



NORTH CAROLINA

Department of Transportation



Fatal Crash Data Summary

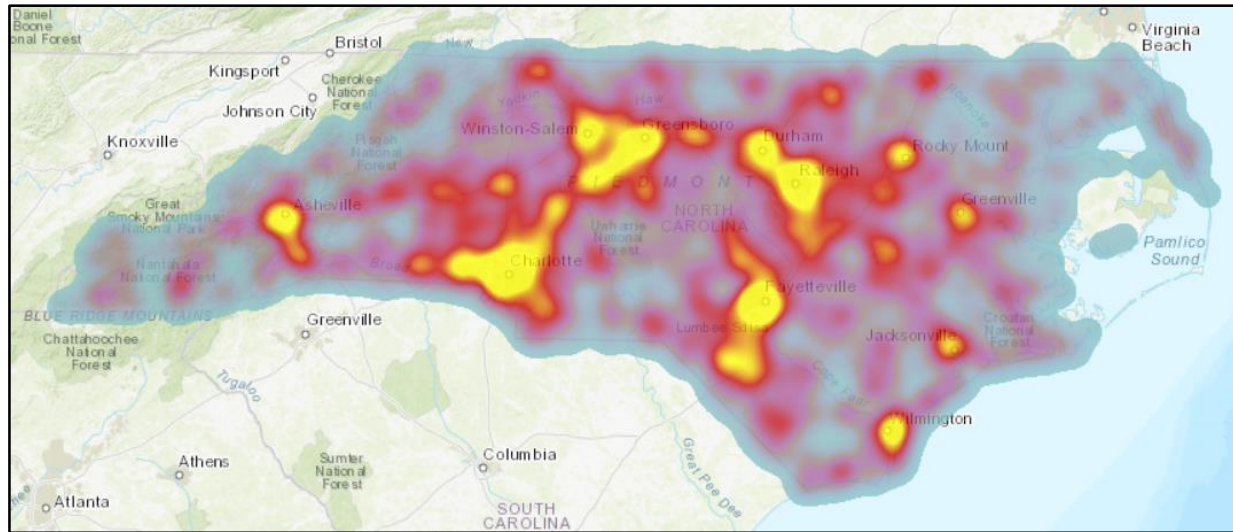
J. Kevin Lacy, PE

Executive Committee for Highway Safety

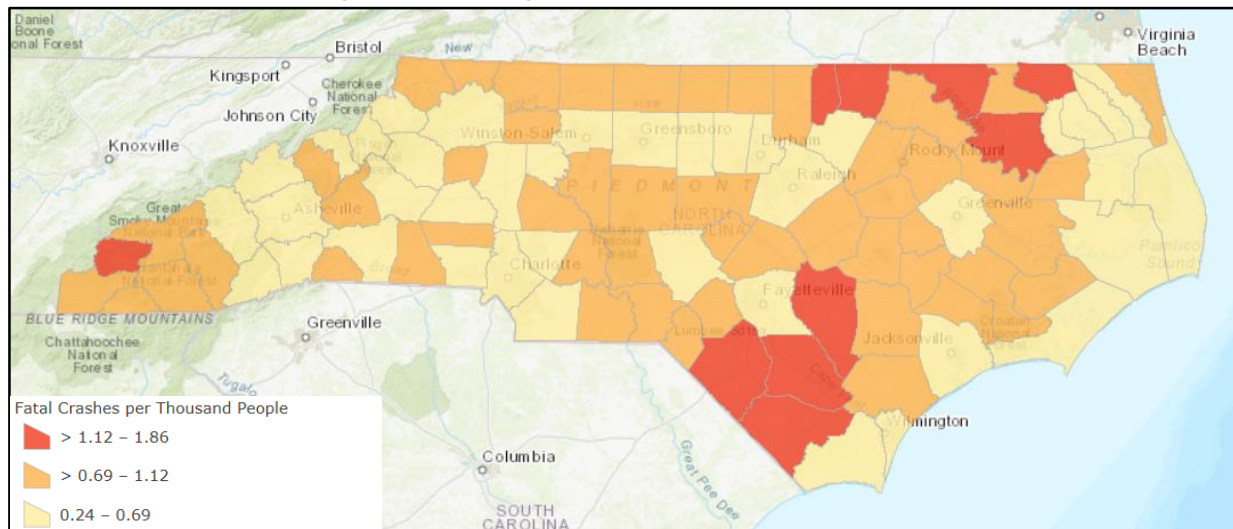
January 12, 2018

North Carolina Fatal Crashes

6,190 Crashes from January 2012 to December 2016



Rate by County per Thousand People



North Carolina Fatal Crashes

6,190 Crashes from January 2012 to December 2016

Category	Fatal Crashes						
	2012	2013	2014	2015	2016	Totals	5 Yr Trend Direction
Total Reported Crashes	1,203	1,179	1,188	1,281	1,339	6,190	
Alcohol	416	346	360	387	378	1,887	↓
Bicyclist	26	24	18	22	18	108	↓
Distracted Driving	132	132	138	152	169	723	↑
Drug	33	45	35	53	51	217	↑
Heavy Truck	78	79	78	81	93	409	↑
Intersection Related	235	232	223	266	237	1,193	----
Lane Departure	674	673	686	688	770	3,491	↑
Motorcycle	153	147	144	162	148	754	↓
Older (65+) Driver	234	260	252	288	288	1,322	↑
Pedestrian	196	174	175	194	198	937	----
Rear End	49	53	84	79	80	345	↑
Sideswipe	36	31	37	37	40	181	----
Speeding	306	280	311	294	333	1,524	↑
Teen (15-19) Driver	124	116	140	130	145	655	↑
Unbelted	355	353	358	393	418	1,877	↑
Work Zone	18	13	21	18	24	94	----

5 Yr Trend Direction	
Upward	↑
Downward	↓
Neutral	----

Combined Focus Area Matrix for Fatal Crashes

6,190 Crashes from January 2012 to December 2016

Total Fatal Crashes 6,190 (100%)	Alcohol	Bicyclist	Distracted Driving	Drug	Heavy Truck	Intersection Related	Lane Departure	Motorcycle	Older (65+) Driver	Pedestrian	Rear End	Sideswipe	Speeding	Teen (15-19) Driver	Unbelted	Work Zone
Alcohol	1,887 (30%)	32 (2%)	99 (5%)	7 (0%)	63 (3%)	261 (14%)	1,241 (66%)	195 (10%)	147 (8%)	366 (19%)	64 (3%)	34 (2%)	594 (31%)	126 (7%)	771 (41%)	20 (1%)
Bicyclist	32 (30%)	108 (2%)	21 (19%)	4 (4%)	5 (5%)	21 (19%)	1 (1%)	0 (0%)	28 (26%)	6 (6%)	3 (3%)	1 (1%)	3 (3%)	7 (6%)	5 (5%)	0 (0%)
Distracted Driving	99 (14%)	21 (3%)	723 (12%)	34 (5%)	64 (9%)	188 (26%)	315 (44%)	114 (16%)	194 (27%)	80 (11%)	95 (13%)	18 (2%)	84 (12%)	82 (11%)	187 (26%)	18 (2%)
Drug	7 (3%)	4 (2%)	34 (16%)	217 (4%)	6 (3%)	31 (14%)	129 (59%)	12 (6%)	37 (17%)	33 (15%)	19 (9%)	4 (2%)	55 (25%)	20 (9%)	79 (36%)	4 (2%)
Heavy Truck	63 (15%)	5 (1%)	64 (16%)	6 (1%)	409 (7%)	102 (25%)	128 (31%)	12 (3%)	110 (27%)	56 (14%)	62 (15%)	32 (8%)	51 (12%)	24 (6%)	108 (26%)	20 (5%)
Intersection Related	261 (22%)	21 (2%)	188 (16%)	31 (3%)	102 (9%)	1,193 (19%)	249 (21%)	215 (18%)	379 (32%)	139 (12%)	56 (5%)	16 (1%)	167 (14%)	141 (12%)	231 (19%)	18 (2%)
Lane Departure	1,241 (36%)	1 (0%)	315 (9%)	129 (4%)	128 (4%)	249 (7%)	3,491 (56%)	409 (12%)	540 (15%)	30 (1%)	0 (0%)	111 (3%)	1,257 (36%)	339 (10%)	1,498 (43%)	37 (1%)
Motorcycle	195 (26%)	0 (0%)	114 (15%)	12 (2%)	12 (2%)	215 (29%)	409 (54%)	754 (12%)	126 (17%)	5 (1%)	71 (9%)	28 (4%)	246 (33%)	64 (8%)	0 (0%)	8 (1%)
Older (65+) Driver	147 (11%)	28 (2%)	194 (15%)	37 (3%)	110 (8%)	379 (29%)	540 (41%)	126 (10%)	1,322 (21%)	208 (16%)	94 (7%)	55 (4%)	153 (12%)	83 (6%)	241 (18%)	21 (2%)
Pedestrian	366 (39%)	6 (1%)	80 (9%)	33 (4%)	56 (6%)	139 (15%)	30 (3%)	5 (1%)	208 (22%)	937 (15%)	13 (1%)	3 (0%)	36 (4%)	117 (12%)	5 (1%)	22 (2%)
Rear End	64 (19%)	3 (1%)	95 (28%)	19 (6%)	62 (18%)	56 (16%)	0 (0%)	71 (21%)	94 (27%)	13 (4%)	345 (6%)	0 (0%)	35 (14%)	24 (10%)	71 (29%)	22 (9%)
Sideswipe	34 (19%)	1 (1%)	18 (10%)	4 (2%)	32 (18%)	16 (9%)	111 (61%)	28 (15%)	55 (30%)	3 (2%)	0 (0%)	181 (3%)	30 (17%)	19 (10%)	57 (31%)	0 (0%)
Speeding	594 (39%)	3 (0%)	84 (6%)	55 (4%)	51 (3%)	167 (11%)	1,257 (82%)	246 (16%)	153 (10%)	36 (2%)	35 (2%)	30 (2%)	1,524 (25%)	205 (13%)	630 (41%)	16 (1%)
Teen (15-19) Driver	126 (19%)	7 (1%)	82 (13%)	20 (3%)	24 (4%)	141 (22%)	339 (52%)	64 (10%)	83 (13%)	117 (18%)	24 (4%)	19 (3%)	205 (31%)	655 (11%)	198 (30%)	2 (0%)
Unbelted	771 (41%)	5 (0%)	187 (10%)	79 (4%)	108 (6%)	231 (12%)	1,498 (80%)	0 (0%)	241 (13%)	5 (0%)	71 (4%)	57 (3%)	630 (34%)	198 (11%)	1,877 (30%)	32 (2%)
Work Zone	20 (21%)	0 (0%)	18 (19%)	4 (4%)	20 (21%)	18 (19%)	37 (39%)	8 (9%)	21 (22%)	22 (23%)	22 (23%)	0 (0%)	16 (17%)	2 (2%)	32 (34%)	94 (2%)

