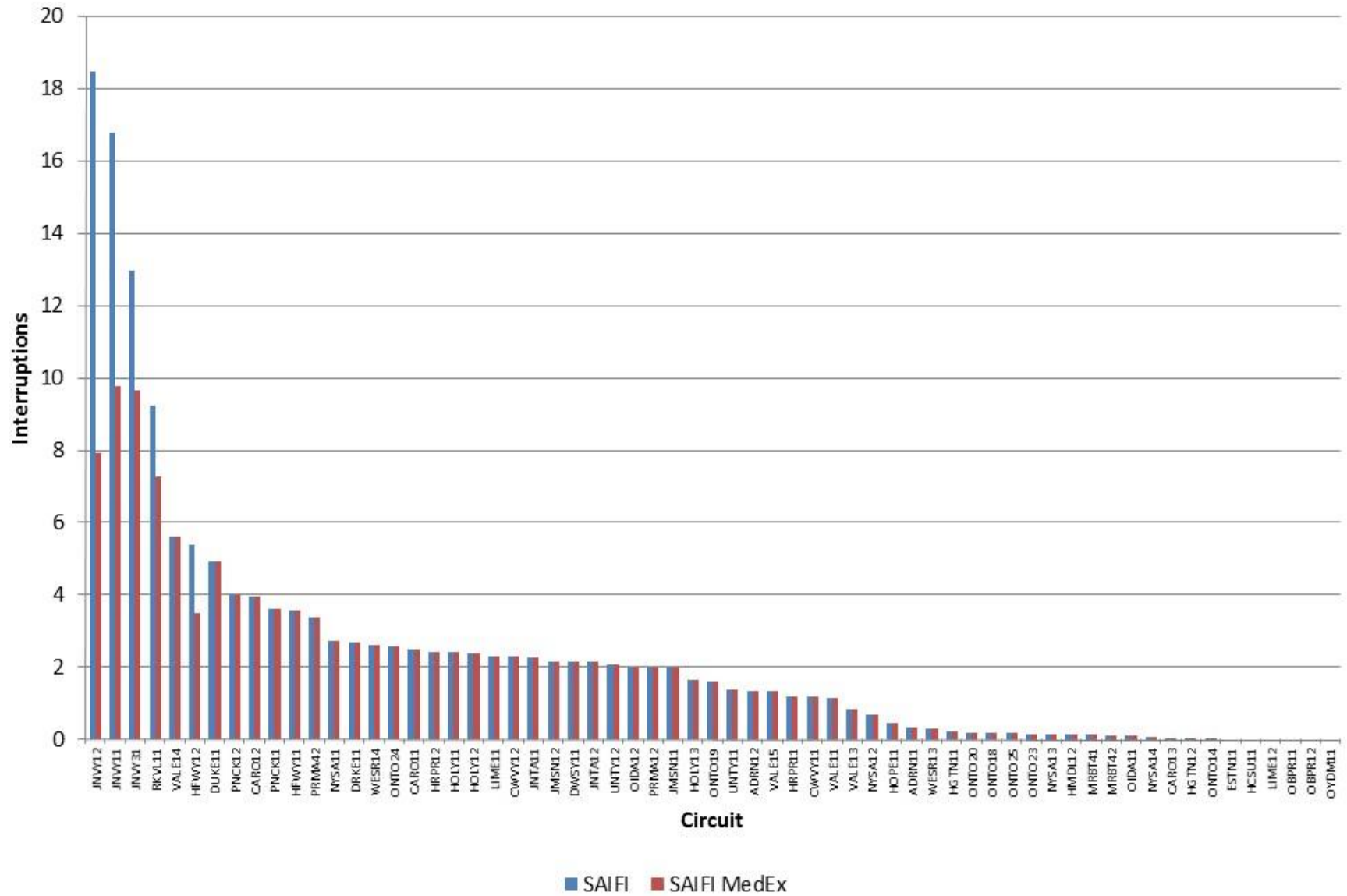


Figure 10 2015 Descending SAIFI by Circuit

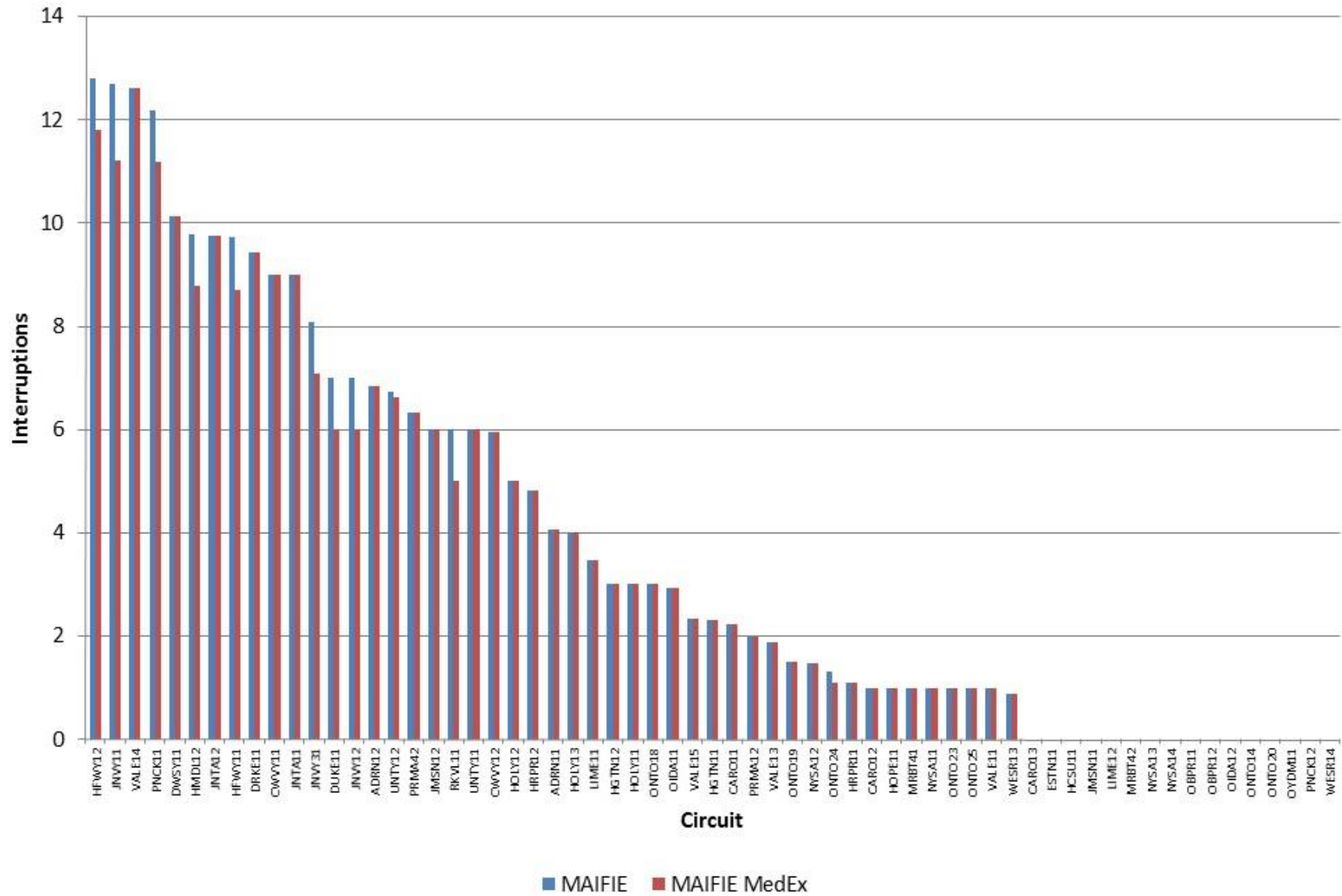


Figure 11 2015 Descending MAIFIE by Circuit

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## APPENDIX

### Circuit Reference Information

Circuit	Substation	Operating Area	Kilovolts (kV)	Customers*
ADRN11	Adrian	Western	12.5	370
ADRN12	Adrian	Western	12.5	586
CARO11	Cairo	Western	12.5	1,201
CARO12	Cairo	Western	12.5	93
CARO13	Cairo	Western	12.5	743
CWVY11	Cow Valley	Western	12.5	45
CWVY12	Cow Valley	Western	12.5	115
DRKE11	Durkee	Western	12.5	166
DUKE11	Duke	Western	12.5	27
DWSY11	Drewsey	Western	12.5	179
ESTN11	Easton	Western	12.5	3
HCSU11	Hells Canyon	Western	12.5	2
HFVY11	Halfway	Western	12.5	749
HFVY12	Halfway	Western	12.5	535
HGTN11	Huntington	Western	12.5	72
HGTN12	Huntington	Western	12.5	297
HMDL12	Homedale	Canyon	12.5	143
HOLY11	Holly	Western	12.5	174
HOLY12	Holly	Western	12.5	77
HOLY13	Holly	Western	12.5	169
HOPE11	Hope	Western	12.5	145
HRPR11	Harper	Western	12.5	99
HRPR12	Harper	Western	12.5	185
JMSN11	Jamieson	Western	12.5	393
JMSN12	Jamieson	Western	12.5	236
JNTA11	Juntura	Western	12.5	66
JNTA12	Juntura	Western	12.5	45
JNVY11	Jordan Valley	Canyon	12.5	87
JNVY12	Jordan Valley	Canyon	12.5	83
JNVY31	Jordan Valley	Canyon	25.0	339
LIME11	Lime	Western	12.5	108
