

Valdosta-Lowndes MPO

VLMPO Crash Report 10 Year Report 2000-2009 Data

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Valdosta-Lowndes Metropolitan Planning Organization

2012 Annual Crash Report

10-Year Report Includes Data from 2000-2009

June 2012



Table of Contents

Introduction	3
Highway Safety Plan Goals	5
2000-2009 Review	6
Peer Community Analysis	7
2000-2009 Crash Locations	17
Conclusion	21

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Introduction

Since 2007, the Valdosta-Lowndes Metropolitan Planning Organization (VLMPO) has produced an annual Vehicle Crash Report examining infrastructure and behavioral safety concerns the urban and rural portions of Lowndes County. The report is used to supplement the development of the VLMPO transportation plans and to identify transportation infrastructure projects to improve the safety of the travelling public.

The VLMPO Annual Vehicle Crash Report includes data from 10 years that includes data from 2000-2009.

This report will continue to be used to inform local public agencies of crash related data in the community, and to identify causes of crashes and possible safety improvements, law enforcement, or education improvements.

This report examines various characteristics of crash data to determine the increase or decrease in overall crashes, crash frequency, crash locations, contributing factors, etc. In the end we will identify the twenty highest frequency crash locations in the Valdosta Urbanized Area and in rural Lowndes County.

This report will be used by the VLMPO and local jurisdictions to evaluate projects in the 2035 Transportation Plan and annual Transportation Improvement Program updates. It will help to identify future safety related infrastructure projects, and make data available to the MPO and local jurisdictions which will allow analysis of the most beneficial projects and actions based on past crashes at specific locations. Local jurisdictions, agencies and other groups can also use this report to target education and enforcement efforts so as to help reduce crashes of all types on the roadways of Lowndes County.

The past Annual Crash Reports have identified particular geographic areas of concern, population groups and crash types that are prevalent in crashes in Lowndes County. This report continues to evaluate particular areas of concern and works to find out why these crashes happen and what can be done to improve these areas.

This report is based on the Georgia Governor's Office of Highway Safety (GOHS) Highway Safety Plan which outlines education and enforcement measures to reduce highway crashes on Georgia roads.

The GOHS Highway Safety Plan utilizes the "4-E" approach to reduce crashes in Georgia. Crash prevention and response is not the duty of just one agency; rather, many different agencies, each with different priorities and responsibilities. Each agency must respond accordingly to crash reduction efforts in their own areas of expertise. The 4 E's of Highway Safety -- Education, Engineering, Enforcement and Emergency Medical Services¹ -- are where those many different responsible agencies come together to each do their own part in reducing crash frequency and severity.

Education includes working with young and old alike to educate drivers, pedestrians, bike riders, and passengers of the rules of the road and other important safety factors. Education includes: diversion programs for underage drinking; general public education campaigns; safety belt and child seat inspections; and expanded and improved driver training courses and materials.

¹ Source: Nebraska Highway Safety Plan Critical Strategies, Nebraska Department of Roads

Engineering includes working with local and state public works, and highway and transportation departments to improve the physical characteristic of the roadway and rightof-way. The Engineering 'E' focuses on improving the basic infrastructure of the intersections and roadway corridors.

Enforcement includes working with law enforcement agencies to educate drivers to prevent crashes, as well as efficient response and analysis of crash sites. The Enforcement E includes: employing checkpoints for DUI or seatbelt usage; enforcement of laws for underage and excessive drinking; targeted speed and intersection use enforcement; and proper data collection for future analysis.

Emergency Medical Services includes all first responders to crash sites and the medical treatment victims receive immediately after a crash. The Emergency Medical Services (EMS) E includes: efficient response by medical personal to crash site, rapid evacuation of victims to trauma centers, and education of the public on proper usage of safety restraints.

Each of the 4 E's is not mutually exclusive to the various agencies described above. For example education is spread out between all of the different agency partners, like law enforcement agencies, highway departments, and EMS responders. Also, engineers may get ideas from suggestions from law enforcement agencies or schools about concerns with children walking to school. Each of the various agencies has their own role to play, as well as an interconnected role with other agencies to reduce crash frequency and severity on our roadways.

