

# 2008

## City of Detroit State Prevention Framework State Initiative Grant (SPF SIG) Needs Assessment



### Alcohol Related Traffic Crashes and Fatalities, Underage Drinking and Marijuana

Department of Health & Wellness  
Promotion Bureau of Substance Abuse,  
Prevention, Treatment and Recovery

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## Table of Contents

<b>SUMMARY</b> .....	3
<b>ALCOHOL RELATED TRAFFIC CRASHES &amp; FATALITIES</b> .....	4
<i>Alcohol Involved Crashes</i> .....	4
Alcohol Involved Crash Fatalities .....	7
<i>Underage Alcohol Consumption (youth)</i> .....	8
<i>Alcohol Treatment</i> .....	9
Consequences .....	10
Alcohol Related Consequences (arrests and cost).....	11
<i>Identified Gaps</i> .....	12
<b>IDENTIFICATION OF HIGH RISK (“HOT SPOT”) AREAS</b> .....	12
<i>Defining the Target Area</i> .....	12
<i>Assessment of Intervening Variables</i> .....	16
<i>Identified Gaps</i> .....	17
<b>CONSUMPTION AND CONSEQUENCES FOR MARIJUANA USE</b> .....	17
<i>Marijuana Use and Treatment</i> .....	17
<i>Accessibility</i> .....	19
<i>Association of Underage Marijuana Use with Drinking Alcohol</i> .....	19
<i>Identified Gaps</i> .....	20
<b>APPENDIX</b> .....	21
Appendix A .....	21

## SUMMARY

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The Detroit Community Epidemiological Workgroup (CEW) has worked extensively to identify the needs of Detroit as it relates to the State's priority issue (alcohol related traffic crash deaths and underage drinking). The Detroit CEW has identified a high risk area/"hot spot" within the City to begin implementation of prevention strategies that would have a positive impact on the burden of alcohol related traffic crashes, within the City of Detroit and Wayne County. Additionally, data has been reviewed and analyzed to determine a supplementary issue that is related to the States priority & unique to the city of Detroit. After review of the data, the CEW concluded that marijuana consumption and consequences, among those under 21 years of age, to be an additional priority issue to be addressed.

Trend data from the 2003-2005 Michigan Drunk Driving audit show that Wayne County has consistently ranked number 1 (among all Michigan Counties) for alcohol-involved automobile crashes and fatalities. The burden of Detroit on the numbers for Wayne County, are influential. Between 2000 and 2006 Detroit made up 37% of Wayne County alcohol-involved crashes and, 69% of Wayne County alcohol related crash fatalities. The data also illustrated that the population greatest at risk for driving drunk, and alcohol crash fatalities was those between the ages of 21 and 34 years.

Extensive review of data (alcohol crashes & fatalities, DUI arrest data, and the geographical location of Detroit residents 21 to 34 years) helped to identify zip code 48228 as a target area, to begin intervention strategies. Furthermore, the identified target area would allow us to maximize capacity and resources to implement intervention services for underage marijuana use (<21 years), by capitalizing on the fact it is 1 of 3 zip codes where the top 10% of our target population (<21 years) resides (U.S. Census Data).

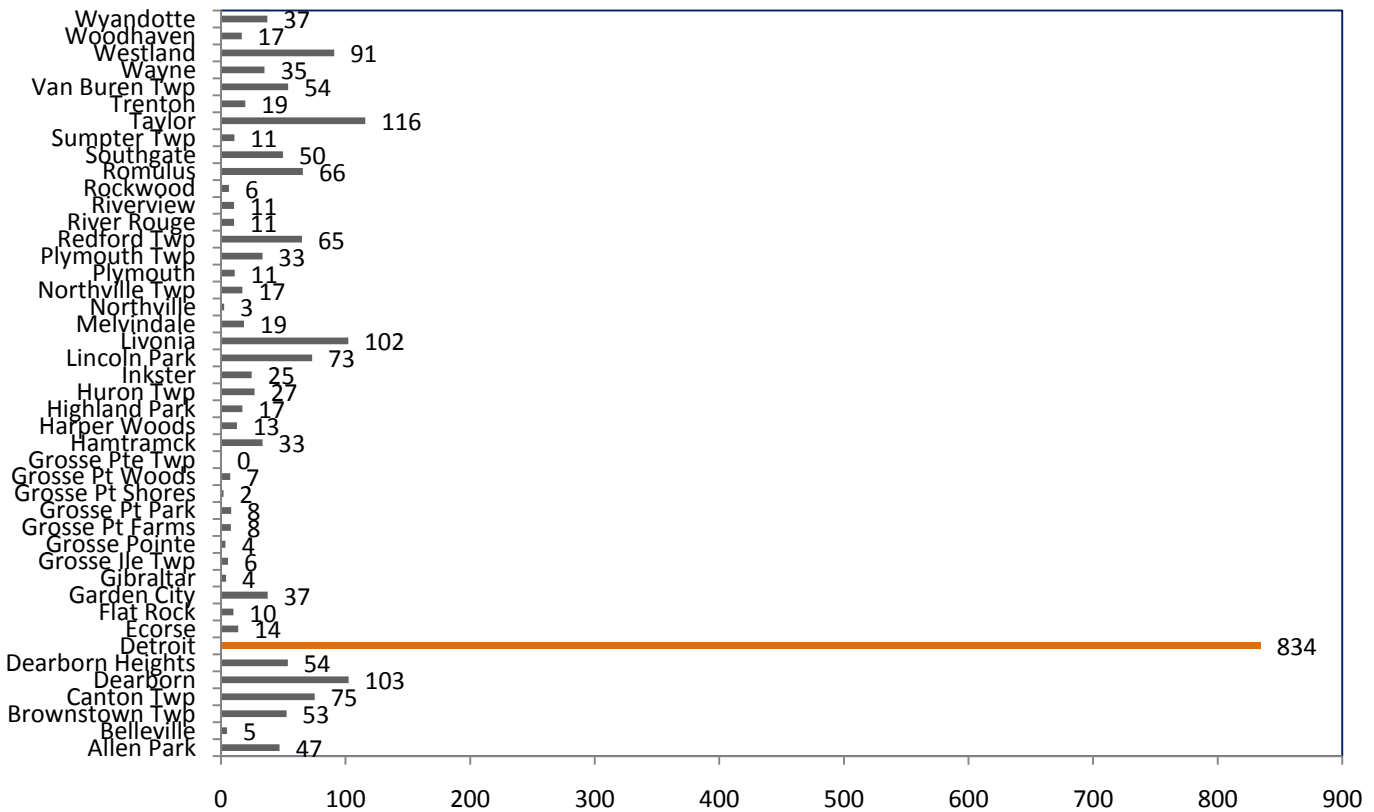
Information presented in this report is based on several data sources to help provide a multidimensional assessment of the State level priority problem in Detroit. The first section details the problem statement and consequences (using numbers, rates and percentages) related to traffic crashes and deaths. The second section explains the intervening factors that were assessed to help determine the target ("hotspot") area(s) in the city of Detroit. The third section presents data on underage marijuana consumption and consequence as it relates to alcohol use. Embedded within each section you will find identified gaps; that if addressed it would improve the needs assessment of alcohol related traffic crashes and other substance abuse problems.

## ALCOHOL RELATED TRAFFIC CRASHES & FATALITIES

### Alcohol Involved Crashes

According to the Michigan Traffic Crash Fact data, the average number of alcohol related accidents in Detroit (2000-2006) was 834 crashes; ranking Detroit as number one among the other cities within Wayne County during that time (figure 1). Detroit accounted for 37% of Wayne County's average, while the remaining nine (of the top ten cities) collectively totaled 33% of Wayne County (table 1). The number of alcohol crashes per year in the City of Detroit significantly decreased in 2006 when compared to six prior consecutive years. Conversely (between 2000 and 2006), the city accounted for at least 33% of Wayne County's alcohol related traffic crashes; collectively averaging about 37% (figure 2). In 2006 there were 578 alcohol related traffic crashes. When compared to 2005, the number of alcohol related crashes decreased by 14%.

