



U.S. Department of Transportation



National Highway Traffic Safety Administration

Traffic Safety Facts Kansas 2010-2014

This Report Contains Data From the Following Sources:

Fatality Data - NCSA Fatality Analysis Reporting System (FARS): 2010-2013 Final File and 2014 Annual Report File (ARF)

Observed Safety Belt Data - NCSA National Occupant Protection Use Survey (NOPUS) and the Kansas State Survey

Vehicle Miles of Travel Data and Motorcycle Registrations - Federal Highway Administration (FHWA)

Population Data - U.S. Bureau of the Census



Fatality Rates: Kansas , U.S. and Best State

Year		Fatalities	Total Vehicle Miles Traveled (Millions)	Fatalities Per 100 Million Vehicle Miles Traveled	Total Population	Fatalities Per 100,000 Population
2010	Kansas	431	29,900	1.44	2,858,949	15.08
	US	32,999	2,967,266	1.11	309,347,057	10.67
	Best State*			0.64		3.97
2011	Kansas	386	30,021	1.29	2,869,965	13.45
	US	32,479	2,950,402	1.10	311,721,632	10.42
	Best State*			0.65		4.35
2012	Kansas	405	30,572	1.32	2,885,966	14.03
	US	33,782	2,969,433	1.14	314,112,078	10.75
	Best State*			0.42		2.36
2013	Kansas	350	30,208	1.16	2,895,801	12.09
	US	32,894	2,988,323	1.10	316,497,531	10.39
	Best State*			0.57		3.08
2014	Kansas	385			2,904,021	13.26
	US	32,675	3,040,650	1.07	318,857,056	10.25
	Best State*					3.49

*State (or States) With Lowest Rates: Lowest VMT and Population Rates Could Be in Different States

2014 National VMT is a Preliminary Estimate and Subject to Change

2014 State Vehicle Miles Traveled (VMT) Data is Not Yet Available

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Alcohol-Impaired Driving Fatalities**:
 Kansas, U.S. and Best State

Year		Total Fatalities in all Crashes	Alcohol-Impaired Driving Fatalities (BAC = .08+)		
			Number	Percent	Per 100 Million VMT
2010	Kansas	431	134	31	0.45
	US	32,999	10,136	31	0.34
	Best State*			18	0.17
2011	Kansas	386	108	28	0.36
	US	32,479	9,865	30	0.33
	Best State*			17	0.16
2012	Kansas	405	104	26	0.34
	US	33,782	10,336	31	0.35
	Best State*			15	0.08
2013	Kansas	350	97	28	0.32
	US	32,894	10,110	31	0.34
	Best State*			17	0.14
2014	Kansas	385	103	27	
	US	32,675	9,967	31	0.33
	Best State*			20	

*State (or States) With Lowest Percents: Lowest Percents Could Be in Different States

**Based on the Highest BAC of a Driver or Motorcycle Rider Involved in the Crash

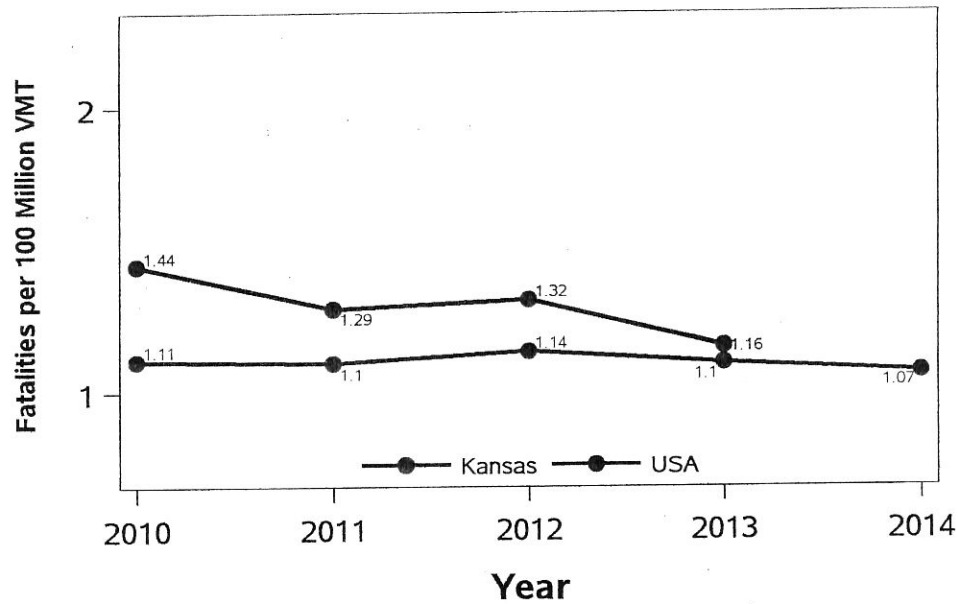
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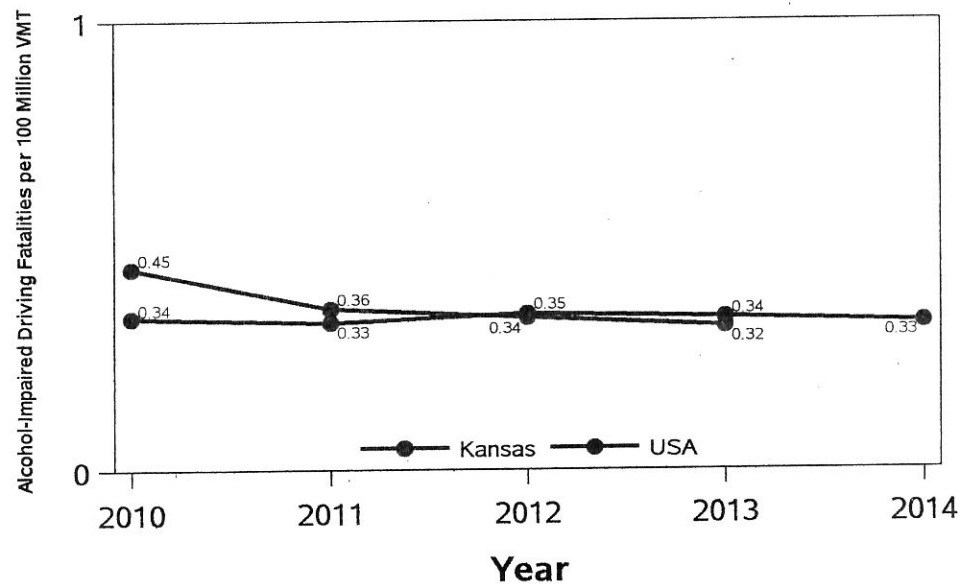


