

AMERICA'S POOR NEIGHBORHOODS PLAGUED BY PEDESTRIAN DEATHS



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A Governing Research Report

Many cities have made pedestrian safety a priority, but their efforts rarely focus on poorer areas, which have approximately double the fatality rates of wealthier communities. | governing.com/pedestrians

America's Poor Neighborhoods Plagued By Pedestrian Deaths

A GOVERNING RESEARCH REPORT

PEDESTRIAN DEATH RATES ARE WORST IN AMERICA'S POOREST NEIGHBORHOODS. CAN CITIES FIX THE PROBLEM?

August 5, 2014

The number of pedestrians killed along the nation's roadways has slowly climbed in recent years, even as total traffic fatalities declined. A *Governing* analysis of more than 22,000 traffic accidents occurring between 2008 and 2012 finds that pedestrians are killed at disproportionately higher rates in the nation's poorer neighborhoods.

While some regions are safer than others, large cities continue to record significant numbers of pedestrian fatalities each year. Several localities have responded by remaking urban landscapes into more walkable environments, stepping up traffic enforcement and launching other initiatives aimed at improving pedestrian safety.

ABOUT GOVERNING: Governing is the nation's leading media platform covering politics, policy and management for state and local government leaders. As a monthly publication and website, it provides nonpartisan news, insight and analysis on such issues as public finance, transportation, economic development, health, energy, the environment and technology.

Results Summary

Governing compiled data on all fatal pedestrian accidents reported in the National Highway Traffic Safety Administration's Fatality Analysis Reporting System from 2008-2012. Using each accident's geographic coordinates, the total number of accidents was computed for all Census tracts, which are sized similarly to neighborhoods.

Within metro areas, low-income tracts recorded pedestrian fatality rates approximately twice that of more affluent neighborhoods. Examining Census tracts' poverty rates yielded a similar pattern. Metro-area tracts below the national poverty rate of 15 percent registered 5.3 deaths per 100,000 residents over the five-year period. By comparison, poor neighborhoods where more than a quarter of the population lived in poverty recorded a rate of 12.1 deaths per 100,000 people.

The country's poorest neighborhoods were shown to have the highest per capita pedestrian fatalities. The following tables list national 2008-2012 death rates for all tracts within metro areas:

Census Tract Per Capita Income	2008-12 Deaths Per 100K
High Income (\$31,356+)	5
Middle Income (\$21-559-\$31,355)	6.5
Low Income (Less than \$21,559)	10.4

Census Tract Poverty Rate	2008-12 Deaths Per 100K
≤ 5%	3.8
>5-10%	5.5
>10-15%	7
>15-20%	8.3
>20-25%	9.9
>25-30%	11.2
>30%	12.6

Local Area Data and Rankings Tables

In general, poorer neighborhoods were found to have higher numbers of pedestrians killed per capita than other areas within the same jurisdictions. For many localities, the disparity was particularly large. Low-income tracts had death rates more than double that of high-income tracts in Broward County, Florida, and Wayne County, Michigan, for example. But this wasn't true of all cities. Census tracts in most of New York's boroughs and Philadelphia recorded roughly similar fatality rates across income and poverty levels.

While poorer tracts tend to have the highest pedestrian fatality rates, middle-income communities recorded death rates only slightly different from wealthier neighborhoods in most larger counties.

Some regions, particularly densely-populated urban areas and Sun Belt cities, historically record higher pedestrian death rates. Research also indicates older Americans and minorities are killed at higher rates.

Metro Area Data

Within all the nation's metro areas, approximately 7.2 pedestrians per 100,000 residents died from 2008 through 2012. The following table lists all metro areas with populations exceeding a half million, ranked by five-year total per capita death rates.