Vital Combined Focus Areas (XXL Rocks) $\geq 30\%$

Significant Combined Focus Areas (XL Rocks) $29\% < x < 20\%$

Potential Combined Focus Areas (L Rocks) $19\% < x < 15\%$

Combined Focus Area Matrix for Fatal Crashes

6,190 Crashes from January 2012 to December 2016

- 3,491 (56%) involve Lane Departure
- 1,887 (30%) involve Alcohol
- 1,877 (30%) involve Unbelted
- 1,524 (25%) involve Speeding
- 1,322 (21%) involve Older Driver
- 1,193 (19%) involve Intersection Related
- 937 (15%) involve Pedestrians

Matrix Creation

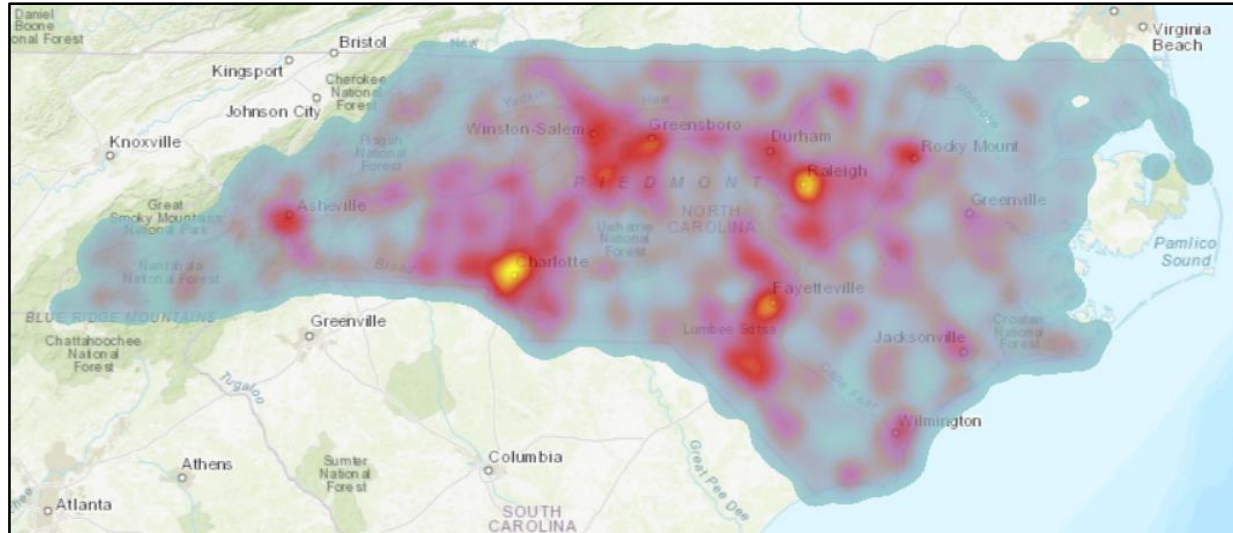
Data was ran for each category independently to establish the initial variable. For example, Alcohol crashes were 1,887 crashes out of 6,190 Total crashes, and Lane Departure crashes were 3,491 crashes out of 6,190 Total crashes. For the secondary variable, an additional query was ran on the Crash ID's for the initial variable that had the least value between the two categories. For example, the 1,887 Alcohol crashes were less than the 3,491 Lane Departure crashes; so the 1,887 Alcohol Crash ID's were ran against the query that produced the Lane Departure crashes which resulted in 1,241 Alcohol crashes that involved Lane Departure. In the matrix 1,241 Alcohol crashes are Lane Departure out of the 1,887 Alcohol crashes, or 66%. In the matrix 1,241 Lane Departure crashes are Alcohol out of the 3,491 Lane Departure crashes, or 36%. This example, and some additional are listed below.

Examples of How to Read Matrix

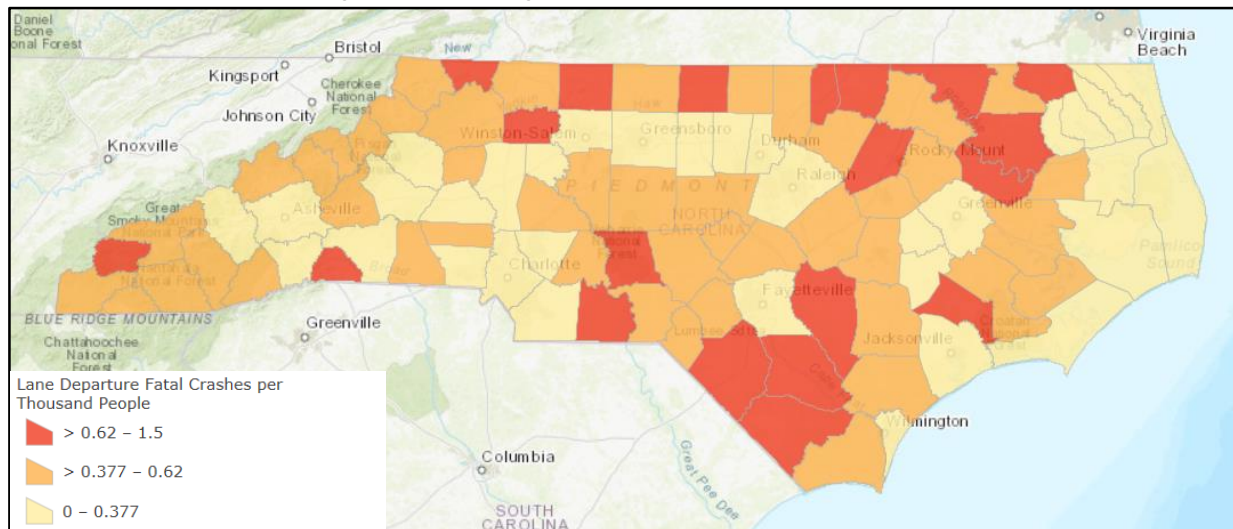
- | | |
|--|--------------------------------------|
| • 66% of Alcohol are Lane Departure | 36% of Lane Departure are Alcohol |
| • 2% of Alcohol involve Bicyclist | 30% of Bicyclist involve Alcohol |
| • 43% of Lane Departure are Unbelted | 80% of Unbelted are Lane Departure |
| • 54% of Motorcycle are Lane Departure | 12% of Lane Departure are Motorcycle |
| • 82% of Speeding are Lane Departure | 36% of Lane Departure are Speeding |

