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MOTORCYCLE IMPACT ANALYSIS

A Comparative Study of Motorcycle Crash Records

Complete Set of PPT Slides

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THE UNIVERSITY OF ALABAMA

Motorcycle IMPACT Table of Contents

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INTRODUCTION

- General Extent of the MC Problem
  - Overall Numbers
  - Severity

MC CAUSED CRASHES

- MC Caused Crash Driver Demographics
  - Age (several PPTs to focus on ages of causal drivers)
  - Gender
  - Age of the MC
- MC Caused Crash Characteristics
  - Number of Vehicles
  - Primary Contributing Circumstances
  - First Harmful Event
  - Vehicle Maneuver
  - Severity

- MC Caused Crash Locations
  - Rural/Urban; Open Country; Highway Classification; # Lanes
  - Intersections
  - Location WRT the Roadway
- MC Caused DUI (Drugs and Alcohol)
  - Time of Day; Day of the Week; Officer's Opinion
  - License Status;
  - Month
- MC Caused Special MC Issues (applies in general to all MC crashes)
  - Junk on the Road
  - Contribution Materials

MC VICTIM CRASHES

- General MC Victim Statistics
- MC Victim Crash Driver Demographics
  - Age
  - Gender
- MC Victim Crash Characteristics
  - Vehicle Maneuver (curves)
- MC Victim Crash Locations
  - Rural/Urban; Locale
  - Intersections – 6 slides
  - Number of lanes
  - Locations WRT the Roadway
- MC Victim Crash DUI (Drugs and Alcohol)

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General Extent of the Problem

Overall Numbers

Over the past ten years (2003-2012) the number of motorcycle involved crashes (regardless of cause) has increase by what percentage?

30%

40%

50%

- Red = MC Involved Crashes
- Blue = Crashes that Did Not Involve MC

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CARE 9.2.0.13 - [IMPACT Results - 2003-2012 Alabama Integrated Crash Data - Motorcycle Involved vs. Not Motorcycle Involved]

File Filters Analysis Search Continuous Impact Tools Help

Default Data Source: 2003-2012 Alabama Integrated Crash Da | Default Filter: Motorcycle Involved | Filter Logic - Vehicle 2 (V2) Type = Motorcycle OR Causal Unit (C

Order By: Natural Order | Descending | Max Gain | Suppress Zero-Valued Rows | Over Representation | Max Gain | Threshold 2.0

C003: Year

Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
2003	1254	7.190	139813	10.562	0.681*	-588.086
2004	1483	8.503	144875	10.944	0.777*	-425.780
2005	1758	10.080	142679	10.778	0.935*	-121.847
2006	1925	11.037	137855	10.414	1.060*	108.711
2007	1931	11.072	133325	10.072	1.099*	174.395
2008	1998	11.456	121993	9.216	1.243*	390.698
2009	1563	8.962	122408	9.247	0.969	-49.769
2010	1707	9.787	127818	9.656	1.014	22.952
2011	1910	10.951	126589	9.563	1.145*	242.144
2012	1912	10.963	126404	9.549	1.148*	246.582

0.09%

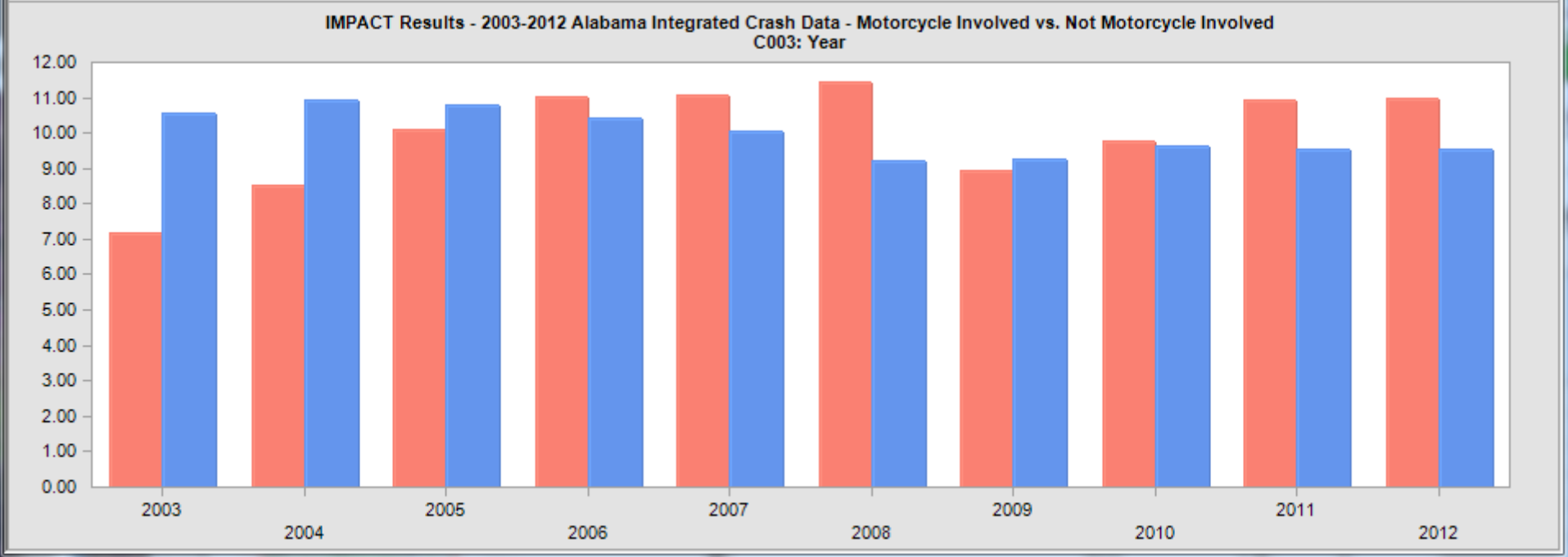
Average: 1744/year 1.3%

1.51%

C003: Year

Sort by Sum of Max Gain

Increase from 1254 to 1912 is 52.5%



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Involved vs. Not Motorcycle Involved]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Ascending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C003: Year

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
2010	1707	30.87	127827	33.56	0.920*	-148.610
2011	1910	34.55	126600	33.24	1.039	72.202
2012	1912	34.58	126448	33.20	1.042	76.408

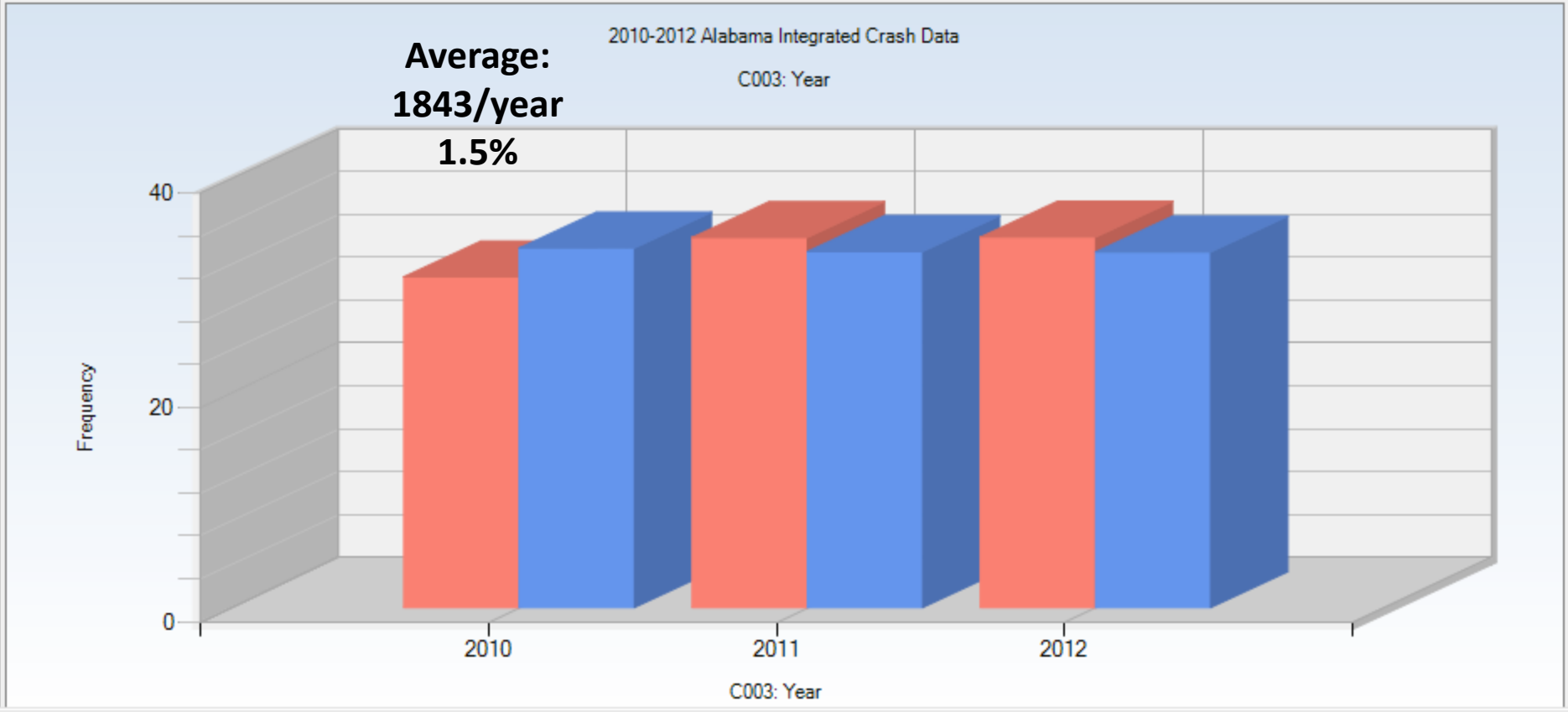
C003: Year

Sort by Sum of Max Gain

Most Recent Three Years (2010-2012)

Display Filter Name

Average:
1843/year
1.5%



General Extend of the Problem

Severity

Of these crashes, 267 of them resulted in one or more fatalities. How many more times is the probability of a MC crash being fatal than a non-MC crash?

2 times as likely

4 times as likely

8 times as likely

CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Involved vs. Not Motorcycle Involved]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C025: Crash Severity

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Fatal Injury	267	4.83	2160	0.57	8.515*	235.644
Incapacitating Injury	1644	29.73	20508	5.38	5.522*	1346.294
Non-Incapacitating Injury	1673	30.26	30686	8.06	3.756*	1227.544
Possible Injury	411	7.43	29019	7.62	0.976	-10.256
Property Damage Only	1393	25.19	288613	75.78	0.332*	-2796.672
Unknown	141	2.55	9889	2.60	0.982	-2.554

C025: Crash Severity

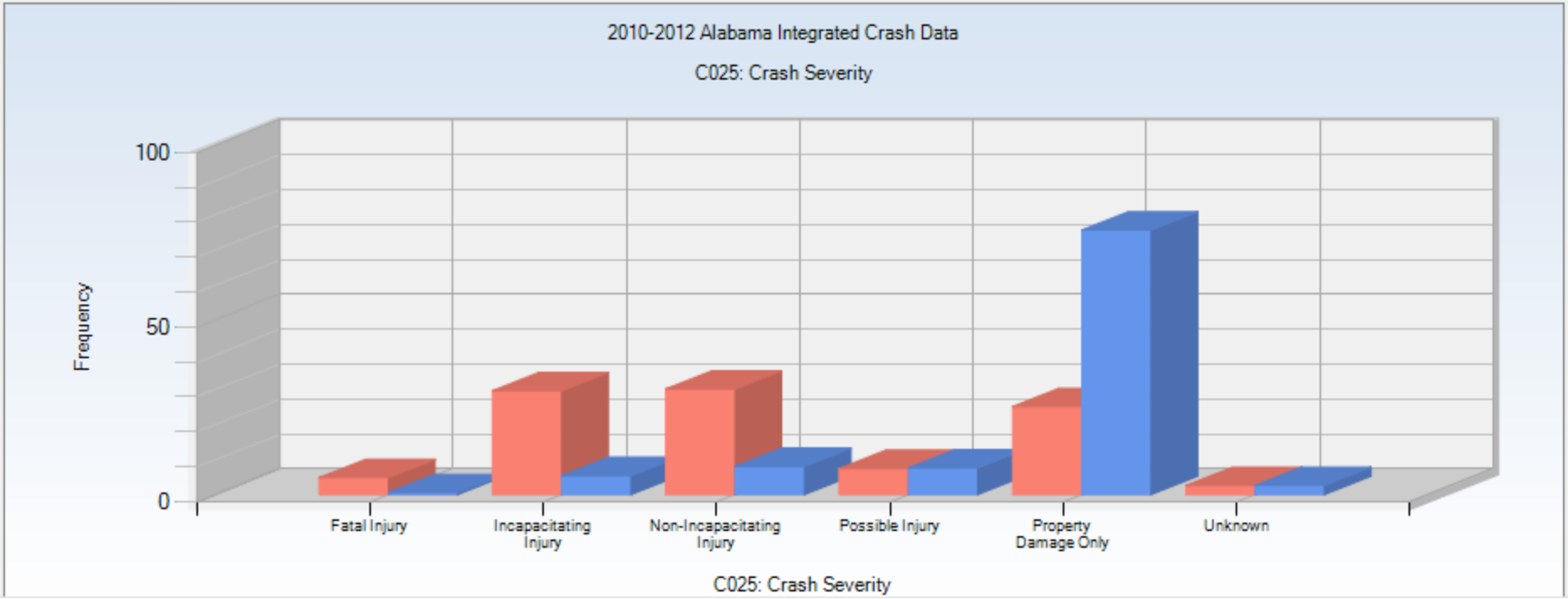
Over 8 for all MC crashes

Over 12 for MC-Caused Crashes

Sort by Sum of Max Gain

Three-Year Severity Summary (Crashes)

Display Filter Name



"OVER-REPRESENTATED"

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Over-represented means that the probability of the attribute value is significantly higher than expected when compared (in this case) to crashes not caused by MCs.

Example attribute: age.

Example attribute value: age=21

Creating Information from Data

Making Comparisons

This first set of comparisons will show how MC-caused crashes differ from traffic crashes in general.

- Red = MC Caused Crashes
- Blue = Crashes in General (Not Caused by MC; may not have even involved an MC)

MC-Caused Driver Demographics

Age

Which ten-year age group is most consistently over-represented in causing MC crashes?

16-25

26-35

46-55

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Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

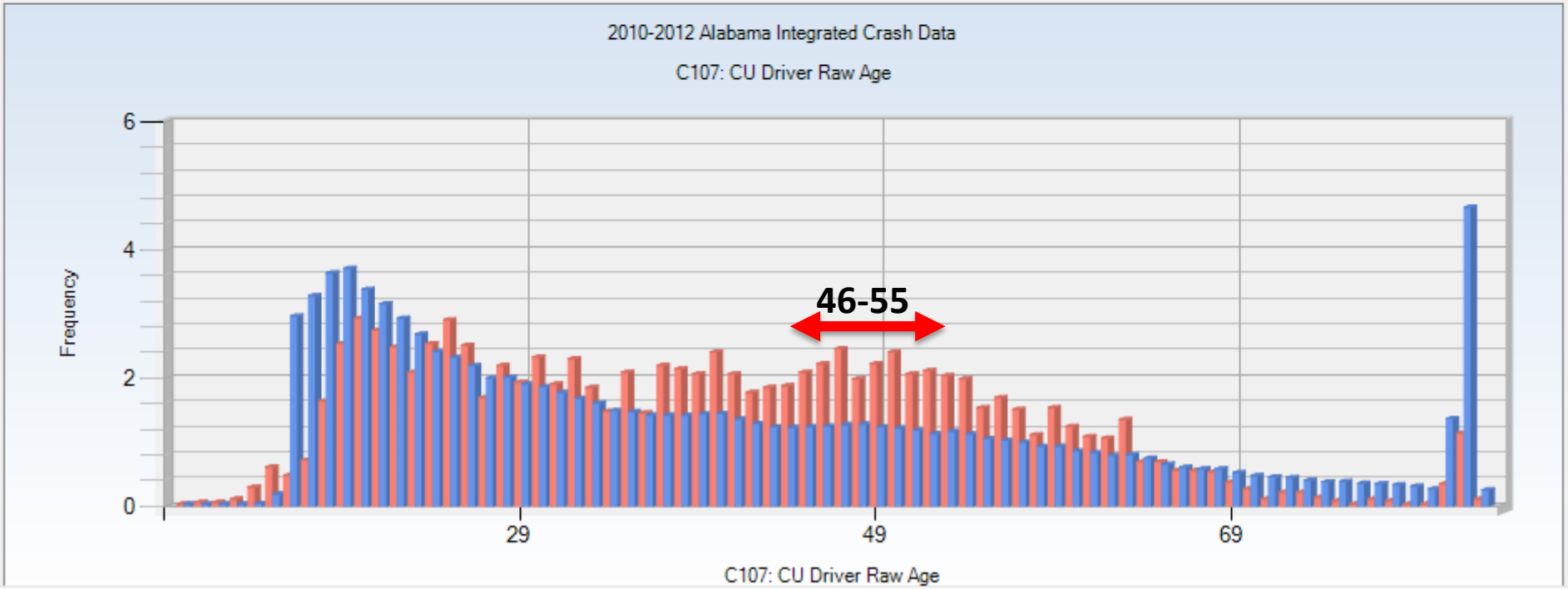
C107: CU Driver Raw Age

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
46	84	2.22	4770	1.25	1.777*	36.736
47	93	2.45	4855	1.27	1.933*	44.894
48	75	1.98	4884	1.28	1.550*	26.607
49	84	2.22	4712	1.23	1.799*	37.311
50	91	2.40	4655	1.22	1.973*	44.876
51	78	2.06	4512	1.18	1.745*	33.293
52	80	2.11	4310	1.13	1.873*	37.294
53	77	2.03	4459	1.17	1.743*	32.818
54	75	1.98	4285	1.12	1.766*	32.542

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age
C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed

Sort by Sum of Max Gain

Display Filter Name



CARE 10.0.0.19 - [Frequency Results - 2010-2012 Alabama Integrated Crash Data - Filter = Motorcycle Involved And Not Age Junk]

File Dashboard Filters Analysis Frequency Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Age Junk | 1/ 1/2010 | 12/31/2012

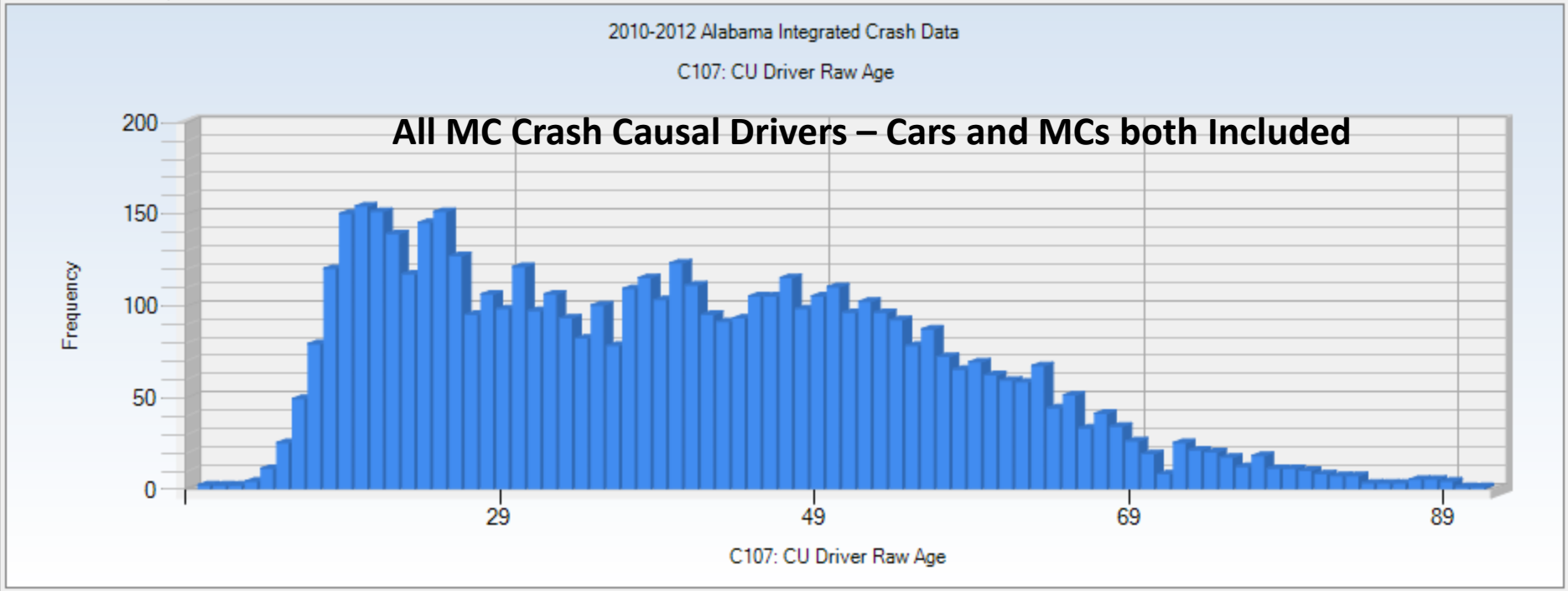
Order: Natural Order | Ascending | Suppress Zero-Valued Frequencies

C107: CU Driver Raw Age

Value	Frequency	Cum. Frequency	Percentage	Cum. Percent
19	150	444	2.81	8.33
20	154	598	2.89	11.21
21	151	749	2.83	14.04
22	139	888	2.61	16.65
23	117	1005	2.19	18.84
24	145	1150	2.72	21.56
25	151	1301	2.83	24.40

C107: CU Driver Raw Age

Display Average | Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Caused And Not Age Junk vs. All Without Age Junk]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused And Not Age Junk | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C107: CU Driver Raw Age

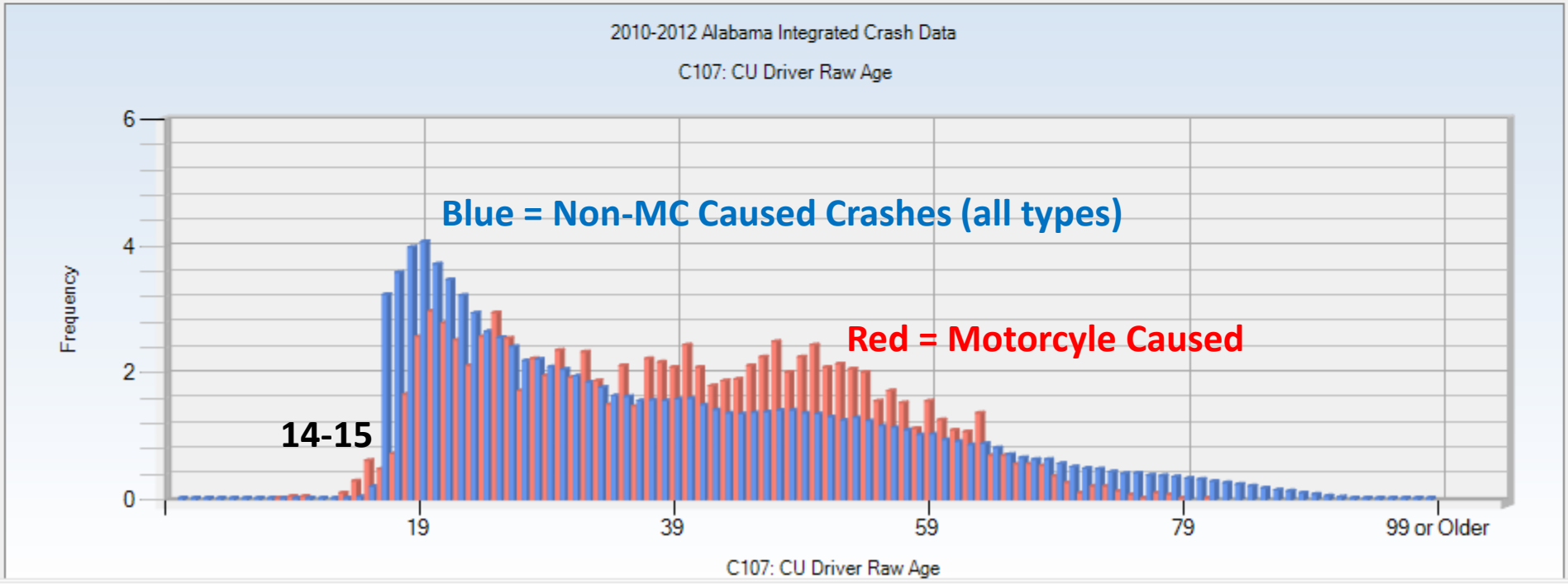
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
13	4	0.11	75	0.02	5.011	3.202
14	11	0.29	157	0.04	6.583	9.329
15	23	0.62	728	0.21	2.969*	15.252
16	18	0.48	11347	3.24	0.149	-102.761
17	27	0.72	12571	3.59	0.202*	-106.788
18	62	1.66	13966	3.98	0.417*	-86.634
19	96	2.57	14274	4.07	0.632*	-55.912

C107: CU Driver Raw Age

14-15 Caused 34 Crashes

Sort by Sum of Max Gain

Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Caused And Not Age Junk vs. All Without Age Junk]

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Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

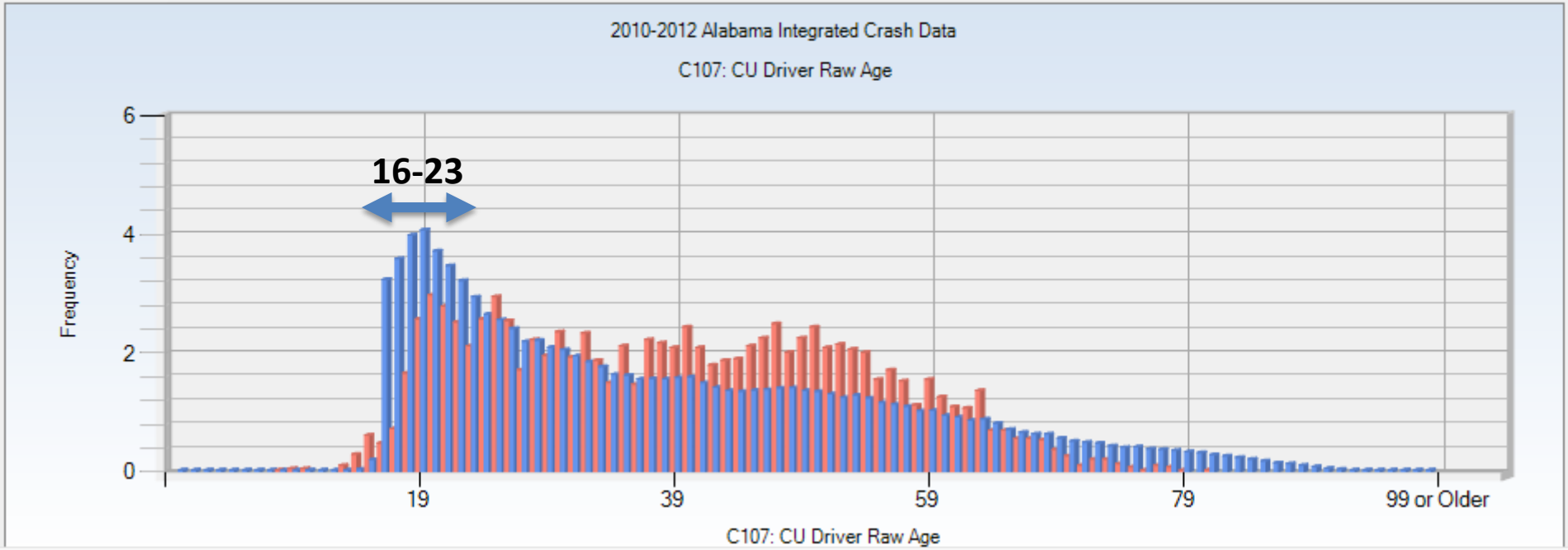
C107: CU Driver Raw Age

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
16	18	0.48	11347	3.24	0.149	-102.761
17	27	0.72	12571	3.59	0.202*	-106.788
18	62	1.66	13966	3.98	0.417*	-86.634
19	96	2.57	14274	4.07	0.632*	-55.912
20	111	2.98	13031	3.72	0.800*	-27.683
21	104	2.79	12168	3.47	0.803	-25.499
22	94	2.52	11294	3.22	0.782*	-26.197
23	79	2.12	10321	2.94	0.719*	-30.842

C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name



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Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