Rank	Metro Area	5-Year Deaths Per 100k	Annual Deaths Per 100k	2008-2012 Total Deaths
1	Deltona-Daytona Beach-Ormond Beach, FL	18.3	3.7	108
2	Tampa-St. Petersburg-Clearwater, FL	14.5	2.9	403
3	Orlando-Kissimmee-Sanford, FL	13.5	2.7	289
4	Lakeland-Winter Haven, FL	13.3	2.7	80

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5	Augusta-Richmond County, GA-SC	12.7	2.5	72
6	Miami-Fort Lauderdale-West Palm Beach, FL	12.6	2.5	703
7	Jacksonville, FL	12.0	2.4	162
8	North Port-Sarasota-Bradenton, FL	11.8	2.4	83
9	Bakersfield, CA	11.4	2.3	96
10	El Paso, TX	10.8	2.2	87
11	Baton Rouge, LA	10.7	2.1	86
12	Palm Bay-Melbourne-Titusville, FL	10.7	2.1	58
13	Columbia, SC	10.6	2.1	81
14	Fresno, CA	10.4	2.1	97
15	Charleston-North Charleston, SC	10.4	2.1	69
16	New Orleans-Metairie, LA	10.1	2.0	120
17	Greenville-Anderson-Mauldin, SC	10.0	2.0	82
18	Tucson, AZ	9.7	1.9	95
19	Cape Coral-Fort Myers, FL	9.2	1.8	57
20	Stockton-Lodi, CA	9.2	1.8	63
21	San Antonio-New Braunfels, TX	9.1	1.8	195
22	Baltimore-Columbia-Towson, MD	8.8	1.8	238
23	Modesto, CA	8.7	1.7	45
24	Phoenix-Mesa-Scottsdale, AZ	8.7	1.7	366
25	Las Vegas-Henderson-Paradise, NV	8.7	1.7	170
26	Los Angeles-Long Beach-Anaheim, CA	8.6	1.7	1099
27	New York-Newark-Jersey City, NY-NJ-PA	8.6	1.7	1675
28	Riverside-San Bernardino-Ontario, CA	8.5	1.7	361
29	Albuquerque, NM	8.5	1.7	75
30	San Diego-Carlsbad, CA	8.4	1.7	261
31	Houston-The Woodlands-Sugar Land, TX	8.4	1.7	499
32	Memphis, TN-MS-AR	8.2	1.6	109
33	Little Rock-North Little Rock-Conway, AR	8.1	1.6	57

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34	McAllen-Edinburg-Mission, TX	8.0	1.6	62
35	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	8.0	1.6	477
36	Sacramento-Roseville-Arden-Arcade, CA	7.9	1.6	169
37	Atlanta-Sandy Springs-Roswell, GA	7.8	1.6	414
38	Urban Honolulu, HI	7.8	1.6	74
39	Louisville/Jefferson County, KY-IN	7.7	1.5	95
40	Charlotte-Concord-Gastonia, NC-SC	7.7	1.5	170
41	Winston-Salem, NC	7.6	1.5	49
42	Harrisburg-Carlisle, PA	7.6	1.5	42
43	Jackson, MS	7.6	1.5	43
44	Detroit-Warren-Dearborn, MI	7.5	1.5	322
45	Austin-Round Rock, TX	7.2	1.4	123
46	Durham-Chapel Hill, NC	7.1	1.4	36
47	Washington-Arlington-Alexandria, DC-VA-MD-WV	7.0	1.4	397
48	Oklahoma City, OK	6.9	1.4	86
49	Raleigh, NC	6.8	1.4	77
50	Richmond, VA	6.8	1.4	82
51	Birmingham-Hoover, AL	6.6	1.3	75
52	Tulsa, OK	6.6	1.3	62
53	San Francisco-Oakland-Hayward, CA	6.6	1.3	284
54	Dallas-Fort Worth-Arlington, TX	6.5	1.3	415
55	New Haven-Milford, CT	6.4	1.3	55
56	San Jose-Sunnyvale-Santa Clara, CA	6.4	1.3	117
57	Greensboro-High Point, NC	6.4	1.3	46
58	Buffalo-Cheektowaga-Niagara Falls, NY	6.3	1.3	72
59	Nashville-Davidson-Murfreesboro-Franklin, TN	6.2	1.2	104
60	Youngstown-Warren-Boardman, OH-PA	6.2	1.2	35

