A REVIEW OF YOUTH-ALCOHOL TRAFFIC CRASHES IN ALABAMA

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INTRODUCTION

As part of their youth-alcohol program, the Alabama Department of Economic and Community Affairs requested a special study to focus on the development of Youth-DUI countermeasures. By way of definition, the word *alcohol* will be used in a generic way to include DUI caused by both alcohol and/or drugs. Alcohol is, by far, the drug of choice throughout the population, but particularly with those who are young drivers. Thus, the use of the word *alcohol* to refer to *all accidents involving drugs* probably conveys a fairly accurate image. Further, *youth* will refer to all drivers of age 20 years or less.

According to the National Highway Traffic Safety Administration (NHTSA) Fatality Analysis Reporting System (FARS), during 2008 Alabama had 315 fatalities caused by DUI, of which 36 (well over 11%) were caused by drivers under the age of 21 (http://www.centurycouncil.org/learn-the-facts/statefacts/states/AL).

This report will be in three sections. The first is a summary of recommended countermeasures in prioritized order based upon their estimated cost-benefits. The recommendations are based on the detailed analysis performed for Alabama and reviews of potential countermeasures given in the literature. The second and third sections of this report provide the detailed data analyses that were originally performed for the State of Alabama for calendar year (CY) 2003 updated using CY 2005-2008 data.

RECOMMENDED COUNTERMEASURES

The following is a list of recommended countermeasures in priority order based upon a qualitative assessment of the detailed data analysis and information obtained from the literature:

Graduated Drivers Licensing (GDL). A bill to enact GDL within Alabama has been passed by the legislature. Currently Alabama places the following restrictions on teen licenses (http://www.dmv.org/al-alabama/teen-drivers.php):

- Drivers who are 15 years old must be accompanied by a parent, guardian, or another driver 21 years of age or older. He/she must occupy the front seat next to the driver.
- Drivers who are 16 and 17 years old who have had their license less than six months cannot operate a vehicle between midnight and 6 a.m. unless they are accompanied by a licensed adult, are going to/from work, school or a religious sponsored event, or driving for an emergency.
- There should be no more than four occupants in the vehicle, excluding the supervising parent. For example, the teen driver can transport three friends and his/her parent.
- Violations will result in an extension of the restrictions by six months or until the driver reaches 18 years old.

The data within Alabama demonstrate that youth-alcohol crashes are over-represented in multiple injuries, multiple passengers in the vehicle, and specific times of day. All of these factors are addressed by GDL. However, Alabama is considered to have a relatively weak GDL, and continued efforts are needed to strengthen it.

Administrative License Revocation (ALR). This is stated as the top-priority countermeasure for youth because of the perceived value of the driver's license to the young person and the proven overall effectiveness of this relatively inexpensive countermeasure. License suspension has been shown in many studies to deter suspended drivers from subsequent crashes. Although many suspended drivers continue to drive, typically they drive less and more carefully. The reductions in violations and crashes associated with license suspension in many cases continue well beyond the suspension period. "'The threat of immediate suspension of the driver's license is a larger deterrent than the threat of more severe penalties that may occur at a later date,' according to Alexander C. Wagenaar, Ph.D., a professor of epidemiology at the College of Medicine at the University of Florida … 'Our results show these laws can reduce fatalities from car crashes involving light, moderate and heavy drinkers' (http://www.progressiveic.com/n62mar2008.htm). An increase in the penalty for driving while suspended/revoked could greatly multiply the deterrent capability of this countermeasure. Further: "there is overwhelming evidence that ALR contributes to both specific and general deterrence of alcohol-impaired driving. From 1980 through 1987, the proportion of motor vehicle crash fatalities with BACs at or above 0.10% fell sharply, but the decline slowed after that. The extent to which the United States can continue to reduce the contribution of alcohol to motor vehicle crash fatalities almost certainly depends on whether the remaining states adopt ALR ..." (http://pubsindex.trb.org/view.aspx?id=379608). Finally, this law will work best to reduce youth alcohol crashes only if it is coupled with a reduced BAC limit, which is also a high priority countermeasure.

Reduced BAC for Youthful Drivers. These laws are justified since (1) any drinking is illegal for drivers under 21, and (2) young drivers are typically impaired at much lower blood alcohol levels than older drivers. Alabama has a 0.02 BAC level for drivers under the age of 21 (http://pubsindex.trb.org/view.aspx?id=379608), which as high as any

state. Although the 0.02 BAC reflects the majority of states, there are two states that have a 0.01, and nine states that have a 0.00 BAC for younger drivers. An article in the American Journal of Preventive Medicine on evaluations of the lowered BAC in six states stated that "all six studies showed a reduction in injuries or crashes after the implementation of the law, although, for three studies, these reductions were not statistically significant. … Reductions in outcome in the other studies ranged from 11% to 33% with a cluster of parameter estimates just under 20%. One study evaluated laws with differing levels of BAC and found a dose-response effect. The greatest reduction (22%) was reported for nighttime, single vehicle fatalities in those states with zero BAC laws. In states with 0.02% BAC laws, the reduction averaged 17%, and in states with 0.04 to 0.06% BAC laws, the reduction was only 7%. … Despite the methodological difficulties of ecologic studies, the six studies reviewed represent accumulating evidence in support of the effectiveness of these laws. The sum of the evidence is strengthened because similar results were found in different countries (Australia and the United States), using different laws (some aimed at younger drivers and others aimed at inexperienced drivers), using different outcome variables (fatalities, injuries, and crashes), and using different research methodologies (interrupted time series and pre- and post-studies). In addition, the largest U.S. study found that laws with lower BAC limits resulted in greater casualty reductions, analogous to a dose response effect" (http://linkinghub.elsevier.com/retrieve/pii/S0749379798001147).

Reduced Youth Access to Alcohol. While the initial effect of raising the drinking age had a very positive effect, that effect now seems to be eroding. Increased "sting" operations are necessary to assure that these laws are being enforced, especially in the late-night-week-end hours. Increased alcohol pricing (through taxation) has also been shown to be effective in this regard.

Community System-Wide Response. This countermeasure links the agricultural county agent, who is highly trained in community organizing skills, with a key judge in each county. It involves a five-step organizational process and an intensive educational effort. This is quite resource intensive, which places it lower on the priority list. Further, while some of these have been proven effective, their long-term impact upon those who are inclined to engage in risk-taking behavior is not confirmed.

DETAILED ANALYSIS OF CRASH DATA

In this study we wish to concentrate on the young driver, specifically those who are of age 20 or younger. Alcohol-related crashes are grossly under-reported as such (we estimate by approximately half in Alabama), and we suspect that this might be even worse in youthful-offender cases. The reason for this is that many officers are reluctant to state alcohol/drugs as a causal factor on the crash report unless they can prove it to be the cause in court. It has been established that, especially in inexperienced drinkers, driving can be impaired at well below the 0.08% BAC level.

This does not defeat the purposes of our analysis, however. In one year (CY 2007) of data, the following is the severity of the youth-alcohol subset of crashes:

Reported Youth-Alcohol Crashes by Severity (CY 2007)

SEVERITY	**NUMBER**	**PERCENT**
Fatal	35	4.41%
Non-Fatal Injury	319	40.23%
Property Damage Only	439	55.36%
TOTAL	793	100.00%

This is out of a total of 25,383 youth (age 16-20) caused crashes that occurred in the state during the CY 2007 time period. In the overall population of youth crashes there were 156 fatal crashes (175 killed), 5,724 injury crashes (8,299 injured persons), and 19,503 property damage crashes. Of the total youth causal driver crashes, 66 were pedestrian crashes, involving a total of 69 pedestrians.

While this subset does not include all of the youth-alcohol crashes that have occurred in the state, the comparisons given below will not be significantly affected by this under-reporting. If anything, the results will be conservative, since the non-reported youth-alcohol crashes will actually be included in the control that is being used for the comparison. So the figures given below should be regarded as conservative *minimum* estimates, i.e., the actual over- or under-representations will be *at least* the size of those given.

Before leaving the severity figures above, note that the injury proportion given is almost twice what would be expected, and the fatality proportion is over four times that expected when compared to all youth crashes. So this is clearly one of the major killers of our young people on the roadway today. In addition, if we can prevent *youth*-alcohol crashes, the effects could well be cumulative, since there is a good chance that any behavioral change will be retained throughout life for the majority of those affected. Two analyses were performed for the youth-alcohol subset of crashes in the CARE IMPACT (information mining) analysis:

1. A comparison of youth-alcohol crashes against all youth crashes in order to find out how their alcohol-related crash characteristics differ from other crashes that they have (often caused by inexperience and risk taking); and
2. A comparison of youth-alcohol crashes against all alcohol crashes in order to find out how youth-alcohol crashes differ from post-age-20 alcohol crashes.

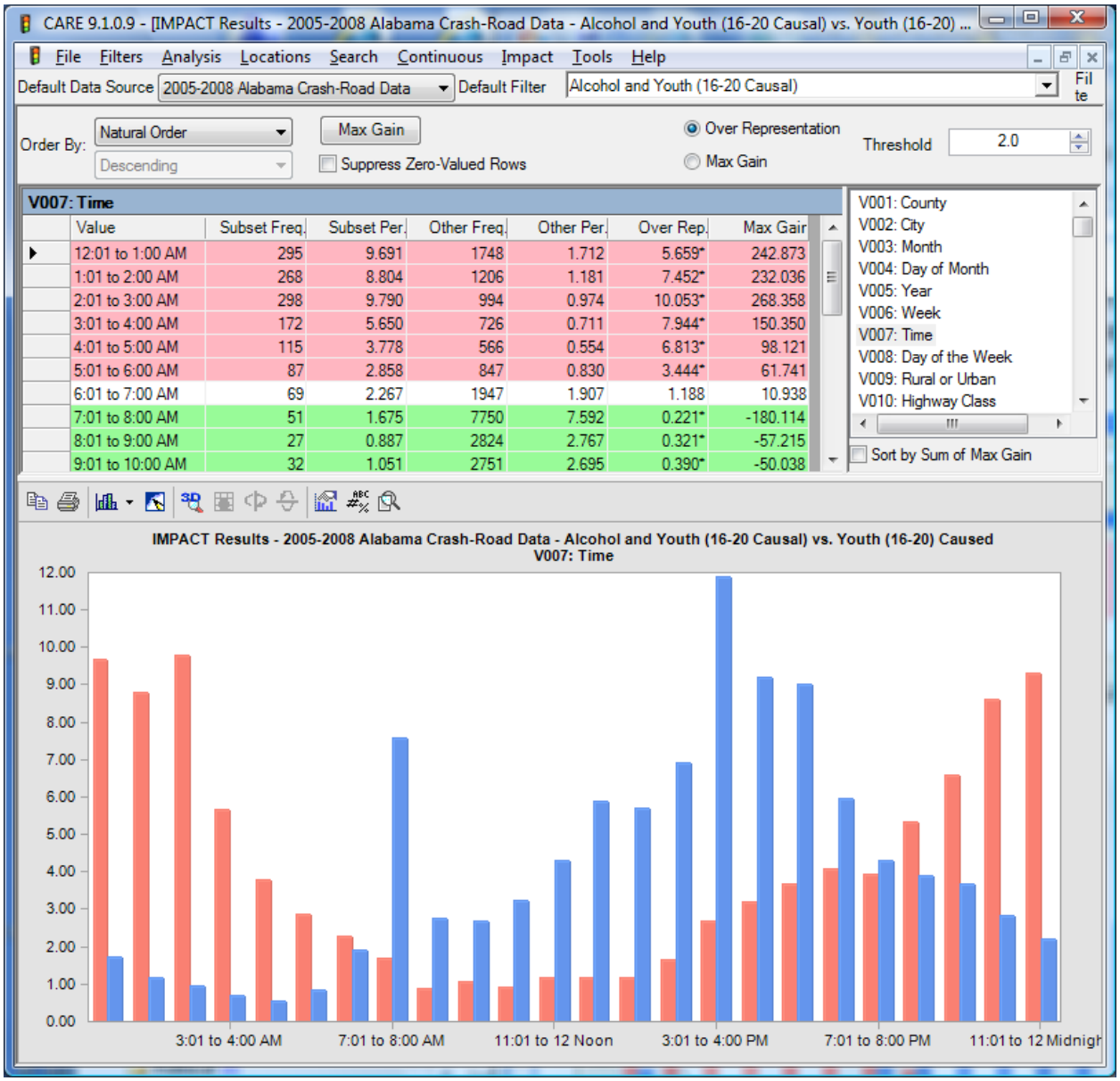
These will be presented in the two sections below.

