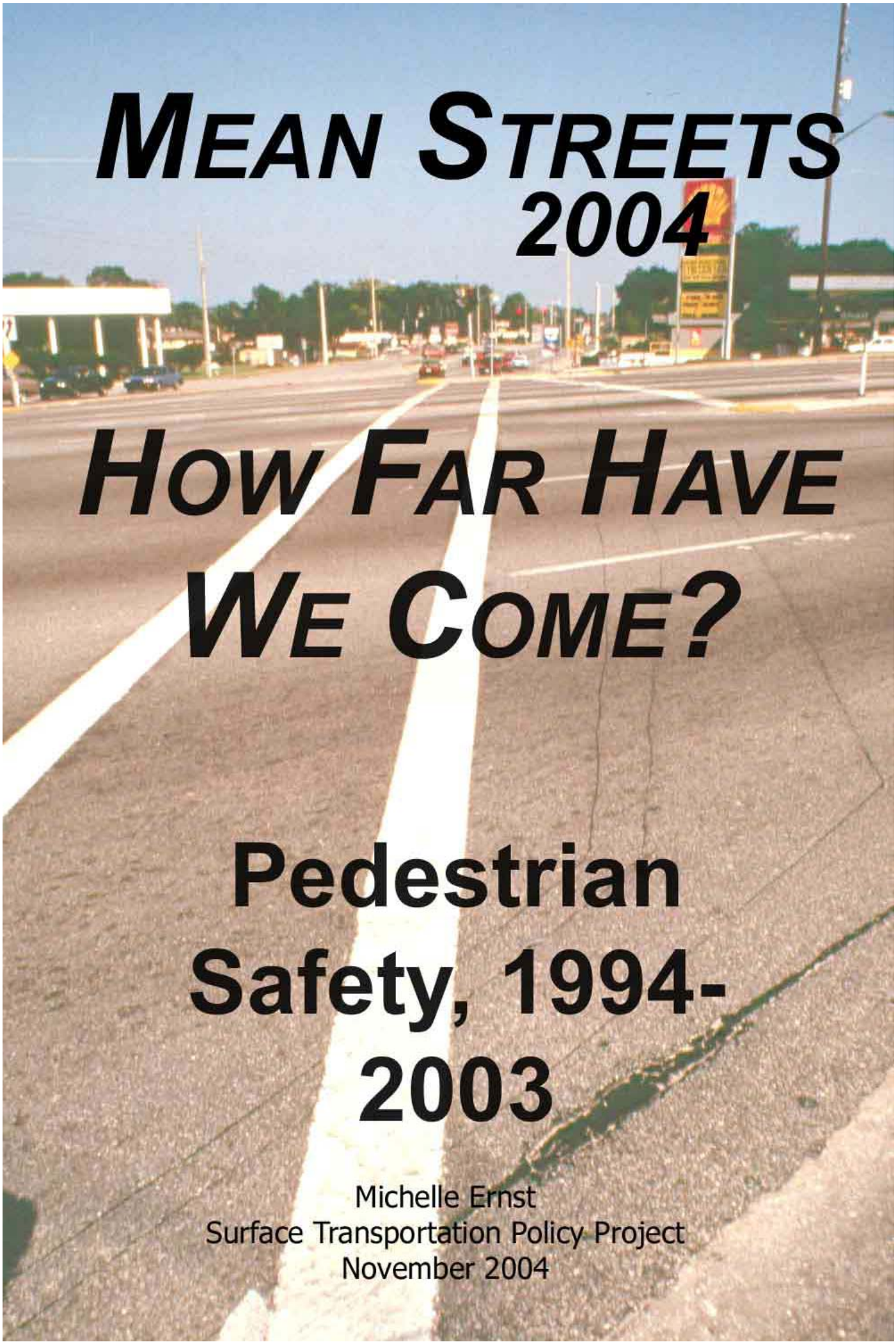

MEAN STREETS 2004

HOW FAR HAVE WE COME?

Pedestrian Safety, 1994-2003

Michelle Ernst
Surface Transportation Policy Project
November 2004

Mean Streets 2004

How Far Have We Come?

A Publication of the Surface Transportation Policy Project

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This report, as well as state-by-state fact sheets based on this report, is available online at http://www.transact.org.

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Executive Summary

America's streets are growing meaner for pedestrians

The Surface Transportation Policy Project has been reporting on pedestrian fatalities in the United States for ten years now. Our first report, produced with Environmental Working Group and published in 1996, examined pedestrian fatalities for the period 1986 through 1995. Since that first Mean Streets was published, STPP has issued three updates, each looking at a two-year period. This year, STPP is taking the opportunity with the publication of our fifth edition of Mean Streets to reflect on the trends in pedestrian safety over the past decade.

A total of 51,989 pedestrians have died over the ten years from 1994 through 2003. In raw numbers, pedestrian fatalities have declined over this period by approximately 12.8 percent. This is good news, except when you consider that the rates of walking have declined even faster. The U.S. Census Bureau's decennial data on commuting provides the most reliable benchmark of walking over time. According to that data set, the percentage of commuters who walked to work declined by 24.9 percent from 1990 to 2000.

In fact, walking is by far the most dangerous mode of travel per mile. Although only 8.6 percent of all trips are made on foot, 11.4 percent of all traffic deaths are pedestrians. And while the 2001 fatality rate per 100 million miles traveled is 0.75 for public transit riders, 1.3 for drivers and their passengers, 7.3 for passengers of commercial airlines[1], the fatality rate for walkers is an astonishing 20.1 deaths per 100 million miles walked.

	Fatality rate per 100 million miles traveled
Public transit	0.75
Passenger cars and trucks	1.3
Commercial airlines[1]	7.3
Walking	**20.1**

Yet, across the country, there is some decidedly good news for pedestrian safety. Many metropolitan areas, some prompted by STPP's Mean Streets reports, have taken steps to make their regions more walkable. Upon his election in 1999, Salt Lake City Mayor Rocky Anderson elevated pedestrian safety and walkability to among his adminstration's highest priorities. His safety campaign and other efforts have proven effective, with pedestrian fatalities in the Salt Lake City area declining by more than 44 percent. Unfortunately, not all areas have followed Salt Lake City's lead. Pedestrian safety continues to worsen in many metro areas. This report takes a hard look at the

[1] This figure is unusually high because it includes airline passengers who died during the September 11, 2001 terrorist attacks. Fatality rates in previous and more recent years range from 0 to 1.2.

trends across the country and identifies the metro areas where the streets have grown meaner, as well as those where the streets have become friendlier to walkers.

The Pedestrian Danger Index (PDI) shows where it is most dangerous to step out of your door to take a walk. It looks at the rate of pedestrians deaths, relative to the amount that people walk in a given metro area. In order to assess whether pedestrian safety has improved or worsened over the past ten years, STPP calculated a PDI for the period 1994 to 1995 and for the period 2002 to 2003, and looked at the change in those two figures. According to this analysis, pedestrian safety has improved markedly in the following large metropolitan areas: Salt Lake City; Portland; Austin; New Orleans; Los Angeles; Dallas-Ft. Worth; Norfolk-Virginia Beach; San Francisco; Hartford; and Phoenix. In contrast, the large metropolitan areas which have seen their streets grow meaner are: Orlando; Richmond, VA; Memphis; Denver; Grand Rapids, MI; Columbus, OH; Pittsburgh; Buffalo; West Palm Beach; and Tampa-St. Petersburg-Clearwater. (Please note that the Pittsburgh area ranks very low in its PDI.)

Metropolitan Area	1994-1995 PDI	2002-2003 PDI	PDI Change
Metro areas with the greatest improvements in pedestrian safety			
Salt Lake City-Ogden, UT MSA	106.2	59.3	-44.2%
Portland-Salem, OR-WA CMSA	64.3	43.0	-33.1%
Austin-San Marcos, TX MSA	77.0	61.9	-19.6%
New Orleans, LA MSA	101.9	82.5	-19.1%
Los Angeles-Riverside-Orange County, CA CMSA	101.3	82.5	-18.6%
Dallas-Fort Worth, TX CMSA	123.1	103.7	-15.8%
Norfolk-Virginia Beach-Newport News, VA-NC MSA	46.6	40.5	-13.3%
San Francisco-Oakland-San Jose, CA CMSA	56.7	49.4	-12.9%
Hartford, CT NECMA	56.9	49.5	-12.9%
Phoenix-Mesa, AZ MSA	133.2	117.2	-12.0%
Metro areas with the greatest declines in pedestrian safety			
Orlando, FL MSA	111.8	243.6	117.9%
Richmond-Petersburg, VA MSA	41.4	70.5	70.4%
Memphis, TN-AR-MS MSA	111.6	159.1	42.6%
Denver-Boulder-Greeley, CO CMSA	46.3	64.9	40.0%
Grand Rapids-Muskegon-Holland, MI MSA	55.0	75.8	37.8%
Columbus, OH MSA	30.1	40.9	35.9%
Pittsburgh, PA MSA	21.6	29.3	35.8%
Buffalo-Niagara Falls, NY MSA	41.5	55.8	34.5%
West Palm Beach-Boca Raton, FL MSA	163.5	209.9	28.3%
Tampa-St Petersburg-Clearwater, FL MSA	169.8	215.3	26.8%

America's meanest streets

4,827 people died in the year 2003 while walking down the street in the United States, down slightly from the toll of 4,919 in 2002. An estimated 70,000 pedestrians were injured in traffic crashes during each of those two years. In addition to the ten-year pedestrian safety

trend analysis, this report looks at where Americans are dying as pedestrians, what makes the streets dangerous for those on foot, and how the states are responding to those dangers.