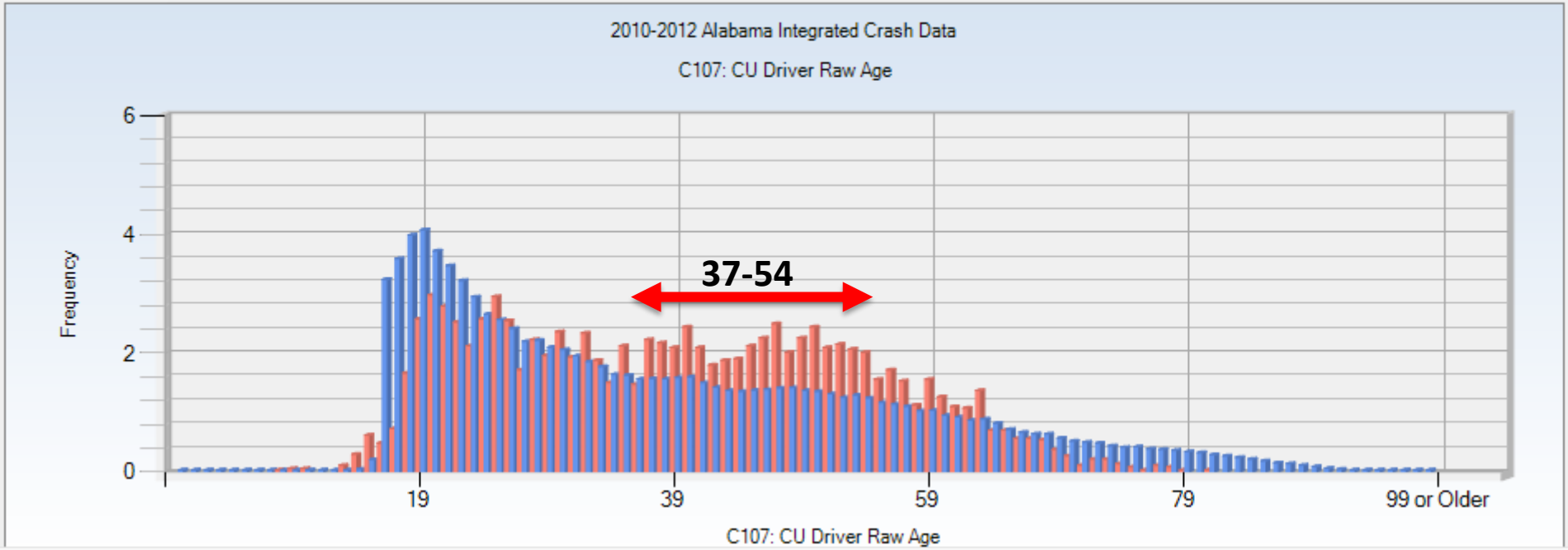
C107: CU Driver Raw Age

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
47	93	2.49	4948	1.41	1.766*	40.341
48	75	2.01	4959	1.41	1.421*	22.223
49	84	2.25	4796	1.37	1.646*	32.958
50	91	2.44	4746	1.35	1.802*	40.490
51	78	2.09	4590	1.31	1.597*	29.151
52	80	2.14	4390	1.25	1.712*	33.279
53	77	2.06	4536	1.29	1.595*	28.725
54	75	2.01	4360	1.24	1.616*	28.598

C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Caused And Not Age Junk vs. All Without Age Junk]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused And Not Age Junk | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

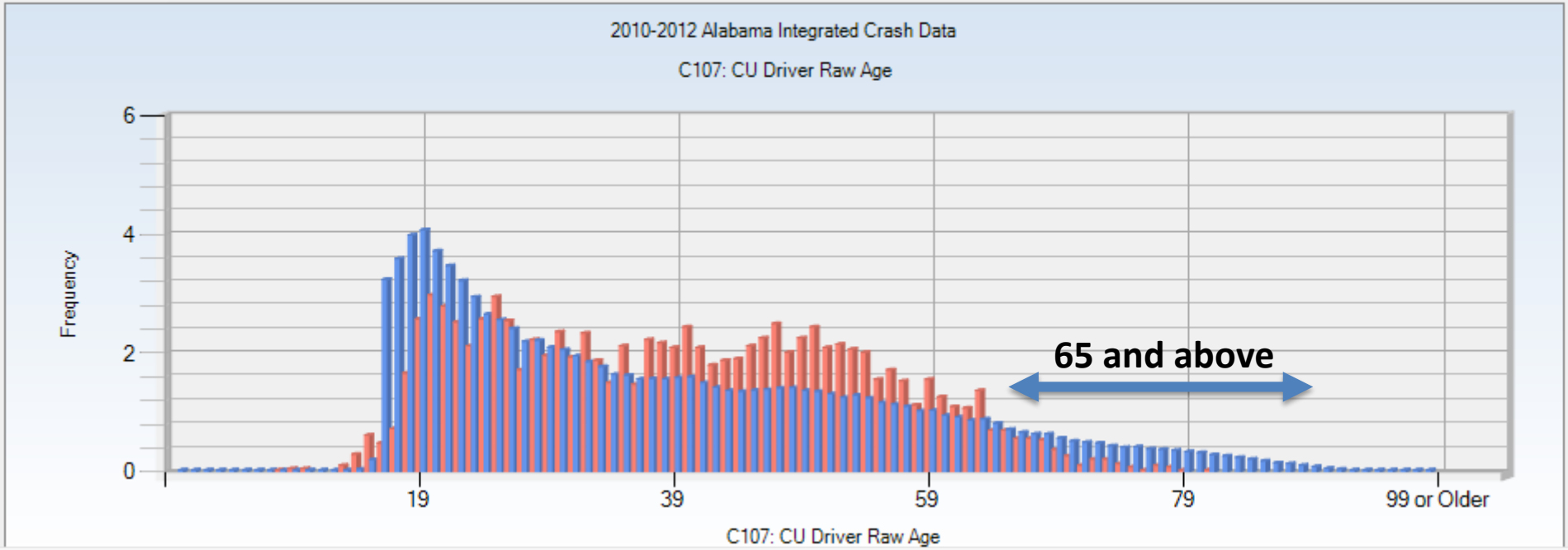
C107: CU Driver Raw Age

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
58	42	1.13	3591	1.02	1.099	3.783
59	58	1.55	3615	1.03	1.508*	19.527
60	47	1.26	3323	0.95	1.329	11.635
61	41	1.10	3222	0.92	1.196	6.710
62	40	1.07	3042	0.87	1.236	7.625
63	51	1.37	3103	0.89	1.544*	17.976
64	26	0.70	2869	0.82	0.852	-4.534
65	26	0.70	2508	0.72	0.974	-0.692

C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name



MC Caused Driver Characteristics

Gender

Males cause how many more MC-caused crashes than females?

2 times

4 times

6 times

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C109: CU Driver Gender

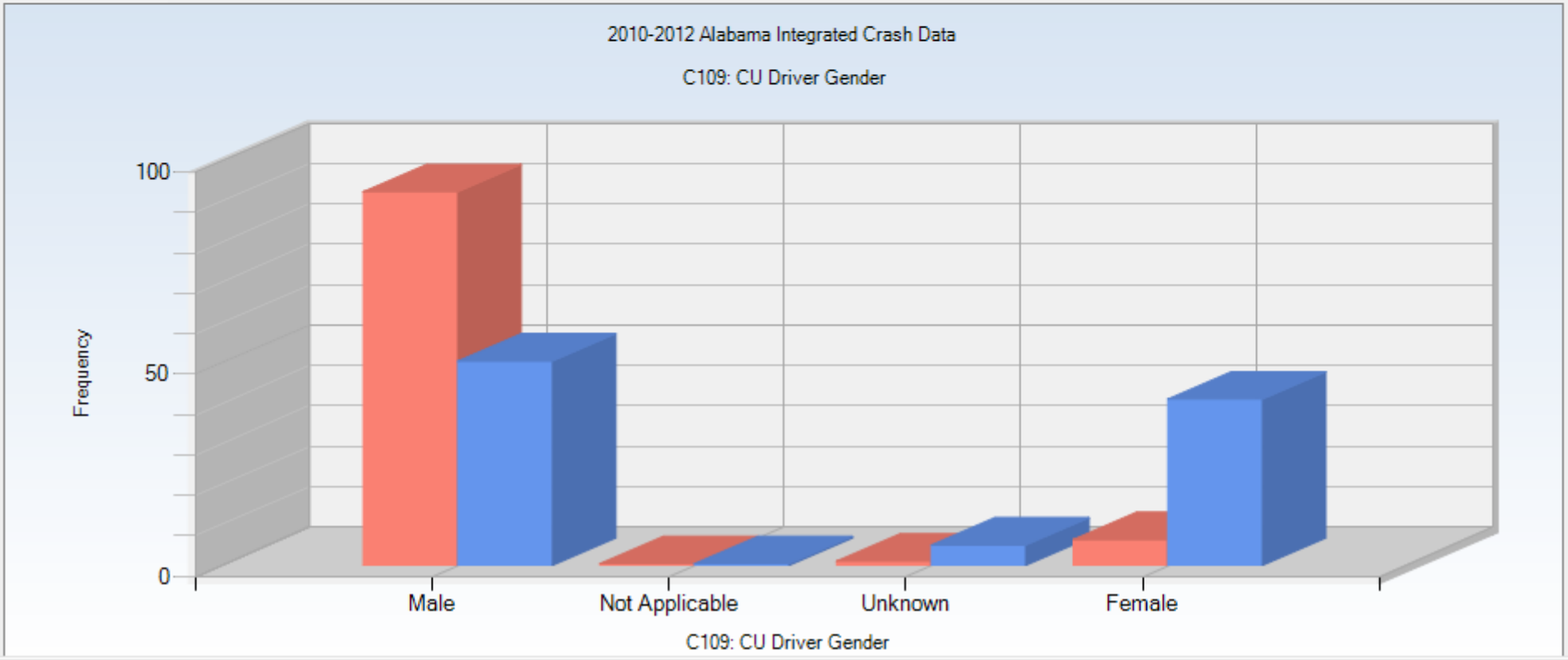
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Male	3507	92.51	193560	50.59	1.829*	1589.102
Not Applicable	3	0.08	671	0.18	0.451	-3.649
Unknown	39	1.03	19174	5.01	0.205*	-150.986
Female	242	6.38	157425	41.15	0.155*	-1317.853

1507/242 = 6.23

C023: E Manner of Crash
C109: CU Driver Gender
C326: CU Driver/Non-Motorist Gender
C015: Primary Contributing Circumstance
C202: CU Contributing Circumstance
C113: CU Driver Second License Class
C230: CU Areas Damaged #1
C205: E CU Sequence of Events #2
C231: E CU Areas Damaged #2

Sort by Sum of Max Gain

Display Filter Name



MC Crash Driver Characteristics

Age of the Motorcycle

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<u>True or False</u>:

Relatively newer MC vehicles (2005-09) tend to be much more over-represented than older vehicles.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

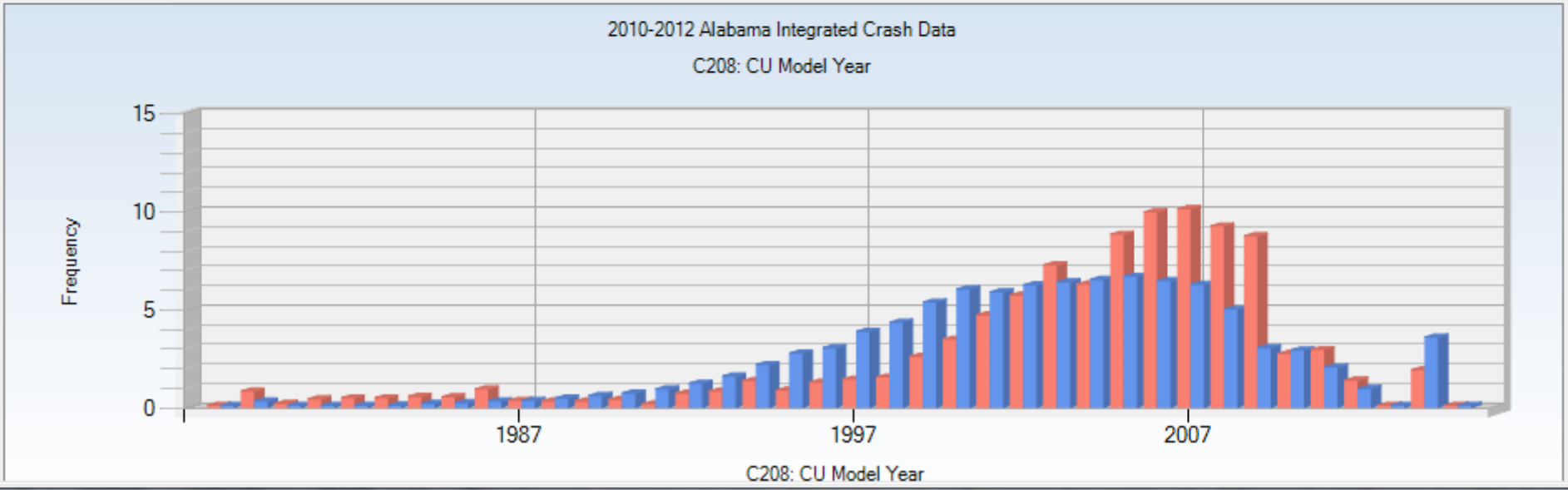
C208: CU Model Year

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
2004	237	6.28	24680	6.52	0.963	-9.174
2005	333	8.82	25266	6.68	1.321*	80.980
2006	376	9.96	24394	6.45	1.545*	132.678
2007	382	10.12	23714	6.27	1.615*	145.461
2008	349	9.25	18917	5.00	1.850*	160.309
2009	330	8.74	11511	3.04	2.874*	215.182
2010	103	2.73	11043	2.92	0.935	-7.150
2011	111	2.94	7744	2.05	1.437*	33.756
2012	52	1.38	3600	0.95	1.448*	16.091
2013	3	0.08	350	0.09	0.859	-0.491
Unknown	72	1.91	13531	3.58	0.533*	-62.967
Not Applicable	1	0.03	147	0.04	0.682	-0.466

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age
C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed
C211: E CU Owners State
C413: E CU Turn Lanes
C010: Rural or Urban

Sort by Sum of Max Gain

Display Filter Name



MC Caused Crash Characteristics

Number of Vehicles

MC caused crashes are how often single vehicle as compared to other crashes?

About the same

Twice as likely

Three times as likely

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Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | ☑ Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

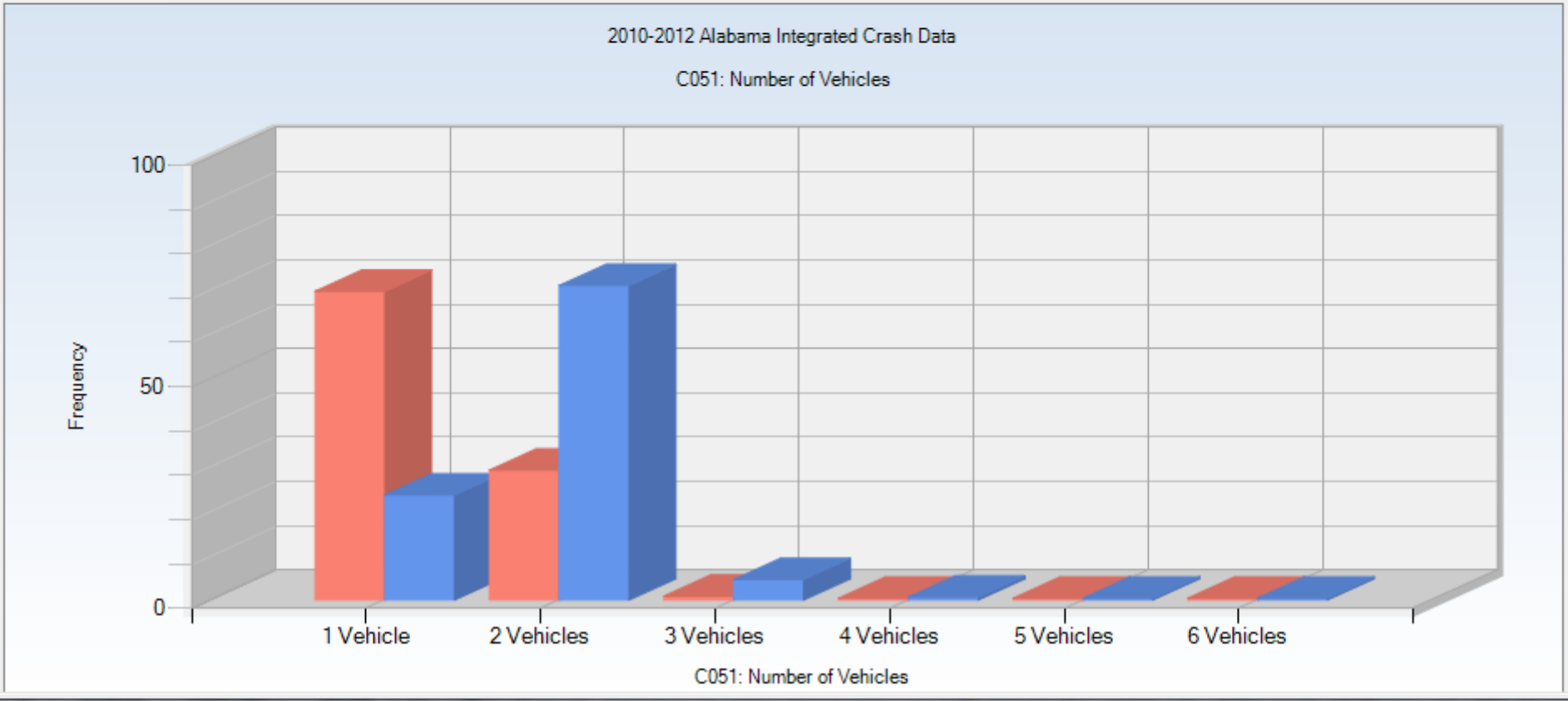
C051: Number of Vehicles

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
1 Vehicle	2641	69.66	90595	23.68	2.942*	1743.368
2 Vehicles	1111	29.31	271567	70.98	0.413*	-1579.736
3 Vehicles	33	0.87	17647	4.61	0.189*	-141.850
4 Vehicles	3	0.08	2365	0.62	0.128	-20.433
5 Vehicles	1	0.03	321	0.08	0.314	-2.181
6 Vehicles	2	0.05	80	0.02	2.523	1.207

C505: V2 Left Scene
C037: EMS Arrival Delay
C051: Number of Vehicles
C510: V2 Driver Residence Distance
C053: Number of Persons Recorded
C054: Number of Motorists Recorded
C052: Number of Drivers Recorded
C023: E Manner of Crash

☑ Sort by Sum of Max Gain

☐ Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C023: E Manner of Crash

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Single Vehicle Crash (all typ...	2226	58.72	76460	19.98	2.938*	1468.420
Non-Collision	177	4.67	2886	0.75	6.190*	148.405
Other	70	1.85	7169	1.87	0.985	-1.032
Head-On (front to front only)	60	1.58	6775	1.77	0.894	-7.128
Unknown	2	0.05	1126	0.29	0.179	-9.157
Sideswipe - Opposite Directi...	30	0.79	5411	1.41	0.560*	-23.613
Angle Oncoming (frontal)	39	1.03	7709	2.01	0.511*	-37.382
Angle (front to side) Same D...	50	1.32	9432	2.47	0.535*	-43.454
Angle (front to side) Opposit...	45	1.19	11616	3.04	0.391*	-70.093
Sideswipe - Same Direction	113	2.98	22826	5.97	0.500*	-113.164
Side Impact (angled)	120	3.17	26282	6.87	0.461*	-140.407

C505: V2 Left Scene
C037: EMS Arrival Delay
C051: Number of Vehicles
C510: V2 Driver Residence Distance
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C054: Number of Motorists Recorded
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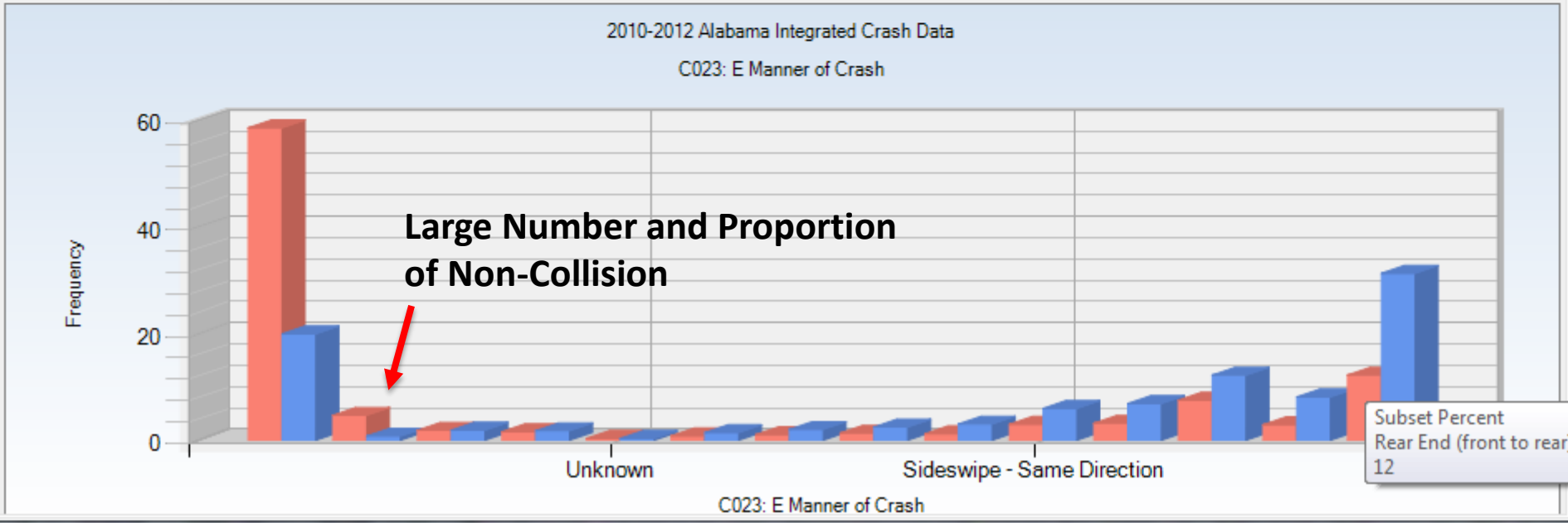
C015: Primary Contributing Circumstance
C202: CU Contributing Circumstance
C113: CU Driver Second License Class
C230: CU Areas Damaged #1

Sort by Sum of Max Gain

Display Filter Name



MC Caused Crash Characteristics

Primary Contributing Circumstance

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Which of the following is the most often cited PCC for MC-caused crashes?

Speed

Aggressive Driving

Swerve

Run Off the Road

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

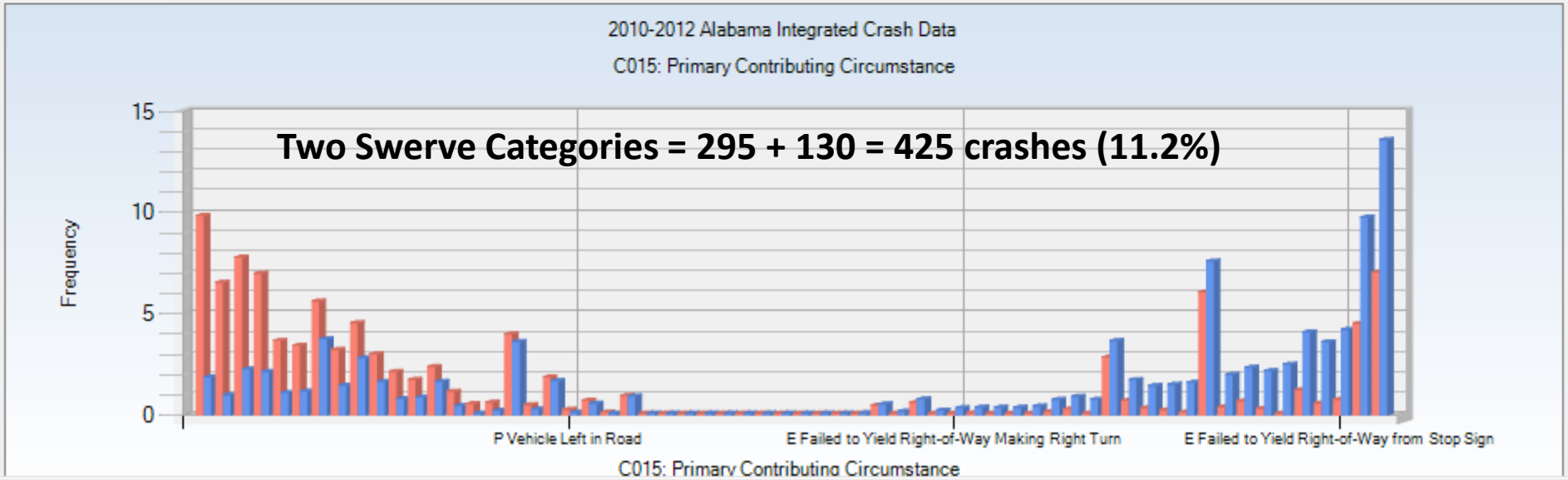
C015: Primary Contributing Circumstance

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Over Speed Limit	373	9.84	7153	1.87	5.263*	302.127
E Aggressive Operation	248	6.54	3794	0.99	6.597*	210.408
E Swerved to Avoid Vehicle	295	7.78	8653	2.26	3.441*	209.264
E Ran off Road	265	6.99	8206	2.14	3.259*	183.693
E Other - No Improper Driving	139	3.67	4205	1.10	3.336*	97.336
E Swerved to Avoid Animal	130	3.43	4497	1.18	2.918*	85.443
DUI	213	5.62	14349	3.75	1.498*	70.827
E Other Improper Action	122	3.22	5599	1.46	2.199*	66.524
Other	172	4.54	10755	2.81	1.614*	65.437
Defective Equipment	114	3.01	6320	1.65	1.821*	51.380
E Over Correcting/Over Ste...	81	2.14	3080	0.80	2.654*	50.483
Improper Passing	66	1.74	3339	0.87	1.995*	32.917

C023: E Manner of Crash
C109: CU Driver Gender
C326: CU Driver/Non-Motorist Gender
C015: Primary Contributing Circumstance
C202: CU Contributing Circumstance
C113: CU Driver Second License Class
C230: CU Areas Damaged #1
C205: E CU Sequence of Events #2
C231: E CU Areas Damaged #2
C232: E CU Areas Damaged #3
C002: City
C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C224: CU Estimated Speed at Impact

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
36 to 40 MPH	256	7.01	14243	3.94	1.777*	111.930
41 to 45 MPH	420	11.50	20613	5.71	2.014*	211.497
46 to 50 MPH	194	5.31	10876	3.01	1.763*	83.988
51 to 55 MPH	277	7.58	16425	4.55	1.667*	110.859
56 to 60 MPH	159	4.35	7435	2.06	2.114*	83.794
61 to 65 MPH	142	3.89	7966	2.21	1.762*	61.423
66 to 70 MPH	103	2.82	7996	2.21	1.273*	22.120
71 to 75 MPH	31	0.85	1599	0.44	1.917*	14.826
76 to 80 MPH	42	1.15	886	0.25	4.686*	33.038
81 to 85 MPH	16	0.44	298	0.08	5.308	12.986
86 to 90 MPH	21	0.58	203	0.06	10.227*	18.947
91 to 95 MPH	4	0.11	63	0.02	6.277	3.363
96 to 100 MPH	30	0.82	185	0.05	16.032*	28.129
Over 100 MPH	18	0.49	204	0.06	8.723	15.937