Fatalities per 100 Million VMT



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Alcohol-Impaired Driving Fatalities per 100 Million VMT



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Blood Alcohol Concentration (BAC) Reporting Rates
 For Drivers/Motorcycle Riders (Operators)
 Involved in Fatal Crashes:
 Kansas, U.S. and Best State

Year		Surviving Drivers/Motorcycle Riders			Killed Drivers/Motorcycle Riders			Total Drivers/Motorcycle Riders		
		Total	With Blood Alcohol Concentration (BAC) Results Reported to FARS		Total	With Blood Alcohol Concentration (BAC) Results Reported to FARS		Total	With Blood Alcohol Concentration (BAC) Results Reported to FARS	
			Number	Percent		Number	Percent		Number	Percent
2010	Kansas	264	164	62	307	227	74	571	391	68
	US	23,527	7,927	34	21,072	16,405	78	44,599	24,332	55
	Best State*			92			100			91
2011	Kansas	261	142	54	280	175	63	541	317	59
	US	23,025	7,484	33	20,815	15,846	76	43,840	23,330	53
	Best State*			88			98			93
2012	Kansas	244	136	56	283	163	58	527	299	57
	US	24,174	7,569	31	21,490	16,097	75	45,664	23,666	52
	Best State*			88			95			91
2013	Kansas	219	151	69	250	177	71	469	328	70
	US	23,860	6,975	29	20,944	15,662	75	44,804	22,637	51
	Best State*			81			95			86
2014	Kansas	231	122	53	283	181	64	514	303	59
	US	23,818	6,368	27	20,765	14,800	71	44,583	21,168	47
	Best State*			78			96			84

*State (or States) With Highest Percents: Highest Percents Could Be in Different States

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5 Year Trend For The Top 10 Counties of 2014 - Fatalities

Kansas Counties by 2014 Ranking		Fatalities					Percent of Total				
		2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
1	Sedgwick County	57	42	39	45	50	13	11	10	13	13
2	Shawnee County	14	15	17	12	22	3	4	4	3	6
3	Johnson County	27	23	24	23	21	6	6	6	7	5
4	Wyandotte County	22	14	30	14	16	5	4	7	4	4
5	Montgomery County	9	7	8	4	13	2	2	2	1	3
6	Seward County	8	1	4	2	10	2	0	1	1	3
7	Jefferson County	5	9	5	1	9	1	2	1	0	2
8	Reno County	13	11	11	6	9	3	3	3	2	2
9	Douglas County	4	9	11	6	8	1	2	3	2	2
10	Finney County	6	6	8	4	8	1	2	2	1	2
Sub Total 1.*	Top Ten Counties	191	161	180	150	166	44	42	44	43	43
Sub Total 2.**	All Other Counties	240	225	225	200	219	56	58	56	57	57
Total	All Counties	431	386	405	350	385	100	100	100	100	100

*This Sub Total is the Total for the Top Ten Counties

**This Sub Total is the Total for all Counties Outside the Top Ten

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5 Year Trend For The Top 10 Counties of 2014 - Fatalities Year to Year Percent Change

Kansas Counties by 2014 Ranking		Fatalities					Percent Change From Previous Year			
		2010	2011	2012	2013	2014	2011	2012	2013	2014
1	Sedgwick County	57	42	39	45	50	-26	-7	15	11
2	Shawnee County	14	15	17	12	22	7	13	-29	83
3	Johnson County	27	23	24	23	21	-15	4	-4	-9
4	Wyandotte County	22	14	30	14	16	-36	114	-53	14
5	Montgomery County	9	7	8	4	13	-22	14	-50	225
6	Seward County	8	1	4	2	10	-88	300	-50	400
7	Jefferson County	5	9	5	1	9	80	-44	-80	800
8	Reno County	13	11	11	6	9	-15	0	-45	50
9	Douglas County	4	9	11	6	8	125	22	-45	33
10	Finney County	6	6	8	4	8	0	33	-50	100
Sub Total 1.* Top Ten Counties		191	161	180	150	166	-16	12	-17	11
Sub Total 2.** All Other Counties		240	225	225	200	219	-6	0	-11	10
Total All Counties		431	386	405	350	385	-10	5	-14	10

*This Sub Total is the Total for the Top Ten Counties

**This Sub Total is the Total for all Counties Outside the Top Ten

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5 Year Trend For The Top 10 Counties of 2014 - Fatality Rates

Median Rate for all U.S. Counties: 16.22

Kansas Counties by 2014 Ranking		Fatalities Per 100,000 Population				
		2010	2011	2012	2013	2014
1	Wichita County	44.68	0.00	44.92	91.49	183.82
2	Trego County	33.44	33.59	0.00	67.59	172.29
3	Kiowa County	0.00	39.17	120.05	0.00	119.38
4	Sheridan County	39.20	0.00	39.48	118.53	118.16
5	Greeley County	0.00	0.00	0.00	155.52	76.86
6	Hamilton County	0.00	0.00	38.01	38.37	76.83
7	Chase County	215.21	71.66	0.00	36.93	74.29
8	Stevens County	52.18	35.45	0.00	86.36	68.95
9	Meade County	43.44	22.03	45.30	46.47	68.85
10	Morton County	0.00	126.22	0.00	31.75	64.31
Sub Rate 1.* Top Ten Counties		97.04	87.96	70.90	90.48	96.69
Sub Rate 2.** All Other Counties		13.88	12.28	13.13	11.12	12.39
Total Rate All Counties		15.08	13.45	14.03	12.09	13.26

