



Alabama's Recent Findings From Distracted Driving Data

Special Distracted Driving Training Conference: Eufaula AL

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Defining The Problem in Alabama

GHSA and State Farm Sponsored National (Meta) Study:

- **Range of Results: 15% to 30% Distracted Driving Causation**
- **This translates in Alabama to (per year, rounded):**
 - **125 to 250 fatalities**
 - **4,000 to 8,000 injuries**
 - **15,000 to 30,000 total crashes**
- **NHTSA Estimates: 3,092 Deaths Annually (2010 “distraction-affected”)**
- **Total of 38 States Have Some Kind of Texting Ban**
- **Study Reports Available on:**

<http://www.safehomealabama.gov/InfoTraining/DistractedDriving.aspx>

Other Facts to Pound the Issue Home

- **Texting Increases Risk of Crash from 4 to 23 Times**
- **Drivers' Eyes Off Road Average 4.6 Seconds**
 - **At 55 MPH, this is the length of a football field**
- **Use of Cell Phone or Texting can be Subpoenaed**
 - **Determined through phone records**
 - **Evidence is quite definitive**
 - **Liability is extreme, even if you are not primarily responsible**
- **Value of the Law**
 - **Some will obey per se – public awareness**
 - **Increased liability – causing injury while breaking a law**
 - **Deterrent – fines and points**

Definition of Distracted Driving

“Distraction occurs when a driver voluntarily diverts attention away from driving to something not related to driving that uses the driver’s eyes, ears, or hands.”

- **This Excludes:**

- Exceptional components of the roadway environment
- Actions of other vehicles or pedestrians

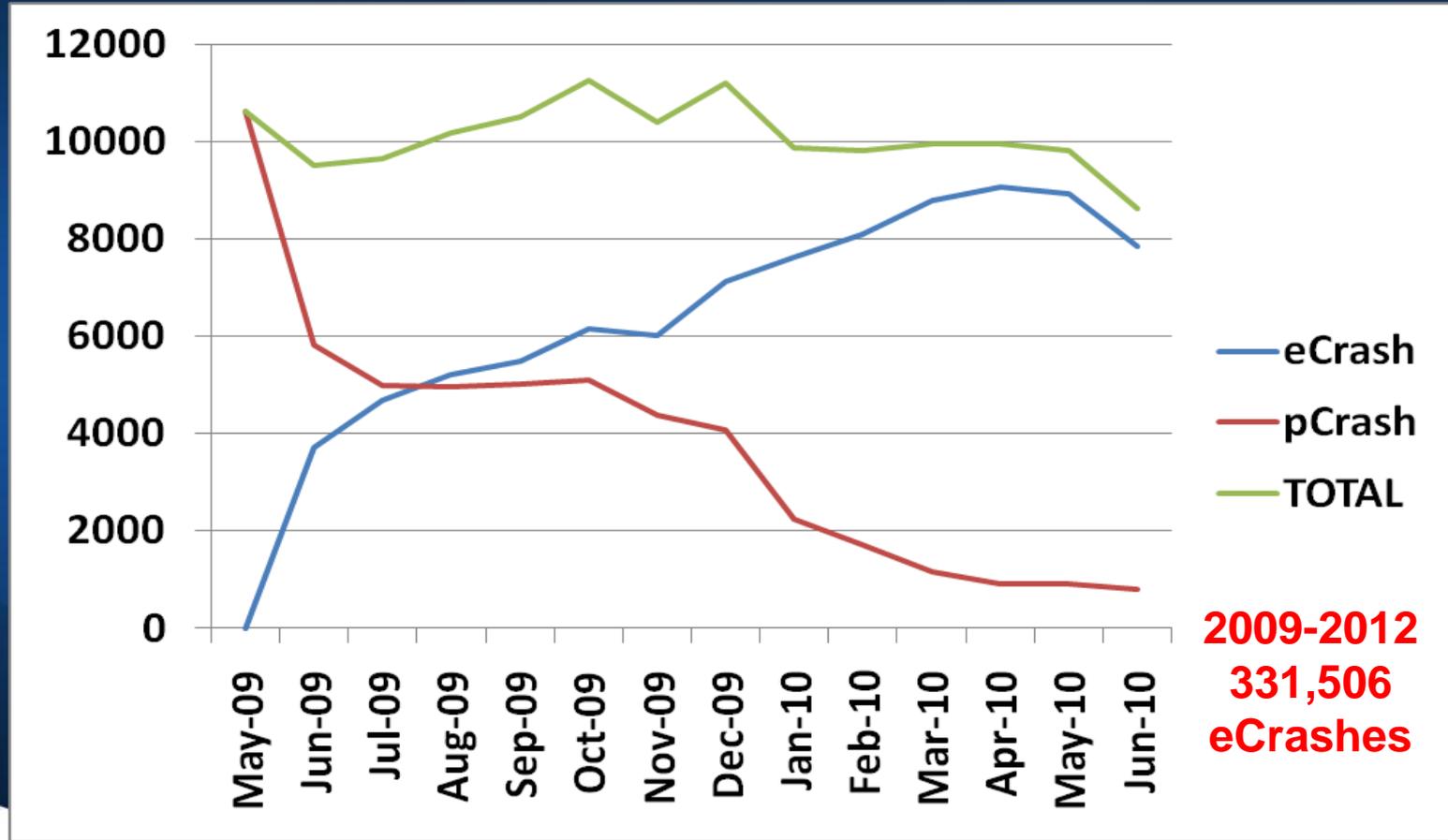
- **This Includes:**

- Most things originating from within the vehicle
- ALL electronic device usage

Data Source for Results: AL eCrash

(DD data element code was not in pCrash)

Crash Reports per Month



2009-2012
331,506
eCrashes

Month



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ADVANCED
PUBLIC SAFETY

Primary Contributing Circumstance

In eCrash 90+ Codes are Grouped into 8 Categories:

1. General Causes
2. Specific Driver Actions
3. Failed to Yield Right-of-Way
4. **Inattentive/Distracted by ...**
5. Other Improper Driver Action
6. No Improper Driving Action
7. Pedestrian Actions
8. Other/Unknown

Inattentive/Distracted by ...

- **Distracted by Electronic Communication Device**
- **Distracted by Use of Other Electronic Device**
- **Other Distraction Inside the Vehicle**
- **Other Distraction Outside the Vehicle**
- **Distracted by Passenger***
- **Distracted by Fallen Object* [inside the vehicle]**
- **Fatigued/Asleep***
- **Distracted by Insect/Reptile***

* Not in MMUCC (2008)

Primary Contributing Circumstance

Other Variable that Uses Same PCC Codes:

**Unit Contributing Circumstance
for each unit**

CC “Distracted Driving” Codes

Source 331,506 eCrash Records (2009-2012)

C015: Primary Contributing Circumstance					
	Value	Frequency ∇	Cum. Freq	Percentage	Cum. Percent
▶	E Distracted by Use of Electronic Com	2929	2929	40.709	40.709
	E Distracted by Passenger	1647	4576	22.891	63.600
	E Distracted by Use of Other Electronic	1242	5818	17.262	80.862
	E Distracted by Fallen Object	1120	6938	15.566	96.428
	E Distracted by Insect / Reptile	257	7195	3.572	100.000

Percentage is of Distracted Driving Records within C015 and C202

C202: CU Contributing Circumstance					
	Value	Frequency ∇	Cum. Freq	Percentage	Cum. Percent
▶	E Distracted by Insect / Reptile	6404	6404	41.810	41.810
	E Distracted by Fallen Object	4347	10751	28.380	70.190
	E Distracted by Passenger	2576	13327	16.818	87.008
	E Distracted by Use of Electronic Communication De	1056	14383	6.894	93.902
	E Distracted by Use of Other Electronic Device	934	15317	6.098	100.000

Reason for Under-Reporting

Example: Suppose the officer had a situation in which it was clear that a driver failed to yield the right-of-way at a stop sign, and there was also some strong suspicion that the causal driver was using a cell phone.