COMPARISON: YOUTH-ALCOHOL AGAINST ALL YOUTH CRASHES

By comparing the youth-alcohol subset of crash records against all youth crashes, it is possible to determine the characteristics of these crashes that might be amenable to countermeasure intervention. Of course, just because some attribute is over-represented does not mean that a countermeasure applied to address it will be successful. However, the application of a countermeasure on under-represented attribute values is clearly a waste of resources, all other things being equal. The following variables are presented generally in the order of the total positive "Maximum Gain" (the amount by which crashes would be reduced if all over-representations within a given attribute value could be eliminated).

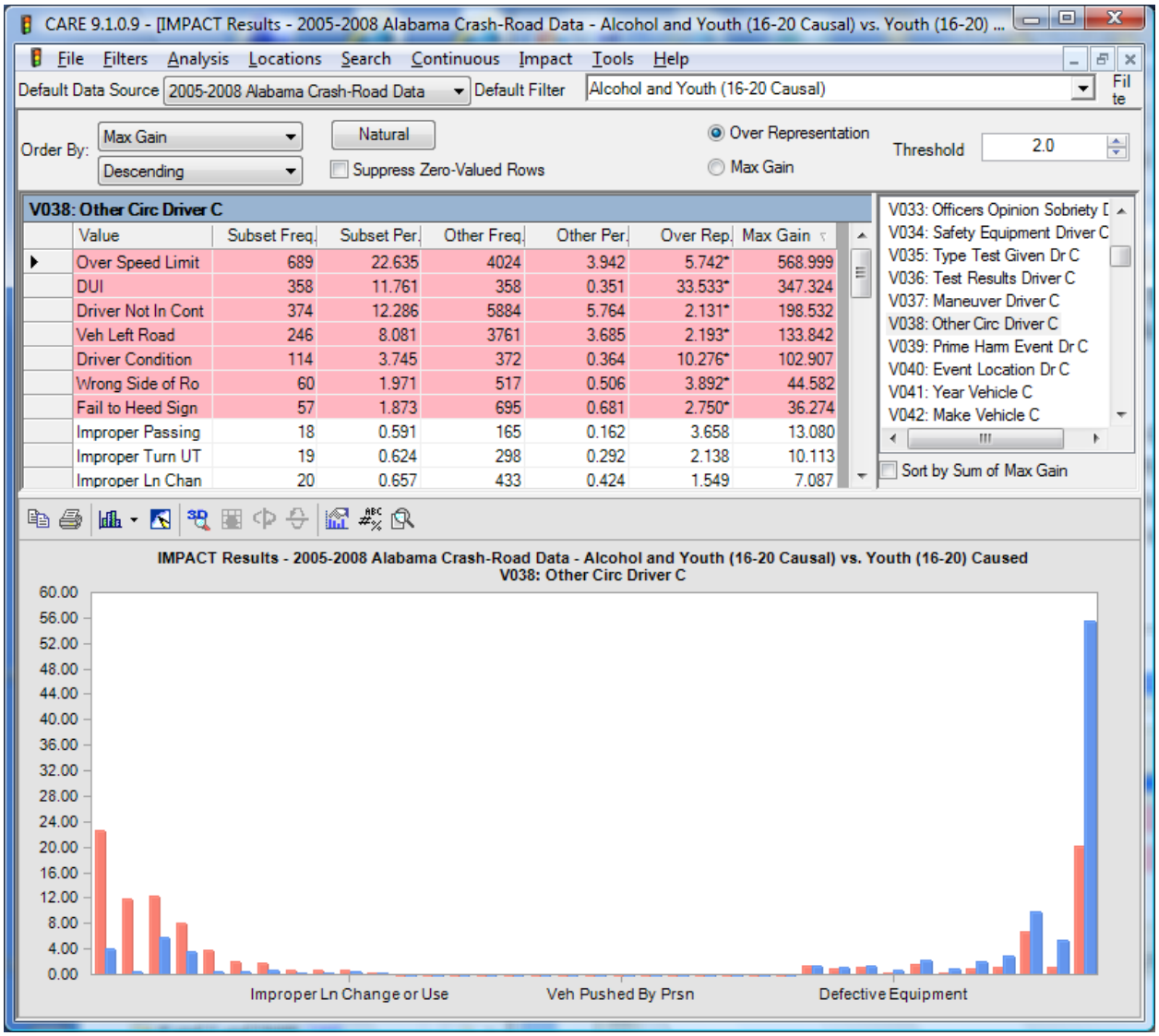
Note: in all graphics that follow, the red or slightly lighter bar on the left of the couple refers to the proportion of youth-alcohol crashes, and the blue or darker bar on the right refers to the control, in this case all youth crashes.

Time of Day (V007). It comes as no surprise that the time of day that youth-alcohol crashes occur varies dramatically from those of other youth-involved crashes. The following chart demonstrates the most over-represented times.



Youth crashes in general are over-represented before and after school (darker blue bars on the right), which would be their rush hours. However, after 8 PM the probability of alcohol being involved goes up dramatically. It peaks at the 10 PM to 4 AM hours and then drops off, falling back below the youth non-alcohol crashes in the 7 AM to 8 AM time period. Related variables: V238 shows darkness, and especially darkness with no artificial lighting, indicating rural areas (see Geographic Location analysis below).

Other Circumstances (V038). There are certain risk-taking characteristics that often go together in this type of crash. For example, if you look at the other circumstances included in Variable 38, Speeding is also over represented, with almost six times the expected number of crashes. This shows very clearly that speeding is very highly correlated with alcohol use.

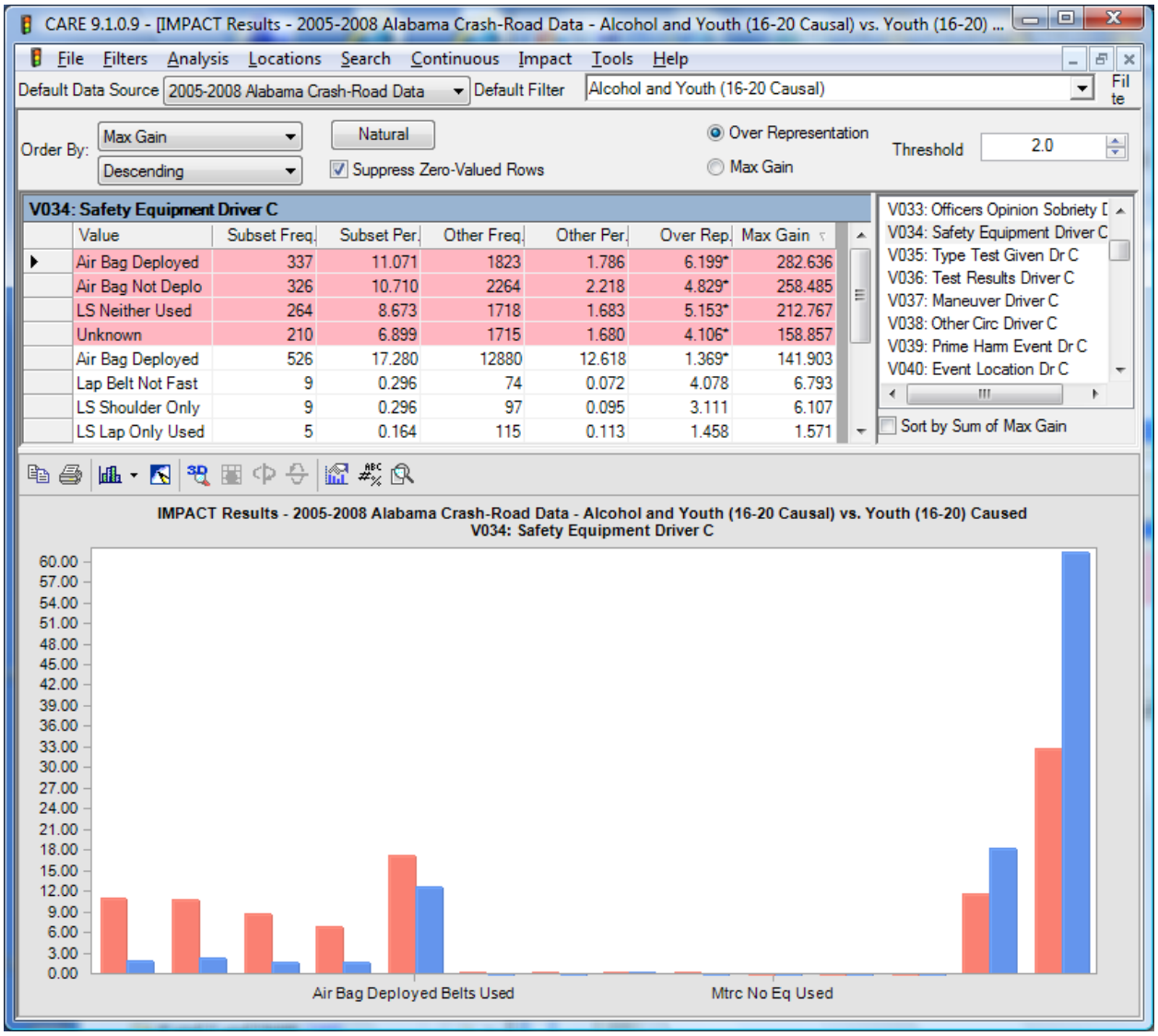


Primary Harmful Event (V039). Ordered by greatest potential for reduction, the following factors were found to be significantly over represented: overturned, tree, ditch, utility pole, and parked vehicle. The most under-represented is collision with non-parked vehicle, indicating a larger than expected number of single-vehicle crashes than in their non-alcohol cause crashes. While collisions with other vehicles is only about 72% of expected, it still accounts for just over 30% of the youth-alcohol crashes, so it should not be discounted altogether. Young people are not just a hazard to themselves; and, more often than expected, the second vehicle is driven by another young person. Related variables: V015, First Harmful Event is basically the same as V039, but the order of the over represented factors are as follows: ditch, tree, curbing, overturned, utility pole, parked vehicle, and mailbox.