The PDI shows that the most dangerous places to walk are metropolitan areas marked by newer, low-density developments, where wide, high-speed arterial streets offer few sidewalks or crosswalks. The most dangerous metropolitan area for walking in 2002/2003 was Orlando, followed by Tampa, West Palm Beach, Miami-Ft. Lauderdale, Memphis, Atlanta, Greensboro, NC, Houston, Jacksonville, FL, and Phoenix.

Lack of investment

Unfortunately, few federal transportation dollars are being spent on pedestrian safety in many of the metro areas most in need of improvement. In a separate analysis, STPP reviewed expenditures of federal transportation funds over the last twelve years (fiscal years 1992 through 2003), and found that in four of the top ten areas – Columbus, Denver, Memphis and West Palm Beach – showing the greatest declines in pedestrian safety, state spending of federal dollars on creating a safe walking environment actually declined over time.

During the most recent spending period (under the federal surface transportation law, which covered fiscal years 1998 through 2003), funds expended in six of these metropolitan areas was well below the national average of 82 cents per person each year. In fact, spending in the ten areas listed above was still below the national average, at 73 cents per person for pedestrian facilities or safety programs.

Because state Departments of Transportation typically control the vast majority of federal funds (94 cents of every federal transportation dollar), federally-funded roads have tended to be designed and built with little regard to local needs. This often results in wide, high-speed arterials (the type of roads that the state DOTs are most familiar with) running through towns and neighborhoods. Unfortunately, these are the same roads which are the most deadly for pedestrians.

STPP's analysis shows that the states are not investing enough of their federal transportation dollars to protect people who walk. While 11.4 percent of all traffic deaths are pedestrians (12.9 percent if bicyclists are included), less than one percent (0.9 percent) of federal transportation construction, operations, and maintenance funds are spent to ensure a safe walking environment. No state spends more than 2.5 percent of their federal transportation funds on sidewalks, crosswalks, traffic calming, speed humps, multi-use paths, or safety programs for pedestrians or cyclists. This is in spite of a more than 40

percent increase in federal transportation dollars to the states in the last six years, and regulations that make it easier to use what were once "highway funds" on a wider variety of transportation projects, including transit improvements and pedestrian facilities that support transit and other users.

In addition, over the past 12 years the states have lost the opportunity to spend $1.69 billion on bicycle and pedestrian projects available through federal law. The program, Transportation Enhancements, is designed to support bicycle and pedestrian projects, among other investments. Many states have chosen to leave this money on the table rather than do the projects that could make walking and bicycling safer for everyone.

Communities with streets built for speed, not people

Rather than investing in pedestrian safety, many state departments of transportation often choose to build roads that turn out to be dangerous for people on foot. In looking at the types of roads on which pedestrians are killed, STPP's analysis found that 14.6 percent of pedestrians deaths occur on Interstates, freeways, and expressways, 31.1 percent on other principal arterials, 20.8 percent on minor arterials, 11.9 percent on collectors, and 21.6 percent on local roads. The deadliest roads tend to be high-speed arterials, with few accommodations or protections – such as sidewalks or crosswalks – for pedestrians.

Overall, the nation's transportation networks have been largely designed to facilitate high speed automobile traffic, treating our communities and pedestrian safety particularly as an afterthought. Streets designed with wide travel lanes and expansive intersections have been the norm or local zoning and parking requirements that don't account for pedestrians and public transportation riders is too often standard practice. Private sector actors routinely design malls, shopping centers and housing for automobile access, without suitable facilities for pedestrians, bicyclists or transit users. Importantly, communities with a good design and a focus on features that support travel options from the start don't have to be fixed later, reducing the dangers to pedestrians today and into the future.

People at higher risk

For the first time, the federal fatality statistics include a look at the racial and ethnic background of those killed. While the record is not complete (race data is not available for 27 percent of deaths, and

ethnicity data is not available for 28 percent of deaths), it does show that ethnic and racial minorities are over-represented in pedestrian deaths. African-Americans make up 19 percent of pedestrian deaths, even though they represent just 12.7 percent of the total population.

Children also face higher risks as pedestrians. Pedestrian injury is the third leading cause of unintentional injury-related death among children ages 5 to 14. This is true even though the evidence shows that fewer children are walking. Only about 14 percent of children's trips to school are made on foot, down from 50 percent in 1969. Forty percent of parents asked about the barriers to children walking to school cited traffic as a major concern. About 70 percent of children's trips are made in the back seat of a car.

The health risk of walking less

While walking presents some dangers, not walking may hold more hazards. As children have been walking less, the percentage of children who are obese or overweight has soared. The same is true for adults: the portion of people who walk to work dropped by 25 percent between 1990 and 2002, at the same time that the percentage of the population who are obese jumped 70 percent. The Surgeon General's Call to Action on the obesity epidemic calls for providing safe and accessible sidewalks, walking, and bicycle paths. Physical inactivity is also associated with a heightened risk for many diseases, including heart disease, diabetes and pancreatic and breast cancer.

The medical costs of physical inactivity are estimated at about $76 billion per year. Meanwhile, the federal transportation program, which weighs in at about $46 billion per year, spends less than one percent of that – about $240 million annually – on creating safer places to walk and bicycle.

Automobile-oriented transportation networks are sometimes so seamless that commuters can go directly from the garages of their homes to the basements in their worksites without so much as a short walk. The same attention needs to be directed to making other trips more seamless, including the pedestrian, bicycle and transit facilities that both encourage walking and make walking safer. This means wider sidewalks (if there are sidewalks at all), improved lighting, safe crossings and attractive transit wait areas can combine to improve the experience of walking. Community designs that emphasize other travel options – walking, biking and transit – are needed to support additional activity and better health.

Recommendations for state and federal action

Americans strongly support greater investment and commitment to pedestrian safety. More than two-thirds (68 percent) of Americans favor putting more federal dollars toward improving walkability, even within a constrained budget.[2] The effort to create a better walking environment would be much more effective if local, state and federal transportation agencies embraced walking as a transportation priority by taking the following actions:

Design-Related

- **Fix What We Have** to correct the many deficiencies that now exist in the nation's transportation infrastructure, by developing pedestrian action plans, adopting *"fix-it-first"* policies, establishing *Safe Routes to School* programs, ensuring a "fair share" commitment of transportation funds to pedestrian safety needs and giving more funding to local agencies who own most of the federal-aid and other system roads.
- **Complete Streets** so that transportation projects at every level of government – Federal, State and local – provide appropriate facilities and accommodations to serve pedestrians, bicyclists and transit users.

Operations

- **Tame Motor Vehicle Traffic** by ensuring safer motor vehicle operation, removing unsafe drivers from the roads and deploying new technologies to enhance enforcement such as photo speed enforcement and so-called red-light cameras.
- **Promote Walking** by emphasizing the public health, economic development, and transportation benefits of walking, including more focused attention and greater resource commitments to encourage people of all ages to walk more.

[2] *American's Attitudes Toward Walking and Creating Better Walking Communities*, April 2003. Conducted by Belden Russonello & Stewart Research and Communications for the Surface Transportation Policy Project. <www.transact.org/report.asp?id=205>

Introduction

In 2003 4,827 Americans died while crossing the street, walking to school or work, going to a bus stop, or strolling to the grocery, among other daily routines. The National Highway Traffic Safety Administration (NHTSA) estimates that 70,000 more were injured; on average a pedestrian is killed or injured in a traffic crash every 7 minutes. These seemingly safe, everyday acts ended the lives of more than 450 children under the age of 16 in 2003. This report analyzes ten years of data from the Fatality Analysis Reporting System (FARS) maintained by NHTSA to determine which metropolitan areas and states have grown more dangerous for walkers, as well as which have become safer for pedestrians. The report also uses the most recent two years of FARS data to learn where pedestrians are dying, and why. Finally, it looks at the investment in pedestrian safety through analysis of state spending patterns of federal highway funds, which are recorded in the Fiscal Management Information System (FMIS) maintained by the Federal Highway Administration.

4,827 pedestrians were killed in 2003; 461 of those killed were children under the age of 16

During the two-year period 2002 through 2003, raw pedestrian fatalities declined by 13.5 percent over the two-year period 1994 and 1995, over the ten-year period. Likewise, the pedestrian fatality rate declined from 2.14 deaths per 100,000 persons during the 1994-1995 period, to 1.68 deaths per 100,000 persons in the 2002-2003 period, a drop of more than 21 percent. This is undoubtedly a significant decrease in pedestrian deaths. That being said, the improvement must be taken with a grain of salt, and considered relative to the evidence suggesting that fewer people are walking regularly. U.S. Census Bureau figures on how Americans travel to work shows that the share of work trips made on foot declined by 24.9 percent in the last decade. In 1990, nearly 4.5 million Americans walked to work. Ten years later, in 2000, that figure declined to 3.8 million. In fact, applying STPP's methodology for the PDI (which examines per capita pedestrian fatalities relative to the amount of walking) at the national level, America's streets actually got meaner over the last decade, with the national PDI growing from 54.8 during the 1994-1995 period to 57.5 in the 2002-2003 period.