*This Sub Rate is the Rate for the Top Ten Counties

**This Sub Rate is the Rate for all Counties Outside the Top Ten

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Fast Facts: Underage Drinking in Kansas

Breaking Down the Costs¹

Problem	Cost
Youth Violence	\$365,000,000
Youth Traffic Crashes	\$129,200,000
High-Risk Sex, Ages 14-20	\$50,800,000
Youth Property Crime	\$48,900,000
Youth Alcohol Treatment	\$36,600,000
Youth Injury	\$20,900,000
Fetal Alcohol Syndrome in Mothers, Ages 15-20	\$12,200,000
Poisonings and Psychoses	\$6,400,000

Total Cost: \$670 Million

Problems That Occur¹

Unnecessary and tragic health, social and economic problems result from the use of alcohol by youth. Underage drinking is often the underlying cause of:

- Homicide
- Suicide
- Traumatic Injury
- Drownings
- Burns
- Violent and Property Crime
- High-Risk Sex
- Fetal Alcohol Syndrome
- Alcohol Poisonings
- Alcohol Abuse and Dependence

Other Costs: The costs of a DUI may include fines, penalties, court costs, attorney fees, supervision and a potential increase in car insurance.

Youth who drink before age 15 are 5 times more likely to have alcohol problems when they are adults.²

How Do Youth Get Alcohol?

Easy to Get

13% of Kansas 8th graders and 40% of Kansas 12th graders say alcohol is easy to get.³

Use Increases with Age

5% of Kansas 6th graders and 42% of Kansas 12th graders report drinking alcohol at least once in the last 30 days.³

Obtain at Home

43% of Kansas youth say they drank at home and 60.7% report they drank at a friend's home.³ Sometimes, the parents provide it.

Parents, Did You Know?

- On average, Kansas youth say they drank alcohol for the first time by age 13 (more than a few sips) and report that they began drinking regularly (more than 1-2 times per month) by age 14.³
- 24% of Kansas high school students report that in the last 30 days, they had ridden at least one or more times with a driver who had been drinking.⁴
- Fewer than 50% of Kansas youth report that their parents have talked to them even once in the last year about the dangers of alcohol, tobacco or other drugs.³

How Alcohol Harms Youth

The Brain

Alcohol can alter the development of the brain, potentially affecting both brain structure and function.

Risk Taking

When youth drink, they are more likely to engage in risky behaviors, including drinking and driving, sexual activity and aggressive or violent behavior.

Fatal Crashes

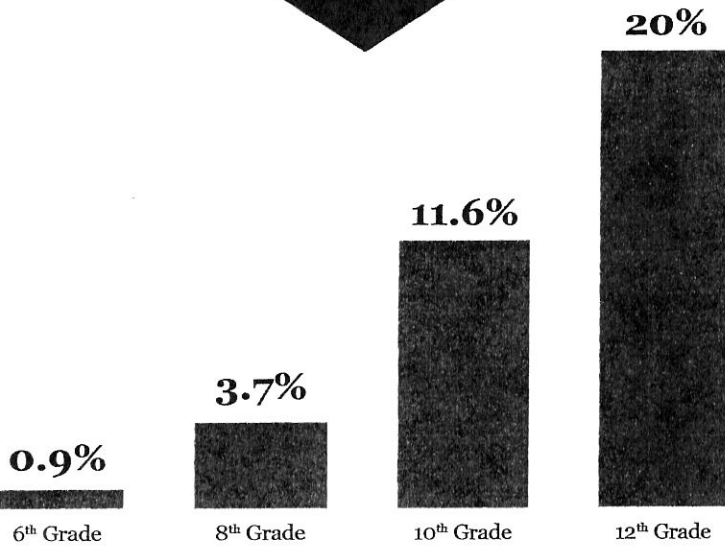
In 2012, 67 fatal crashes in Kansas involved drivers between the ages of 15 and 20, with one out of four being cited as alcohol-impaired.⁵



Kansas Leadership to Keep Children Alcohol Free is a program of Kansas Family Partnership



Percentage of Kansas youth who think it is "OK" for someone their age to drink wine or hard liquor **REGULARLY.***



*At least once or twice a month³

Parents play a crucial role in discouraging their children from using alcohol. But fewer than

50%

of Kansas youth report that their parents have talked to them about the dangers of alcohol, tobacco or other drugs at least once in the last year.³

Have **YOU**
had that conversation?

Binge Drinking

Definition

Binge drinking is defined as having four or more drinks for females and five or more drinks for males on a single occasion.

Why Drink?

When teens drink, it is often done to get drunk.

How Often?

15% of Kansas 10th graders and 24.5% of Kansas 12th graders report they have engaged in binge drinking at least once in the last month.³

Parents, What Can You Do to Reduce Underage Drinking?

- **Talk Early and Often** – It's never too early to talk to your child about the dangers of underage drinking. Make time for conversations about this issue.
- **Get Involved** – Talk with your child about their activities and interests. Keep your child involved in positive activities and show them that you care about reducing risky behaviors.
- **Be a Role Model** – Think about what you say and how you act in front of your child. Show them what is appropriate and acceptable in your family. Teach your child to choose friends wisely. Youth whose friends don't use alcohol, tobacco, or other drugs are less likely to engage in risky behaviors.
- **Monitor Your Child's Activities** – Trust but verify the information your child is telling you. Know where your child is and get to know friends and friends' parents.
- **Set Clear Rules** – Tell your child what your household rules are and what behavior you expect. Be consistent and be specific. Don't assume they know what you are thinking.

References

¹Underage Drinking Enforcement Center – A Project of Pacific Institute for Research and Evaluation, 2010. www.udetc.org/factsheets/kansas.pdf

²Stop Underage Drinking. www.stopalcoholabuse.gov

³KCTC Survey Data 2013. www.ctcddata.org

⁴2011 High School Youth Behavioral Risk Survey. www.cdc.gov/healthyyouth/states/ks.htm

⁵Kansas Department of Transportation.