- **Which Code is Most Likely to Get Selected?**
 - **Failed to Yield Right-of-Way from Stop Sign, or**
 - **Distracted by Use of Electronic Communication Device**
- **Problem: MUST Select One or the Other (not Both)**
- **The Solution ...**

The Solution:

Separate Distracted Driving Variable

- **Officer's Opinion: Distracted Driving Involvement**

- **Distracted by passenger**
- **Distracted by use of electronic communication device** **DDE**
- **Distracted by use of other electronic device** **DDE**
- **Distracted by fallen object**
- **Fatigued / asleep**
- **Distracted by insect / reptile**
- **Other distraction inside the vehicle (explain in narrative)**
- **Other distraction outside the vehicle (explain in narrative)**
- **Not applicable (not distracted)**
- **Unknown**

- **Existing PCC and CU-CC Still Apply**

Driving Distracted by Electronics Codes

Source 331,506 eCrash Records (2009-2012)

C015: Primary Contributing Circumstance		For Entire Crash = 1.26% of all crashes			
	Value	Frequency	Cum. Freq	Percentage	Cum. Percent
▶	E Distracted by Use of Electronic Communicatio	2929	2929	70.223	70.223
	E Distracted by Use of Other Electronic Device	1242	4171	29.777	100.000

Distracted Driving Electronic (DDE) Records within C015 and C202

C202: CU Contributing Circumstance		For the Causal Unit = 0.6% of all crashes			
	Value	Frequency	Cum. Freq	Percentage	Cum. Percent
▶	E Distracted by Use of Electronic Communicatio	1056	1056	53.065	53.065
	E Distracted by Use of Other Electronic Device	934	1990	46.935	100.000

This created a subset of 5,268 records when ORed together
... will be called "DDE"



Question: Vehicle Maneuver

True or False:

Driving Distracted by Electronics (DDE) caused crashes are most apt to occur at curves.

C129: CU Vehicle Maneuvers	DDE	DDE	Non-DDE	Non-DDE	D/N	Crashes
Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
▶ Movement Essentially Straigh	4187	79.555	172895	53.147	1.497*	1389.850
E Negotiating a Curve	336	6.384	15043	4.624	1.381*	92.630
E Stopped for Sign/Signal	41	0.779	1320	0.406	1.920*	19.645
Stopped in Traffic	28	0.532	1147	0.353	1.509	9.443
Legally Parked	1	0.019	153	0.047	0.404	-1.475
E Leaving Main Road	16	0.304	1269	0.390	0.779	-4.530
Making U-Turn	3	0.057	1544	0.475	0.120	-21.979
Slowing/Stopping	356	6.764	23439	7.205	0.939	-23.204
Other	23	0.437	2987	0.918	0.476*	-25.325
Unknown	3	0.057	3035	0.933	0.061	-46.101
E Overtaking/Passing	13	0.247	3882	1.193	0.207	-49.804
CU is Unknown	2	0.038	8178	2.514	0.015	-130.306
E Entering Main Road	15	0.285	10047	3.088	0.092	-147.544
Turning Right	81	1.539	15068	4.632	0.332*	-162.775
E Changing Lanes	40	0.760	14785	4.545	0.167*	-199.196
Backing	24	0.456	14240	4.377	0.104*	-206.379
Turning Left	94	1.786	34809	10.700	0.167*	-469.151

- C015: Primary Contributing Circumst
 - C202: CU Contributing Circumst
 - C129: CU Vehicle Maneuvers
 - C573: V2 Point of Initial Impact
 - C022: E Manner of Crash
 - C563: V2 Estimated Speed at Im
 - C529: V2 Vehicle Maneuvers
 - C107: CU Driver Raw Age
 - C106: CU Driver Age
 - C233: CU Point of Initial Impact
 - C223: CU Estimated Speed at Im
 - C230: CU Areas Damaged #1
 - C002: City
 - C043: Agency ORI
 - C113: CU Driver Second License
 - C325: CU Driver/Non-Motorist Ag
 - C108: CU Driver Race
 - C204: E CU Sequence of Events
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C129: CU Vehicle Maneuvers



Question: Sequence of Events

True or False:

**The majority of DDE caused crashes involve
a second vehicle.**

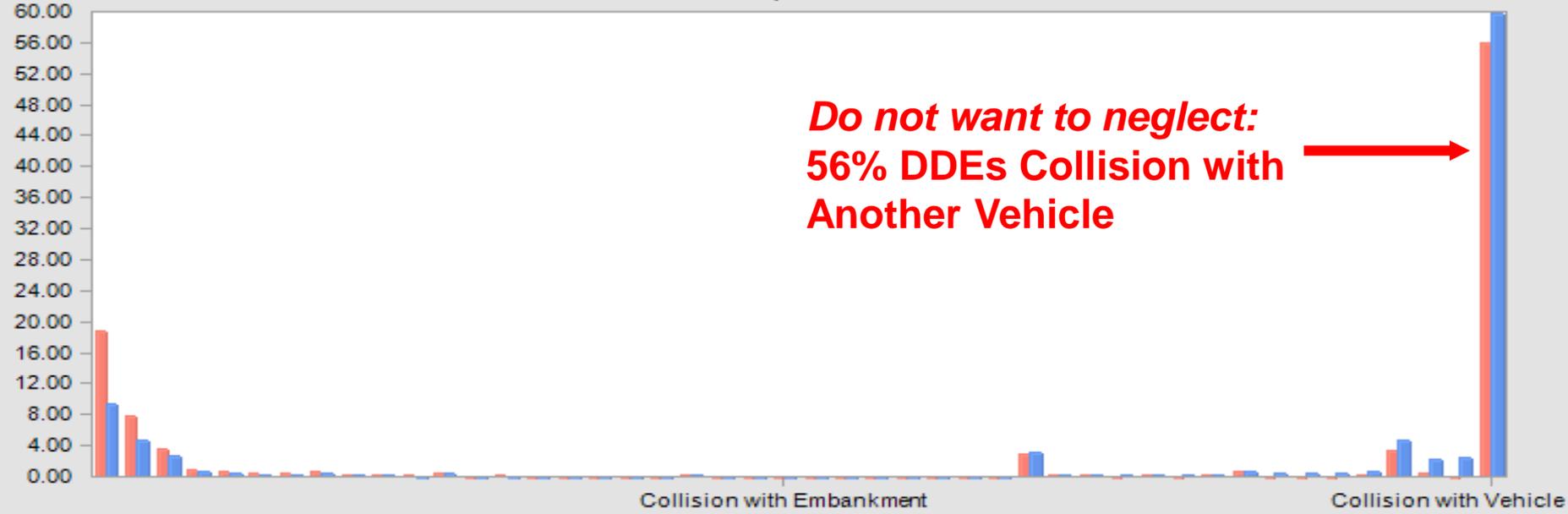
C204: E CU Sequence of Events #1

Value	Subset Fre	Subset Per	Other Freq	Other Per	Over Rep	Max G
Ran Off Road Right	987	18.736	30395	9.317	2.011*	496.190
Ran Off Road Left	409	7.764	15596	4.781	1.624*	157.160
Crossed Centerline	188	3.569	8550	2.621	1.362*	49.937
Ran Off Road Straight	53	1.006	2061	0.632	1.593*	19.720
Collision with Curb/Island	41	0.778	1375	0.421	1.847*	18.797
Collision with Mailbox	25	0.475	572	0.175	2.707*	15.764
Collision with Utility Pole	20	0.380	756	0.232	1.638	7.792
Collision with Ditch	32	0.607	1526	0.468	1.299	7.359
Collision with Guardrail F	17	0.323	715	0.219	1.472	5.454
Collision with Bridge Abu	15	0.285	703	0.215	1.321	3.648

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 - C226: CU Vehicle Towed
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C204: E CU Sequence of Events #1



Question: Point of Initial Impact

True or False:

The majority of DDE caused crashes are rear-end crashes.