Lane Departure Involved Fatal Crashes

3,491 Crashes from January 2012 to December 2016

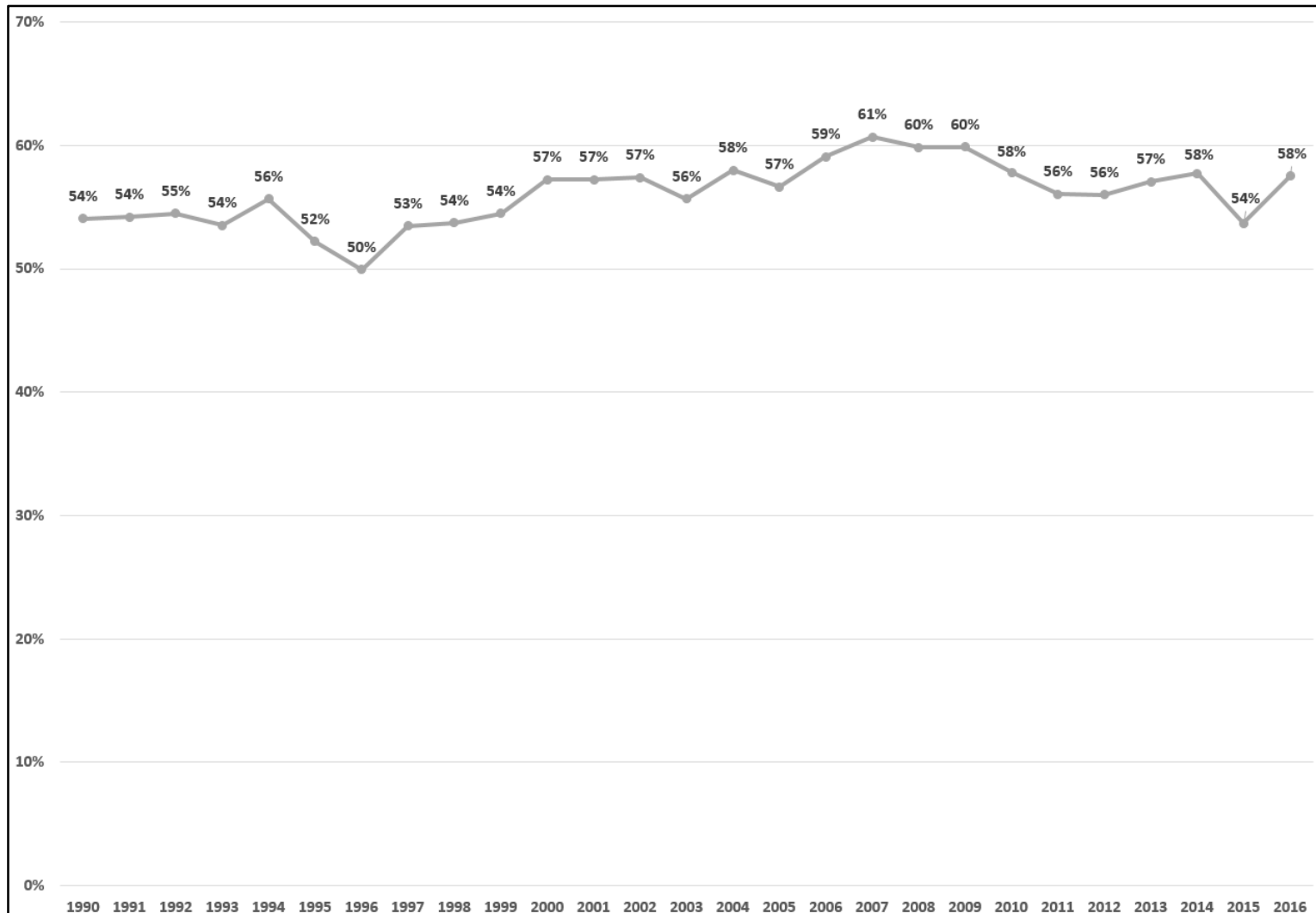


Rate by County per Thousand People



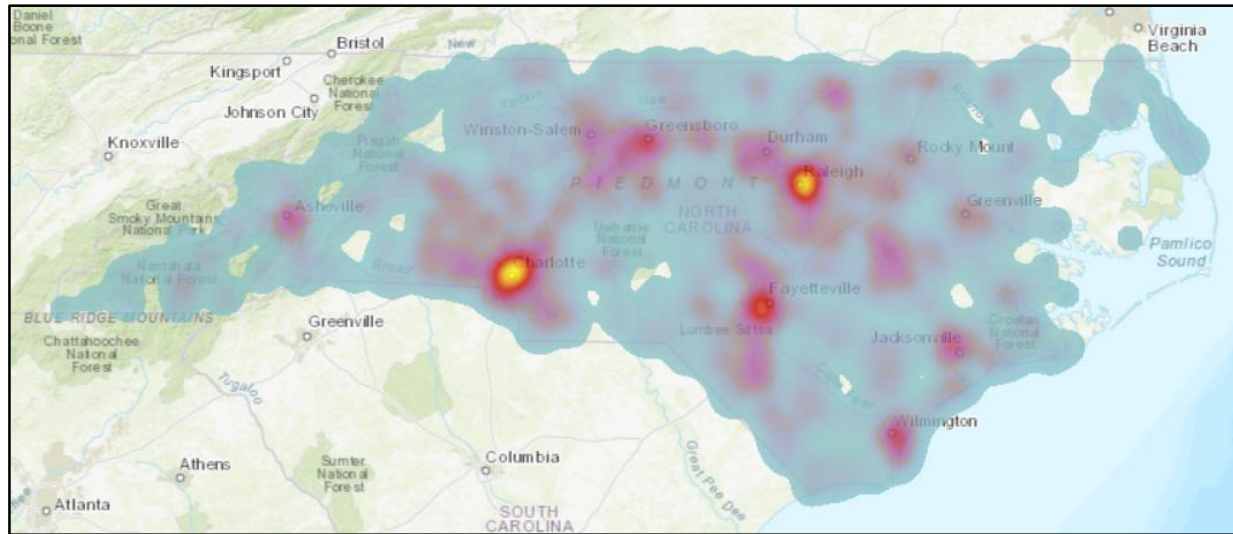
Lane Departure Involved Fatal Crashes

By Percentage of Total Fatal Crashes from January 2012 to December 2016

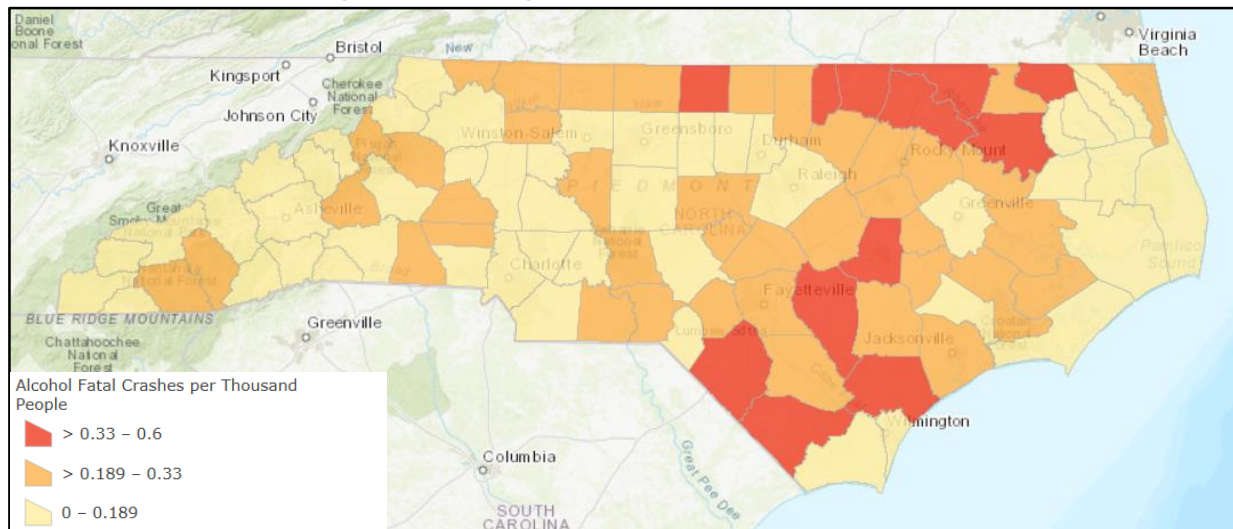


Alcohol Involved Fatal Crashes

1,887 Crashes from January 2012 to December 2016

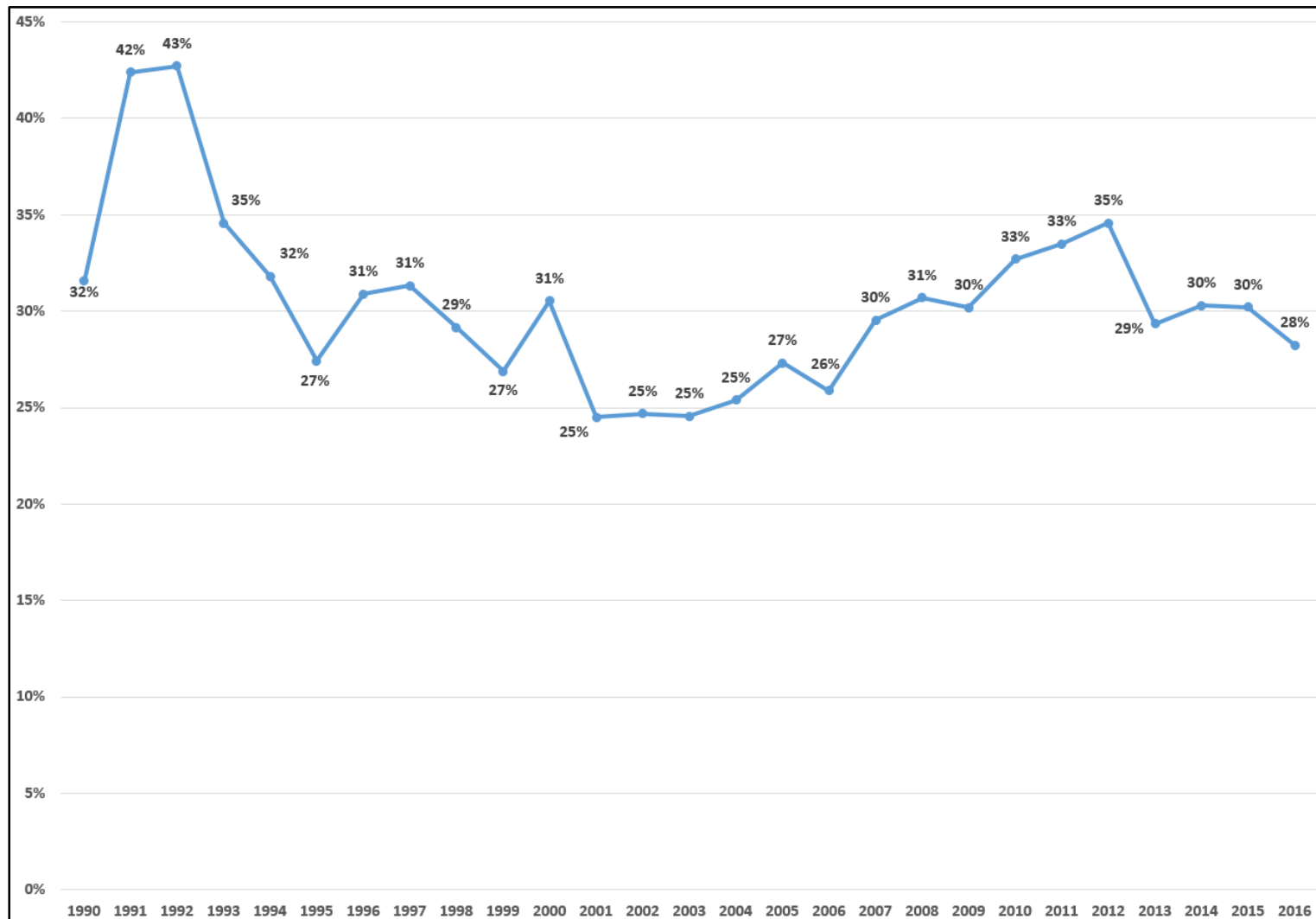


Rate by County per Thousand People



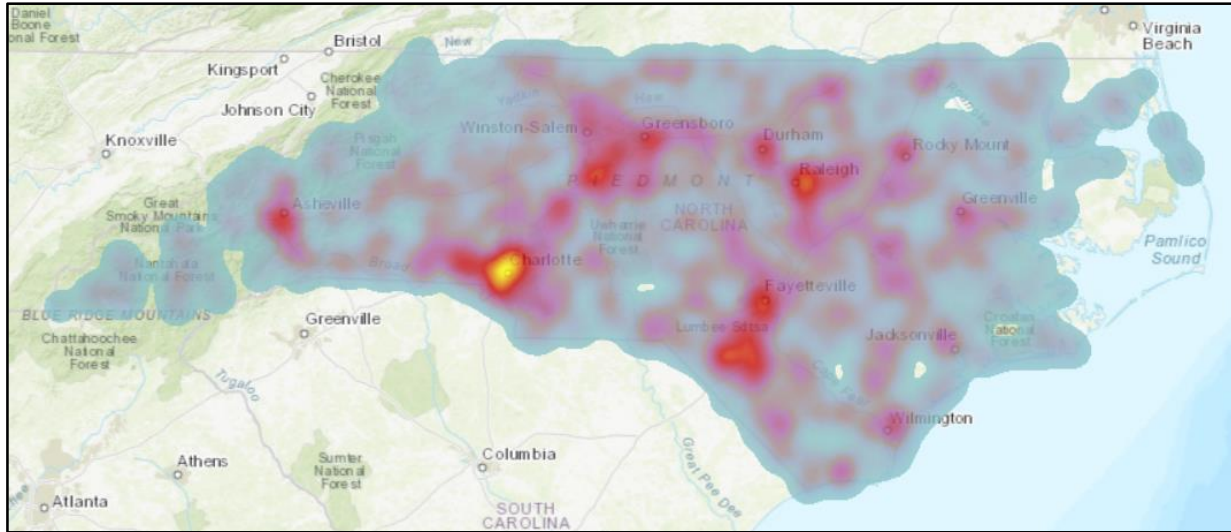
Alcohol Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016