Number of Vehicles (V018). Single vehicle crashes are almost 2.5 times their expectation and account for over 65% of the youth-alcohol crashes. This and the 2006 (64%) percentage are up sharply from 46% of the youth-alcohol crashes in 2005. A single vehicle crash is like an unforced error in tennis – there is no one to possibly blame except the driver in all but the rarest of exceptions (e.g., vehicle defect). One possibility for the recent growth in single vehicle crashes may be the increasing use of electronic devices (e.g., texting) while driving on the part of young people.

Restraints (V034). The following are the significantly over-represented categories:

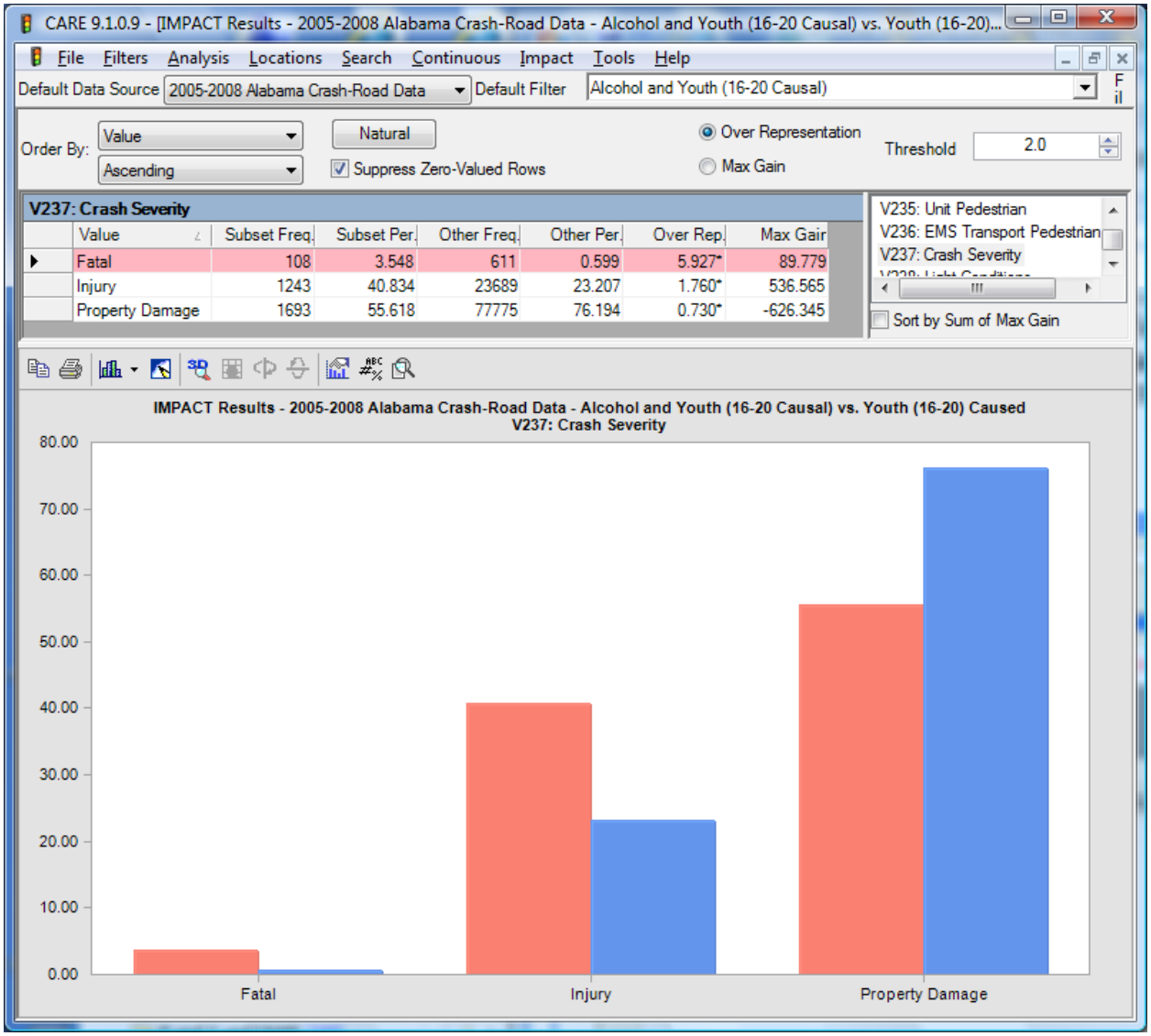
VALUE	OVER-REPRESENTATION FACTOR
Air Bag Deployed, Belts Not used	6.199
Air Bag Not Deployed, Belts Not Used	4.829
Lap and Shoulder, Neither Used	5.153
Unknown	4.106

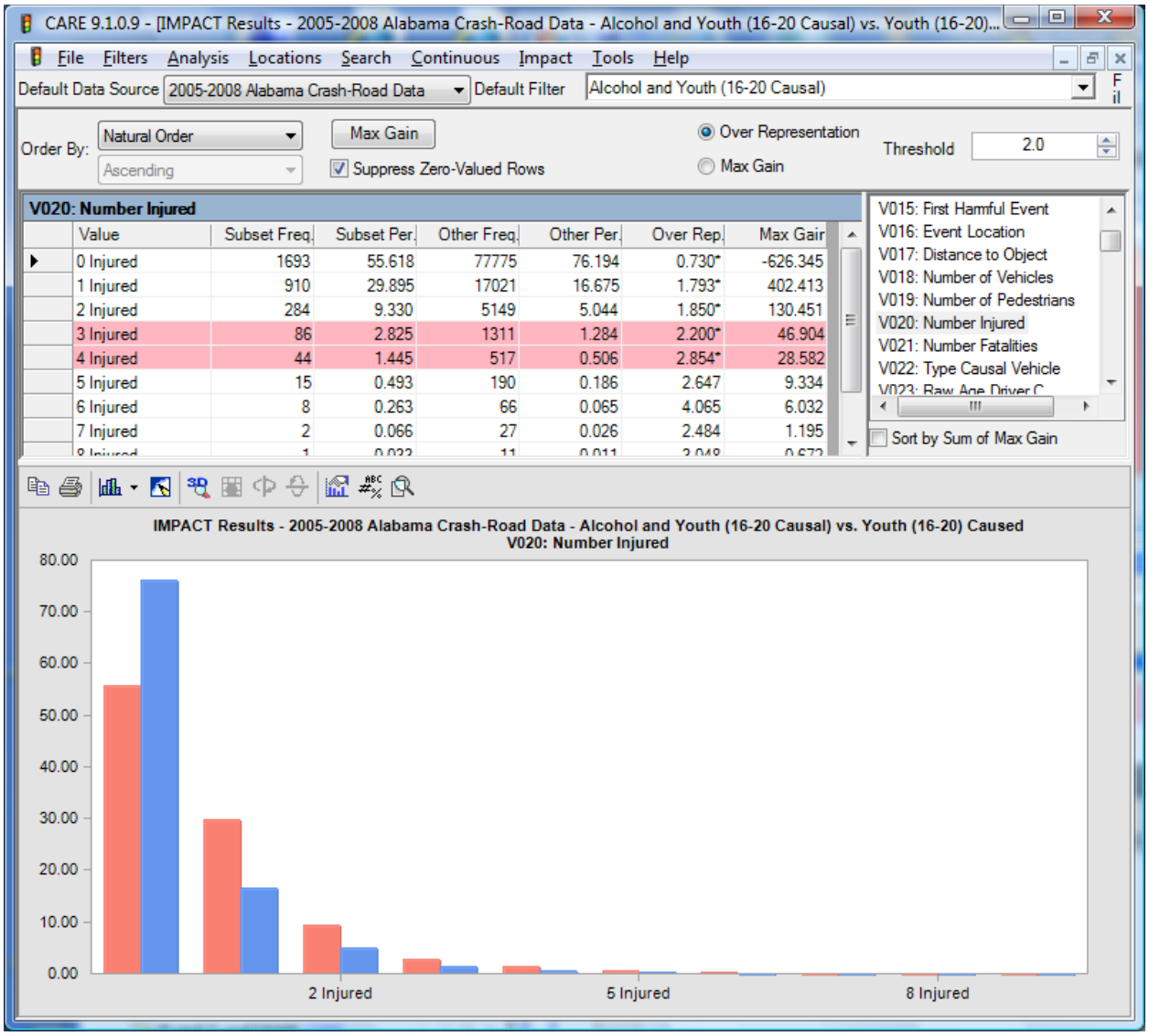


All other categories of restraint use were under-represented or not significantly over-represented. This shows very clearly that the lack of restraint use is very highly correlated with alcohol. Qualifier: failure to use restraints is an indication of increased risk taking, which is clearly further exacerbated by alcohol use.

Event Location (V040 and V016). Off roadway crashes are over 2.5 times their expectation and account for about 55% of youth-alcohol crashes.

Severity of Crash. Proportion disabled (V066) is significantly over represented with over 1.7 times the expected number of crashes. Proportion of damage that totaled the vehicle (V051) was over 3 times its expected value. Injury, and multiple injury crashes are over-represented as shown below.