LIME12	Lime	Western	12.5	0
MRBT41	Malheur Butte	Western	34.5	30

Table 14 Circuit Reference Information Part I

<b>Circuit</b>	<b>Substation</b>	<b>Operating Area</b>	<b>Kilovolts (kV)</b>	<b>Customers*</b>
MRBT42	Malheur Butte	Western	34.5	9
NYSA11	Nyssa	Western	12.5	843
NYSA12	Nyssa	Western	12.5	568
NYSA13	Nyssa	Western	12.5	437
NYSA14	Nyssa	Western	12.5	246
OBPR11	Oxbow	Western	12.5	1
OBPR12	Oxbow	Western	12.5	0
OIDA11	Ore-Ida	Western	12.5	621
OIDA12	Ore-Ida	Western	12.5	1
ONTO14	Ontario	Western	12.5	34
ONTO18	Ontario	Western	12.5	844
ONTO19	Ontario	Western	12.5	1,769
ONTO20	Ontario	Western	12.5	1,193
ONTO23	Ontario	Western	25.0	46
ONTO24	Ontario	Western	25.0	674
ONTO25	Ontario	Western	25.0	496
OYDM11	Owyhee Dam	Western	12.5	15
PNCK11	Pine Creek	Western	12.5	102
PNCK12	Pine Creek	Western	12.5	2
PRMA12	Parma	Western	12.5	2
PRMA42	Parma	Western	34.5	183
RKVL11	Rockville	Canyon	12.5	28
UNTY11	Unity	Western	12.5	140
UNTY12	Unity	Western	12.5	227
VALE11	Vale	Western	12.5	1,027
VALE13	Vale	Western	12.5	554
VALE14	Vale	Western	12.5	348
VALE15	Vale	Western	12.5	451
WESR13	Weiser	Western	12.5	189
WESR14	Weiser	Western	12.5	31
<b>Total</b>				<b>18,643</b>

*Table 15 Circuit Reference Information Part II*

\*Some circuits have customers in Idaho and Oregon. The counts in this column are for Oregon customers only as of 12/31/2015.