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61	Providence-Warwick, RI-MA	6.1	1.2	97
62	Scranton-Wilkes-Barre-Hazleton, PA	6.0	1.2	34
63	St. Louis, MO-IL	6.0	1.2	168
64	Salt Lake City, UT	6.0	1.2	65
65	Denver-Aurora-Lakewood, CO	5.9	1.2	151
66	Columbus, OH	5.8	1.2	111
67	Allentown-Bethlehem-Easton, PA-NJ	5.6	1.1	46
68	Rochester, NY	5.6	1.1	60
69	Indianapolis-Carmel-Anderson, IN	5.5	1.1	104
70	Spokane-Spokane Valley, WA	5.5	1.1	29
71	Virginia Beach-Norfolk-Newport News, VA-NC	5.5	1.1	92
72	Syracuse, NY	5.4	1.1	36
73	Toledo, OH	5.4	1.1	33
74	Kansas City, MO-KS	5.4	1.1	108
75	Hartford-West Hartford-East Hartford, CT	5.4	1.1	65
76	Portland-Vancouver-Hillsboro, OR-WA	5.3	1.1	119
77	Albany-Schenectady-Troy, NY	5.3	1.1	46
78	Milwaukee-Waukesha-West Allis, WI	5.3	1.1	82
79	Knoxville, TN	5.1	1.0	43
80	Chicago-Naperville-Elgin, IL-IN-WI	5.1	1.0	480
81	Madison, WI	5.0	1.0	30
82	Oxnard-Thousand Oaks-Ventura, CA	4.9	1.0	40
83	Boston-Cambridge-Newton, MA-NH	4.9	1.0	221
84	Springfield, MA	4.8	1.0	30
85	Wichita, KS	4.8	1.0	30
86	Chattanooga, TN-GA	4.7	0.9	25
87	Seattle-Tacoma-Bellevue, WA	4.5	0.9	156
88	Ogden-Clearfield, UT	4.5	0.9	27
89	Pittsburgh, PA	4.4	0.9	104

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90	Provo-Orem, UT	4.4	0.9	23
91	Grand Rapids-Wyoming, MI	4.3	0.9	43
92	Dayton, OH	4.3	0.9	34
93	Worcester, MA-CT	4.3	0.9	39
94	Akron, OH	4.1	0.8	29
95	Cincinnati, OH-KY-IN	4.0	0.8	84
96	Des Moines-West Des Moines, IA	3.9	0.8	22
97	Bridgeport-Stamford-Norwalk, CT	3.7	0.7	34
98	Cleveland-Elyria, OH	3.7	0.7	76
99	Lancaster, PA	3.7	0.7	19
100	Minneapolis-St. Paul-Bloomington, MN-WI	3.6	0.7	121
101	Portland-South Portland, ME	3.5	0.7	18
102	Colorado Springs, CO	2.9	0.6	19
103	Omaha-Council Bluffs, NE-IA	2.7	0.5	23
104	Boise City, ID	2.3	0.5	14

Each metro area's Census tracts were grouped by poverty rate and per-capita income. Of the 104 metro areas reviewed with at least a half million residents, all but four recorded higher per capita pedestrian death rates for their poorest neighborhoods (with poverty rates greater than 25 percent) than their metro area total.

These rates for Census tract groups are shown in the table below, with larger metro areas ranked by per capita deaths for high-poverty Census tracts. Fatality rates are listed per 100,000 residents over the five-year period.

Census Tract Poverty Rate Categories

Highest Poverty Tracts: Rate > 25%

Above Average Poverty Tracts: Rate 15-25%

Below National Poverty Rate: Rate < 15%

NOTE: Poverty rates obtained from 2008-2012 American Community Survey, U.S. Census Bureau