C023: E Manner of Crash
C109: CU Driver Gender
C326: CU Driver/Non-Motorist Gender
C015: Primary Contributing Circumstance
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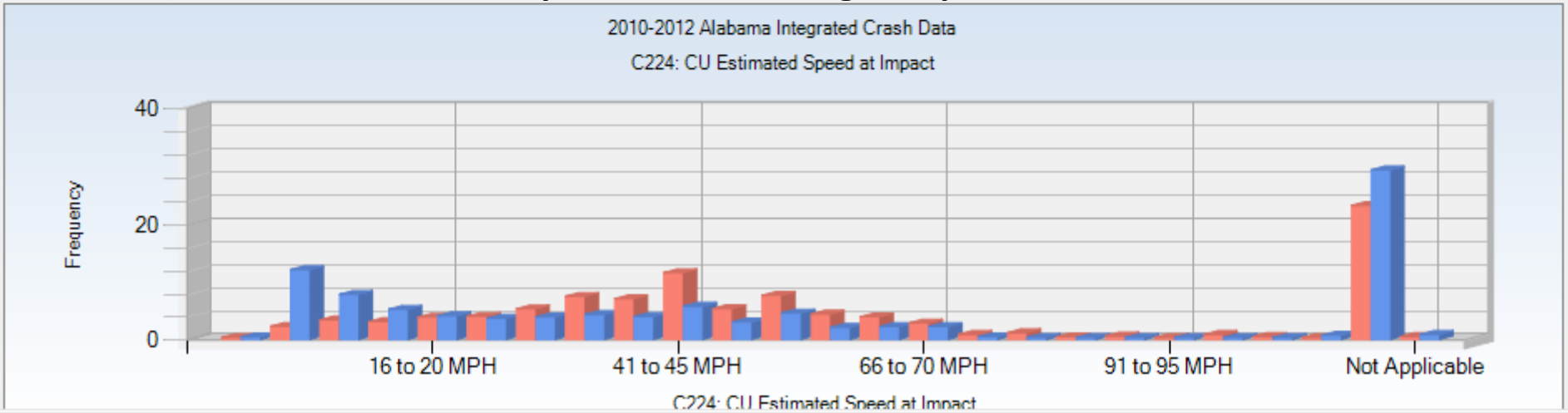
C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age

Sort by Sum of Max Gain

Consistent Over-Representation at Higher Speeds

Display Filter Name



MC Crash Characteristics

First Harmful Event

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

First harmful events for motorcycle crashes are quite similar to those for non-MC crashes.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

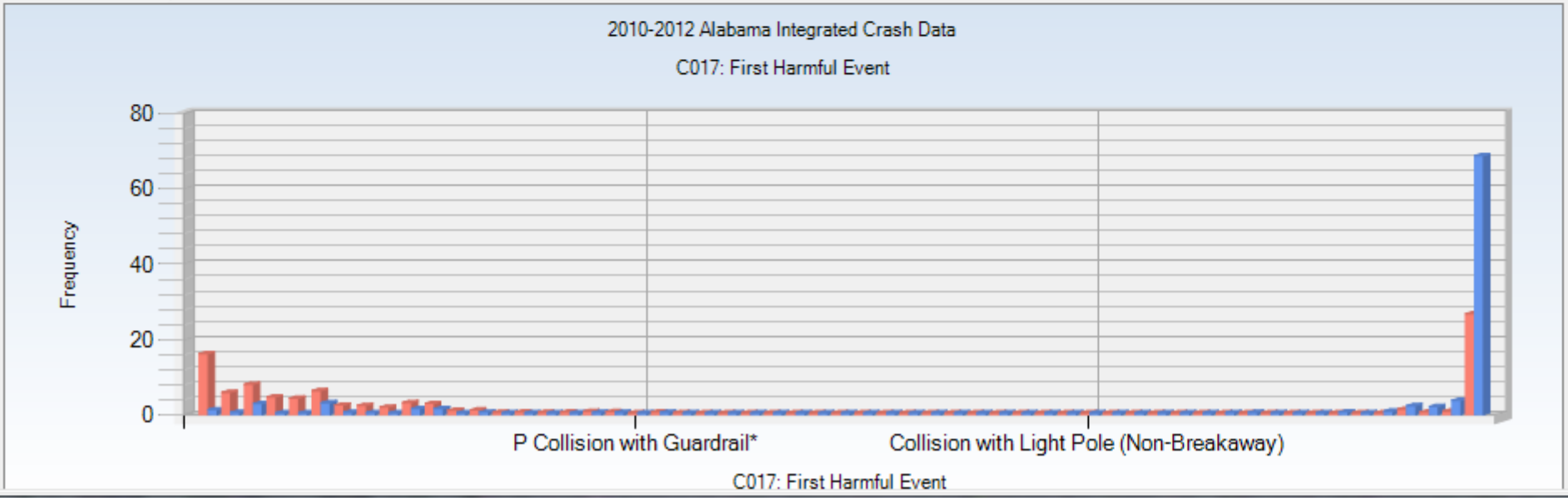
C017: First Harmful Event

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Overturn/Rollover	612	16.15	4968	1.30	12.430*	562.765
E Evasive Action (Swerve/...	222	5.86	2296	0.60	9.756*	199.246
E Ran Off Road Right	304	8.02	11056	2.89	2.774*	194.430
E Other Non-Collision	178	4.70	712	0.19	25.226*	170.944
E Fell/Jumped from Motor V...	165	4.35	102	0.03	163.227*	163.989
Collision with Ditch	240	6.33	11931	3.12	2.030*	121.759
Collision with Other Fixed O...	95	2.51	2354	0.62	4.072*	71.671
E Collision with Curb/Island/...	91	2.40	1959	0.51	4.687*	71.585
E Collision with Animal: Other	74	1.95	765	0.20	9.761*	66.419
E Ran Off Road Left	120	3.17	6136	1.60	1.973*	59.190
E Collision with Animal: Deer	112	2.96	6005	1.57	1.882*	52.488
Other	43	1.13	273	0.07	15.893*	40.294

C025: Crash Severity
C330: CU Driver/Non-Motorist Transport Immedi
C058: Number Injured (Non-Fatal)
C017: First Harmful Event
C201: CU Vehicle Most Harmful Event
C501: Vehicle 2 (V2) Type
C019: E Most Harmful Event
C204: E CU Sequence of Events #1
C505: V2 Left Scene
C037: EMS Arrival Delay
C051: Number of Vehicles
C510: V2 Driver Residence Distance
C053: Number of Persons Recorded
C054: Number of Motorists Recorded
C052: Number of Drivers Recorded

Sort by Sum of Max Gain

Display Filter Name



MC Crash Characteristics

Vehicle Maneuver

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

Curves seem to be particularly problematic for motorcycles.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

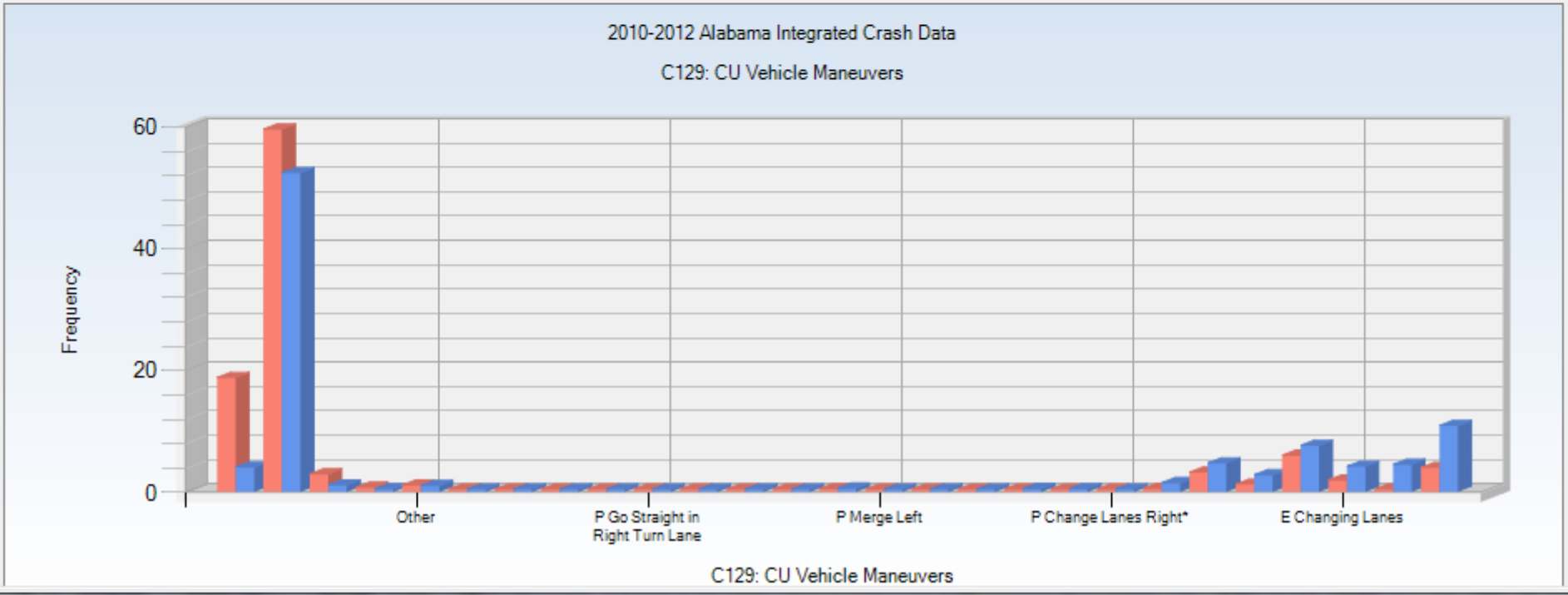
C129: CU Vehicle Maneuvers

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Negotiating a Curve	706	18.64	15000	3.93	4.744*	557.171
Movement Essentially Straight	2250	59.41	199479	52.26	1.137*	270.784
E Overtaking/Passing	106	2.80	3707	0.97	2.882*	69.219
E Leaving Main Road	23	0.61	1283	0.34	1.807*	10.270
Other	37	0.98	3386	0.89	1.101	3.404
P Avoid Object in Road	5	0.13	307	0.08	1.641	1.954
P Pass on One Way Street	1	0.03	15	0.00	6.719	0.851
P Pass on Left	4	0.11	332	0.09	1.214	0.706
P Wrong Side of Road	3	0.08	239	0.06	1.265	0.629

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age
C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C407: CU Roadway Curvature and Grade

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Curve Left and Level	316	8.34	9055	2.37	3.518*	226.174
E Curve Left and Down Gra...	244	6.44	6681	1.75	3.682*	177.724
E Curve Right and Level	246	6.49	10178	2.66	2.436*	145.034
E Curve Right and Down Gr...	160	4.22	6410	1.68	2.516*	96.413
E Curve Left and Up Grade	125	3.30	3808	1.00	3.309*	87.224
E Curve Right and Up Grade	123	3.25	4406	1.15	2.814*	79.292
Straight at Hillcrest	43	1.13	3012	0.79	1.439*	13.121
P Curve and Level*	31	0.82	2024	0.53	1.544*	10.922
E Curve Right at Hillcrest	14	0.37	352	0.09	4.009	10.508

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
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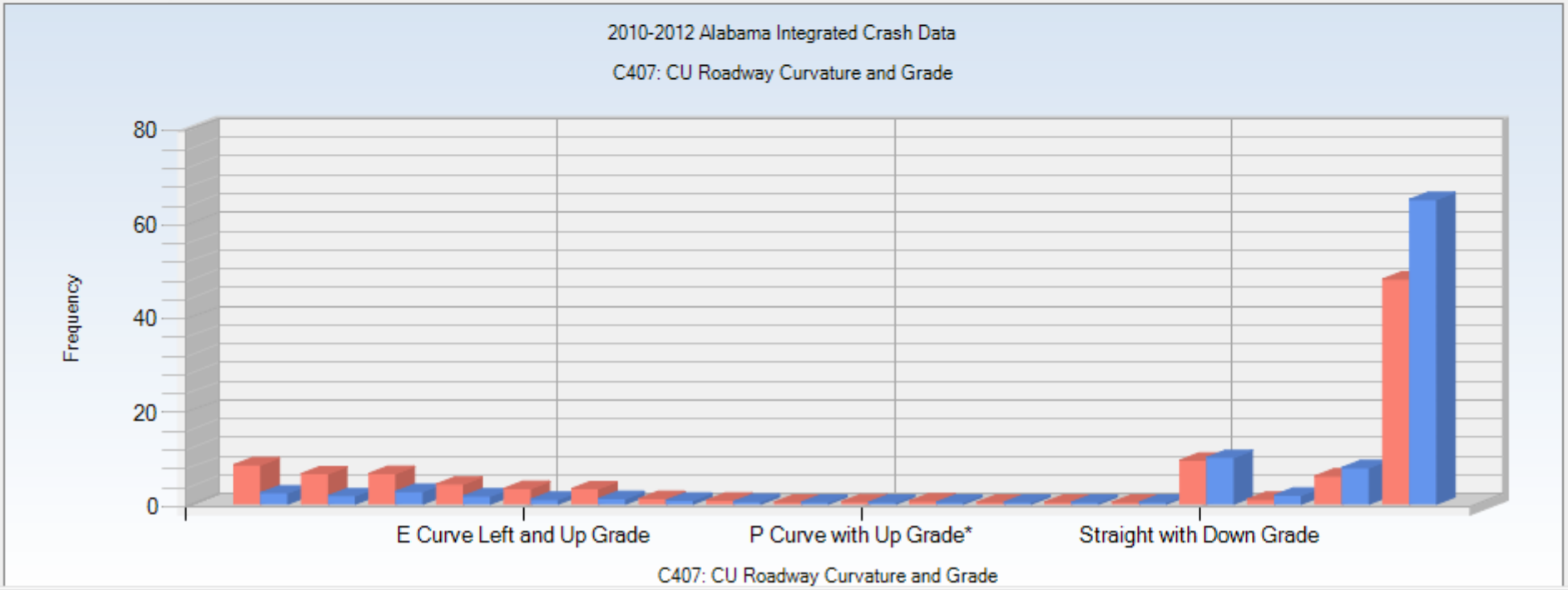
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed

Sort by Sum of Max Gain

Display Filter Name



MC Caused Crash Characteristics

Severity

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

Failure to wear MC helmets is the major cause of MC fatalities in Alabama.

What is the effect of ambulance delay time?

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

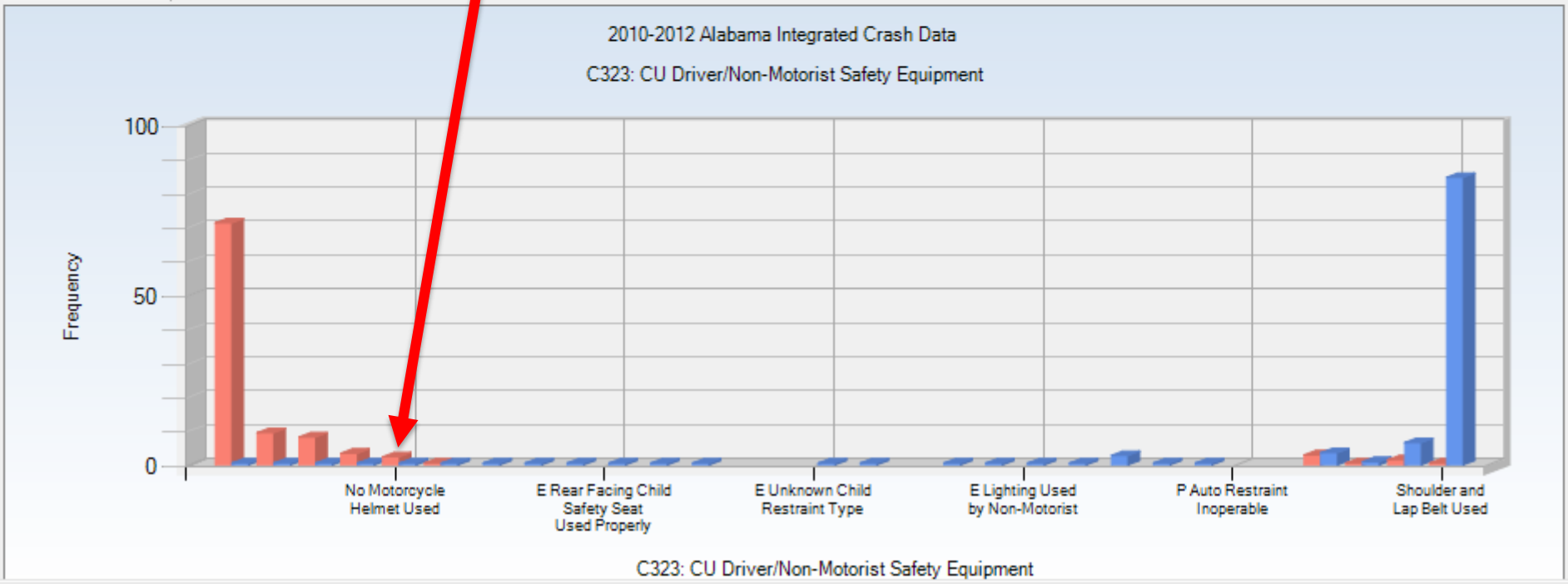
C323: CU Driver/Non-Motorist Safety Equipment

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Dot-Compliant Motorcycle H...	2699	71.29	108	0.03	2496.031*	2697.919
E Helmet Used	358	9.46	25	0.01	1430.256*	357.750
Not Applicable	311	8.21	1838	0.49	16.900*	292.598
E Other Motorcycle Helmet ...	129	3.41	12	0.00	1073.691	128.880
No Motorcycle Helmet Used	90	2.38	132	0.03	68.099*	88.678
Other	12	0.32	815	0.22	1.471	3.840
Lap Belt Only Used	0	0.00	1323	0.35	0.000	0.000
Shoulder Belt Only Used	0	0.00	987	0.26	0.000	0.000
E Forward Facing Child Saf...	0	0.00	10	0.00	0.000	0.000

C101: Causal Unit (CU) Type
C323: CU Driver/Non-Motorist Safety Equipment
C209: CU Make
C324: CU Driver Airbag Status
C321: CU Driver/Non-Motorist Seating Position
C210: CU Body (Passenger Cars Only)
C328: CU Driver/Non-Motorist Injury Type
C327: CU Driver Ejection Status
C331: E CU Driver/Non-Motorist Transport Type
C329: CU Driver/Non-Motorist First Aid By
C059: Number Injured (Includes Fatalities)
C025: Crash Severity

Sort by Sum of Max Gain

Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Involved vs. Injury Crashes (including Fatalities)]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data Filter: Motorcycle Involved 1/ 1/2010 12/31/2012

Order: Natural Order Descending Suppress Zero-Valued Rows Significance: Over Representation Threshold: 2.0

C601: Adjusted EMS Arrival Delay

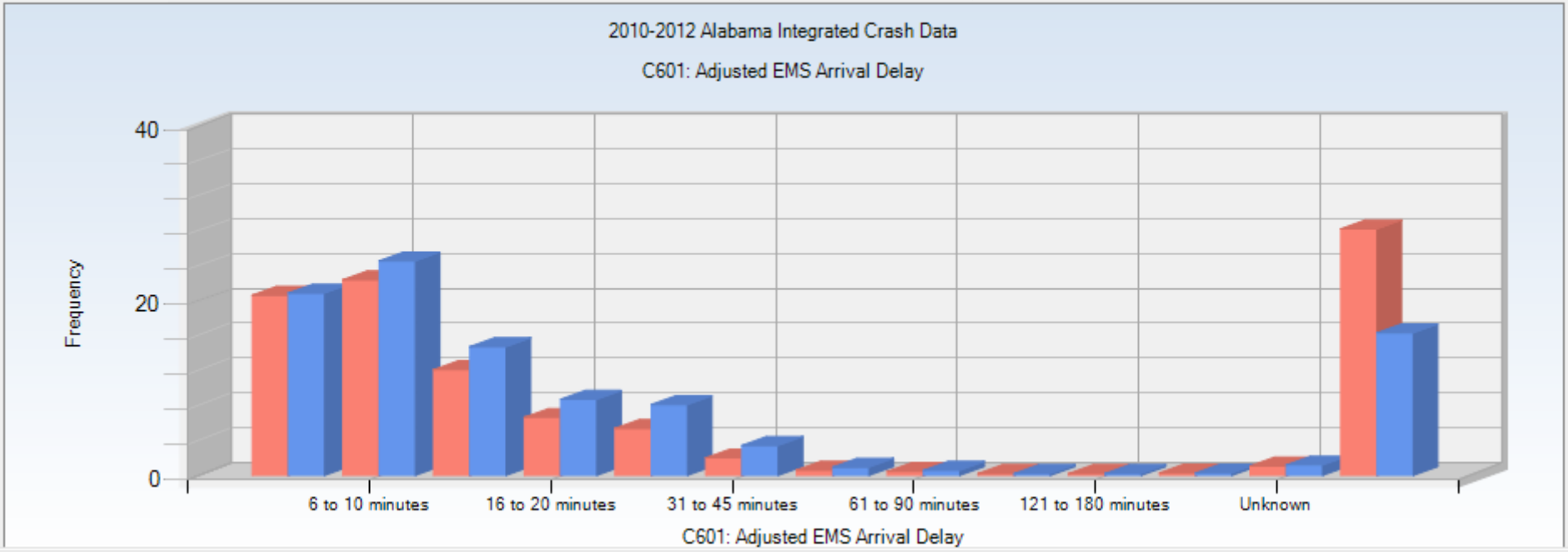
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
0 to 5 minutes	1085	20.64	17273	20.89	0.988	-13.181
6 to 10 minutes	1178	22.41	20323	24.58	0.912*	-114.093
11 to 15 minutes	636	12.10	12194	14.75	0.820*	-139.269
16 to 20 minutes	349	6.64	7200	8.71	0.762*	-108.761
21 to 30 minutes	283	5.38	6706	8.11	0.664*	-143.353
31 to 45 minutes	105	2.00	2834	3.43	0.583*	-75.180
46 to 60 minutes	32	0.61	780	0.94	0.645*	-17.591
61 to 90 minutes	23	0.44	473	0.57	0.765	-7.072

C601: Adjusted EMS Arrival Delay

Sort by Sum of Max Gain

Why would ambulance delay times be longer?

Display Filter Name



MC Caused Crash Locations

Rural/Urban

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

MC driver caused crashes occur in the rural areas at almost twice their expected rate.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

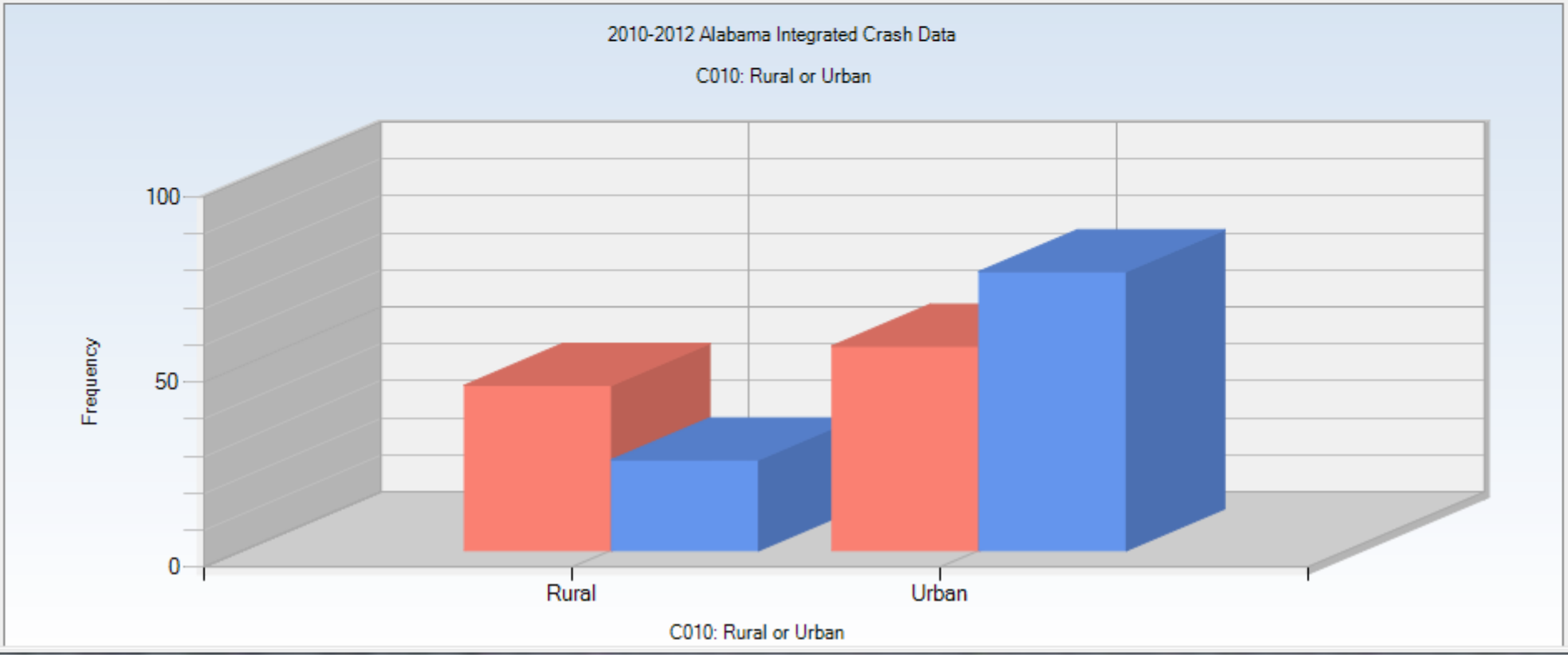
C010: Rural or Urban

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Rural	1694	44.68	94019	24.57	1.818*	762.442
Urban	2097	55.32	288594	75.43	0.733*	-762.442

C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed
C211: E CU Owners State
C413: E CU Turn Lanes
C010: Rural or Urban
C412: CU Trafficway Lanes
C045: HasGPS

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

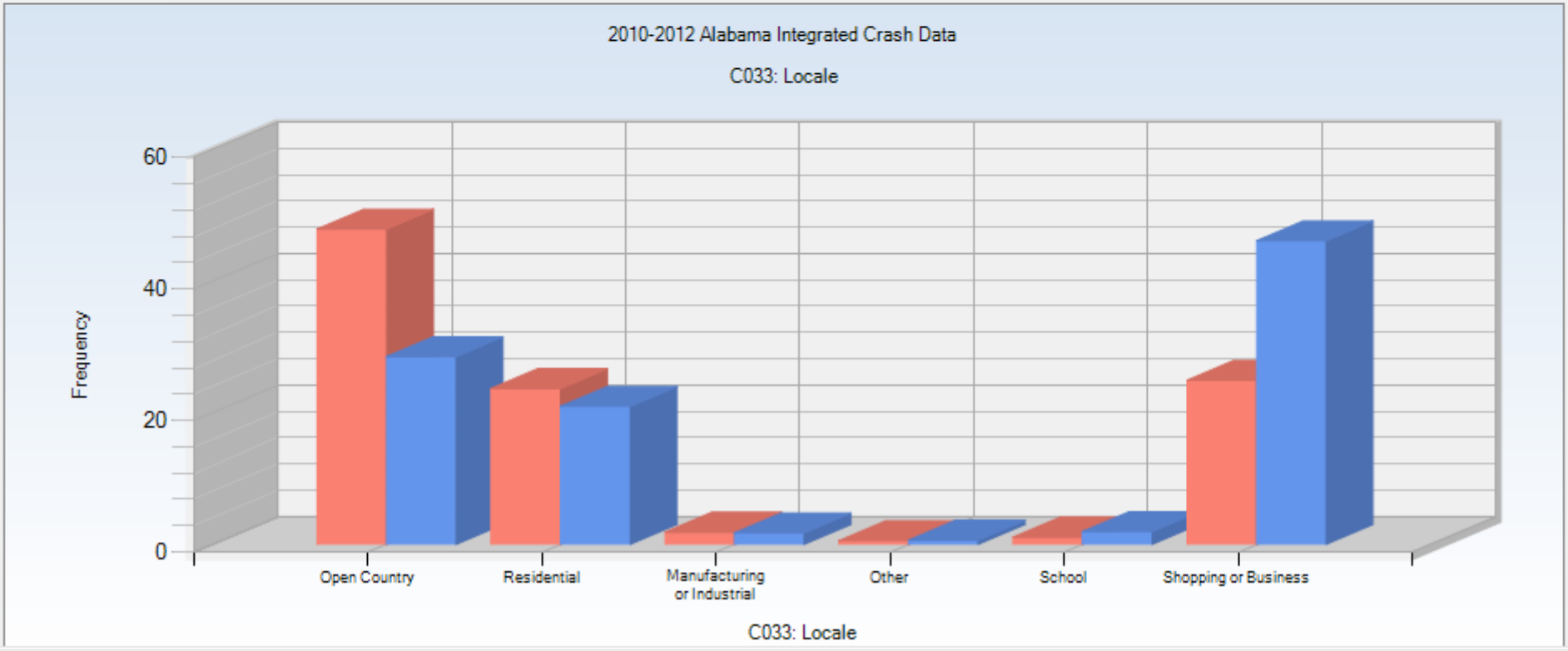
C033: Locale

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Open Country	1811	47.95	108505	28.55	1.679*	732.498
Residential	895	23.70	79709	20.98	1.130*	102.720
Manufacturing or Industrial	69	1.83	6523	1.72	1.064	4.164
Other	20	0.53	2323	0.61	0.866	-3.090
School	40	1.06	7311	1.92	0.550*	-32.669
Shopping or Business	942	24.94	175439	46.17	0.540*	-801.803