**Figure 1: Average Number of Alcohol Related Accidents Wayne County Cities 2000-2006**

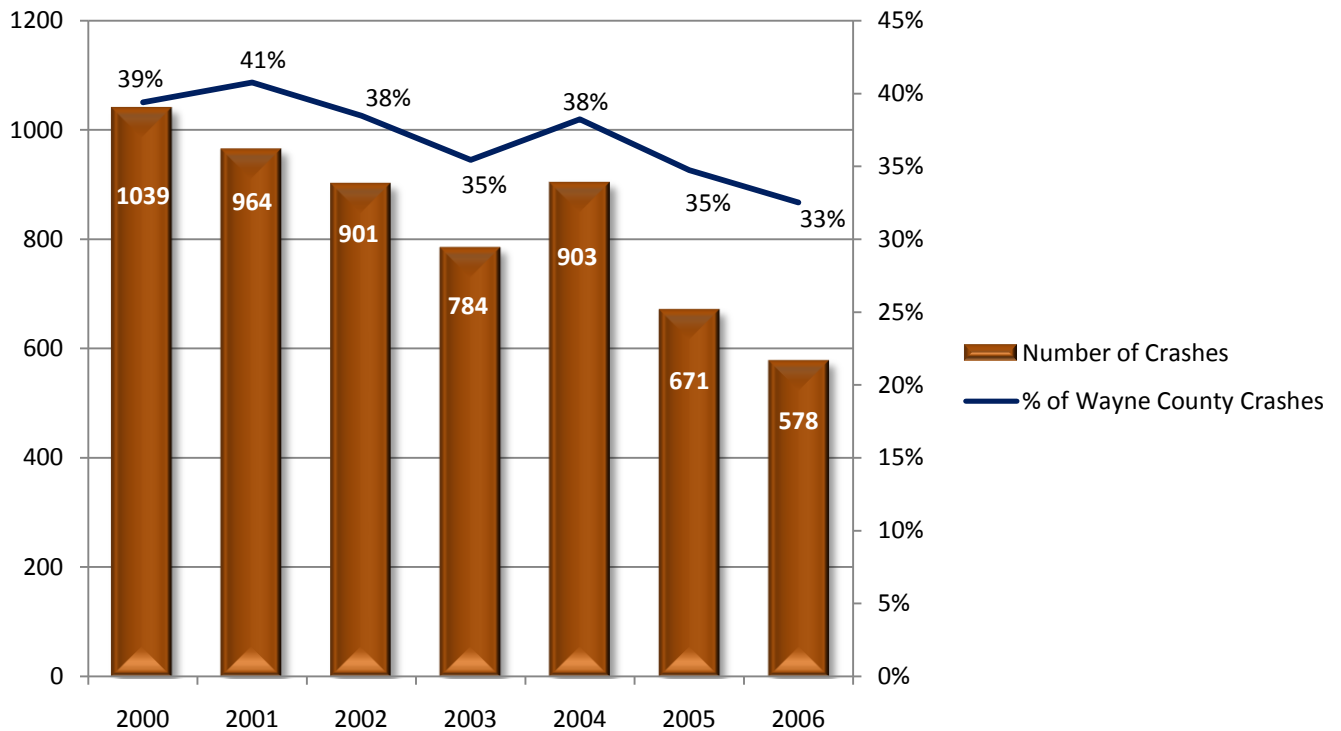


Data Source: Michigan Traffic Crash Facts 2000-2006, Office of Highway Safety

Table 1: Top 10 Cities with the Highest Average Number of Accidents*		
Cities	Average #	% of Wayne County
Detroit	846	38%
Dearborn	103	5%
Livonia	102	5%
Taylor	116	5%
Westland	91	4%
Canton Twp	75	3%
Lincoln Park	73	3%
Romulus	65	3%
Redford Twp	66	3%
Van Buren Twp	54	2%

\* The average number of accidents for Wayne County = 2,233

Figure 2: Alcohol Related Crashes by year

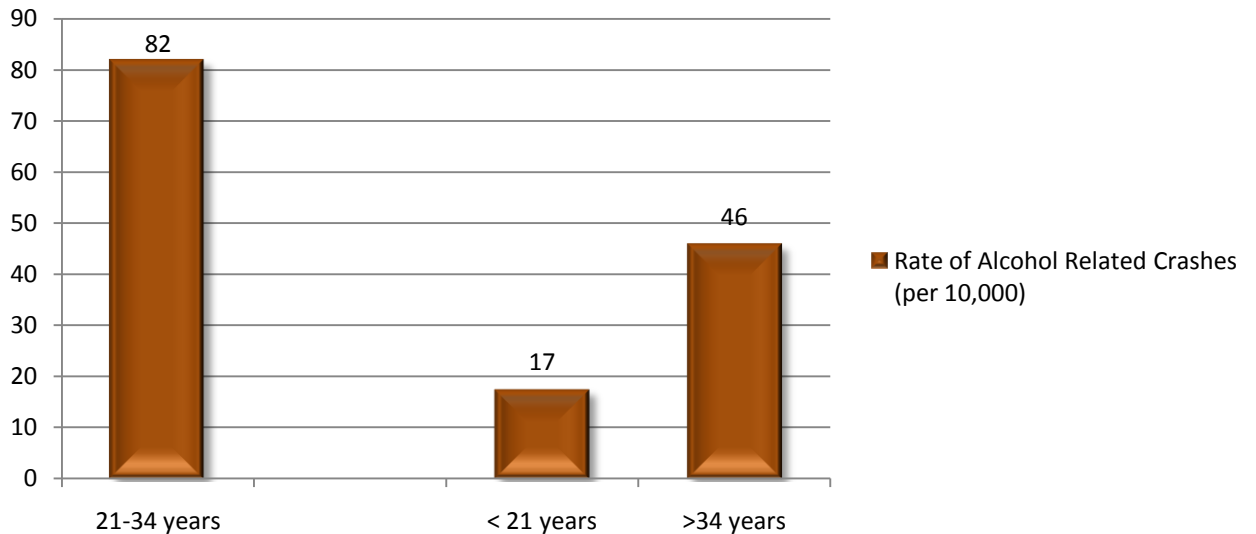


Data Source: Michigan Traffic Crash Facts 2000-2006, Office of Highway Safety

Data from the Michigan Traffic Crash Facts illustrated in 2006 males (444) were 2.4 times more likely to drive impaired than women (132). Trend data (2002-2006), show that the average age for impaired drivers was 34 years and the age in which impaired driving occurred the most was those 21 years of age. Therefore, the CEW began to look further into the data to determine the impact of this age group (21-34 years) driving while impaired. When 2002-2006 data was

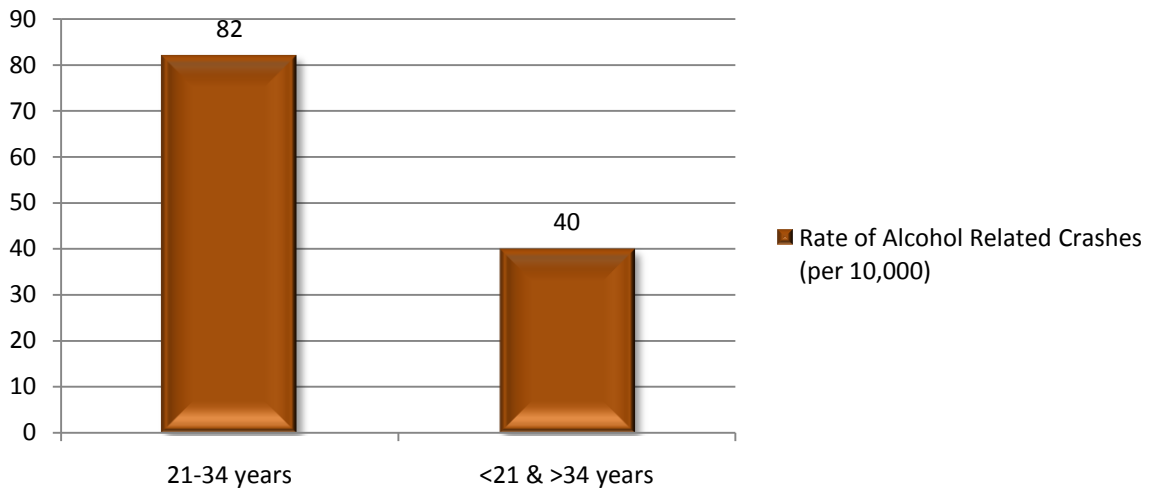
stratified by age, it showed that the rates (per 10,000) for alcohol related traffic crashes in Detroit were higher among those 21-34 years in comparison to other ages. The rate of alcohol related traffic crashes among this age group (2002-2006) was 82 per 10,000 persons; a rate almost 4 times higher than those <21 years and 78% higher than those older than 34 years (figure 3). When we compared the 21-34 age group to the rest of the population the data illustrated that the rate for alcohol related traffic crashes was 1.1 times higher (figure 4).