Photo by Dan Burden

In what may be a vicious circle, the decline in walking can be attributed to the decline in safe, convenient

and inviting places to walk, to underinvestment in safe pedestrian facilities, and to the increasing number of Americans living in places where walking is more dangerous. More and more Americans are living in sprawling suburban and exurban areas where walking is difficult at best. From 1990 to 2000, according to the Census, the number of people living on the edge of metropolitan areas grew by 18 percent. These areas are generally characterized by wide arterial streets with fast-moving traffic, few sidewalks or crosswalks, and stores, shops, and offices accessible only by car. These are also the environments that this report shows are the most deadly for walkers.

The Trend in Pedestrian Safety in America's Metro Areas

The streets in some metro areas have grown safer for pedestrians over the last decade. Yet, in many of America's sprawling metro areas, the streets are getting meaner for pedestrians. Even as walking declines in these areas, the pedestrian fatality rate per capita has increased or stayed constant. These two factors are combined as STPP's Pedestrian Danger Index (PDI), a measure of the average yearly pedestrian fatalities per capita, adjusted for the number of walkers.[3] The PDI gives us a measure of pedestrian fatalities that controls for exposure to walking[4], and allows for a comparison of the risk to pedestrians across metro areas, and across time.

In order to examine how pedestrian safety has improved or worsened in metro areas over the last decade, STPP has calculated a PDI for each metro area for the period 1994 to 1995 and also for the period 2002 to 2003, and calculated the change in these values for each metro area. A positive value indicates that pedestrian safety has declined, while a negative value indicates an improvement in pedestrian safety.

Streets get meaner in sprawling metro areas

Altogether, 30 of the nation's 50 largest metropolitan areas saw their streets grow meaner to pedestrians in the last decade.

The ten metro areas (over 1 million population) which have seen the greatest declines in pedestrian safety over the past decade are Orlando, Richmond, VA, Memphis, Denver, Grand Rapids, MI, Columbus, OH, Pittsburgh, Buffalo, West Palm Beach, and Tampa-St. Petersburg-Clearwater. Table 1 below lists all of the large metro areas with worsening pedestrian safety.

Metropolitan Area	PDI Change
Orlando, FL MSA	117.9%
Richmond-Petersburg, VA MSA	70.4%
Memphis, TN-AR-MS MSA	42.6%
Denver-Boulder-Greeley, CO CMSA	40.0%
Grand Rapids-Muskegon-Holland, MI MSA	37.8%
Columbus, OH MSA	35.9%
Pittsburgh, PA MSA	35.8%
Buffalo-Niagara Falls, NY MSA	34.5%
West Palm Beach-Boca Raton, FL MSA	28.3%
Tampa-St Petersburg-Clearwater, FL MSA	26.8%

[3] The number of walkers acts as a measure of exposure to the risk of being killed as a pedestrian. It is derived from the 2000 Decennial Census Journey-to-Work data on the share of workers walking to work.

[4] The Census Journey-to-Work data is limited in that it provides information only on the mode people choose most often to travel to and from work. A better measure of exposure would include all types of trips (including to the store, to school, to the subway, etc.), as well as trips taken by the non-usual mode. Unfortunately a good, nationwide source of that data at the metro area level is not available.

Table 1. Large Metro Areas with Worsening Pedestrian Safety

Metropolitan Area	1994-1995 PDI	2002-2003 PDI	Change
Orlando, FL MSA	111.8	243.6	117.9%
Richmond-Petersburg, VA MSA	41.4	70.5	70.4%
Memphis, TN-AR-MS MSA	111.6	159.1	42.6%
Denver-Boulder-Greeley, CO CMSA	46.3	64.9	40.0%
Grand Rapids-Muskegon-Holland, MI MSA	55.0	75.8	37.8%
Columbus, OH MSA	30.1	40.9	35.9%
Pittsburgh, PA MSA	21.6	29.3	35.8%
Buffalo-Niagara Falls, NY MSA	41.5	55.8	34.5%
West Palm Beach-Boca Raton, FL MSA	163.5	209.9	28.3%
Tampa-St Petersburg-Clearwater, FL MSA	169.8	215.3	26.8%
Detroit-Ann Arbor-Flint, MI CMSA	90.9	111.3	22.4%
San Antonio, TX MSA	67.3	82.1	22.0%
Jacksonville, FL MSA	99.6	120.7	21.2%
Minneapolis-St Paul, MN-WI MSA	32.6	39.4	20.9%
Rochester, NY MSA	29.6	34.8	17.7%
Houston-Galveston-Brazoria, TX CMSA	105.5	121.9	15.5%
Oklahoma City, OK MSA	75.3	85.4	13.5%
Milwaukee-Racine, WI CMSA	32.3	36.1	11.6%
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD CMSA	43.3	48.3	11.4%
Kansas City, MO-KS MSA	90.8	100.3	10.4%
San Diego, CA MSA	62.9	68.7	9.2%
Charlotte-Gastonia-Rock Hill, NC-SC MSA	95.3	103.9	9.0%
Raleigh-Durham-Chapel Hill, NC MSA	73.8	80.2	8.7%
St Louis, MO-IL MSA	89.9	95.0	5.7%
New Haven-Bridgeport-Stamford-Waterbury-Danbury, CT NECMA	47.2	49.8	5.7%
Sacramento-Yolo, CA CMSA	93.2	95.9	2.9%
Greensboro--Winston-Salem--High Point, NC MSA	119.3	122.5	2.6%
Louisville, KY-IN MSA	76.9	78.1	1.5%
Washington-Baltimore, DC-MD-VA-WV CMSA	58.8	59.2	0.7%
Seattle-Tacoma-Bremerton, WA CMSA	42.8	43.0	0.6%

Streets get safer in metro areas committed to pedestrian safety

Though nationwide pedestrian safety has declined over the past decade, there are a number of bright spots across the country, metro areas where pedestrian fatalities have declined relative to the rate of walking. Table 2 below lists the large metro areas in which pedestrian safety has improved in the last ten years.

Table 2. Large Metro Areas with Improving Pedestrian Safety

Metropolitan Area	1994-1995 PDI	2002-2003 PDI	Change
Salt Lake City-Ogden, UT MSA	106.2	59.3	-44.2%
Portland-Salem, OR-WA CMSA	64.3	43.0	-33.1%
Austin-San Marcos, TX MSA	77.0	61.9	-19.6%
New Orleans, LA MSA	101.9	82.5	-19.1%
Los Angeles-Riverside-Orange County, CA CMSA	101.3	82.5	-18.6%
Dallas-Fort Worth, TX CMSA	123.1	103.7	-15.8%
Norfolk-Virginia Beach-Newport News, VA-NC MSA	46.6	40.5	-13.3%
San Francisco-Oakland-San Jose, CA CMSA	56.7	49.4	-12.9%
Hartford, CT NECMA	56.9	49.5	-12.9%
Phoenix-Mesa, AZ MSA	133.2	117.2	-12.0%
New York-Northern New Jersey-Long Island, NY-NJ-CT-PA CMSA	37.9	33.4	-11.8%
Indianapolis, IN MSA	80.9	71.5	-11.6%
Miami-Fort Lauderdale, FL CMSA	184.7	166.3	-9.9%
Cleveland-Akron, OH CMSA	33.2	30.2	-9.0%
Las Vegas, NV-AZ MSA	124.7	115.0	-7.8%
Atlanta, GA MSA	156.6	144.4	-7.8%
Nashville, TN MSA	100.0	93.0	-7.0%
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	26.4	25.4	-3.8%
Cincinnati-Hamilton, OH-KY-IN CMSA	35.3	34.6	-1.9%
Chicago-Gary-Kenosha, IL-IN-WI CMSA	53.3	53.3	-0.1%

Where Pedestrians Are Dying

In addition to looking at the trend in pedestrian safety over time, STPP also examined how metro areas compare to each other in the most recent time period, 2002 through 2003. Once again, we used the PDI to evaluate the risk of pedestrian death relative to the amount of walking in each metro area.

According to the Pedestrian Danger Index, the top ten most dangerous large metro areas for walking in 2002-2003 were: Orlando; Tampa-St. Petersburg-Clearwater; West Palm Beach-Boca Raton; Miami-Ft. Lauderdale; Memphis; Atlanta, Greensboro-Winston Salem-High Point, NC; Houston-Galveston-Brazoria; Jacksonville; and Phoenix-Mesa. Orlando's pedestrian death rate of 3.15 deaths per 100,000 persons is remarkable given that its walk-to-work rate, 1.3 percent, is well below the national average. This combination of a high death rate, and low rate of walking, gives Orlando the top PDI ranking among large metro areas.

	Metro Area	Pedestrian Danger Index
1	Orlando, FL	243.6
2	Tampa-St Petersburg-Clearwater, FL	215.3
3	West Palm Beach-Boca Raton, FL	209.9
4	Miami-Fort Lauderdale, FL	166.3
5	Memphis, TN-AR-MS	159.1
6	Atlanta, GA	144.4
7	Greensboro--Winston-Salem--High Point, NC	122.5
8	Houston-Galveston-Brazoria, TX	121.9
9	Jacksonville, FL	120.7
10	Phoenix-Mesa, AZ	117.2

The most dangerous metro areas, all located in the South or West, tend to be marked by lower density development patterns, which include wide, high-speed arterials that are particularly hazardous for walking. Most experienced rapid population growth in the latter half of the 20th Century when development was designed to facilitate fast-moving automobile traffic and new growth tended to follow new highways away from the central city. In fact, a report from Smart Growth America found that 50 percent fewer commuters walk to work in sprawling areas like the ones listed above.[5] And the PDI indicates that when they do walk to work, they face a higher level of risk. Table 3 below lists the nation's 50 largest metro areas, ranked according to their PDI.

