

## Questions Related to Locations

# Worst “Cities”

### Notes:

1. The rural areas of a county are considered to be a “city”
2. **Worst** is defined as most **over-represented** compared to the proportion of crashes in the “city” that do not involve ID

### True or False:

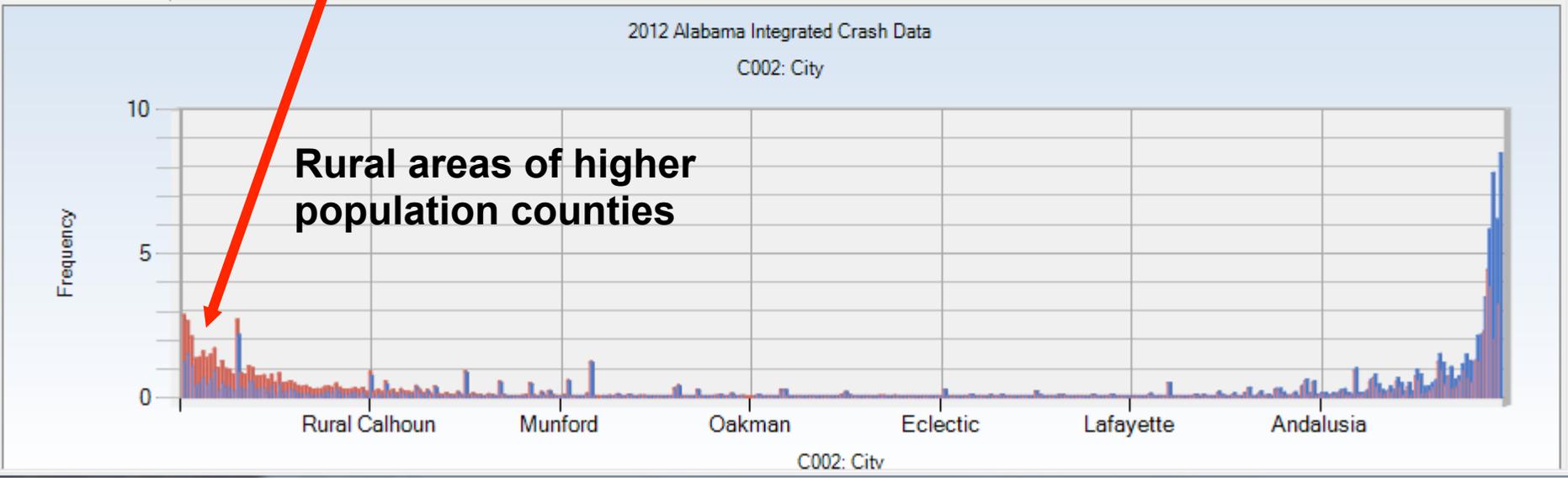
**The worst areas are the unincorporated parts of the more populated counties.**

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

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Rural Madison	200	2.87	1513	1.25	2.301*	113.089
Rural Mobile	185	2.65	1857	1.53	1.734*	78.329
Rural Tuscaloosa	148	2.12	1325	1.09	1.945*	71.888
Rural Lauderdale	95	1.36	512	0.42	3.230*	65.589
Rural Walker	98	1.41	587	0.48	2.906*	64.281
Rural Cullman	112	1.61	847	0.70	2.302*	63.346
Rural Elmore	96	1.38	575	0.47	2.906*	62.970
Rural Limestone	104	1.49	771	0.64	2.348*	59.712
Rural Baldwin	119	1.71	1134	0.93	1.827*	53.860

- C230: CU Areas Damaged #1
  - C021: Distance to Fixed Object
  - C002: City
  - C043: Agency ORI
  - C224: CU Estimated Speed at Impact
  - C323: CU Driver/Non-Motorist Safety Ec
  - C033: Locale
  - C129: CU Vehicle Maneuvers
  - C206: E CU Sequence of Events #3
  - C010: Rural or Urban
  - C037: EMS Arrival Delay
- Sort by Sum of Max Gain

Display Filter Name



# Questions Related to Locations “Best” Cities

## Notes:

1. The rural areas of a county are considered to be a “city”
2. **Best** is defined as most **under**-represented compared to their base line of crashes in the “city” not involving ID

## True or False:

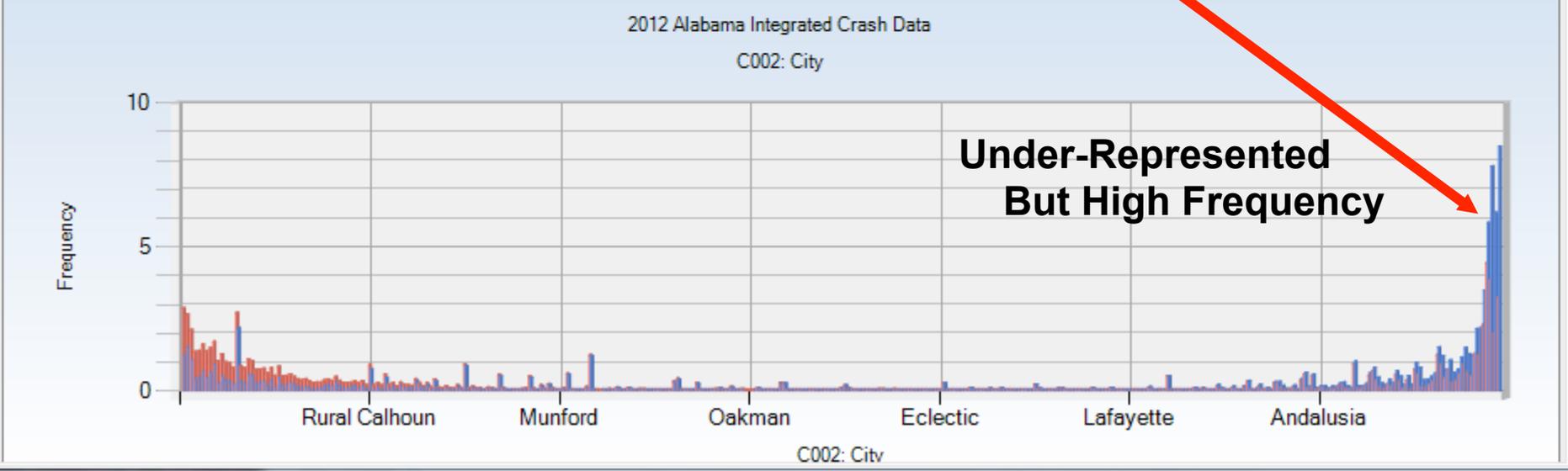
**The best areas are the largest cities.**

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

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Phenix City	46	0.66	1559	1.28	0.514*	-43.553
Homewood	37	0.53	1505	1.24	0.428*	-49.451
Dothan	91	1.31	2621	2.16	0.604*	-59.558
Hoover	87	1.25	2646	2.18	0.572*	-64.994
Tuscaloosa	160	2.30	4226	3.48	0.659*	-82.753
Huntsville	310	4.45	7087	5.84	0.761*	-97.097
Mobile	268	3.85	9473	7.81	0.493*	-276.156
Montgomery	140	2.01	7511	6.19	0.324*	-291.453
Birmingham	227	3.26	10305	8.49	0.383*	-304.949

- C230: CU Areas Damaged #1
  - C021: Distance to Fixed Object
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  - C043: Agency ORI
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  - C323: CU Driver/Non-Motorist Safety Ec
  - C033: Locale
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- Sort by Sum of Max Gain

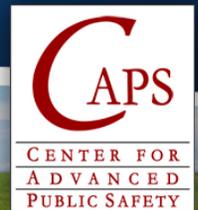
Display Filter Name



# Questions Related to Locations Rural/Urban

True or False:

**Rural roadways have about 20% higher than their expected proportion of ID crashes compared to non-ID crashes.**



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

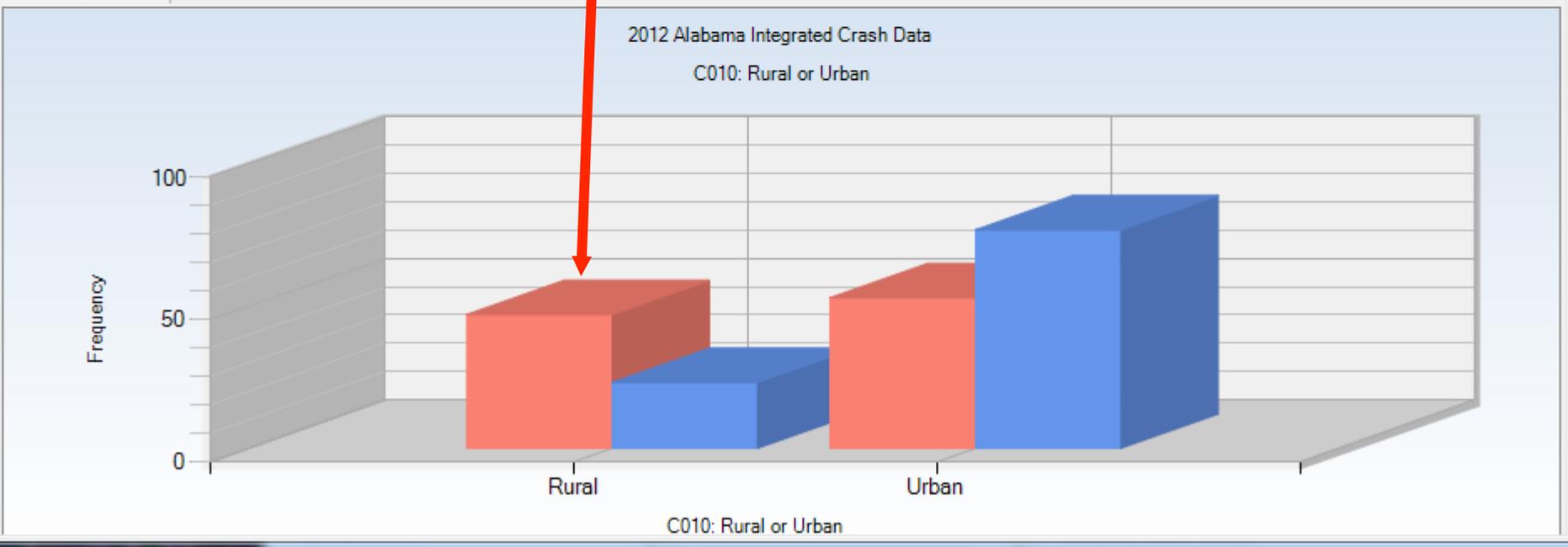
**C010: Rural or Urban**

Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Rural	3279	47.04	28086	23.14	2.033*	1665.806
Urban	3691	52.96	93263	76.86	0.689*	-1665.806

- C224: CU Estimated Speed at Impact
  - C323: CU Driver/Non-Motorist Safety Ec
  - C033: Locale
  - C129: CU Vehicle Maneuvers
  - C206: E CU Sequence of Events #3
  - C010: Rural or Urban
  - C037: EMS Arrival Delay
  - C413: E CU Turn Lanes
  - C107: CU Driver Raw Age
- Sort by Sum of Max Gain

**Rural has about twice its expected proportion**

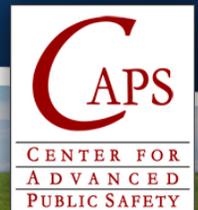
Frequency     Display Filter Name



# Questions Related to Locations Locale

True or False:

**The largest frequency and over-representation for ID crashes are in open country.**



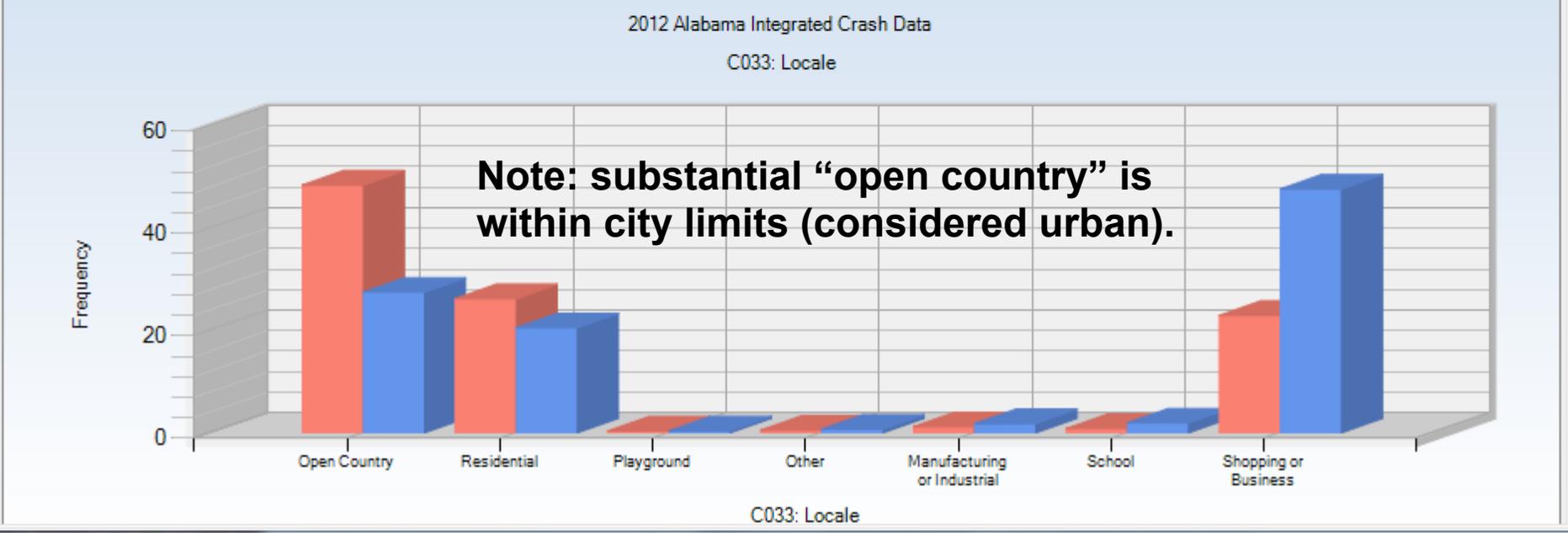
Order: Max Gain    Descending     Suppress Zero-Valued Rows    Significance: Over Representation    Threshold: 2.0

C033: Locale							
	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
▶	Open Country	3365	48.38	33131	27.45	1.762*	1455.539
	Residential	1821	26.18	24743	20.50	1.277*	394.970
	Playground	3	0.04	57	0.05	0.913	-0.285
	Other	35	0.50	833	0.69	0.729	-13.009
	Manufacturing or Industrial	82	1.18	2147	1.78	0.663*	-41.739
	School	56	0.81	2317	1.92	0.419*	-77.537
	Shopping or Business	1593	22.90	57448	47.61	0.481*	-1717.939

C224: CU Estimated Speed at Impact  
 C323: CU Driver/Non-Motorist Safety Ec  
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 C010: Rural or Urban  
 C037: EMS Arrival Delay  
 C413: E CU Turn Lanes  
 C107: CU Driver Raw Age