C573: V2 Point of Initial Impact

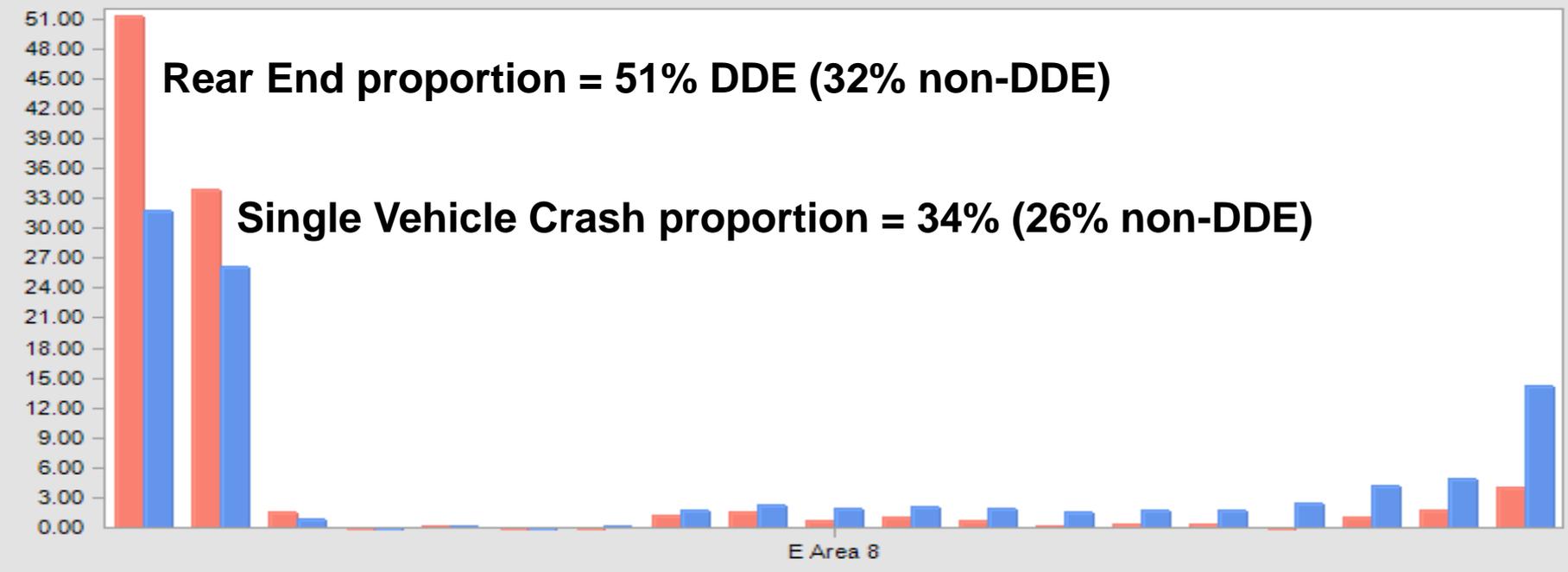
	Value	Subset Freq	Subset Per.	Other Freq	Other Per.	Over Rep.	Max Gain
▶ Area 6 - Rear En		2702	51.291	103705	31.788	1.614*	1027.396
No Second Vehic		1785	33.884	85475	26.200	1.293*	404.769
Area 15 - Attach		80	1.519	2965	0.909	1.671*	32.122
Area 14 - Underc		4	0.076	264	0.081	0.938	-0.263
Not Applicable		5	0.095	429	0.131	0.722	-1.927
Area 13 - Top		2	0.038	278	0.085	0.446	-2.489
Unknown		4	0.076	643	0.197	0.385	-6.383
Area 5 - Right Re		68	1.291	5629	1.725	0.748*	-22.896
Area 7 - Left Rea		82	1.557	7693	2.358	0.660*	-12.225

C015: Primary Contributing Circumstances
 C202: CU Contributing Circumstances
 C129: CU Vehicle Maneuvers
C573: V2 Point of Initial Impact
 C022: E Manner of Crash
 C563: V2 Estimated Speed at Impact
 C529: V2 Vehicle Maneuvers
 C107: CU Driver Raw Age
 C106: CU Driver Age

Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C573: V2 Point of Initial Impact



Question:

Age of Causal Drivers

True or False:

Causal Drivers aged 16-17 have about twice as many DDE crashes as the overall average for all ages.

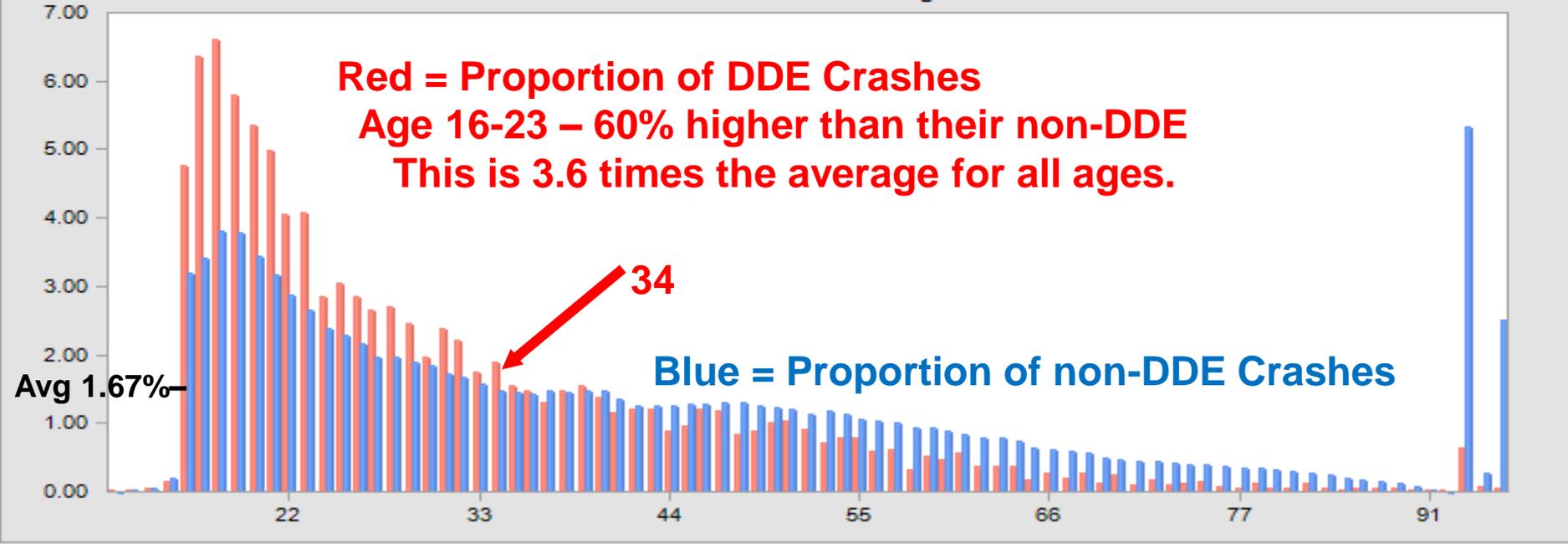
C107: CU Driver Raw Age

	Value	Subset Freq	Subset Per	Other Freq	Other Per	Over Rep	Max Gair
16		251	4.765	10427	3.196	1.491*	82.628
17		335	6.359	11165	3.422	1.858*	154.711
18		348	6.606	12410	3.804	1.737*	147.607
19		305	5.790	12377	3.794	1.526*	105.140
20		282	5.353	11231	3.443	1.555*	100.645
21		263	4.992	10343	3.170	1.575*	95.984
22		214	4.062	9385	2.877	1.412*	62.454
23		215	4.081	8658	2.654	1.538*	75.193
24		150	2.847	7785	2.386	1.193	24.290

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 - C200: CU Driver Status
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C107: CU Driver Raw Age



Question:

Cities (Including Rural County Areas)

True or False:

The pattern for DDE caused crashes tends to be in the rural areas of the more populated counties.

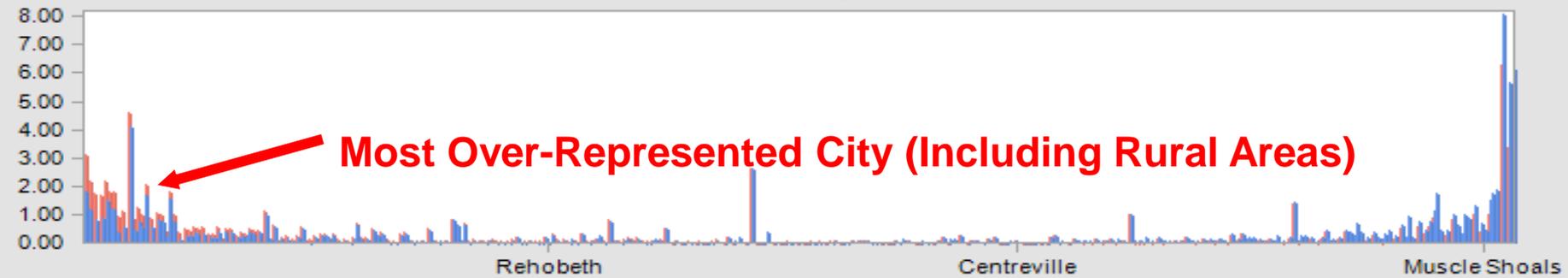
Highest City and "County-Rural" Areas

C002: City	Value	Subset Freq	Subset Per	Other Freq	Other Per	Over Rep.	Max Gain
Rural Mobile	163	3.094	5952	1.824	1.696*	66.889	
Rural Shelby	115	2.183	3896	1.194	1.828*	52.088	
Rural Limestone	93	1.765	2572	0.788	2.239*	51.468	
Madison	88	1.670	2763	0.847	1.972*	43.384	
Rural Tuscaloos	116	2.202	4805	1.473	1.495*	38.410	
Auburn	95	1.803	3799	1.164	1.549*	33.655	
Rural Baldwin	94	1.784	3896	1.194	1.494*	31.088	
Rural Lawrence	49	0.930	1240	0.380	2.447*	28.977	
Rural Lauderdale	58	1.101	1873	0.574	1.918*	27.755	
Tuscaloosa	243	4.613	13439	4.119	1.120	25.991	
Rural Chilton	47	0.892	1343	0.412	2.167*	25.314	
Rural Morgan	65	1.234	2490	0.763	1.617*	24.792	
Daphne	52	0.987	1788	0.548	1.801*	23.128	
Rural Madison	108	2.050	5402	1.656	1.238	20.770	
Troy	46	0.873	1822	0.558	1.564*	16.579	
Pelham	56	1.063	2551	0.782	1.359	14.807	
Rural Lee	53	1.006	2367	0.726	1.387*	14.778	
Helena	23	0.437	545	0.167	2.613*	14.199	