[5] According to that report, about 2 percent of commuters walk to work in sprawling metro areas, compared to 3.1 percent in less sprawling metro areas. Reid Ewing, Rolf Pendall, and Don Chen. *Measuring Sprawl and Its Impact*. October 2002. <www.smartgrowthamerica.org/sprawlindex/sprawlindex.html>

Table 3. The Most Dangerous Large Metro Areas for Pedestrians (over 1 million residents)

	Metro Area	Average Annual Pedestrian Deaths per 100,000 Capita (2002-2003)	Percent of Workers Walking to Work (2000)	Pedestrian Danger Index
1	Orlando, FL MSA	3.15	1.3%	243.6
2	Tampa-St Petersburg-Clearwater, FL MSA	3.69	1.7%	215.3
3	West Palm Beach-Boca Raton, FL MSA	2.86	1.4%	209.9
4	Miami-Fort Lauderdale, FL CMSA	2.94	1.8%	166.3
5	Memphis, TN-AR-MS MSA	2.07	1.3%	159.1
6	Atlanta, GA MSA	1.83	1.3%	144.4
7	Greensboro--Winston-Salem--High Point, NC MSA	1.90	1.6%	122.5
8	Houston-Galveston-Brazoria, TX CMSA	1.97	1.6%	121.9
9	Jacksonville, FL MSA	2.02	1.7%	120.7
10	Phoenix-Mesa, AZ MSA	2.44	2.1%	117.2
11	Las Vegas, NV-AZ MSA	2.74	2.4%	115.0
12	Detroit-Ann Arbor-Flint, MI CMSA	2.03	1.8%	111.3
13	Charlotte-Gastonia-Rock Hill, NC-SC MSA	1.26	1.2%	103.9
14	Dallas-Fort Worth, TX CMSA	1.53	1.5%	103.7
15	Kansas City, MO-KS MSA	1.36	1.4%	100.3
16	Sacramento-Yolo, CA CMSA	2.08	2.2%	95.9
17	St Louis, MO-IL MSA	1.54	1.6%	95.0
18	Nashville, TN MSA	1.40	1.5%	93.0
19	Oklahoma City, OK MSA	1.44	1.7%	85.4
20	Los Angeles-Riverside-Orange County, CA CMSA	2.11	2.6%	82.5
21	New Orleans, LA MSA	2.24	2.7%	82.5
22	San Antonio, TX MSA	1.94	2.4%	82.1
23	Raleigh-Durham-Chapel Hill, NC MSA	1.84	2.3%	80.2
24	Louisville, KY-IN MSA	1.34	1.7%	78.1
25	Grand Rapids-Muskegon-Holland, MI MSA	1.56	2.1%	75.8
26	Indianapolis, IN MSA	1.20	1.7%	71.5
27	Richmond-Petersburg, VA MSA	1.31	1.9%	70.5
28	San Diego, CA MSA	2.33	3.4%	68.7
29	Denver-Boulder-Greeley, CO CMSA	1.54	2.4%	64.9
30	Austin-San Marcos, TX MSA	1.29	2.1%	61.9
31	Salt Lake City-Ogden, UT MSA	1.09	1.8%	59.3
32	Washington-Baltimore, DC-MD-VA-WV CMSA	1.76	3.0%	59.2
33	Buffalo-Niagara Falls, NY MSA	1.51	2.7%	55.8
34	Chicago-Gary-Kenosha, IL-IN-WI CMSA	1.67	3.1%	53.3
35	New Haven-Bridgeport-Stamford-Waterbury-Danbury, CT NECMA	1.35	2.7%	49.8
36	Hartford, CT NECMA	1.24	2.5%	49.5
37	San Francisco-Oakland-San Jose, CA CMSA	1.61	3.3%	49.4
38	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD CMSA	1.87	3.9%	48.3
39	Portland-Salem, OR-WA CMSA	1.28	3.0%	43.0
40	Seattle-Tacoma-Bremerton, WA CMSA	1.36	3.2%	43.0
41	Columbus, OH MSA	0.97	2.4%	40.9
42	Norfolk-Virginia Beach-Newport News, VA-NC MSA	1.08	2.7%	40.5
43	Minneapolis-St Paul, MN-WI MSA	0.96	2.4%	39.4
44	Milwaukee-Racine, WI CMSA	1.00	2.8%	36.1
45	Rochester, NY MSA	1.23	3.5%	34.8
46	Cincinnati-Hamilton, OH-KY-IN CMSA	0.80	2.3%	34.6
47	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA CMSA	1.94	5.8%	33.4
48	Cleveland-Akron, OH CMSA	0.65	2.1%	30.2
49	Pittsburgh, PA MSA	1.05	3.6%	29.3
50	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	1.02	4.0%	25.4

Florida's Older Pedestrians

Five of the six most dangerous metro areas for walking are in Florida, known as a haven for retirees. Is there a connection? An analysis of the pedestrian fatality statistics by STPP reveals that the portion of elderly people dying as pedestrians in Florida is not out of line with the national average. Seventeen percent of pedestrian deaths in Florida in the years studied were elderly people (70 years and older), the same as the national average of 17.0 percent. Almost half of the states had rates higher than Florida's. In fact, over one-quarter of all pedestrian deaths in North Dakota, Hawaii, Vermont, Maine, West Virginia, and Massachusetts were elderly.

The PDI was developed by STPP to allow a fair comparison of metro areas according to their risk to pedestrians, relative to how much an ordinary person walks in that metro area. However, in some communities, even those which are not rated as the most "dangerous" according to the PDI, pedestrian deaths represent an unusually high portion of all traffic deaths.

The New York metropolitan area, with an average of 386 pedestrian deaths annually, has the highest absolute number of pedestrian deaths of any metropolitan area in the U.S. However, with nearly 20 million people now residing within its boundaries, the pedestrian fatality rate per 100,000 persons averages 1.9. And with the highest portion of commuters walking to work of any large metropolitan area, the relative risk to pedestrians in the New York metro area is the fourth lowest in the country.

	Metro Area	Number of Ped Fatalities (2002)	Number of Ped Fatalities (2003)	Percent of Traffic Deaths that Were Pedestrians
1	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	395	377	28.3%
2	Miami-Fort Lauderdale, FL	119	119	22.8%
3	San Diego, CA	74	62	22.5%
4	San Francisco-Oakland-San Jose, CA	118	110	21.7%
5	Los Angeles-Riverside-Orange County, CA	355	369	21.3%
6	Tampa-St Petersburg-Clearwater, FL	97	88	21.1%
7	Detroit-Ann Arbor-Flint, MI	119	105	20.2%
8	Buffalo-Niagara Falls, NY	17	18	19.9%
9	Chicago-Gary-Kenosha, IL-IN-WI	155	157	19.1%
10	Seattle-Tacoma-Bremerton, WA	45	55	18.5%

Even so, pedestrians make up a high percentage of all traffic deaths in New York – 28 percent, more than twice the national average. In communities with such a high portion of pedestrian deaths, pedestrian safety merits proportional public safety attention. The table above lists the metro areas with the highest percentage of pedestrian deaths.

Streets Designed for Speed, Not People

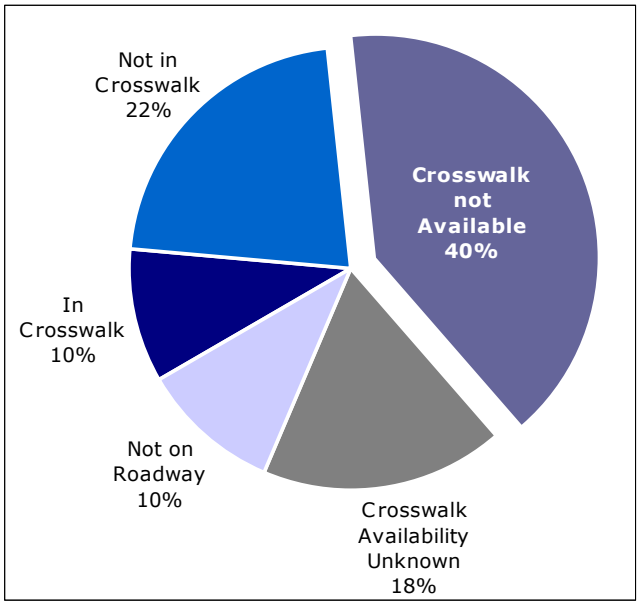
Perhaps the best way to understand why these metropolitan areas are so hazardous is to take a closer look at the types of streets where most pedestrians are killed. Wide roads, speeding traffic, and a lack of crosswalks or sidewalks can make walking a deadly activity. A 2002 report from the Federal Highway Administration (FHWA) states that while 95 percent of pedestrians are likely to survive being struck by a vehicle traveling at 20 miles per hour, only 15 percent are likely to live through a collision with a vehicle traveling at 40 mph.[6]

STPP's analysis of the FARS database revealed that most pedestrians were killed on arterial roads. Just 14.6 percent of pedestrians were killed on Interstates, freeways, or expressways. 33.5 percent were killed on collectors and local roads and streets. But nearly 52 percent of the 9,648 pedestrians killed (for whom location data was recorded) in 2002 and 2003 died on principal or minor arterials.

