TABLE 5: HOSPITALIZED PEDESTRIAN INJURIES BY INSURANCE COVERAGE AND HOSPITAL COSTS 1998						
ITEM	MEDI-CAL	OTHER/ GOV'T	PRIVATE INSURANCE	SELF-PAY	TOTAL	
0-4 yrs	279	22	168	44	513	
5-12 yrs	395	69	303	37	804	
13-20 yrs	223	33	216	62	534	
21-64 yrs	631	576	775	527	2509	
65+ yrs	73	575	129	31	808	
TOTAL DISCHARGES	1,601	1,275	1,591	701	5,168	
PERCENT SHARE OF ADMISSIONS	30.9 %	24.7 %	30.8 %	13.6 %	100.0 %	
HOSPITAL CHARGES	\$ 71,129,64 8	\$ 52,658,96 2	\$ 56,338,182	\$23,611,6 92	\$203,738,48 4	
PERCENT SHARE OF ADMISSIONS 0-64 yrs	35.0 %	16.1 %	33.5 %	15.4 %	100.0%	
PERCENT OF POPULATION 0-64 yrs COVERED	11.0%	n/a	n/a	n/a	n/a	

NOTE: Hospital charges don't include physician charges or any outpatient costs. SOURCE: Latino Issues Forum; California Office of Statewide Health Planning and Development, Hospital Discharge Dataset 1998; California Department of Health Services, Epidemiology and Prevention for Injury Control Branch.

It is speculated that the link between pedestrian collisions and ethnicity is due to the fact that Latinos and African Americans in California are less likely to own a car and more likely to walk, bike and take public transit – resulting in greater

exposure to the dangers of the street. The link with socioeconomic status may also have to do with the fact that more affordable housing is located along high-speed, high-volume arterial streets - which are more dangerous for pedestrians.

THE COST OF PEDESTRIAN COLLISIONS

While spending on pedestrian safety measures usually fails to be a priority in local, regional and state transportation funding programs, health providers, private companies and Californians themselves are spending billions as a result of pedestrian injuries and fatalities. As demonstrated in Table 5, hospital charges alone are in excess of \$200 million – a cost partly covered by health insurance providers but that also included over \$23 million in out of pocket expenses in 1998. Yet these initial costs do not factor in physician charges, physical rehabilitation, work loss or property damages. An independent analysis of pedestrian injury and fatality data performed by the Children's Safety Network Economics and Insurance Resource Center concludes that pedestrian collisions cost California at least \$1.3 billion in lost economic productivity in 1999 alone. This cost estimate rises to nearly \$4 billion once "quality of life" costs including pain and suffering are accounted for (see Table 6).

TABLE 6: TOTAL COST OF CALIFORNIA PEDESTRIAN FATALITIES AND INJURIES — 1999						
TYPE OF COST	FATALITY COST	INJURY COST	TOTAL			
MEDICAL	\$3,500,000	\$228,600,000	\$232,100,000			
VICTIM WORK LOSS	\$683,500,000	\$261,200,000	\$944,700,000			
PUBLIC SERVICES	\$900,000	\$4,100,000	\$5,000,000			
PROPERTY DAMAGE	\$8,700,000	\$67,100,000	\$75,800,000			
(SUBTOTAL ECONOMIC COSTS)	(\$696,600,000)	(\$561,000,000)	(\$1,257,600,000)			
LOST QUALITY OF LIFE COSTS	\$1,324,500,000	\$1,355,600,000	\$2,680,100,000			

TOTAL COSTS	\$2,021,100,000	\$1,916,600,000	\$3,937,700,000

NOTE: Based on provisional data from Statewide Integrated Traffic Records System (SWITRS) August 1999; SOURCE: Children's Safety Network Economics and Insurance Resource Center; Pacific Institute for Research and Evaluation; Cost per Injury and Fatality based on research by Miller, Romano and Spicer.