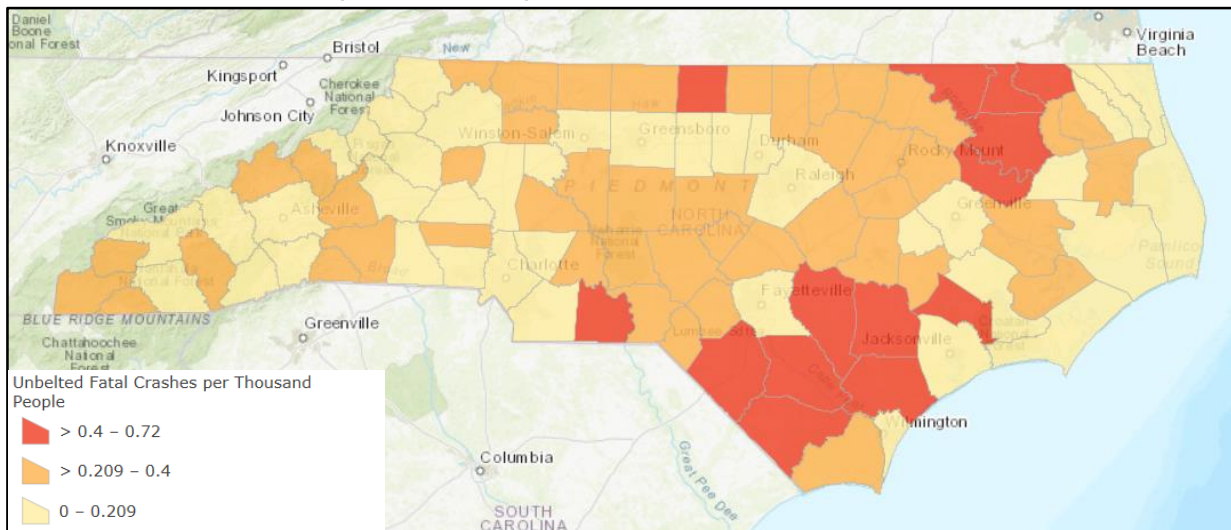


Unbelted Involved Fatal Crashes

1,877 Crashes from January 2012 to December 2016

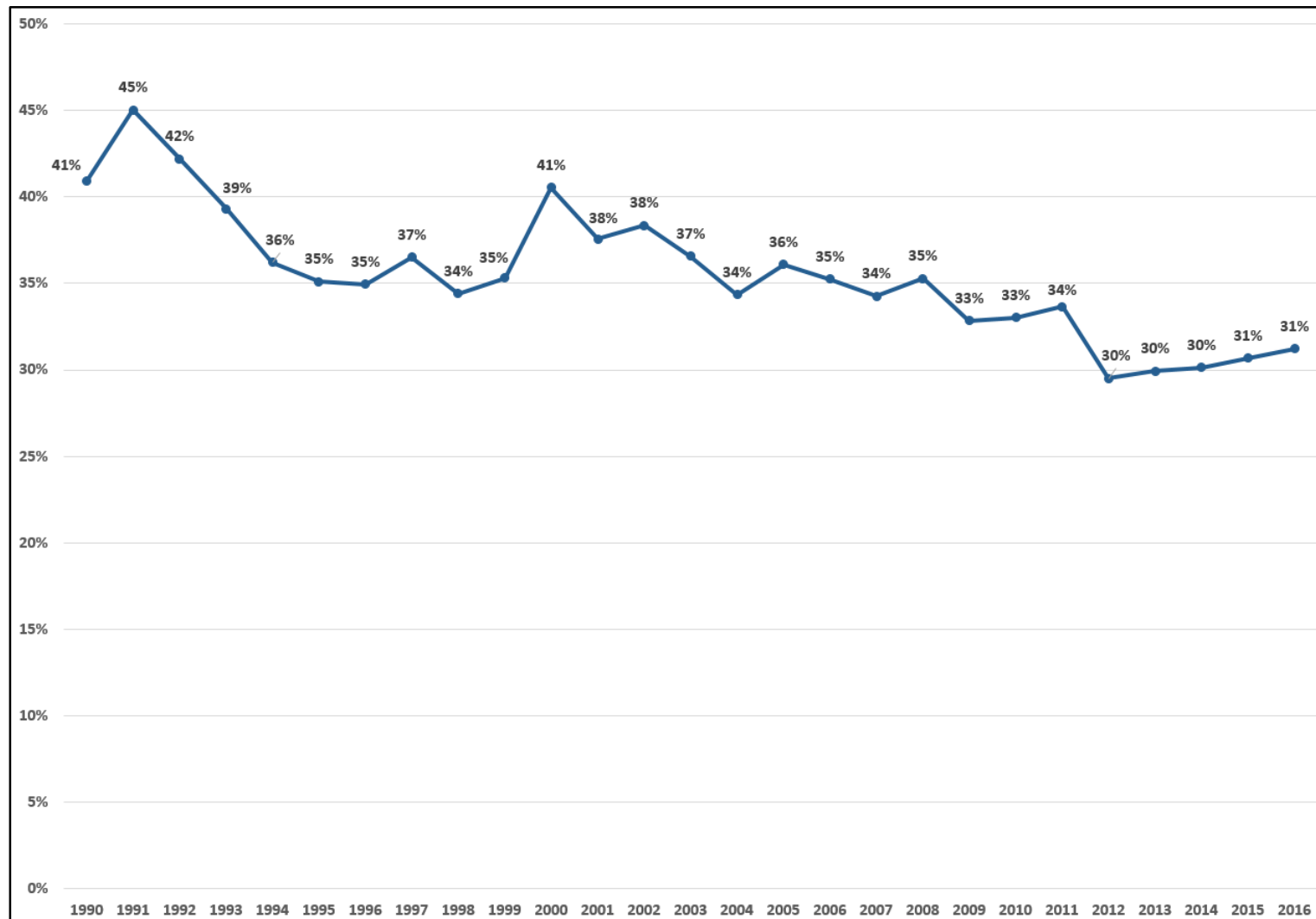


Rate by County per Thousand People



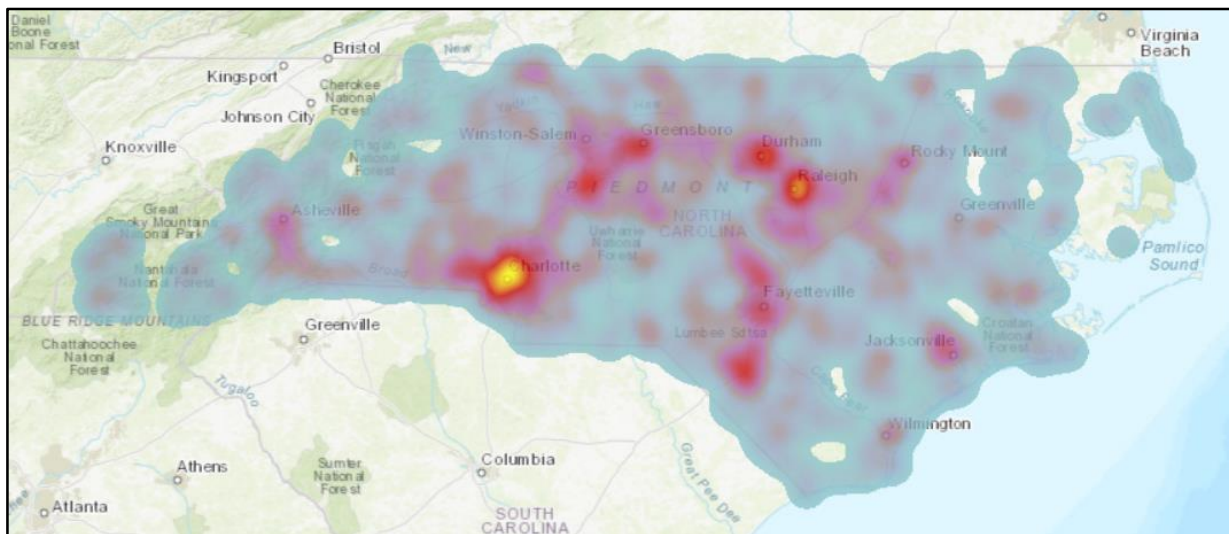
Unbelted Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016