## Five Years of System Pole and Trench Miles

Year	Overhead (OH) Pole Miles	Underground (UG) Trench Miles	Distribution All Miles	Transmission Line (Structure/Pole) Miles*	Percent OH / UG
2015	2,118.88	95.44	2,214.32	759.81	96% / 4%
2014	2,116.10	95.45	2,211.55	692.49	96% / 4%
2013	2,113.58	93.31	2,206.88	688.66	96% / 4%
2012	2,112.38	92.65	2,205.03	686.66	96% / 4%
2011	2,112.82	92.34	2,205.16	685.22	96% / 4%

*Table 16 Five Years of System Pole and Trench Miles*

\*Transmission line miles include some lines that do not directly serve customer load.

## 2015 Major Event Day System Summary

Date	Cause	Customers	CMI	CI	SAIDI (Minutes)	SAIFI	CAIDI (Minutes)
4/8/2015	Pole Fire	18,484	367,332	542	19.89	0.03	677.74
8/11/2015	Range Fire (Soda)	18,606	1,257,157	538	67.57	0.03	2,336.72
9/13/2015	Range Fire (Dry Gulch)	18,638	1,216,480	536	65.43	0.03	2,275.15

Table 17 2015 MED System Summary

## 2015 Major Event Day Feeder Summary

Date	Feeder	Customers	CMI	CI	SAIDI (Minutes)	SAIFI	CAIDI (Minutes)
4/8/2015	JNVY11	87	60,333	98	693.48	1.13	615.64
	JNVY12	83	51,811	83	624.23	1.00	624.23
	JNVY31	332	237,237	332	714.57	1.00	714.57
	RKVL11	28	17,950	28	641.07	1.00	641.07
8/11/2015	JNVY11	87	164,915	87	1,895.58	1.00	1,895.58
	JNVY12	84	160,489	84	1,910.58	1.00	1,910.58
	JNVY31	338	764,375	338	2,261.46	1.00	2,261.46
	RKVL11	28	164,796	28	5,885.57	1.00	5,885.57
9/13/2015	HFVY12	536	1,219,480	536	2,275.15	1.00	2,275.15

Table 18 2015 MED Feeder Summary

## Five Years of Major Event Days

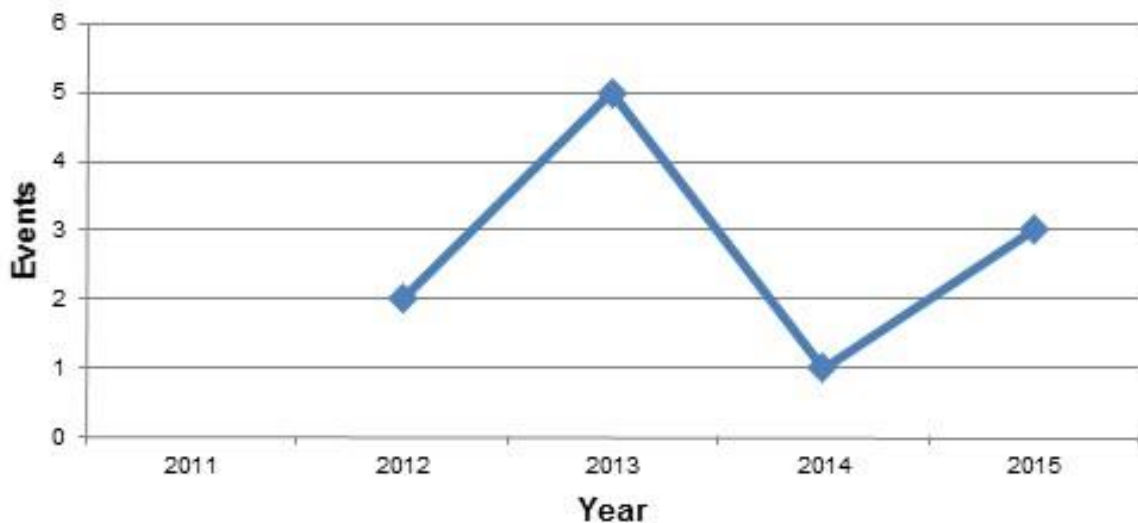


Figure 12 Five Years of MEDs

## Cause Category Translation

Idaho Power Cause	OAR 860-023-0151 (2)(b) Cause
Loss of Supply – Transmission*	Loss of Supply – Transmission
Loss of Supply – Station*	Loss of Supply – Substation
Corrosion/Rot	Distribution – Equipment
Electrical Failure	Distribution – Equipment
Loose Hardware	Distribution – Equipment
Mechanical Failure	Distribution – Equipment
Improper Installation	Distribution – Equipment
Contamination	Distribution – Equipment
Lightning	Distribution – Lightning
Other IPC Circuit	Distribution – Other
Other (Define in Comments)	Distribution – Other
Safety Precaution	Distribution – Other
Utility Operating Error	Distribution – Other
Planned Maintenance	Distribution – Planned
Structures (Signs, Buildings)	Distribution – Public
Construction/Dig-in	Distribution – Public
Foreign Object (Pipe, Kite, Tree Trim)	Distribution – Public
Vandalism	Distribution – Public
Vehicle Collision	Distribution – Public
Momentary (Tripping)	Distribution – Unknown
Unknown	Distribution – Unknown
Tree/Vegetation	Distribution – Vegetation
Loading/Unloading (Snow, Ice)	Distribution – Weather (Non-Lightning)
Unstable Earth	Distribution – Weather (Non-Lightning)
Load Shed/Transfer	Distribution – Weather (Non-Lightning)
Wildland/Building Fire	Distribution – Weather (Non-Lightning)
Overload/Cold Load	Distribution – Weather (Non-Lightning)
Bird – Non Raptor	Distribution – Wildlife
Bird – Raptor	Distribution – Wildlife
Large Animal (Livestock)	Distribution – Wildlife
Small Animal	Distribution – Wildlife