Highway Safety Plan Goals

The most recent Georgia SHSP was adopted in 2010. All of the goals below are reflective of this adoption year.

- Increase the rate of observed safety belt use from baseline 89.6% in 2008 to 91% by the end of FFY 2010 for drivers and front seat outboard passengers.
- Reduce the alcohol related fatality rate (BAC = .08+) from estimated 2008 baseline of 0.38 fatalities (416) per 100 million VMT to 0.37 (404) per 100 million VMT (based on 110,290 million VMT).
- Reduce the percentage of speed related fatal crashes from baseline 21% in 2008 to 19% by the end of FFY 2010.
- Reduce the percentage of pedestrian related fatal crashes from baseline
 9.8% (146) in 2008 to 9.7% by end of FFY 2010.
- Continue implementation of the Strategic Highway Safety Plan with all roadway safety stakeholders in Georgia.

Performance measures:

- To decrease traffic fatalities five percent (5%) from the 2008 calendar base year average of 1,493 to 1,418 by December 31, 2010.
- To decrease serious traffic injuries 1 (one) percent from the 2008 calendar

base year average of 115,737 to 114,580 by December 31, 2010.

- To decrease overall fatality rates in rural and urban areas.
 - To decrease fatalities/VMT .06 percent from the 2007 calendar base year average of 1.46 to 1.4 by December 31, 2010.
 - To decrease rural fatalities/VMT
 .12 percent from the 2007 calendar base year average of
 2.02 to 1.9 by December 31,
 2010.
 - To decrease urban fatalities/VMT .04 percent from the 2007 calendar base year average of 1.04 to 1.00 by December 31, 2010.
- To decrease unrestrained passenger vehicle occupant fatalities in all seating positions 5 (five) percent from the 2008 calendar base year average of 578 to 550 by December 31, 2010.
- To decrease alcohol impaired driving fatalities five percent (5%) from the 2008 calendar base year average of 416 to 396 by December 31, 2010.
- To decrease speed related fatalities by two percent (2%) from the 2008 calendar base year count of 309 to 303 by December 31, 2010.
- To decrease motorcyclist fatalities 2.8% from the 2008 calendar base year count of 177 to 172 by December 31, 2010.
- To decrease un-helmeted motorcyclist fatalities 25 (twenty-five) percent from the 2008 calendar base year average of 14 to 10 by December 31, 2010.
- To decrease drivers age 20 or younger involved in fatal crashes 10 (ten) percent from the 2008 calendar base year average of 221 to 199 by December 31, 2010.
- To reduce pedestrian fatalities five percent (5%) from the 2008 calendar base year average of 146 to 139 by December 31, 2010.

population and other demographics, as will be presented throughout this report.

2000-2009 Review

Ten years of vehicle crashes can tell a transportation planner, police officer or road engineer a lot of things about the community in which they work. The purpose of this report is to look back on ten years of vehicle crashes in Lowndes County to see what has changed, what has gotten better and what has not.

This report cannot focus on every one of the more than 30,000 crashes that has occurred in Lowndes County since 2000, but will instead look at some of the goals of the Strategic Highway Safety Plan (SHSP) and see how those are being addressed long-term in Lowndes County. Even though the SHSP was adopted in 2010, we will still use the themes it identifies to improve safety and reduce crashes to evaluate the last ten years of crashes in Lowndes County.

The themes from the SHSP that this report will cover include: occupant restraint (seat-belt use), alcohol impairment, speed related crashes, crashes involving bicycles and pedestrians, crashes involving teens, and crashes involving seniors (65+).

In order to better understand the statistics presented in this report and how Lowndes County is succeeding in reducing vehicle crashes peer communities have been selected from around Georgia. The following counties will be used as peer communities in comparison to Lowndes and the State of Georgia in total: Dougherty, Houston, Floyd, and Whitfield. These counties were selected based on the number of crashes each has had in the past ten years in comparison to Lowndes. Each of the counties is also similar to Lowndes in Figure 1 Peer Communities for Crash Analysis. Source: CARE 9 and US Census Bureau

	Crashes	Fatalities	Population	Population
	2000-2009	2000-2009	2000	2010
Dougherty	35,460	112	96,065	94,565
Floyd	39,014	156	90,565	96,317
Houston	35,582	166	110,765	139,900
Lowndes	35,505	161	92,115	109,233
Whitfield	35,349	169	83,525	102,599
Georgia	3,232,630	14,401	8,186,453	9,687,653