KANSAS



Kansas Leadership to Keep Children Alcohol Free is a program of Kansas Family Partnership. Funding for this resource was provided by the Kansas Department for Aging and Disability Services. For more resources on underage drinking, call 1-800-206-7231 or visit www.kansasfamily.com. This material may be reproduced and distributed only in its entirety.



State of the State on
Underage Drinking

Developed by Kansas Leadership to Keep Children Alcohol Free, a committee of Kansas Family Partnership

By the Numbers

Underage drinking can...

...interfere with school attendance¹



...damage relationships with parents and peers¹

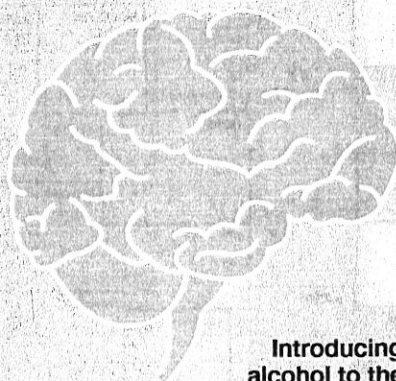


...potentially alter brain functions and other aspects of development¹



These effects can impact the success of youth in future physical, social, emotional, intellectual and professional situations

Research indicates that the human brain is not fully developed until the **mid 20s²**

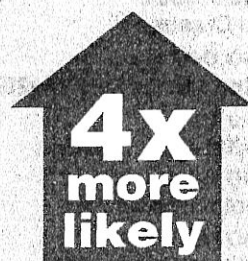


Introducing alcohol to the developing brain puts youth at greater risk for

unintentional death

risky sexual behavior²

Young people who begin drinking **before age 15³**



to develop alcohol dependence than those who begin drinking at age 21³

greater at a risk

of having other substance abuse problems during adolescence⁴

The rank of alcohol among drugs frequently used by Kansas youth⁵

13 years old

The average age at which Kansas youth begin drinking alcohol (6th grade)⁵

The percent of Kansas 12th graders who report drinking alcohol at least once in the last 30 days⁵

1 in 4

The number of alcohol abuse treatment admissions in Kansas that are attributed to youth under age 21⁶

The percent of Kansas 10th graders who binged on alcohol at least once in the last 30 days⁵

1 in 5

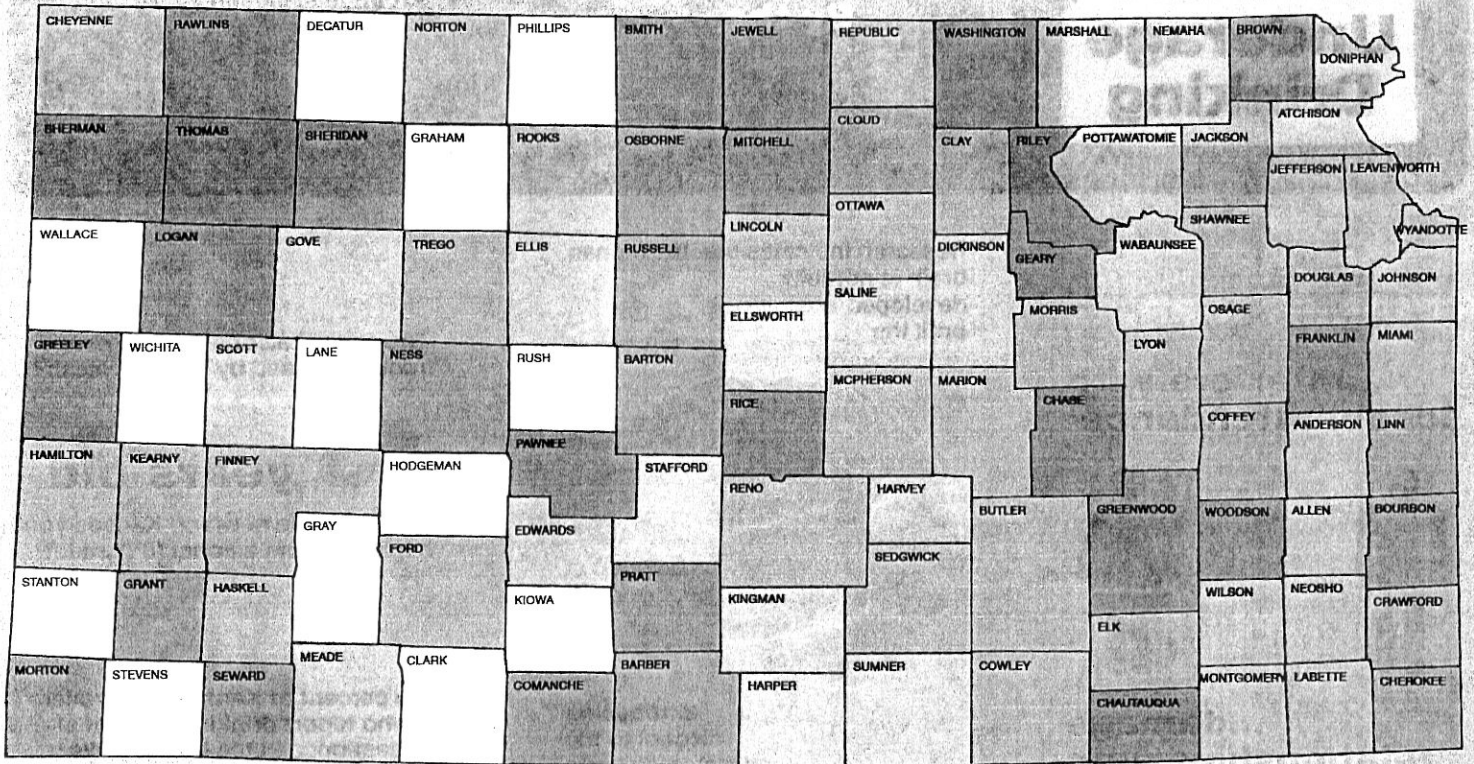
The number of Kansas 12th graders who think it's "OK" for someone their age to drink alcohol regularly⁵

The percent of Kansas high school students who at least once in the last 30 days have ridden with a driver who had been drinking⁷