*Table 19 Cause Category Translation*

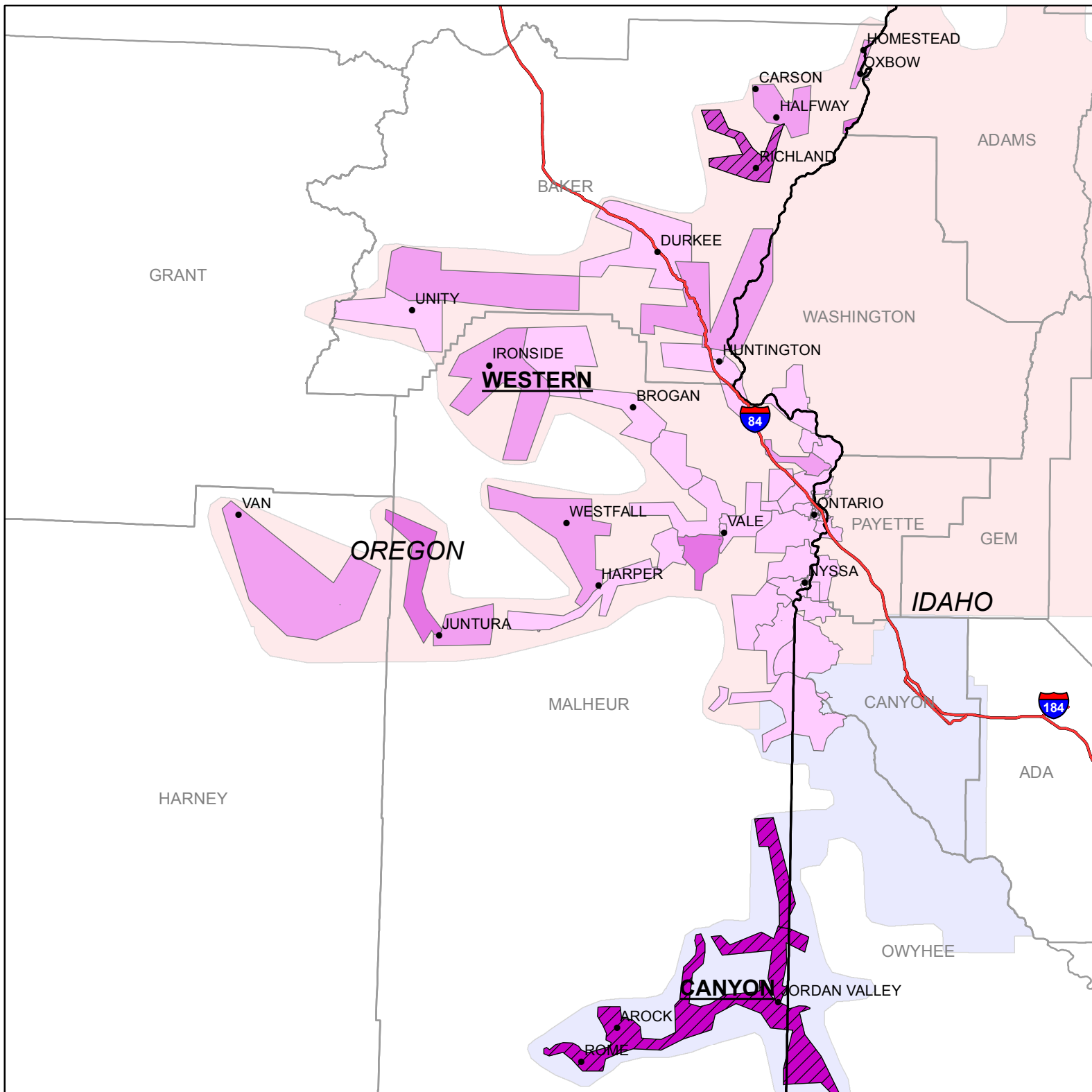
\*These are also identified from the Idaho Power SYSTEM field. This field has values for “Transmission”, “Substation”, “Distribution Primary OH”, “Distribution Primary UG”, “Secondary/Service OH” and “Secondary/Service UG”. So, Loss of Supply – Transmission in this report includes events where the CAUSE field was “Loss of Supply – Transmission” **or** the SYSTEM field was “Transmission”, and Loss of Supply – Substation includes events where the CAUSE field was “Loss of Supply – Station” **or** the SYSTEM field was “Substation”.



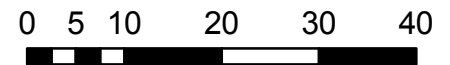
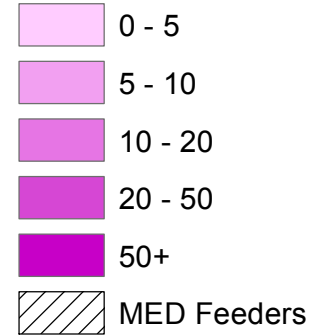
## **MAPS**

This is a placeholder for the maps.