First, let's examine these peer communities and some basic vehicle crash statistics. Each county has about 1% of the State's total crashes as well as population share. Each of these counties has an urban population of between 50,000 and 80,000 persons as follows:

- Dougherty Albany
- Floyd Rome
- Houston Warner Robins
- Lowndes Valdosta
- Whitfield Dalton



Peer Community Analysis

This report begins by examining crashes in Lowndes County alone to better understand the overall picture of crashes in this community. In general about 73% of the crashes in Lowndes County occur within the urban area of Valdosta. It is not surprising considering that Valdosta is a regional employment and economic center attracting drivers from within Lowndes County and surrounding counties on a daily basis. For the time period of this data the Valdosta Urban Area includes all of the City of Valdosta, the developed area along Bemiss Road including Moody Air Force Base and other outlying areas. While more crashes occur within the Valdosta Urban Area, 62% of fatalities occurred in the rural portions of Lowndes County. Possible causes for higher fatal crash rates in rural areas could be poor lighting, higher speeds, timely emergency response, etc., although each fatal crash has its own characteristic. Some of these causes are being addressed by the SHSP and the Governor's Office for Highway Safety and other agencies and organizations.

In general, crashes in Lowndes County are decreasing on a per capita basis and on a million vehicle miles traveled bases as well. In



Figure 2 Urban and Rural Crashes in Lowndes County Including Population Growth Source: CARE 9 and US Census Bureau

2004, Lowndes County had 0.040 crashes per capita, and by 2009 it was down to 0.030. During this same time period the population in Lowndes County increased by nearly 16%. Crash statistics are typically reported in a format of 'crashes/million vehicle miles traveled. Using

the same data as before, crashes per million vehicle miles traveled went from a high of 1063 in 2005 to 882 in 2009 at a time when vehicle miles travelled increased by only one-percent.

Fatal crashes in Lowndes County and the peer communities seem to experience more abrupt rises and falls. In Lowndes County in 2000, there were thirteen fatalities. Fatalities increased to 22 in 2001, and have been on a downward trend ever since. The fatality data from the peer communities tends to show a similar pattern of peaks and valleys over the ten year period.

	Dougherty	Floyd	Houston	rowndes	Whitfield	Georgia
2000	14	18	21	13	15	1404
2001	7	9	23	22	13	1475
2002	10	16	17	18	13	1367
2003	18	15	14	21	15	1469
2004	10	19	18	14	16	1466
2005	12	16	20	16	18	1594
2006	11	15	16	13	21	1561
2007	6	24	11	14	24	1498
2008	15	10	12	17	14	1382
2009	9	14	14	13	20	1185
Total	112	156	166	161	169	14401

Figure 3 Fatal Crashes in Peer Communities Source: CARE 9

Seatbelts and other occupant safety equipment are known to prevent fatalities and in many cases serious injury in vehicle crashes. In this analysis both the driver of the causal vehicle and the other vehicle were examined to get a



²complete picture of seat belt usage. Over the past decade seat belt use in every one of the peer communities' crashes where no safety equipment was used has

fallen on average 50%. In 2009, there were 153 crashes total in all of the peer communities where no safety equipment was used. The education efforts that the GOHS, local governments and other agencies have done seem to be influencing the decision of drivers to buckle up. In 2010 the Georgia Legislature passed a law that requires pick-up drivers to also use seat belts. This will likely further reduce the number of crashes where no seat belt was used.



Figure 4 Number of Crashes with No Seat Belt Source: CARE 9

Safety equipment does not just include seat belts, it also includes child safety seats. In the peer communities, over the past ten years in only one instance was a child safety seat improperly used (occurred in a propertydamage only crash).

Helmets are another form of safety equipment used by motorcyclists and bicyclists on our highways. While helmets do not provide full

²by Simon Shek

body protection, they do provide protection to the head. In the peer communities, of the 764 total fatalities over the past ten years, 85 of the fatalities were on a motorcycle, bicycle or other similar vehicle. In total 931 motorcycle or similar vehicles involved in crashes in the same time period had a rider that did not wear any helmet or other safety device.