**Figure 3: Rate of Alcohol Related Crashes by Age Group  
Detroit, MI (2002-2006)**



Data Source: Michigan Traffic Crash Facts 2000-2006, Office of Highway Safety & U.S. Census Data

**Figure 4: Rate of Alcohol Related Crashes by Age  
Detroit, MI (2002-2006)**

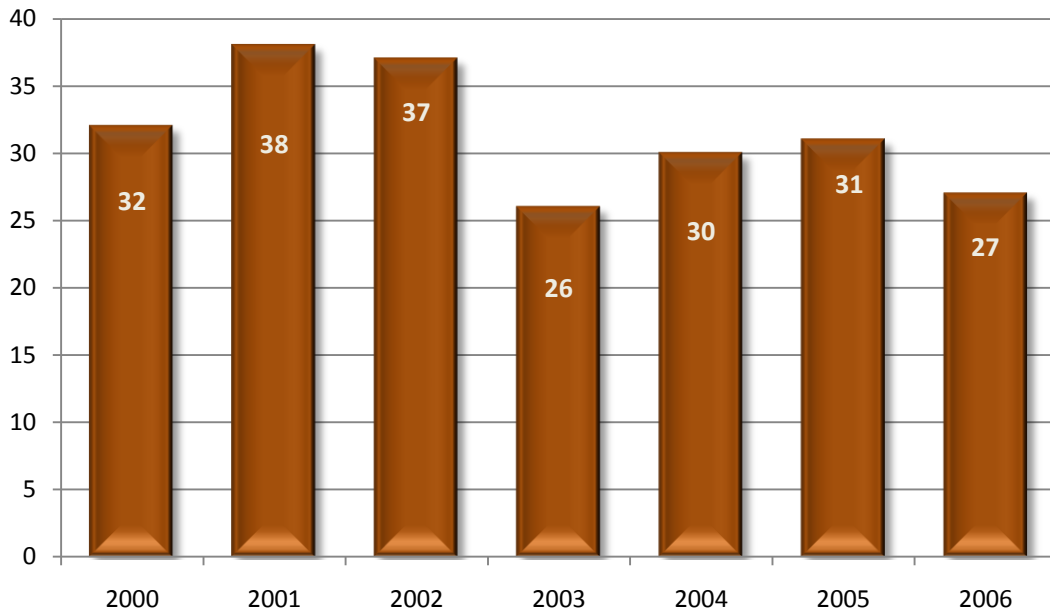


Data Source: Michigan Traffic Crash Facts 2000-2006, Office of Highway Safety & U.S. Census Data

### Alcohol Involved Crash Fatalities

The rate of fatalities in Detroit was 378 per 10,000 persons (2000-2006), which was 72% higher than Wayne County (220 per 10,000). Detroit accounted for 64% of the fatalities in Wayne County during 2000-2006 (*appendix A*). Figure 5 exhibits the allocation of alcohol related crash fatalities that occurred in Detroit (2000-2006) by each year.

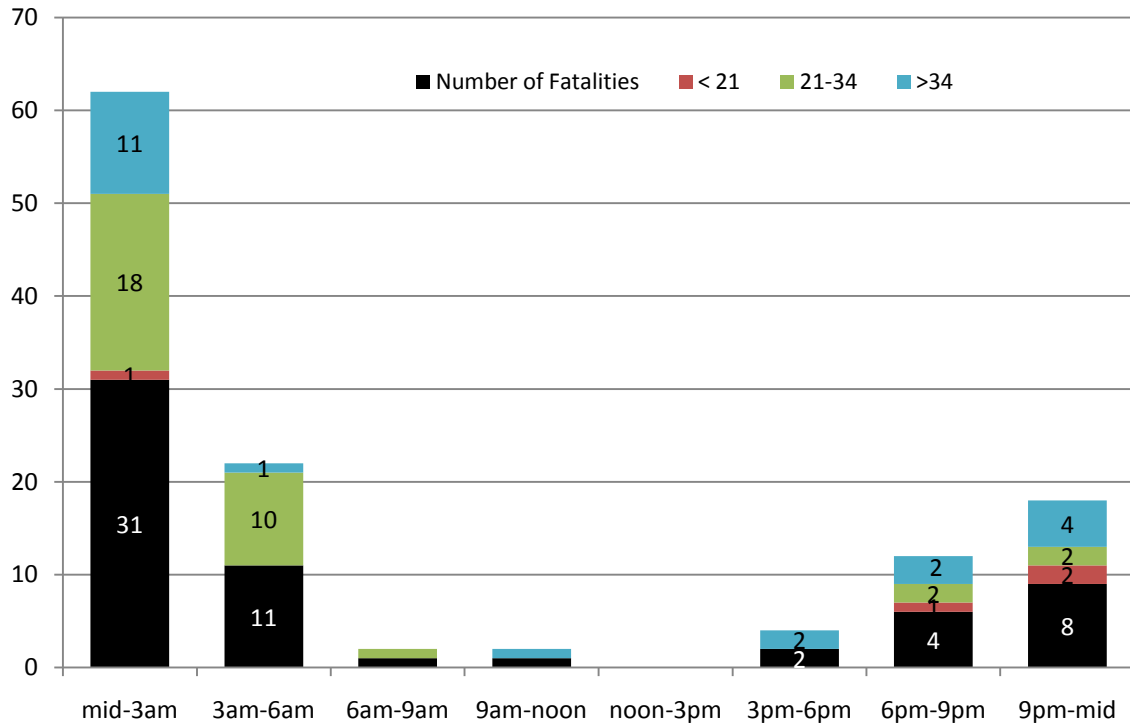
**Figure 5: Number of Alcohol Related Crashes Fatalities by Year  
Detroit, MI (2002-2006)**



Data Source: Michigan Traffic Crash Facts 2000-2006, Office of Highway Safety

Traffic crash fatality rates for 2006 were 2.2 times higher amongst those 21-34 years than the rest of the population (71 and 22.4, respectively). In respect to time, 72% of the alcohol related fatalities in Detroit (2005-2006) occurred between midnight and 6 am (*figure 6*). Figure 6 also illustrates that the 21-34 age group had the highest number of fatalities between the hours of 12 am to 6am.

**Figure 6: Number of Alcohol Related Crashes Fatalities by Time and Year  
Detroit, MI (2005 & 2006)**



### *Underage Alcohol Consumption (youth)*

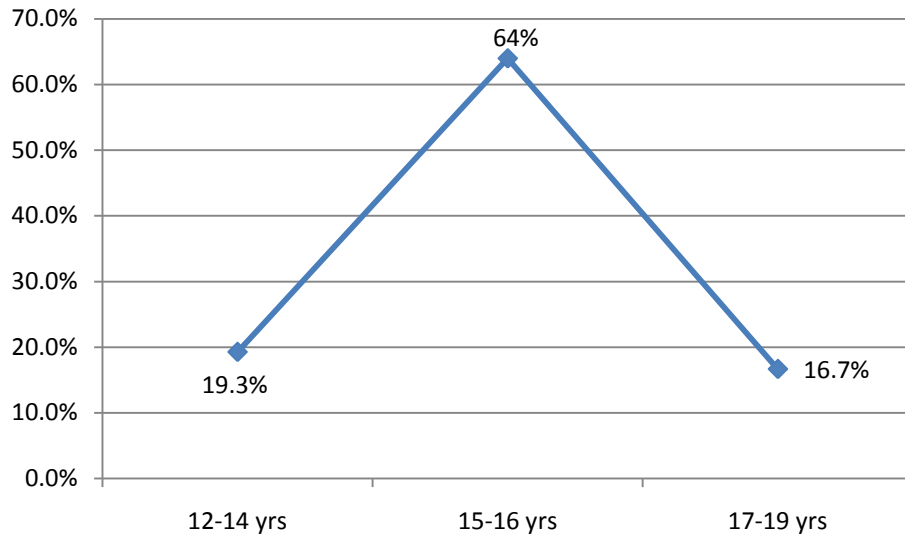
Although underage binge drinking does not pose to be a major public health issue in Detroit, underage consumption is definitely an area of concern. According to the 2005 YRBSS, 8.6% of the surveyed students in Detroit indicated that they had five or more drinks of alcohol in a row that is within a couple of hours in one or more of the past 30 days. In comparison to the State, the percentage for Detroit was 62% lower (8.6% and 22.5% respectively). However, the percentage of Detroit students that specified they had their first drink of alcohol other than a few sips before age 13 years was 31% higher than the State (29.7% and 22.6%, respectively). Moreover, the percentage of students who had at least one drink of alcohol on school property on one or more of the past 30 days was 33% higher than the state (4.8% and 3.6%, respectively).