# 2015 SAIDI With MED Oregon Area



## SAIDI

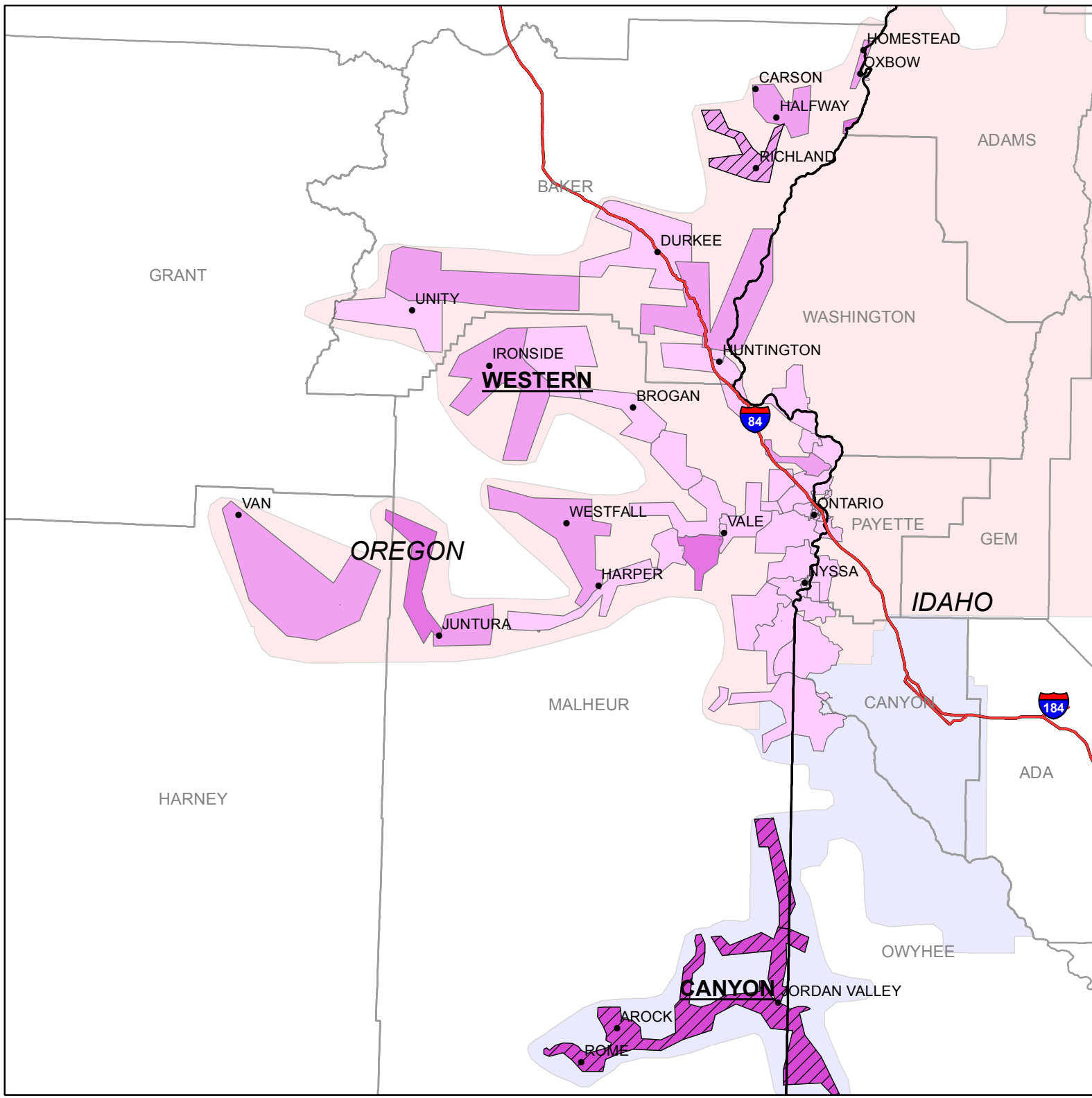


Miles

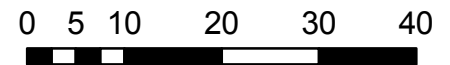
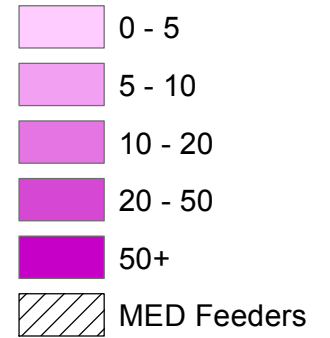
2/5/2016