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 - C324: CU Driver Airbag Status
 - C226: CU Vehicle Towed
 - C227: E CU Towed or Assistance
 - C225: CU Vehicle Damage
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C002: City



Question: Cities (Including Rural County Areas)

True or False:

**The most under-represented areas
for DDE caused crashes
tend to be our largest cities.**

C002: City

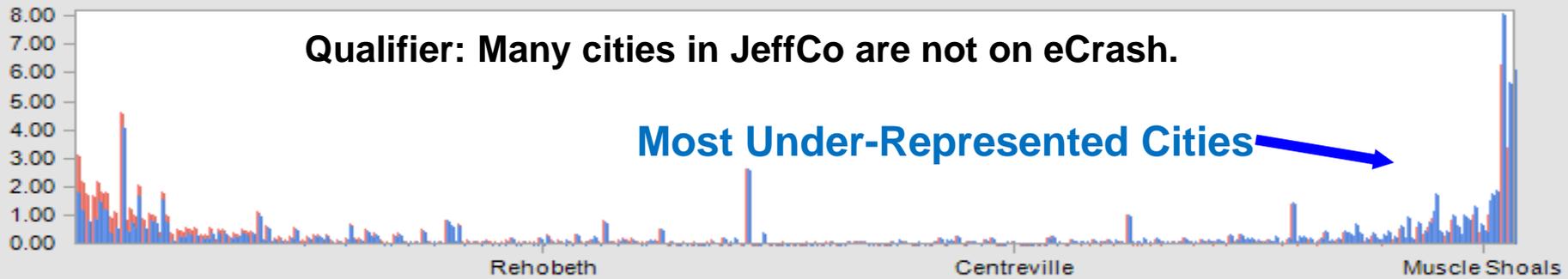
Lowest City and "County-Rural" Areas

Value	Subset Freq	Subset Per	Other Freq	Other Per	Over Rep	Max Gai
Florence	47	0.892	3561	1.092	0.817	-10.502
Decatur	80	1.519	5605	1.718	0.884	-10.508
Foley	12	0.228	1403	0.430	0.530	-10.655
Birmingham	12	0.228	1404	0.430	0.529	-10.671
Homewood	42	0.797	3272	1.003	0.795	-10.835
Selma	21	0.399	1988	0.609	0.654	-11.102
Valley	3	0.057	1014	0.311	0.183	-13.374
Rural Calhoun	38	0.721	3253	0.997	0.723	-14.529
Oxford	30	0.569	2801	0.859	0.663	-15.230
Anniston	53	1.006	4233	1.298	0.775	-15.353
Rural Talladega	20	0.380	2193	0.672	0.565*	-15.412
Muscle Shoals	3	0.057	1362	0.417	0.136	-18.993
Gadsden	53	1.006	4849	1.486	0.677*	-25.300
Opelika	58	1.101	5664	1.736	0.634*	-33.461
Hoover	57	1.082	6012	1.843	0.587*	-40.080
Mobile	329	6.245	26439	8.104	0.771*	-97.930
Huntsville	176	3.341	18408	5.643	0.592*	-121.247
Montgomery	168	3.189	20119	6.167	0.517*	-156.876

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- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C002: City



Question: Rural/Urban

True or False:

**DDE caused crashes are over-represented
in urban areas.**

C010: Rural or Urban

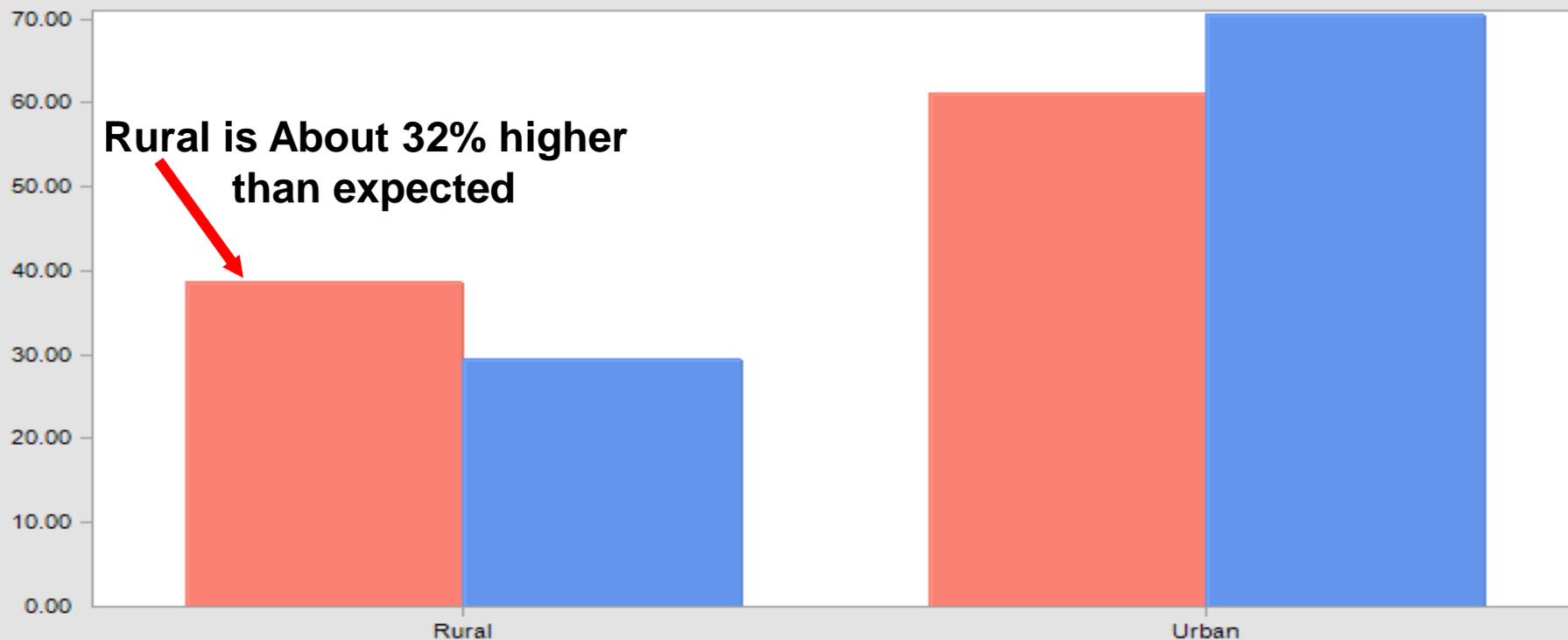
	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gai
▶	Rural	2044	38.800	96051	29.442	1.318*	492.995
	Urban	3224	61.200	230187	70.558	0.867*	-492.995

C592: V2 Trafficway Lanes
C501: Vehicle 2 (V2) Type
C052: Number of Drivers Record
C054: Number of Motorists Reco
C404: E CU Environmental Contr
C010: Rural or Urban
C412: CU Trafficway Lanes

Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C010: Rural or Urban



Question: Roadway Classificaitons

True or False:

**County Roads were most over-represented
in DDE caused crashes.**

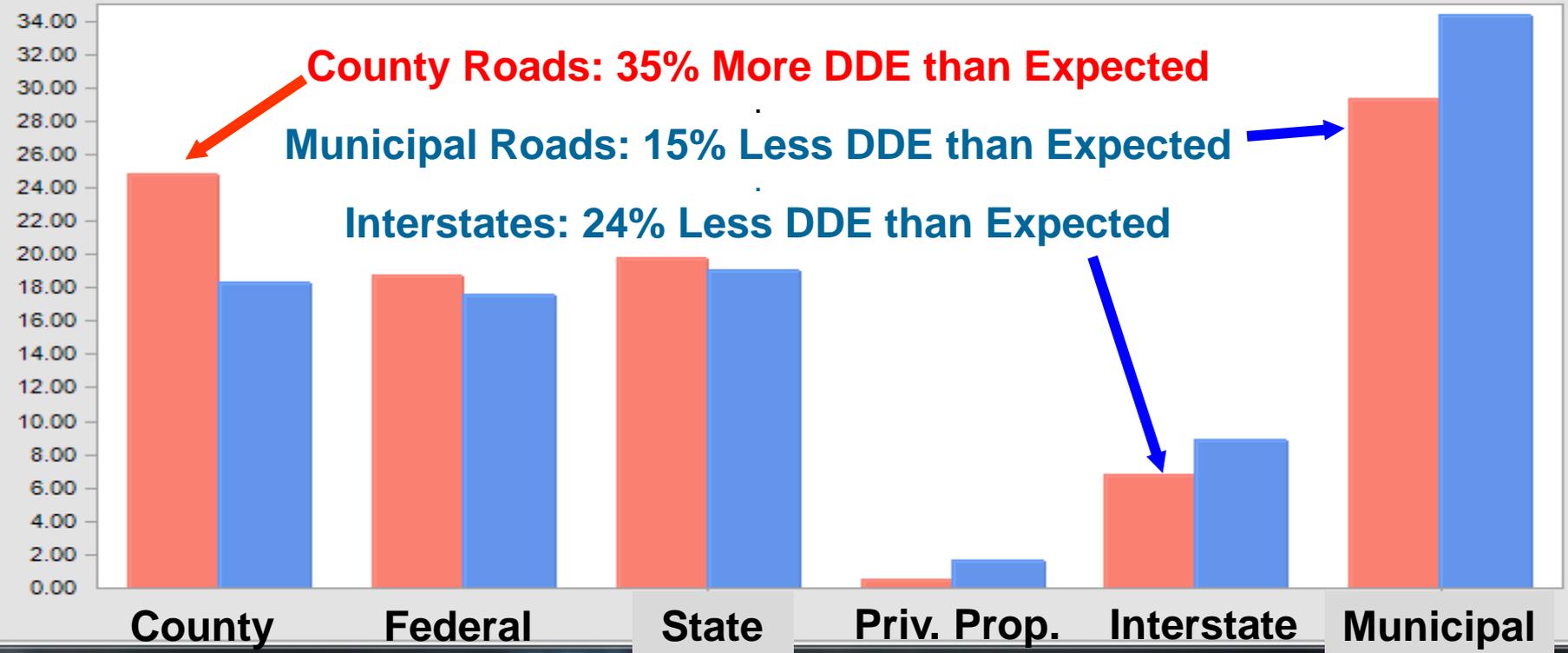
C011: Highway Classifications

	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gai
▶ County		1310	24.867	59731	18.309	1.358*	345.481
Federal		987	18.736	57559	17.643	1.062	57.553
State		1042	19.780	62202	19.066	1.037	37.579
Private Property		28	0.532	5478	1.679	0.317*	-60.457
Interstate		357	6.777	29149	8.935	0.758*	-113.690
Municipal		1544	29.309	112119	34.367	0.853*	-266.466

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



**IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
 C011: Highway Classifications**



Question:

Trooper Post Distribution

True or False:

There are no significant differences in the proportion of DDE caused crashes by trooper post.

C042: Highway Patrol Posts

Trooper Posts Arranged by Max Gain

	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gai
▶	Decatur Post	439	8.333	21564	6.610	1.261*	90.791
	Tuscaloosa Post	478	9.074	25243	7.738	1.173*	70.383
	Birmingham Post	828	15.718	48456	14.853	1.058	45.546
	Hamilton Post	85	1.614	3706	1.136	1.420*	25.157
	Eufaula Post	93	1.765	4655	1.427	1.237	17.832
	Alexander City Post	60	1.139	2729	0.837	1.362*	15.933
	Dothan Post	309	5.866	18336	5.620	1.044	12.915
	Mobile Post	773	14.674	47336	14.510	1.011	8.632
	Quad Cities Post	194	3.683	11492	3.523	1.045	8.430
	Gadsden Post	225	4.271	13553	4.154	1.028	6.150
	Evergreen Post	135	2.563	8101	2.483	1.032	4.187
	Grove Hill Post	37	0.702	2386	0.731	0.960	-1.528
	Selma Post	82	1.557	5750	1.763	0.883	-10.849
	Opelika Post	343	6.511	22641	6.940	0.938	-22.601
	Huntsville Post	525	9.966	36127	11.074	0.900*	-58.369
	Jacksonville Post	235	4.461	19187	5.881	0.758*	-74.826
	Montgomery Post	427	8.106	34976	10.721	0.756*	-137.783

C027: Mileposted Route

C049: ALDOT Division

C220: CU Had Oversized Load F

C217: E CU Hazardous Release

C224: CU Citation Issued

C327: CU Driver Ejection Status

C042: Highway Patrol Posts

C008: Time of Day

C036: Police Arrival Delay

C038: Non-Vehicular Property Da

C025: Intersection Related

C012: Controlled Access

C321: CU Driver/Non-Motorist Se

C405: CU Contributing Material in

C402: E CU Road Surface Type

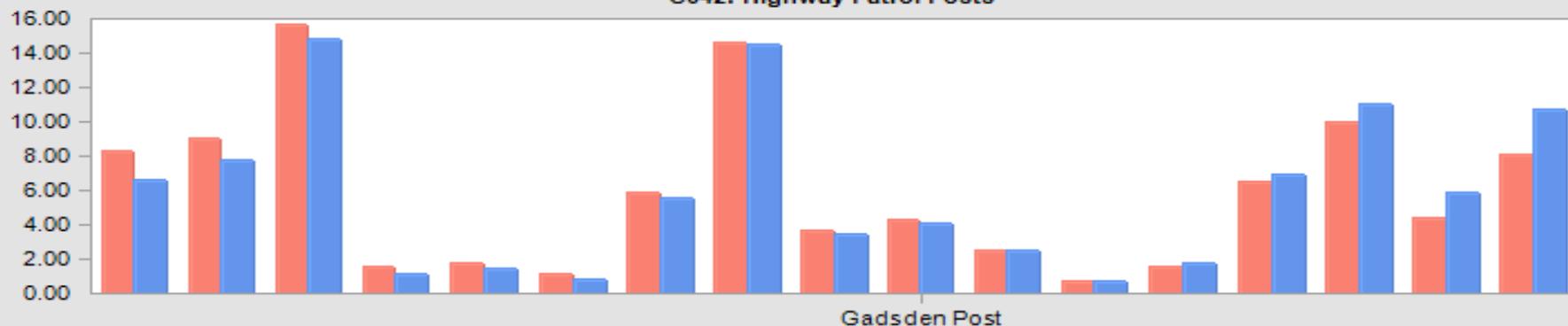
C103: CU Commercial Motor Veh

C450: CU CMV Indicator

C401: F.C.U Involved Road/Brid

 Sort by Sum of Max Gain

IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C042: Highway Patrol Posts



Question:

Crash Severity – Vehicle Damage

True or False:

DDE caused crashes tend to have a higher severity than other crashes.