In Lowndes County during the ten-year study period there were 64 crashes where no safety device was used and 13 crashes where a motor cycle helmet was used. Lowndes County continues to see declining rates of crashes where drivers do not use any safety device after seeing a rise from 2003 to 2007 (see Figure 4).

Alcohol impairment when driving is a serious issue challenges communities each and every day. The data for crashes where alcohol was the primary contributing factor is quite interesting amongst the peer communities. When looking at all of the communities in this study, there were a total of 42 fatalities where alcohol was involved, only seven of them were below the current legal blood-alcohol limit of .08 (Georgia lowered the limit to .08 in 2001). In total, driving under the influence (DUI) was a contributing factor in 5,785 crashes in all of the communities in this study.

Because the blood-alcohol content (BAC) legal limit changed during this study, a closer look was taken at how many crashes there were every year where the BAC was above the legal limit of .08 (this limit is also used for the 2000 and 2001 crashes in this report even though the limit was .10 at the time). Figure 5 shows the number of crashes in the peer communities vs. the number



Figure 5 Crashes with BAC in Peer Communities vs. Lowndes County Source: CARE 9

of crashes in Lowndes County where the BAC was above .08. As it illustrates Lowndes County had very few of the hundreds of crashes where the driver was above the legal alcohol limit. Examining this data further showed that Dougherty and Lowndes Counties where very similar with low numbers of drivers above the legal limit, while the opposite was true for the three other Counties in the study, where hundreds of drivers were above the legal limit. The number of drivers above the legal alcohol limit is clearly declining in all of the communities according the crash data available. In fact it shows that from 2006 through 2009 in Lowndes County there was not a single crash that involved a driver with a BAC above the legal limit (driver may have refused test so no record is available).

In order to try to learn more about why the drivers over the legal limit is so high in the northern counties of this study versus the southern counties the data was further examined to determine if officers on the scene were doing things differently. One piece of data available in CARE 9 is if the BAC test was actually given. Figure 6 shows the percentage of drivers who received an alcohol test after their crash.



Figure 6 Percent of Drivers Who Received Alcohol Test Source: CARE 9

This chart shows that Lowndes County still delivers the most BAC tests among the peer communities.

³Examining the data to determine if age was a factor in crashes involving alcohol, there was no indication that there were fewer drivers under the influence of alcohol in Lowndes County than in the other counties. There was a



clear indication that most of the crashes involving BAC level above the legal limit was in the 19-29 year old age group, which is not surprising, given the large student population at Valdosta State University and other institutions in Lowndes County.

The data was also analyzed to look at the number of crashes where the driver was under the legal BAC limit. The data does not support this conclusion either that people in Lowndes and Dougherty Counties just have a lower BAC level.

^sby Gorivero

The data available in CARE 9 did not seem to tell the whole story. The VLMPO staff contacted the other peer communities to determine if there was some factor that leads there to be higher BAC levels in the northern peer communities. The City of Valdosta has aggressive DUI detection and field sobriety testing that helps get drunk drivers off the road before a crash occurs. Another indefinite conclusion that can be made is that this is some sort of social/societal influence; however it is suspected there is not just one factor, but many that cause there to be lower BAC levels in Dougherty and Lowndes Counties.

One thing that all of this data shows is that education efforts about the dangers of driving while drunk is working. There are less drivers being tested for a BAC and less crashes in general involving alcohol (a decrease of 2.6% since 2000) as a contributing factor amongst Lowndes County and the peer communities.



Excessive speed is one of the top contributing factors for crashes in all of the peer communities. During the study period there has been a 55% decrease in the number of crashes where excess speed or the speed was too fast for conditions. Age is thought to be a driving force behind crashes involving speed. The data supports this common theory. 16-18 year olds in the peer communities caused more than double the amount of crashes than did 40-49 year olds when they were driving too fast for conditions. When comparing the data for crashes involving speed there has been an improvement in speed related crashes, but speed continues to be one of the leading contributing factors to crashes in Georgia.