RESTRICTING ACTIVITY INCREASES OTHER HEALTH RISKS

Unfortunately, the initial response to increasing traffic dangers is often to limit pedestrian activity, and children in particular are often the first to be discouraged from walking or bicycling. But the fact that so many children are kept inside or are chauffeured to destinations in order to guarantee their safety has increased their exposure to another kind of danger – the health risks associated with inactivity and obesity. Seventy–eight percent of U.S. children already do not get the recommended daily dose of 30 minutes of exercise, including 20 minutes of vigorous activity.²⁴ This can have a negative impact on a child's cardiovascular health²⁵ and also contributes to obesity. Physical activity not only stimulates muscles and joints but also improves concentration, memory and learning, and enhances creativity and problem–solving abilities.²⁶ Studies have shown that physical activity also improves the mood of children.²⁷

Advocates working in low-income communities note that fear of both traffic and crime often cause parents to keep their children home from after-school programs. This loss of mobility and

PEDESTRIAN PROFILE #2:

PIO PICO ELEMENTARY SCHOOL SANTA ANA, ORANGE COUNTY CALIFORNIA Two years ago, 12 students and teachers at Pio Pico Elementary School in Santa Ana formed a "Research Club" to identify hazards to pedestrians in their neighborhood. The student researchers took community walks, interviewed parents and neighborhood leaders, and canvassed neighborhoods to identify problems. They found that excessive speeding, drivers failing to yield to pedestrians, and the amount of traffic in the school zone posed major problems for walkers. They also found a vast difference between the amount of traffic in their lower income neighborhood compared to the amount of traffic going through the nicer part of town to the north.

Emily Wolk, a fourth grade teacher at Pio Pico and one of the researchers, highlights some of the traffic concerns in their neighborhood. "Many of the Researchers wouldn't cross the street without crossing guards. Moms run across the street with their babies. Four kids have been run over. We're not used to taking on these issues." Pio Pico students chime in: "In the north end of town, they had everything. There was police enforcement all the time in the nicer part of town...The houses are very nice. There's a lot more rich people, and a lot less traffic."

Student researchers presented their findings to the public and garnered community support for their pedestrian safety effort. They asked that Santa Ana city officials install a four way stop sign at the intersection of Highland and Flower. The city initially concluded that there wasn't enough money for a stop sign or signal, but the research team continued to stay committed to building their case by generating media coverage and teaming with other groups like the newly-created Santa Ana Pedestrian Safety (SAPS) Project and the Santa Ana Police Department. The researchers worked with police to use a radar gun to track speeding motorists, conduct a traffic count, implement 'crosswalk stings' and enforce speed limits in school zones. At a meeting with the SAPS Project Task Force, the Director of the California Office of Traffic Safety, and the city's traffic engineering staff, student researchers presented their case for a litany of new pedestrian safety measures.

The Santa Ana Department of Public Works finally responded by installing a four way stop sign. The police department also provided new training to crossing guards and gave guards brighter uniforms with bigger stop signs. Through the efforts of the Research Team working with other partner agencies, they've produced a pedestrian safety video, organized a pedestrian safety parade.

created incentives to have other teachers to talk about the issue, and generated public awareness. They will soon participate in the painting of a mural, begin mass distribution of the video, and hold community meetings to reinforce the program.

independence prevents them from becoming familiar with and exploring their neighborhoods, and prevents them from acquiring the traffic skills they need in order to stay safe. In addition, researchers also believe that the loss of independence and mobility has even more significant impacts on their cognitive skills. Children who are driven everywhere and who aren't allowed to venture outside are often unable to draw basic maps of their communities and develop an understanding of spatial relationships.²⁸

"Independent play and mobility by school-aged children in their neighborhoods have been found to contribute to their social and spatial development," write UC-Irvine health researchers in a recent article published in the Journal of the Institute of Traffic Engineers. "If children play only under strict adult supervision, they miss the opportunity to develop skills such as negotiation and leadership. Residential neighborhoods without a safe and healthy environment do not accommodate the developmental needs of children."²⁹

PEDESTRIANS AND ALCOHOL

Those who are critical of efforts to improve pedestrian safety are often heard to cite studies showing that many pedestrians who are hit by cars are drunk. According to a 1997 study for the National Highway Traffic Safety Administration, one third of all adult pedestrians who are injured or killed were intoxicated.³⁰ But two thirds of the adults were not drunk, and many pedestrian victims are children. Moreover other examinations of local data, including a recent story in the Los Angeles Times, suggest that these results may be exaggerated. The Times analysis of accident reports in Santa Ana found that alcohol or drug use was cited in just six percent of the crashes that were blamed on pedestrians.³¹

IN THEIR OWN WORDS
ADRIAN MENDOZA RUIZ, 10
STUDENT
NORTHEAST LOS ANGELES, CALIFORNIA

"I live on a high traffic street. It avoids the crowded 110 freeway and connects Pasadena to the downtown area. Commuters drive as if it were actually a freeway. In the past year there has been very good enforcement against speeders in certain patches of the street. But, where I live there is a huge hill, so people tend to accelerate while going downhill on Monterey Road to gain momentum to drive up the other street.