In addition to the 2005 YRBSS data, the CEW assessed data taken from Detroit Finney high school students in 2006 to identify alcohol consumption patterns, and their knowledge on the consequences/effects of alcohol use. Data revealed that 64% of the students who reported ever using alcohol (beer, wine, hard liquor) were between the ages of 15 and 16 (*figure 7*). The average age students reported taking their first drink of alcohol was 13 years. The average number of times students reported using alcohol within the past 30 days was one.

Furthermore, 28% of the students rated their opinions on harmful risks of alcohol use as “No Risk” – “Slight Risk”. Despite the fact that the data shows students did not have a high

frequency of alcohol use, it does suggest that youth can be taught more knowledge on the harmful risk and outcomes of alcohol use.

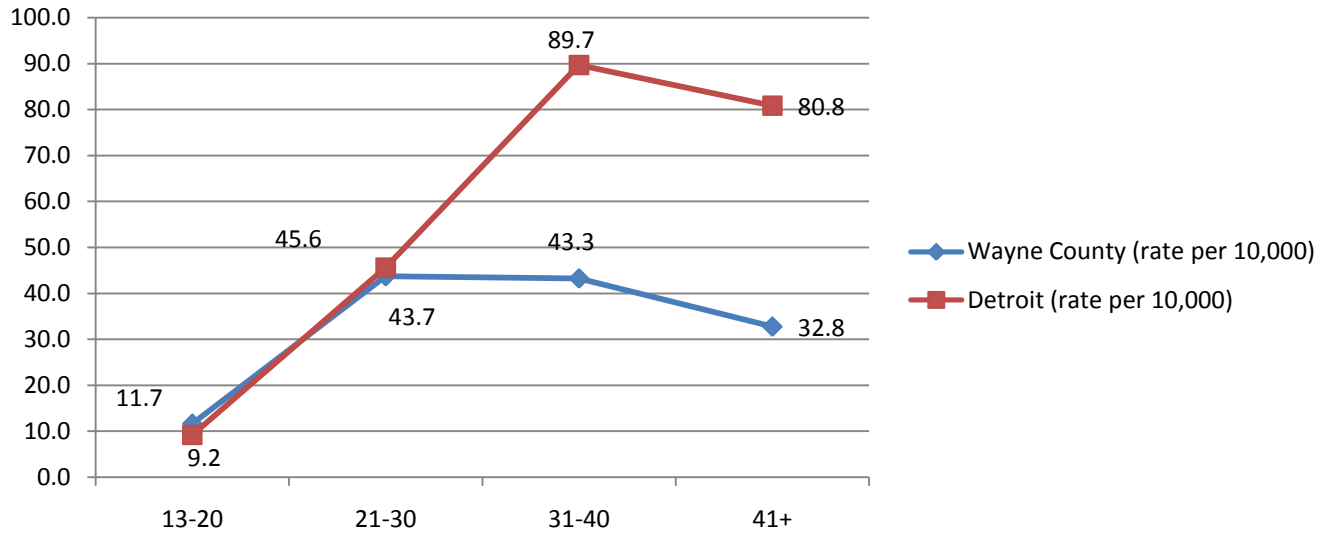
**Figure 7: 2006 Detroit Finney High School Youth initiative Survey Detroit, MI  
Students who reported using alcohol (beer, wine, hard liquor) by age**



### ***Alcohol Treatment***

The MDCH 2007 alcohol treatment data suppository showed that in comparison to Wayne County, rates for persons receiving treatment for alcohol (as a primary substance) increased as the age increased (*figure 8*). Rates for Detroit were higher than Wayne County among those 21 years and older (4.3%, 1.1 times and 1.5 times, respectively).

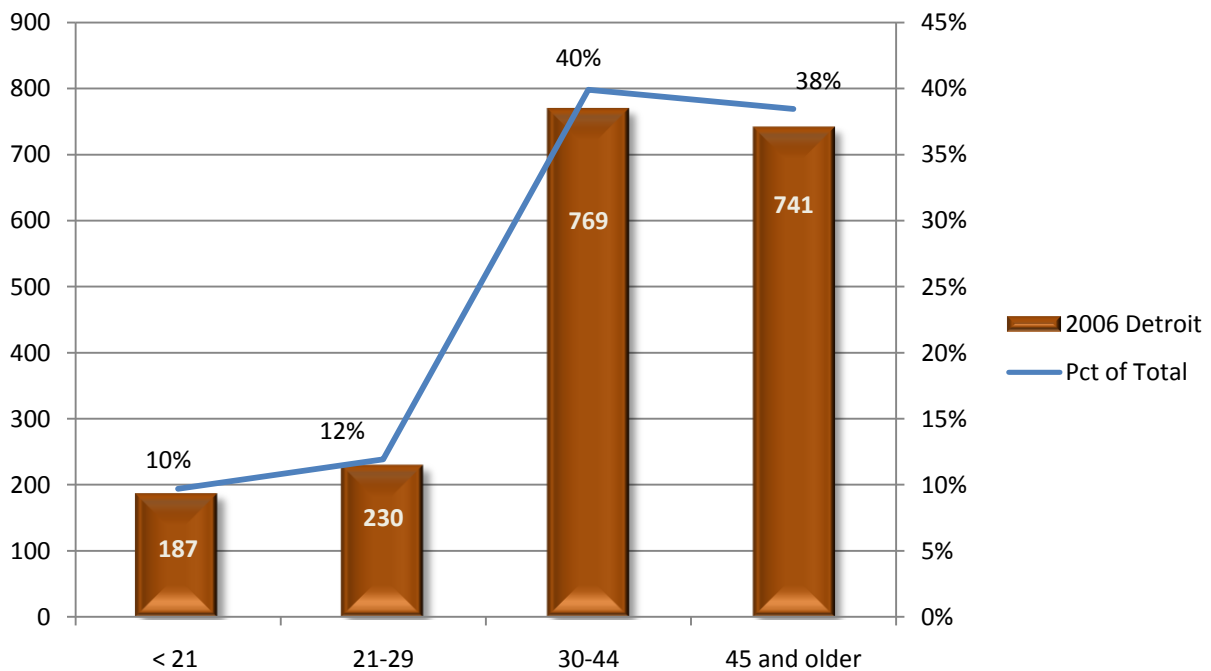
**Figure 8: Alcohol Treatment by Age  
Detroit, MI (2007)**



Data Source: MDCH Substance Abuse Treatment Data Suppository, FY 2007

Assessment of hospital admissions data illustrated that 78% of the alcohol related visits were 30 years and older (*figure 9*). Majority of the alcohol related visits (40%) were between the ages 30 and 44 years and 38% were older than 44 years.