In Lowndes County the data behind crashes involving excess speed are similar to the peer communities. It is interesting to note that Lowndes County accounts for less than 15% of the crashes amongst the five peer communities in this study, indicating that excess speeding is not as prevalent an issue in Lowndes County as in some of the other peer communities, but significant none the less. In some of the peer communities, winter weather is a factor and may lead to more crashes involving excess speed in those communities than in Counties like Lowndes where winter weather is rare.

The data for speed related crashes and the age of the driver provides clear evidence that younger, more inexperienced drivers do have more crashes at excessive speeds and when conditions are present to require slower speeds than older, more experienced drivers. In each of the age groups identified (16-18. 19-22, 23-29, 30-39, 40-49., 50-59, 60+) there is a significant decrease in crashes that are too fast for conditions as age increases, ranging from 12% (16-18 to 19-22) and 52% (40-49 to 50-59), however this decreases back to 31% in the 50-59 to 60+ age comparison, indicating that older drivers may experience driving problems leading to more crashes.



When considering crashes involving bicycles and pedestrians the data in CARE 9 is misleading and inadequate to do a proper analysis. In many cases data for bicyclists and pedestrians is combined so it cannot be determined exactly how many bicycle or pedestrian crashes there were exclusive of one another. From the limited data that is available. County in Lowndes crashes involving pedestrians have increased by 29% between 2000 and 2009. Fortunately the number of pedestrian fatalities has not increased significantly over the years, on average 6.9% of the pedestrians involved in a crash are fatally wounded.

When comparing the pedestrian crashes in the peer communities to Lowndes County, Lowndes seems to have slightly more than 20% of the crashes involving pedestrians. While there is no data that supports this, year-round walkable weather may account for some increase versus peer communities that have winter conditions.

In general crashes involving pedestrians are increasing in Lowndes County, there is no clear evidence as to what has caused this; however it should be noted that Valdosta State University has seen an increase in students of 47%, many of them walking or riding bikes to, from and around campus. The age analysis for Lowndes County tends to show that pedestrians between the ages of 30 and 60+ had nearly twice as many crashes as the age group typically associated with being enrolled in a university.

As discussed throughout this report, the age of drivers is an important data point to consider when analyzing vehicle crashes. Based on previous VLMPO vehicle crash reports (see 2011 report) teen drivers are involved in a significant amount of crashes in Lowndes County.

The student population at Valdosta State University tends to skew the data in Lowndes County to show that there are more crashes in the teen and young adult age group (16-24) than in comparison to the other peer communities. In the peer communities, this population is about 7.5% of the total population of each county. In Lowndes this age group is 11.5% of the total population of the county. This population cohort in Lowndes County is significant and targeted education of these drivers is needed. The crash data for the study period indicates that this trend of crashes in this age group is continuing to increase as the student population grows.



Figure 7 Age of Drivers in Crashes in Peer Communities Source: CARE 9



Figure 8 10 yr. Average Annual Crashes Per Capita Source: CARE 9, US Census 2009 Estimate



Figure 9 10 yr. Avg. Annual Fatal Crashes per 10,000 Population Source: CARE 9, US Census

Figure 7 is slightly misleading in showing a spike in the 30-40 year old age groups. This spike is not really in the data. The 20 year old age group was split into two to better illustrate the teen and young adult populations, especially college aged students. The data shows that crashes for the entire 20 year old age group actually range from 15,500 crashes in Houston County to nearly 18,300 crashes in Lowndes County for this age group.



In order to better analyze the data to determine if there was (as some have thought) an increase in crashes for the senior population (age 65+) the crash data was annualized and the crashes in the peer communities were compared on a per capita basis (Figure 8). This data indicates that the senior population is not having more crashes, with the exception of a slight increase at the age of 70 that quickly comes back down. Based on this data there is no evidence in the peer communities that there is a significant increase in crashes amongst seniors and that as the driver becomes more experienced there is a decrease in the per capita crashes for each age group.

The data in Figure 9 shows the exact opposite of what was just discussed, that there is no comparison to the age of the driver and more crashes. This data shows that there is a correlation between the age of the driver, both young and old, and the amount of fatal crashes where these age groups are the causal vehicle. This chart shows that for every 10,000 persons in the peer communities there are nearly 2.5 fatal crashes annually caused by drivers aged 16-19. As drivers get older, there are less fatal crashes per 10,000 population (note the variances in the age groups) until the 50 year old age group. At the point the upward trend starts leveling off in the 60 and 70 age groups, before increasing significantly in the 80 yr. old age group. In the peer communities there are on average 2 fatal crashes annually per 10,000 persons where the driver is in their 80s.