C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed
C211: E CU Owners State
C413: E CU Turn Lanes
C010: Rural or Urban
C412: CU Trafficway Lanes
C045: HasGPS

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

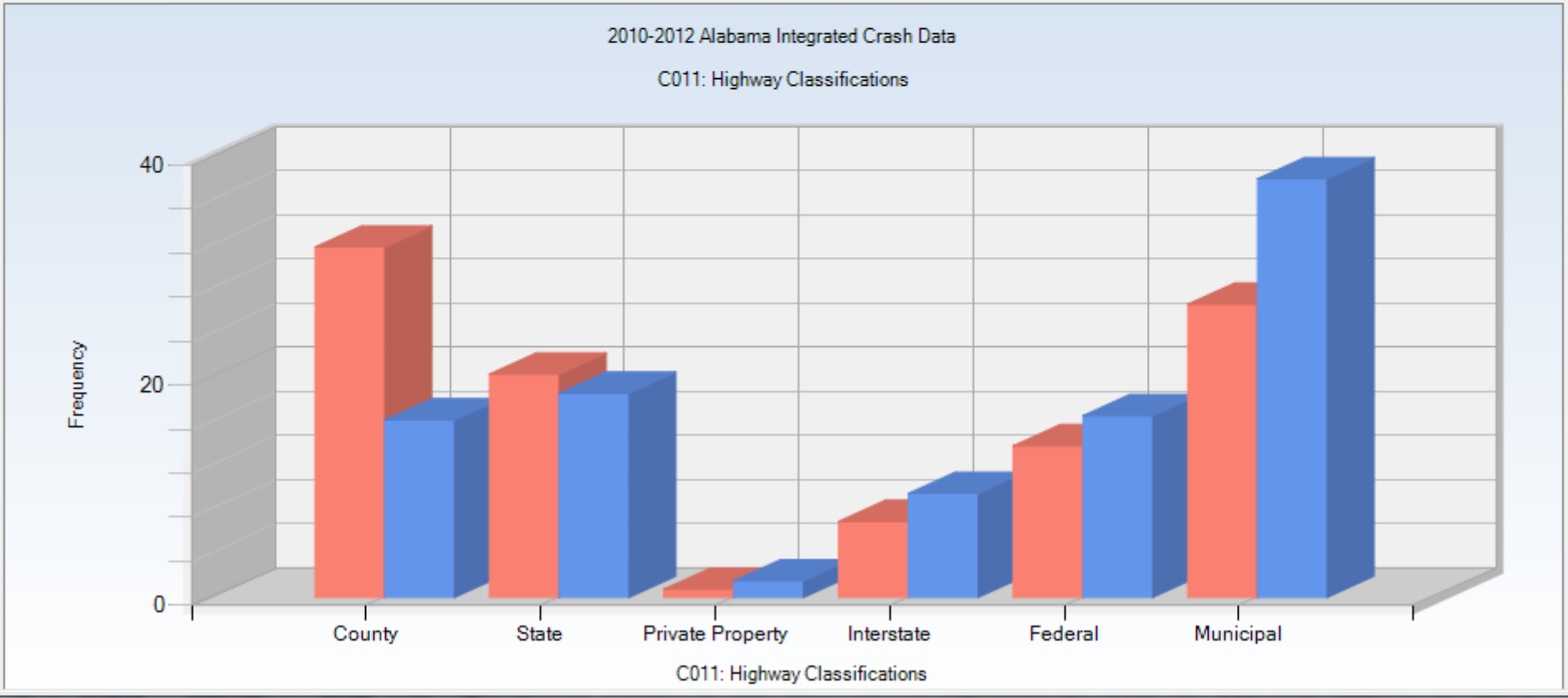
C011: Highway Classifications

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
County	1205	31.79	61590	16.10	1.975*	594.755
State	768	20.26	70851	18.52	1.094*	65.995
Private Property	28	0.74	5717	1.49	0.494*	-28.645
Interstate	261	6.88	36055	9.42	0.731*	-96.240
Federal	521	13.74	63053	16.48	0.834*	-103.741
Municipal	1008	26.59	145298	37.98	0.700*	-431.639

C010: Rural or Urban
C412: CU Trafficway Lanes
C045: HasGPS
C011: Highway Classifications
C226: CU Vehicle Damage
C027: At Intersection
C014: Distance from Node 1
C108: CU Driver Race

Sort by Sum of Max Gain

Display Filter Name



File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

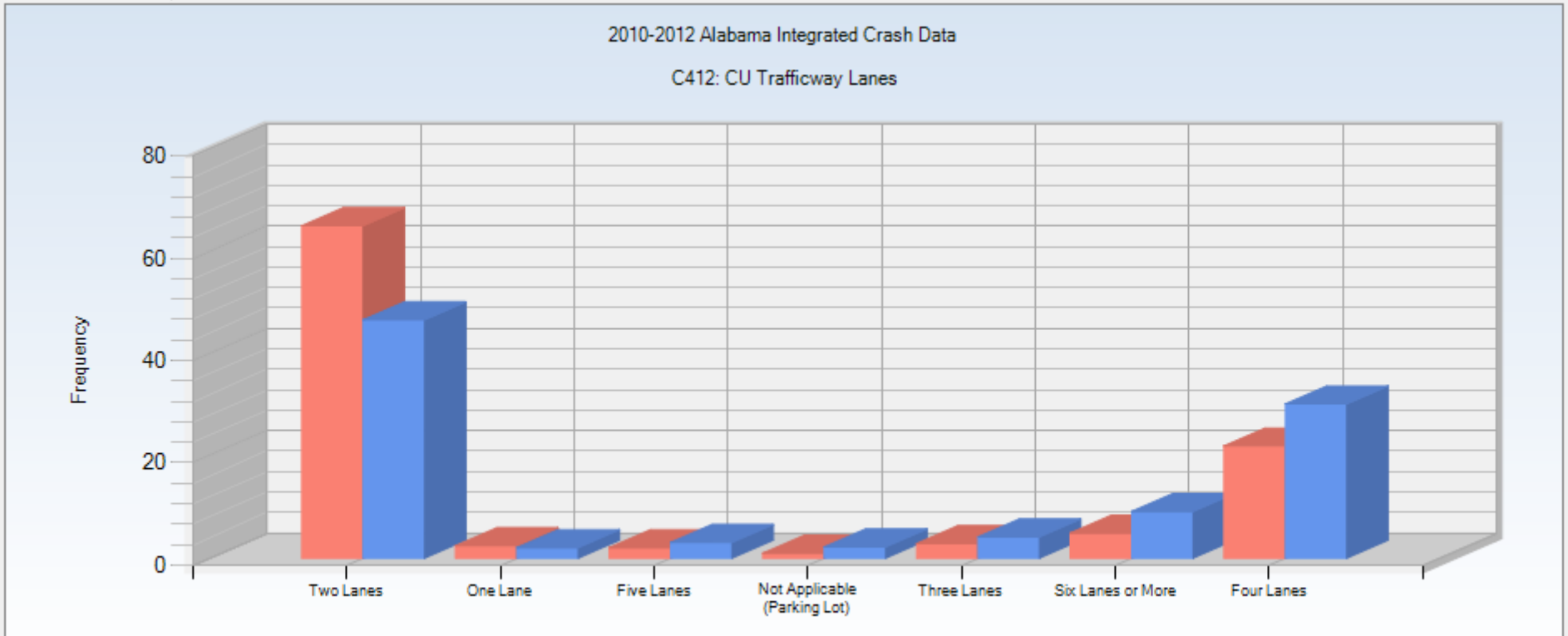
C412: CU Trafficway Lanes

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Two Lanes	2465	65.02	178282	46.61	1.395*	697.953
One Lane	91	2.40	7803	2.04	1.177	13.660
Five Lanes	77	2.03	11643	3.04	0.667*	-38.400
Not Applicable (Parking Lot)	35	0.92	8324	2.18	0.424*	-47.504
Three Lanes	107	2.82	15759	4.12	0.685*	-49.196
Six Lanes or More	185	4.88	34877	9.12	0.535*	-160.684
Four Lanes	831	21.92	115298	30.14	0.727*	-311.779

C010: Rural or Urban
C412: CU Trafficway Lanes
C045: HasGPS
C011: Highway Classifications
C226: CU Vehicle Damage
C027: At Intersection
C014: Distance from Node 1
C108: CU Driver Race
C006: Day of the Week

Sort by Sum of Max Gain

Display Filter Name



MC Caused Crash Locations

Intersections

<u>True or False</u>:

MC caused crashes tend to occur at intersections more than non-MC crashes do.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

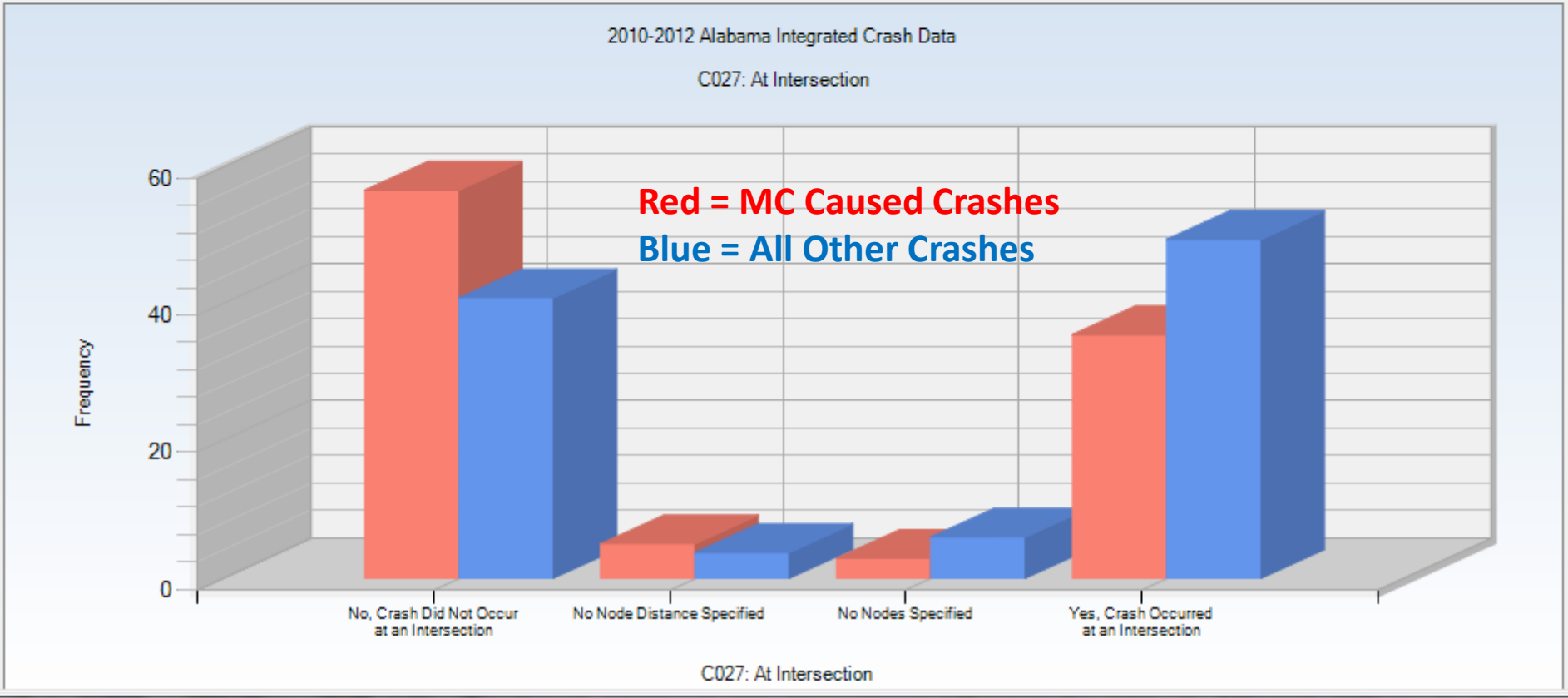
C027: At Intersection

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
No, Crash Did Not Occur at ...	2146	56.61	156438	40.89	1.385*	595.984
No Node Distance Specified	189	4.99	14210	3.71	1.342*	48.205
No Nodes Specified	109	2.88	22855	5.97	0.481*	-117.452
Yes, Crash Occurred at an In...	1347	35.53	189110	49.43	0.719*	-526.737

C010: Rural or Urban
C412: CU Trafficway Lanes
C045: HasGPS
C011: Highway Classifications
C226: CU Vehicle Damage
C027: At Intersection
C014: Distance from Node 1
C108: CU Driver Race

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C409: CU Traffic Control

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
No Passing Zone	859	22.66	32399	8.47	2.675*	537.876
No Controls Present	2066	54.50	176132	46.05	1.183*	320.263
Lane Control Device	178	4.70	10122	2.65	1.774*	77.676
E Warning Sign	5	0.13	218	0.06	2.314	2.839
P Railroad Crossbucks or P...	1	0.03	9	0.00	11.210	0.911
E Railroad Advance Signs	1	0.03	19	0.00	5.310	0.812
Railroad Gates	3	0.08	231	0.06	1.310	0.710
Police Officer	9	0.24	840	0.22	1.081	0.674
E School Zone Sign/Device	3	0.08	254	0.07	1.192	0.482
E Railroad Crossbucks	1	0.03	55	0.01	1.834	0.455
Other	7	0.18	769	0.20	0.918	-0.622
E Crossing Guard	1	0.03	164	0.04	0.615	-0.625

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age
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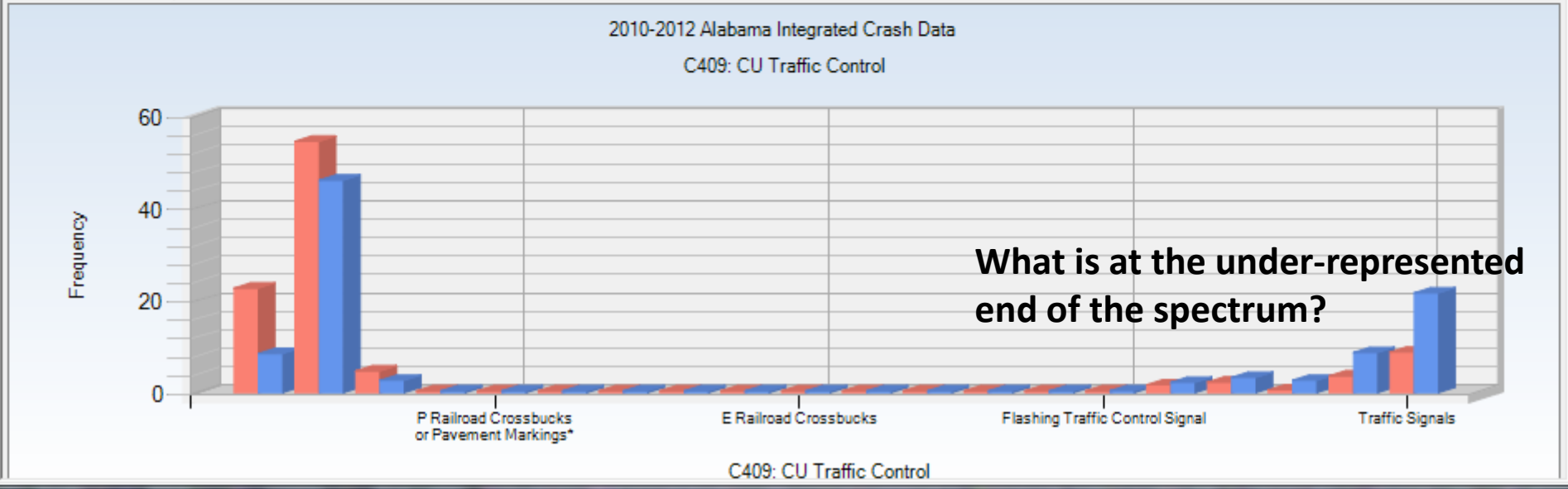
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed
C211: E CU Owners State
C413: E CU Turn Lanes
C010: Rural or Urban

Sort by Sum of Max Gain

Generally the above are controls in Rural Areas

Display Filter Name



What is at the under-represented end of the spectrum?

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C409: CU Traffic Control

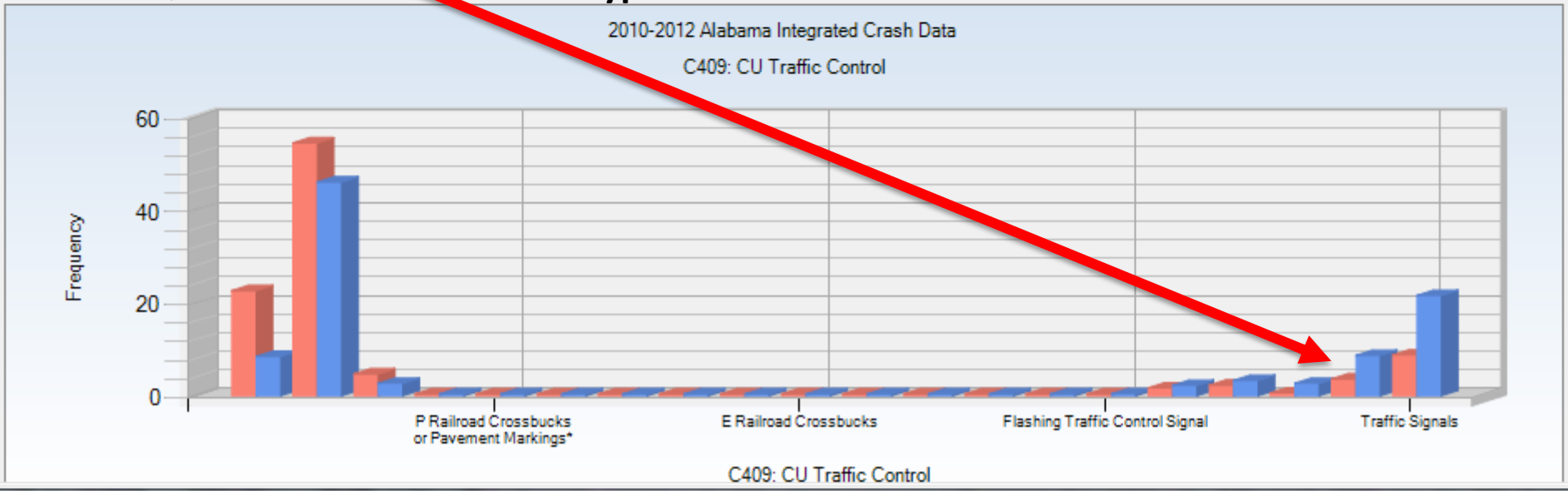
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E School Zone Sign/Device	3	0.08	254	0.07	1.192	0.482
E Railroad Crossbucks	1	0.03	55	0.01	1.834	0.455
Other	7	0.18	769	0.20	0.918	-0.622
E Crossing Guard	1	0.03	164	0.04	0.615	-0.625
Flag Person	1	0.03	331	0.09	0.305	-2.281
E Workzone Signs	9	0.24	1182	0.31	0.768	-2.715
Flashing Traffic Control Signal	5	0.13	1595	0.42	0.316	-10.809
Not Applicable	64	1.69	8533	2.23	0.757	-20.575
Unknown	86	2.27	12622	3.30	0.687*	-39.103
Yield Sign	22	0.58	10271	2.69	0.216*	-79.801
Stop Sign	137	3.61	33199	8.68	0.416*	-192.053
Traffic Signals	333	8.78	82715	21.63	0.406*	-486.832

C224: CU Estimated Speed at Impact
C043: Agency ORI
C233: CU Point of Initial Impact
C409: CU Traffic Control
C208: CU Model Year
C129: CU Vehicle Maneuvers
C107: CU Driver Raw Age
C407: CU Roadway Curvature and Grade
C106: CU Driver Age
C325: CU Driver/Non-Motorist Age
C033: Locale
C227: CU Vehicle Towed
C211: E CU Owners State
C413: E CU Turn Lanes
C010: Rural or Urban

Sort by Sum of Max Gain

Urban type traffic controls

Display Filter Name



MC Crash Locations

Location WRT the Roadway

CAPS
CENTER for ADVANCED PUBLIC SAFETY

True of False:

Many more MC-caused crashes occur off the roadway than would be expected.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

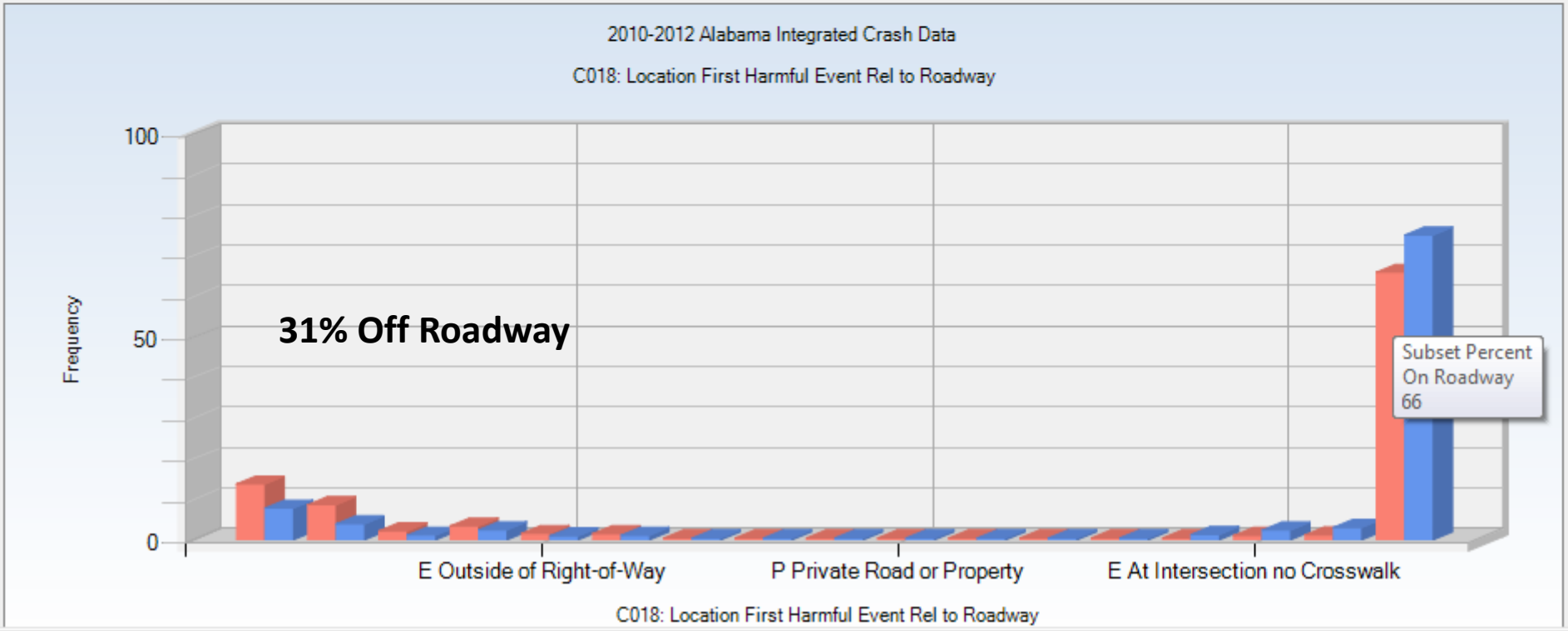
C018: Location First Harmful Event Rel to Roadway

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Roadside	521	13.74	29821	7.79	1.763*	225.528
E Shoulder	327	8.63	14936	3.90	2.210*	179.011
E Off Roadway - Location U...	83	2.19	4313	1.13	1.942*	40.266
Off Roadway	128	3.38	9343	2.44	1.383*	35.428
E Outside of Right-of-Way	58	1.53	3543	0.93	1.652*	22.895
Median	56	1.48	4264	1.11	1.325	13.752
Other	12	0.32	855	0.22	1.417	3.529
Unknown	3	0.08	115	0.03	2.633	1.861

C032: Weather
C018: Location First Harmful Event Rel to Roadw
C203: CU First Harmful Event Location
C410: CU Traffic Control Functioning
C223: CU Speed Limit
C036: Police Arrival Delay
C022: E Type of Roadway Junction/Feature
C028: Mileposted Route
C213: CU Vehicle Usage
C215: E CU Placard Required

Sort by Sum of Max Gain

Display Filter Name



MC Crash Times
Similar to Drug/Alcohol?

CAPS
CENTER for ADVANCED PUBLIC SAFETY

True of False:

MC caused crashes occur at times of the day and days of the week that are quite similar to impaired driving patterns

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

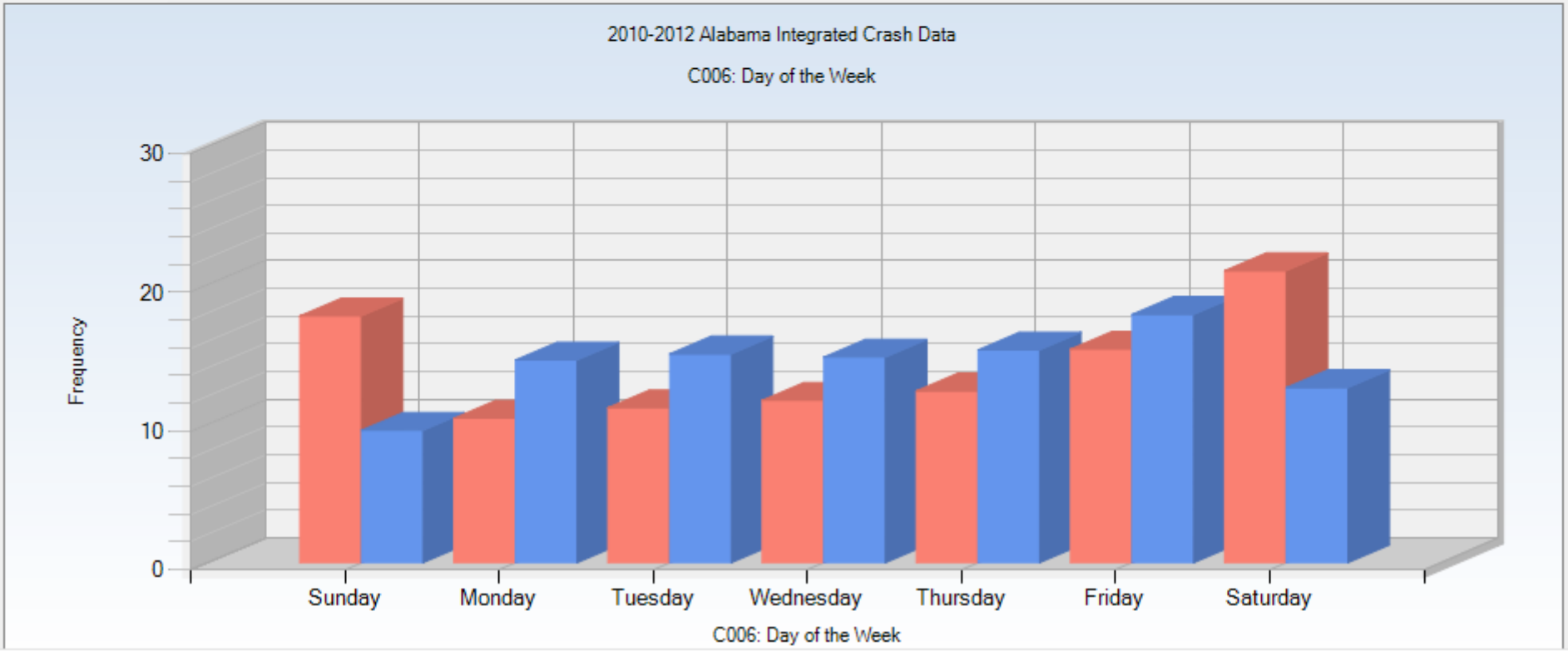
C006: Day of the Week

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Sunday	675	17.81	36538	9.55	1.865*	312.975
Monday	395	10.42	55980	14.63	0.712*	-159.660
Tuesday	424	11.18	57668	15.07	0.742*	-147.385
Wednesday	444	11.71	56759	14.83	0.790*	-118.379
Thursday	470	12.40	58742	15.35	0.808*	-112.027
Friday	584	15.40	68575	17.92	0.860*	-95.454
Saturday	799	21.08	48351	12.64	1.668*	319.929

C014: Distance from Node 1
C108: CU Driver Race
C006: Day of the Week
C007: Week of the Year
C004: Month
C001: County
C403: CU Roadway Condition
C032: Weather
C018: Location First Harmful Event Rel to Roadv
C203: CU First Harmful Event Location

Sort by Sum of Max Gain

Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - DUI (Alcohol or Drugs) vs. Not DUI (Alcohol or Drugs)]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: DUI (Alcohol or Drugs) | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