**Figure 9: Alcohol Hospital Admission Data  
Detroit, MI (2006)**

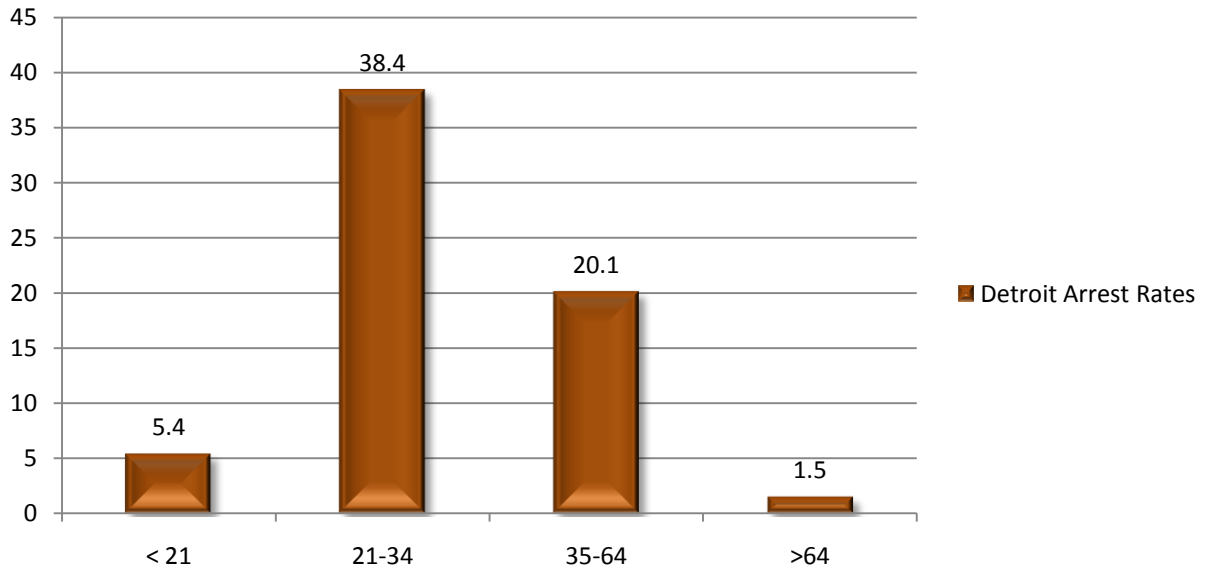


Data Source: DAWN, CY 2006

### Alcohol Related Consequences (arrests and cost)

According to the Michigan State Police crime data, in 2005 the rate of arrests for driving under the influence (DUI) of alcohol/narcotics in Detroit was highest in the 21-34 age group category (38.4 per 10,000) (figure 10). Data revealed that the arrest rate was 1.8 times higher among those 21-34 years when compared to the remaining population.

**Figure 10: Michigan State Police DUI Arrest Data  
Detroit, MI (2005)**

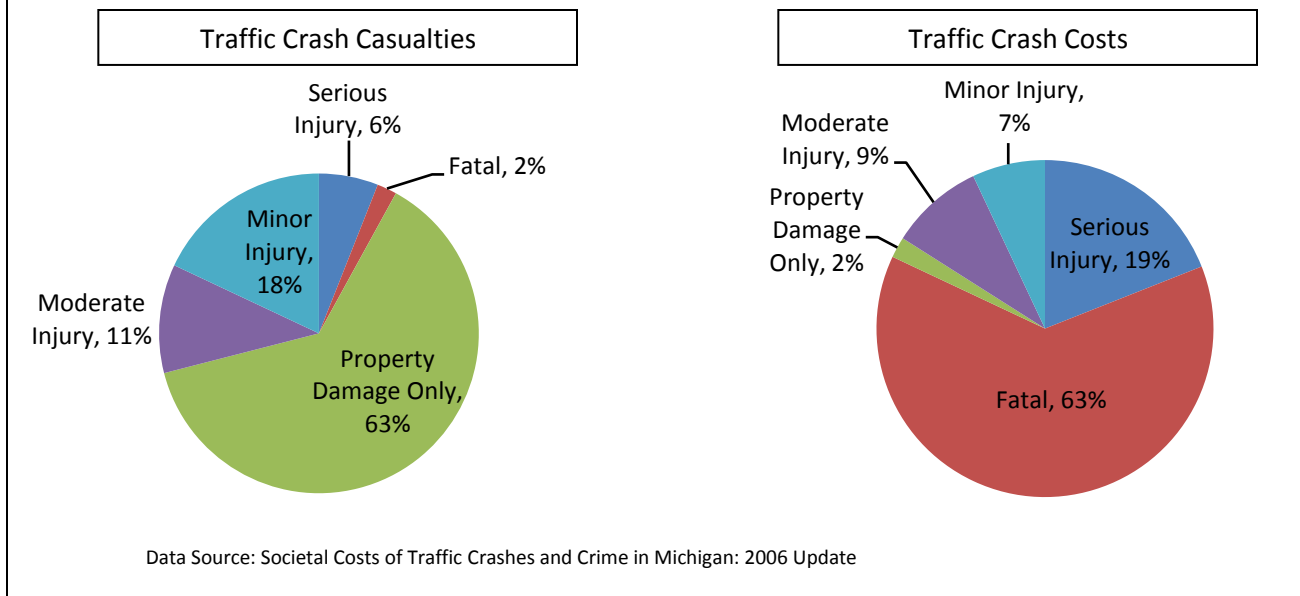


Data Source: Michigan Drunk Driving Audit, Michigan State Police, 2005

Cost analysis of alcohol related traffic crashes was assessed at the County level. When looking at the numbers for Wayne County, 2004 data shows that only 2% of the alcohol related traffic crash casualties in Wayne County resulted in death. Conversely, the burden of alcohol related crash death weighs heavily on the cost to the state and tax payers. Alcohol related traffic crash fatalities accounted for 63% of the traffic crash costs in Wayne County (figure 11).

Furthermore, Wayne County is responsible for approximately 16% of the State's cost of alcohol related crash fatality (\$253,970,342 and \$1,593,307,391, respectively).

**Figure 11: Societal Costs of Traffic Crashes and Crime in Michigan  
Wayne County (2004)**



### *Identified Gaps*

- Need for the collection of passenger data in alcohol related accidents to determine if women are more likely to ride with a drunk driver than drive impaired
- Collection of zip code in which accident took place to identify clusters of accident locations
- Uniform collection of injury and fatality data to differentiate passenger injuries/fatalities from drivers which will help in planning intervention services, and further research on the likelihood of impaired drivers getting hurt/killed in accidents versus passengers
- Need collection of cost data at the local level
- Data on the location of where the driver was last drinking
- Systematic collection of youth consumption and impact on school performance and sociability with family and peers
- Information on the time of arrest and issued tickets to minors for alcohol possession for law enforcement data
- Data for issued tickets to alcohol licensed businesses that sold to minors
- Drinking among women of childbearing age and fetal alcohol syndrome
- Alcohol use and unemployment

## **IDENTIFICATION OF HIGH RISK (“HOT SPOT”) AREAS**

### *Defining the Target Area*

Zip code 48228 has been identified to be the priority “hot spot” area to begin targeting intervention strategies for several reasons: 1) 3 of the top 10 alcohol involved crash

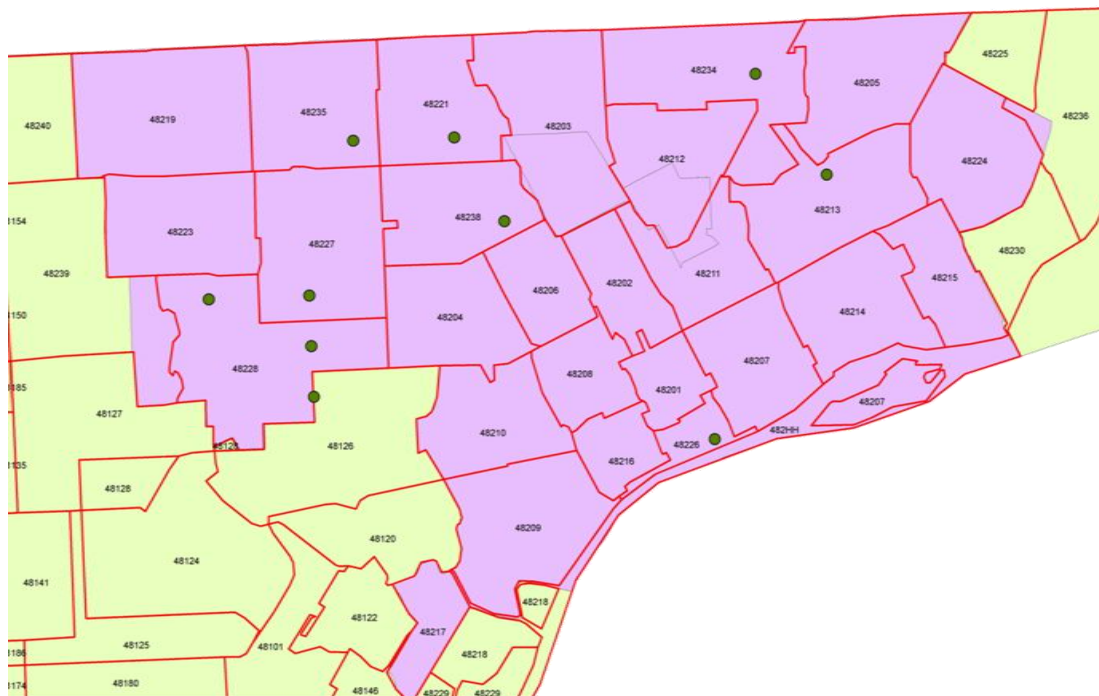
intersections 2002-2006 were within that zip code (*figure 12*), 2) most of the target population (21-34 years) when compared to the other 35 zip code areas, reside within that zip code area according the U.S, Census data, and 3) it had the highest number of alcohol related accident occurrences (609).