# 2015 SAIDI MED Excluded Oregon Area



## SAIDIMedEx

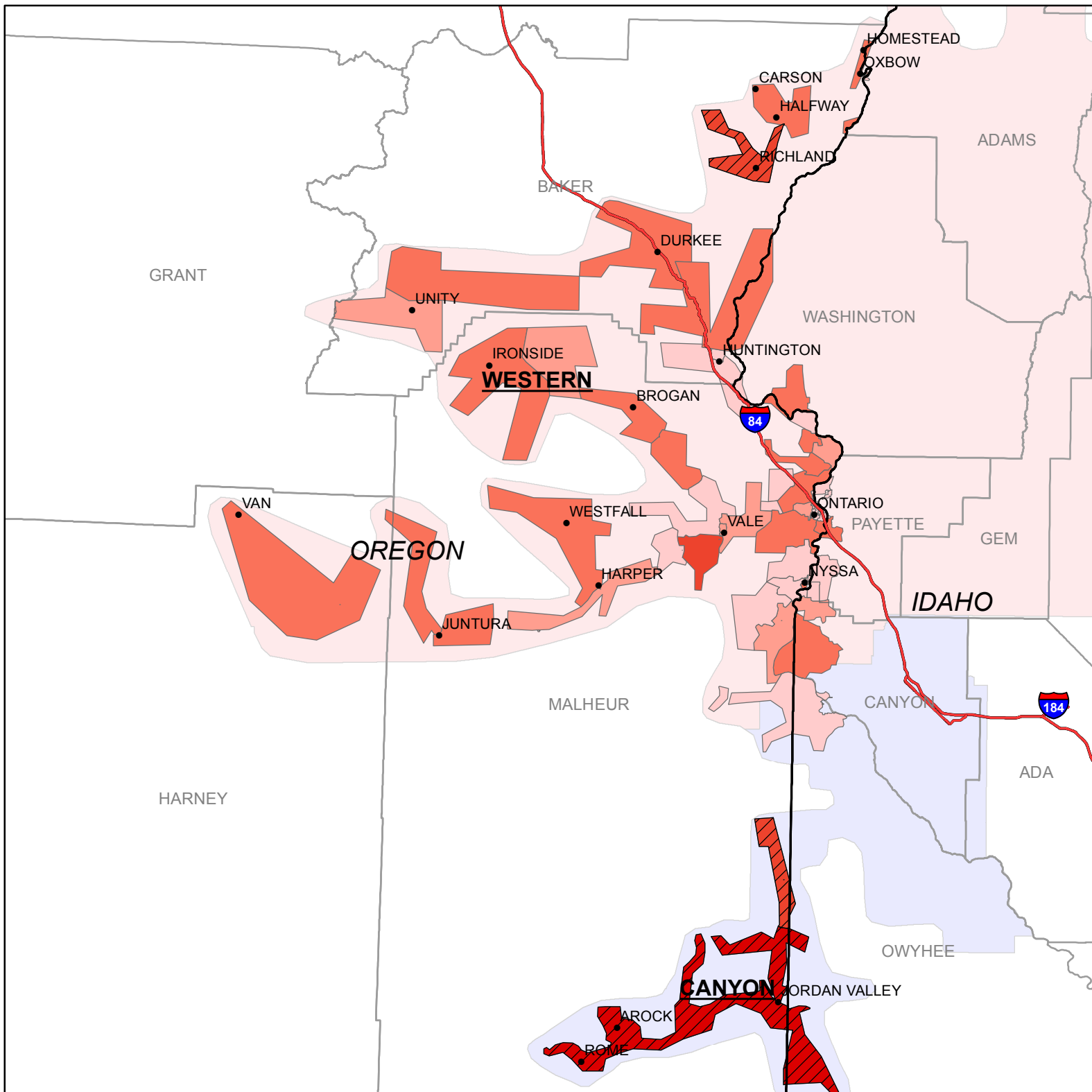


Miles

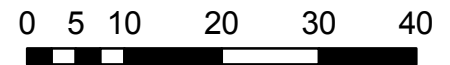
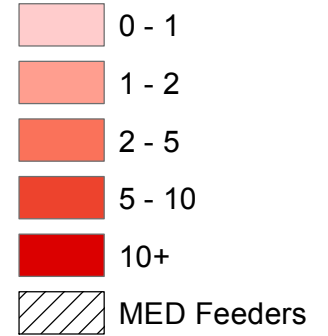
2/5/2016