In addition, a broad look at all pedestrian deaths shows the potential influence of poor pedestrian facilities. Of the 9,565 pedestrians who were killed in 2002 and 2003, for which location of death is known, more than 40 percent were killed where no crosswalk was available. Another 18 percent were killed where crosswalk availability was not known. Less than ten percent of pedestrian deaths occurred inside a crosswalk. These data point to at least one common problem of dangerous streets – there simply are not enough pedestrian facilities.

A recent FHWA study supports this finding: "There is no question that conditions for bicycling and walking need to be improved in every community in the United States; it is no longer acceptable that 6,000 bicyclists and pedestrians are killed in traffic every year…and that two desirable and efficient modes of travel have been made difficult and uncomfortable."[7] Later in this report, *Recommendations for State and Federal Action* offers suggestions for improving pedestrian facilities.

Figure 1. Location of Pedestrian Fatalities (2002-2003)



[6] Federal Highway Administration (2002). *Pedestrian Facilities Users Guide: Providing Safety and Mobility.*
[7] Federal Highway Administration (1999). *Accommodating Bicycle and Pedestrian Travel: A Recommended Approach.* <http://www.fhwa.dot.gov/environment/bikeped/Design.htm>

The Role of Race and Ethnicity in Pedestrian Fatalities

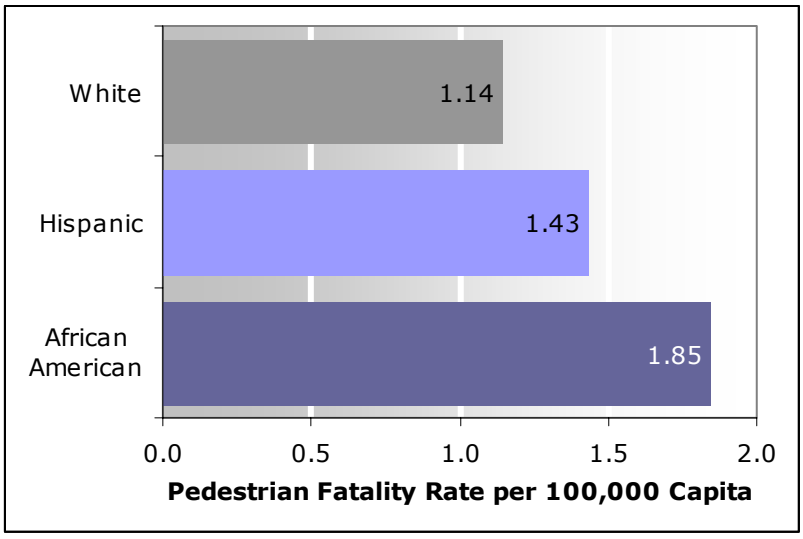
African-Americans comprise only 12.7 percent of the population, but 19 percent of pedestrian deaths.

While it would seem that traffic crashes are indiscriminate killers, the pedestrian fatality statistics show that ethnic and racial minorities tend to be disproportionately represented in the numbers. While the data on race and ethnicity for pedestrian deaths is still incomplete (records for 27 percent of pedestrian fatalities did not record race data, and 28 percent of entries did not record ethnicity data), the available data does offer important findings.

Nationwide, whites comprise 81 percent of the population. However, only 75 percent of pedestrian deaths for which race is known are whites. In contrast, African-Americans make up nearly one in five (19 percent) pedestrian deaths, though they represent less than 13 percent of the total U.S. population. Likewise, Latino pedestrians comprise 16 percent of deaths, but only 13.5 percent of the total U.S. population.

While the FARS data on pedestrian race and ethnicity is too incomplete to permit an assessment at the metro area level, other studies have found that at the regional level, ethnic and racial minorities suffer even greater disparities in pedestrian deaths. The Centers for Disease Control reported recently that Latinos in Atlanta were six times more likely to be hit and killed while walking than whites.[8] A survey conducted by the *Washington Post* found that Latinos in suburban Washington, DC were three times more likely to be hit and killed.[9] Another survey conducted by the *Los Angeles Times* in Orange County, California showed that while Latinos make up 28 percent of the county's population, they accounted for 40 percent of all pedestrian injuries and 43 percent of all pedestrian deaths.[10] A recent *New York Times* article found that while Hispanics comprise only 10 to 15 percent of Long Island's total population,

Figure 2. Pedestrian Fatality Rates by Race and Ethnicity



[8] Centers for Disease Control and Prevention, "Pedestrian Fatalities -- Cobb, DeKalb, Fulton, and Gwinnett Counties, Georgia, 1994-1998," *Morbidity and Mortality Weekly Report*. Atlanta, Georgia, July 23, 1999. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4828a1.htm>
[9] Sylvia Moreno and Alan Sipress. "Fatalities Higher for Latino Pedestrians; Area's Hispanic Immigrants Apt to Walk but Unaccustomed to Urban Traffic," *Washington Post*. August 27, 1999.
[10] Richard Marosi. "Pedestrian Deaths Reveal O.C.'s Car Culture Clash," *Los Angeles Times* Orange County Edition. November 28, 1999.

they account for 43 percent of Nassau County's pedestrian deaths, and 21 percent of Suffolk County's pedestrian fatalities.[11]

Several studies show the risk of injury to be significantly higher among African-American children than other children,[12] and in Census tracts with higher percentages of non-white residents.[13] In New Mexico, Native American children had a death rate 2.5 times that of other ethnic and racial groups.[14]

It is speculated that the link between pedestrian deaths and ethnicity is due to the fact that Latinos, and African-Americans are less likely to own a car and more likely to walk, bike and/or take public transportation, resulting in greater exposure to the dangers of the street. Indeed, an analysis of the 2001 National Household Travel Survey confirms that racial and ethnic minorities are much more likely than whites to walk to destinations. While whites made only 8.6 percent of trips on foot in 2001, African-Americans made 12.6 percent of trips on foot, and Latinos walked for 11.8 percent of trips.

[11] Patrick Healy. "Peril Afoot in the Land of Four Wheels," *New York Times*. February 29, 2004.
[12] W.D. Kim, P.A. Palmisano. "Racial Differences in Childhood Hospitalized Pedestrian Injuries," *Pediatric Emergency Care*. 1992; 8 (4): pg. 221-224.
[13] M. Braddock, G. Lapidus, D. Gregorio, M. Kapp, L. Banco. "Population, Income, and Ecological Correlates of Child Pedestrian Injury," *Pediatrics*. Dec. 1991; 88 (6): pg. 1242-1247. F.P. Rivara, M. Barber. "Demographic Analysis of Childhood Pedestrian Injuries," *Pediatrics*. Sept. 1985; 76 (3): pg. 375-381.
[14] L.M. Olson, D.P. Sklar, L. Cobb, F. Sapien, R. Zumwalt. "Analysis of Childhood Pedestrian Deaths in New Mexico," *American Emergency Medicine*. 1993; 22: pg. 512-516.

Child Pedestrians

A safe walking environment is particularly important for children, who depend more heavily on walking for mobility than adults. Almost ten percent of all pedestrian deaths are children. And despite recent declines, pedestrian injury remains the third leading cause of unintentional injury-related death among children ages 5 to 14.[15] Annual health care costs for treating child pedestrian injuries (including fatal injuries) amounts to $7.2 billion.[16]

While currently available data does not allow us to compute a pedestrian danger index for children, we know that parents are concerned that the walking environment is too dangerous for kids. A recent national survey by the Centers for Disease Control found that 40 percent of parents cited traffic as a major barrier to allowing children to walk to school.[17] The National Safe Kids Campaign surveyed 9,000 "walkability" audits conducted across the country and found that nearly 60 percent of parents and children encountered at least one serious hazard along their routes to school. Common hazards included the lack of a sidewalk or crosswalk, wide roads, complicated traffic conditions, improper parking and speeding drivers.[18] In addition, many new schools are being built at the edge of communities, too far for children to walk.[19]

While the rate of child pedestrian deaths has been declining over the last decade, analysts believe this is in large part due to a decrease in exposure because children are walking much less. A 2002 survey of walking conducted by Belden Russonello & Stewart for STPP found that while seven in ten (71 percent) of respondents walked or rode a bicycle to school as a child, only 17 percent reported that their own children ever walk to school.[20] This has occurred at the same time that the percent of children who are obese or overweight has soared. Since 1980, the portion of 6 to 19-year-olds who are overweight has more than tripled, with 15 percent of children in this age group now

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[15] National SAFE KIDS Campaign. *Report to the Nation on Child Pedestrian Safety*. October 2002.
[16] National SAFE KIDS Campaign. *Pedestrian Injury Fact Sheet*. 2004. <http://www.safekids.org/tier3_cd.cfm?content_item_id=1150&folder_id=540>
[17] Centers for Disease Control and Prevention, "Barriers to Children Walking and Biking to School – United States, 1999," *MMWR Weekly* 51(32);701-7045, August 16, 2002. <www.cdc.gov/mmwr/preview/mmwrhtml/mm5132a1.htm>
[18] ibid.
[19] National Trust for Historic Preservation. *Why Johnny Can't Walk to School*. 2001. <http://www.nationaltrust.org>
[20] *American's Attitudes Toward Walking and Creating Better Walking Communities*, April 2003. Conducted by Belden Russonello & Stewart Research and Communications for the Surface Transportation Policy Project. <www.transact.org/report.asp?id=205>

considered overweight, while children in all age groups are gaining weight.[21]

Routine physical activity, such as walking to school, is one of the potential solutions to the obesity epidemic among children. Parents and schools are now organizing Walk to School Days to encourage more walking and to identify and fix hazards along the walk to school.