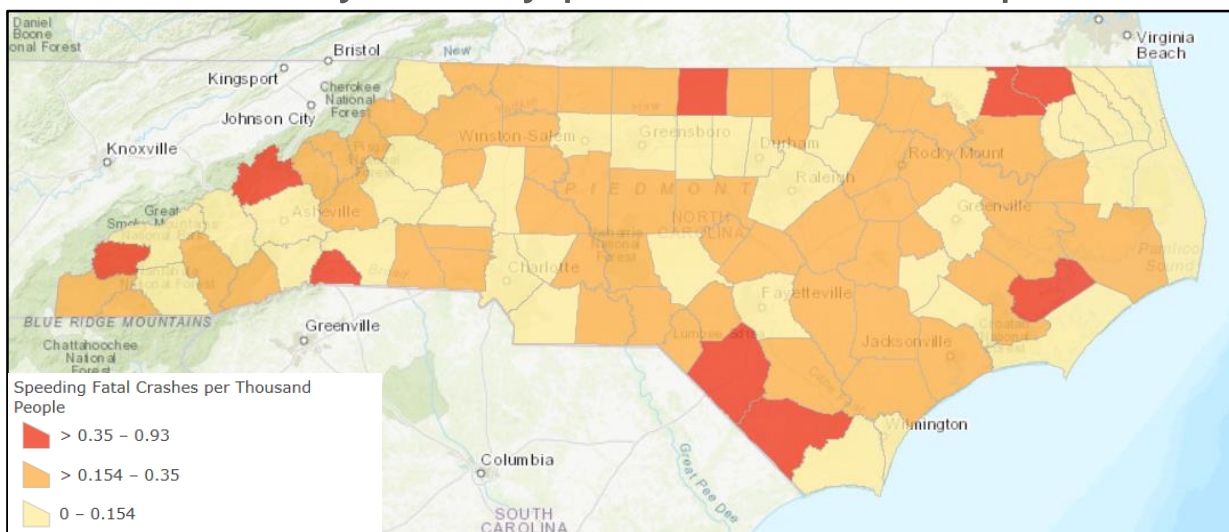


Speeding Involved Fatal Crashes

1,524 Crashes from January 2012 to December 2016

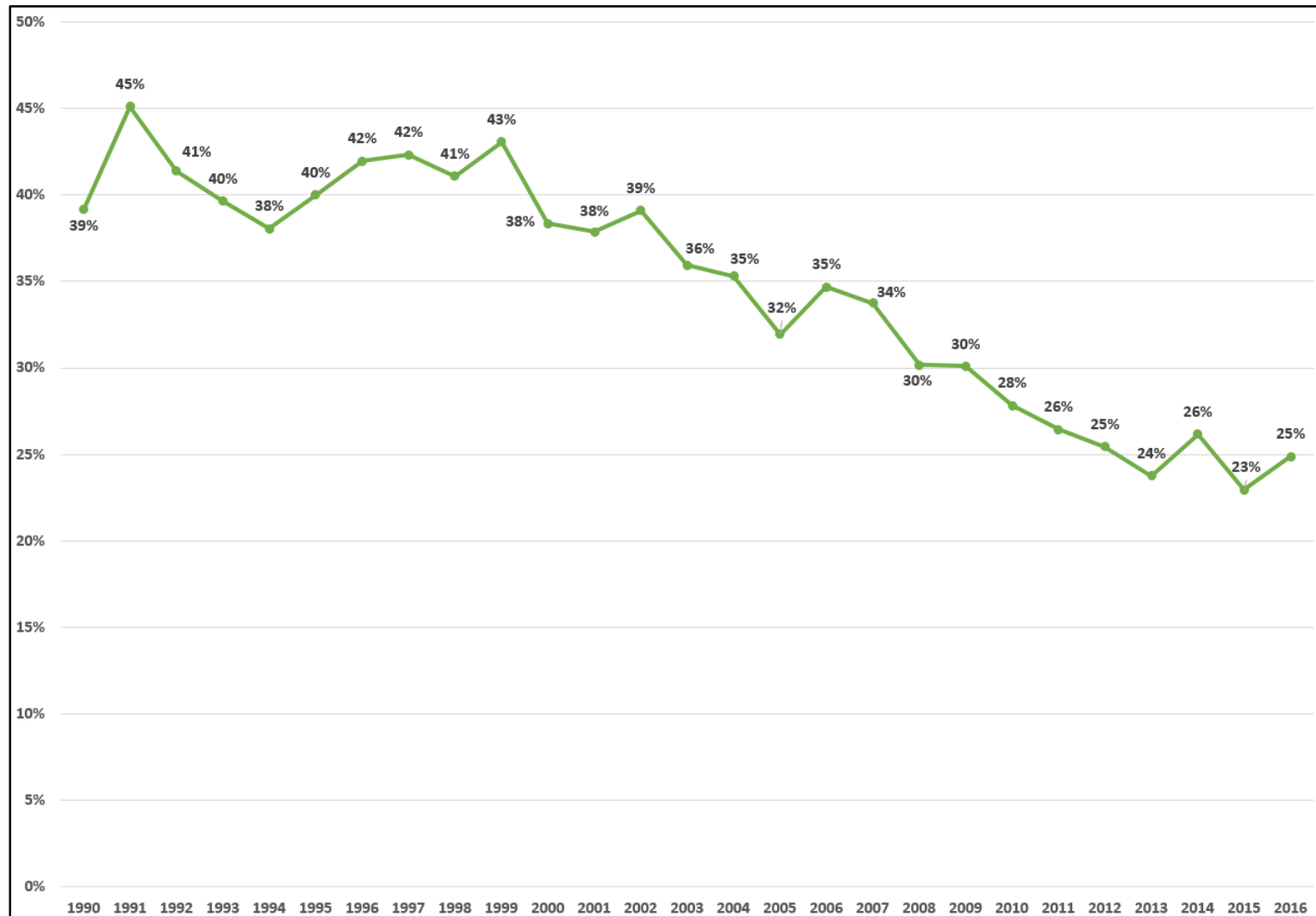


Rate by County per Thousand People



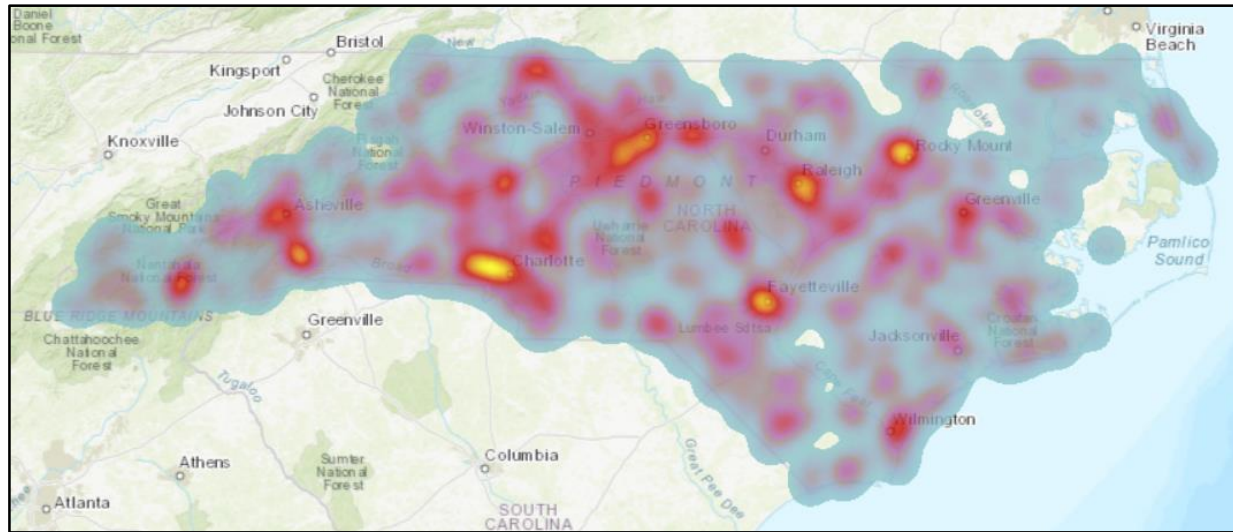
Speeding Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016