Trend data (2002-2006) from South Eastern Michigan Council of Government (SEMCOG) identified 10 of the most dangerous intersections related to alcohol traffic crashes (*table 2*). Dangerous intersections Evergreen Rd @ Plymouth (#7), Greenfield Rd @ Warren (#6), and Greenfield Rd @ Joy Rd (#7) are located within zip code 48228 (*figure 12 & table 2*). According to census data approximately 31% of the population 21-34 years resided in one of the top 10 zip codes associated with the dangerous intersections for alcohol related traffic crashes. Even more specific, zip code 48228 (along with zip codes 48227 & 48224) serves as residential area for the top 10% of our target population 21-34 years and has the highest number of alcohol related crashes between 2002-2006 (*table 3*).

The CEW recognizes that Greenfield Road had a high volume of alcohol related crashes and multiple alcohol related crash fatalities. Therefore, Greenfield Rd has been identified as high priority area within zip code 48228 to begin intervention collaborations. Among the top 10 dangerous intersections for alcohol related traffic crashes, Greenfield Rd was associated with 3 of the 10 intersections (*table 2*). Additionally, two alcohol related fatalities in 2006 occurred on Greenfield Road in (*figure 13*).

In recognizing this area as a high risk area it was necessary to consider the cultural competency of this area for successful implementation of proper intervention services. Detroit is very homogeneous with African American residents (70% of the population in 48228 is black, 2000 Census). From an educational standpoint, approximately 54% of the community either graduated from high school or had some high school education. Twenty-three percent (23%) of the population within that community live below poverty level and 25% of the population that live below poverty level is between the ages of 18-34 years. All of these factors will be considered in community advertising and education efforts.

**Figure 12: Top 10 Alcohol Related Traffic Crash Intersection Locations  
Detroit, MI (2002-2006)**



**Table2: Top 10 Alcohol Involved Crash Intersections  
Detroit, MI (2002-2006)**

Intersection	Detroit Rank	County Rank	region Rank	Five year Total	2006 Total	2005 Total	2004 Total	2003 Total	2002 Total
Davison St W @ Linwood St	1	2	11	285	38	56	66	52	73
Conner St @ Gratiot Ave	2	4	22	250	42	49	46	57	56
7 Mile Rd E @ Van Dyke St	3	7	27	237	40	46	43	39	69
Greenfield Rd @ Plymouth Rd	4	16	45	207	38	35	40	48	46
Livernois Ave @ McNichols Rd W	5	17	47	206	36	40	49	49	32
Greenfield @ Warren Ave W	6	18	49	205	33	48	40	39	45
Evergreen Rd @ Plymouth Rd	7	22	52	202	45	39	49	37	32
Greenfield Rd @ Joy Rd	7	22	52	202	29	38	46	48	41
McNichols Rd W @ Schaefer Hwy	9	29	65	192	24	39	30	47	52
Jefferson Ave E @ Randolph St	10	32	79	184	24	25	41	39	55

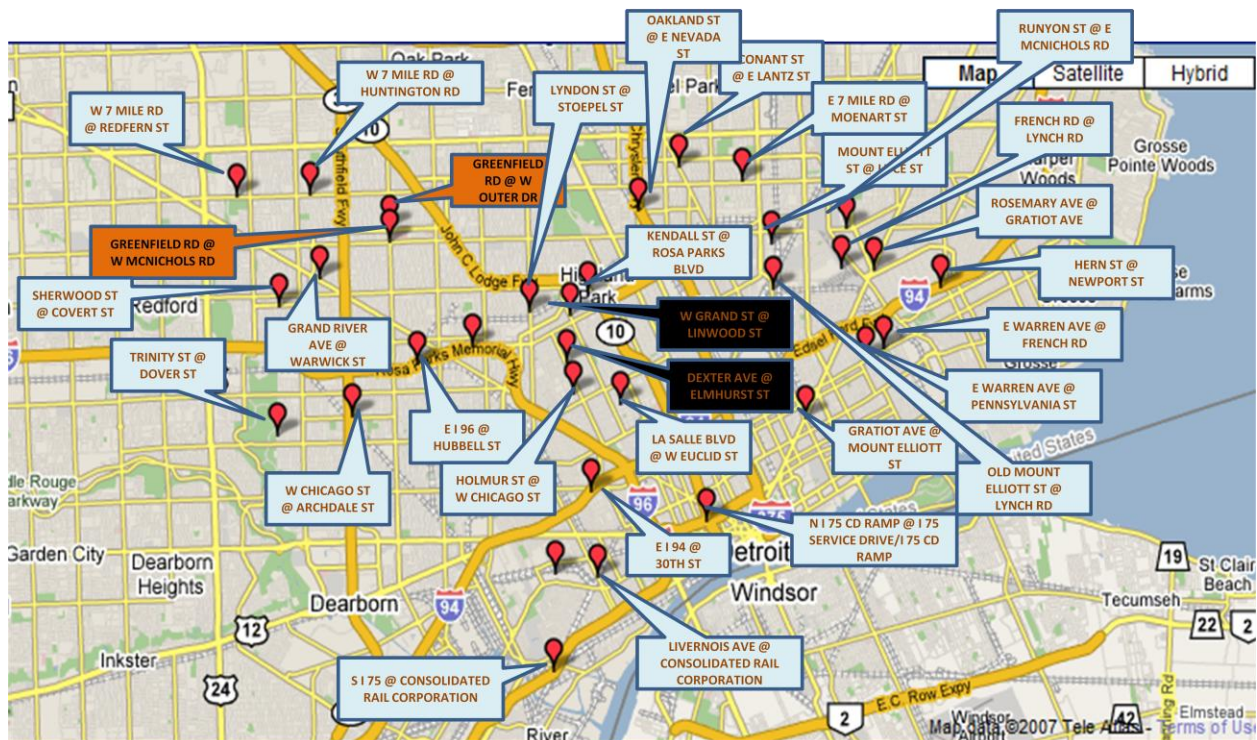
Data Source: Southeastern Michigan Council of Government (SEMCOG) data Resource Center, 2002-2006

**Table 3: Top 10 Alcohol Involved Crash Intersections Zip code Area Demographics**

Zip Code	Alcohol Related Crash Ranking	Number of population residents (age 21-34 years)	Top 10% Location of Detroit Residents 21-34 years	Number of alcohol related crashes (2002-2006)	Number of Elementary Schools
48213	#2	8603		250	12
48221	#5	8019		206	8
48224	#3	11589	Yes	237	7
48226	#10	1933		184	0
48227	#4	12715	Yes	207	13
48228	#6 & 7	14400	Yes	609	9
48235	#9	10040		192	11
48238	#1	8830		285	9

Data Source: Southeastern Michigan Council of Government (SEMCOG) data Resource Center, 2002-2006