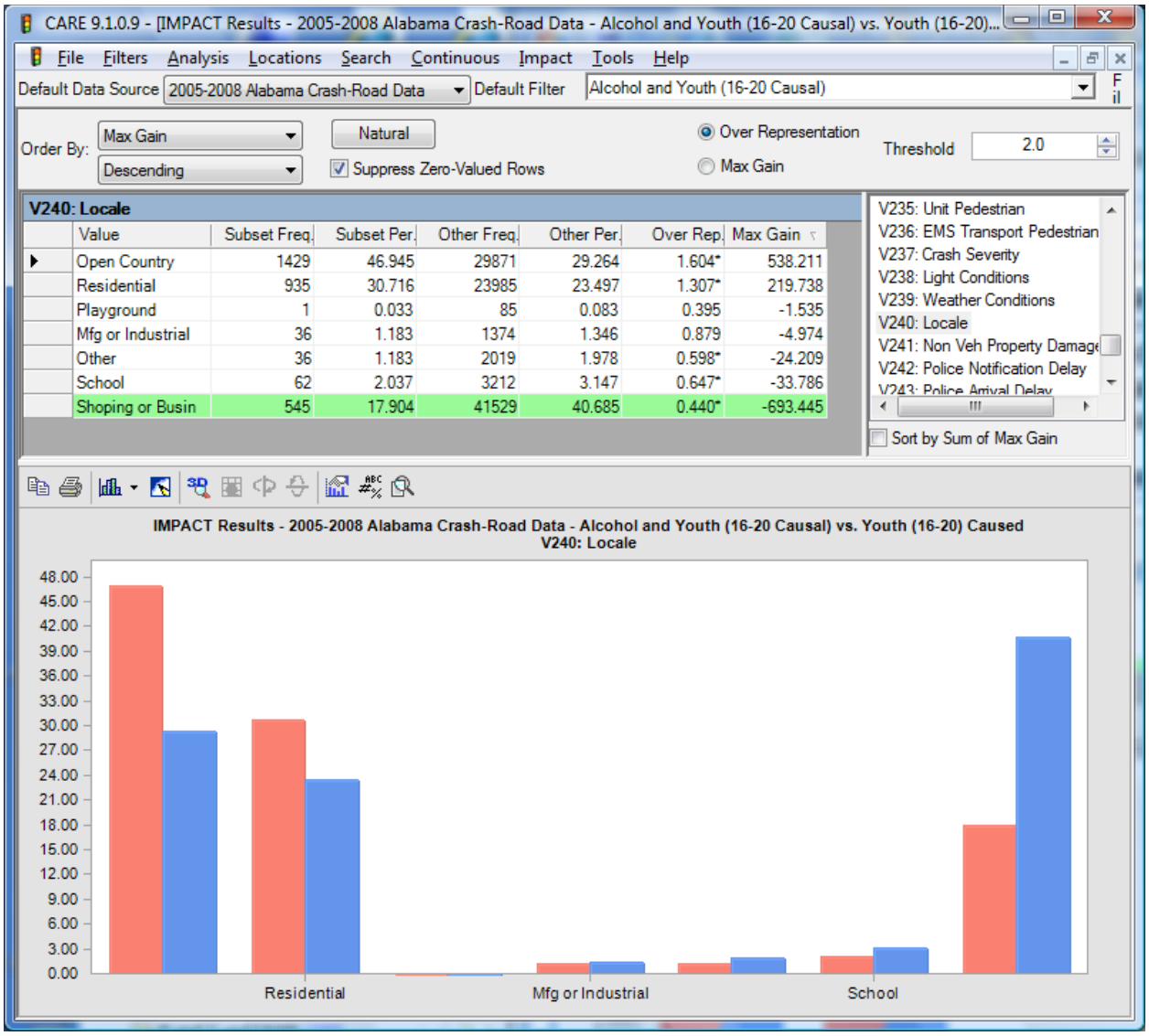




These results all show quite plainly that youth-alcohol crashes are much more severe in their effects than are other youth-involved crashes. The over representation of multiple injuries in the causal vehicle also indicates a tendency for young people to travel with multiple individuals in the vehicle. Because they tend to travel with their friends, they are putting not only their individual safety at risk but that of their friends when they choose to drive after drinking.

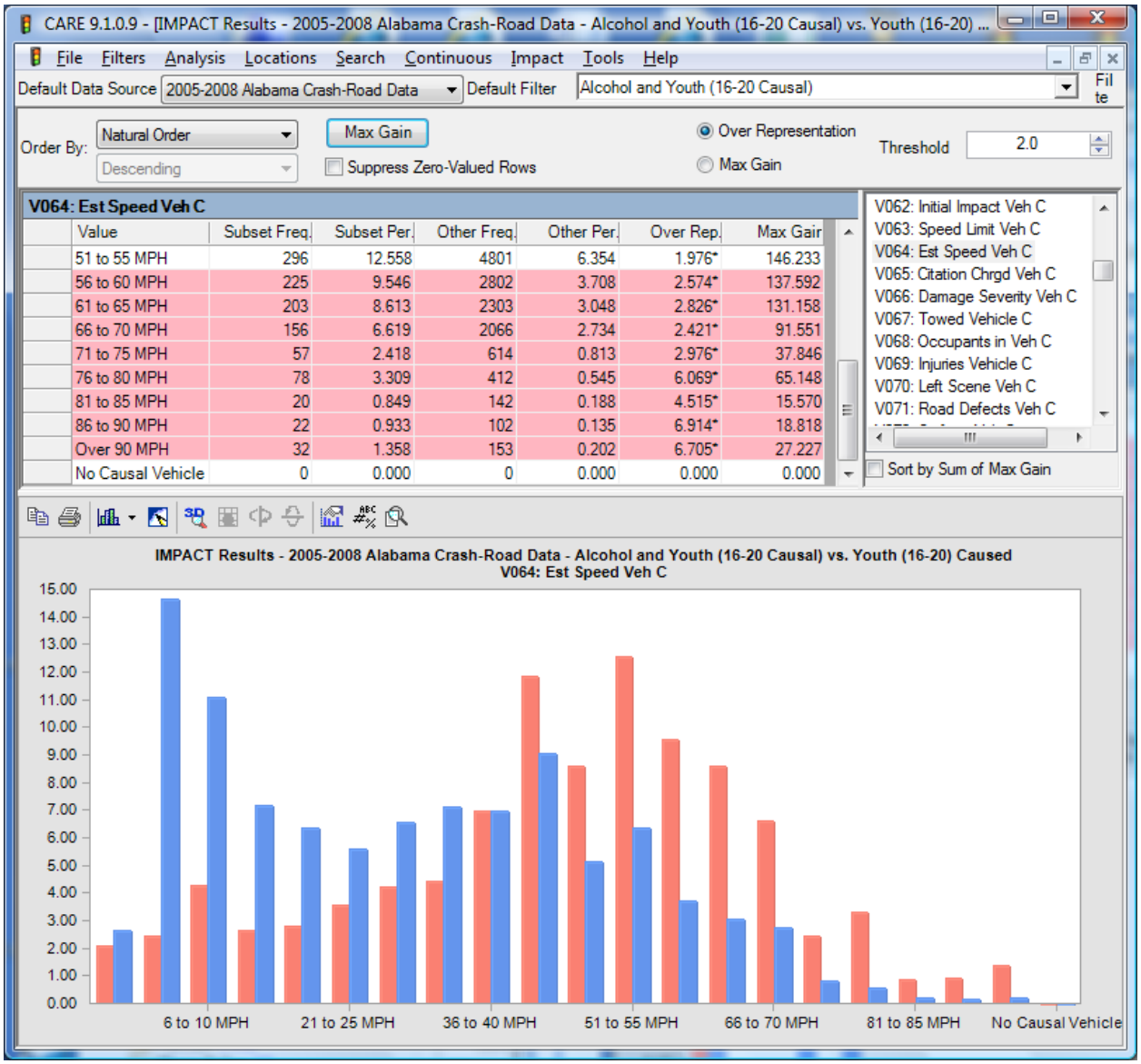
Geographic location. Over-represented cities and county rural areas (V002) in order of maximum gain are: Tuscaloosa Rural, Mobile Rural, Baldwin Rural, and Auburn. The pattern seems to be one of rural areas, typically near major metropolitan areas. There is one city included on this list (Auburn), but this is largely a college town, which accounts for the over representation of youth-alcohol related crashes. However, the biggest problems (from a raw frequency perspective) appear to be in the rural areas near metropolitan areas, while the metro areas themselves are often under-

represented. The most under-represented cities (in order of “best” first): Montgomery, Mobile, Birmingham, and Huntsville. Locale (V240) shows the greatest over-representation in open country, as indicated in the diagram below.



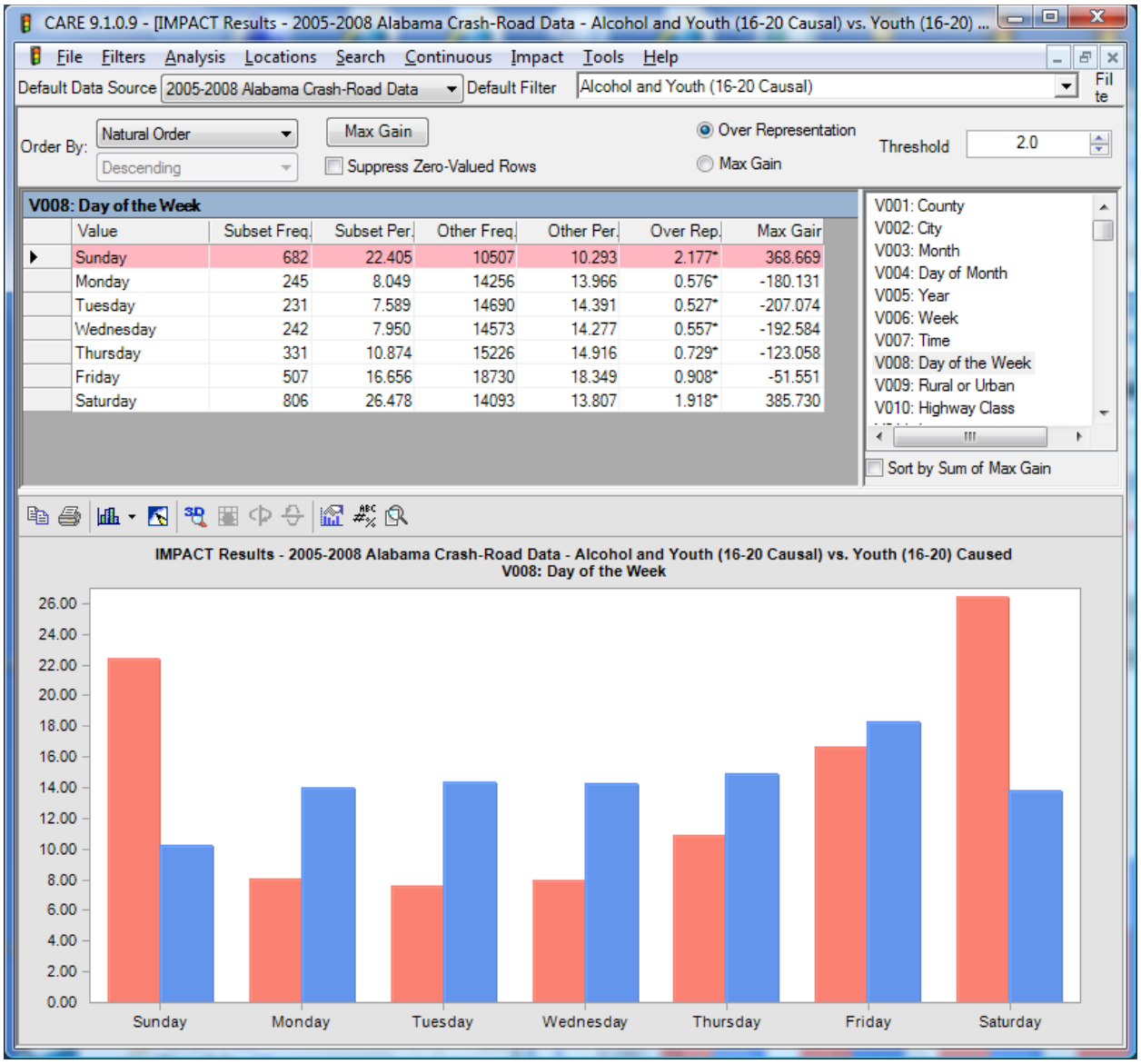
Two-lane roadways (V082) are over-represented by a factor of 1.32. Rural Crashes (V009) are over-represented by a factor of 1.71 and County Road Crashes (V010) are over-represented by a factor of 1.70.

Estimated Speed (V064). From the following diagram, it is clear that youth-related alcohol crashes (shown by the red bars on the left of each couple) occur at significantly higher speeds than do other types of youth-involved crashes. This would certainly be one factor that would account for the higher severity of youth-alcohol crashes.