# 2015 SAIFI With MED Oregon Area



## SAIFI

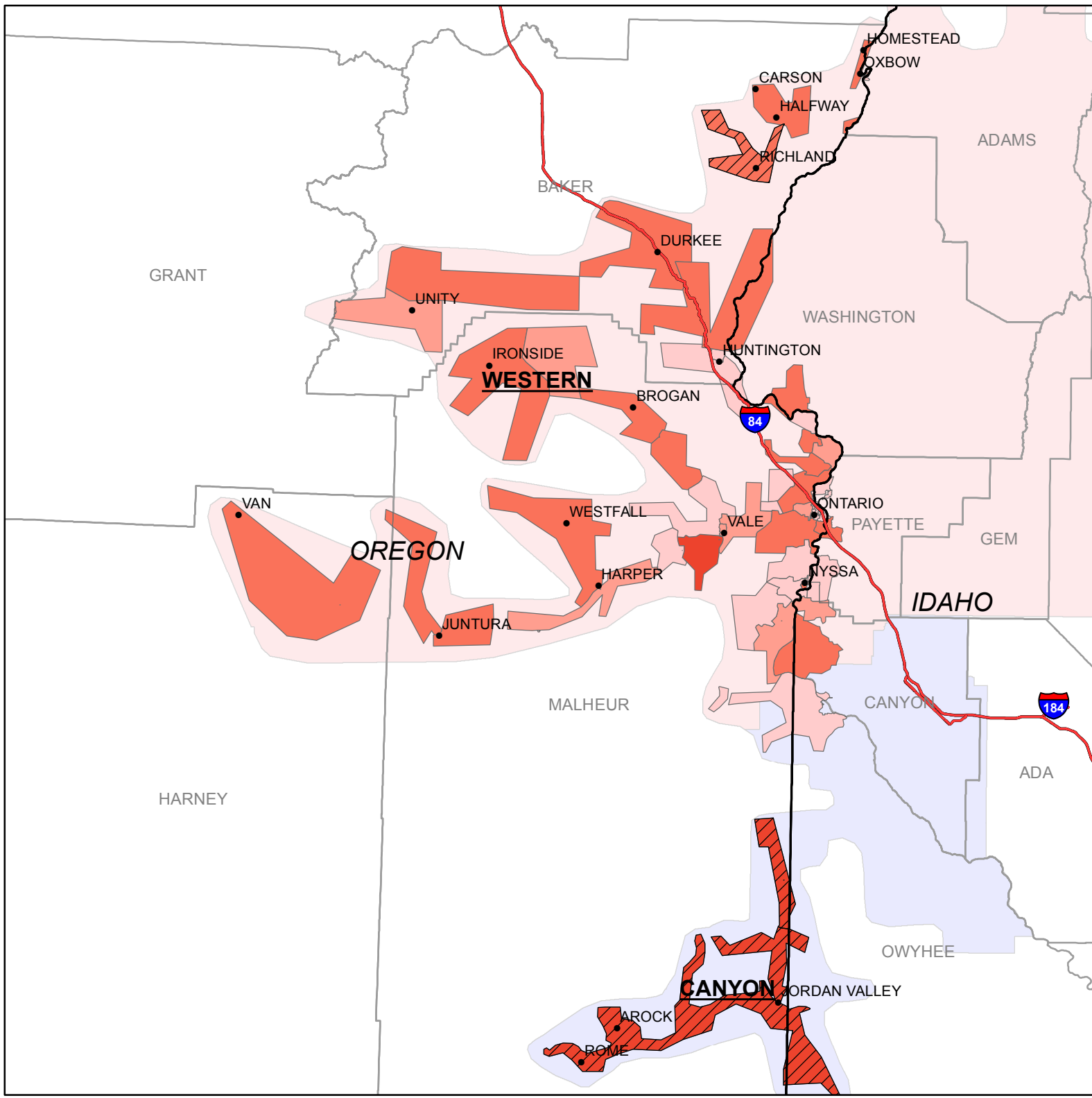


Miles

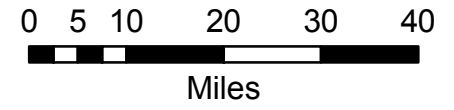
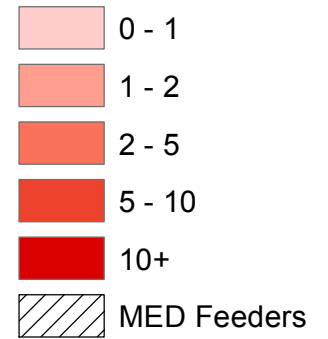
2/5/2016