There is a crosswalk at this intersection which all the neighborhood kids and families use on their way to school. There has been several occasions where people have had to run to avoid getting hit, or jump back on the curb, including my mother and brother. At one point I approached a traffic cop waiting for a speeder on the next block of my street, and informed him of the situation. He told me he could not do anything about it unless there was a report. I proceeded to call the Police Department which kindly stated, 'We will look into it, thank you.' I have yet to see a police officer stationed at that intersection."

CHAPTER THREE: THE RESPONSE

Despite the clear public health and safety problems that have been documented, as well as the social equity issues that are raised by the statistics showing non-white and low-income residents to be at greatest risk, pedestrian safety is still largely neglected by state, regional and local transportation officials. Roughly 20 percent of all traffic-related fatalities in California are pedestrians, even though only eight percent of all trips are made on foot. Yet California spends less than one percent of its federal traffic safety money on pedestrians. In 1997, \$739 million in federal funding was spent on traffic safety projects statewide, but only \$6 million was spent on pedestrians.

TABLE 7: STATES WHERE PEDESTRIANS ACCOUNT FOR HIGHEST SHARE OF ALL TRAFFIC-RELATED DEATHS — 1997-98					
RANK	STATE	Average Spending on Pedestrian Projects per Capita (1997–1998)	Average Percent of Spending on Pedestrian Safety (1997–1998)	Percent of Traffic Deaths that Were Pedestrians	
1	NEW YORK	\$1.22	1.2 %	24 %	
2	CALIFORNIA	\$0.04	0.1%	21 %	
3	MASSACHUSETTS	\$2.05	2.1 %	20 %	
4	NEW JERSEY	\$0.08	0.2 %	20 %	
5	FLORIDA	\$0.71	1.0 %	19%	
6	HAWAII	\$0.14	0.3 %	18%	
7	MARYLAND	\$0.29	0.3 %	18%	
8	ARIZONA	\$0.34	0.5 %	16%	
9	CONNECTICUT	\$1.91	1.8 %	15 %	
10	NEVADA	\$0.75	0.9 %	15 %	

NOTE: Spending is based on federal funds only. SOURCE: Federal Highway Administration; Surface Transportation Policy Project.

Providing basic facilities is the first step toward improved pedestrian safety. Building sidewalks, crosswalks, trails and other accommodations is fundamental to providing a safe walking environment. Unfortunately, an examination of federal transportation funding shows that California ranks last among the 50 states in spending on pedestrians. While an average of \$40 per person in federal

transportation funding was spent on highway projects, an average of just 4 cents was spent improving conditions for pedestrians. Although data for state and local spending on pedestrian safety measures isn't collected, rough estimates place expenditures at all level of government in the one to three percent range.

A STEP BACKWARDS: REMOVING CROSSWALKS

Exacerbating the lack of funding is the fact that transportation officials throughout California have been removing marked crosswalks at uncontrolled intersections (i.e. intersections with no stop sign or traffic light) due to studies that suggest they provide pedestrians with a "false sense of security." This crosswalk removal policy – now widespread across California – has caused a

PEDESTRIAN PROFILE #3:
ADRIENNE LEIGH, 43
PRODUCER/ACTRESS
HILLSBOROUGH,
SAN MATEO COUNTY, CALIFORNIA

When Adrienne Leigh first moved into suburban Hillsborough in 1997, she was expecting all the benefits of a small town nestled in the hills halfway between San Francisco and San Jose: open space, friendly neighbors and quiet streets. After a few weeks, however, Adrienne, her husband and two small children soon realized that life in Hillsborough was going to be more difficult than they thought. Even though the public elementary school that Adrienne's children attended was a mere two and a half blocks away, she began driving them because walking to school without sidewalks was far more difficult than she expected.