This information is clear that, although crashes in general only increase slightly for the senior populations, the severity of those crashes increases significantly. More education and follow-up by families and the community is needed in these communities for both the teen and young adult populations as well as the senior populations to reduce the total number of crashes, and especially the severity of those crashes.

After a crash, the response time of emergency medical services and transportation to a hospital is critical. In the peer communities the majority of crash victims were transported to the hospital within 21-45 minutes of the crash

⁵ by carinsuranceguidebook.com

⁴ by i09.com

occurring. Between 2000 and 2009 all of the communities saw dramatic decreases in the number of victims being transported to hospitals, further evidence of fewer crashes over all and less severe crashes as reported earlier. Lowndes County saw a 24% decrease in crash victims transported, while Floyd, Whitfield and Houston Counties saw decreases of 70%, 124% and 88%, respectively. The data for Dougherty County was not able to be used as most of the data was classified as 'null' for all years. It should be noted that in 2003 all data for all counties relating to EMS transport is missing.

Lowndes County over the past several years has been using the GIS services of the Southern Georgia Regional Commission to evaluate response times for EMS vehicles, and have used this data to locate two additional vehicles in strategic locations throughout the county to provide faster response times.

2000-2009 Crash Locations



Figure 10 Crash Density in 2000, Lowndes County



Figure 11 Crash Density in 2009, Lowndes County



Comparison of Vehicle Crashes - Lowndes Co., GA Increase or decrease in crashes between 2000 and 2009

Figure 12 Change in Crash Density 2000-2009 Lowndes County



Figure 13 Crash Density in 2000, City of Valdosta







Comparison of Vehicle Crashes - Valdosta, GA

Increase or decrease in crashes between 2000 and 2009

Figure 15 Change in Crash Density 2000-2009, City of Valdosta

Conclusion

In many respects, Lowndes County is an average community when it comes to driving behaviors and crashes. However, the data in this report shows that there are differences between Lowndes County and peer communities throughout Georgia.

In general the crash rates are decreasing in Lowndes County and the State of Georgia, but there are many reasons behind this, which all work together to reduce crashes and fatalities on the roadways.

Traffic enforcement is a huge part of making sure that our roads are safe. The aggressive enforcement of DUIs in Lowndes County has reduced the number of crashes attributed to drunk driving in our community.

Education of the public is an ongoing challenge in all respects of preventing crashes. Educating new drivers about the hazards of drunk driving and educating older drivers about driving differently as an older adult are constant campaigns that must continue.

Engineers continue to work to make our roads safe by improving curves, intersections, access points, etc. All of these changes help to make the transportation infrastructure safer for the travelling public. However, segineers can only do so much and that is where education and law enforcement become important to help make the human element of driving safer.

In emergency medicine the golden hour is the most critical time where prompt medical treatment will prevent death. The data for crashes shows that 92% of crash victims arrived at a hospital in the peer communities (98% in Lowndes County, within that hour), receiving

the medical attention needed to save lives. This leaves a very small number of crash victims unable to receive emergency medical attention quickly, and that number is continuing to decrease every year with safer vehicles, safe roads, and better educated drivers.

On the preceding pages are crash density maps that show the frequency of crashes in 2000 and 2009 in Lowndes County and Valdosta. As one can easily see, the location of crashes has changed over time. There are two additional maps that show this change more dramatically. Although we cannot be certain of why there has been a change in the crash locations, we do know that traffic in general has increased in many of these areas over the past ten years. More cars mean the potential for more crashes.

This report will be distributed to local stakeholders that have an impact on changing crash outcomes in Lowndes County. These stakeholders include: high school drivers education teachers, private drivers education teachers, elected officials, hospital officials, local and state engineers, citizens, health professionals, and many others.

This report will be the last in this series until a new, reliable data source can be obtained by VLMPO staff. The VLMPO staff will continue to work to identify crash locations and report on crash statistics with the limited data available currently.