254

The number of crashes in Kansas involving alcohol-impaired drivers between ages 15 and 20, resulting in 14 fatalities and 21 disabling injuries⁸

30-Day Alcohol Use in Kansas



Percent of 6th, 8th, 10th and 12th grade students who report drinking alcohol at least once in the past 30 days⁵

Less than 20% participation

3.51 - 14.29

14.30 - 19.72

19.73 - 25.55

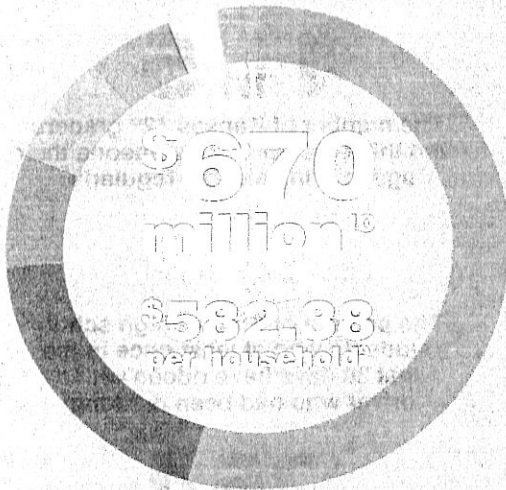
25.56 - 36.00

364,630

The number of Kansas youth under age 18 who reside in counties where 30-day alcohol use is above the state average of 19.72%^{5,9}

Underage Drinking Costs to Kansans

- **55%, \$365,000,000**
Youth Violence¹⁰
- **19%, \$129,200,000**
Youth Traffic Crashes¹⁰
- **8%, \$50,800,000**
High-Risk Youth Sex, Ages 14-20¹⁰
- **7%, \$48,900,000**
Youth Property Crime¹⁰
- **5%, \$36,600,000**
Youth Alcohol Treatment¹⁰
- **3%, \$20,900,000**
Youth Injury¹⁰
- **2%, \$12,200,000**
Children Born with Fetal Alcohol Syndrome to Mothers, Ages 15-20¹⁰
- **1%, \$6,400,000**
Poisonings and Psychoses¹⁰



These costs include medical care, work loss, and pain and suffering associated with multiple problems that result from youth alcohol use¹⁰

Kansas spends

17.4%

of its total state budget on the burdens of substance abuse and addiction¹¹

but only

.27%

of its total state budget on substance abuse and addiction prevention, treatment and research¹¹

Funded by Community Services and Programs/Behavioral Health Services, Kansas Department for Aging and Disability Services

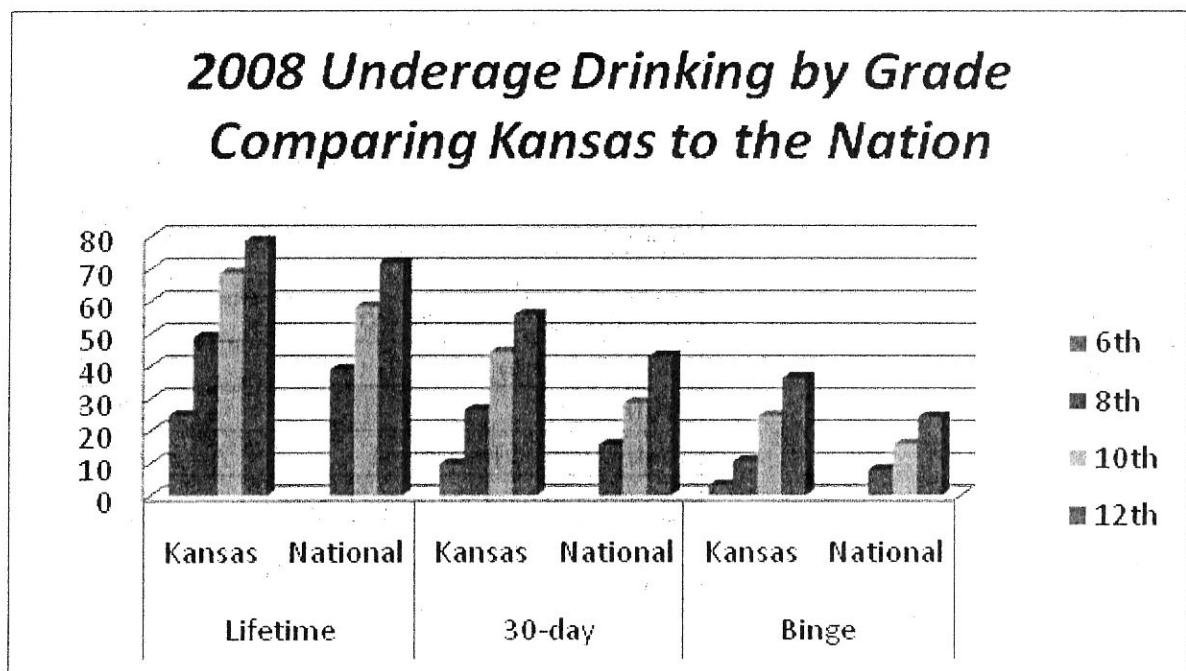
Young people who begin drinking before the age of 15 are:

- Four times more likely to develop alcohol dependence than those who begin drinking at age 21;⁵
- More likely to have other substance abuse problems during adolescence.⁶

Underage Drinking in Kansas

Alcohol use rates among Kansas youth exceed the national average.⁷ Kansas rates are⁸:

- 10% higher for 8th and 10th graders for lifetime alcohol use;
- 9% to 15% higher for alcohol use in the last 30-days by 6th, 8th, 10th and 12th graders;
- 2.6% to 12% higher for binge drinking for all age groups.^{7,8}



***NOTE:** National survey does not include 6th grade.

Positive trends have been seen related to the availability of alcohol. There has been a downward trend since 1997 of students who report it is "very easy" to get some beer, wine or hard liquor. Access, however, increases with age with 29.2% of 10th graders and 42.4% of 12th graders reporting alcohol is easy to get.⁸

- Treatment Issues - Youth under the age of 21 accounted for 25% of all treatment admissions for alcohol abuse.⁹

Economic Impact of Underage Drinking

Underage drinking cost the citizens of Kansas \$727 million in 2007. These costs include medical care, work loss, and pain and suffering associated with the multiple problems resulting from the use of alcohol by youth. Youth violence and traffic crashes attributable to alcohol use by underage youth in Kansas represent the largest costs for the state. However, a host of other problems contribute substantially to the overall cost. For example, fetal alcohol syndrome (FAS) among teen mothers alone costs Kansas \$12.1 million per year.¹⁰

Kansas spends only **0.27 percent of its budget on substance abuse and addiction prevention, treatment and research**¹² - but **spends 17.4% of its total state budget on the burdens of substance abuse and addiction.**¹³

For every \$100 Kansas government spends on substance abuse and addiction¹¹:

- \$98.13 is spent on the burden of underage drinking to public programs;
- \$ 1.55 is spent on prevention, treatment and research;
- \$0.32 is spent on regulation and compliance.