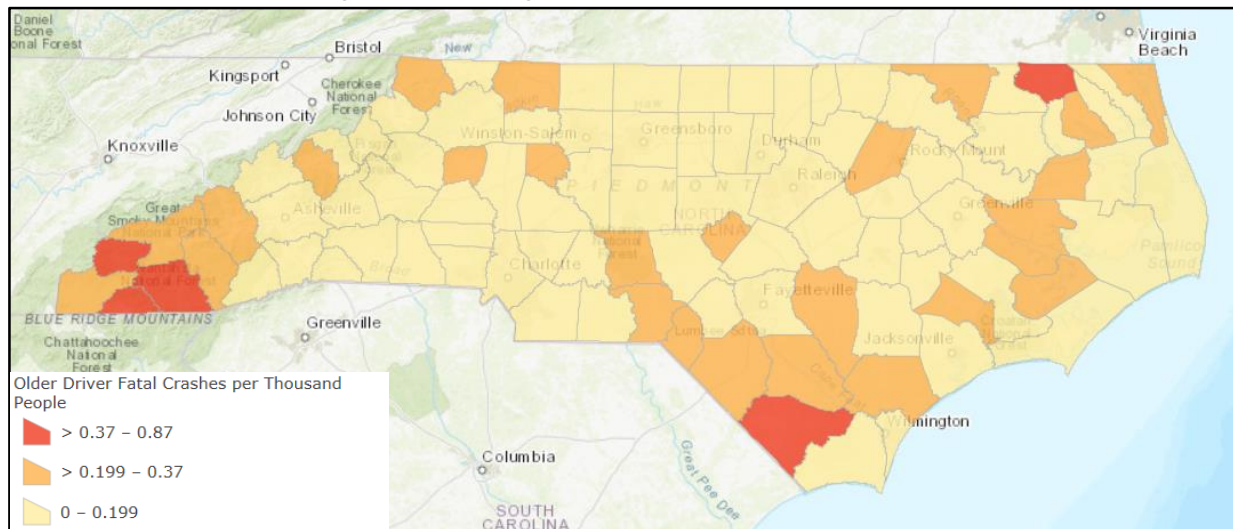


Older Driver Involved Fatal Crashes

1,322 Crashes from January 2012 to December 2016

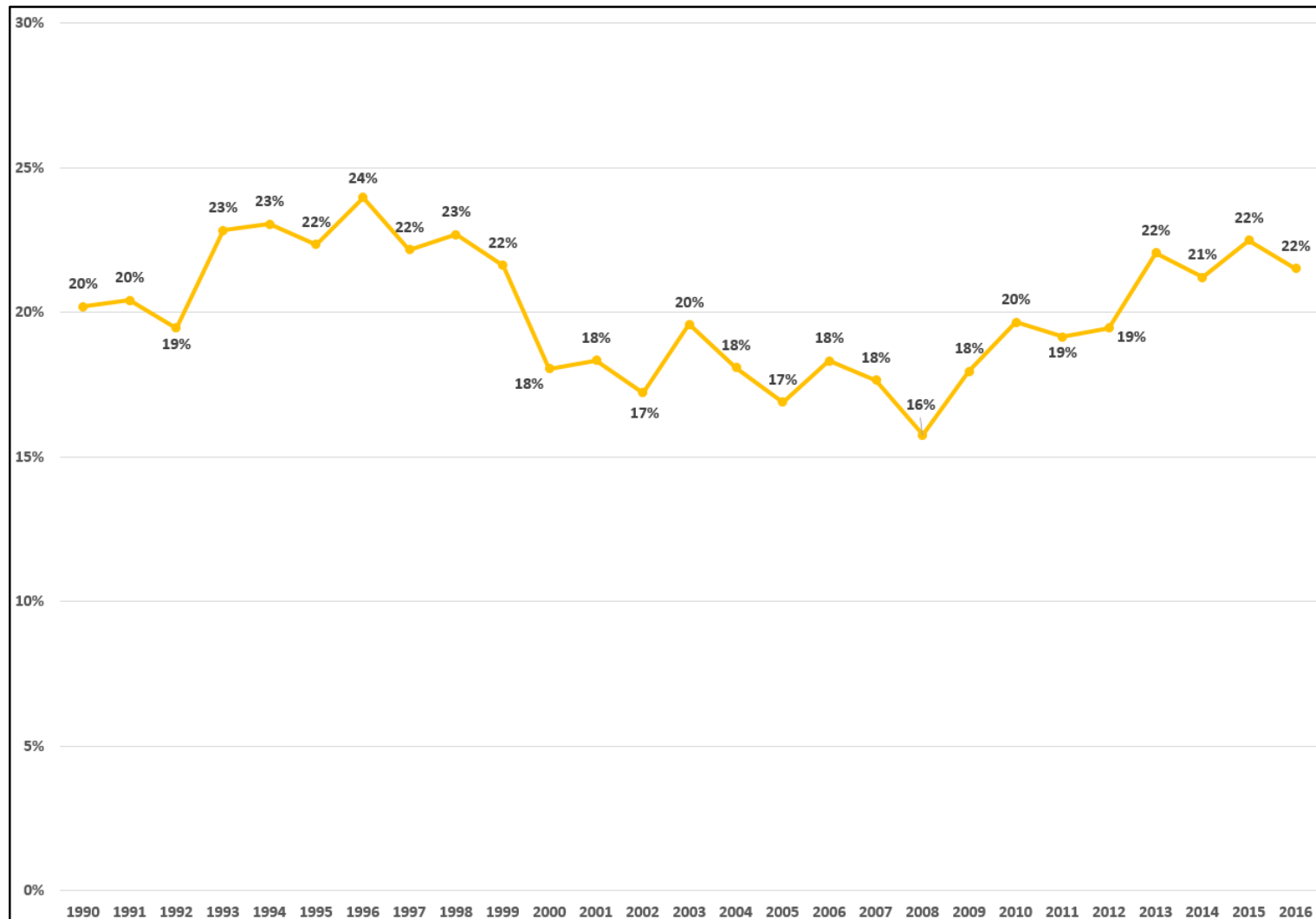


Rate by County per Thousand People



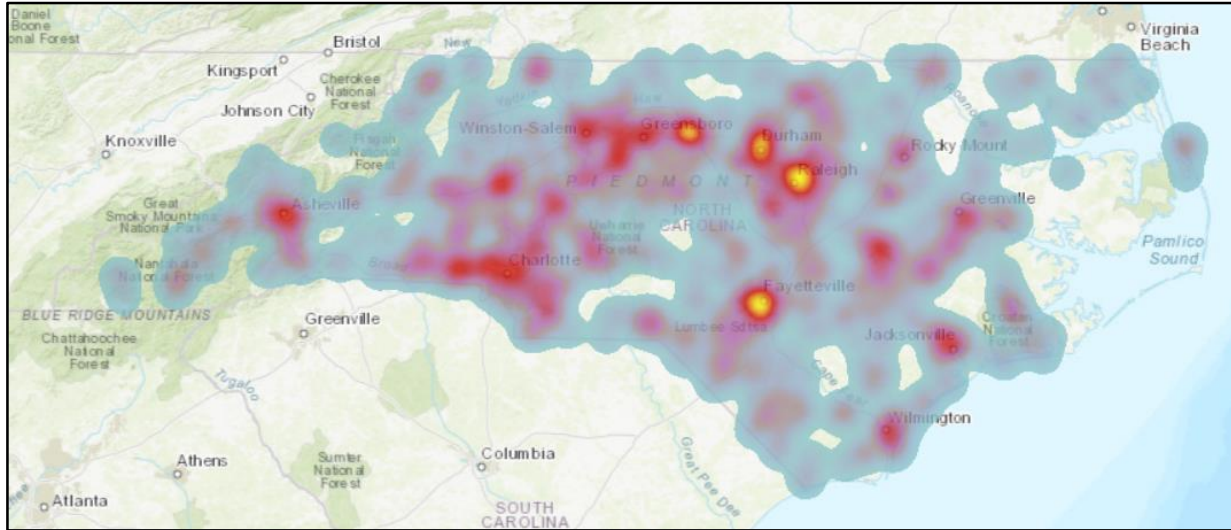
Older Driver Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016