Sort by Sum of Max Gain

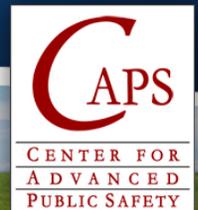
Display Filter Name



# Questions Related to Locations Highway Classification

True or False:

**County roads have the highest number of ID crashes and are the most over-represented.**



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

**C011: Highway Classifications**

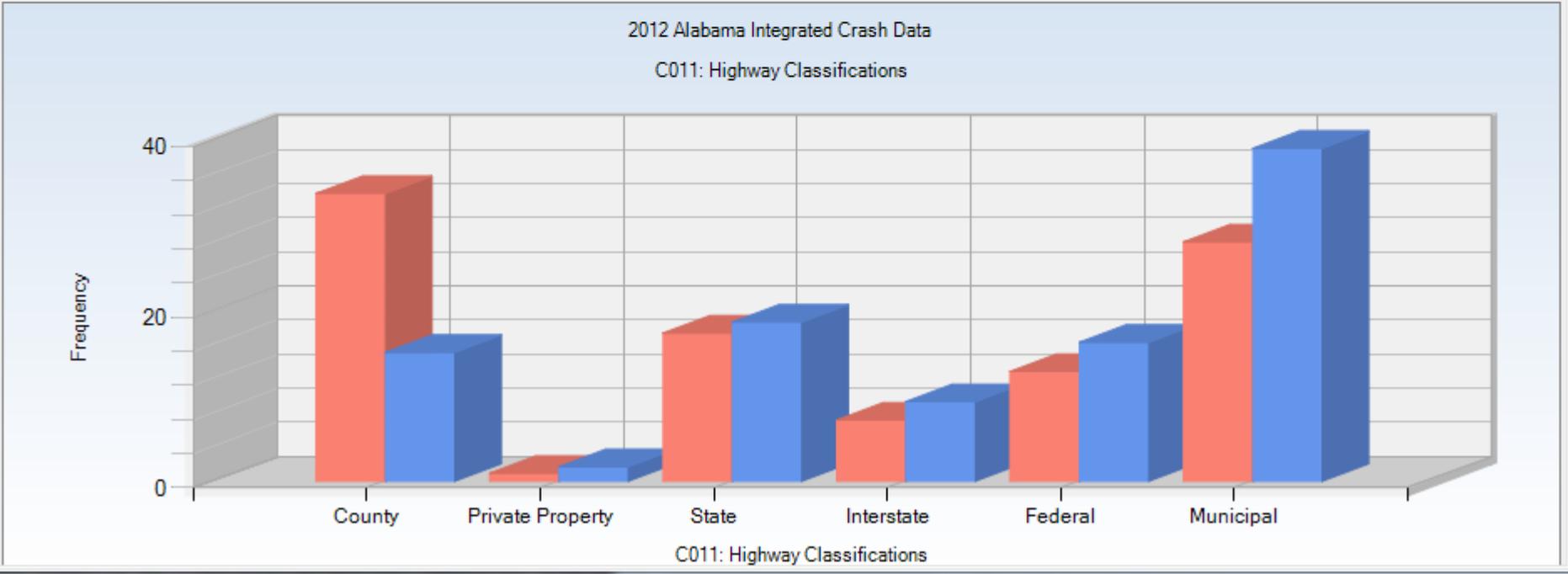
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
County	2350	33.72	18304	15.08	2.235*	1298.661
Private Property	64	0.92	2036	1.68	0.547*	-52.943
State	1209	17.35	22611	18.63	0.931*	-89.722
Interstate	498	7.14	11308	9.32	0.767*	-151.505
Federal	895	12.84	19740	16.27	0.789*	-238.819
Municipal	1954	28.03	47335	39.01	0.719*	-764.811

C328: CU Driver/Non-Motorist Injury Type  
 C331: E CU Driver/Non-Motorist Transport T  
 C120: E CU Driver Employment Status  
 C059: Number Injured (Includes Fatalities)  
 C045: HasGPS  
 C038: Non-Vehicular Property Damage  
 C329: CU Driver/Non-Motorist First Aid By  
 C011: Highway Classifications

Sort by Sum of Max Gain



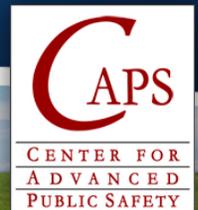
Display Filter Name



# Questions Related to Locations Intersections

True or False?

**Intersections are particularly hazardous areas for causing ID crashes.**



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

**C027: At Intersection**

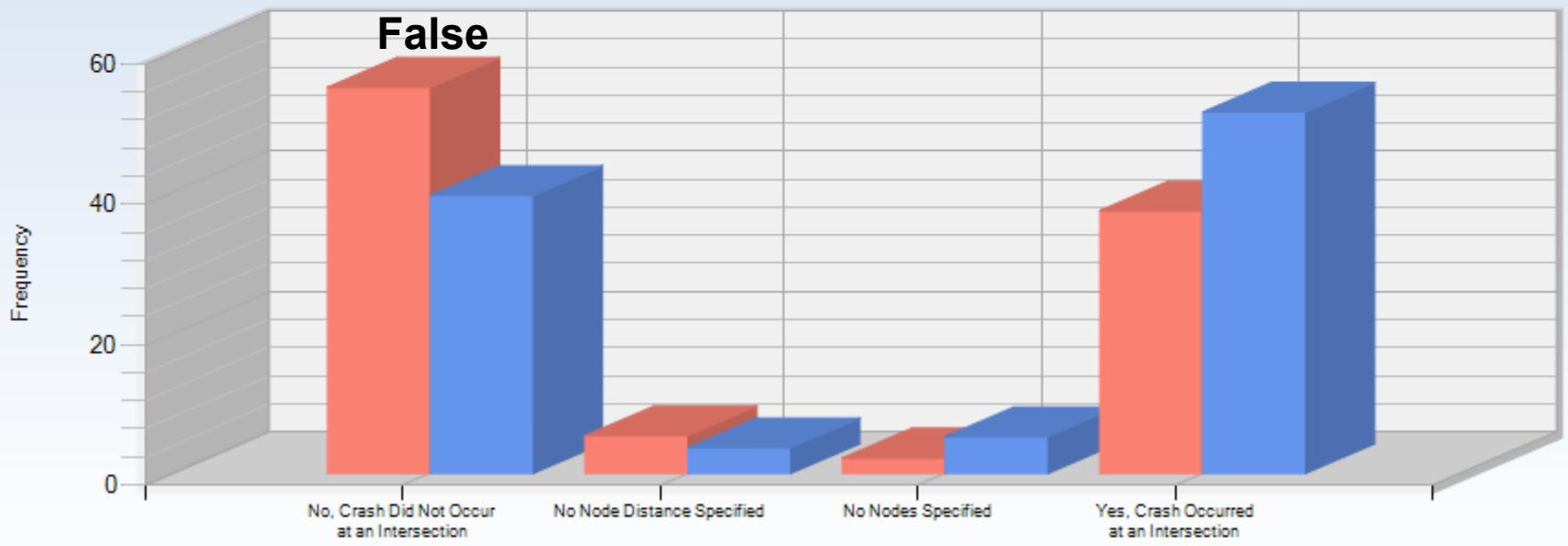
	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
	No, Crash Did Not Occur at an ...	3836	55.04	48065	39.61	1.389*	1075.260
▶	No Node Distance Specified	373	5.35	4439	3.66	1.463*	118.034
	No Nodes Specified	151	2.17	6352	5.23	0.414*	-213.844
	Yes, Crash Occurred at an Inte...	2610	37.45	62493	51.50	0.727*	-979.450

- C058: Number Injured (Non-Fatal)
  - C208: CU Model Year
  - C114: CU Driver License Status
  - C036: Police Arrival Delay
  - C014: Distance from Node 1
  - C027: At Intersection
- Sort by Sum of Max Gain



Display Filter Name

2012 Alabama Integrated Crash Data  
C027: At Intersection



C027: At Intersection

# Questions Related to Locations Roadway Curvature

True or False?