Costs of Underage Drinking by Problem, Kansas 2007 (Total Costs in Millions)	
Youth Violence	\$458.0
Youth Traffic Crashes	\$117.8
High-Risk Sex, Ages 14-20	\$ 49.6
Youth Property Crime	\$ 31.2
Youth Injury	\$ 28.7
Youth Alcohol Treatment	\$ 25.8
FAS Among Mothers Age 15-20	\$ 12.1
Poisonings and Psychoses	\$ 4.1
TOTAL	\$727.3

Kansas falls behind other states:

- Kansas **ranks 17th** among all states and the District of Columbia **on what it spends on the per capita burden** of substance abuse and addiction (\$432.05 per capita);¹³
- Kansas **ranks 31st** among all states and the District of Columbia in per capita spending on substance abuse prevention, treatment and research.¹²

Treatment Costs - In fiscal year 2009, 905 persons under the age of 21 received treatment for alcohol abuse. At an average cost of \$1,637 per client, including those that received only an assessment, the treatment for underage drinking alone cost the state \$1,481,485.⁹



Excerpt of full report*

The Economic and Societal Impact of Motor Vehicle Crashes, 2010

In 2010 the total economic cost of motor vehicle crashes in the United States was \$242 billion. This represents the present value of lifetime economic costs for 32,999 fatalities, 3.9 million non-fatal injuries, and 24 million damaged vehicles. These figures include both police-reported and unreported crashes. When quality-of-life valuations are considered, the total value of societal harm from motor vehicle crashes in 2010 was \$836 billion.

All costs in this report are expressed in year 2010 economics using a 3-percent discount rate. Nonfatal injury costs are stratified by severity level based on the Abbreviated Injury Scale,¹ but unit costs based on the KABCO scale commonly used in police reports are also supplied in an appendix. The cost components include productivity losses, property damage, medical costs, rehabilitation costs, congestion costs, legal and court costs, emergency services such as medical, police, and fire services, insurance administration costs, and the costs to employers. Values for more intangible consequences such as physical pain or lost quality-of-life are also examined in estimates of comprehensive costs, which include both economic cost components and quality-of-life valuations.

Alcohol Involvement in Crashes

- Alcohol-involved crashes resulted in 13,323 fatalities, 430,000 nonfatal injuries, and \$52.5 billion in economic costs in 2010, accounting for 22 percent of all crash costs.
- Crashes involving drivers or non-occupants with a blood alcohol concentration of .08 grams per deciliter or higher (the legal definition of impairment in all States) accounted for 84 percent of the total economic cost of all alcohol-involved crashes.
- The impact of alcohol involvement increases with injury severity. Alcohol-involved crashes accounted for 14 percent of property-damage-only crash costs, 17 percent of nonfatal injury crash costs; and 48 percent of fatal injury crash costs.
- Although drinking drivers may experience impaired judgment, perceptions, and reaction times, not all crashes in which alcohol was present were caused by alcohol. Crashes in which alcohol was the cause resulted in 11,226 fatalities, 326,000 nonfatal injuries, and \$43.2 billion in economic costs. This is approximately 84 percent of the alcohol-related fatalities and 82 percent of alcohol-related economic costs. It represents 34 percent of all fatalities and 18 percent of all costs from motor vehicle crashes.

Economic Impact of Crashes

- The economic cost of motor vehicle crashes that occurred in 2010 totaled \$242 billion. This is equivalent to approximately \$784 for every person living in the United States and 1.6 percent of the U.S. Gross Domestic Product.
- The lifetime economic cost to society for each fatality is \$1.4 million. Over 90 percent of this amount is attributable to lost workplace and household productivity and legal costs.
- Each critically injured survivor (using the MAIS 5 scale) cost an average of \$1.0 million. Medical costs and lost productivity accounted for 82 percent of the cost for this most serious level of non-fatal injury.
- Lost workplace productivity costs totaled \$57.6 billion, which equaled 24 percent of the total costs. Lost household productivity totaled \$19.7 billion, representing 8 percent of the total economic costs.
- Total property damage costs for all crash types (fatal, injury, and property damage only [PDO]) totaled \$76.1 billion and accounted for 31 percent of all economic costs.
- Property-damage-only crashes (in which vehicles were damaged but nobody was injured) cost \$71.5 billion and accounted for 30 percent of total economic motor vehicle crash costs.
- Present and future medical costs due to injuries occurring in 2010 were \$23.4 billion, representing 10 percent of the total costs. Medical costs accounted for 21 percent of costs from non-fatal injuries.
- Congestion costs, including travel delay, added fuel usage, and adverse environmental impacts cost \$28 billion, or 12 percent of total economic crash costs.
- Police-reported crashes account for 83 percent of the economic costs and 89 percent of total societal harm that occurs from traffic crashes. Crashes that are not reported to the police account for 17 percent of economic costs and 11 percent of total societal harm.
- Approximately 7 percent of all motor vehicle crash costs are paid from public revenues. Federal revenues accounted for 4 percent and States and localities paid for approximately 3 percent. An additional 1 percent is from programs that are heavily subsidized by public revenues, but for which the exact source could not be determined. Private insurers pay approximately 54 percent of all costs. Individual crash victims pay approximately 23 percent while third parties such as uninvolved motorists delayed in traffic, charities, and health care providers pay about 16 percent. Overall, those not directly involved in crashes pay for over three-quarters of all crash costs, primarily through insurance premiums, taxes and congestion related costs such as travel delay, excess fuel consumption, and increased environmental impacts. In 2010 these costs, borne by society rather than by crash victims, totaled over \$187 billion.