[21] Cynthia L. Ogden; Katherine M. Flegal; Margaret D. Carroll; Clifford L. Johnson. "Prevalence and Trends in Overweight Among U.S. Children and Adolescents, 1999-2000," *Journal of the American Medical Association*. October 9, 2002.

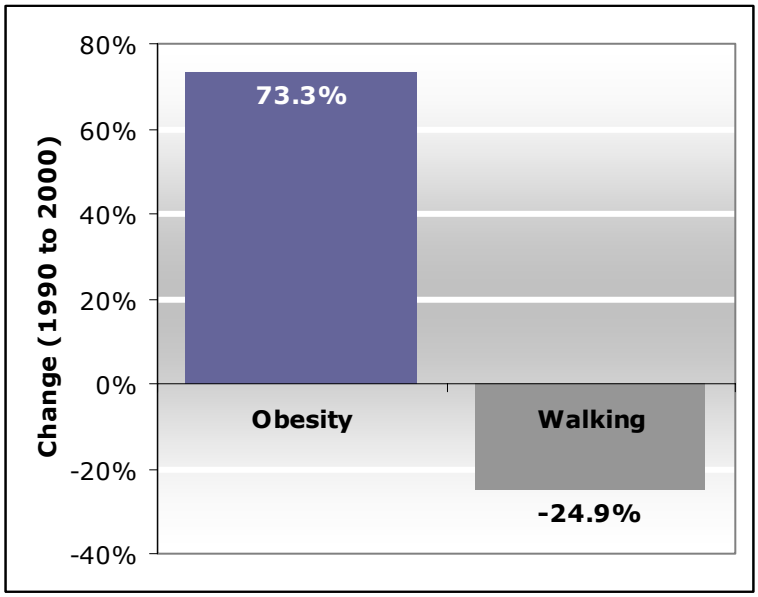
Walking for Health

While walking presents some dangers, not walking may be more hazardous for the health of children and adults. The portion of people who walk to work dropped by 25 percent between 1990 and 2000, at the same time that the portion of the population who are obese or overweight has jumped more than 70 percent. Walking is the most prevalent form of basic physical activity, and public health officials blame physical inactivity for an estimated 250,000 deaths annually. Moderate physical activity has been linked to a wide range of benefits, including lowering the risk for heart disease, stroke, colon and breast cancer, diabetes, and high blood pressure. Studies have also shown its benefits in warding off high cholesterol and depression.

Clearly, increasing pedestrian safety and encouraging walking would deliver significant health benefits. Public health officials have recognized the decline in walking and other physical activity as a contributor to the obesity epidemic that is now affecting 22.1 percent of U.S. adults. The Surgeon General's Call to Action on the obesity epidemic issued in 2001 calls for providing safe and accessible sidewalks, walking, and bicycle paths.

Diseases associated with a sedentary lifestyle cost $76 billion a year.[22] With health care costs soaring, more and more governments and health care agencies are focusing on prevention as a way to improve Americans' health status. A growing movement for "active living" is bringing together transportation, land use, and health officials to determine how to engineer a built environment that encourages walking. This movement promotes active living as a way of life that integrates physical activity into daily routines. The recommended activity level for Americans is 30 minutes of moderate physical activity at least five days a week, a goal that can easily be met through walking to school, to work, or for errands.

Figure 3. Trend in Adult Obesity and Walking Rates (1990 to 2000)



[22] M. Pratt, C.A. Macera, G. Wang. "Higher Direct Medical Costs Associated with Physical Inactivity," *The Physician and Sports Medicine* 2000 vol 28, no. 10 pg. 63-70.

Walkers' Safety Not a Spending Priority

Although one-third of Americans do not drive, nearly everyone walks. Unfortunately, most state departments of transportation have not recognized the importance of walking, and have failed to take advantage of increased federal funding that is available to address pedestrian safety. STPP analyzed state spending of federal funds for the periods of fiscal years 1992 through 1997 and fiscal years 1998 through 2003, comparing state commitments of federal funds to pedestrian safety. Spending of federal funds per se cannot be directly associated with the safety of the walking environment, because many communities have been investing in sidewalks and other facilities for decades, or have dedicated more local funds (and state funds) to this purpose. But it does indicate the level of commitment transportation agencies have made to creating safer pedestrian environments.

Nationwide, less than 1 percent of federal transportation funds were spent on pedestrians from 1998 to 2003

Pedestrian spending within metro areas

Within metropolitan areas, where most walking takes place, spending of federal funds on these vital transportation needs comes to just pennies per person (see Table 4). A few metro areas are showing increased spending on pedestrian and bicycle facilities. The Orlando metro area which has scored poorly on the Pedestrian Danger Index for several years has the second highest commitment of federal funds of the 50 largest metro areas, with $1.56 per capita annually for these facilities. The Tampa metro area led all large metro areas at $1.66 per capita. Even so, the ten most dangerous areas were still below the annual national average of $0.82 per capita spending on pedestrian and bicycle facilities, at $0.73 per person (see table, right).

PDI Rank	Metro Area	Average Yearly Spending of Federal Funds on Bicycle/ Pedestrian Projects per Capita (FY1998-FY2003)
1	Orlando, FL	$1.56
2	Tampa-St Petersburg-Clearwater, FL	$1.66
3	West Palm Beach-Boca Raton, FL	$0.64
4	Miami-Fort Lauderdale, FL	$0.20
5	Memphis, TN-AR-MS	$0.33
6	Atlanta, GA	$1.23
7	Greensboro--Winston-Salem--High Point, NC	$0.24
8	Houston-Galveston-Brazoria, TX	$0.44
9	Jacksonville, FL	$0.83
10	Phoenix-Mesa, AZ	$0.34
	National Average	$0.82

Table 4. Spending on Walking and Bicycling in Large Metro Areas

Metro Area	Portion of All Traffic Deaths that were Pedestrians (2002-2003)	Average Yearly Spending of Federal Funds on Bicycle/Pedestrian Projects per Capita (FY1998-FY2003)	Spending Rank
New York-Northern New Jersey-Long Island, NY-NJ-CT-PA CMSA	28.3%	$0.31	40
Miami-Fort Lauderdale, FL CMSA	22.8%	$0.20	47
San Diego, CA MSA	22.5%	$0.33	39
San Francisco-Oakland-San Jose, CA CMSA	21.7%	$0.80	19
Los Angeles-Riverside-Orange County, CA CMSA	21.3%	$0.21	46
Tampa-St Petersburg-Clearwater, FL MSA	21.1%	$1.66	1
Detroit-Ann Arbor-Flint, MI CMSA	20.2%	$0.58	29
Buffalo-Niagara Falls, NY MSA	19.9%	$0.74	23
Chicago-Gary-Kenosha, IL-IN-WI CMSA	19.1%	$0.49	30
Seattle-Tacoma-Bremerton, WA CMSA	18.5%	$0.98	11
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD CMSA	17.3%	$0.36	36
Orlando, FL MSA	17.0%	$1.56	2
West Palm Beach-Boca Raton, FL MSA	17.0%	$0.64	26
Washington-Baltimore, DC-MD-VA-WV CMSA	17.0%	$0.49	31
New Haven-Bridgeport-Stamford-Waterbury-Danbury, CT NECMA	17.0%	$0.63	27
Salt Lake City-Ogden, UT MSA	16.9%	$0.74	21
Sacramento-Yolo, CA CMSA	16.9%	$0.88	15
New Orleans, LA MSA	16.7%	$1.30	5
San Antonio, TX MSA	16.1%	$0.08	50
Phoenix-Mesa, AZ MSA	15.8%	$0.34	37
Las Vegas, NV-AZ MSA	15.7%	$0.20	48
Portland-Salem, OR-WA CMSA	15.0%	$0.94	14
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	14.9%	$0.61	28
Memphis, TN-AR-MS MSA	14.8%	$0.33	38
Houston-Galveston-Brazoria, TX CMSA	14.8%	$0.44	33
Denver-Boulder-Greeley, CO CMSA	14.3%	$0.42	34
Atlanta, GA MSA	14.2%	$1.23	7
Hartford, CT NECMA	14.0%	$0.95	13
Milwaukee-Racine, WI CMSA	13.6%	$1.07	8
Dallas-Fort Worth, TX CMSA	13.3%	$0.27	41
Norfolk-Virginia Beach-Newport News, VA-NC MSA	12.8%	$0.26	42
Jacksonville, FL MSA	12.8%	$0.83	17
Raleigh-Durham-Chapel Hill, NC MSA	12.6%	$0.77	20
Greensboro--Winston-Salem--High Point, NC MSA	12.3%	$0.24	44
Louisville, KY-IN MSA	11.7%	$0.81	18
Indianapolis, IN MSA	11.6%	$0.64	25
Rochester, NY MSA	11.5%	$0.66	24
Grand Rapids-Muskegon-Holland, MI MSA	11.3%	$1.27	6
Richmond-Petersburg, VA MSA	11.2%	$0.74	22
St Louis, MO-IL MSA	10.9%	$1.56	3
Kansas City, MO-KS MSA	10.8%	$1.03	9
Pittsburgh, PA MSA	10.7%	$0.37	35
Minneapolis-St Paul, MN-WI MSA	10.7%	$1.30	4
Oklahoma City, OK MSA	10.3%	$0.96	12
Charlotte-Gastonia-Rock Hill, NC-SC MSA	10.2%	$0.24	43
Columbus, OH MSA	9.7%	$0.08	49
Cleveland-Akron, OH CMSA	8.6%	$1.00	10
Austin-San Marcos, TX MSA	8.5%	$0.83	16
Nashville, TN MSA	8.4%	$0.48	32
Cincinnati-Hamilton, OH-KY-IN	7.5%	$0.22	45