"I live in a beautiful community but everyone drives everywhere. Kids are completely dependent on parents to get where they need to go," explains Leigh. "People speed through the streets, the same streets that kids have to walk in because we have no usable bike paths or sidewalks." After finding that she wasn't alone in her dilemma, Leigh decided to join her school's safety committee. But after local officials and city engineers repeatedly denied

requests from committee members to undertake a proactive pedestrian safety effort, she and another mom soon went on to form their own organization. "Safe Paths of Hillsborough" is stumping for safer places for kids to walk and bike, especially around schools and parks. "We went and bought books on traffic engineering, street design, and pedestrian safety because we needed to learn what could be done within traffic engineering standards," says Leigh. "We found that there was indeed lots you could do to improve pedestrian safety. But nothing seemed to be happening, There was a lot of sentiment to just preserve the status quo."

Leigh notes that after more than a year of meetings, rallies and city council hearings, the group is growing and winning support. "At first we thought the effort would just attract parents, but we've appealed to a lot of seniors and empty nesters too. They used to be able to walk around the community but now it's too dangerous so they want to get involved."

And in recent months, local officials have begun to respond. Hillsborough recently hired a new city engineer, launched a comprehensive pedestrian safety study around schools, approved its first bike lane, and increased enforcement efforts evidenced by a 400 percent increase in moving violations issued within the last twelve months. "I walk my kids to school now. There still aren't any dedicated sidewalks, but hopefully that'll change soon," says Leigh. "More kids walking means fewer parents driving and less traffic, hopefully that's reason enough for the city and school district to start paying attention."

great deal of controversy among a growing number of citizens, researchers and traffic engineers, who note that once crosswalks are removed other protective measures are rarely put in place, leaving pedestrians to fend for themselves. Many critics compare the policy to that of removing traffic lights at busy intersections so motorists will pay more attention.

The debate began when in 1970 when a study in San Diego found that placing crosswalks at mid-block and unsignalized locations could cause pedestrians to drop their guard and step into the path of an oncoming vehicle. This has prompted local officials to express concern about whether they are liable for creating legal crossings that don't guarantee protection.

According to the California vehicle code there is a legal crosswalk at every intersection whether it is marked or not. However, very few motorists or pedestrians know this. As a result, motorists often don't expect pedestrians to cross at an intersection that isn't marked with a crosswalk, and assume they're jaywalking if they do. And the absence of any visible markings is likely to lead to uncertainty on the part of the pedestrian, who may – not knowing there is a legal crosswalk – decide to jaywalk mid-block instead.

Pedestrian advocates also contend that the standard California crosswalk – which typically consists of two thin white or yellow lines – offers little protection compared to techniques employed elsewhere in the U.S. and other countries and that are designed to draw more attention to both the pedestrian and the crossing. These include zebra striping, textured surfaces or raised surfaces in the road at pedestrian crossings, flashing lights embedded in the pavement, yellow flashing lights or florescent signs overhead, and limit lines placed in advance of the crosswalk to alert motorists.

There have been so many questions raised about the crosswalk removal policy that the Federal Highway Administration has commissioned a comprehensive study to help settle the issue. Preliminary results seem to indicate that crosswalks at mid-block or unsignalized intersections are indeed an adequate safety measure on two lane streets or multi lane arterials with low traffic volumes. A crosswalk alone may not be enough to adequately protect pedestrians where streets are wide, speeds are high, and traffic is heavy. Yet researchers make a critical distinction that local transportation officials are failing to make. Researchers say that on wide, high-speed, high-volume arterials more – not less – protection needs to be provided for pedestrians than just a simple crosswalk. These safety enhancements could include additional markings, flashing lights or a traffic signal, raising the crosswalk and incorporating it into a speed hump to slow traffic, or the addition of raised medians where the pedestrian can seek refuge.

As will be discussed below, these principles are critical to the discussion of assigning fault in pedestrian fatalities and injuries. If pedestrians have fewer and fewer places to cross safely, they will begin jaywalking by necessity rather than by choice. Indeed, a cursory glance at state and national statistics reveals a substantial number of pedestrian fatalities occur outside a crosswalk. Yet a

closer look at national data shows that 59 percent of pedestrian deaths for which location information was recorded happened in places where pedestrians had no convenient access to a crosswalk. While jaywalking is often cited as a cause of pedestrian accidents, less than 20 percent of fatalities occurred where a pedestrian was crossing outside an easily available crosswalk.