**Curves are particularly hazardous areas for ID crashes, having about twice the proportion of crashes as expected.**

**C407: CU Roadway Curvature and Grade**

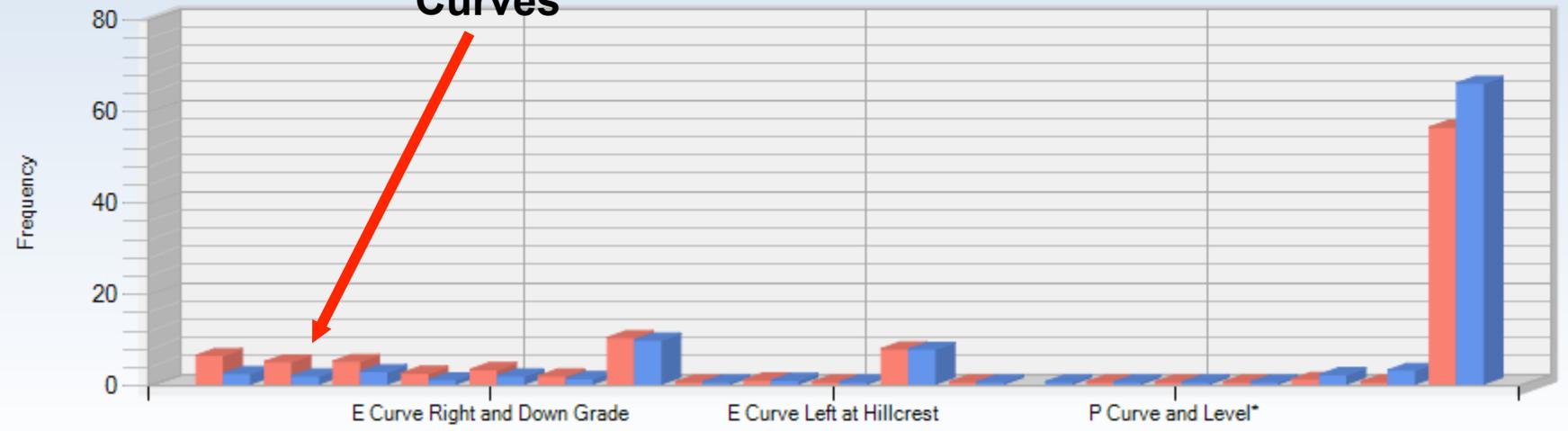
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
E Curve Left and Level	431	6.19	2704	2.23	2.774*	275.605
E Curve Left and Down Grade	335	4.81	2074	1.71	2.811*	215.810
E Curve Right and Level	343	4.92	3228	2.66	1.849*	157.492
E Curve Left and Up Grade	162	2.33	1097	0.91	2.570*	98.957
E Curve Right and Down Gr...	217	3.12	2083	1.72	1.813*	97.293
E Curve Right and Up Grade	119	1.71	1379	1.14	1.502*	39.751
Straight with Down Grade	702	10.08	11503	9.57	1.053	35.596

- C001: County
  - C330: CU Driver/Non-Motorist Transport Imme
  - C125: E CU Driver Drug Test Type Given
  - C035: Police Notification Delay
  - C407: CU Roadway Curvature and Grade
  - C231: E CU Areas Damaged #2
  - C411: CU Opposing Lane Separation
  - C127: E CU Driver Drug Test Results
  - C233: CU Point of Initial Impact
- Sort by Sum of Max Gain

Display Filter Name

2012 Alabama Integrated Crash Data  
C407: CU Roadway Curvature and Grade

**Curves**



C407: CU Roadway Curvature and Grade

## Questions on ID Driver Characteristics

### AGE

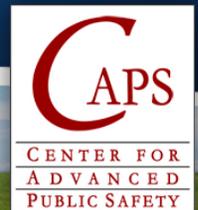
True or False:

The ages with the best ID history is 16-19

AND

The ages with the worst ID history is 45-50.

AND == both have to be true for statement to be true



### C107: CU Driver Raw Age

	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
	45	125	1.87	1444	1.32	1.418*	36.852
	46	140	2.09	1415	1.29	1.621*	53.622
	47	140	2.09	1427	1.30	1.607*	52.889
	48	115	1.72	1499	1.37	1.257*	23.494
	49	119	1.78	1397	1.27	1.395*	33.721
	50	138	2.06	1435	1.31	1.575*	50.401

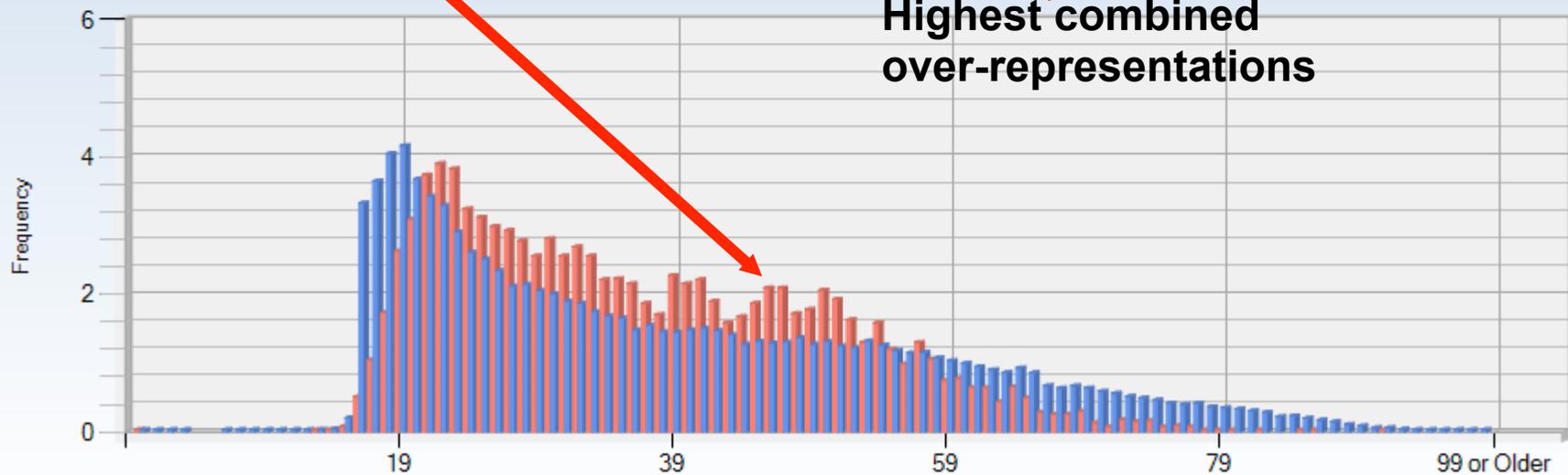
### C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name

2012 Alabama Integrated Crash Data

C107: CU Driver Raw Age



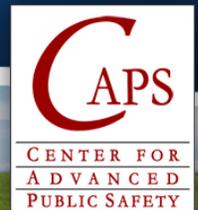
**Highest combined over-representations**

# Questions on ID Driver Characteristics

## AGE

True or False:

**The age distribution has not changed much in the past ten years.**

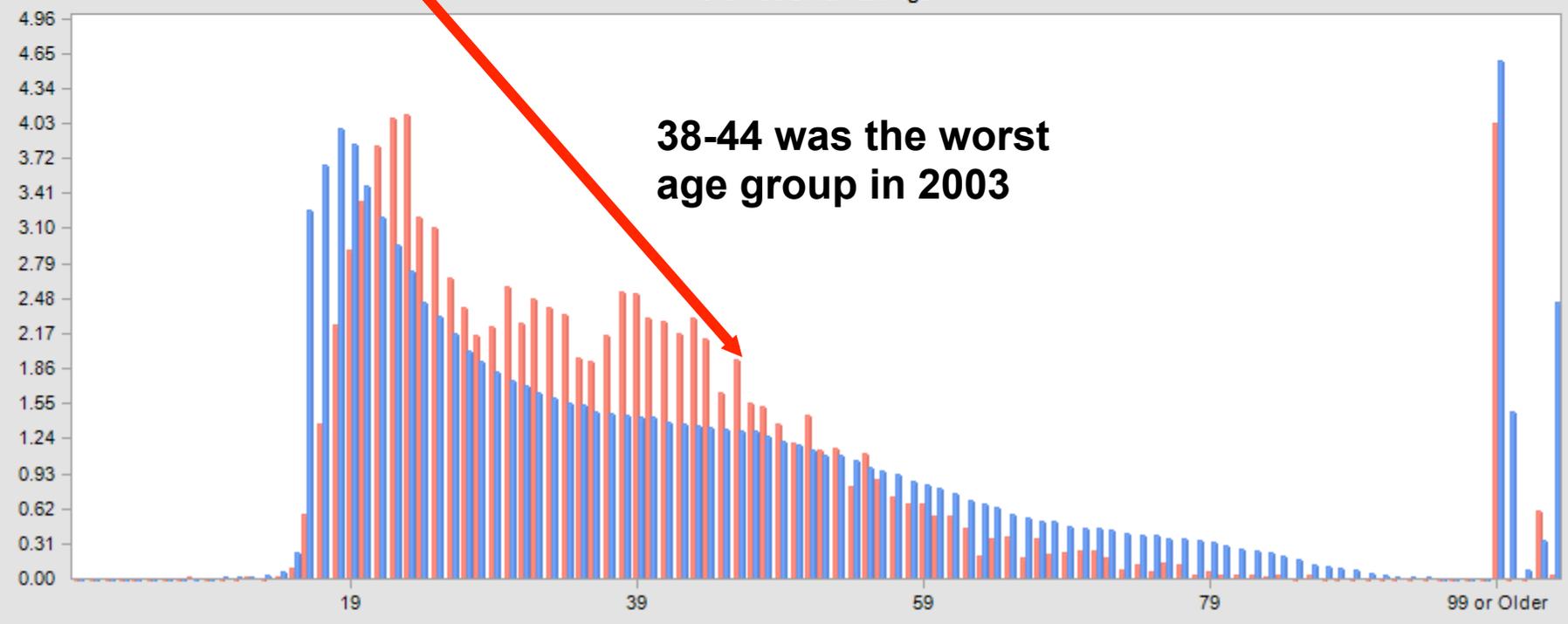


Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gair
45	117	1.641	17581	1.318	1.245*	23.038
46	138	1.936	17351	1.301	1.488*	45.267
47	111	1.557	17408	1.305	1.193	17.963
48	109	1.529	16728	1.254	1.219	19.597
49	98	1.375	16230	1.217	1.130	11.259
50	86	1.206	15862	1.189	1.014	1.225
51	103	1.445	15220	1.141	1.266*	21.656
52	81	1.136	14587	1.094	1.039	3.040
53	82	1.150	14475	1.085	1.060	4.638

Sort by Sum of Max Gain



IMPACT Results - 2003-2012 Alabama Integrated Crash Data - DUI 2003 vs. Not DUI 2003  
C107: CU Driver Raw Age



### C107: CU Driver Raw Age

	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
	45	125	1.87	1444	1.32	1.418*	36.852
	46	140	2.09	1415	1.29	1.621*	53.622
	47	140	2.09	1427	1.30	1.607*	52.889
	48	115	1.72	1499	1.37	1.257*	23.494
	49	119	1.78	1397	1.27	1.395*	33.721
	50	138	2.06	1435	1.31	1.575*	50.401

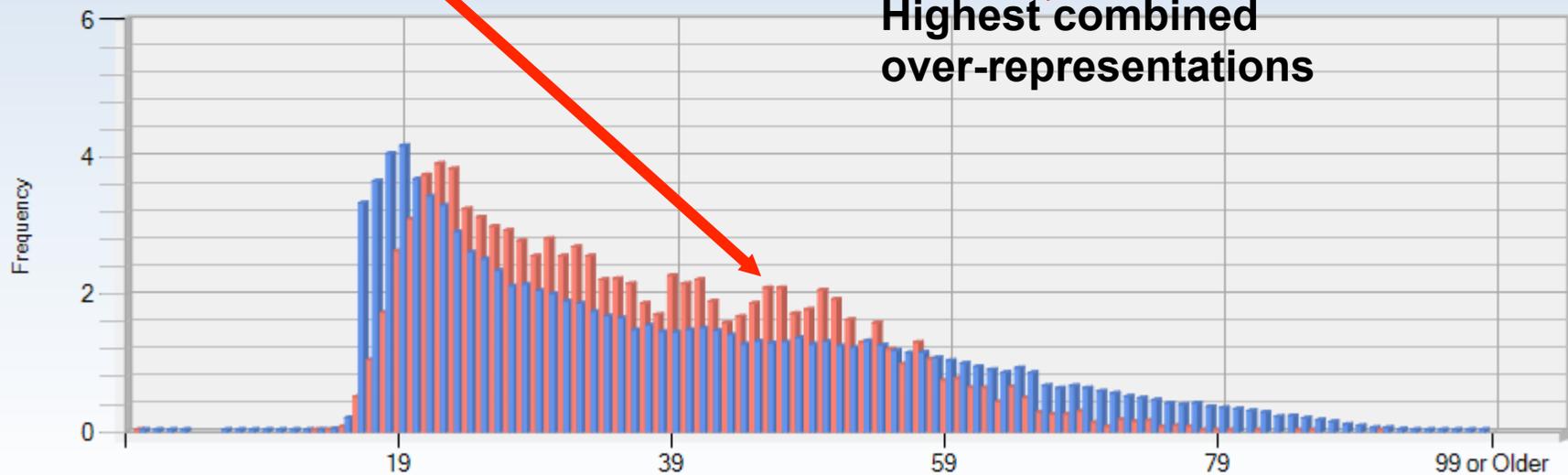
### C107: CU Driver Raw Age

Sort by Sum of Max Gain

Display Filter Name

2012 Alabama Integrated Crash Data

C107: CU Driver Raw Age



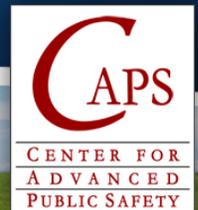
**Highest combined over-representations**

# Questions on ID Driver Characteristics

## Gender

True or False:

**Males cause at least twice as many ID crashes as females.**



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

**C109: CU Driver Gender**

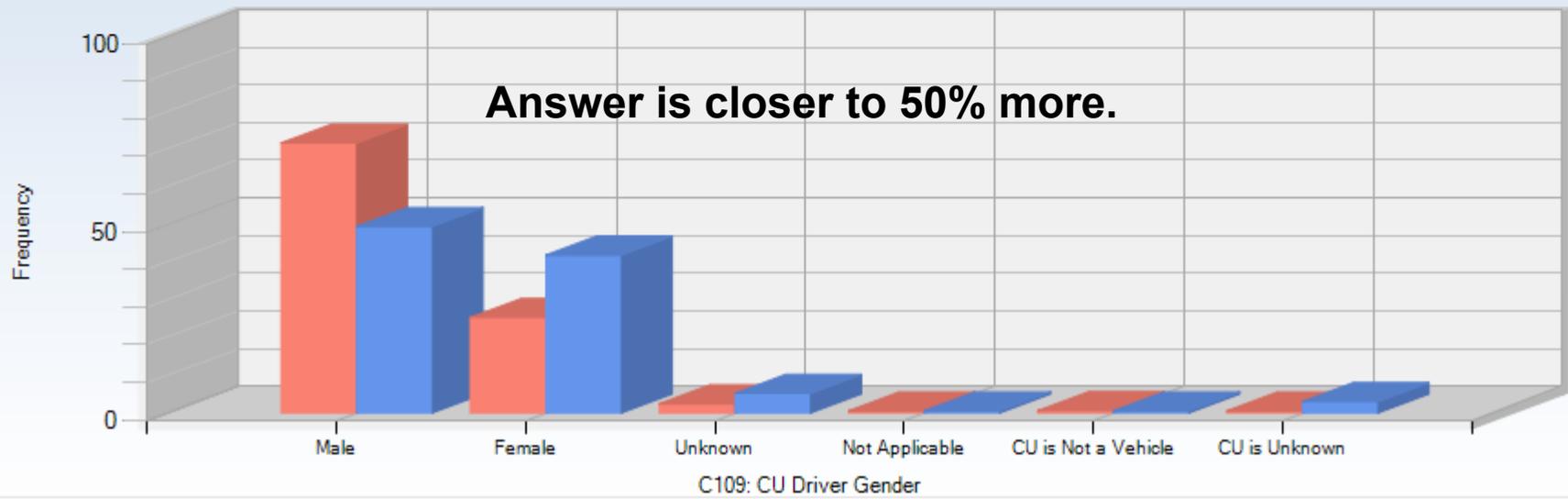
	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
▶	Male	4992	71.62	60047	49.49	1.447*	1542.872
	Female	1761	25.27	50804	41.87	0.603*	-1157.206
	Unknown	166	2.38	6237	5.14	0.463*	-192.256
	Not Applicable	8	0.11	236	0.19	0.590	-5.556
	CU is Not a Vehicle	36	0.52	421	0.35	1.489	11.818
	CU is Unknown	7	0.10	3598	2.97	0.034	-199.671

- C413: E CU Turn Lanes
- C107: CU Driver Raw Age
- C601: Adjusted EMS Arrival Delay
- C600: CU Driver Age Range
- C109: CU Driver Gender
- C106: CU Driver Age
- C326: CU Driver/Non-Motorist Gender
- C324: CU Driver Airbag Status

Sort by Sum of Max Gain

Display Filter Name

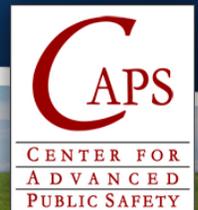
2012 Alabama Integrated Crash Data  
C109: CU Driver Gender



# Questions on ID Driver Characteristics Employment Status

True or False:

**Over 30% of ID crashes were caused by  
drivers who were unemployed.**



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

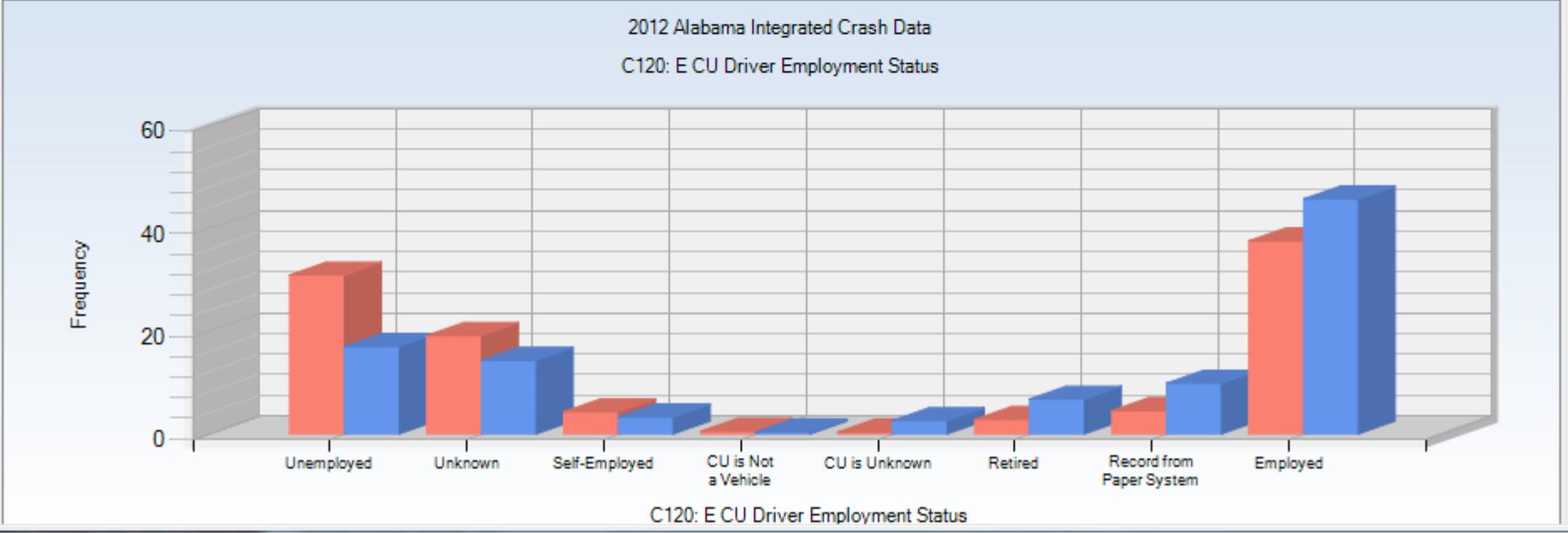
**C120: E CU Driver Employment Status**

	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
▶	Unemployed	2160	30.99	20689	17.05	1.818*	971.673
	Unknown	1336	19.17	17407	14.34	1.336*	336.183
	Self-Employed	299	4.29	3964	3.27	1.313*	71.317
	CU is Not a Vehicle	34	0.49	366	0.30	1.617*	12.978
	CU is Unknown	7	0.10	3118	2.57	0.039	-172.091
	Retired	195	2.80	8220	6.77	0.413*	-277.137
	Record from Paper System	315	4.52	11971	9.86	0.458*	-372.586

- C328: CU Driver/Non-Motorist Injury Type
  - C331: E CU Driver/Non-Motorist Transport T
  - C120: E CU Driver Employment Status**
  - C059: Number Injured (Includes Fatalities)
  - C045: HasGPS
  - C038: Non-Vehicular Property Damage
  - C329: CU Driver/Non-Motorist First Aid By
  - C011: Highway Classifications
  - C058: Number Injured (Non-Fatal)
  - C000: SUM
- Sort by Sum of Max Gain



Display Filter Name



# Questions on ID Driver Characteristics

## Drivers License Status

The proportion of causal ID crash drivers who did not have valid drivers' licenses:

10%

20%

30%

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

**C114: CU Driver License Status**

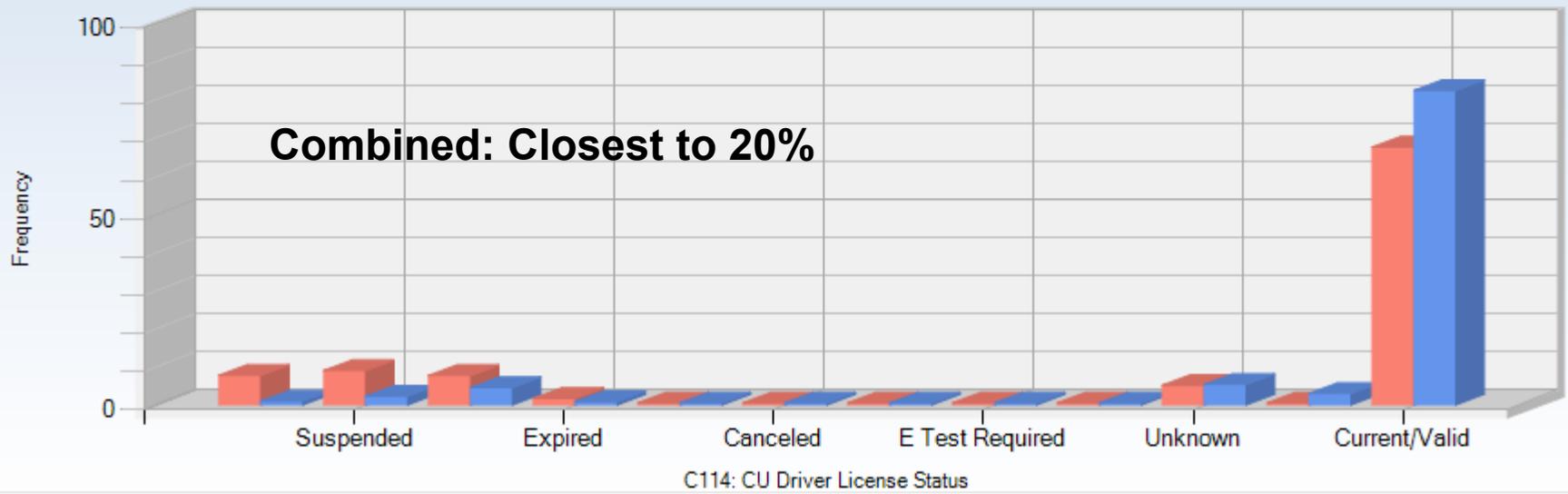
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Revoked	540	7.75	1198	0.99	7.847*	471.186
Suspended	626	8.98	2735	2.25	3.985*	468.900
Not Applicable/Unlicensed	535	7.68	5472	4.51	1.702*	220.686
Expired	118	1.69	1024	0.84	2.006*	59.181
CU is Not a Vehicle	36	0.52	421	0.35	1.489	11.818
Canceled	13	0.19	24	0.02	9.430	11.621

- C011: Highway Classifications
  - C058: Number Injured (Non-Fatal)
  - C208: CU Model Year
  - C114: CU Driver License Status
  - C036: Police Arrival Delay
  - C014: Distance from Node 1
  - C027: At Intersection
  - C001: County
- Sort by Sum of Max Gain



Display Filter Name

2012 Alabama Integrated Crash Data  
C114: CU Driver License Status



# Questions on ID Driver Characteristics Left the Scene

What percentage of ID drivers leave the scene of the crash?

6%

16%

26%

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

**C105: CU Left Scene**

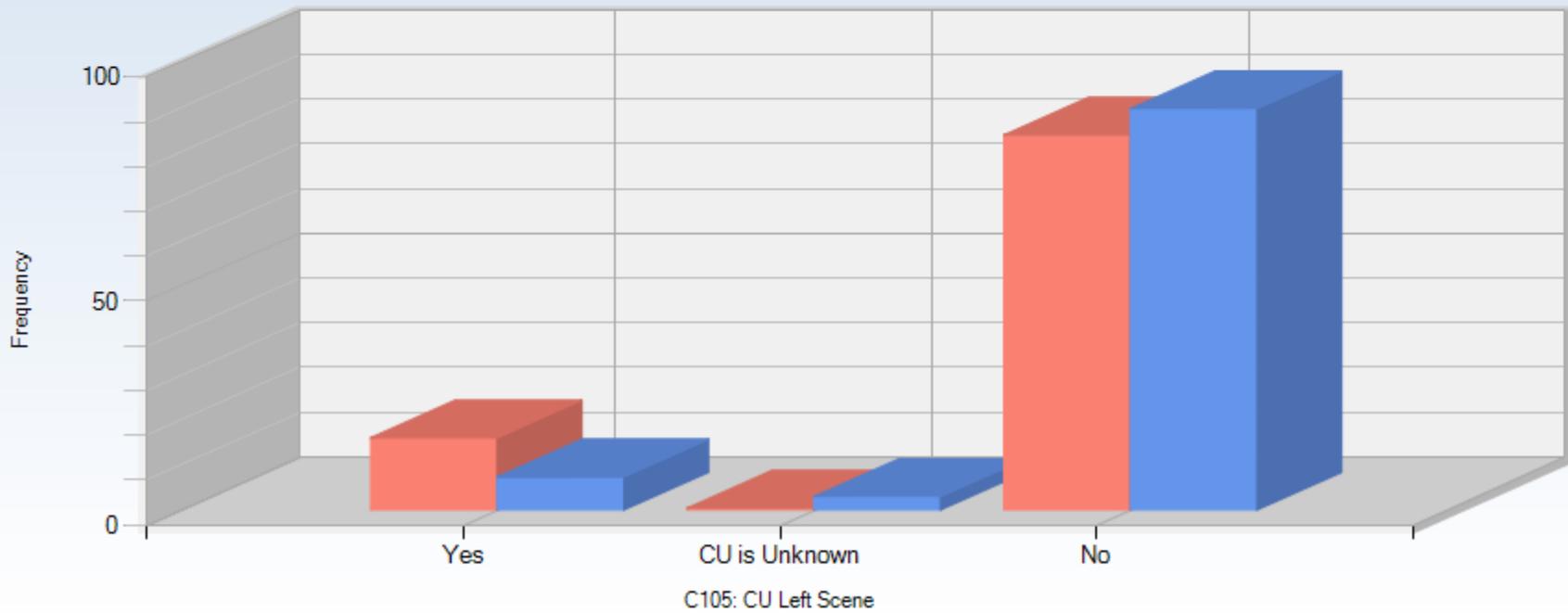
Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
Yes	1123	16.12	8946	7.37	2.185*	609.128
CU is Unknown	7	0.10	3598	2.97	0.034	-199.675
No	5838	83.78	108762	89.66	0.934*	-409.454

- C108: CU Driver Race
- C402: E CU Road Surface Type
- C410: CU Traffic Control Functioning
- C401: E CU Involved Road/Bridge
- C105: CU Left Scene

Sort by Sum of Max Gain

Display Filter Name

2012 Alabama Integrated Crash Data  
C105: CU Left Scene



## Questions on ID Driver Characteristics Driver Residence Distance

What proportion of ID crash drivers were more than 25 miles from their homes?