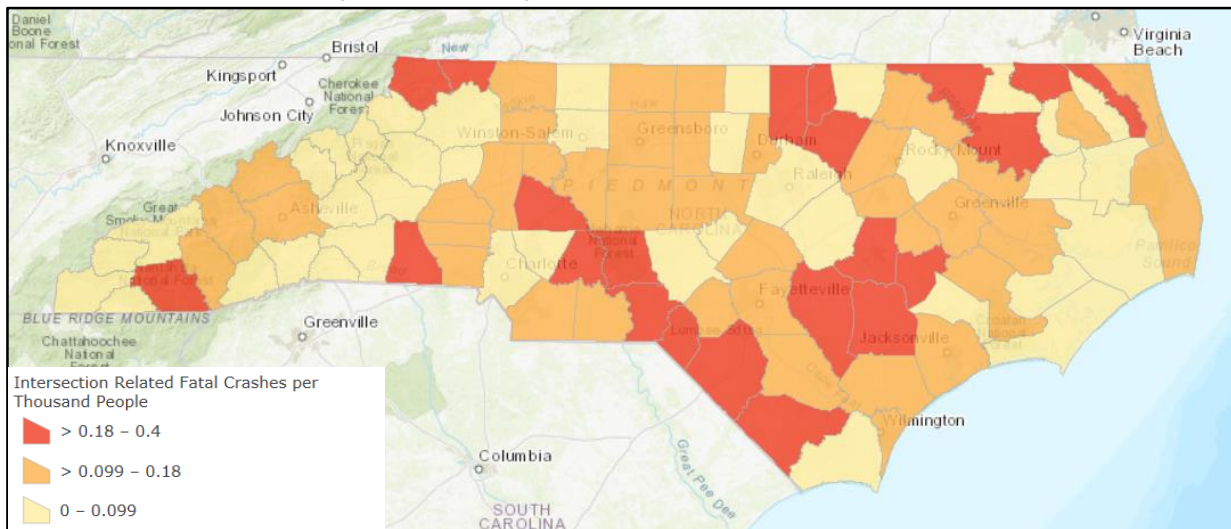


Intersection Involved Fatal Crashes

1,193 Crashes from January 2012 to December 2016

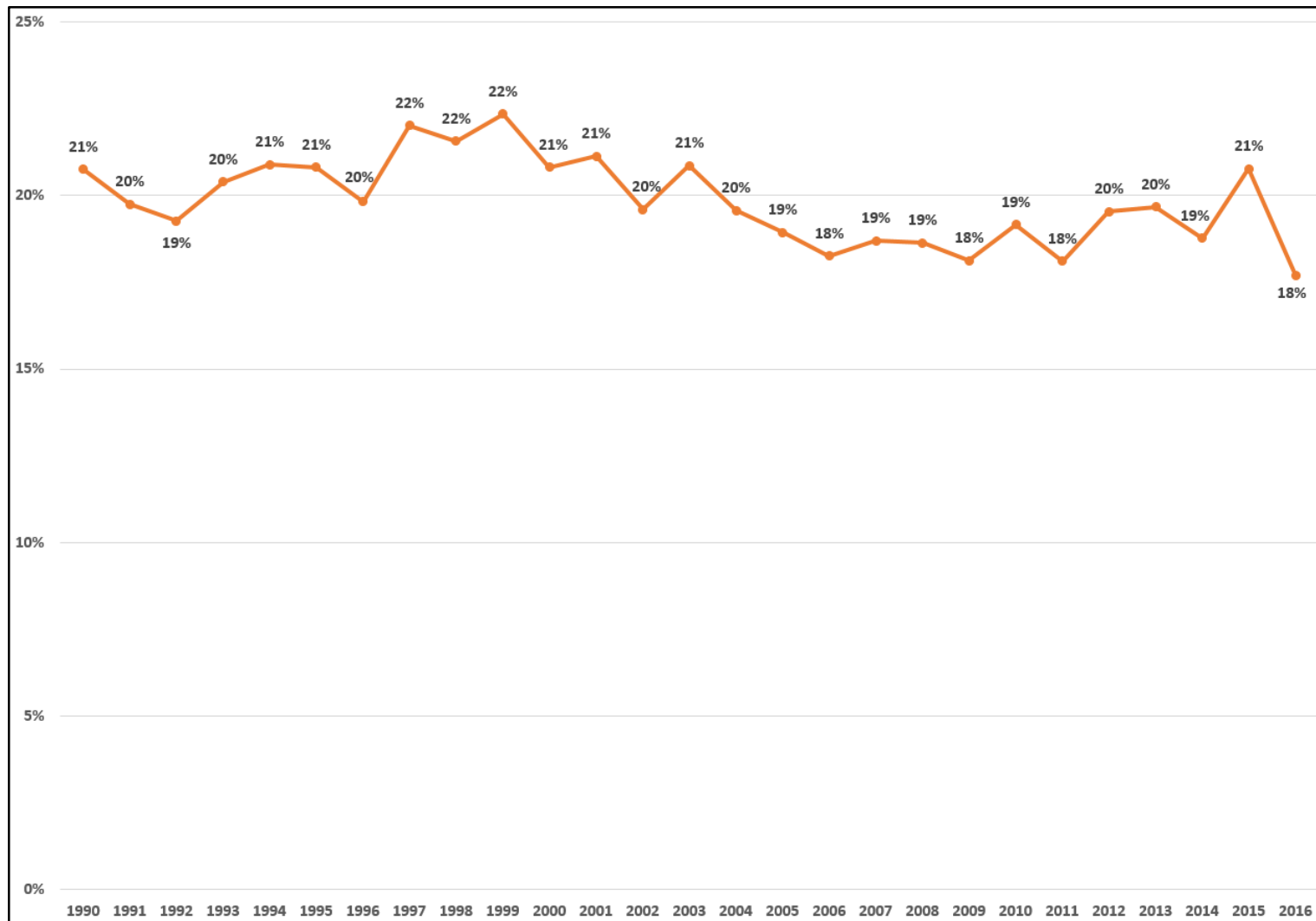


Rate by County per Thousand People



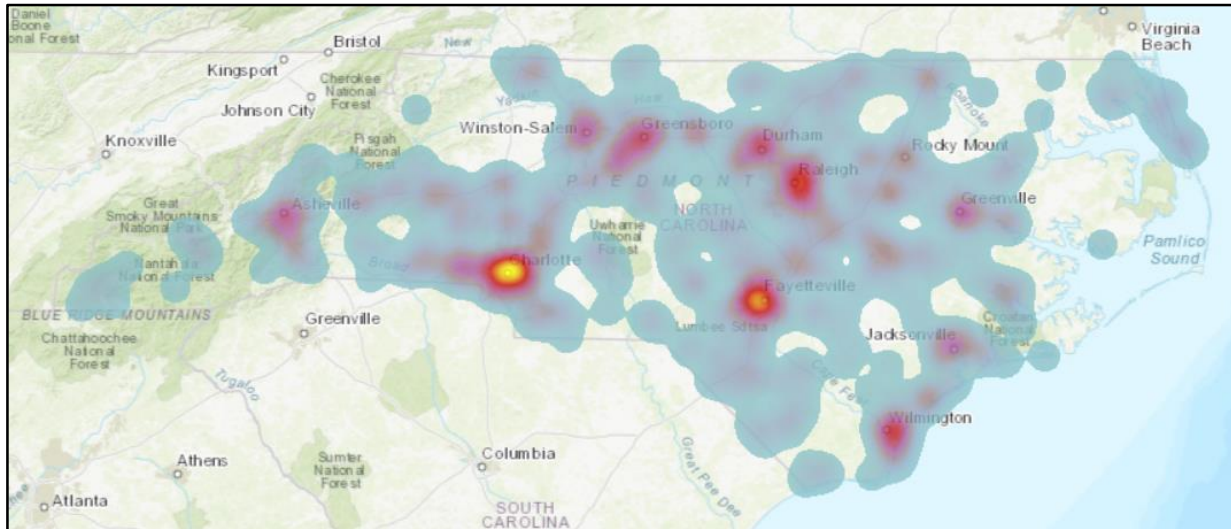
Intersection Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016