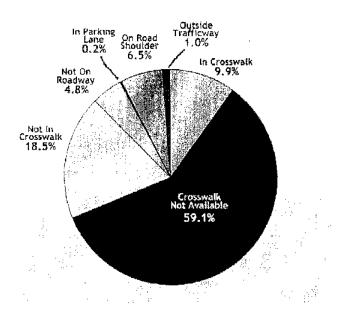


Figure 1: A majority of pedestrian fatalities occur in locations where no crosswalk is available

DANGEROUS BY DESIGN

A significant part of the problem is that the highest priority of traffic engineers is to improve "levels of service" on streets so that the greatest numbers of vehicles can be accommodated at the greatest speeds. That typically means designing roads with wide lanes, large turning radii at intersections, and ample passing and turning lanes. Unfortunately, this makes streets more dangerous for pedestrians. Until recently, the national design manual for streets and highways officially defined pedestrians as "traffic flow interruptions."

Traffic speed and traffic volume are two of the environmental factors with the highest correlation to pedestrian injury and death. According to a study by the

National Highway Traffic Safety Administration, higher vehicle speeds are strongly associated with both a greater likelihood of pedestrian collisions and more serious injuries. While only 5 percent of pedestrians die when struck by a vehicle traveling at 20 mph or less, according to the study, the fatality rate increases to 40 percent at a speed of 30 mph, 80 percent at a speed of 40 mph, and nearly 100 percent at a speed of 50 mph.³²

A little known California law makes it difficult to enforce speed limits that are not set at or near the speed traveled by 85 percent of drivers on a particular street. This law has resulted in the boosting of speed limits in cities across California, despite the protests of residents who complain it compromises safety. According to a recent Los Angeles Times survey, the City of Orange raised the speed limits on more than 80 percent of its streets in 1994, and subsequently saw the number of serious accidents increase 21 percent over the next four years. The City of Santa Ana revised 70 of its 177 speed limits upwards, according to the Times. During the next three years about a third of all fatal pedestrian accidents occurred on streets where speed limits were raised.³³

PEDESTRIAN PROFILE #4: SHACKELFORD ELEMENTARY SCHOOL MODESTO, STANISLAUS COUNTY, CALIFORNIA

Since 1971, Merle Olinghouse, a teacher at Shackelford Elementary School in Modesto, has powerlessly watched his students dodge cars while crossing Crow's Landing Road, the busy five lane highway adjacent to the school. "I've watched three of my students get hit by cars," he says. "One developed serious brain injury. With increased traffic, it's just getting worse every year."

Without any sidewalks or bike lanes, schoolchildren are walking and cycling in streets alongside speeding traffic that empties off nearby Highway 99. Most students live too close to school to be bused, but many parents on the other side of Crow's Landing drive their children to school even if they live only a block away. Children who don't get rides brave the streets alone on busy Crow's Landing Road and through neighborhoods without sidewalks.

"My friends and I were crossing Crow's Landing Road so fast that we dropped a backpack," explains Erica, a student at Shackelford. "I came back to get the backpack on the road, but my friends were all scared I would get hit. We were all so out of breath and scared that we couldn't talk." Without a traffic signal or overpass in front of the school, students are expected to cross the street at a lighted intersection three blocks away at Hatch Rd. to get to the school, but to many students that's simply not a logical option.

John and Diana Wiegand, whose son was hit by a car while walking to school, wrote a letter to the Modesto Bee in response to recent media publicity over the Crow's Landing crossing, "We noticed that the schools pulled out the same excuse they used in 1988—that there is a traffic signal at Hatch Road. They still don't understand that a poor kid, without a coat, when it is cold, is not going to walk the several extra blocks to cross at the light."

Years ago, when Shackelford parents and teachers asked the police to assist students across Crow's Landing Road, they determined that the street was too unsafe for a crossing guard. Judy Andrews, the school's community aide recalls that time: "the Police Department came and had three officers come for three days to walk the kids across the street. After three days, they said it was a suicide mission and they removed the crosswalk on Crow's Landing altogether."

More than 800 people recently signed a petition to construct a pedestrian overpass over Crow's Landing Road. In August 2000, Stanislaus County officials said that they would look for a solution, whether that involves installing a traffic signal or a pedestrian overpass. Most recently, County officials are said to be in negotiation with the school to install a traffic signal. Meanwhile, for most students, help can't come fast enough. As one Shackelford third-grader wrote: "Please build us a bridge so no one will get killed. I don't want to lose any of my friends."