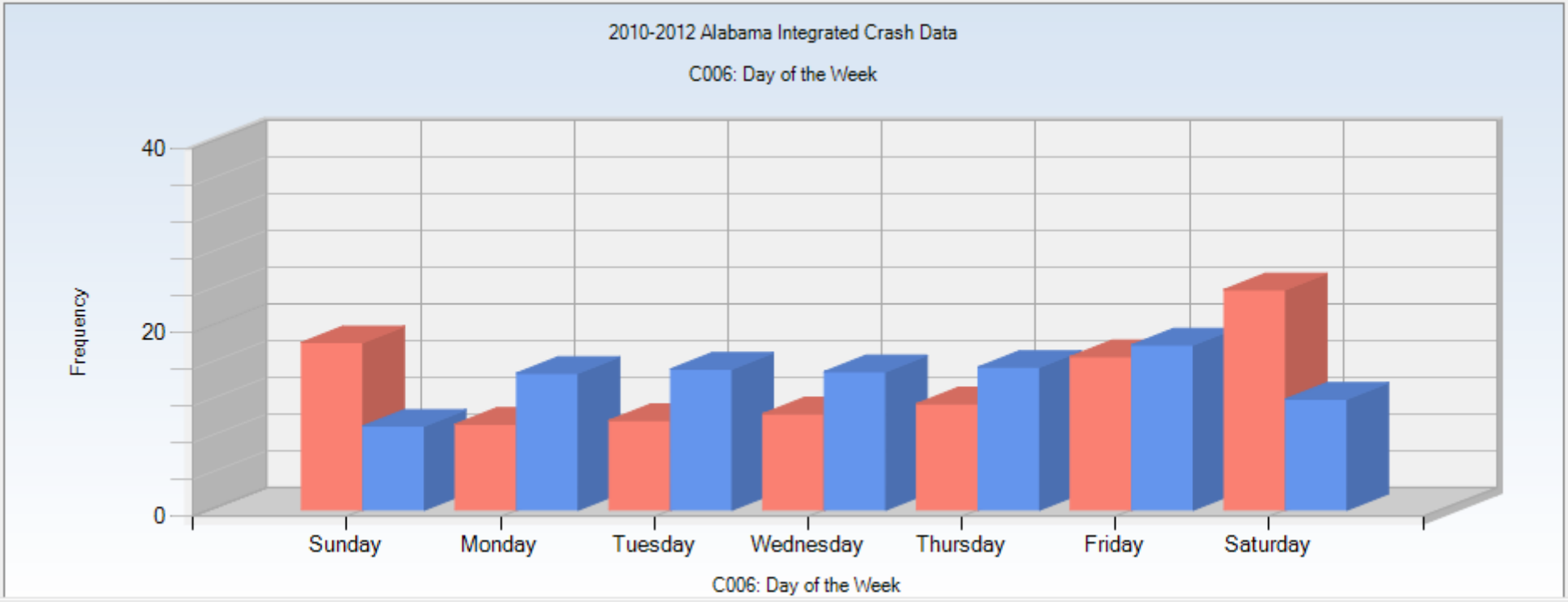
C006: Day of the Week

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Sunday	3803	18.22	33410	9.14	1.994*	1895.568
Monday	1949	9.34	54426	14.89	0.627*	-1158.271
Tuesday	2033	9.74	56059	15.34	0.635*	-1167.501
Wednesday	2184	10.47	55019	15.05	0.695*	-957.126
Thursday	2412	11.56	56800	15.54	0.744*	-830.806
Friday	3483	16.69	65676	17.97	0.929*	-266.552
Saturday	5005	23.98	44145	12.08	1.986*	2484.689

C006: Day of the Week
C008: Time of Day

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | ☑ Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

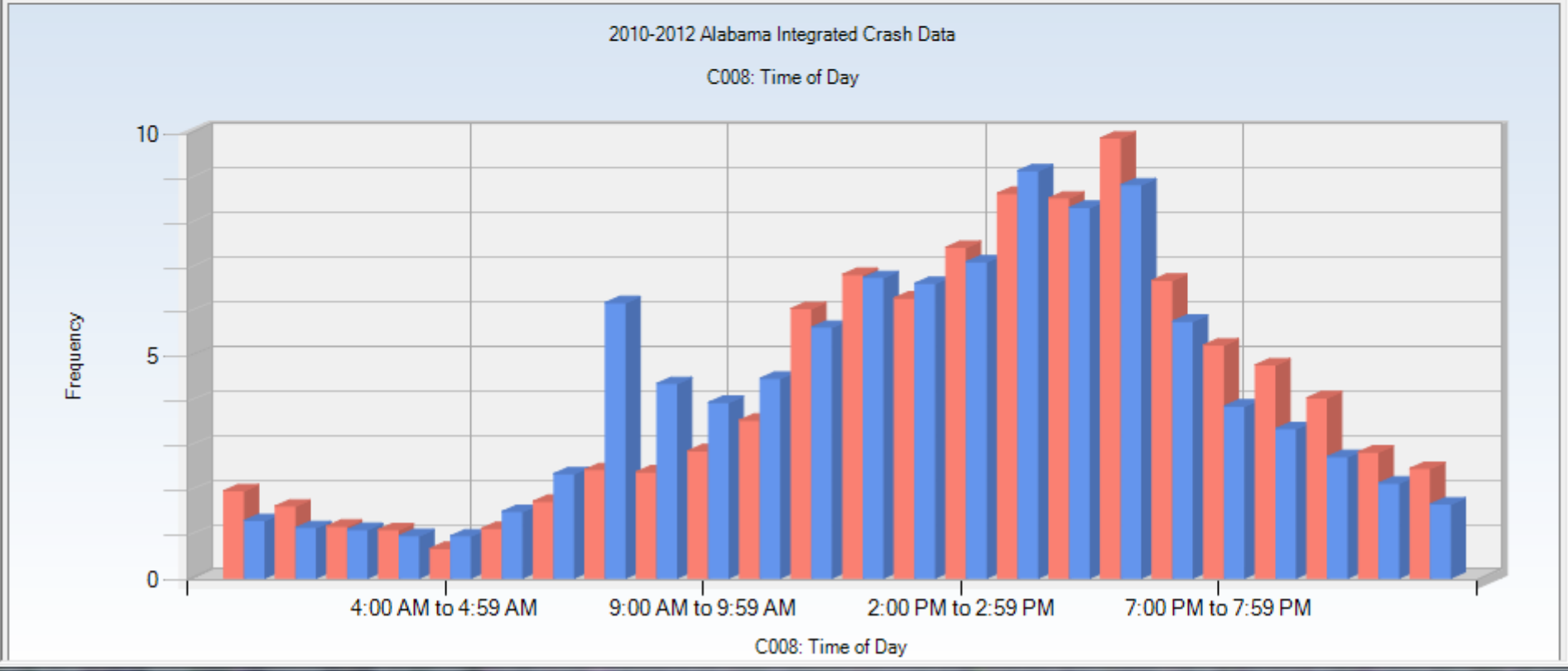
C008: Time of Day

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
12:00 Midnight to 12:59 AM	74	1.95	4925	1.29	1.516*	25.202
1:00 AM to 1:59 AM	61	1.61	4306	1.13	1.430*	18.335
2:00 AM to 2:59 AM	44	1.16	4149	1.08	1.070	2.891
3:00 AM to 3:59 AM	41	1.08	3615	0.94	1.145	5.182
4:00 AM to 4:59 AM	25	0.66	3595	0.94	0.702	-10.620
5:00 AM to 5:59 AM	42	1.11	5692	1.49	0.745	-14.397
6:00 AM to 6:59 AM	65	1.71	8938	2.34	0.734*	-23.559

C461: E CU CMV Sequence of Events #1
C464: E CU CMV Sequence of Events #4
C462: E CU CMV Sequence of Events #2
C463: E CU CMV Sequence of Events #3
C451: E CU CMV Weight
C453: E CU CMV Hazard Materials Released
C454: E CU CMV Bus Usage
C008: Time of Day
C125: E CU Driver Drug Test Type Given

☑ Sort by Sum of Max Gain

☐ Display Filter Name



CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - DUI (Alcohol or Drugs) vs. Not DUI (Alcohol or Drugs)]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: DUI (Alcohol or Drugs) | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C008: Time of Day

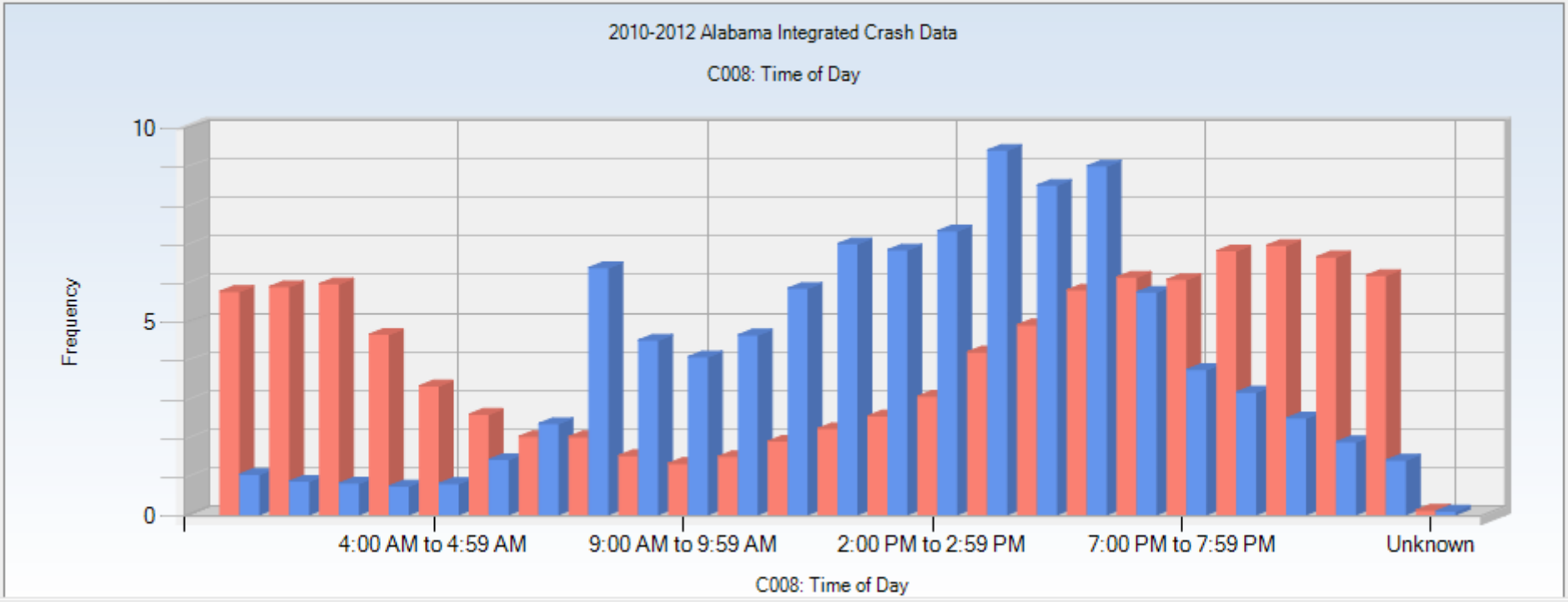
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
12:00 Midnight to 12:59 AM	1202	5.76	3797	1.04	5.545*	985.223
1:00 AM to 1:59 AM	1228	5.88	3139	0.86	6.852*	1048.789
2:00 AM to 2:59 AM	1243	5.96	2950	0.81	7.380*	1074.580
3:00 AM to 3:59 AM	971	4.65	2685	0.73	6.334*	817.709
4:00 AM to 4:59 AM	693	3.32	2927	0.80	4.147*	525.893
5:00 AM to 5:59 AM	540	2.59	5194	1.42	1.821*	243.466
6:00 AM to 6:59 AM	420	2.01	8583	2.35	0.857*	-70.018

C006: Day of the Week

C008: Time of Day

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

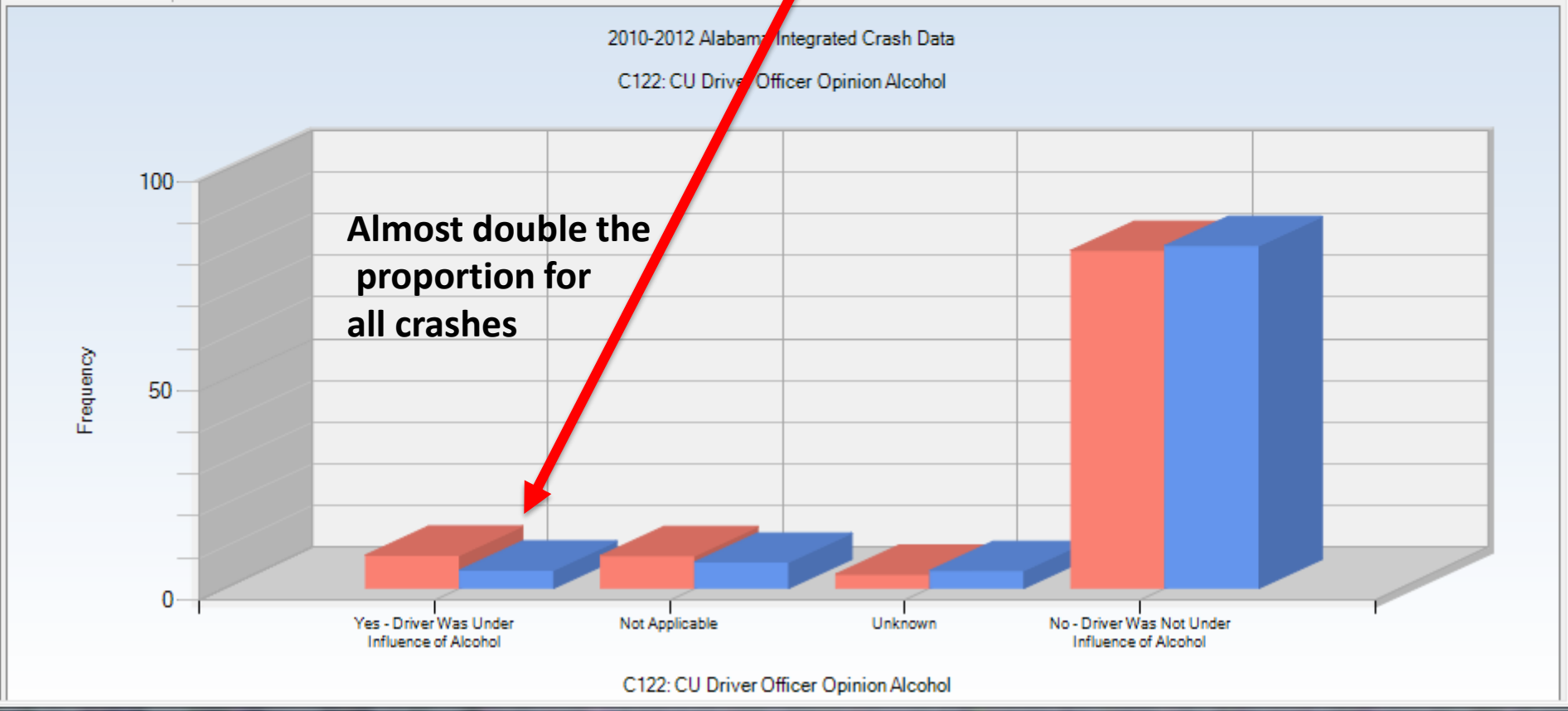
C122: CU Driver Officer Opinion Alcohol

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Yes - Driver Was Under Influ...	300	7.92	16567	4.33	1.829*	135.932
Not Applicable	296	7.81	23977	6.27	1.247*	58.548
Unknown	127	3.35	16189	4.23	0.792*	-33.325
No - Driver Was Not Under I...	3066	80.92	314002	82.07	0.986	-43.662

C016: Primary Contributing Unit Number
C021: Distance to Fixed Object
C012: Controlled Access
C122: CU Driver Officer Opinion Alcohol
C080: CMV Involved
C005: Day of Month
C034: E Police Present at Time of Crash
C009: Data Source

Sort by Sum of Max Gain

Display Filter Name



Almost double the proportion for all crashes

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

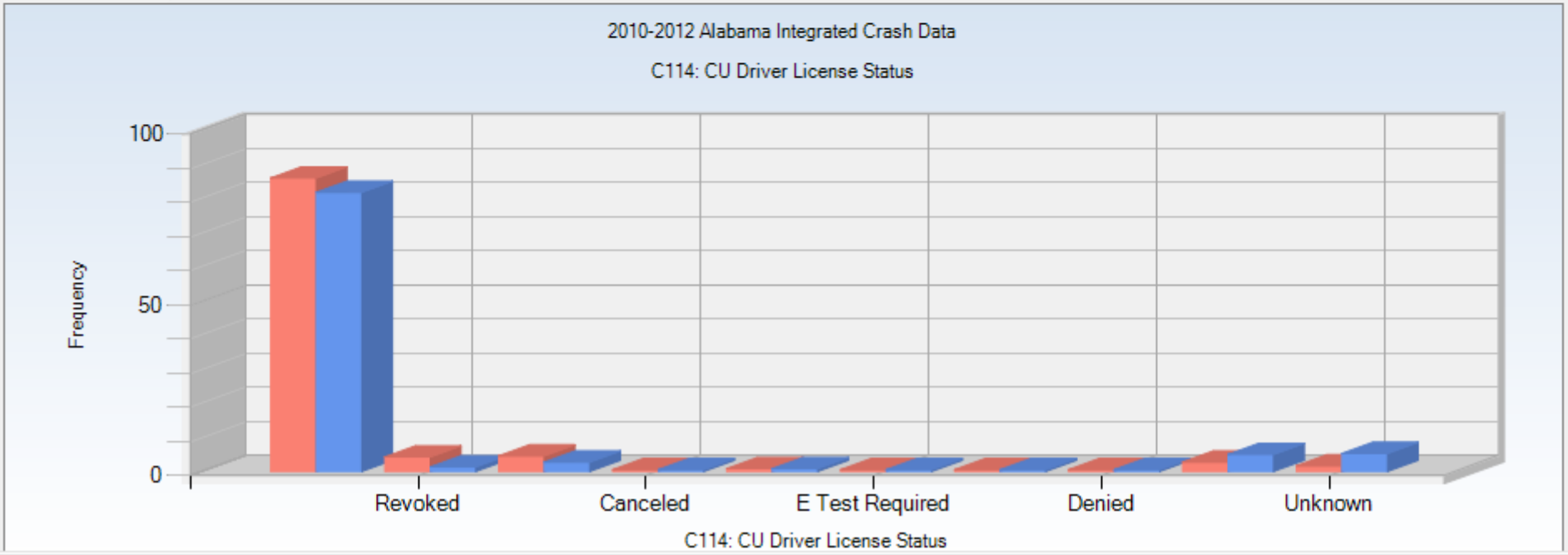
C114: CU Driver License Status

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Current/Valid	3260	85.99	312975	81.80	1.051*	158.873
Revoked	160	4.22	4992	1.30	3.235*	110.537
Suspended	171	4.51	10347	2.70	1.668*	68.476
Canceled	2	0.05	98	0.03	2.060	1.029
Expired	30	0.79	3013	0.79	1.005	0.146
E Test Required	1	0.03	91	0.02	1.109	0.098
Left State	1	0.03	110	0.03	0.917	-0.090
Denied	1	0.03	141	0.04	0.716	-0.397
Not Applicable/Unlicensed	103	2.72	18933	4.95	0.549*	-84.599
Unknown	62	1.64	20118	5.26	0.311*	-137.340

C125: E CU Driver Drug Test Type Given
C218: E CU Hazardous Released
C206: E CU Sequence of Events #3
C127: E CU Driver Drug Test Results
C114: CU Driver License Status
C402: E CU Road Surface Type
C042: Highway Patrol Posts
C111: CU Driver License State
C219: CU Attachment
C112: CU Driver First License Class
C418: E CU Law Enforcement Present in Workz
C035: Police Notification Delay
C105: CU Left Scene

Sort by Sum of Max Gain

Display Filter Name



MC Causal Crash Special Issues

Weather – Temperature

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

MC caused crashes greatly increase when there is pleasant weather.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | ☑ Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

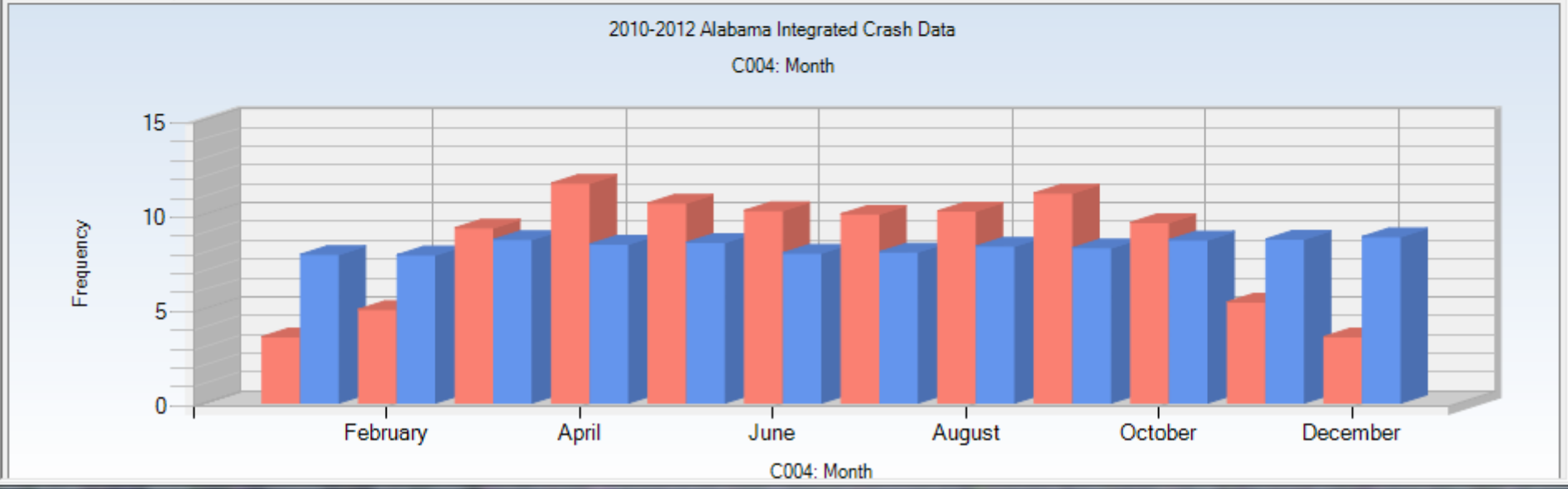
C004: Month

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
January	133	3.51	30128	7.87	0.446*	-165.514
February	188	4.96	30035	7.85	0.632*	-109.592
March	352	9.29	33160	8.67	1.071	23.445
April	442	11.66	32226	8.42	1.384*	122.699
May	402	10.60	32585	8.52	1.245*	79.142
June	387	10.21	30431	7.95	1.284*	85.484
July	380	10.02	30656	8.01	1.251*	76.255
August	386	10.18	31819	8.32	1.224*	70.731
September	422	11.13	31465	8.22	1.354*	110.239
October	363	9.58	33100	8.65	1.107	35.039
November	203	5.35	33250	8.69	0.616*	-126.447
December	133	3.51	33758	8.82	0.398*	-201.480

C014: Distance from Node 1
C108: CU Driver Race
C006: Day of the Week
C007: Week of the Year
C004: Month
C001: County
C403: CU Roadway Condition
C032: Weather
C018: Location First Harmful Event Rel to Roadv
C203: CU First Harmful Event Location
C410: CU Traffic Control Functioning
C223: CU Speed Limit
C036: Police Arrival Delay
C022: E Type of Roadway Junction/Feature
C028: Mileposted Route

☑ Sort by Sum of Max Gain

☐ Display Filter Name



MC Causal Crash Special Issues

Stuff on the Road

CAPS
CENTER for ADVANCED PUBLIC SAFETY

<u>True or False</u>:

MC crashes in general are highly sensitive to things on the roadway.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

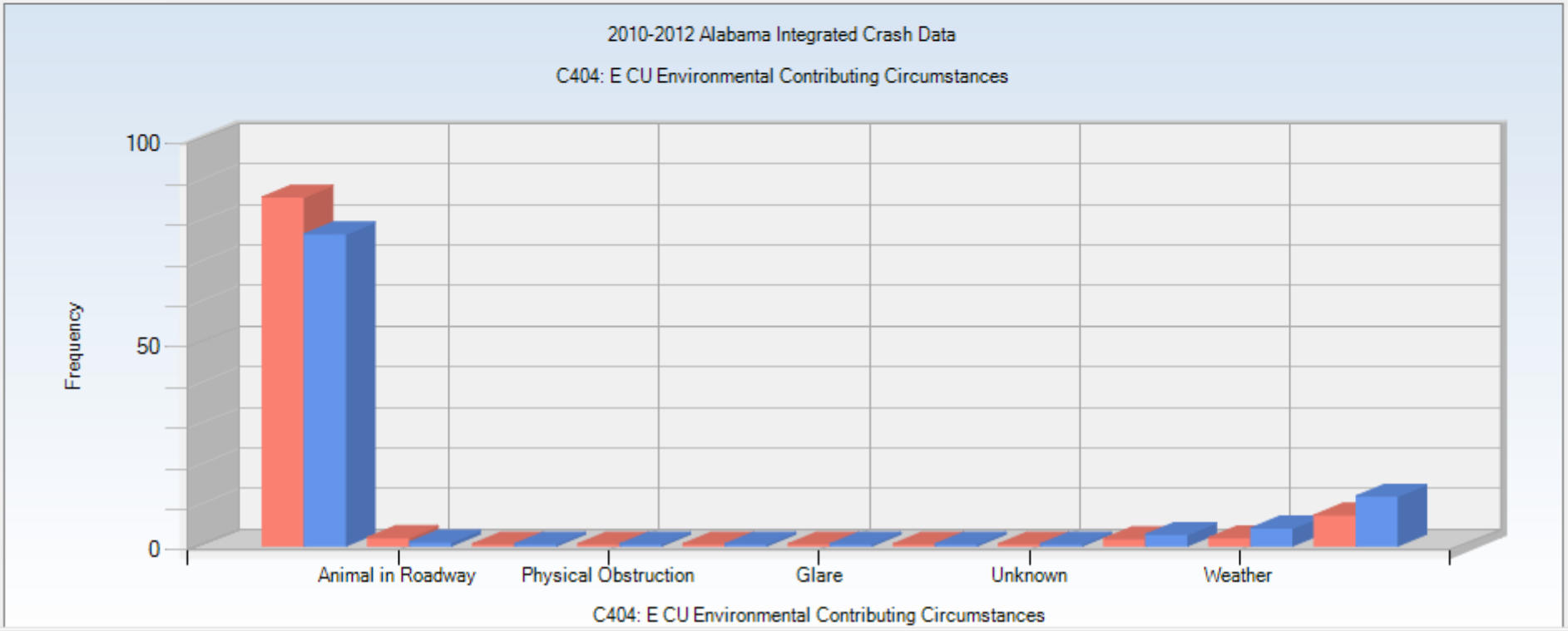
C404: E CU Environmental Contributing Circumstances

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
None Apparent	3256	85.89	293834	76.80	1.118*	344.639
Animal in Roadway	77	2.03	3478	0.91	2.234*	42.539
Other	15	0.40	325	0.08	4.658	11.780
Physical Obstruction	4	0.11	253	0.07	1.596	1.493
Non-Highway Work	2	0.05	53	0.01	3.809	1.475
Glare	8	0.21	973	0.25	0.830	-1.641
Previous Crash	1	0.03	313	0.08	0.322	-2.101
Unknown	2	0.05	619	0.16	0.326	-4.133

C215: E CU Placard Required
C411: CU Opposing Lane Separation
C212: CU License Tag State
C404: E CU Environmental Contributing Circum
C049: ALDOT Division
C120: E CU Driver Employment Status
C456: E CU CMV Cargo Type
C465: E CU CMV Motor Carrier Type
C455: E CU CMV Vehicle Configuration
C457: E CU CMV Cargo Body Type