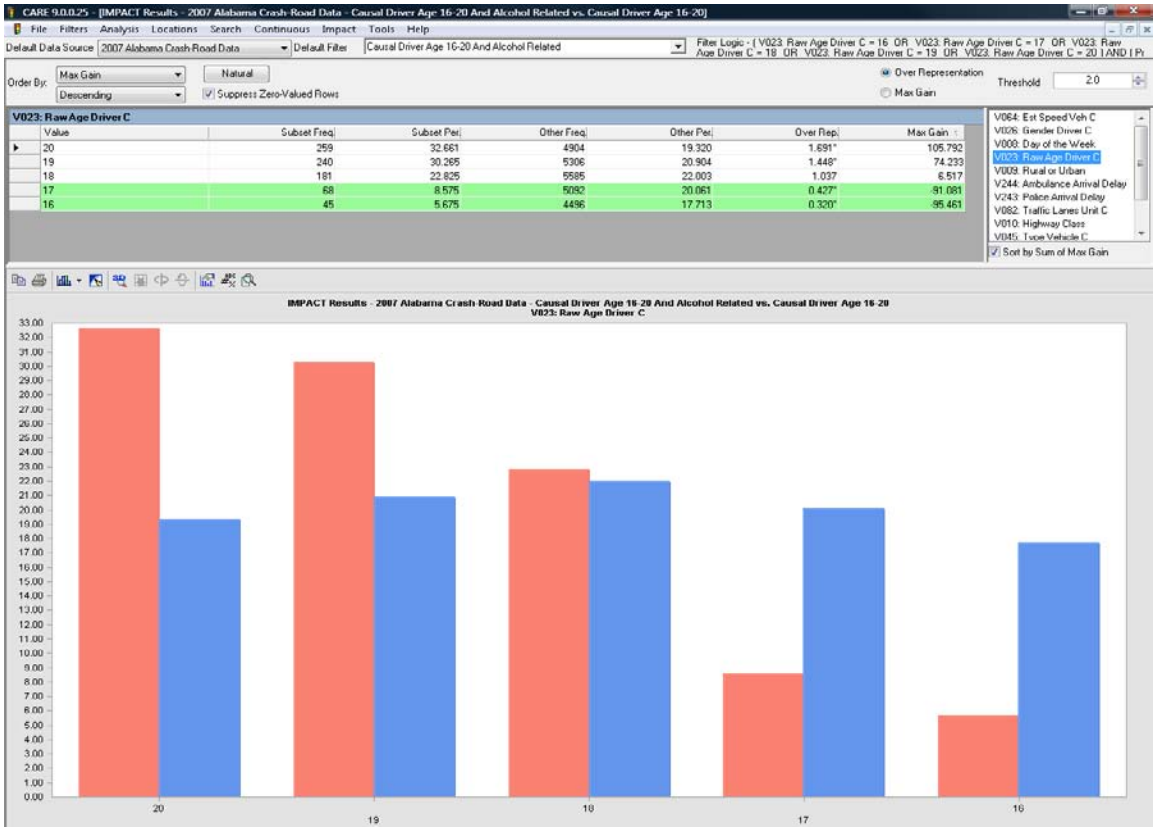
Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
51 to 55 MPH	296	12.558	4801	6.354	1.976*	146.233
56 to 60 MPH	225	9.546	2802	3.708	2.574*	137.592
61 to 65 MPH	203	8.613	2303	3.048	2.826*	131.158
66 to 70 MPH	156	6.619	2066	2.734	2.421*	91.551
71 to 75 MPH	57	2.418	614	0.813	2.976*	37.846
76 to 80 MPH	78	3.309	412	0.545	6.069*	65.148
81 to 85 MPH	20	0.849	142	0.188	4.515*	15.570
86 to 90 MPH	22	0.933	102	0.135	6.914*	18.818
Over 90 MPH	32	1.358	153	0.202	6.705*	27.227
No Causal Vehicle	0	0.000	0	0.000	0.000	0.000

Day of Week (V008). As you might expect the weekend is over represented for this type of crash. As seen in the diagram below, both Saturday and Sunday are over represented by about twice the expected number of Youth Alcohol crashes. Friday is a high number, but it is slightly under-represented because of the very large number of non-alcohol crashes that occur on Fridays. Weekends would certainly be the days of choice for selective enforcement, from late Friday afternoon through early Sunday morning.



Gender (V026). Males account for 55.8% of youth-alcohol crashes, and they are over-represented by a factor of about 1.5 (50% more than expected).

Raw Age of Driver C (V023). When looking at the raw age of the Causal Driver it is of interest to note that the Drivers that are age 20 are significantly over represented when comparing Youth Alcohol Crashes to other crashes where the causal driver was age 20. These numbers tell us that there are over 69% more than the expected number of 20 year old drivers that are involved in alcohol related crashes. Because these drivers are close to age 21, and likely have friends that are 21 and older, they have a greater problem with drinking and driving, and are thus a good group for targeted enforcement or education efforts.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Default Filter Causal Driver Age 16-20 And Alcohol Related
Filter Logic - (V023: Raw Age Driver C = 16 OR V023: Raw Age Driver C = 17 OR V023: Raw Age Driver C = 18 OR V023: Raw Age Driver C = 19 OR V023: Raw Age Driver C = 20) AND (Pr
Order By: Max Gain
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Natural
Suppress Zero-Valued Rows
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Max Gain
Threshold 2.0
V023: Raw Age Driver C
Value | Subset Freq | Subset Per | Other Freq | Other Per | Over Rep | Max Gain
20 | 259 | 32.661 | 4904 | 19.320 | 1.691* | 105.792
19 | 240 | 30.265 | 5306 | 20.904 | 1.448* | 74.233
18 | 181 | 22.825 | 5585 | 22.003 | 1.037 | 6.517
17 | 68 | 8.575 | 5092 | 20.061 | 0.427* | -81.081
16 | 45 | 5.675 | 4496 | 17.713 | 0.320* | -95.461
V064: Est Speed Veh C
V026: Gender Driver C
V000: Day of the Week
V023: Raw Age Driver C
V009: Rural or Urban
V244: Ambulance Arrival Delay
V243: Police Arrival Delay
V082: Traffic Lanes Unit C
V010: Highway Class
V045: Type Vehicle C
Sort by Sum of Max Gain
IMPACT Results - 2007 Alabama Crash Road Data - Causal Driver Age 16-20 And Alcohol Related vs. Causal Driver Age 16-20
V023: Raw Age Driver C
20
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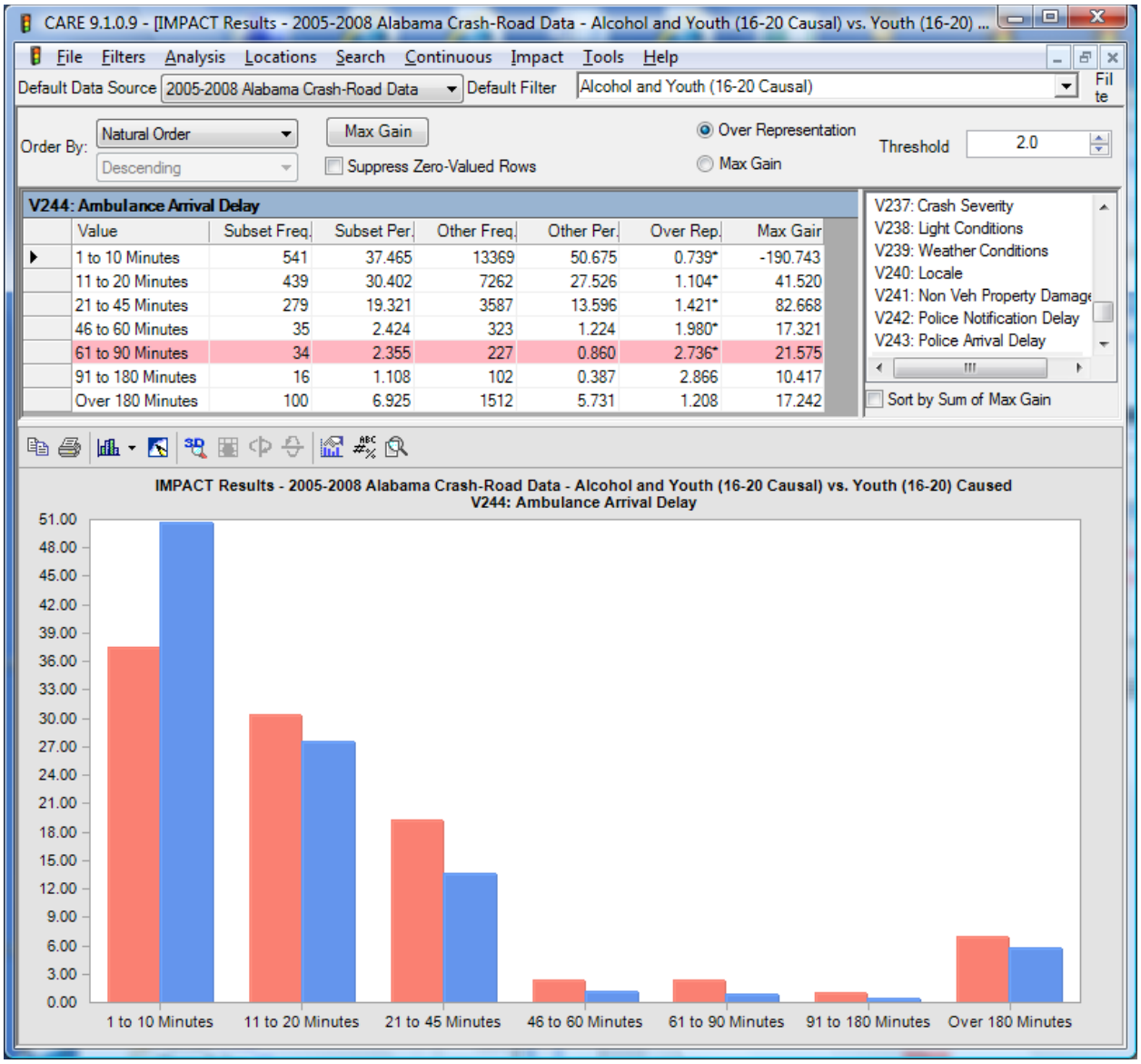
Police/Ambulance Arrival Delay. Due to the rural and late-night-weekend nature of these crashes, the severity is further complicated by longer than expected EMS and police arrival delays.



Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
1 to 10 Minutes	541	37.465	13369	50.675	0.739*	-190.743
11 to 20 Minutes	439	30.402	7262	27.526	1.104*	41.520
21 to 45 Minutes	279	19.321	3587	13.596	1.421*	82.668
46 to 60 Minutes	35	2.424	323	1.224	1.980*	17.321
61 to 90 Minutes	34	2.355	227	0.860	2.736*	21.575
91 to 180 Minutes	16	1.108	102	0.387	2.866	10.417
Over 180 Minutes	100	6.925	1512	5.731	1.208	17.242

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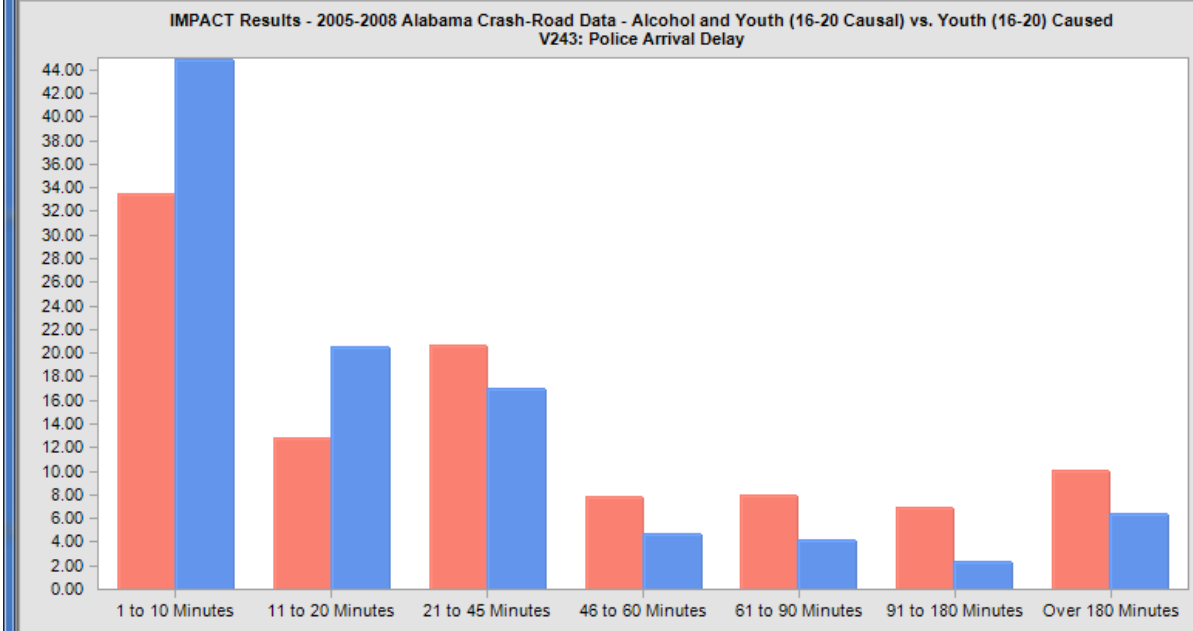
Order By: Natural Order | Descending | Max Gain | Suppress Zero-Valued Rows | Over Representation | Max Gain | Threshold 2.0

V243: Police Arrival Delay

Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
1 to 10 Minutes	943	33.547	42992	44.847	0.748*	-317.659
11 to 20 Minutes	362	12.878	19734	20.586	0.626*	-216.662
21 to 45 Minutes	582	20.704	16304	17.008	1.217*	103.916
46 to 60 Minutes	220	7.826	4455	4.647	1.684*	89.366
61 to 90 Minutes	225	8.004	3954	4.125	1.941*	109.056
91 to 180 Minutes	196	6.973	2252	2.349	2.968*	129.964
Over 180 Minutes	283	10.068	6172	6.438	1.564*	102.018

V237: Crash Severity
V238: Light Conditions
V239: Weather Conditions
V240: Locale
V241: Non Veh Property Damage
V242: Police Notification Delay
V243: Police Arrival Delay

Sort by Sum of Max Gain



Race, Driver C (V025). Caucasian causal drivers are significantly over represented with over 9% more than their expected number of crashes. Additionally, Hispanic causal drivers are significantly over represented with over 3.5 times the expected number of crashes. While the number of drivers of the Hispanic race is a relatively small number, the over representation should be noted and countermeasures may need to be developed to target this group in the future.

Vehicle Type (V045). Pickups accounted for over 46% of all alcohol related crashes and were over-represented by a factor of 1.42.

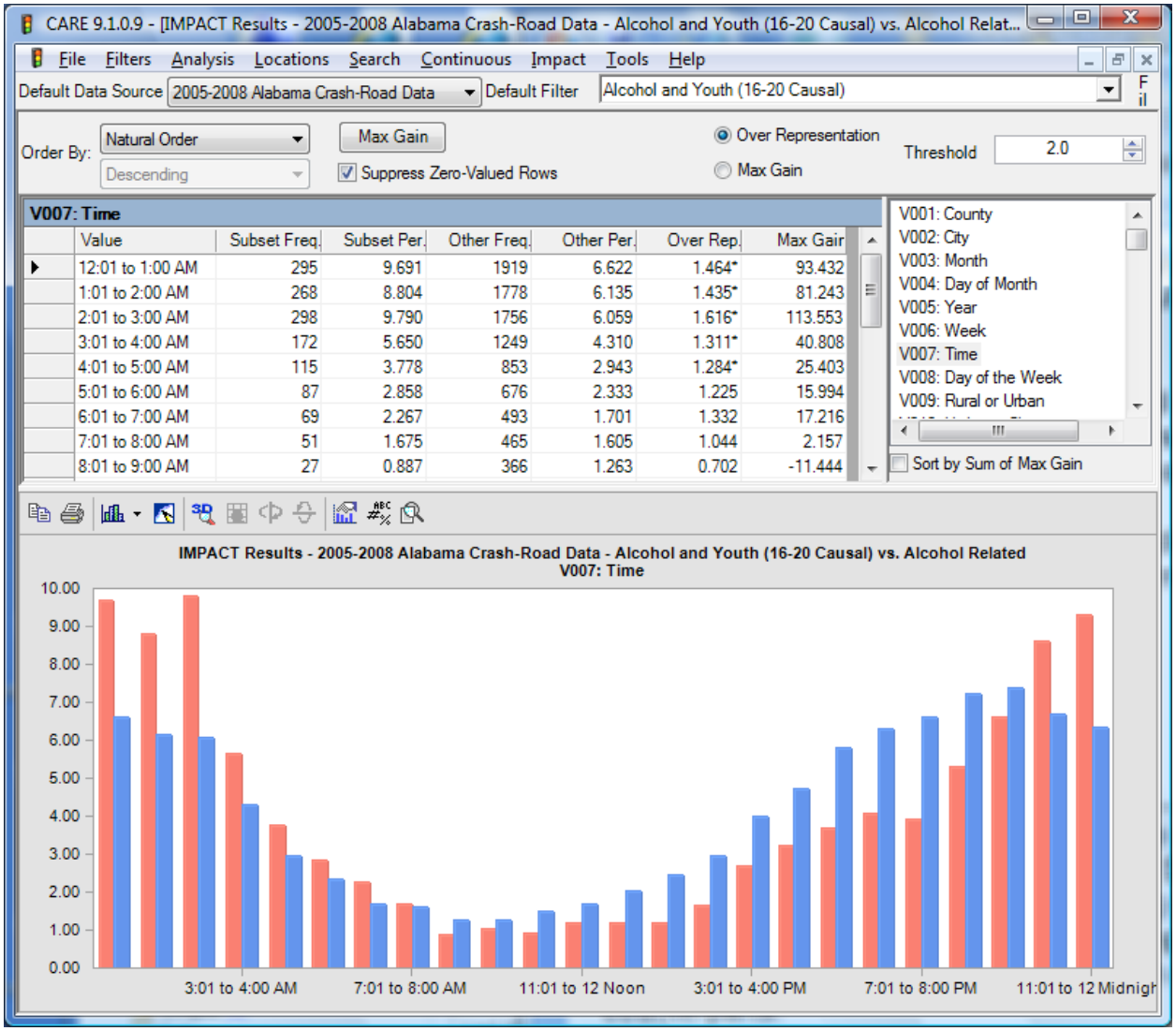
Left Scene (V070). The proportion of left-scene crashes where alcohol was involved was 7.2 times over those where it was not.

COMPARISON: YOUTH-ALCOHOL AGAINST ALL ALCOHOL CRASHES

By comparing the youth-alcohol subset of crash records against all alcohol crashes, the distinction between youth and "adult" alcohol crashes can be determined (*adults* defined here to be of age 21 or older). This information will help in making a distinction in general alcohol countermeasures and those that are specifically targeted toward young people. The results given below will be in the same order as those given above for the comparison of youth-alcohol against youth-general to facilitate the comparison of the results of these two analyses. Certain variables that were included in the first analysis but had no significance in the second analysis were omitted. Additional variables that had significance in the second analysis but did not in the first analysis are included at the end of this section.

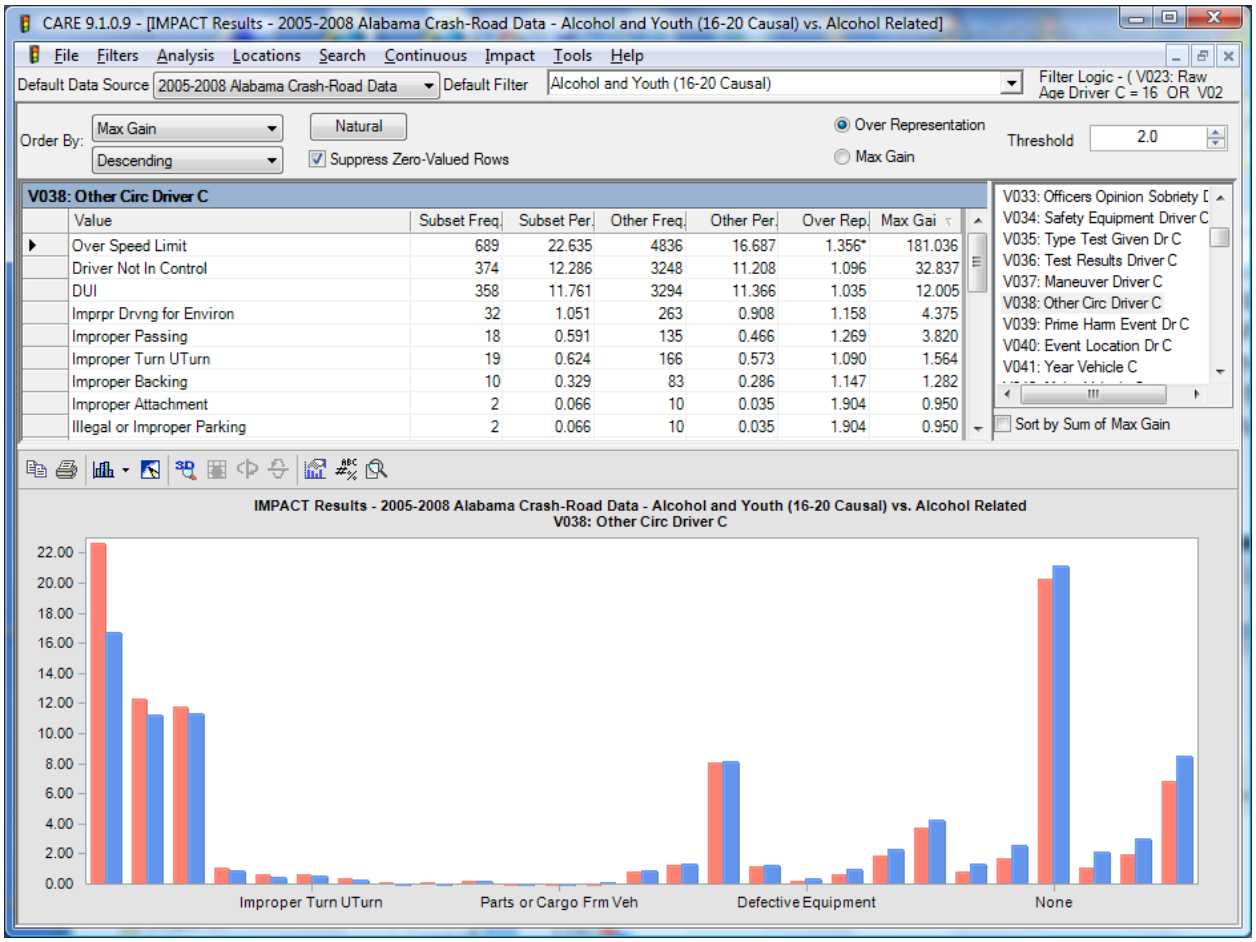
Note: in all graphics that follow, the red or slightly lighter bars on the left refer to the proportion of youth-alcohol crashes, and the blue or darker bars on the right refer to the control, in this case all alcohol crashes.