The preoccupation with making traffic move faster has resulted in many other anti-pedestrian laws and policies as well. Motorists are allowed to make right

and left turns across the crosswalk during the walk sequence, and traffic signals are timed so as to improve the flow of traffic but making it difficult for parents with children and the elderly to cross the street. A 1994 UCLA study found that 27 percent of the elderly pedestrians observed crossing an intersection in a busy shopping area were unable to reach the opposite curb before the light changed. One quarter of this group was stranded in the middle of the street.³⁴

The problem with the adoption of "right turn on red" laws was found in another study to result in a 57 percent overall increase in pedestrian-motor vehicle collisions. In urban areas, these collisions increased by 79 percent, with elderly pedestrians found to be the most at risk.³⁵

Moreover, many measures taken to improve pedestrian safety actually penalize pedestrians. Many cities have responded to complaints about pedestrian safety by cracking down on jaywalkers. The Santa Ana City Council responded to concerns about pedestrian safety by making it illegal for pedestrians to take refuge on medians in the roadway,³⁶ despite the fact that many studies recommend providing raised medians for pedestrians as a way to increase safety.

Other communities have removed crosswalks or put up signs or barriers prohibiting pedestrians from crossing.

BLAMING THE VICTIM

Pedestrians, even if they are very young children, are often found to be at fault in crashes, obscuring the fact that the real problem may be that speed limits are set too high, or that there are a lack of crosswalks, general pedestrian safety measures and safe places for children to play. Police reports are often designed to describe vehicle-pedestrian collisions in terms of what the pedestrian did wrong, and seldom note the actions of the driver or record the speed of the vehicle.

According to a recent Los Angeles Times story, California law -- unlike the law in 34 other states -- does not have a provision requiring motorists to be especially careful around children, the disabled or other impaired individuals,

even though it does contain a provision requiring drivers to reduce speeds to avoid frightening livestock that may be on the road.³⁷

The result of this tendency to hold pedestrians responsible also translates into difficulties for injured pedestrians attempting to get their medical bills paid, as insurance companies are less likely to provide compensation when pedestrians are faulted. And if the pedestrian or their family decides to bring a civil lawsuit against the motorist, attorneys are less likely to accept the case. Even when police do cite motorists in pedestrian accidents, the punishments are far from harsh. The most common type of pedestrian accident blamed on drivers – when a car strikes someone in a crosswalk – carries a maximum fine of \$103 in California regardless of the severity of the injury. That's far less than the \$271 fine for driving alone in a carpool lane or the \$270 fine for littering.

Statewide, police blamed pedestrians for 59 percent of all serious pedestrian accidents between 1994 and 1998, according to the Los Angeles Times story. In deciding culpability for the most common pedestrian collision – outside of a crosswalk – police must weigh the pedestrian's obligation to yield versus the motorist's obligation to exercise due care. The Times analysis of

PEDESTRIAN PROFILE #5:
BERNICE KRING
RETIREE

SACRAMENTO, CALIFORNIA

"Many drivers think that it's my responsibility to get the heck out of the way, but at my age that's difficult." So says Bernice Kring, a retired grandmother who recently moved up to Sacramento from southern California. "In the state capital, you'd think people know the law, but they don't stop for pedestrians. In Orange County, even the low-riders stop for you and know the laws."

Just five years ago, Bernice was an active adult in more ways than one. When she used to work for Grandmothers for Peace, it wasn't unusual for her to walk 20 to 30 blocks a day. But now Bernice is legally blind in one eye and has poor hearing. She doesn't walk as much as she used to because of asthma and poor air quality. Bernice jokingly says that she may one day have to tell the police she

suffers from "Spastic Ambulatory Syndrome," to explain the loss of control of her movements in order to avoid being arrested for public drunkenness. "At my age, I don't walk too straight," she says.

As an elderly pedestrian, she encounters many more challenges on her routes than a typical person. Due to lack of maintenance, sidewalks are broken up and she often trips and falls. Traffic lights aren't timed long enough even for younger pedestrians to safely cross. Kring often needs an extra light in order to navigate the larger intersections. Sacramento County suburbs, she explains, aren't built for pedestrians. If there are any sidewalks, they're usually too narrow. And drivers are often startled to find her in the middle of a long crosswalk or alongside a busy road, something she's convinced they'll understand when they get to be her age. "How do they get to their cars anyway?" she wonders out loud. "Do they flap their wings? Maybe they just blink their eyes?"