Rank For High Poverty Tracts	Metro Area	Total 5-Year Death Rate	Poverty Rates > 25% 5-Year Death Rate	Poverty Rates 15-25% 5-Year Death Rate	Poverty Rates < 15% 5-Year Death Rate
1	Deltona-Daytona Beach-Ormond Beach, FL	18.3	26.4	21.6	14.3
2	Tampa-St. Petersburg-Clearwater, FL	14.5	24.9	17.7	10.4
3	Jacksonville, FL	12	24	15.2	8.3
4	Ogden-Clearfield, UT	4.5	22*	7.7*	3
5	Augusta-Richmond County, GA-SC	12.7	21.7	12.3	5.7
6	Miami-Fort Lauderdale-West Palm Beach, FL	12.6	20.9	14.7	8.6
7	Orlando-Kissimmee-Sanford, FL	13.5	20.7	17.5	9.8
8	Chattanooga, TN-GA	4.7	20.3	1.2*	3.6
9	Harrisburg-Carlisle, PA	7.6	19.6*	11.3*	6
10	St. Louis, MO-IL	6	19.3	8.3	3.1
11	Urban Honolulu, HI	7.8	19.1*	8.6	5.7
12	Raleigh, NC	6.8	18.5	8.2	4.2
13	Little Rock-North Little Rock-Conway, AR	8.1	18.4	15.7	3.3
14	North Port-Sarasota-Bradenton, FL	11.8	17.7	20.7	8.5
15	Phoenix-Mesa-Scottsdale, AZ	8.7	17.5	10.7	4.2
16	Atlanta-Sandy Springs-Roswell, GA	7.8	17.5	8.3	4.4
17	Greenville-Anderson-Mauldin, SC	10	17.3	9.4	7.4

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18	Las Vegas-Henderson-Paradise, NV	8.7	17.3	13.7	5
19	Birmingham-Hoover, AL	6.6	17.1	5.3	4
20	Bakersfield, CA	11.4	16.9	9.1	7.2
21	New Orleans-Metairie, LA	10.1	16.9	11.1	6.3
22	Tucson, AZ	9.7	16.9	9.5	5.2
23	San Antonio-New Braunfels, TX	9.1	16.2	9.6	5.6
24	Sacramento--Roseville--Arden-Arcade, CA	7.9	15.7	9.8	4.9
25	El Paso, TX	10.8	15.5	9.7	4.2
26	Stockton-Lodi, CA	9.2	15.4	12	5.3
27	Detroit-Warren-Dearborn, MI	7.5	15.4	7.4	4.6
28	Palm Bay-Melbourne-Titusville, FL	10.7	14.8*	9.8	10.4
29	Charleston-North Charleston, SC	10.4	14.7	15.1	6.5
30	San Diego-Carlsbad, CA	8.4	14.7	8.7	7.1
31	Charlotte-Concord-Gastonia, NC-SC	7.7	14.4	10.6	4.2
32	Austin-Round Rock, TX	7.2	14.2	7	4.8
33	Denver-Aurora-Lakewood, CO	5.9	14.1	10.6	3.2
34	Spokane-Spokane Valley, WA	5.5	13.9	4.7*	2.5
35	Albuquerque, NM	8.5	13.7	9.1	5.7
36	Houston-The Woodlands-Sugar Land, TX	8.4	13.7	9.7	5.6
37	Kansas City, MO-KS	5.4	13.7	4.3	3.7
38	Fresno, CA	10.4	13.6	10.2	5.9
39	Milwaukee-Waukesha-West Allis, WI	5.3	13.5	4.5	2.9
40	Cape Coral-Fort Myers, FL	9.2	13.4	8.6*	8.1
41	Memphis, TN-MS-AR	8.2	13.4	9.2	4.4
42	Dallas-Fort Worth-Arlington, TX	6.5	13.4	8.6	3.5
43	Tulsa, OK	6.6	13.3	8.5	3.9
44	Indianapolis-Carmel-Anderson, IN	5.5	13.1	6.3	3.4
45	Riverside-San Bernardino-Ontario, CA	8.5	13	9.9	6
46	Greensboro-High Point, NC	6.4	12.9	7.7	2.6

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47	San Jose-Sunnyvale-Santa Clara, CA	6.4	12.9	12.6	4.7
48	Modesto, CA	8.7	12.8	10.2	5.6
49	Portland-Vancouver-Hillsboro, OR-WA	5.3	12.8	7.1	3.5
50	Jackson, MS	7.6	12.6	9	3.7