Time of Day (V007). The figure below indicates that youth-alcohol crashes occur significantly later at night and in the early morning hours when compared to alcohol crashes in general. Youth-alcohol crashes are more centered around midnight or slightly thereafter (i.e., 12:30 AM).



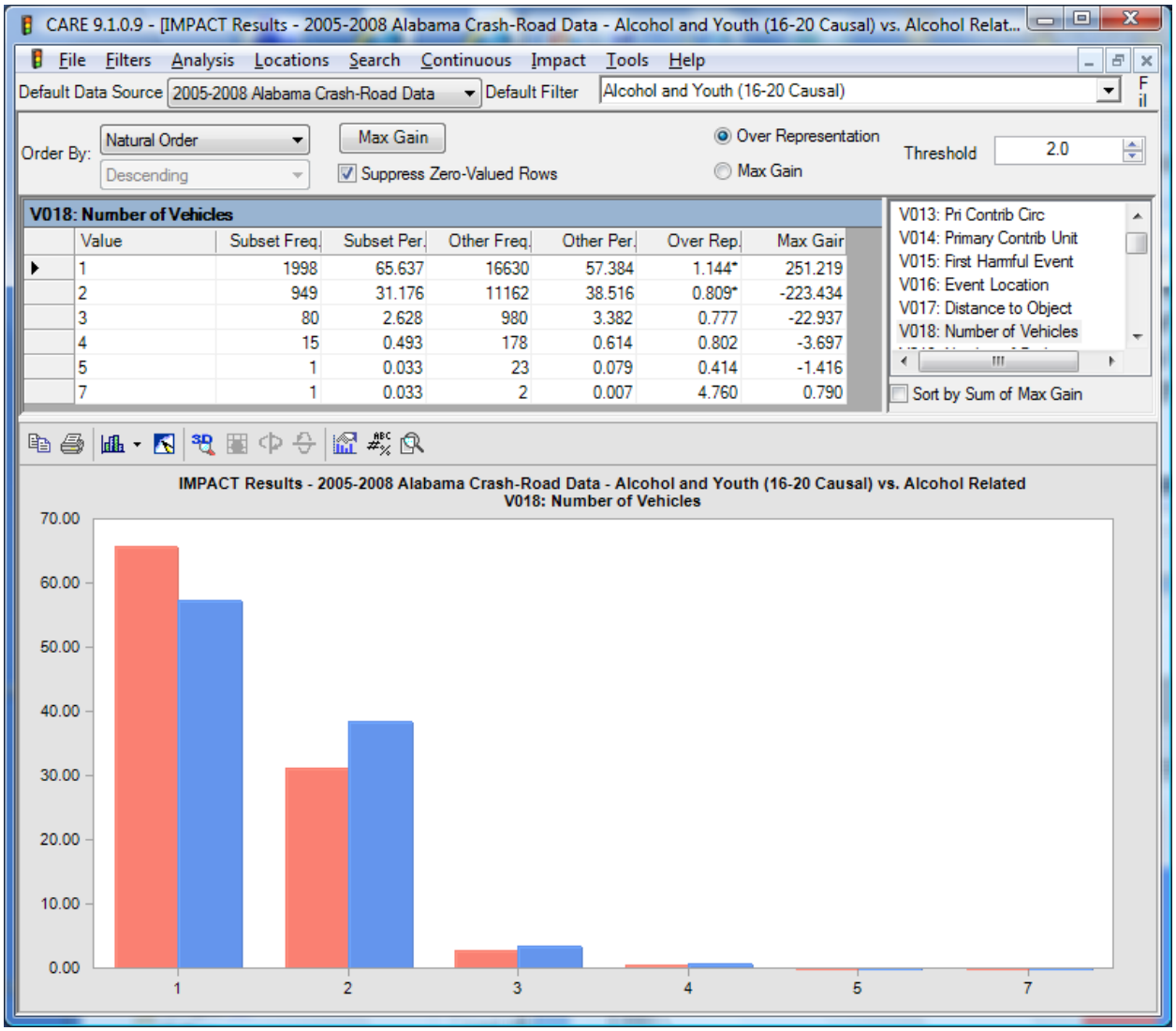
Value	Subset Freq.	Subset Per.	Other Freq.	Other Per.	Over Rep.	Max Gain
12:01 to 1:00 AM	295	9.691	1919	6.622	1.464*	93.432
1:01 to 2:00 AM	268	8.804	1778	6.135	1.435*	81.243
2:01 to 3:00 AM	298	9.790	1756	6.059	1.616*	113.553
3:01 to 4:00 AM	172	5.650	1249	4.310	1.311*	40.808
4:01 to 5:00 AM	115	3.778	853	2.943	1.284*	25.403
5:01 to 6:00 AM	87	2.858	676	2.333	1.225	15.994
6:01 to 7:00 AM	69	2.267	493	1.701	1.332	17.216
7:01 to 8:00 AM	51	1.675	465	1.605	1.044	2.157
8:01 to 9:00 AM	27	0.887	366	1.263	0.702	-11.444

Other Circumstances (V038). As can be seen below, younger drivers are significantly overrepresented in the category of “Over Speed Limit” when compared to older drivers. While it is not uncommon to see speeding go hand in hand with alcohol crashes due to the increased risk taking behavior; it is important to note that younger drivers appear to be even more likely to speed or engage in risk-taking behavior than their older counterparts.

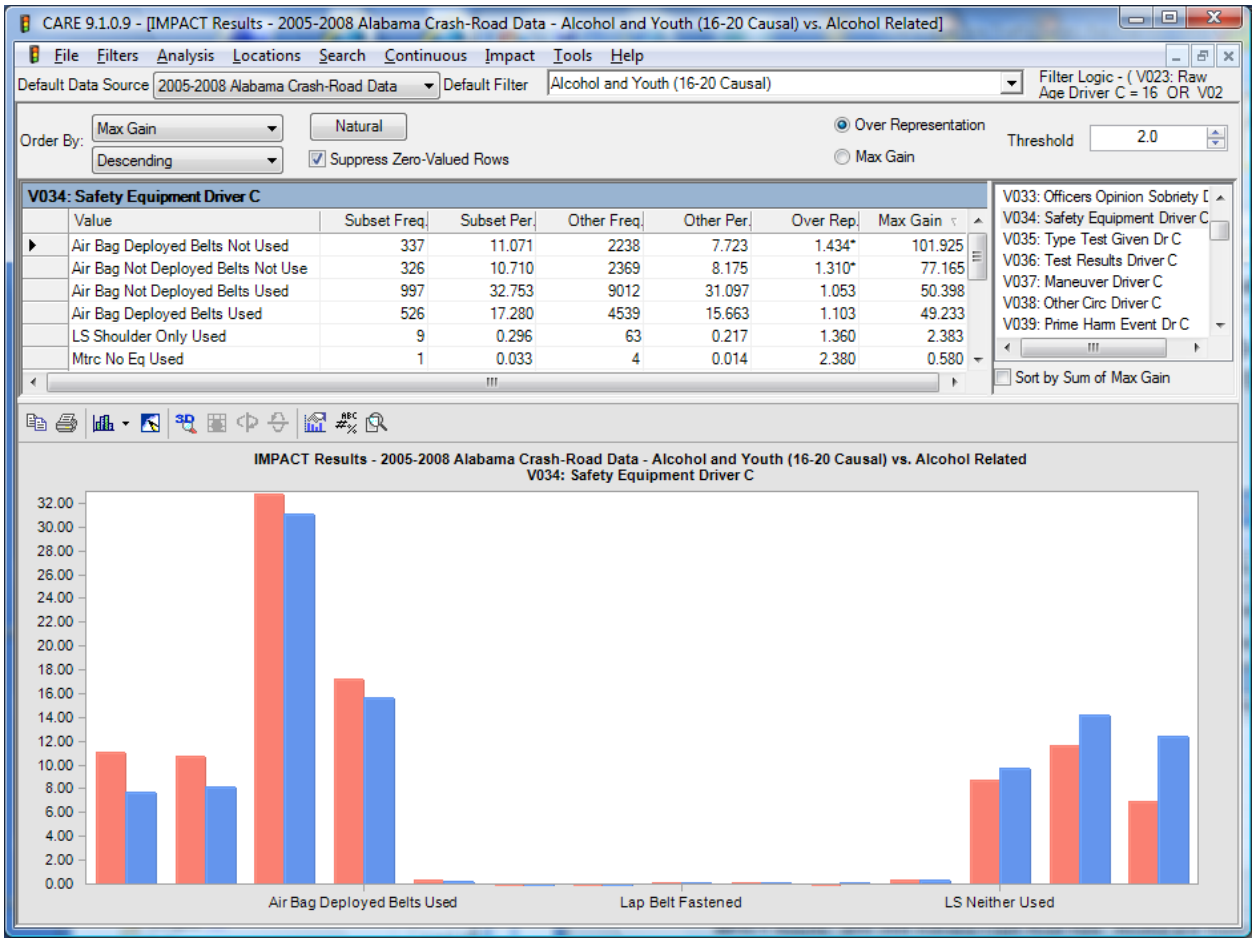


Primary Harmful Event (V039). The major difference in Primary Harmful Event is that the youth-alcohol subset was involved in over 20% more than expected “Overturned” crashes. This was the only factor that was considered to be significantly overrepresented when comparing youth alcohol crashes to all alcohol crashes. This likely indicates that the younger drivers were involved in more severe crashes. Related variables: V015, First Harmful Event is similar to V039, however for this variable a significant over representation was seen for the category of “Ditch” and “Curbing” with both significantly over represented at 21% and 77% (respectively) more than the expected number of crashes in the youth-alcohol subset.

Number of Vehicles (V018). Single vehicle crashes involving young people are significantly over represented with over 14% more than the expected number of crashes when compared to alcohol crashes in general. Multi-vehicle crashes are under-represented. As was mentioned in the earlier section of this report, this is a significant change in behavior from past years with a trend towards more single vehicle crashes as opposed to multi-vehicle crashes among the younger drivers.