State spending on pedestrians

Nationally, less than one percent (0.9 percent) of federal transportation funds has been spent on pedestrians under the current federal spending law, known as TEA-21, even though pedestrians comprise more than 11 percent of all traffic deaths and trips made on foot account for almost nine percent of all trips. This 0.9 percent of spending, about $240 million per year, includes both safety funding and funding for pedestrian (and bicycling) facilities such as crosswalks, sidewalks, traffic calming projects, pedestrian signals, paths, and speed humps.[23] Table 5 shows how each state has performed in using its federal funds on these projects. Nationwide, the average annual amount of federal funds spent on pedestrian (and bicycling) facilities is just 82 cents per person, while the average annual spent per person on other roads and bridge projects is about $90. The 1998 TEA-21 law also represented a significant overall increase in federal transportation dollars flowing to the states; on average, states received more than 40 percent more dollars than the prior transportation funding law provided.

Further, states are not taking advantage of the federal funds specifically available for improving bicycling and walking facilities. The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and its successor, TEA-21, provided a historic opportunity for states and metro areas to make it safer and more pleasant to walk. The principle feature of both federal transportation funding bills was and is their flexibility. Unlike previous laws, ISTEA and TEA-21 gave states the ability to "flex" (or transfer) highway funds to transit, and to use funds for pedestrian or bicycling programs. ISTEA in 1991 created a new program, the Transportation Enhancements program, which reserves ten percent of a state's Surface Transportation Program (STP) funds (overall, less than two cents of every federal dollar) for projects such as bike paths, trails, and sidewalks, and other activities.[24] These changes helped double spending of federal funds on sidewalks, crosswalks, bike paths and trails from just $691 million under ISTEA to $1.4 billion under TEA-21.

[23] It is important to note that not all funding for pedestrian facilities or safety programs comes from the federal government. Local and state governments also provide significant funding for transportation projects, including those for pedestrians. Unfortunately, this data is not readily available.

[24] See the National Transportation Enhancements Clearinghouse for more information about the twelve activities that qualify for Transportation Enhancements funds, <http://www.enhancements.org/12teas.htm>

Table 5. Pedestrian Fatalities and Spending on Walking and Bicycling by State

State	Average Annual Pedestrian Deaths (2002-2003)	Average Annual Pedestrian Deaths per 100,000 Capita (2002-2003)	Portion of All Traffic Deaths that were Pedestrians (2002-2003)	Percent of All Federal Transportation Funds Spent on Bicycle/ Pedestrian Projects (FY1998-FY2003)
Alabama	63	1.40	6.2%	0.8%
Alaska	13	1.94	13.6%	2.5%
Arizona	141	2.55	12.5%	0.6%
Arkansas	37	1.36	5.8%	1.3%
California	719	2.04	17.3%	0.9%
Colorado	67	1.47	9.7%	0.9%
Connecticut	42	1.21	13.6%	1.0%
Delaware	18	2.15	13.2%	2.0%
Florida	503	2.98	16.0%	1.6%
Georgia	162	1.88	10.3%	1.2%
Hawaii	29	2.28	22.4%	0.9%
Idaho	14	1.03	5.0%	0.9%
Illinois	193	1.53	13.4%	1.0%
Indiana	58	0.93	7.1%	1.1%
Iowa	19	0.63	4.4%	1.0%
Kansas	25	0.90	5.0%	1.2%
Kentucky	59	1.43	6.3%	1.0%
Louisiana	96	2.14	10.7%	1.0%
Maine	14	1.04	6.4%	0.8%
Maryland	110	2.01	16.8%	0.6%
Massachusetts	73	1.13	15.7%	1.3%
Michigan	173	1.71	13.5%	0.9%
Minnesota	52	1.02	7.8%	1.8%
Mississippi	48	1.65	5.4%	0.5%
Missouri	84	1.48	6.9%	1.4%
Montana	12	1.31	4.5%	1.0%
Nebraska	12	0.69	4.0%	1.6%
Nevada	61	2.76	16.3%	0.8%
New Hampshire	13	1.01	10.2%	1.6%
New Jersey	162	1.88	21.3%	0.4%
New Mexico	56	3.01	12.6%	0.8%
New York	341	1.78	22.5%	0.7%
North Carolina	164	1.96	10.6%	0.6%
North Dakota	5	0.71	4.5%	0.8%
Ohio	95	0.83	7.0%	0.8%
Oklahoma	46	1.30	6.5%	0.9%
Oregon	49	1.38	10.3%	1.1%
Pennsylvania	165	1.33	10.3%	0.4%
Rhode Island	12	1.07	12.2%	1.5%
South Carolina	89	2.16	8.8%	0.2%
South Dakota	9	1.18	4.7%	0.2%
Tennessee	85	1.45	7.1%	1.1%
Texas	408	1.86	10.9%	0.4%
Utah	27	1.13	8.3%	1.1%
Vermont	6	0.89	7.5%	2.4%
Virginia	87	1.19	9.4%	0.5%
Washington	74	1.20	11.7%	1.6%
West Virginia	25	1.38	6.0%	0.1%
Wisconsin	53	0.97	6.4%	1.1%
Wyoming	6	1.10	3.2%	0.9%
U.S. Total (excl. DC)	4,861	1.68	11.4%	0.9%

Unfortunately, most states have not fully utilized these funds, obligating (i.e. actually spending) only 74 percent of the nearly $6.6 billion made available through the Transportation Enhancements (TE) program under ISTEA and TEA-21. This leaves $1.69 billion which could be dedicated to improving pedestrian and bicyclist safety unspent. Some states have made greater efforts to spend these available funds, but most have failed to take full advantage of TE program resources. Table 6, at right, shows state obligation rates of Transportation Enhancements funds for the TEA-21 period, fiscal years 1998-2003.[25]

Table 6. Transportation Enhancements Obligation Rates by State (FY 1998 – FY 2003)

State	Transportation Enhancements Program Obligation Rates (FY1998-FY2003)
Alabama	75.6%
Alaska	99.3%
Arizona	60.3%
Arkansas	93.2%
California	74.9%
Colorado	77.9%
Connecticut	84.0%
Delaware	76.5%
Florida	81.9%
Georgia	84.3%
Hawaii	84.1%
Idaho	66.9%
Illinois	65.5%
Indiana	78.9%
Iowa	75.3%
Kansas	83.0%
Kentucky	87.7%
Louisiana	49.4%
Maine	65.8%
Maryland	79.1%
Massachusetts	37.0%
Michigan	70.6%
Minnesota	98.5%
Mississippi	78.1%
Missouri	72.6%
Montana	78.7%
Nebraska	71.9%
Nevada	70.4%
New Hampshire	85.2%
New Jersey	78.8%
New Mexico	79.7%
New York	87.5%
North Carolina	83.8%
North Dakota	83.2%
Ohio	69.6%
Oklahoma	90.2%
Oregon	60.2%
Pennsylvania	59.3%
Rhode Island	81.7%
South Carolina	76.6%
South Dakota	58.7%
Tennessee	70.4%
Texas	54.2%
Utah	71.4%
Vermont	85.2%
Virginia	80.6%
Washington	83.3%
West Virginia	87.4%
Wisconsin	52.3%
Wyoming	99.8%
Nationwide	**74.4%**

[25] National Transportation Enhancements Clearinghouse, "Transportation Enhancements: A Summary of Nationwide Spending as of FY 2003." May 2004. <http://www.enhancements.org/misc/tedatafy03.pdf>

Recommendations for State and Federal Action

The American public wants to walk … and needs to walk more often. To make this possible, we need better places to walk. The good news is we are willing to pay to make it happen. There is overwhelming support for policies to make the walking environment more safe and accessible for people of all ages, especially our children. More than two-thirds (68 percent) of Americans favor spending more public funds to improve walkability, even within a constrained budget.[26]

Public health officials are calling for better "pedestrian environments" to encourage walking and help fight obesity. And, transit providers support good pedestrian facilities given that about 85 percent of all transit users get to and from transit services by foot.

Over the last few years, a growing number of communities have taken steps to improve pedestrian safety and walkability. Local governments are hosting Walkable Community Workshops and concerned citizens have performed thousands of "walkability audits" to identify existing gaps and hazards. New, Safe Routes to Schools programs are focusing attention on improving safety on the walk to school and directing resources to make walking and bicycling good, safe choices for children. Many communities have "calmed" neighborhood streets with designs that slow traffic and give a greater margin of safety to those on foot. You can find more information about some of these efforts in *Resources*, beginning on page 35 of this report.