**INDICATES FEWER THAN 10 DEATHS OCCURRED IN THESE CENSUS TRACTS. IN SOME AREAS, LOWER DEATH TOTALS OR SMALLER LOW-INCOME POPULATIONS CAN GREATLY AFFECT PER CAPITA RATES.*

Rates for the top 50 metro areas are shown. Additional statistics for all 104 larger metro areas are available on an online map: <http://www.governing.com/pedestrians-map>

County Data

The following table shows similar per capita rates for the 50 larger counties with the highest total pedestrian death rates. Fatality rates are listed per 100,000 residents over the five-year period.

Additional data for counties can be obtained from a data tool on the Governing website:

<http://www.governing.com/pedestrians-counties>

County	Total 5-Year Death Rate	Poverty Rates > 25% 5-Year Death Rate	Poverty Rates 15-25% 5-Year Death Rate	Poverty Rates < 15% 5-Year Death Rate
Anne Arundel County, Maryland	10.4	16.4*	4.7*	10.3
Baltimore County, Maryland	10.7	13.3*	7.7*	11.1
Bernalillo County, New Mexico	9.8	17.5	8.6	6.8
Bexar County, Texas	9.8	16.8	11.1	5.2
Brevard County, Florida	10.7	14.8*	9.8	10.4
Bronx County, New York	8.7	8.1	9.9	6.7
Broward County, Florida	13.1	24.9	16.0	9.9
Camden County, New Jersey	10.1	8.7*	13.4*	9.9
Clark County, Nevada	8.7	17.3	13.7	5.0
Davidson County, Tennessee	10.6	17.2	12.7	5.5
DeKalb County, Georgia	13.5	24.2	9.8	7.9
Denver County, Colorado	10.3	16.9	8.8	5.7
Duval County, Florida	12.8	24.8	13.1	9.4
El Paso County, Texas	10.7	15.4	9.7	4.2

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Essex County, New Jersey	11.6	19.5	12.5	6.9
Fresno County, California	10.4	13.6	10.2	5.9
Fulton County, Georgia	10.3	19.5	10.7	5.1
Harris County, Texas	9.0	12.9	9.8	6.1
Hillsborough County, Florida	14.8	26.0	17.2	9.1
Jackson County, Missouri	8.9	16.6	8.1	5.3
Jefferson County, Alabama	9.0	18.7	7.7*	4.7
Jefferson County, Kentucky	9.8	13.9	12.2	6.8
Kern County, California	11.4	16.9	9.1	7.2
Kings County, New York	8.7	8.3	7.7	8.7
Lee County, Florida	9.1	13.4	8.6*	8.1
Los Angeles County, California	9.3	12.3	10.9	7.1
Mecklenburg County, North Carolina	10.0	19.5	15.1	5.2
Miami-Dade County, Florida	13.5	20.1	15.0	8.3
Nassau County, New York	10.8	10*	28.9	9.3
New Castle County, Delaware	13.3	13*	14.4	13.2
New York County, New York	10.1	10.5	9.9	9.6
Ocean County, New Jersey	9.9	14.9	17.2*	8.4
Orange County, Florida	14.8	23.0	18.1	9.5
Palm Beach County, Florida	10.0	19.2	11.3	7.3
Passaic County, New Jersey	9.0	8.3	11.6*	9.0
Philadelphia County, Pennsylvania	10.0	9.4	10.2	9.8
Pima County, Arizona	9.7	16.9	9.5	5.2
Pinellas County, Florida	14.6	21.2	18.9	12.4
Polk County, Florida	13.2	11.7	15.8	13.3
Prince George's County, Maryland	15.8	3.9*	21.6	14.8
Queens County, New York	8.7	6.7	6.5	8.7
Sacramento County, California	8.9	17.2	10.1	4.8
San Bernardino County, California	9.4	13.4	10.0	7.0

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San Francisco County, California	9.9	12.1	9.7	9.3
San Joaquin County, California	9.2	15.4	12.0	5.3
Stanislaus County, California	8.7	12.8	10.2	5.6
Suffolk County, New York	12.1	20.8*	21.0	10.8
Travis County, Texas	8.9	13.4	8.1	6.6
Union County, New Jersey	11.0	11.5*	15.8	9.4
Wayne County, Michigan	10.9	16.7	8.8	5.2

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Why Do Poorer Neighborhoods Have Higher Fatality Rates?