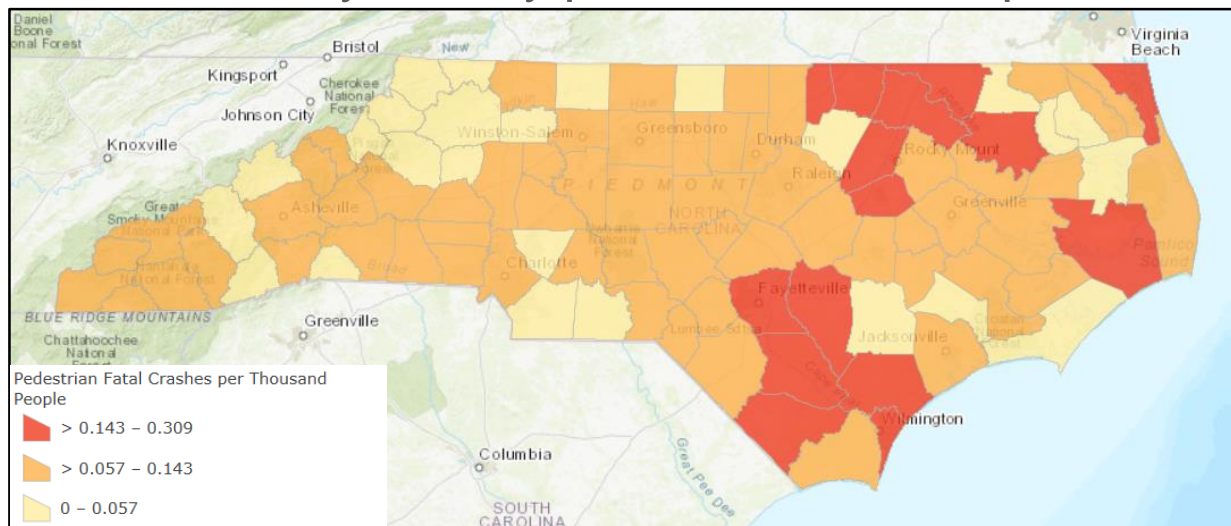


Pedestrian Involved Fatal Crashes

937 Crashes from January 2012 to December 2016

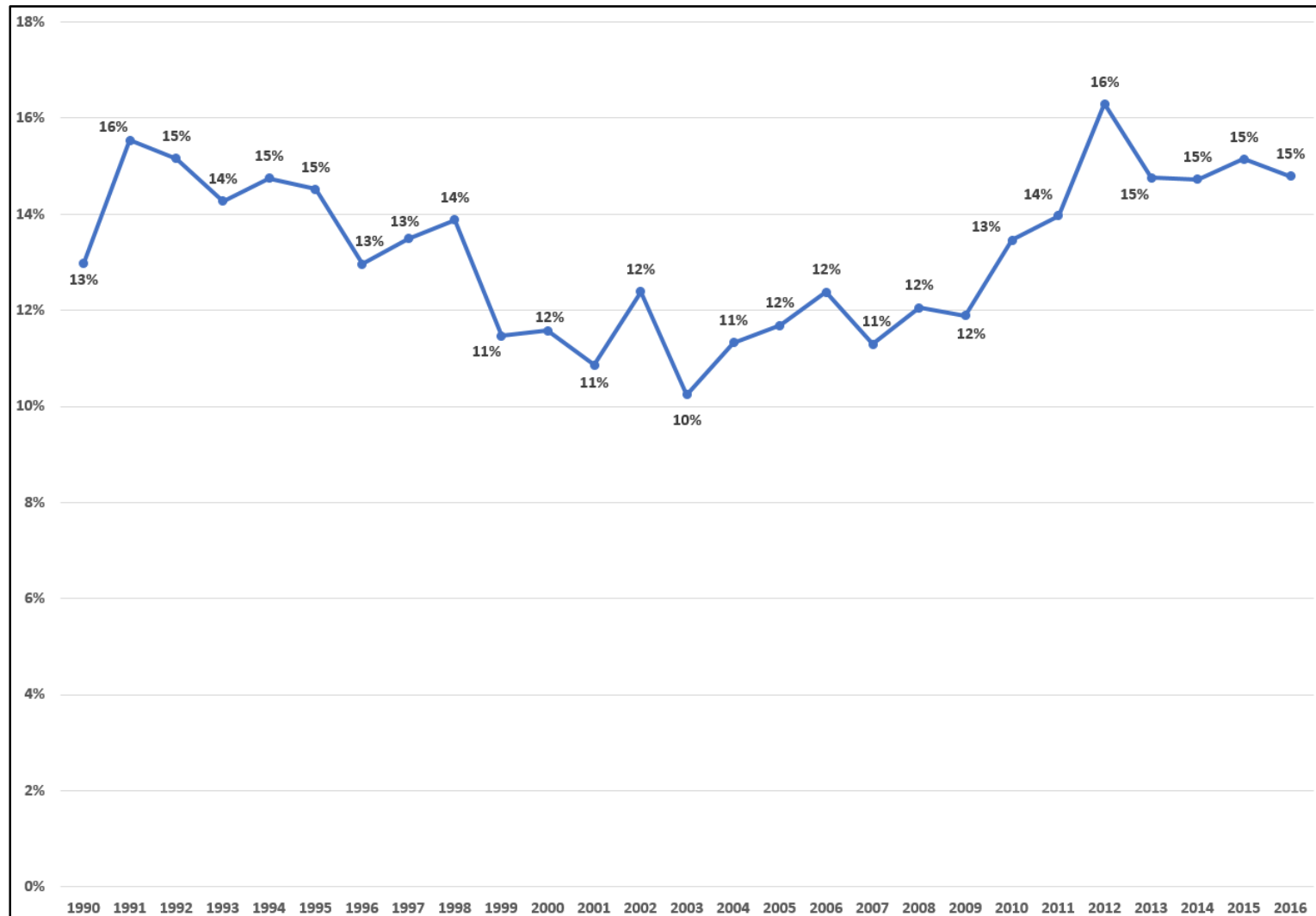


Rate by County per Thousand People



Pedestrian Involved Fatal Crashes

By Percentage of Total Fatal Crashes
from January 2012 to December 2016



Total Fatal Crashes

By Drivers' Age from January 2012 to December 2016

Category	Fatal Crashes by Drivers' Age								Totals
	15-19	20-24	25-34	35-44	45-54	55-64	65 and Above	Unknown	
Total Reported Crashes	616 (7%)	1,159 (13%)	1,768 (19%)	1,524 (17%)	1,496 (16%)	1,209 (13%)	1,307 (14%)	76 (1%)	9,155
Alcohol	112 (5%)	355 (16%)	565 (25%)	431 (19%)	423 (19%)	249 (11%)	126 (6%)	11 (0%)	2,272
Bicyclist	16 (7%)	17 (8%)	42 (19%)	36 (16%)	39 (18%)	39 (18%)	28 (13%)	5 (2%)	222
Distracted Driving	62 (9%)	122 (17%)	125 (18%)	98 (14%)	102 (14%)	84 (12%)	115 (16%)	3 (0%)	711
Drug	17 (5%)	50 (15%)	80 (24%)	61 (18%)	45 (13%)	50 (15%)	34 (10%)	0 (0%)	337
Heavy Truck	1 (0%)	13 (3%)	57 (14%)	85 (21%)	117 (29%)	106 (26%)	26 (6%)	1 (0%)	406
Intersection Related	136 (7%)	245 (12%)	333 (17%)	312 (16%)	332 (17%)	280 (14%)	363 (18%)	6 (0%)	2,007
Lane Departure	335 (8%)	595 (14%)	885 (20%)	718 (17%)	687 (16%)	567 (13%)	534 (12%)	4 (0%)	4,325
Motorcycle	30 (4%)	84 (11%)	158 (21%)	140 (18%)	166 (22%)	117 (15%)	70 (9%)	0 (0%)	765
Older (65+) Driver	-----	-----	-----	-----	-----	-----	1,210	-----	1,210
Pedestrian	111 (12%)	103 (11%)	176 (18%)	139 (15%)	183 (19%)	128 (13%)	115 (12%)	0 (0%)	955
Rear End	24 (3%)	90 (13%)	127 (18%)	133 (19%)	125 (18%)	113 (16%)	92 (13%)	1 (0%)	705
Sideswipe	18 (5%)	34 (9%)	60 (16%)	70 (19%)	73 (20%)	57 (15%)	55 (15%)	1 (0%)	368
Speeding	189 (12%)	300 (20%)	382 (25%)	233 (15%)	207 (14%)	118 (8%)	92 (6%)	0 (0%)	1,521
Teen (15-19) Driver	603	-----	-----	-----	-----	-----	-----	-----	603
Unbelted**	--	--	--	--	--	--	--	--	--
Work Zone	2 (1%)	13 (9%)	28 (20%)	30 (22%)	31 (22%)	13 (9%)	21 (15%)	1 (1%)	139
*NC Census Estimates	669,708 (8%)	696,063 (8%)	1,335,454 (16%)	1,290,237 (16%)	1,385,750 (17%)	1,300,928 (16%)	1,569,465 (19%)	0 (0%)	8,247,605

Note: The above crash statistics include the number of drivers involved in fatal crashes whose driver characteristics were correctly coded into the North Carolina Crash Database for each of the categories. It should also be noted that in most cases, the above crash statistics do not include Hit & Run drivers.

* The NC Census Estimates are based on the population estimates as of July 1, 2016 (projected from the 2010 Census). It should also be noted that the NC Census Estimates do not include populations from the ages of 0 to 14.

Items in Bold Text within the table are greater than or equal to more than 50 percent over representation within the specific group

** Note: For Unbelted data, see the person/occupant level slides for Fatalities Unbelted versus Belted.

Total Fatal Crashes

By Drivers' Ethnicity from January 2012 to December 2016

Category	Fatal Crashes by Drivers' Ethnicity							Totals
	White	Black	Native American	Hispanic	Asian	Other	Unknown	
Total Reported Crashes	6,105 (67%)	2,109 (23%)	160 (2%)	512 (6%)	67 (1%)	125 (1%)	77 (1%)	9,155
Alcohol	1,250 (60%)	576 (28%)	40 (2%)	163 (8%)	15 (1%)	26 (1%)	1 (0%)	2,071
Bicyclist	140 (63%)	58 (26%)	9 (4%)	8 (4%)	1 (0%)	1 (0%)	5 (2%)	222
Distracted Driving	494 (70%)	139 (20%)	7 (1%)	44 (6%)	7 (1%)	16 (2%)	1 (0%)	708
Drug	177 (67%)	54 (20%)	7 (3%)	18 (7%)	4 (2%)	5 (2%)	0 (0%)	265
Heavy Truck	247 (62%)	128 (32%)	6 (1%)	15 (4%)	2 (0%)	3 (1%)	0 (0%)	401
Intersection Related	935 (60%)	432 (28%)	31 (2%)	108 (7%)	20 (1%)	39 (2%)	1 (0%)	1,566
Lane Departure	2,512 (65%)	915 (24%)	78 (2%)	273 (7%)	28 (1%)	54 (1%)	1 (0%)	3,861
Motorcycle	562 (75%)	148 (20%)	13 (2%)	21 (3%)	1 (0%)	7 (1%)	0 (0%)	752
Older (65+) Driver	1,003 (81%)	199 (16%)	13 (1%)	6 (0%)	3 (0%)	8 (1%)	1 (0%)	1,233
Pedestrian	514 (56%)	308 (33%)	11 (1%)	62 (7%)	8 (1%)	13 (1%)	7 (1%)	923
Rear End	303 (60%)	143 (28%)	8 (2%)	31 (6%)	7 (1%)	13 (3%)	0 (0%)	505
Sideswipe	156 (58%)	73 (27%)	10 (4%)	20 (7%)	4 (1%)	4 (1%)	0 (0%)	267
Speeding	958 (63%)	403 (26%)	27 (2%)	106 (7%)	15 (1%)	12 (1%)	0 (0%)	1,521
Teen (15-19) Driver	405 (66%)	117 (19%)	18 (3%)	53 (9%)	5 (1%)	12 (2%)	0 (0%)	610
Unbelted**	--	--	--	--	--	--	--	--
Work Zone	69 (61%)	28 (25%)	1 (1%)	10 (9%)	1 (1%)	4 (4%)	0 (0%)	113
*NC Census Estimates	5,608,371 (68%)	1,731,991 (21%)	82,476 (1%)	659,808 (8%)	164,952 (2%)	0 (0%)	0 (0%)	8,247,605

Note: The above crash statistics include the number of drivers involved in fatal crashes whose driver characteristics were correctly coded into the North Carolina Crash Database for each of the categories. It should also be noted that in most cases, the above crash statistics do not include Hit & Run drivers.

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Items in Bold Text within the table are greater than or equal to more than 50 percent over representation within the specific group

** Note: For Unbelted data, see the person/occupant level slides for Fatalities Unbelted versus Belted.

Total Fatal Crashes

By Drivers' Gender from January 2012 to December 2016

Category	Fatal Crashes by Drivers' Gender			
	Male	Female	Unknown	Totals
Total Reported Crashes	6,478 (71%)	2,604 (28%)	73 (1%)	9,155
Alcohol	1,571 (77%)	457 (23%)	1 (0%)	2,029
Bicyclist	176 (79%)	41 (18%)	5 (2%)	222
Distracted Driving	492 (69%)	216 (31%)	0 (0%)	708
Drug	174 (64%)	100 (36%)	0 (0%)	274
Heavy Truck	386 (98%)	8 (2%)	0 (0%)	394
Intersection Related	1,047 (66%)	550 (34%)	0 (0%)	1,597
Lane Departure	2,814 (72%)	1,083 (28%)	0 (0%)	3,897
Motorcycle	725 (96%)	34 (4%)	0 (0%)	759
Older (65+) Driver	853 (68%)	404 (32%)	0 (0%)	1,257
Pedestrian	676 (72%)	261 (28%)	3 (0%)	940
Rear End	325 (66%)	166 (34%)	0 (0%)	491
Sideswipe	171 (64%)	95 (36%)	0 (0%)	266
Speeding	1,219 (80%)	301 (20%)	0 (0%)	1,520
Teen (15-19) Driver	405 (66%)	206 (34%)	0 (0%)	611
Unbelted**	--	--	--	--
Work Zone	78 (68%)	36 (32%)	0 (0%)	114
*NC Census Estimates	3,964,909 (48%)	4,282,696 (52%)	0 (0%)	8,247,605

Note: The above crash statistics include the number of drivers involved in fatal crashes whose driver characteristics were correctly coded into the North Carolina Crash Database for each of the categories. It should also be noted that in most cases, the above crash statistics do not include Hit & Run drivers.

* The NC Census Estimates are based on the population estimates as of July 1, 2016 (projected from the 2010 Census). It should also be noted that the NC Census Estimates do not include populations from the ages of 0 to 14.

Items in Bold Text within the table are greater than or equal to more than 50 percent over representation within the specific group

** Note: For Unbelted data, see the person/occupant level slides for Fatalities Unbelted versus Belted.

Total Fatalities by Unbelted versus Belted

By Occupants' by Age, Ethnicity, and Gender

from January 2012 to December 2016

Category	Fatalities by Age*								Totals
	19 and below	20-24	25-34	35-44	45-54	55-64	65 and Above	Unknown	
Total Fatalies	562	590	764	579	574	528	933	0	4,530
Unbelted Fatalities	241	295	401	313	252	186	224	0	1,912
% Unbelted Fatalities	43%	50%	52%	54%	44%	35%	24%	N/A	42%

Category	Fatalities by Ethnicity*							Totals
	White	Black	Native American	Hispanic	Asian	Other	Unknown	
Total Fatalies	2,976	1,049	98	313	32	60	2	4,530
Unbelted Fatalities	1,182	503	55	144	6	21	1	1,912
% Unbelted Fatalities	40%	48%	56%	46%	19%	35%	50%	42%

Category	Fatalities by Gender*			
	Male	Female	Unknown	Totals
Total Fatalities	2,930	1,600	0	4,530
Unbelted Fatalities	1,371	541	0	1,912
% Unbelted Fatalities	47%	34%	N/A	42%

Note: Based on reportable crashes only, and includes vehicle types passenger car, pickup, light truck, sport utility, and van. Cases where extent of injury or belt usage is unknown or unable to determine are excluded. "Belt" includes these categories: lap belt, lap and shoulder belt, shoulder belt, and child restraint. All persons/occupants (driver or passenger) are accounted for as well as all person/occupant ages.

Total Fatalities by Unbelted versus Belted

By Occupants' by Belt Use and Seating Position

from January 2012 to December 2016

First Row	Driver				Center				Right		
	Total	Unbelted	% Unbelted		Total	Unbelted	% Unbelted		Total	Unbelted	% Unbelted
	3,523	1,455	41%		8	7	88%		702	252	36%
Second Row	Left				Center				Right		
	Total	Unbelted	% Unbelted		Total	Unbelted	% Unbelted		Total	Unbelted	% Unbelted
	132	75	57%		50	26	52%		190	108	57%
All Positions	All Positions - Total										
	Total	Unbelted	% Unbelted								
	4,614	1,927	42%								

Note: Based on reportable crashes only, and includes vehicle types passenger car, pickup, light truck, sport utility, and van. Cases where extent of injury or belt usage is unknown or unable to determine are excluded. "Belt" includes these categories: lap belt, lap and shoulder belt, shoulder belt, and child restraint. All persons/occupants (driver or passenger) are accounted for as well as all person/occupant ages.

Questions / Discussion