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

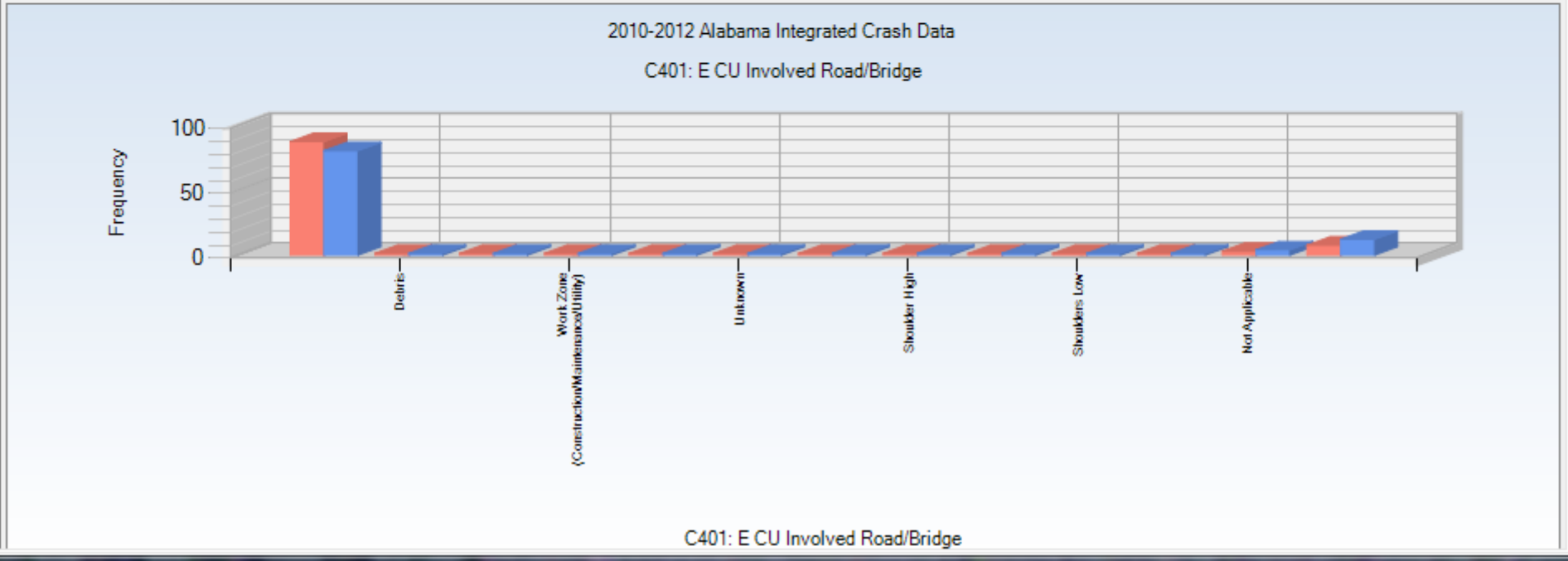
C401: E CU Involved Road/Bridge

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
None Apparent	3326	87.73	308812	80.71	1.087*	266.234
Debris	18	0.47	124	0.03	14.651	16.771
Ruts/Holes/Bumps	15	0.40	133	0.03	11.383	13.682
Work Zone (Construction/M...	11	0.29	673	0.18	1.650	4.332
Non-Highway Work	2	0.05	60	0.02	3.364	1.406
Unknown	2	0.05	82	0.02	2.462	1.188
Road Surface Condition (W...	17	0.45	1603	0.42	1.070	1.117
Shoulder High	1	0.03	21	0.01	4.806	0.792
Worn/Travel-Polished Surfa...	1	0.03	28	0.01	3.605	0.723
Shoulders Low	1	0.03	55	0.01	1.835	0.455

C105: CU Left Scene
C401: E CU Involved Road/Bridge
C207: E CU Sequence of Events #4
C050: ADECA CTSP Region
C216: E CU Placard Status
C110: CU Driver Residence Distance
C416: E CU Workzone Type
C220: CU Oversized Load Requiring Permit
C417: E CU Workers Present
C217: CU Hazardous Cargo
C214: E CU Emergency Status
C013: E Highway Side
C116: CU DL Restriction Violations #1

Sort by Sum of Max Gain

Display Filter Name



File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

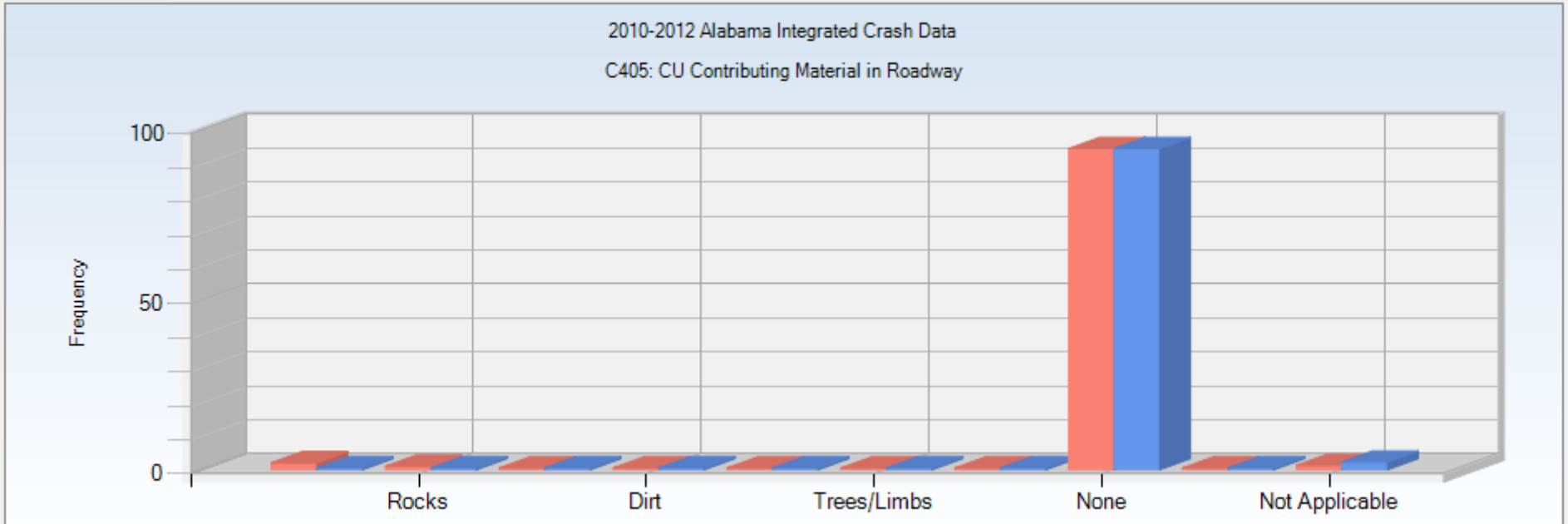
C405: CU Contributing Material in Roadway

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Gravel	76	2.02	311	0.08	24.752*	72.930
Rocks	37	0.99	204	0.05	18.371*	34.986
Oil/Petroleum	17	0.45	107	0.03	16.093	15.944
Dirt	11	0.29	106	0.03	10.511	9.953
E Tire Debris	7	0.19	416	0.11	1.704	2.893
Trees/Limbs	10	0.27	737	0.19	1.374	2.724
E Leaves	1	0.03	44	0.01	2.302	0.566
None	3547	94.44	359237	94.43	1.000	0.360
P Other	2	0.05	299	0.08	0.678	-0.952
Not Applicable	48	1.28	8484	2.23	0.573*	-35.760

C322: CU Driver/Non-Motorist Victim/Occ Type
C123: CU Driver Officer Opinion Drugs
C405: CU Contributing Material in Roadway
C117: CU DL Restriction Violations #2
C414: CU One-Way Street
C126: CU Driver Alcohol Test Results
C102: CU Non-Motorist Indicator
C310: CU Non-Motorist Officer Opinion Drugs
C309: CU Non-Motorist Officer Opinion Alcohol
C306: CU Non-Motorist Location at Time of Cras
C301: CU Non-Motorist Prior Action
C308: CU Non-Motorist Condition
C311: CU Non-Motorist Most Harmful Event

Sort by Sum of Max Gain

Display Filter Name



MAJOR SUBJECT CHANGE
MC VICTIM CRASHES

We will call a crash in which the MC driver is <u>not a fault</u> an *MC victim crash* (i.e., the motorcycle driver was a victim since s/he was not at fault).

Victim vehicles and driver characteristics in general tend to be much more random … essentially reflecting the demographics.

MC Victim Crash Proportion

Caused vs. Victim

What proportion of MC involved crashes are MC victim crashes (i.e., MC was not at fault)?

1/3

1/2

2/3

CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Caused vs. Motorcycle Involved And Not Motorcycle Caused]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C003: Year

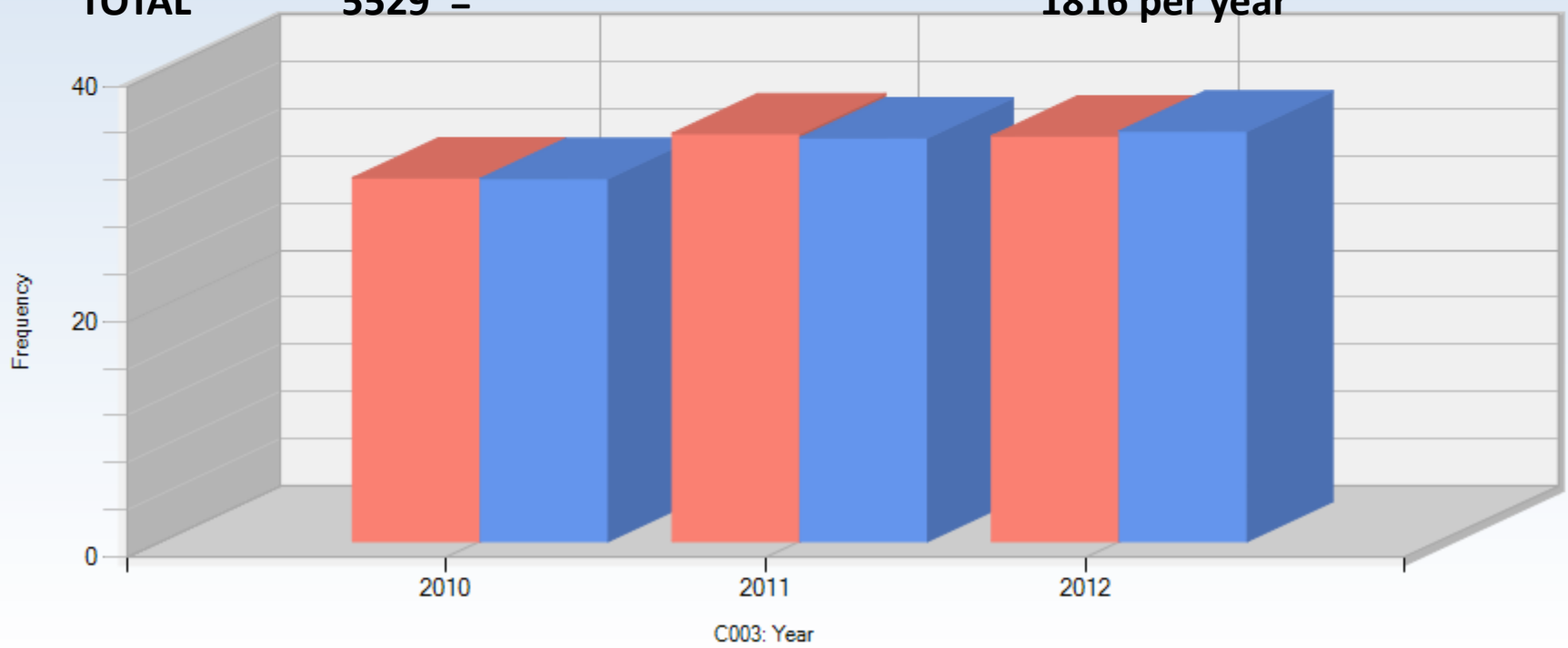
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
2010	1171	30.89	536	30.84	1.002	1.854
2011	1314	34.66	596	34.29	1.011	13.979
2012	1306	34.45	606	34.87	0.988	-15.833

C001: County
C002: City
C003: Year
C004: Month
C005: Day of Month

Sort by Sum of Max Gain

Display Filter Name

CAUSED 3791 (69%) 1264 per year
VICTIM 1738 (31%) 579 per year
TOTAL 5529 = 1816 per year



MC Caused MC Victim Crashes

Caused and Victim

What proportion of MC victim crashes were caused by another MC (i.e., uaually a two-motorcycle crash)?

2%

5%

8%

CARE 10.0.0.19 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Caused vs. Motorcycle Involved And Not Motorcycle Caused]

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C501: Vehicle 2 (V2) Type

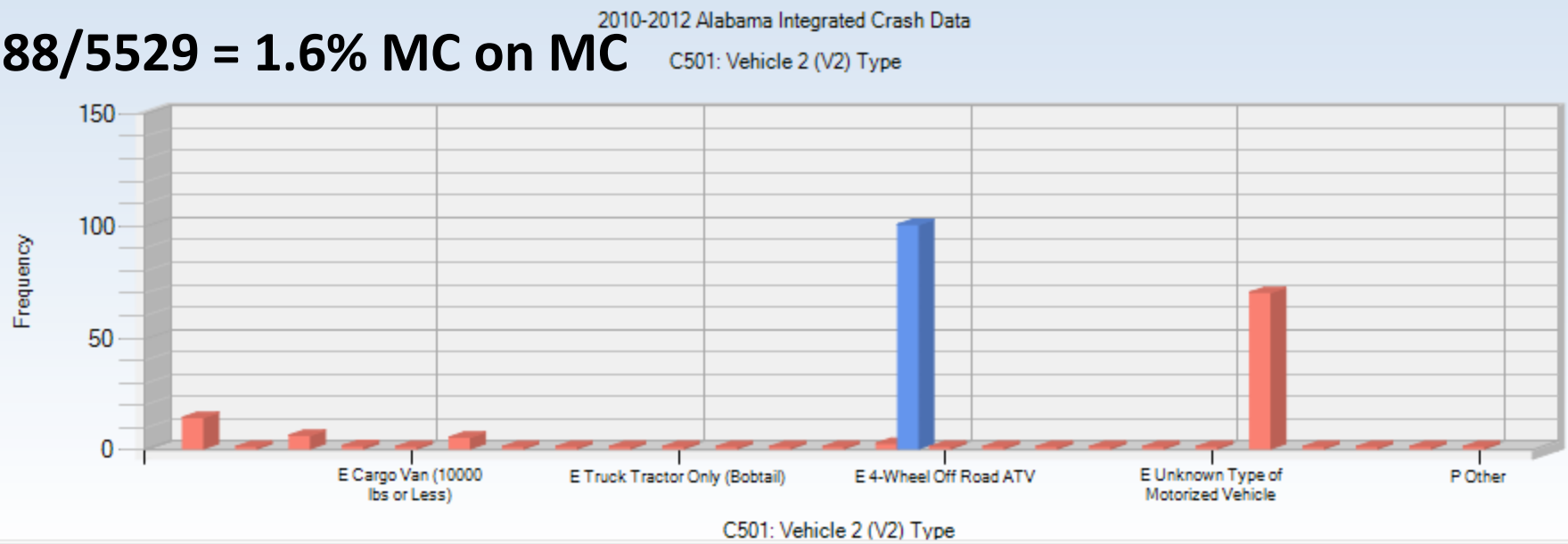
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Tractor/Semi-Trailer	13	0.34	0	0.00	0.000	13.000
E Other Light Truck (10000 l...	5	0.13	0	0.00	0.000	5.000
E Other Heavy Truck (Cann...	1	0.03	0	0.00	0.000	1.000
Motorcycle	88	2.32	1738	100.00	0.023*	-3703.000
E 4-Wheel Off Road ATV	2	0.05	0	0.00	0.000	2.000
E School Bus (Seats More t...	3	0.08	0	0.00	0.000	3.000
Farm Equipment	5	0.13	0	0.00	0.000	5.000
Pedestrian	1	0.03	0	0.00	0.000	1.000
Train	1	0.03	0	0.00	0.000	1.000

C101: Causal Unit (CU) Type
C501: Vehicle 2 (V2) Type
C323: CU Driver/Non-Motorist Safety Equipment
C209: CU Make
C324: CU Driver Airbag Status
C321: CU Driver/Non-Motorist Seating Position
C210: CU Body (Passenger Cars Only)
C529: V2 Vehicle Maneuvers
C558: V2 Attachment
C573: V2 Point of Initial Impact
C511: V2 Driver License State

Sort by Sum of Max Gain

Display Filter Name

88/5529 = 1.6% MC on MC



MC VICTIM CRASHES

CAPS
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The following comparisons are between MC victim crashes and all other crashes.

- Red = MC involved but not MC caused, what we are calling: *MC victim*
- Blue = Not at all MC involved

MC Victim Crash Causal Drivers

Age of Causal Drivers

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True of False:

MC victim crash causal drivers tend to be older than MC causal drivers.

CARE 10.0.0.23 - [IMPACT Results - 2010-2012 Alabama Integrated Crash Data - Motorcycle Inv And Not MC Caused And N-Age Junk vs. All Without Age ...

File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Inv And Not MC Caused And N-Age Junk | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

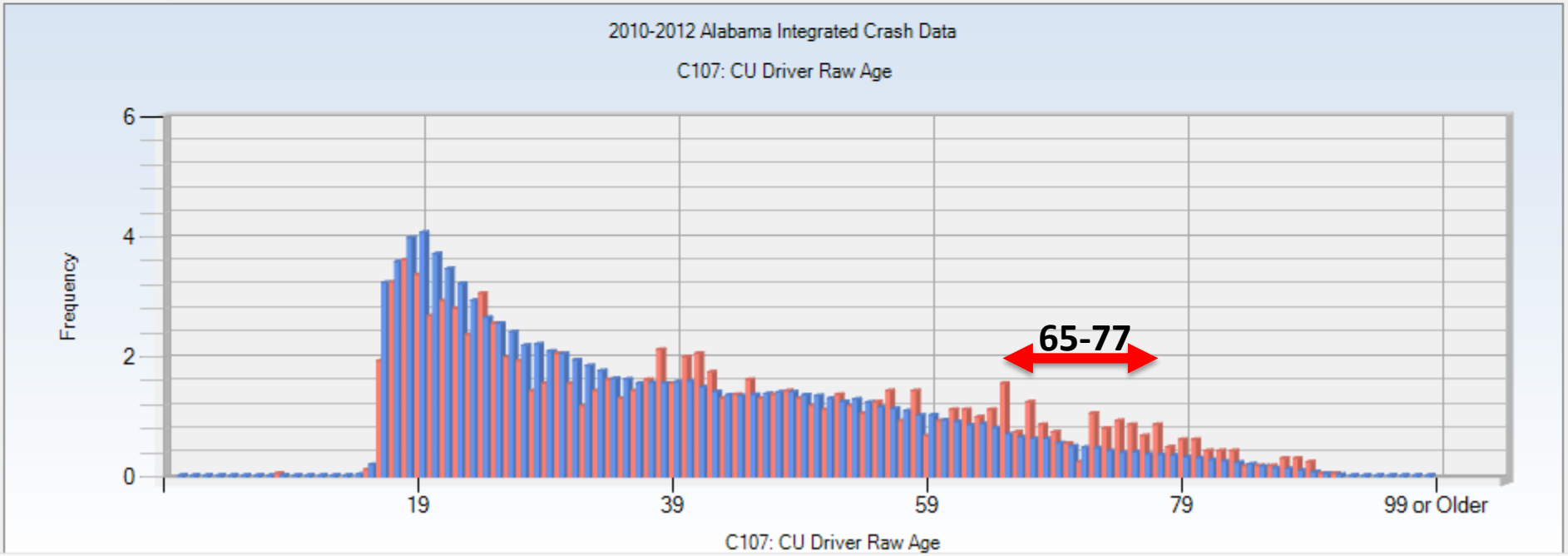
C107: CU Driver Raw Age

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
65	25	1.56	2508	0.72	2.181*	13.539
66	12	0.75	2322	0.66	1.131	1.389
67	20	1.25	2228	0.64	1.964*	9.819
68	14	0.87	2224	0.63	1.378	3.837
69	12	0.75	1989	0.57	1.320	2.911
70	9	0.56	1808	0.52	1.089	0.738
71	4	0.25	1735	0.49	0.505	-3.928
72	17	1.06	1690	0.48	2.201	9.277

C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name



File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

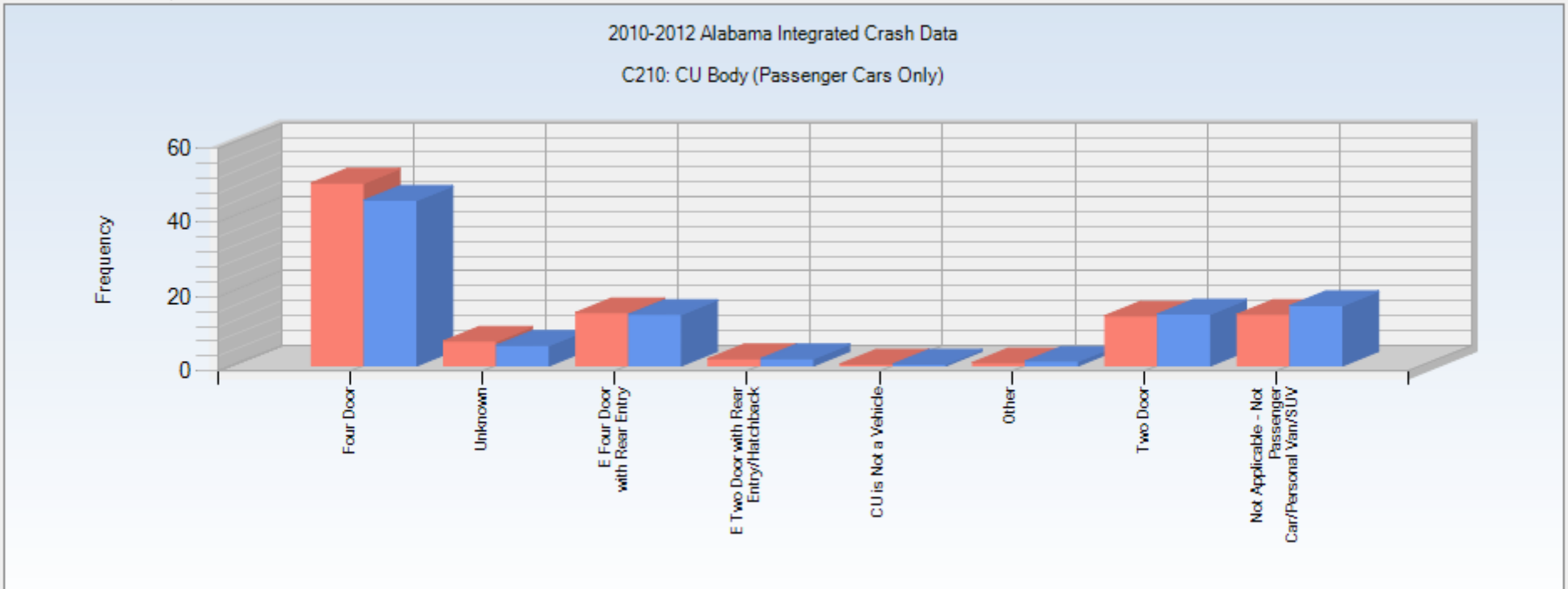
C210: CU Body (Passenger Cars Only)

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Four Door	854	49.14	171214	44.51	1.104*	80.392
Unknown	115	6.62	21049	5.47	1.209	19.893
E Four Door with Rear Entry	248	14.27	53032	13.79	1.035	8.382
E Two Door with Rear Entry...	32	1.84	7293	1.90	0.971	-0.952
CU is Not a Vehicle	2	0.12	1269	0.33	0.349	-3.734
Other	14	0.81	4595	1.19	0.674	-6.762
Two Door	233	13.41	53485	13.90	0.964	-8.665
Not Applicable - Not Passen...	240	13.81	62205	16.17	0.854*	-41.065

C207: E CU Sequence of Events #4
C208: CU Model Year
C209: CU Make
C210: CU Body (Passenger Cars Only)
C211: E CU Owners State
C212: CU License Tag State
C213: CU Vehicle Usage
C214: E CU Emergency Status
C215: E CU Placard Required
C216: E CU Placard Status
C217: CU Hazardous Cargo

Sort by Sum of Max Gain

Display Filter Name



File Dashboard Filters Analysis Impact Locations Tools Window Help

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

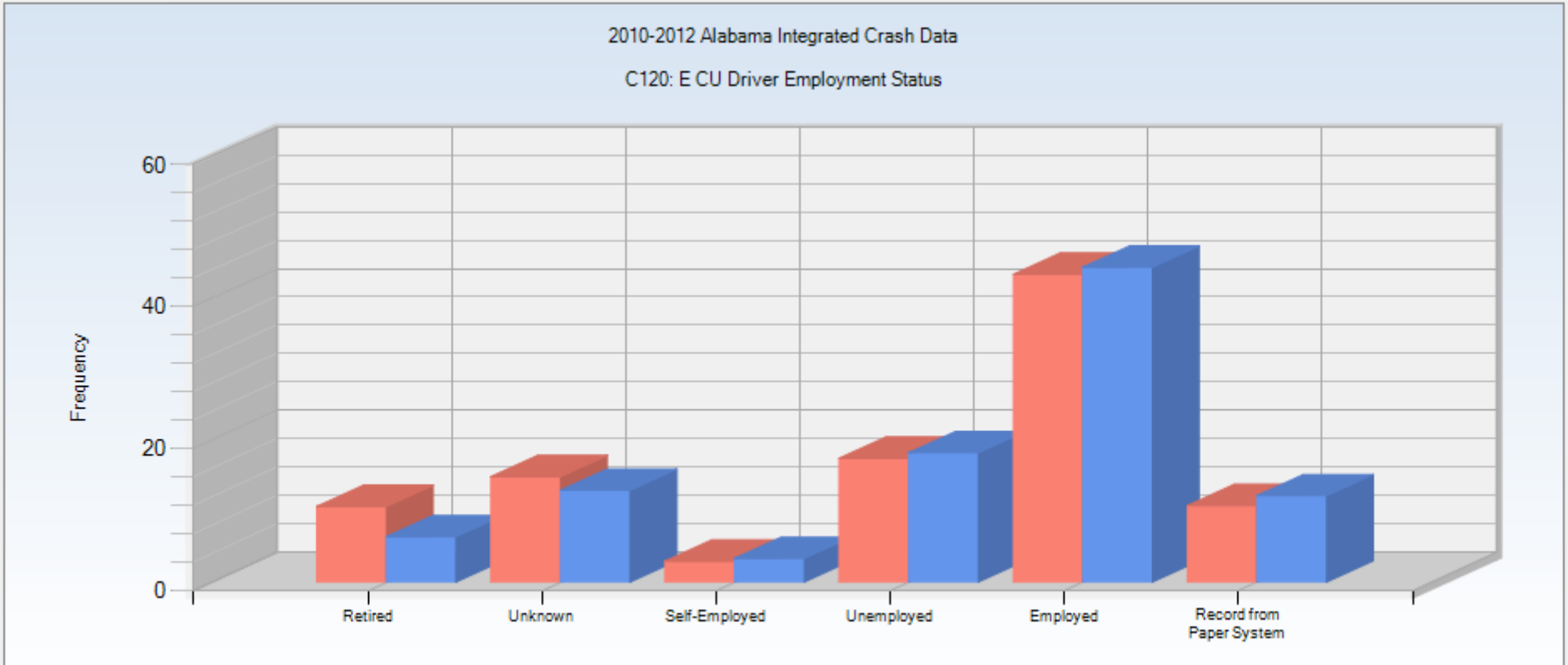
C120: E CU Driver Employment Status

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Retired	185	10.64	24586	6.39	1.665*	73.915
Unknown	258	14.84	49750	12.93	1.148*	33.219
Self-Employed	51	2.93	12792	3.33	0.882	-6.797
Unemployed	303	17.43	70089	18.22	0.957	-13.676
Employed	754	43.38	170758	44.39	0.977	-17.520
Record from Paper System	187	10.76	46815	12.17	0.884	-24.520

C119: E CU Endorsement Violations #2
C120: E CU Driver Employment Status
C121: CU Driver Condition
C122: CU Driver Officer Opinion Alcohol
C123: CU Driver Officer Opinion Drugs
C124: CU Driver Alcohol Test Type Given
C125: E CU Driver Drug Test Type Given
C126: CU Driver Alcohol Test Results

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Causal Drivers

Gender of Causal Drivers

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True of False:

Female drivers are over-represented (more than male drivers) as causal drivers in MC victim crashes.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