Overview:

Table 1-14 summarizes both the economic and comprehensive costs of selected crash categories examined in this study. Nonfatal injuries were the most costly severity outcome, accounting for roughly half of both economic costs and societal harm. Damage to vehicles in which no injury occurred was the second highest economic cost outcome due to the high frequency of these low impact crashes.

However, in terms of societal harm, fatalities were the second most costly outcome due to the inclusion of lost quality-of-life for the life years that fatal crash victims lose.

This report examined five different types of adverse driver behavior - alcohol use, speeding, distracted driving, failure to wear seat belts, and riding a motorcycle without a helmet. The most costly of these involved alcohol use. Alcohol-involved crashes, in which drivers or pedestrians had some level of alcohol in their bloodstreams, accounted for 22 percent of economic costs and 28 percent of societal harm.

However, crashes in which alcohol was a likely cause of the crashes accounted for 18 percent of economic costs and 23 percent of societal harm. Over 90 percent of this toll occurred in crashes where the drivers were legally intoxicated.

Table 1-1. Summary of Total Economic Costs, (Millions of 2010 Dollars)

	PDO Vehicle	MAIS0	MAIS1	MAIS2	MAIS3	MAIS4	MAIS5	Fatal	Total	% Total
Medical	\$0	\$0	\$9,682	\$3,879	\$4,898	\$2,329	\$2,209	\$373	\$23,372	9.7%
EMS	\$518	\$96	\$308	\$66	\$42	\$14	\$5	\$30	\$1,079	0.4%
Market Prod.	\$0	\$0	\$9,430	\$6,557	\$6,481	\$2,406	\$1,941	\$30,797	\$57,612	23.8%
Household	\$1,111	\$206	\$2,982	\$2,407	\$2,286	\$641	\$548	\$9,567	\$19,748	8.2%
Ins. Admin.	\$3,535	\$655	\$11,408	\$1,578	\$1,548	\$482	\$417	\$935	\$20,559	8.5%
Workplace	\$1,148	\$211	\$1,180	\$896	\$582	\$109	\$64	\$389	\$4,577	1.9%
Legal	\$0	\$0	\$4,089	\$1,135	\$1,249	\$456	\$475	\$3,514	\$10,918	4.5%
Subtotal	\$6,311	\$1,169	\$39,079	\$16,519	\$17,087	\$6,437	\$5,660	\$45,604	\$137,865	57.0%
Congestion	\$19,934	\$3,483	\$3,836	\$405	\$144	\$26	\$9	\$189	\$28,027	11.6%
Prop. Dmg.	\$45,235	\$8,378	\$18,694	\$1,957	\$1,096	\$279	\$87	\$370	\$76,096	31.4%
Subtotal	\$65,169	\$11,861	\$22,530	\$2,363	\$1,241	\$305	\$96	\$559	\$104,123	43.0%
Total	\$71,480	\$13,030	\$61,608	\$18,881	\$18,327	\$6,742	\$5,755	\$46,163	\$241,988	100.0%
% Total	29.5%	5.4%	25.5%	7.8%	7.6%	2.8%	2.4%	19.1%	100.0%	0.0%

Figure 1-B. Source of Payment for Motor Vehicle Crash Costs

Source of Payment for Motor Vehicle Crash Costs

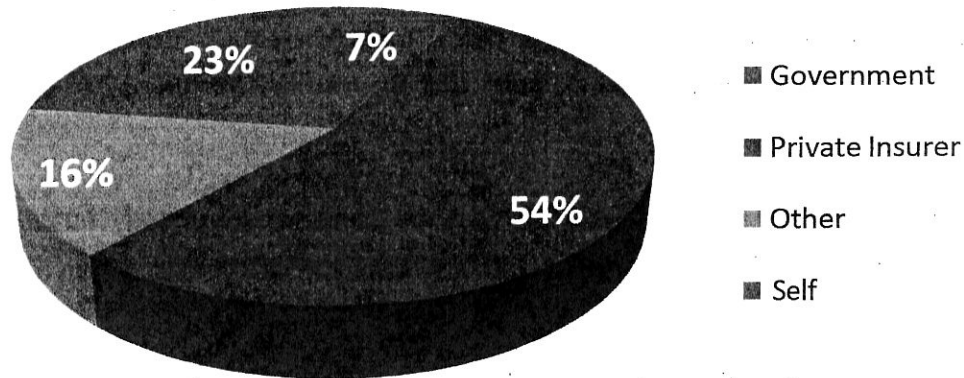


Table 1-3. Incidence Summary – 2010 Total Police-Reported and Unreported Injuries

Severity	Police - Reported	Not Police - reported	Total	Percent Un-reported
Vehicles				
Injury Vehicles	3,225,839	2,121,769	5,347,608	39.7%
PDO Vehicles	7,454,761	11,053,871	18,508,632	59.7%
Total Vehicles	10,680,601	13,175,640	23,856,241	55.2%
People in Injury Crashes				
MAIS0	2,147,857	2,435,409	4,583,265	53.1%
MAIS1	2,578,993	880,207	3,459,200	25.4%
MAIS2	271,160	67,570	338,730	19.9%
MAIS3	96,397	4,343	100,740	4.3%
MAIS4	17,086	0	17,086	0.0%
MAIS5	5,749	0	5,749	0.0%
Fatal	32,999	0	32,999	0.0%
Total	5,150,241	3,387,528	8,537,770	39.7%
Total Injuries	3,002,385	952,120	3,954,504	24.1%
Crashes				
PDO	4,255,495	6,310,019	10,565,514	59.7%
Injury	1,791,572	1,178,391	2,969,963	39.7%
Fatal	30,296	0	30,296	0.0%
Total Crashes	6,077,362	7,488,411	13,565,773	55.2%