A variety of factors contribute to pedestrian accidents in poorer neighborhoods. For one, Census data suggests many of their residents are at greater risk since they walk to work or to public transportation stops more so than residents of affluent communities. Other research suggests poorer communities are typically served by more limited infrastructure. Bridging the Gap, a program of the Robert Wood Johnson Foundation, conducted field research measuring the presence of sidewalks, lighting, crosswalks and traffic calming devices in 154 communities. The resulting study, "Income Disparities in Street Features that Encourage Walking," found such infrastructure was more common in high-income communities.

http://www.bridgingthegapresearch.org/_asset/02fpi3/btg_street_walkability_FINAL_03-09-12.pdf

This issue is further examined in a story in the August 2014 issue of *Governing* magazine:

<http://www.governing.com/pedestrians-story>

No published national data assesses the income or poverty status of those killed in traffic accidents. A report published last year, "Motor Vehicle Traffic-Related Pedestrian Deaths — United States, 2001–2010," by the Centers for Disease Control and Prevention examined mortality data from 2001-2010, finding racial and ethnic minorities recorded higher annualized death rates. Those age 75 and older also had significantly higher death rates in the study.

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6215a1.htm>

Where Pedestrians Are Killed

The following tables summarize locations of fatal pedestrian accidents, as reported in NHTSA's Fatality Analysis Reporting System. Totals cover all accidents nationwide from 2008 through 2012.

Relation to Junction	Deaths	% of Total Deaths
Non-Junction	15,232	69
Intersection-Related	3,007	14
Intersection	2,736	12
Driveway Access/Alley	446	2
Entrance or Exit Ramp-Related	252	1
Through Roadway	205	1
Other/Unknown	147	1

Route Type	Deaths	% of Total Deaths
Municipality Local Street	6,336	28.8
State Highway	5,293	24.0
U.S. Highway	3,444	15.6
County Road	2,609	11.8
Interstate	2,208	10.0
Township Local Street	1,193	5.4
Other/Unknown	782	3.6
Local Frontage Road	160	0.7

Roadway Function Class	Deaths	% of Total Deaths
Rural: Interstate	699	3.2
Rural: Local Road	1,386	6.3
Rural: Major Collector	1,075	4.9
Rural: Minor Arterial	907	4.1
Rural: Minor Collector	275	1.2
Rural: Other Principal Arterial	1,542	7.0
Urban: Collector	979	4.4
Urban: Interstate	1,603	7.3
Urban: Local Road	3,250	14.8
Urban: Minor Arterial	3,226	14.6
Urban: Other Freeways or Expressways	1,062	4.8
Urban: Other Principal Arterial	5,862	26.6
Unknown	159	0.7

Methodology

Governing compiled data on all pedestrian fatalities listed in the National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) occurring between 2008 and 2012. Records in the database included each accident's geographic coordinates, except for about 300 records (less than 2 percent of all fatalities). A spatial analysis was then performed using the FARS data and Census tract boundary shapefiles to determine the tract in which each accident occurred.

Economic and demographic estimates for tracts were obtained from the U.S. Census Bureau's 2008-2012 American Community Survey. Census tracts were divided into three per-capita income categories, with an equal number of tracts for each tertile (High income: \$31,356+; Middle income: \$21,559-\$31,355; Low income: < \$21,559). A separate poverty category was determined using the percentage of a tract's population below the poverty level. The Census Bureau does not publish poverty and income estimates for about 500 census tracts (less than 1 percent of all tracts), most of which have no residents. These tracts were excluded from the analysis.

Pedestrian death rates were computed for all Census tract groups within metropolitan statistical areas, or about 60,000 total. Data summarizing accident locations covers all Census tracts.

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