15%

25%

35%

**C110: CU Driver Residence Distance**

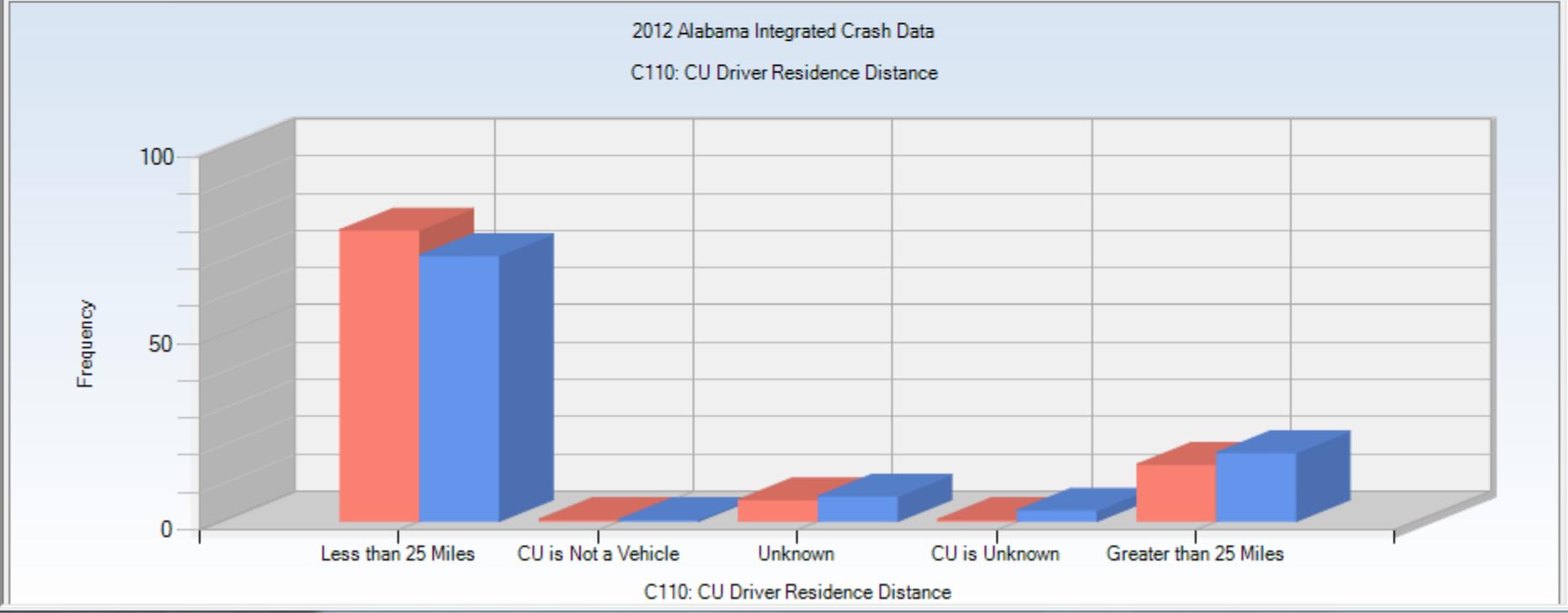
	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
▶	Less than 25 Miles	5444	78.34	86400	71.49	1.096*	476.075
	CU is Not a Vehicle	36	0.52	421	0.35	1.487	11.793
	Unknown	402	5.79	8148	6.74	0.858*	-66.503
	CU is Unknown	7	0.10	3598	2.98	0.034	-199.882
	Greater than 25 Miles	1060	15.25	22287	18.44	0.827*	-221.483

- C303: E CU K-12 Child W/C To/From School
- C119: E CU Endorsement Violations #2
- C130: E CU Non-Motorist Maneuvers
- C307: E Vehicle Unit That Struck CU Non-Moto
- C013: E Highway Side
- C212: CU License Tag State
- C112: CU Driver First License Class

Sort by Sum of Max Gain

2012 Alabama Integrated Crash Data  
C110: CU Driver Residence Distance

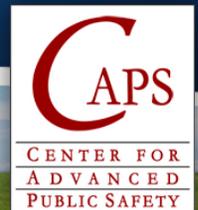
Display Filter Name



# Questions on ID Driver Characteristics Commercial Vehicles

True or False?

**For their proportion of the total crashes, commercial vehicles cause about the same number of ID crashes as other vehicles.**

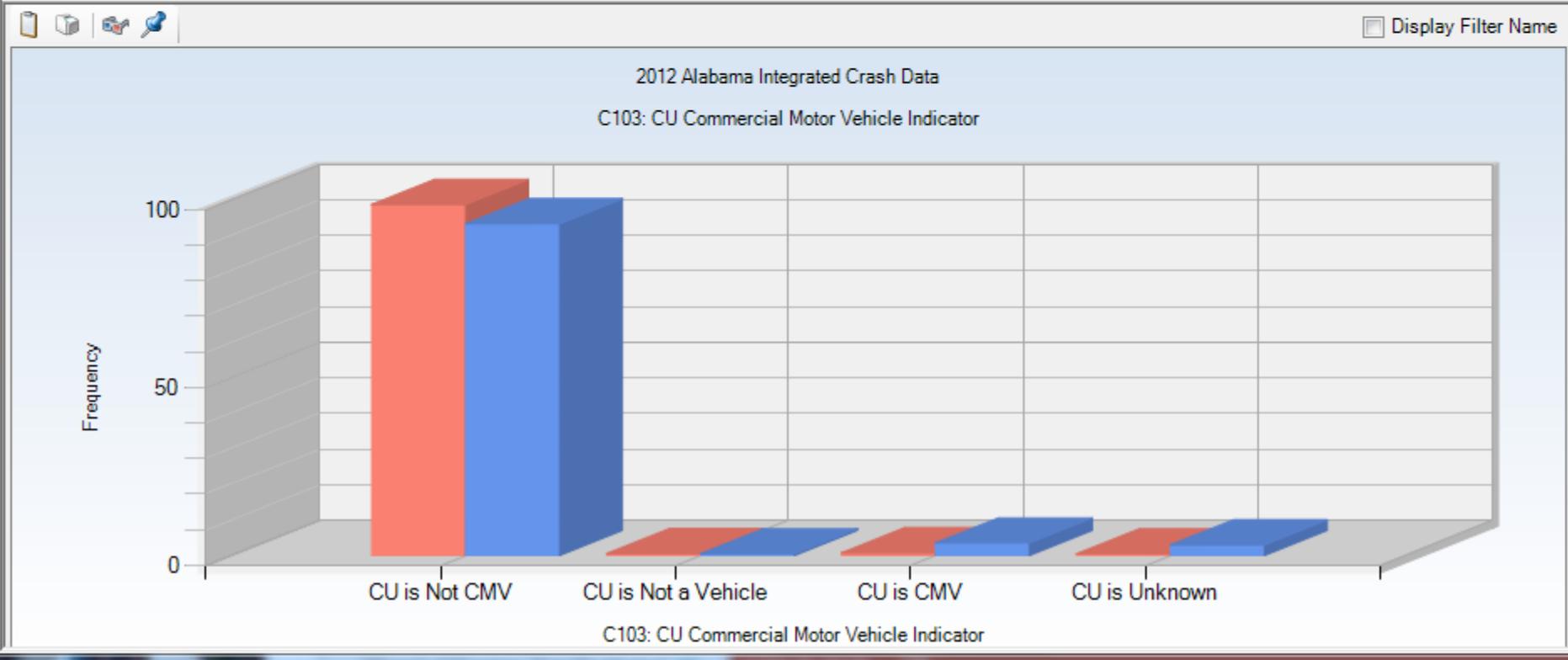


**C103: CU Commercial Motor Vehicle Indicator**

	Value	Subset Frequency	Subset Percent	Other Frequency	Other Percent	Odds Ratio	Max Gain
	CU is Not CMV	6876	98.65	113085	93.19	1.059*	380.343
	CU is Not a Vehicle	36	0.52	421	0.35	1.489	11.818
▶	CU is CMV	51	0.73	4239	3.49	0.209*	-192.490
	CU is Unknown	7	0.10	3598	2.97	0.034	-199.671

- C110: CU Driver Residence Distance
  - C403: CU Roadway Condition
  - C026: Intersection Related
  - C222: CU Contributing Vehicle Defect
  - C111: CU Driver License State
  - C103: CU Commercial Motor Vehicle Indicator
  - C450: CU CMV Indicator
  - C452: CU CMV Hazard Materials Involvement
  - C228: CU Qualified Lead Operator Permit
- Sort by Sum of Max Gain

**About 1/5 of that expected**





# Roundtable Input and Questions Thank You!