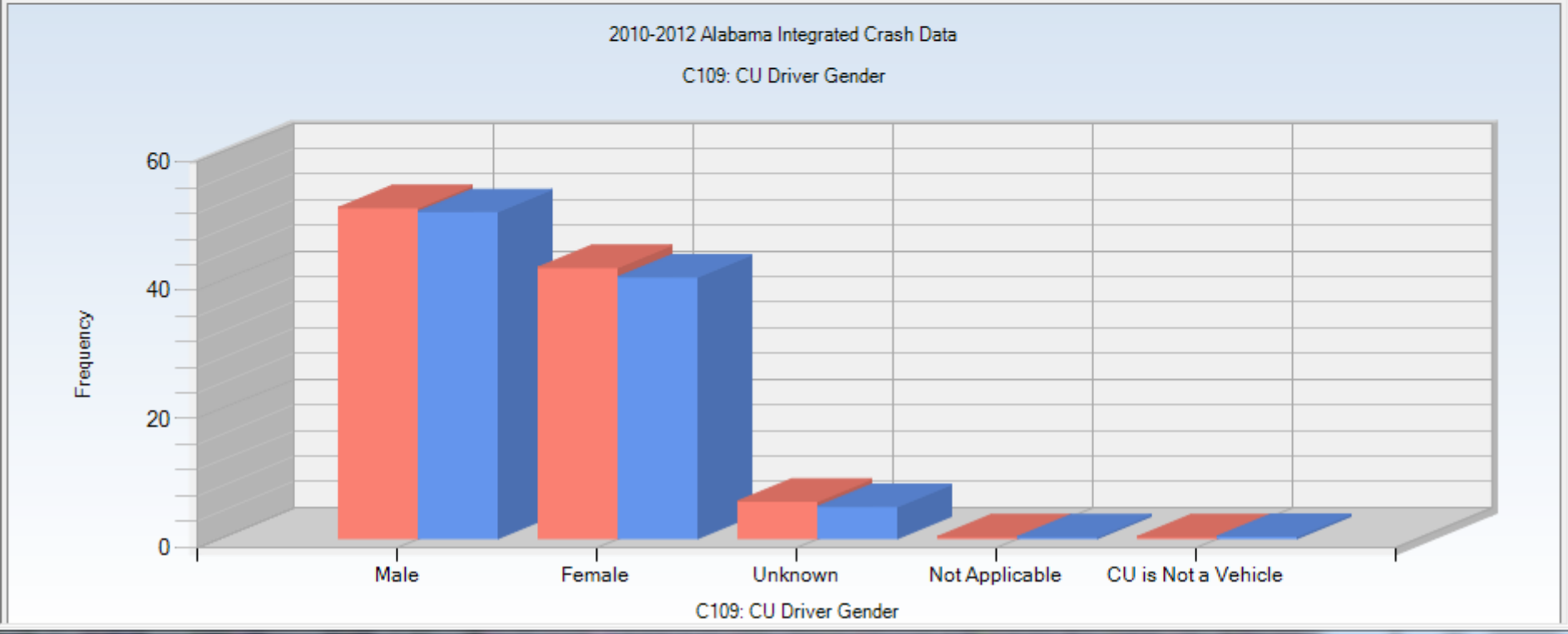
C109: CU Driver Gender

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Male	897	51.61	196170	51.00	1.012	10.631
Female	735	42.29	156932	40.80	1.037	25.923
Unknown	101	5.81	19112	4.97	1.170	14.645
Not Applicable	3	0.17	671	0.17	0.990	-0.032
CU is Not a Vehicle	2	0.12	1269	0.33	0.349	-3.734

C107: CU Driver Raw Age
C108: CU Driver Race
C109: CU Driver Gender
C110: CU Driver Residence Distance
C111: CU Driver License State
C112: CU Driver First License Class
C113: CU Driver Second License Class
C114: CU Driver License Status
C115: CU Driver CDL Status
C116: CU DL Restriction Violations #1

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Characteristics

Vehicle Maneuver

CAPS
CENTER for ADVANCED PUBLIC SAFETY

True of False:

Roadway curves are not nearly the problem in MC victim crashes as it is in MC causal crashes.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

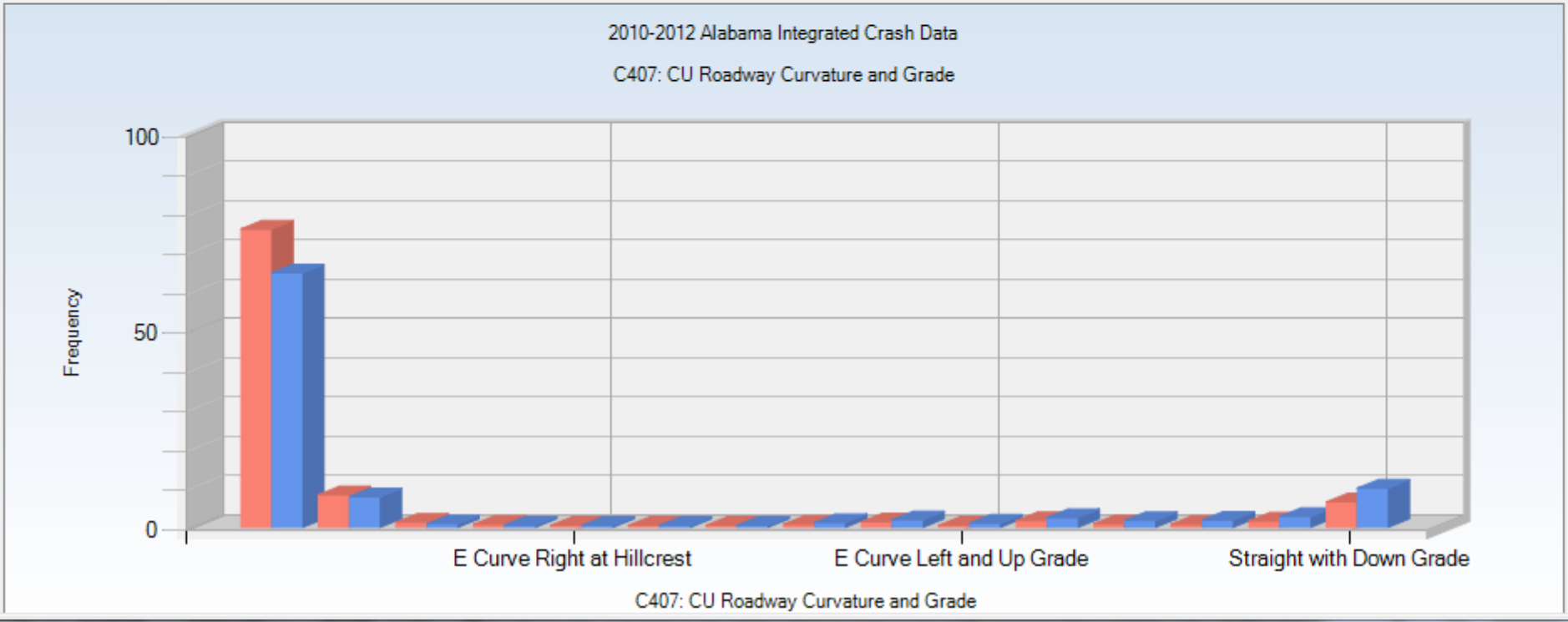
C407: CU Roadway Curvature and Grade

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Straight and Level	1316	75.81	248449	64.68	1.172*	193.122
Straight with Up Grade	143	8.24	29715	7.74	1.065	8.702
Straight at Hillcrest	21	1.21	3034	0.79	1.531	7.288
P Curve and Level*	12	0.69	2043	0.53	1.300	2.767
E Curve Right at Hillcrest	4	0.23	362	0.09	2.445	2.364
P Curve with Up Grade*	1	0.06	951	0.25	0.233	-3.298
P Curve with Down Grade*	3	0.17	1472	0.38	0.451	-3.653
E Curve Right and Up Grade	13	0.75	4516	1.18	0.637	-7.410

C329: CU Driver/Non-Motorist First Aid By
C330: CU Driver/Non-Motorist Transport Immedia
C331: E CU Driver/Non-Motorist Transport Type
C401: E CU Involved Road/Bridge
C402: E CU Road Surface Type
C403: CU Roadway Condition
C404: E CU Environmental Contributing Circumst
C405: CU Contributing Material in Roadway
C406: CU Contributing Material Source
C407: CU Roadway Curvature and Grade
C408: CU Vision Obscured By

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Locations
Rural/Urban

CAPS
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<u>True or False</u>:

MC victim crashes occur in the rural areas at almost twice their expected rate …

(…as was true of MC causal crashes.)

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Natural Order | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

C010: Rural or Urban

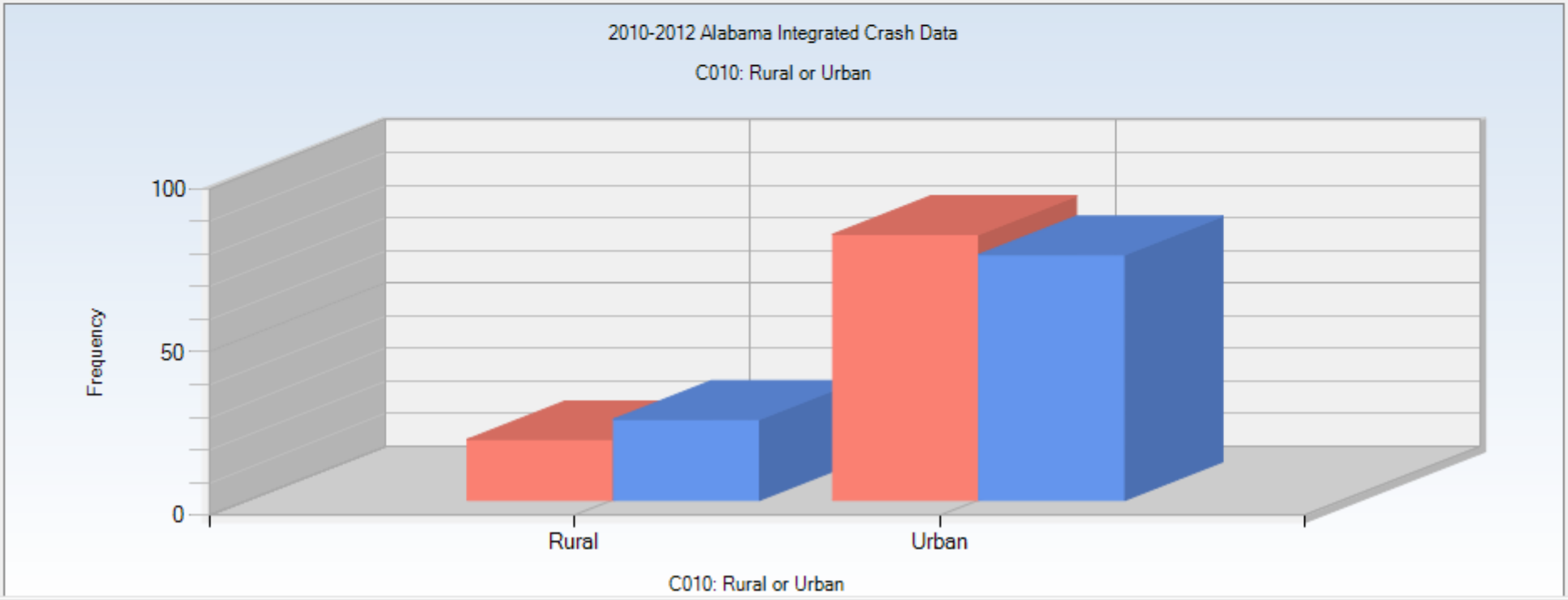
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Rural	323	18.58	95390	24.80	0.749*	-107.992
Urban	1415	81.42	289276	75.20	1.083*	107.992

C001: County
C002: City
C003: Year
C004: Month
C005: Day of Month
C006: Day of the Week
C007: Week of the Year
C008: Time of Day
C009: Data Source
C010: Rural or Urban
C011: Highway Classifications

Sort by Sum of Max Gain

It is clear that these crashes are occurring predominantly in the urban areas.

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

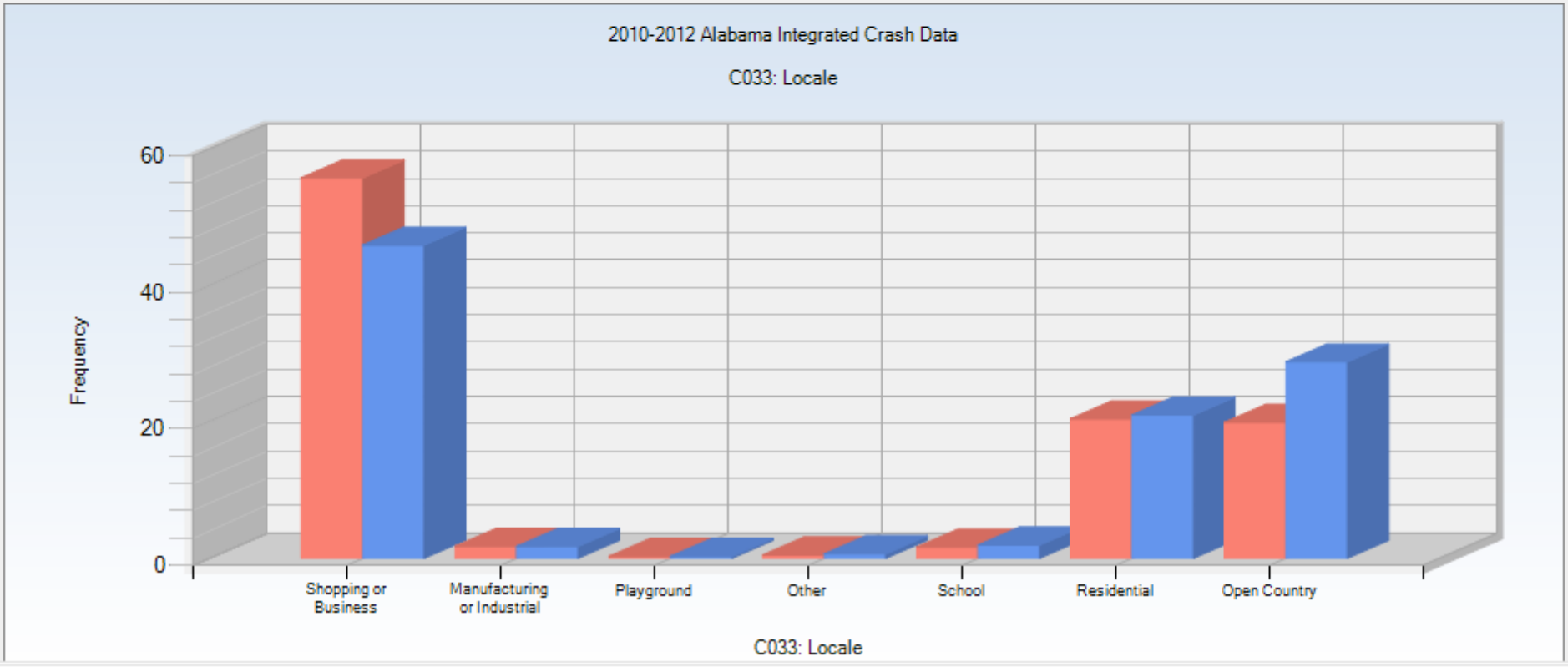
C033: Locale

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Shopping or Business	966	55.77	175415	45.92	1.215*	170.742
Manufacturing or Industrial	30	1.73	6562	1.72	1.008	0.251
Playground	1	0.06	182	0.05	1.212	0.175
Other	8	0.46	2335	0.61	0.756	-2.586
School	28	1.62	7323	1.92	0.843	-5.199
Residential	354	20.44	80250	21.01	0.973	-9.820
Open Country	345	19.92	109971	28.79	0.692*	-153.562

C031: Lighting Conditions
C032: Weather
C033: Locale
C034: E Police Present at Time of Crash
C035: Police Notification Delay
C036: Police Arrival Delay
C037: EMS Arrival Delay
C038: Non-Vehicular Property Damage
C041: Highway Patrol Troops

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

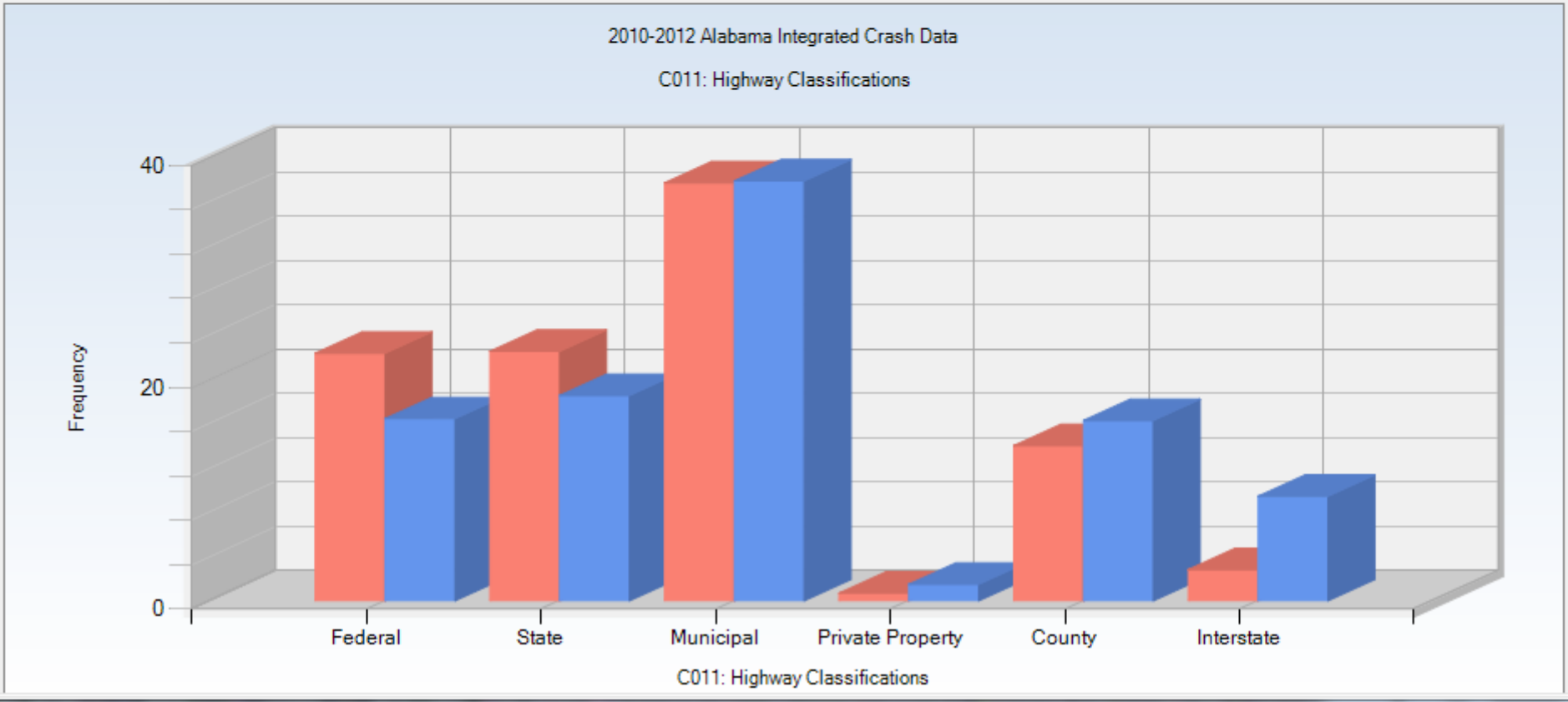
C011: Highway Classifications

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Federal	388	22.32	63186	16.43	1.359*	102.513
State	391	22.50	71228	18.52	1.215*	69.177
Municipal	655	37.69	145651	37.86	0.995	-3.081
Private Property	12	0.69	5733	1.49	0.463	-13.903
County	243	13.98	62552	16.26	0.860*	-39.623
Interstate	49	2.82	36267	9.43	0.299*	-114.862

C010: Rural or Urban
C011: Highway Classifications
C012: Controlled Access
C013: E Highway Side
C014: Distance from Node 1
C015: Primary Contributing Circumstan
C016: Primary Contributing Unit Numbe
C017: First Harmful Event

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Locations

Intersections

True of False:

MC victim crashes tend to not occur at intersections compared to other crash types …

(… as was true for MC caused crashes.)

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

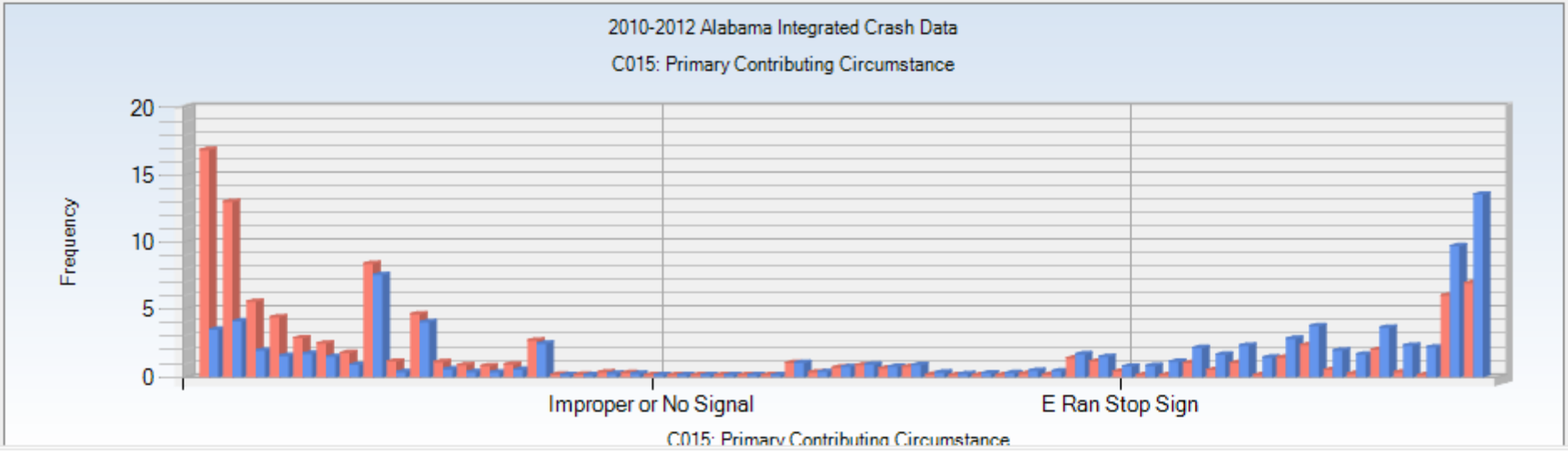
C015: Primary Contributing Circumstance

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Failed to Yield Right-of-Way ...	293	16.86	13527	3.52	4.794*	231.882
E Failed to Yield Right-of-Way ...	226	13.00	15949	4.15	3.136*	153.939
E Failed to Yield Right-of-Way ...	97	5.58	7532	1.96	2.850*	62.969
Failed to Yield the Right-of-Way	77	4.43	6043	1.57	2.820*	49.696
Made Improper Turn	50	2.88	6615	1.72	1.673*	20.112
E Failed to Yield Right-of-Way ...	43	2.47	5731	1.49	1.661*	17.106
E Other Failed to Yield	31	1.78	3464	0.90	1.981*	15.349
Unseen Object/Person/Vehicle	146	8.40	29134	7.57	1.109	14.367
E Failed to Yield Right-of-Way ...	20	1.15	1389	0.36	3.187*	13.724
Improper Lane Change/Use	81	4.66	15642	4.07	1.146	10.326
Traveling Wrong Way/Wrong ...	19	1.09	2201	0.57	1.911	9.055
E Failed to Yield Right-of-Way ...	15	0.86	1369	0.36	2.425	8.815
E Failed to Yield Right-of-Way ...	14	0.81	1305	0.34	2.374	8.104

C010: Rural or Urban
C011: Highway Classifications
C012: Controlled Access
C013: E Highway Side
C014: Distance from Node 1
C015: Primary Contributing Circumstan
C016: Primary Contributing Unit Numbe
C017: First Harmful Event
C018: Location First Harmful Event Rel
C019: E Most Harmful Event
C020: E Distracted Driving
C021: Distance to Fixed Object
C022: E Type of Roadway Junction/Fea
C023: E Manner of Crash
C024: School Bus Related
C025: Crash Severity

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | ☑ Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

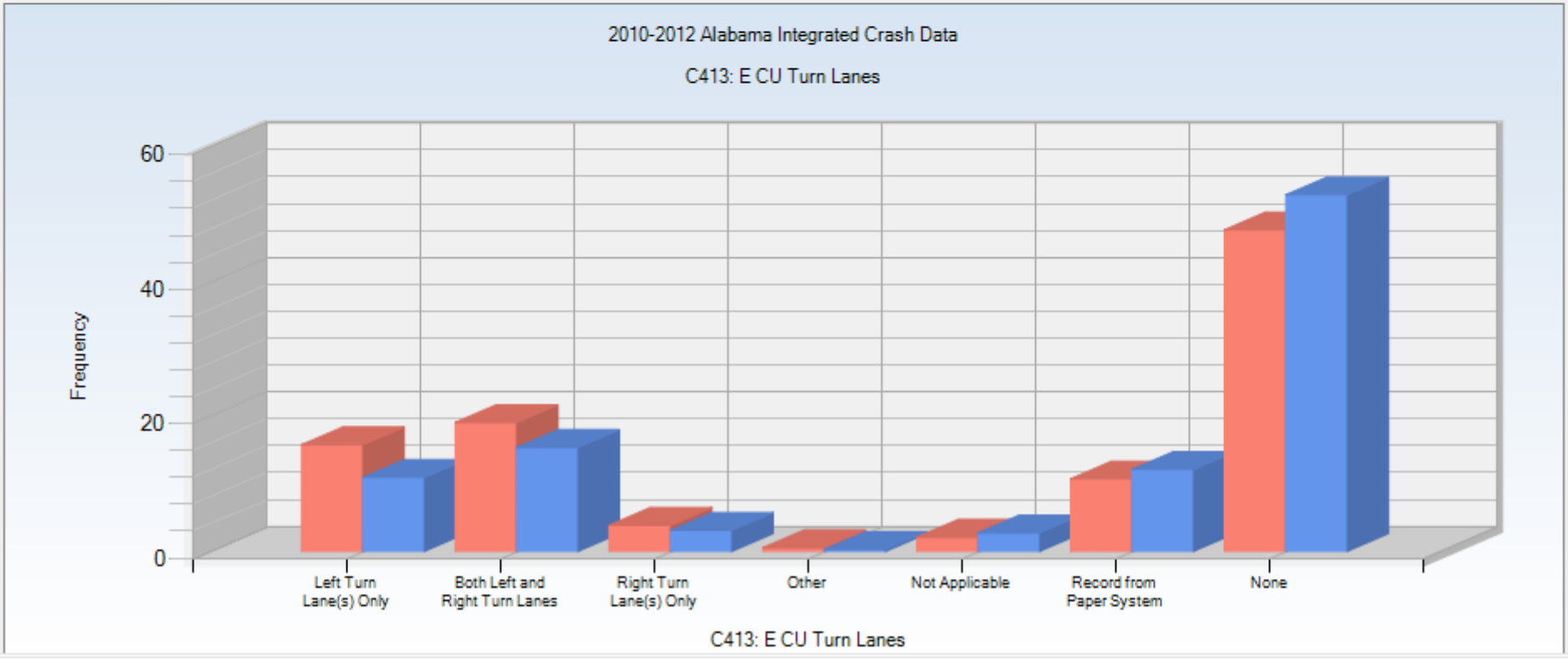
C413: E CU Turn Lanes

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Left Turn Lane(s) Only	275	15.82	42220	10.98	1.442*	84.241
Both Left and Right Turn La...	333	19.16	59403	15.44	1.241*	64.605
Right Turn Lane(s) Only	67	3.86	11901	3.09	1.246	13.229
Other	9	0.52	885	0.23	2.251	5.001
Not Applicable	36	2.07	10562	2.75	0.754	-11.721
Record from Paper System	187	10.76	46815	12.17	0.884	-24.520
None	831	47.81	203988	53.03	0.902*	-90.660

C406: CU Contributing Material Source
C407: CU Roadway Curvature and Grade
C408: CU Vision Obscured By
C409: CU Traffic Control
C410: CU Traffic Control Functioning
C411: CU Opposing Lane Separation
C412: CU Trafficway Lanes
C413: E CU Turn Lanes
C414: CU One-Way Street
C415: CU Workzone Related