# 2015 SAIFI MED Excluded Oregon Area



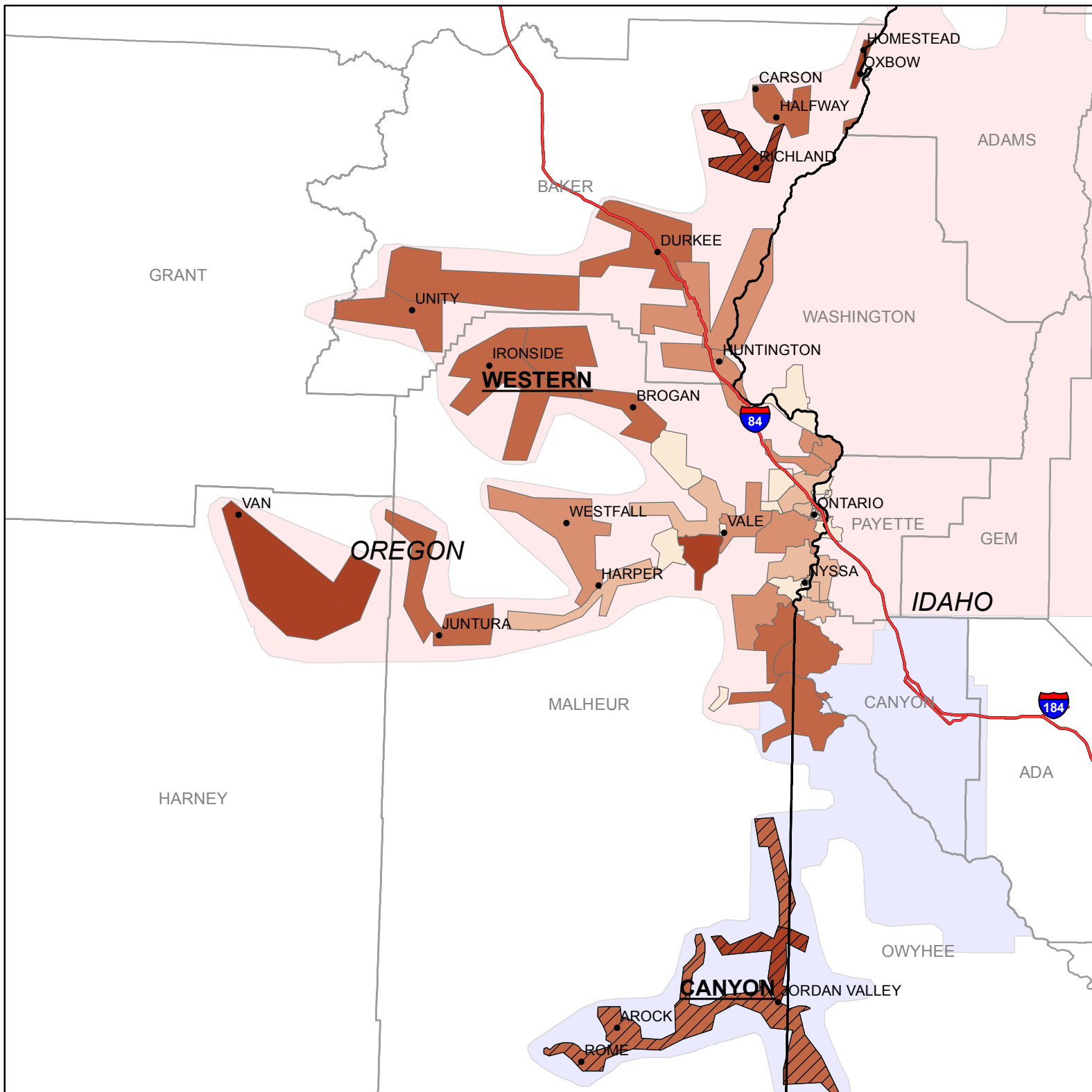
## SAIFIMedEx



2/5/2016

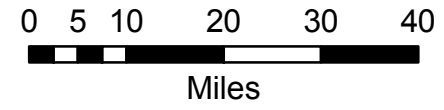


# 2015 MAIFle With MED Oregon Area



## MAIFle

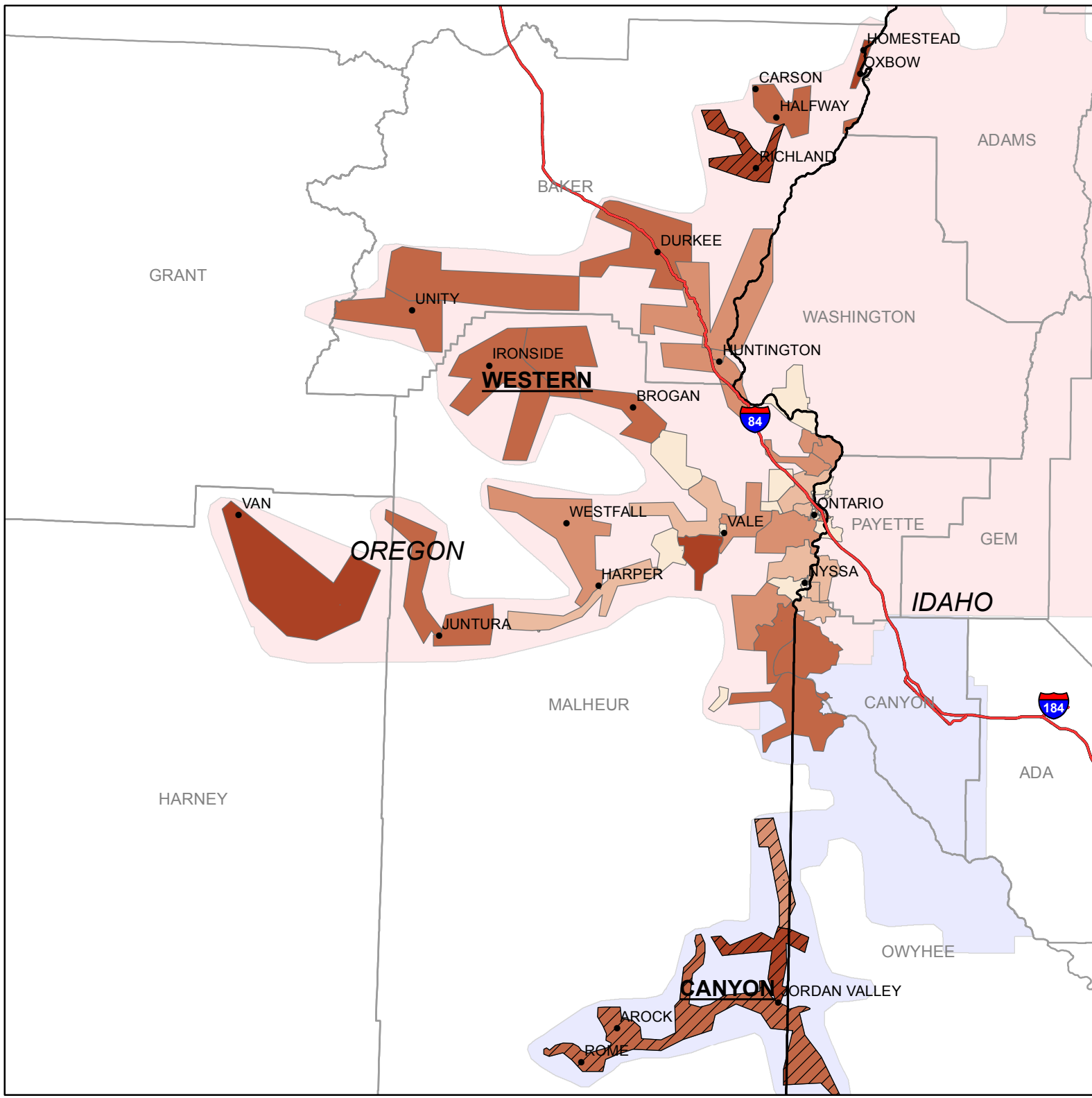
- 0 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10+
- MED Feeders



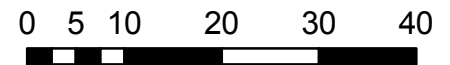
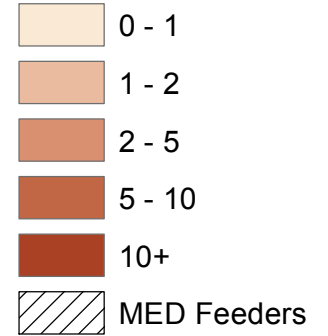
2/5/2016



# 2015 MAIFle MED Excluded Oregon Area



## MAIFleMedEx



Miles

2/5/2016