However, the effort to create walkable communities can only if local, state and national transportation agencies more fully embrace walking as a "their business" and as a transportation priority. Additionally, our enforcement and planning agencies, and schools have important contributions to make to the overall effort. The following recommendations identify both design-related and operational actions to make walking a safe and accessible travel option.

Design-Related

1. **Fix What We Have.** Our existing system of streets and highways has many deficiencies in terms of "walkability." There is a lot of work to do to simply "fix" what we have in place.
   - Develop pedestrian action plans to target significant resources for traffic calming, sidewalk and intersection improvements,

[26] *American's Attitudes Toward Walking and Creating Better Walking Communities*, April 2003. Conducted by Belden Russonello & Stewart Research and Communications for the Surface Transportation Policy Project. <www.transact.org/report.asp?id=205>

with attention to transit users and corridors. Enhanced data collection, road safety audits, and asset management systems that include sidewalk inventories can help state and local officials set priorities for upgrading the nation's transportation infrastructure.

- Adopt *"fix-it-first"* policies that emphasize investing available dollars on improving and maintaining existing transportation infrastructure before building new facilities.
- Establish a *Safe Routes to School* program in the federal surface transportation program. Such an initiative is necessary to address the needs of the most vulnerable segment of the population: our children. This focus on the health and safety needs of children going to and from school is the logical first step in a broad commitment to providing safe routes to transit, parks and libraries, senior centers and other public services.
- Ensure a "fair share" commitment of transportation funds to pedestrian and bicycle safety needs. The U.S. Senate has passed transportation legislation to direct states to allocate their federal transportation safety funds to pedestrian and bicycle safety needs proportional to the percentage of all traffic fatalities represented by pedestrians and bicyclists.
- Give more funding to those who own the roads, increasing local control by directing federal funds to the local governments (through their regional agencies or MPOs) that own the infrastructure where most walking takes place. In the nation's urbanized areas, local governments – cities and counties – on average own more than 60 percent of the Federal Aid System (as measured in center-line miles) and most of the other roads.

2. **Complete Streets.** All new transportation investment should improve the pedestrian environment. Establish as a performance standard that every transportation project at every level of government – Federal, State and local – which pedestrians and/or bicycles use or cross, shall provide appropriate accommodations to serve these users. This means designing and providing facilities to ensure safe, easy access and crossing for pedestrians, bicyclists and transit users. Achieving this outcome will require reform of existing governmental policies and practices including design standards and land use; re-training planning officials, traffic engineers, and other transportation leaders; and the development of additional tools to monitor and evaluate performance and function.

Operations

3. **Tame Motor Vehicle Traffic.** More than 42,000 people die in traffic-related crashes in the U.S. every year: this must stop. Motor vehicle operation must be re-established as a privilege and unsafe drivers removed from the roads. Motor vehicle operation – especially speeding – must be strictly controlled. To begin, we must employ promising new technologies to enhance enforcement such as the deployment of photo speed enforcement and so-called red-light cameras. These measures are effective, low-cost strategies that can help reduce speed, tame traffic, and enhance safety for pedestrians and all road users.

4. **Promote Walking.** Most communities and regions still do not actively promote walking. However, a growing number of projects are now underway that emphasize the public health, economic development, and transportation benefits of walking. More focused attention – and resources – should be applied to encourage people of all ages to walk more.

Methodology

Pedestrian Fatalities

The National Highway Traffic Safety Administration collects data on every traffic fatality (pedestrian or otherwise) occurring on U.S. roadways. To determine how many pedestrians were killed in a given year and county, STPP queried NHTSA's Fatality Analysis Reporting System (FARS) for pedestrians who suffered fatal injuries during the years 1994, 1995, 2002, and 2003. We then aggregated the county-level data to the state, Metropolitan Statistical Area (MSA), Consolidated Metropolitan Statistical Area (CMSA), or New England County Metropolitan Area (NECMA) for some 330 metro areas.[27] Dividing this figure by the appropriate population estimate from the U.S. Census Bureau, and multiplied by 100,000 gave us a yearly fatality rate per 100,000 persons.

FARS also collects data on the age of the pedestrian killed, allowing STPP to calculate the number of children or elderly pedestrians killed by automobiles. New to the FARS database is information about the race and ethnicity of the person killed. This allowed STPP to analyze the significance of race and ethnicity in pedestrian fatalities.

STPP created the "Pedestrian Danger Index" to allow for a truer comparison of metro areas that takes into account the exposure that pedestrians face in a given metro area. For example, while approximately the same number of pedestrians per capita is killed in the New York metropolitan and the Greensboro, NC metropolitan areas, the share of work trips made on foot is almost 4 times higher in New York than in Greensboro. We calculated the Pedestrian Danger Index by dividing the average yearly fatality rate for a metro area by the percentage of commuters walking to work in that metro area, using "journey to work" data from the decennial Census.

Safety Spending

STPP calculated spending figures from the Federal Highway Administration's Fiscal Management Information System (FMIS) – a massive database containing details on every surface transportation project receiving federal funds. For the purposes of this report, we queried the database for projects with an improvement type related

[27] The U.S. Census Bureau recently created a new geographic area category replacing the Metropolitan and Consolidated Metropolitan Statistical Areas (MSA and CMSA), as well as the New England County Metropolitan Areas (NECMA) which had been in use until 2000. But because all previous editions of *Mean Streets* had been based on MSAs and CMSAs, we chose to continue using these geographic areas. For more information on these areas, see www.census.gov/population/ www/estimates/aboutmetro.html

specifically to bicycle and pedestrian programs and facilities (the FMIS database lumps together bicycle and pedestrian projects). The county-level data was then aggregated to the metro area or state-level. Dividing this figure by the appropriate population estimate from the U.S. Census Bureau gives us the amount spent on pedestrian projects per capita.

The percentage of federal funds spent on pedestrian projects was determined by dividing the amount derived above for each state by the total federal funds spent in that state (including funds spent on transit). At the national level, STPP compared this number to the percent of trips taken by foot, from the 2001 National Household Travel Survey.

Transportation Enhancements obligation rates were taken from the National Transportation Enhancements Clearinghouse report, "Transportation Enhancements: A Summary of Nationwide Spending as of FY 2003."

Resources

Places to Start

Pedestrian and Bicycle Information Center
http://www.walkinginfo.org and http://www.pedbikeinfo.org

National Center for Bicycling and Walking
http://www.bikewalk.org

America WALKs
http://www.americawalks.org

Active Living Network
http://www.activeliving.org/

Federal Government

Federal Highway Administration Bicycle and Pedestrian Program
http://www.fhwa.dot.gov/environment/bikeped

Federal Highway Administration Pedestrian and Bicycle Safety Research
http://www.tfhrc.gov/safety/pedbike/pedbike.htm

Federal Highway Administration's Design Guidance for Accommodating Bicycle and Pedestrian Travel
http://www.fhwa.dot.gov/environment/bikeped/Design.htm

Federal Highway Administration's Traffic Calming Page
http://www.fhwa.dot.gov/environment/tcalm

National Highway Traffic Safety Administration's Pedestrian Safety Programs
http://www.nhtsa.dot.gov/people/injury/pedbimot/ped

Access Board
http://www.access-board.gov

Advocacy Groups

Smart Growth America
http://www.smartgrowthamerica.org

WalkBoston (Boston, MA)
http://www.walkboston.org

Pedestrians Educating Drivers on Safety (PEDS) (Atlanta, GA)
http://www.peds.org

Transportation Alternatives (New York, NY)
http://www.transalt.org

Right of Way
http://www.rightofway.org

Tri-State Transportation Campaign (New York-New Jersey-Connecticut)
http://www.tstc.org

National SAFE KIDS Campaign
http://www.safekids.org

Congress for the New Urbanism
http://www.cnu.org

Project for Public Spaces
http://www.pps.org

Walkable Communities, Inc.
http://www.walkable.org

Professional Organizations

American Planning Association
http://www.planning.org

American Public Transportation Association
http://www.apta.com

Association of Bicycle and Pedestrian Professionals
http://www.apbp.org

Human Powered Transportation Committee of the American Society for Civil Engineers
http://www.ascehpt.homestead.com

Institute for Transportation Engineers
http://www.ite.org

American Association of State Highway and Transportation Officials
http://www.aashto.org

Transportation Research Board
http://www.trb.org

Events

Walk to School Day (USA)
http://www.walktoschool-usa.org

International Walk to School Day
http://www.iwalktoschool.org

Walk21 International Conference on Walking in the 21st Century
http://www.americawalks.org/walk21

Pro Bike/Pro Walk Conference
http://www.bikefed.org/Conference/conference.htm

Resources for Communities

Active Living by Design
http://www.activelivingbydesign.org

Fehr and Peers Associates, Inc. Traffic Calming website
http://www.trafficcalming.org

Institute of Transportation Engineers' Traffic Calming Library
http://www.ite.org/traffic

The 2002 Summary of Safe Routes to School Programs
http://www.transact.org/report.asp?id=49

Victoria Transport Policy Institute Online Transportation Demand Encyclopedia
http://www.vtpi.org/tdm

Surface Transportation Policy Project

http://www.transact.org

http://www.tea3.org

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