Restraints (V034). The results comparing restraint use indicate that younger drivers who have been drinking may be less likely to wear their seat belts when compared to older drivers who have been drinking. The categories of “Air Bag Deployed –Belts Not Used” and “Air Bag Not Deployed – Belts Not Used” are both significantly over represented with 43% and 31% (respectively) more than the expected number of crashes seen when comparing these two groups.



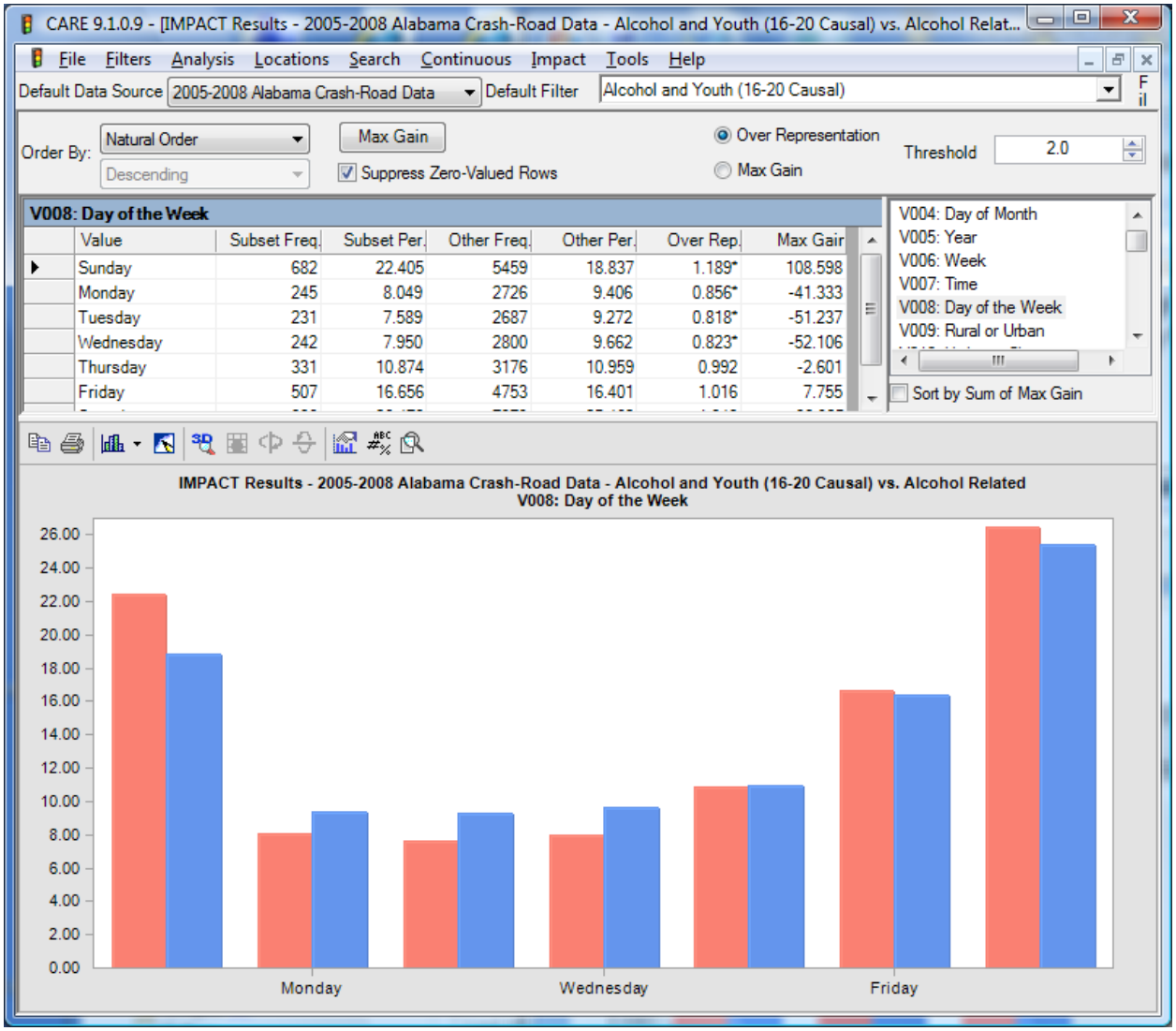
Severity of Crash. There are very few significant differences in the severity of crashes among the youth-alcohol crashes when compared to all alcohol crashes. There was no significant over representation for the damage severity (V066) or crash severity (V237). However, there was one indication of a higher severity in the youth-alcohol crashes, seen when looking at the Damage done to the Causal Vehicle (V051). For this variable, the category of “Total” was significantly over represented with just over 12% more than the expected number of crashes. This indicates that there is some increased damage severity among the crashes where younger drivers are involved.

Geographic location. The only “city” areas (V002) significantly over-represented in youth-alcohol crashes (as compared to alcohol crashes in general) were Tuscaloosa

and Auburn. This is likely due to the high youth populations in these cities that house the two largest Universities in the state. No cities were significantly under-represented. The overall city arrangement does not vary much from the youth-alcohol vs. youth comparison discussed above.

Locale (V240) shows the greatest over-representation in residential areas. This indicates that younger drivers, when compared to general alcohol crashes, have more of their problems in well populated areas such as residential neighborhoods. Those occurring in residential areas accounted for over 29% of the youth-alcohol crashes. The largest proportion (almost 48%) is still in open country, although, compared to alcohol crashes in general, youth-alcohol crashes are slightly under-represented for this locale. As opposed to years past, there was no significant difference in Rural/Urban (V009), with youth alcohol crashes showing less than 1% over representation in Urban areas. This indicates that youth-alcohol crashes are following the same trend as all alcohol crashes when examining the rural and urban locations of the crashes.

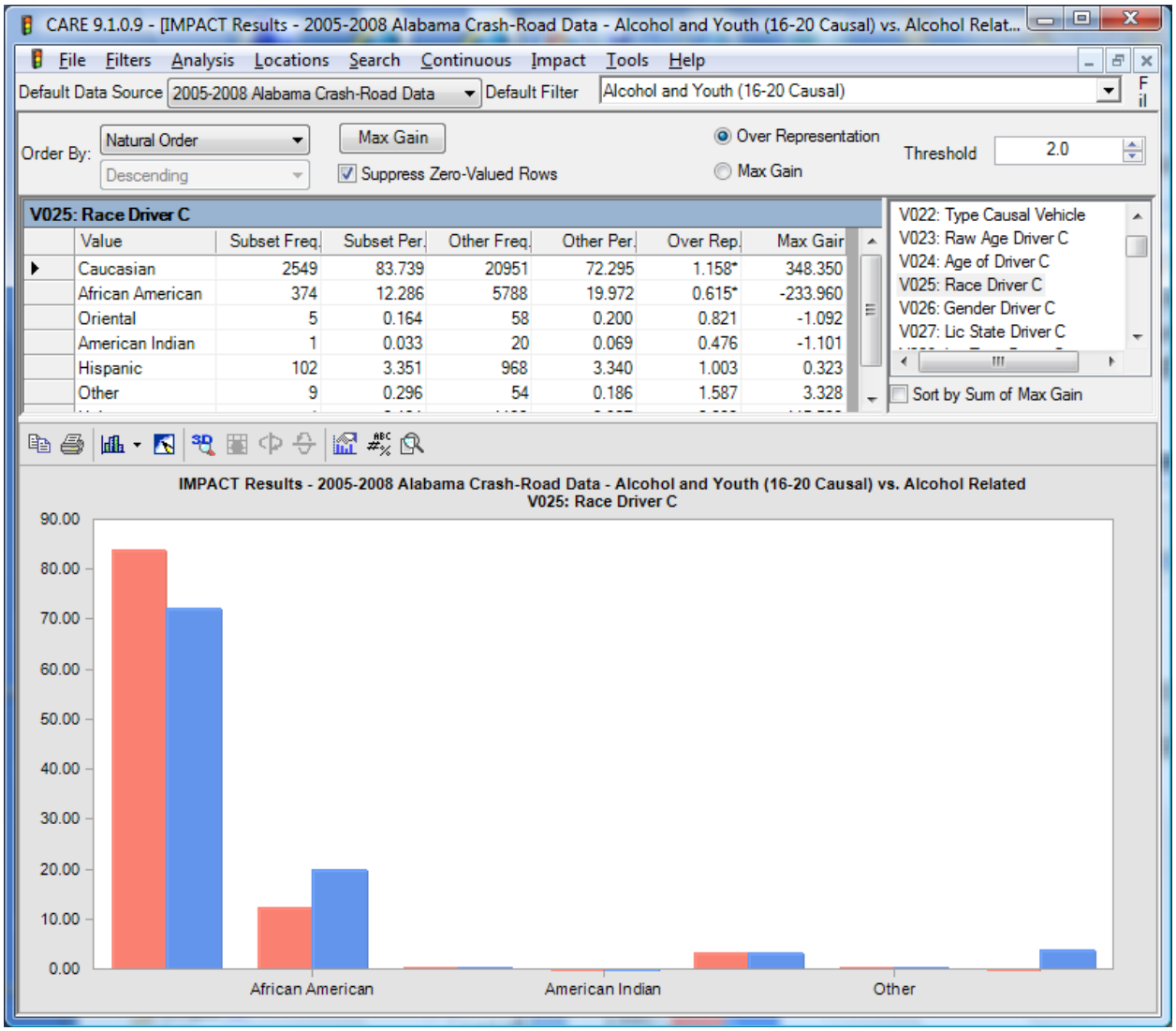
Day of Week (V008). When comparing youth alcohol to all other alcohol, there is a slight over representation for Sunday with almost 14% more than the expected number of crashes among the younger drivers. As can be seen from the chart below, there is also a slight over representation for Friday and Saturday. This trend seems to indicate that youth-alcohol crashes are more likely to occur on the weekends as opposed to earlier in the week, with particular over-representations early on Sunday mornings.



Gender (V026). Youth-alcohol crashes follow the pattern of alcohol crashes in general, with male causal drivers accounting for almost 82% of the crashes.

Police/Ambulance Arrival Delay (V243/V244). For the Police Arrival Delay variable, there was a slight over representation of over 32% more than expected for “91-180 Minutes.” This indicates that there were longer delays when notifying the police regarding youth-alcohol crashes than alcohol crashes in general. However, there were no differences for the Ambulance Arrival Delay variable.

Race (V025). The Race Variable shows that Caucasians are over represented by over 13% among the youth when compared to regular alcohol related crashes. It is worth noting that Caucasians are significantly over represented while the African American category is significantly under represented among the youth alcohol crashes.



Left Scene (V070). Youth-alcohol drivers left the scene of crashes less than their older DUI counterparts. When comparing youth-alcohol drivers to older drivers involved in alcohol related crashes, there was a significant over representation of 4.1% for “Did Not Leave Scene” among the younger drivers.

Occupants in Vehicle C (V068). As seen in the graphic below, those involved in youth alcohol crashes are much more likely to have several passengers in the vehicles with them. Two, three, four and five occupants in the vehicle are all significantly over represented. This shows that younger drivers are more likely than older drivers to be traveling with their friends when they are driving after drinking.