☐ Sort by Sum of Max Gain

☐ Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

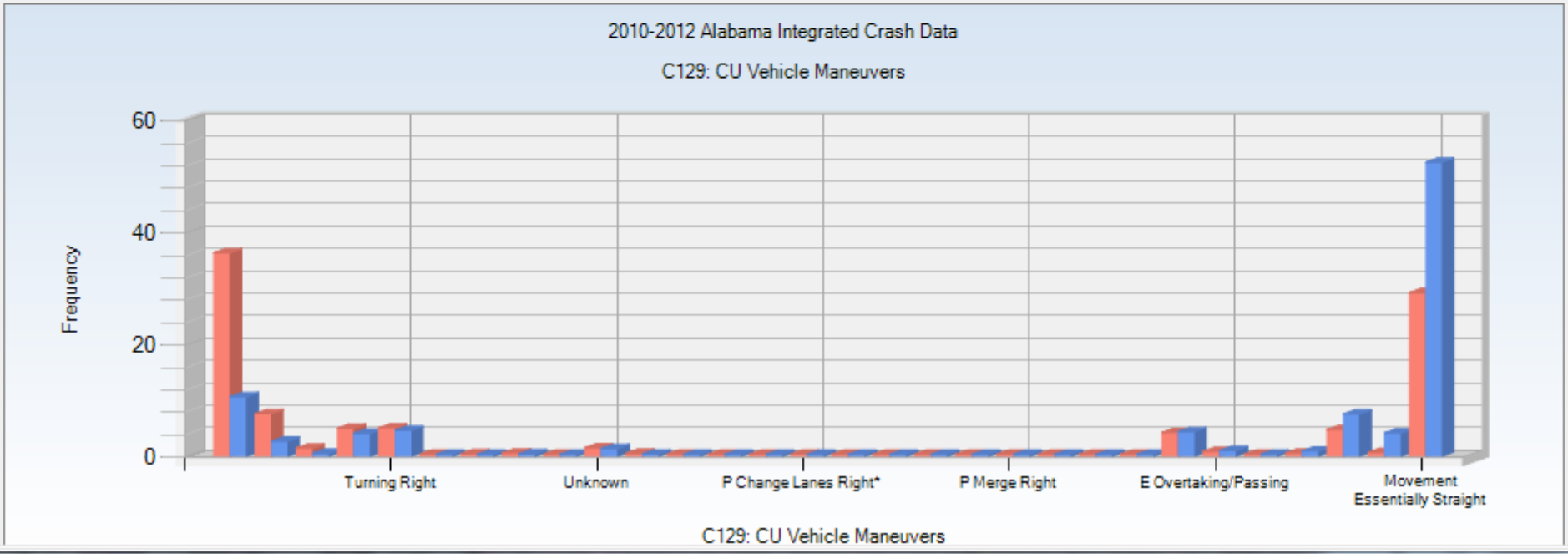
C129: CU Vehicle Maneuvers

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Turning Left	626	36.27	40580	10.57	3.430*	443.478
E Entering Main Road	130	7.53	10100	2.63	2.862*	84.572
Making U-Turn	24	1.39	1764	0.46	3.025*	16.066
E Changing Lanes	85	4.92	15468	4.03	1.222	15.428
Turning Right	86	4.98	17571	4.58	1.088	6.969
P Start from Park	4	0.23	176	0.05	5.053	3.208
P Start in Traffic	7	0.41	1011	0.26	1.539	2.453
Stopped in Traffic	9	0.52	1515	0.39	1.321	2.186
P Wrong Side of Road	3	0.17	239	0.06	2.791	1.925
Unknown	25	1.45	5131	1.34	1.083	1.922

C124: CU Driver Alcohol Test Type Given
C125: E CU Driver Drug Test Type Given
C126: CU Driver Alcohol Test Results
C127: E CU Driver Drug Test Results
C128: CU Vehicle Initial Travel Direction
C129: CU Vehicle Maneuvers
C130: E CU Non-Motorist Maneuvers
C201: CU Vehicle Most Harmful Event
C202: CU Contributing Circumstance
C203: CU First Harmful Event Location
C204: E CU Sequence of Events #1
C205: E CU Sequence of Events #2
C206: E CU Sequence of Events #3

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

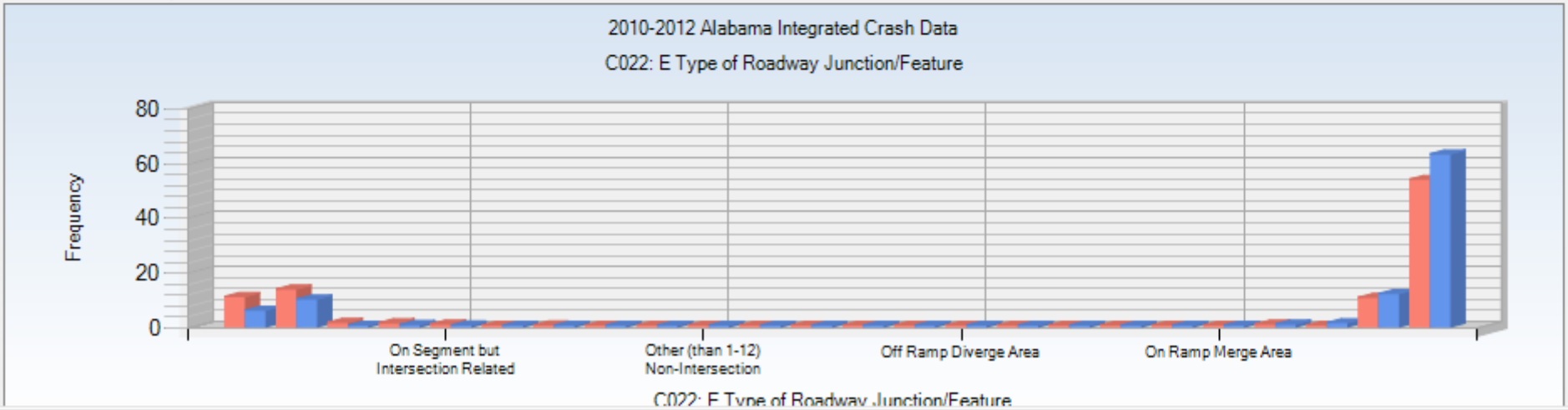
C022: E Type of Roadway Junction/Feature

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
T-Intersection	193	11.10	23568	6.13	1.812*	86.515
Four-Way Intersection	240	13.81	39151	10.18	1.357*	63.108
Business Drive	28	1.61	2175	0.57	2.849*	18.173
Driveway Access Intersection	27	1.55	3124	0.81	1.913*	12.885
On Segment but Intersection ...	18	1.04	2556	0.66	1.559	6.451
Offset Four-Way Intersection	9	0.52	712	0.19	2.798	5.783
Crossover in Median	12	0.69	1465	0.38	1.813	5.381
Y-Intersection	10	0.58	1359	0.35	1.629	3.860
Other Intersection	11	0.63	1631	0.42	1.493	3.631
Other (than 1-12) Non-Intersec...	6	0.35	996	0.26	1.333	1.500
At Intersection, Intersection R...	6	0.35	1091	0.28	1.217	1.071
Unknown Non-Interchange	5	0.29	911	0.24	1.215	0.884
Intersection with Ramp	6	0.35	1146	0.30	1.159	0.822
Roundabout	1	0.06	95	0.02	2.330	0.571

C010: Rural or Urban
C011: Highway Classifications
C012: Controlled Access
C013: E Highway Side
C014: Distance from Node 1
C015: Primary Contributing Circumstan
C016: Primary Contributing Unit Numbe
C017: First Harmful Event
C018: Location First Harmful Event Rel
C019: E Most Harmful Event
C020: E Distracted Driving
C021: Distance to Fixed Object
C022: E Type of Roadway Junction/Fea
C023: E Manner of Crash
C024: School Bus Related
C025: Crash Severity
C026: Intersection Related
C027: At Intersection

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

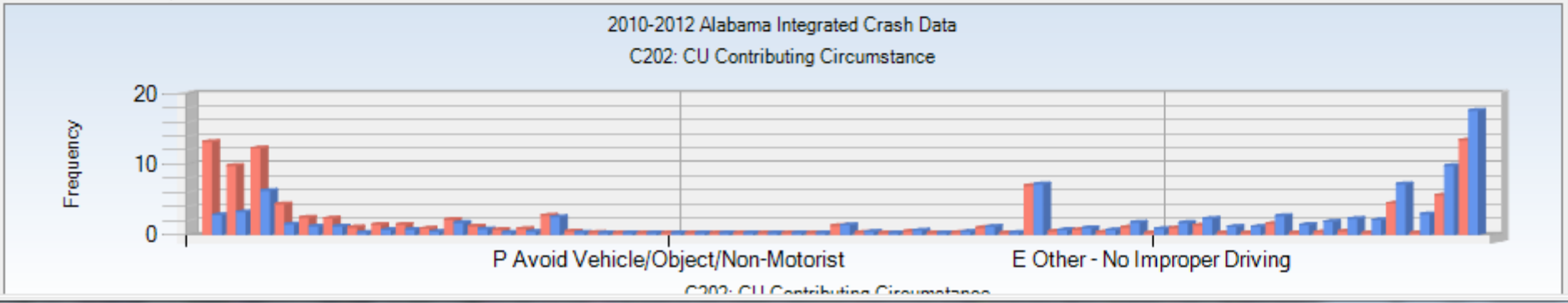
C202: CU Contributing Circumstance

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Failed to Yield Right-of-W...	229	13.18	10814	2.81	4.689*	180.162
E Failed to Yield Right-of-W...	170	9.79	12406	3.23	3.034*	113.972
Unseen Object/Person/Ve...	213	12.26	24071	6.26	1.959*	104.290
E Failed to Yield Right-of-W...	75	4.32	5637	1.47	2.946*	49.542
Made Improper Turn	42	2.42	4487	1.17	2.073*	21.736
E Failed to Yield Right-of-W...	40	2.30	4526	1.18	1.957*	19.560
E Failed to Yield Right-of-W...	18	1.04	1049	0.27	3.799	13.262
E Other Failed to Yield	25	1.44	2609	0.68	2.122*	13.217
Vision Obstructed	25	1.44	2823	0.73	1.961*	12.251
Traveling Wrong Way/Wro...	15	0.86	1608	0.42	2.066	7.738
Improper Backing	37	2.13	6504	1.69	1.260	7.626
E Crossed Centerline	21	1.21	2993	0.78	1.554	7.483
E Failed to Yield Right-of-W...	12	0.69	1124	0.29	2.364	6.924
Failed to Yield the Right-of-...	14	0.81	1673	0.43	1.853	6.444
Improper Lane Change/Use	47	2.71	9585	2.49	1.086	3.712
E Failed to Yield Right-of-W...	8	0.46	1079	0.28	1.642	3.127
Improper Parking/Stopped i...	5	0.29	638	0.17	1.735	2.119

C124: CU Driver Alcohol Test Type Given
C125: E CU Driver Drug Test Type Given
C126: CU Driver Alcohol Test Results
C127: E CU Driver Drug Test Results
C128: CU Vehicle Initial Travel Direction
C129: CU Vehicle Maneuvers
C130: E CU Non-Motorist Maneuvers
C201: CU Vehicle Most Harmful Event
C202: CU Contributing Circumstance
C203: CU First Harmful Event Location
C204: E CU Sequence of Events #1
C205: E CU Sequence of Events #2
C206: E CU Sequence of Events #3
C207: E CU Sequence of Events #4
C208: CU Model Year
C209: CU Make
C210: CU Body (Passenger Cars Only)
C211: E CU Owners State
C212: CU License Tag State
C213: CU Vehicle Usage
C214: E CU Emergency Status

Sort by Sum of Max Gain

Display Filter Name



Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

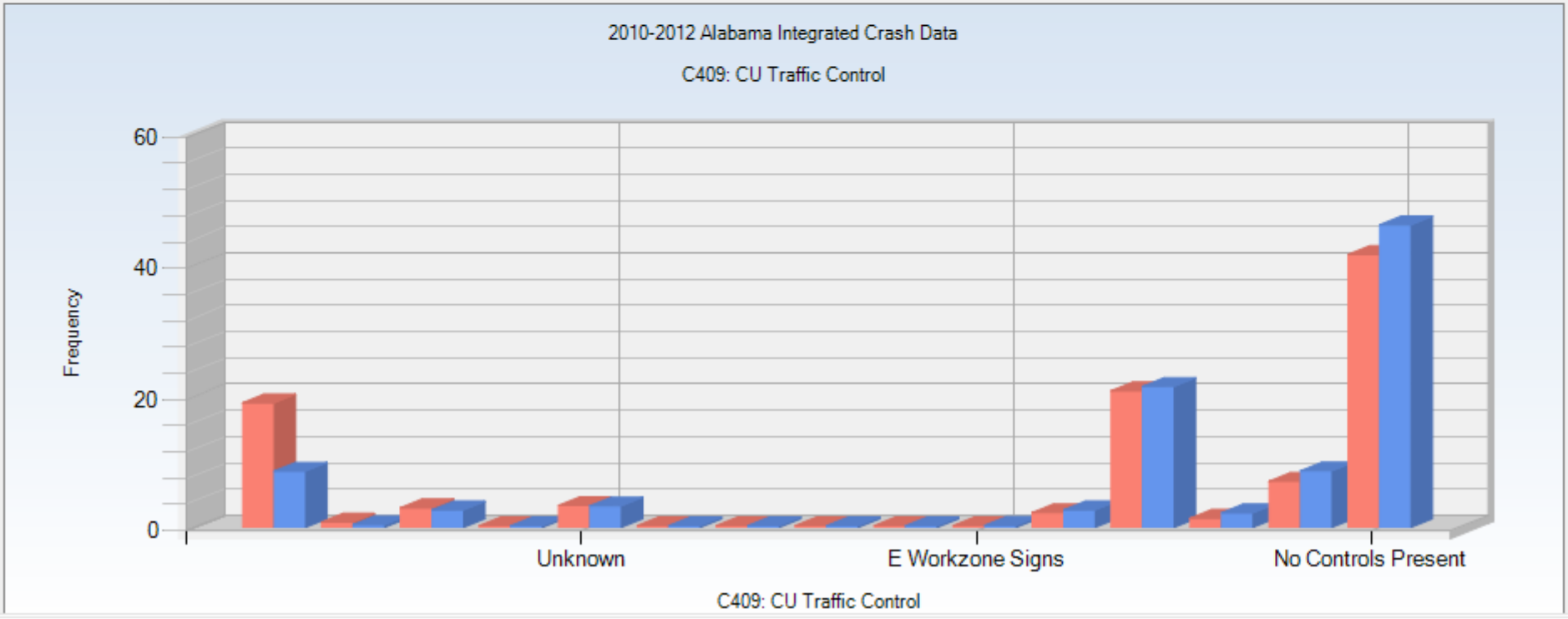
C409: CU Traffic Control

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Stop Sign	330	19.00	33006	8.58	2.213*	180.908
Flashing Traffic Control Signal	14	0.81	1586	0.41	1.954	6.836
Lane Control Device	52	2.99	10248	2.67	1.123	5.709
Flag Person	3	0.17	329	0.09	2.019	1.514
Unknown	58	3.34	12650	3.29	1.015	0.859
Pedestrian Control	1	0.06	98	0.03	2.259	0.557
Railroad Gates	1	0.06	233	0.06	0.950	-0.052
Other	3	0.17	773	0.20	0.859	-0.492

C331: E CU Driver/Non-Motorist Transport Type
C401: E CU Involved Road/Bridge
C402: E CU Road Surface Type
C403: CU Roadway Condition
C404: E CU Environmental Contributing Circumst
C405: CU Contributing Material in Roadway
C406: CU Contributing Material Source
C407: CU Roadway Curvature and Grade
C408: CU Vision Obscured By
C409: CU Traffic Control
C410: CU Traffic Control Functioning

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Location

Number of Lanes

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True of False:

Very much like MC causal crashes, MC victim crashes are over-represented on two lane roadways.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

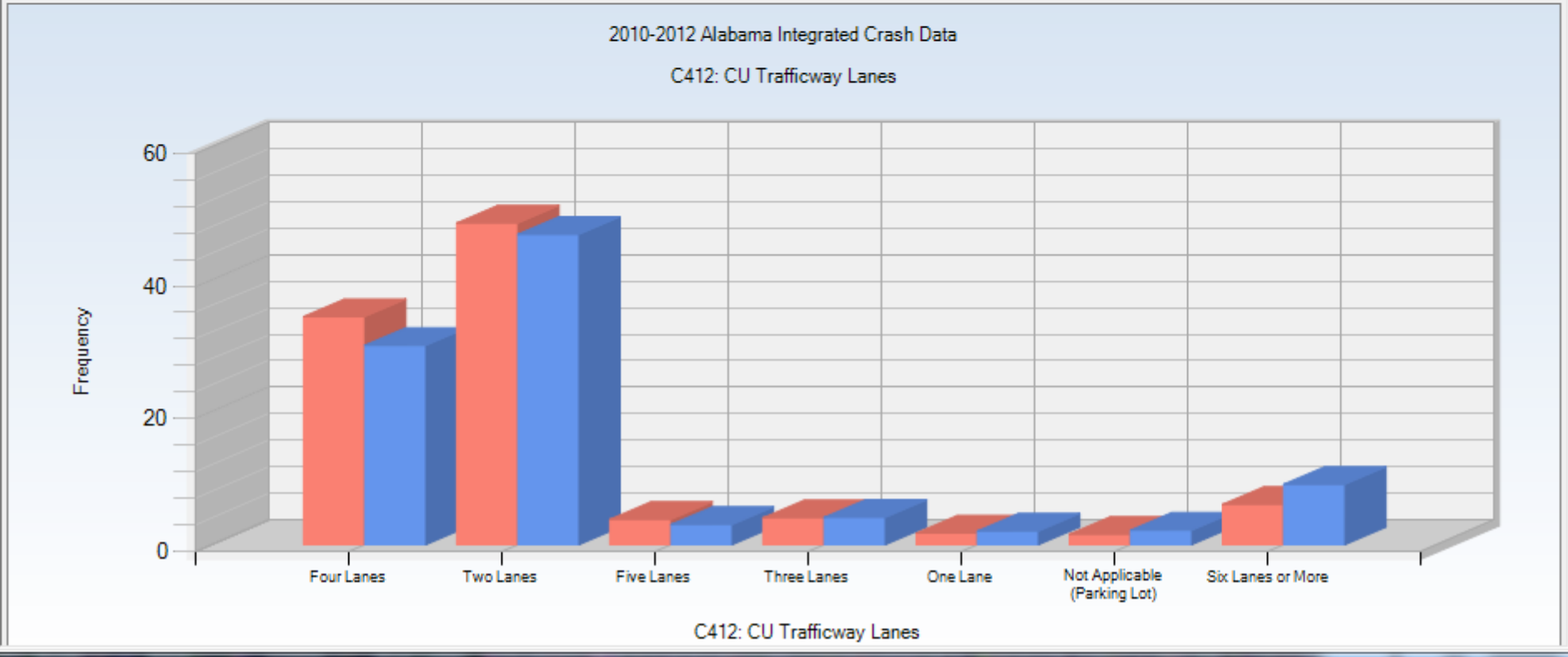
C412: CU Trafficway Lanes

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Four Lanes	597	34.37	115532	30.04	1.144*	75.129
Two Lanes	842	48.47	179905	46.78	1.036	29.350
Five Lanes	66	3.80	11654	3.03	1.254	13.358
Three Lanes	70	4.03	15796	4.11	0.981	-1.352
One Lane	30	1.73	7864	2.05	0.845	-5.523
Not Applicable (Parking Lot)	27	1.55	8332	2.17	0.717	-10.637
Six Lanes or More	105	6.04	34957	9.09	0.665*	-52.905

C406: CU Contributing Material Source
C407: CU Roadway Curvature and Grade
C408: CU Vision Obscured By
C409: CU Traffic Control
C410: CU Traffic Control Functioning
C411: CU Opposing Lane Separation
C412: CU Trafficway Lanes
C413: E CU Turn Lanes
C414: CU One-Way Street
C415: CU Workzone Related

Sort by Sum of Max Gain

Display Filter Name



MC Crash Locations

Location WRT the Roadway

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True of False:

Many more MC-victim crashes occur off the roadway than would be expected …

(… as was true with respect to MC-caused crashes.)

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

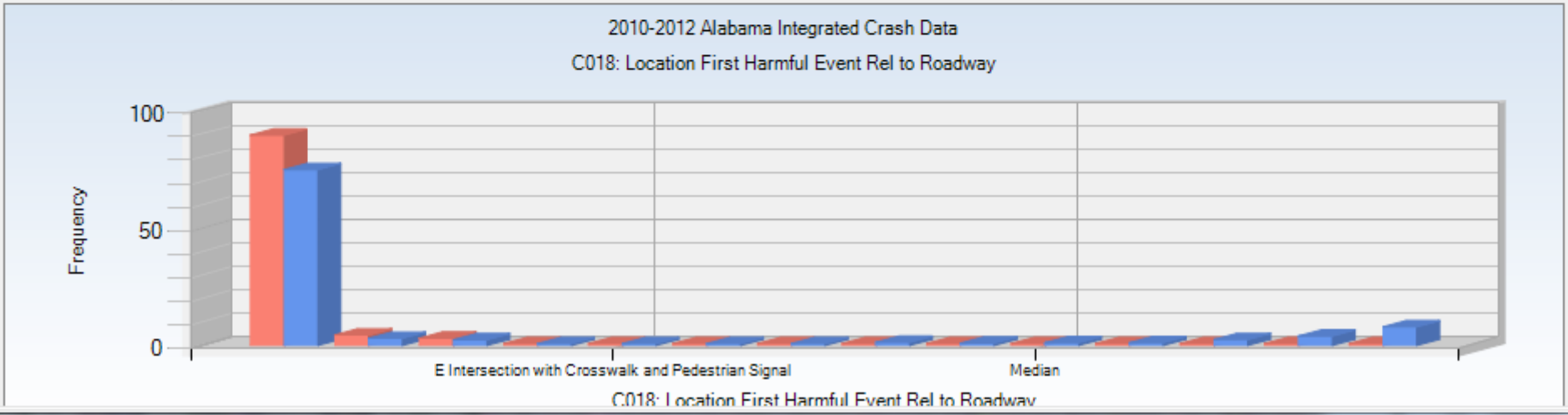
C018: Location First Harmful Event Rel to Roadway

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
On Roadway	1560	89.76	288601	75.03	1.196*	256.041
P Intersection*	77	4.43	11628	3.02	1.466*	24.462
E At Intersection no Crosswalk	53	3.05	9055	2.35	1.295	12.088
E Intersection with Crosswalk n...	5	0.29	631	0.16	1.754	2.149
E Intersection with Crosswalk a...	2	0.12	518	0.13	0.855	-0.340
Not Applicable	1	0.06	304	0.08	0.728	-0.374
Other	1	0.06	866	0.23	0.256	-2.913
E In Parking Lane or Zone	11	0.63	4955	1.29	0.491	-11.388
E Outside of Right-of-Way	2	0.12	3599	0.94	0.123	-14.261
Median	4	0.23	4316	1.12	0.205	-15.501
E Off Roadway - Location Unk...	1	0.06	4395	1.14	0.050	-18.858
Off Roadway	4	0.23	9467	2.46	0.094	-38.774
E Shoulder	12	0.69	15251	3.96	0.174	-56.907
E Roadside	5	0.29	30337	7.89	0.036	-132.069

C010: Rural or Urban
C011: Highway Classifications
C012: Controlled Access
C013: E Highway Side
C014: Distance from Node 1
C015: Primary Contributing Circumstan
C016: Primary Contributing Unit Numbe
C017: First Harmful Event
C018: Location First Harmful Event Rel
C019: E Most Harmful Event
C020: E Distracted Driving
C021: Distance to Fixed Object
C022: E Type of Roadway Junction/Fea
C023: E Manner of Crash
C024: School Bus Related
C025: Crash Severity
C026: Intersection Related
C027: At Intersection

Sort by Sum of Max Gain

Display Filter Name



MC Victim Crash Causal Drivers

Causal Driver Impairment

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True of False:

DUI is not nearly the problem in MC victim crashes as it is in MC causal crashes.

Data Source: 2010-2012 Alabama Integrated Crash Data | Filter: Motorcycle Involved And Not Motorcycle Caused | 1/ 1/2010 | 12/31/2012

Order: Max Gain | Descending | Suppress Zero-Valued Rows | Significance: Over Representation | Threshold: 2.0

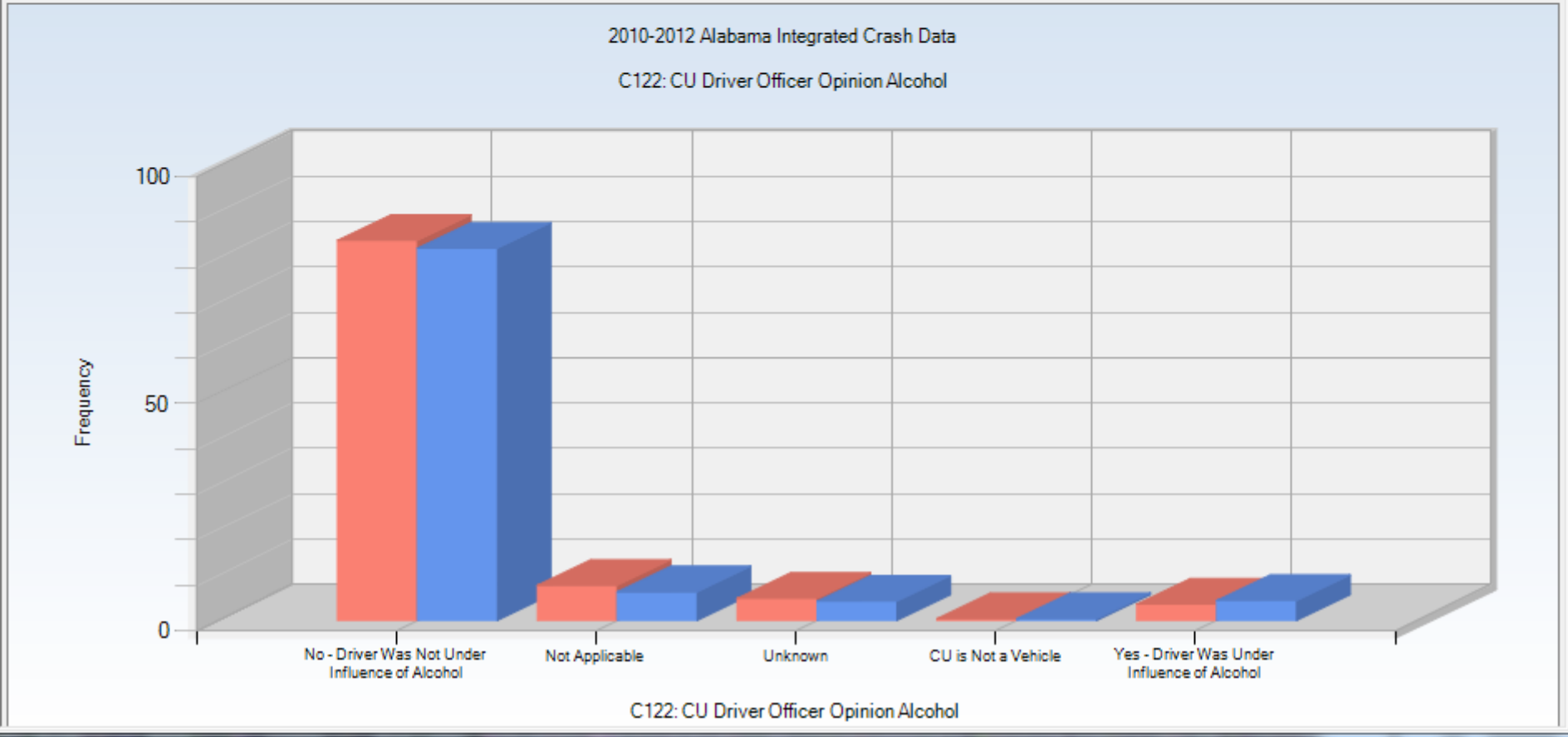
C122: CU Driver Officer Opinion Alcohol

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
No - Driver Was Not Under I...	1456	83.77	315612	82.05	1.021	29.941
Not Applicable	134	7.71	24139	6.28	1.229*	24.931
Unknown	84	4.83	16232	4.22	1.145	10.657
CU is Not a Vehicle	2	0.12	1269	0.33	0.349	-3.734
Yes - Driver Was Under Influ...	62	3.57	16805	4.37	0.817	-13.932

C120: E CU Driver Employment Status
C121: CU Driver Condition
C122: CU Driver Officer Opinion Alcohol
C123: CU Driver Officer Opinion Drugs
C124: CU Driver Alcohol Test Type Given
C125: E CU Driver Drug Test Type Given
C126: CU Driver Alcohol Test Results

Sort by Sum of Max Gain

Display Filter Name



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End of Motorcycle IMPACT PPT
92 Slides Altogether