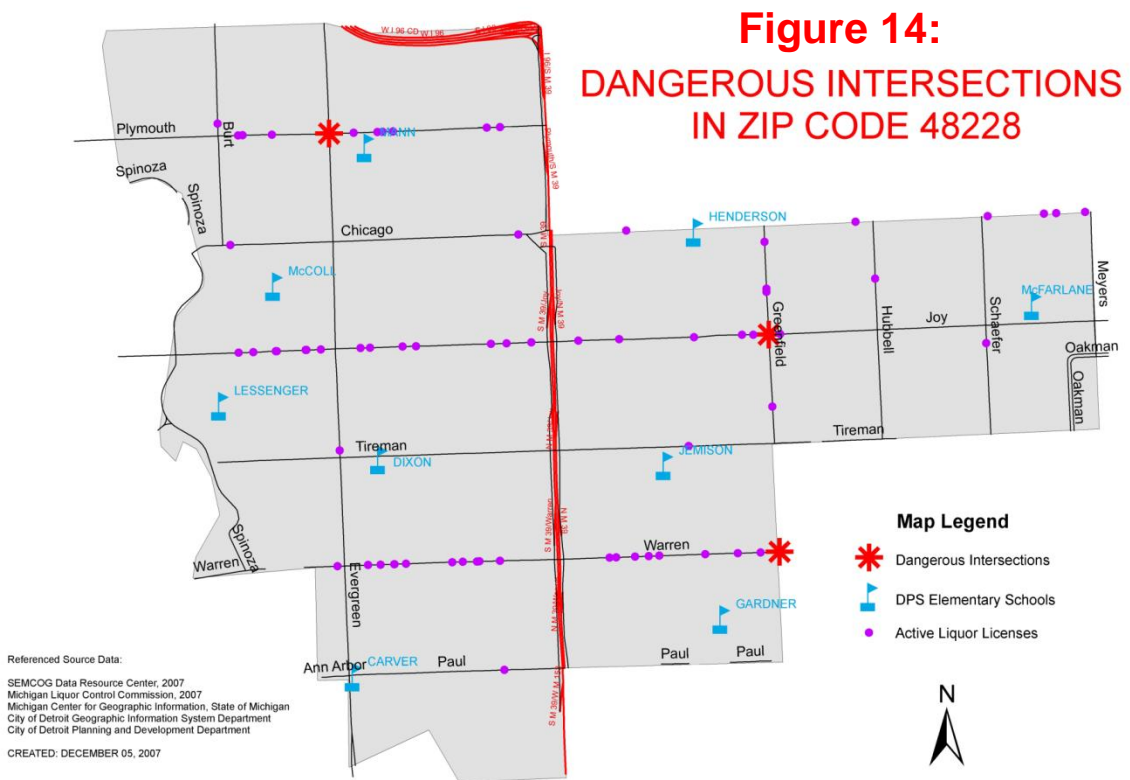
**Figure 13: 2006 Alcohol Related Traffic Crash Fatality Location, (Detroit, MI)**



Data Source: Southeastern Michigan Council of Government (SEMCOG) data Resource Center, 2002-2006

### Assessment of Intervening Variables

Within zip code 48228 there are 82 businesses with active liquor licenses and 9 elementary schools surrounding the dangerous crash intersections (figure 14). This suggests that there is excessive retail availability; basically creating access to purchase alcohol on every corner within zip code 48228. This issue often leads to competitiveness among retailers in the area for sales often leading to vendors compromising the law of sales (i.e. selling to minors, after legal hours, and at reduced prices). The identified target area (zip code 48228) was a proposed area for the Mayor’s neighborhood initiative (Next Detroit). The vision for Next Detroit is to revitalize Detroit neighborhoods into vibrant areas by improving cleanliness, safety and beautification. The proposal for our identified target area was to revitalize the area by providing intervention strategies to reverse negative social and economic trends that are impacting a stable neighborhood. Important to the alcohol traffic crash problem in that area, the strategies included increased patrols (gives room to improve alcohol enforcement) and public lighting (creates visible street lightning). Efforts will be made to elevate the alcohol traffic crash problem in this area so that the associated risk factors will be considered as they rebuild that community (i.e. visible street lighting, enforcement of legal alcohol sales, drunk driving reduction, better road pavement, replace stop signs, etc).



We also recognize that it is important to build partnerships with liquor license establishments within the community. In building this partnership it is our hope to increase compliance with alcohol sales and their active involvement in the reduction of underage drinking and alcohol traffic crash deaths. Therefore liquor merchants will be invited to attend the *25 Cities Merchant Initiative* group. This group was developed to increase communication between the Detroit Department of Health and Wellness Promotion's Bureau of Substance Abuse Prevention Treatment, and Recovery (BSAPTR), the Michigan Food and Beverage Association (MFBA), Metro Detroit Service Stations (MDSS), Wayne County Sheriff's Office, and the Partnership for a Drug-Free Detroit. Additionally, there will be focus groups held to assess community residents' perceptions about local law enforcement of illegal alcohol sales and driving while intoxicated, and their consumption behaviors and availability to alcohol. The focus groups will also allow us the opportunity to identify the transit activities, of residents in our target area, after drinking (are they drinking at or near the home, or drinking then driving?).

### ***Identified Gaps***

- Need driver's primary address information to help identify the proximity of the impaired drivers home to the location of the accident
- More data regarding the traffic violation associated with the accident (e.g. failing to stop at a red light/stop sign)
- Need data that identifies the race/ethnicity of liquor license owners within the area to educate the license owners in an effective way (cultural differences, language barriers, religious beliefs, etc)
- Need data on the establishments within the community that were issued violations (i.e. illegal sales and after hour sales), so that we can have a baseline starting point for retail interventions services

## **CONSUMPTION AND CONSEQUENCES FOR MARIJUANA USE**

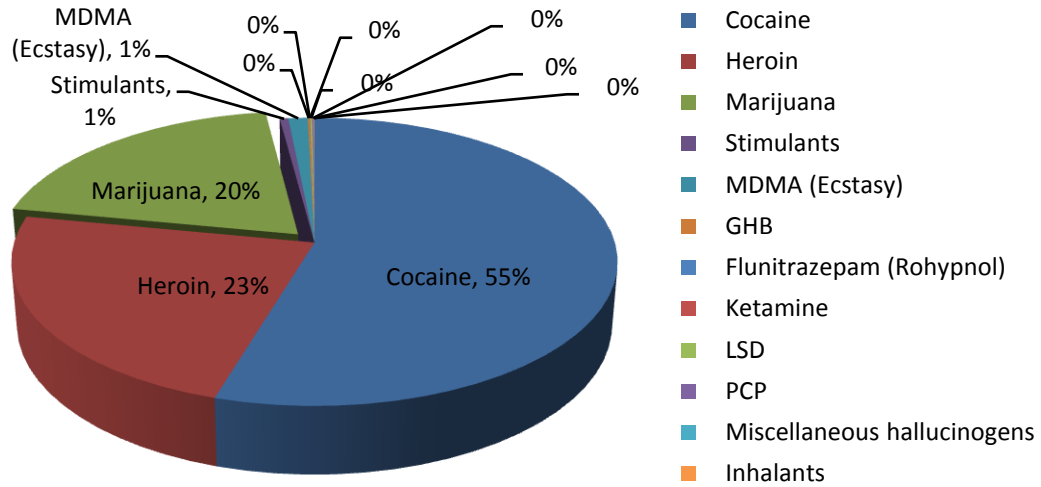
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### ***Marijuana Use and Treatment***

Marijuana was one of the top three non-alcohol illicit substances involved in hospital admissions during 2006 (*figure 15*). 2002-2005 SAMHSA data revealed that Detroit was significantly higher (17%) than the National percentage for persons aged 12 or older reporting past month use of any illicit drugs (*table 4*). In addition, the rates for marijuana treatment in Detroit were above the rates for Wayne County in all age categories. Trend data was examined to determine the prevalence of marijuana treatment by age population. MDCH 2007 substance abuse data showed that as the age group increased the rate of marijuana users decreased (*figure 16*). The highest rate was among those 13-20 years, and the rates for Detroit within that age group receiving treatment were 9 times higher than the County. Data also illustrated that for the 2007 fiscal year 87% of those 13-20 years was receiving primary treatment for