Table 1-14. Economic and Societal Costs for Selected Crash Types

	Economic Cost (Millions of 2010 Dollars)	% Total	Comprehensive Cost (Millions of 2010 Dollars)	% Total
Outcome Severity:				
Fatalities	\$46,163	19.1%	\$301,809	36.1%
Nonfatal Injuries	\$111,314	46.0%	\$449,473	53.8%
PDO Vehicles	\$71,480	29.5%	\$71,480	8.6%
Uninjured (MAIS0)	\$13,030	5.4%	\$13,030	1.6%
Total	\$241,988	100.0%	\$835,793	100.0%
Adverse Driver Behavior:				
Seat Belt Non-use	\$10,435	4.3%	\$68,600	8.2%
Helmet non-use	\$1,215	0.5%	\$7,592	0.9%
Distraction	\$39,700	16.4%	\$123,390	14.8%
Alcohol Involvement	\$52,497	21.7%	\$235,738	28.2%
Alcohol Causation	\$43,154	17.8%	\$193,642	23.2%
Speed	\$51,964	21.5%	\$203,228	24.3%
Nonoccupants:				
Motorcycles	\$12,893	5.3%	\$65,735	7.9%
Pedestrian/Cyclist	\$15,805	6.5%	\$86,559	10.4%
Crash Types:				
Roadway Departure Crashes	\$64,443	26.6%	\$298,152	35.7%
Single-Vehicle Crashes	\$76,264	31.5%	\$344,712	41.2%
Crash Location:				
Interstate Highway Crashes	\$25,225	10.4%	\$85,445	10.2%
Intersection Crashes	\$120,336	49.7%	\$371,314	44.4%
Urban Roadways	\$149,014	61.6%	\$469,525	56.2%
Rural Roadways	\$92,974	38.4%	\$366,268	43.8%

Public Services

Public services costs are paid almost entirely by State and local government. Using the data underlying the crash cost estimates (Miller et al., 1991), we separated out EMS, police, fire, vocational rehabilitation, and court costs.

The States of Missouri and Washington provided average incident management costs. In 2009 dollars, the estimated mean cost per crash attendance was \$82 for 315 crashes in Missouri and \$125 for 3,880 crashes in Washington (assuming the response rate to serious injury [A] crashes was 60% of the response rate to fatal [K] crashes). We adopted Washington State's estimate because the data was much more complete than the Missouri data. Using data on the percentage of crashes attended, we broke the estimate down by police-reported crash severity.

To break the costs of incident management (and vehicle and roadside furniture damage) down into cost per person involved in a crash by injury severity, we followed the method used by Miller, Viner, Rossman, et al. (1991). We first cross-tabulated the number of people in a crash by the Abbreviated Injury Scale (AIS) severity of their maximum injury (MAIS), and by the maximum MAIS of anyone in the crash (AAIS). Second, we used that cross-tabulation to iteratively estimate costs by MAIS. We first divided the cost for a property damage only (PDO) crash by the uninjured people involved in a PDO crash to get a cost per uninjured person. Next, we used that cost per uninjured person to compute the cost of an MAIS-1 crash net of the costs associated with uninjured people. Dividing by the number of MAIS-1 injury victims in a crash then yields the cost per MAIS-1 victim. This process was repeated sequentially to compute costs for all MAIS levels. We also counted the number of vehicles per crash by MAIS.

Table 2-14 shows the resulting estimated costs per person injured by MAIS severity, as well as estimates for police, fire department, and vocational rehabilitation inflated from prior NHTSA crash cost studies. These factors are small, but the limited geographic coverage of the data underpinning them and the age of some of them mean their uncertainty is wide. A recent National Cooperative Highway Research Program project charged with updating most of these costs was unable to obtain data from additional jurisdictions.

Table 2-13. Crashes by severity, portion involving roadside furniture damage, costs per crash with costs and cost per crash, Missouri, 2008

Severity	Crashes	With Furniture Damage	\$/Crash with Costs	Cost/Crash
Fatal	619	102	\$356	\$59
Injury	21,055	2,178	\$452	\$47

Table 2-14. Selected ancillary crash costs per person by MAIS (2010 dollars)

MAIS	Vehicle Damage	Roadside Furniture	Incident Management	Vocational Rehabilitation	Fire Department	Police
0	\$1,816	\$12	\$1.60	\$0	\$7	\$12
1	\$5,382	\$22	\$0.60	\$17	\$9	\$79
2	\$5,756	\$22	\$0.30	\$106	\$95	\$99
3	\$10,860	\$22	\$81	\$230	\$227	\$108
4	\$16,306	\$22	\$81	\$282	\$639	\$118
5	\$15,070	\$22	\$78	\$262	\$651	\$126
Fatal	\$11,180	\$32	\$112	\$0	\$543	\$247

Motor vehicle crashes also result in added societal costs due to congestion and workplace disruption. Congestion costs, which include travel delay, excess fuel consumption, and added greenhouse gases and criteria pollutants are examined in a separate chapter of this report. Workplace costs were estimated by adjusting the workplace costs from Blincoe et al., 2002 to 2010 levels using the employment cost index for total compensation published by the Bureau of Labor Statistics. Table 2-15 summarizes the unit costs by injury severity and cost component for 2010. All injury unit costs are expressed on a per person injured basis. The costs for PDO's are expressed on a per-damaged-vehicle basis. Medical costs include both medical care from Table 3 and vocational rehabilitation costs from Table 2-14. Property damage costs include both vehicle damage and roadside furniture from Table 2-14. Emergency Services includes Incident management, Fire Department, and Police from Table 2-14. Market and Household Productivity are from Table 3. Legal and Insurance Administration costs are from Table 2-12.

Each fatality results in economic impacts of roughly \$1.4 million, due primarily to lost productivity and legal costs. MAIS 5 injuries are almost as costly at \$1.1 million. The most costly impact for these most serious of survivor injuries is the cost of medical care, but there are also significant costs from lost productivity, legal costs, and insurance administrative costs. For all cost categories, injury costs gradually decline as severity decreases.