C227: E CU Towed or Assistance to Leave

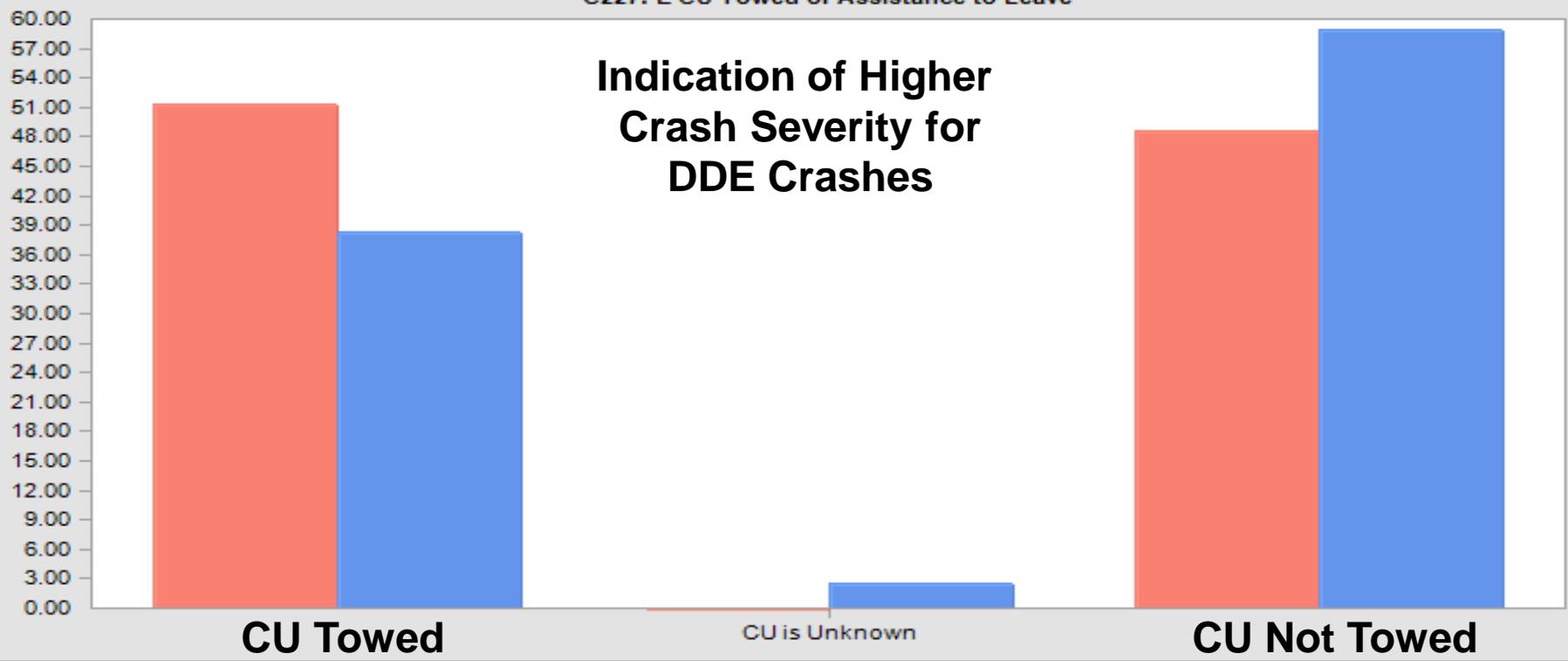
	Value	Subset Freq	Subset Per	Other Freq	Other Per	Over Rep	Max Gai
▶	Yes - CU Towed	2706	51.367	124926	38.293	1.341*	688.730
	CU is Unknown	2	0.038	8178	2.507	0.015	-130.056
	No - CU Not To	2560	48.595	192077	58.876	0.825*	-541.606

C324: CU Driver Airbag Status
 C226: CU Vehicle Towed
 C227: E CU Towed or Assistance
 C225: CU Vehicle Damage
 C017: First Harmful Event
 C201: CU Vehicle Most Harmful I
 C121: CU Driver Condition

Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C227: E CU Towed or Assistance to Leave



Question:

Crash Severity – Fatalities

True or False:

**DDE crashes caused more fatalities
than non-DDE crashes.**

C024: Crash Severity

	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gai
▶ Non-Incapacitati		589	11.181	33298	10.207	1.095	51.313
Possible Injury		443	8.409	24714	7.575	1.110	43.925
Incapacitating Inj		303	5.752	18498	5.670	1.014	4.299
Fatal Injury		21	0.399	2233	0.684	0.582*	-15.058
Property Damag		3818	72.475	238251	73.030	0.992	-29.211
Unknown		94	1.784	9244	2.834	0.630*	-55.270

C058: Number Injured (Non-Fatal) ▲
C329: CU Driver/Non-Motorist Fi
C417: E CU Workers Present
C331: E CU Driver/Non-Motorist
C059: Number Injured (Includes I
C330: CU Driver/Non-Motorist Tr
C004: Month
C024: Crash Severity
C046: HasRTMP

Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C024: Crash Severity



Question:

Crash Severity – Vehicle Age

True or False:

**DDE caused crashes tend to
involve newer vehicles.**

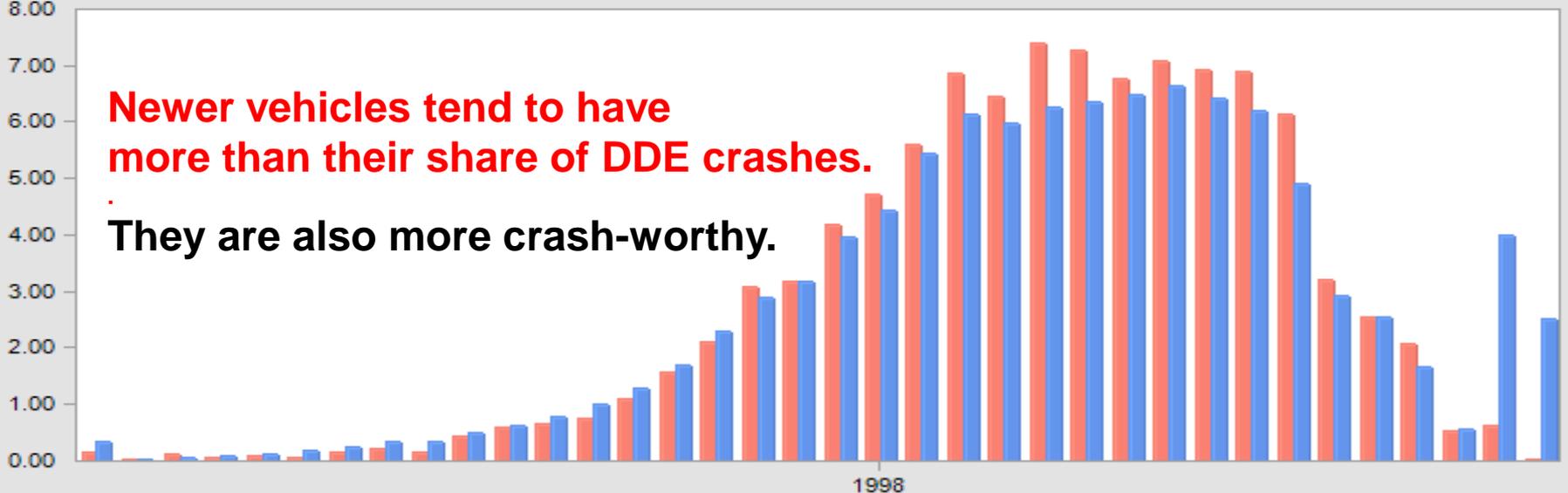
C208: CU Model Year

	Value	Subset Freq	Subset Per.	Other Freq	Other Per.	Over Rep.	Max Gair
2002		390	7.405	20442	6.267	1.181*	59.903
2003		383	7.272	20785	6.372	1.141*	47.364
2004		356	6.759	21150	6.484	1.042	14.470
2005		374	7.101	21646	6.636	1.070	24.461
2006		365	6.930	20910	6.411	1.081	27.346
2007		364	6.911	20198	6.192	1.116	37.843
2008		323	6.133	15982	4.900	1.252*	64.923
2009		169	3.209	9565	2.933	1.094	14.545
2010		134	2.544	8306	2.547	0.999	-0.125
2011		110	2.088	5400	1.656	1.261*	22.801
2012		28	0.532	1845	0.566	0.940	-1.793

- C408: CU Vision Obscured By
 - C218: CU Attachment
 - C565: V2 Vehicle Damage
 - C411: CU Opposing Lane Separ
 - C558: V2 Attachment
 - C208: CU Model Year
 - C541: V2 Vehicle Most Harmful E
 - C566: V2 Vehicle Towed
 - C222: CU Speed Limit
 - C212: CU License Tag State
 - C521: V2 Driver Condition
- Sort by Sum of Max Gain



**IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C208: CU Model Year**



Question: Traffic Controls

True or False:

**DDE caused crashes tend to occur at
no-passing zones or
where there are no traffic controls.**

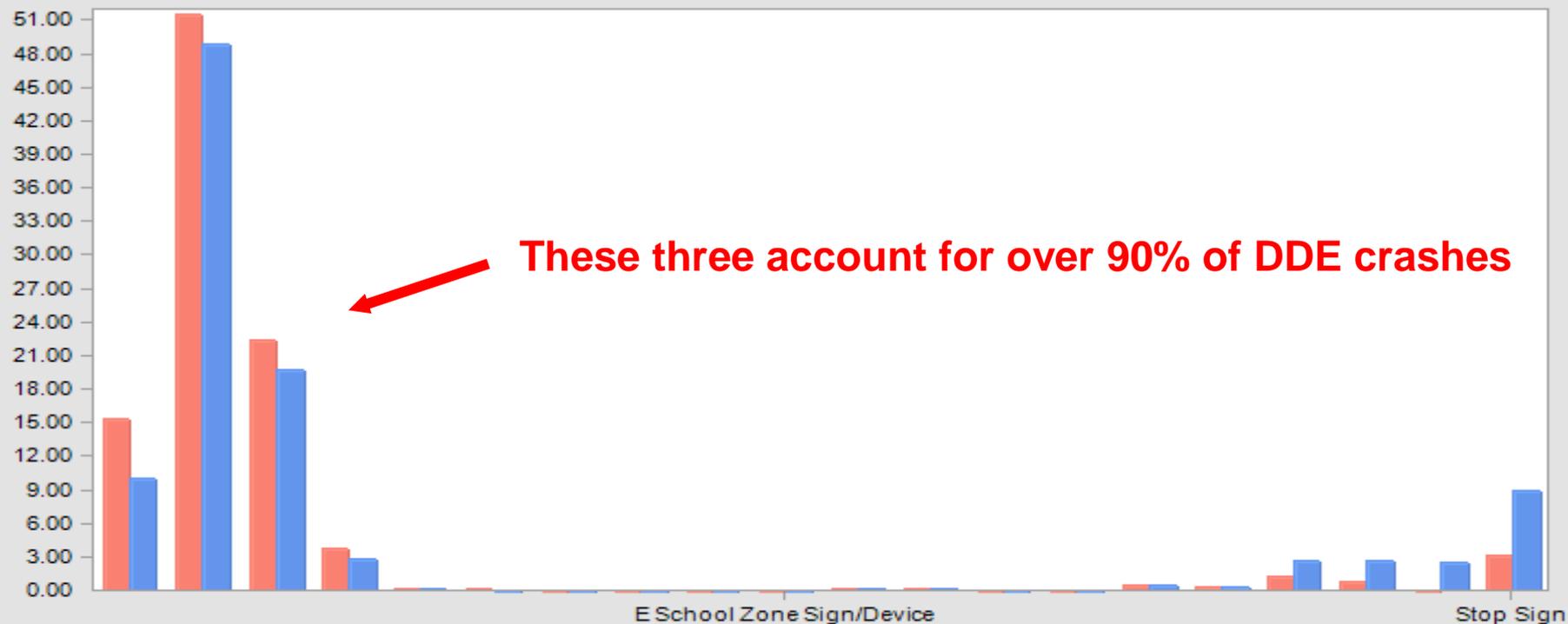
C409: CU Traffic Control

	Value	Subset Freq	Subset Per.	Other Freq	Other Per.	Over Re	Max Gai
▶ No Passing Zone		809	15.357	32922	10.091	1.522*	277.385
No Controls Present		2715	51.538	159387	48.856	1.055*	141.263
Traffic Signals		1183	22.456	64538	19.782	1.135*	140.858
Lane Control Device		201	3.815	9322	2.857	1.335*	50.471
Flag Person		10	0.190	312	0.096	1.985	4.962
E School Sign		6	0.114	247	0.076	1.504	2.012

- C201: CU Vehicle Most Harmful I
 - C121: CU Driver Condition
 - C205: E CU Sequence of Events
 - C019: E Most Harmful Event
 - C589: V2 Traffic Control
 - C409: CU Traffic Control
 - C202: CU Most Harmful Event
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash C409: CU Traffic Control



Question:

Number of Vehicles Involved

True or False:

Single-vehicle crashes occur about 30% higher proportion in DDE caused crashes than in non-DDEs.

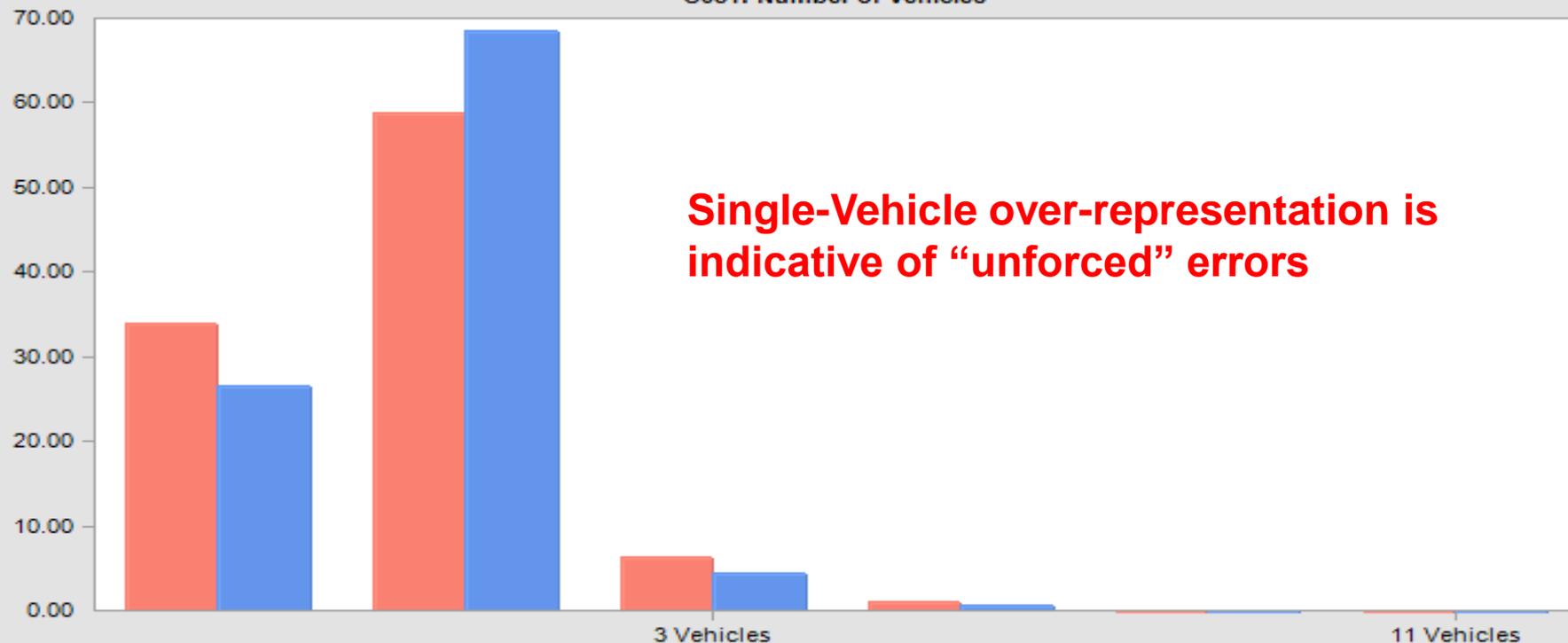
C051: Number of Vehicles

	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
▶ 1 Vehicle		1785	33.884	86444	26.497	1.279*	389.126
2 Vehicles		3096	58.770	223267	68.437	0.859*	-509.253
3 Vehicles		329	6.245	14328	4.392	1.422*	97.635
4 Vehicles		52	0.987	1846	0.566	1.744*	22.191
5 Vehicles		5	0.095	258	0.079	1.200	0.834
11 Vehicles		1	0.019	0	0.000	0.000	1.000

C323: CU Driver/Non-Motorist S
C045: HasGPS
C053: Number of Persons Recon
C221: CU Contributing Vehicle D
C209: CU Make
C051: Number of Vehicles
C502: V2 Traffic...
Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C051: Number of Vehicles



Question: Weather

True or False:

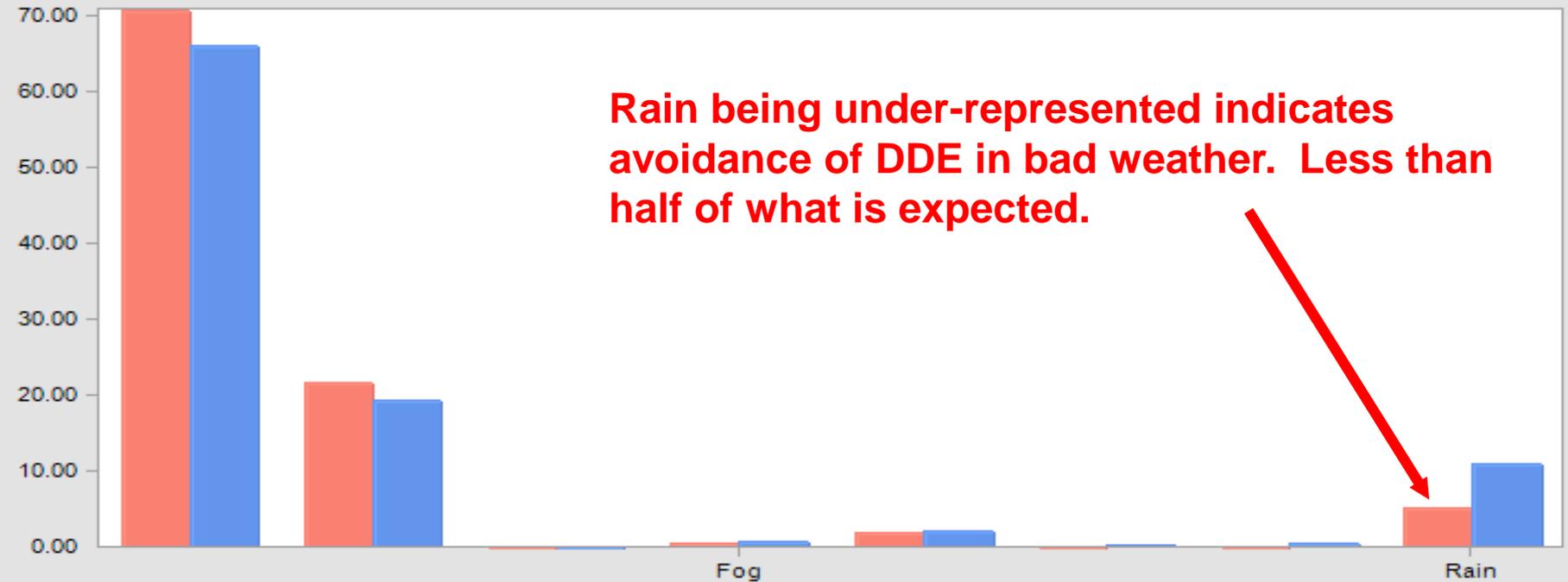
The data indicates that people tend to use their cell phones and text as much in rainy weather as in clear weather.

C032: Weather							
	Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gai
▶	Clear	3732	70.843	215485	66.051	1.073*	252.408
	Cloudy	1143	21.697	63307	19.405	1.118*	120.736
	E Blowing Snow	1	0.019	98	0.030	0.632	-0.582
	Fog	24	0.456	1968	0.603	0.755	-7.779
	E Mist	97	1.841	6515	1.997	0.922	-8.202
	Unknown	1	0.019	628	0.192	0.099	-9.141
	Snow	5	0.095	1325	0.406	0.234	-16.396
	Rain	265	5.030	35513	10.886	0.462*	-308.454

- C216: CU Hazardous Cargo ▲
 - C215: E CU Placard Required
 - C206: E CU Sequence of Events
 - C211: E CU Owners State
 - C032: Weather
 - C219: CU Oversized Load Requi
 - C109: CU Driver Gender
 - C021: E Type of Roadway Junct ▼
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C032: Weather



Question: Times

True or False:

**Rush hours appear to be the worst times
for DDE caused crashes.**

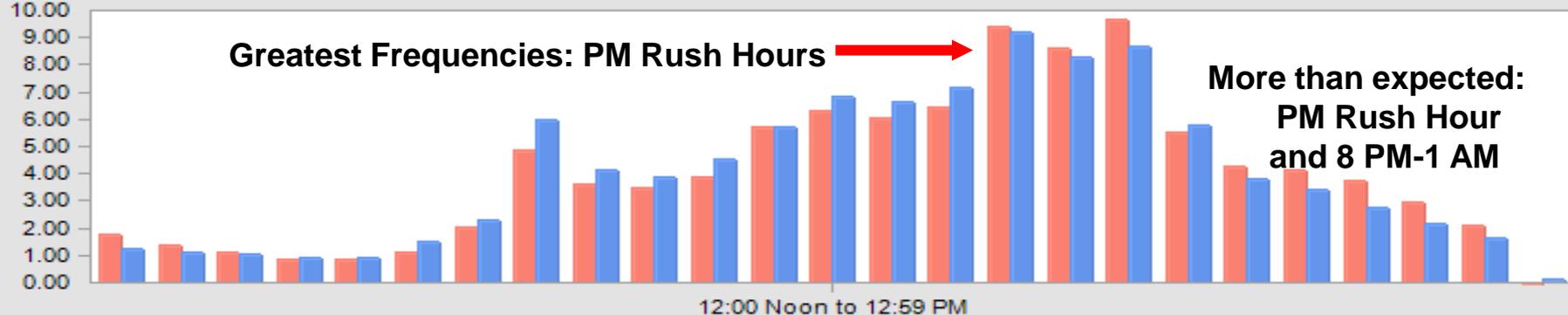
C008: Time of Day

Value	Subset Freq	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gair
8:00 AM to 8:59	192	3.645	13452	4.123	0.884	-25.219
9:00 AM to 9:59	185	3.512	12740	3.905	0.899	-20.722
10:00 AM to 10:	205	3.891	14810	4.540	0.857	-34.148
11:00 AM to 11:	301	5.714	18616	5.706	1.001	0.394
12:00 Noon to 1	331	6.283	22274	6.828	0.920	-28.674
1:00 PM to 1:59	318	6.036	21755	6.668	0.905	-33.294
2:00 PM to 2:59	339	6.435	23416	7.178	0.897	-39.115
3:00 PM to 3:59	496	9.415	30011	9.199	1.024	11.391
4:00 PM to 4:59	454	8.618	27128	8.315	1.036	15.945
5:00 PM to 5:59	511	9.700	28402	8.706	1.114*	52.372
6:00 PM to 6:59	291	5.524	18849	5.778	0.956	-13.368
7:00 PM to 7:59	224	4.252	12539	3.844	1.106	21.524
8:00 PM to 8:59	217	4.119	11057	3.389	1.215*	38.455
9:00 PM to 9:59	196	3.721	9053	2.775	1.341*	49.815
10:00 PM to 10:	157	2.980	7026	2.154	1.384*	43.546
11:00 PM to 11:	112	2.126	5428	1.664	1.278*	24.350
Unknown	1	0.019	325	0.100	0.191	-4.248

- C027: Mileposted Route
 - C049: ALDOT Division
 - C220: CU Had Oversized Load F
 - C217: E CU Hazardous Release
 - C224: CU Citation Issued
 - C327: CU Driver Ejection Status
 - C042: Highway Patrol Posts
 - C008: Time of Day
 - C036: Police Arrival Delay
 - C038: Non-Vehicular Property Da
 - C025: Intersection Related
 - C012: Controlled Access
 - C321: CU Driver/Non-Motorist Se
 - C405: CU Contributing Material in
 - C402: E CU Road Surface Type
 - C103: CU Commercial Motor Veh
 - C450: CU CMV Indicator
 - C401: F CU Involved Road/Brid
- Sort by Sum of Max Gain



IMPACT Results - 2009-2012 Alabama Integrated Crash Data - DD Electronic and eCrash vs. DD Electronic NOT and eCrash
C008: Time of Day



Low- or No-Significance Factors

- **Gender of Causal Driver** **Practically Identical to Expected**
- **Alcohol Involvement** **90; about a Third of Expected**
- **Day of the Week; Month** **No Significance**
- **Commercial Motor Vehicle – CMV** **267; 25% Less than Expected**
- **CMV Caused** **109; 50% Less than Expected**
- **Roadway Defects and Work zones** **No Significance**
- **School Bus Caused** **4; < 12% of Expected**
- **Pedestrians** **12; < Half of Expected**
- **Bicyclists** **5; < Half of Expected**

(... out of the total of 5,268 DDE crashes)

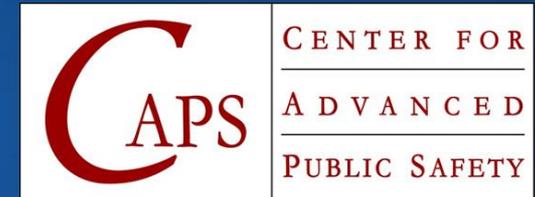
Recommendations

- **Additional Training of Officers**
 - **Mark the New Variable if Any Indication**
 - **Include it in Unit CC if not Primary CC**
 - **Use Clues Other than Driver Statements**
- **Legislation to Obtain Phone Records**
 - **For all Fatal Crashes**
 - **For all Injury Crashes Above a Certain Threshold**
 - **Without Warrant**
 - **Get These Data Into Crash Records**

Thank You! Questions?



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