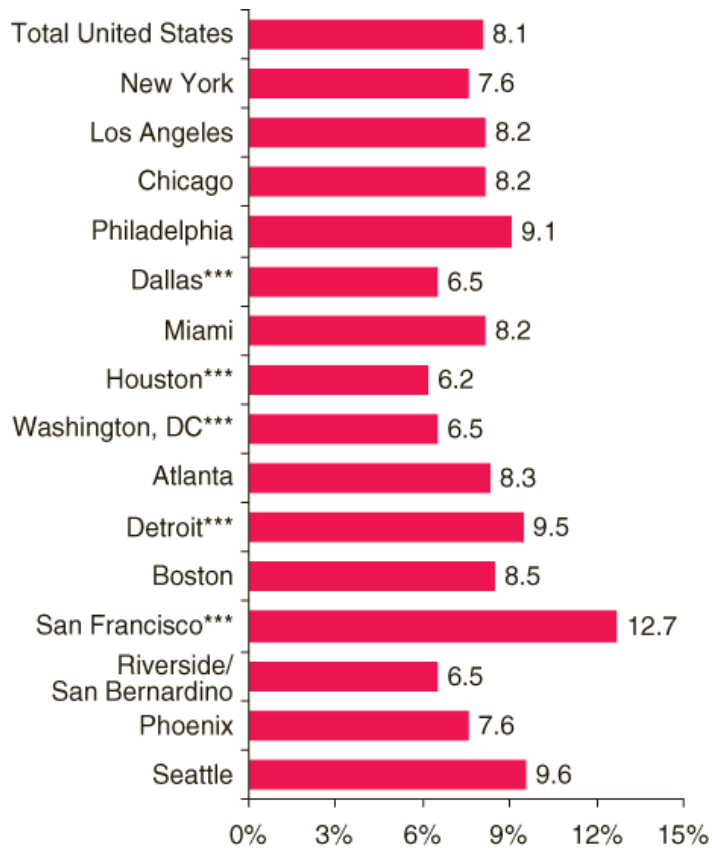
marijuana (50% higher than Wayne, 37.4%). The most prevalent secondary treatment substance (FY 2007) was alcohol (16.3%) among people 13-20 years.

**Figure 15: 2006 Hospital Admissions by Major Substance Abuse (Detroit, MI)**



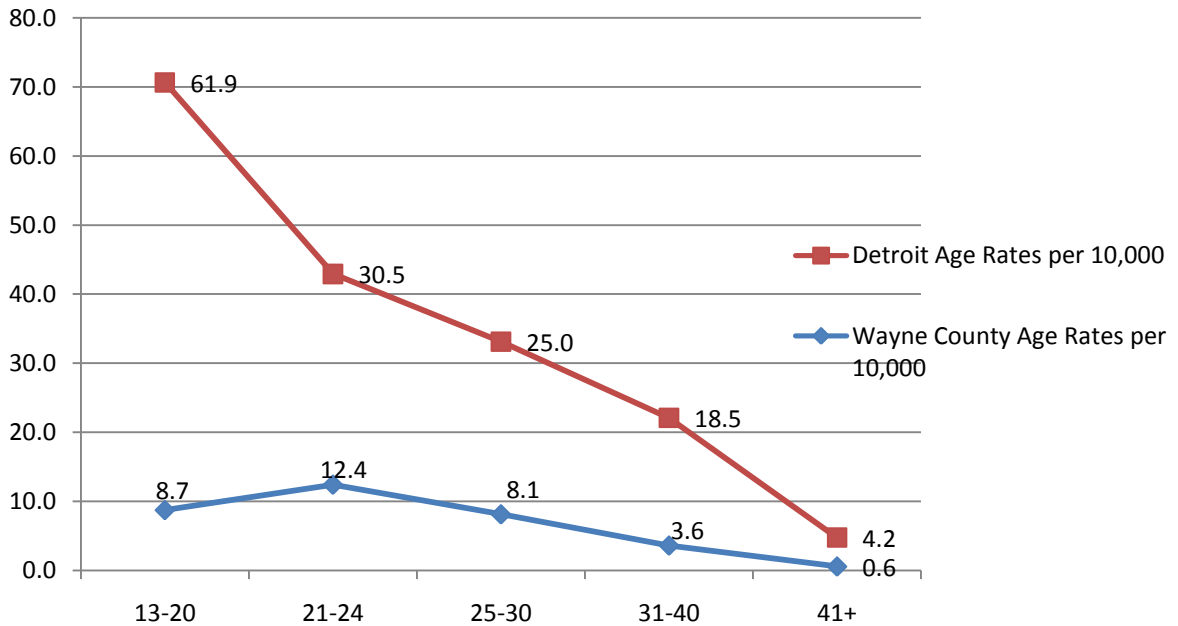
Data Source: Drug Abuse Warning network (DAWN), 2006

**Table 4: Percentages of Persons Aged 12 or Older Reporting Past Month Use of Any Illicit Drug, by Metropolitan Statistical Areas 2002-2005**



Data Source: SAMHSA, 2002-2005 NSDUHs

**Figure 16: 2007 Marijuana Treatment by Age (Detroit, MI)**



Data Source: MDCH Substance Abuse Treatment Data Suppository, FY 2007

### **Accessibility**

The YRBSS data was used to determine the accessibility of marijuana within the school aged population. In 2005, the percentages for the number of Detroit students that indicated using marijuana one or more times during their life (40.6%) was 11% higher than the state (37.4%), and those who used on school property one or more times during the past 30 days (7.1%) was 75% higher than the state. The percentage of student in Detroit that indicated they tried marijuana for the first time before age 13 (11.4%) was 31% higher than the state (3.7%). This data shows consistency with the data results for the Detroit Finney High School Youth Initiative Survey. The average age for the surveyed students that admitted using marijuana for the first time was 13 years. In addition, the percent of Detroit students who reported using marijuana one or more times during the past 30 days was only 0.3% lower than the state. Based on this information the CEW concluded that there is a problem with underage usage of marijuana.

### **Association of Underage Marijuana Use with Drinking Alcohol**

Assessment of the Detroit Finney High School Youth Initiative Survey displayed that 59% of the surveyed students that indicated they tried alcohol also tried marijuana. Of those that tried both marijuana and alcohol 24% believed that that there was no harmful risk or slight risk for marijuana use, suggesting that there is room for education on the harmful effects of marijuana use. In addition, 16% of those students who have tried both alcohol and marijuana said that their peers and parents highly approved or didn't care. Treatment data showed that Detroit accounted for 29% of Wayne County's population under 21 years receiving primary treatment

for alcohol and secondary substance treatment for marijuana. This data further strengthens that youth who consume alcohol may be likely to use marijuana as well.

### *Identified Gaps*

- Data on marijuana use activity
- Marijuana use and its relation to unemployment and school performance
- Access data (in the neighborhood, school property, parents, or friends)
- Association between use and juvenile justice system
- Treatment outcome data

## APPENDIX

### Appendix A

Wayne County Cities	Number of Alcohol Related Accidents	Number of Fatalities	Fatality Rates
Allen Park	329	1	30.4
Belleville	35	0	0.0
Brownstown Twp	368	11	298.9
Canton Twp	526	11	209.1
Dearborn	718	12	167.1
Dearborn Heights	375	4	106.7
Detroit	5840	221	378.4
Ecorse	97	1	103.1
Flat Rock	70	0	0.0
Garden City	262	4	152.7
Gibraltar	28	0	0.0
Grosse Ile Twp	39	1	256.4
Grosse Pointe	26	0	0.0
Grosse Pt Farms	56	0	0.0
Grosse Pt Park	57	0	0.0
Grosse Pt Shores	14	1	714.3
Grosse Pt Woods	52	0	0.0
Grosse Pte Twp	1	0	0.0
Hamtramck	233	2	85.8
Harper Woods	90	2	222.2
Highland Park	120	5	416.7
Huron Twp	189	1	52.9
Inkster	173	0	0.0
Lincoln Park	512	2	39.1
Livonia	715	8	111.9
Melvindale	130	2	153.8
Northville	18	0	0.0
Northville Twp	121	0	0.0
Plymouth	78	0	0.0
Plymouth Twp	233	2	85.8
Redford Twp	455	9	197.8
River Rouge	74	0	0.0
Riverview	74	1	135.1
Rockwood	45	0	0.0
Romulus	460	10	217.4
Southgate	348	3	86.2
Sumpter Twp	75	1	133.3
Taylor	810	6	74.1
Trenton	136	3	220.6
Van Buren Twp	378	9	238.1
Wayne	245	2	81.6
Westland	637	8	125.6
Woodhaven	116	0	0.0

<b>Wyandotte</b>	261	0	0.0
<b>Total (Wayne County)</b>	15628	343	219.5