In addition to contending with traffic, she puts up with taunting by youths. Because of the street design, cars filled with kids have sped by close enough to the sidewalk to reach out and grab her groceries. Nowadays Bernice always carries her grocery bags on the inside. "I notice that I'm not out as much as I once was. But when I do go out, they don't argue with me as much as they used to. Now I have a cane."

333 such collisions in Santa Ana showed police decided in favor of the motorist 97 percent of the time, even though more than half of the accidents involved children under 9 years of age who were almost invariably hit in residential areas. According to the Times, police in Santa Ana also blamed hundreds of accidents over the last decade on children as young as 2 years old, and assigned fault to pedestrians in dozens of hit-and-run accidents, even when the pedestrian was killed.

Serious questions have also been raised about whether police are ignoring illegal driver behavior. The degree to which drivers have been found responsible ranges from 21 percent to 46 percent

IN THEIR OWN WORDS
RICK ANDERSON
TEACHER, MOBILITY FOR THE DISABLED
SACRAMENTO, CALIFORNIA

"When I see tire tracks over the sidewalks at curbless corners that you can drive a car onto, I point that out to my students—watch out, I say, you could get hit here.

The infrastructure is 20 years behind. Many of the corners don't have wheelchair ramps. Sidewalks are really narrow. Why are all the light rail tracks at the level of the street? Why weren't they installed so that there's pedestrian bridges? There hasn't been any planning for the separation of pedestrians, bicycles and cars. Our tax dollars should go to pedestrian bridges and bicycle tunnels.

The infrastructure in Sacramento, especially downtown, is 20 years behind. Many of the corners don't have wheelchair ramps. Sidewalks are really narrow. The pavement is so old and potholed in downtown residential areas that it's dangerous to walk across.

Pedestrian walk/don't walk lights everywhere just don't last long enough. You step out, and three steps later, the light starts blinking. Whether or not you have a disability, you could be caught in the middle of traffic. You're lucky if there's an island, but they're only a foot wide and not big enough to use safely if they exist at all.

These high speed one-way streets through the downtown residential areas are very anti-pedestrian and anti-disabled. There's no accommodation for the handicapped in the one-way residential zone except for some wheelchair ramps that are only now being installed. The message seems to be that there's not enough money to go around. There must be a way to make the big guys give the poor people and people with disabilities our fair share."

in different studies.³⁸ A very recent study of police reports from deadly pedestrian crashes in New York City found that in 74 percent of the cases drivers were speeding, had illegally turned into a crosswalk, had run a stop light or were otherwise culpable. Only 16 percent of the drivers were cited.³⁹

A 1997 UCLA study found that 25 percent of pediatric pedestrian injuries involved hit and run drivers.⁴⁰ Other studies found that drivers take minimal evasive action to avoid striking pedestrians.⁴¹ A 1999 UCLA study investigated the compliance rate of drivers at three stop signs on the university campus, and found that only 22.8 of every 100 drivers stopped at the crosswalk. The rate of compliance improved to just 53 percent when pedestrians were present in the crosswalk.⁴²

The tendency to blame either pedestrians or motorists for collisions has obscured the fact that the physical design of the street or intersection is often a significant contributing factor: it can actually serve to encourage dangerous vehicle movements, speeding or jaywalking.

THE THREE E'S: EDUCATION, ENFORCEMENT AND ENGINEERING

Assigning fault to pedestrians creates the impression among policy makers and the public that there's nothing that can be done to improve pedestrian safety. As a result, pedestrian safety efforts are typically targeted at educating the pedestrian to use additional caution, even though numerous health studies conclude that education alone has limited effectiveness, especially with children, and that modifications in street design and the lowering of speed limits are also needed.⁴³

A recent article in the Institute of Traffic Engineers Journal by researchers in Orange County points out that while children as young as 9 can learn the skills required to cross the street, they are unlikely to use them because of developmental limitations in their cognitive, perceptual and behavioral abilities – especially if they are engrossed in play.⁴⁴ The article concludes that because children are small and have a narrower field of vision they are less visible to drivers and less able to see approaching cars. Children are disadvantaged because the task of negotiating traffic requires complex assessments of speed,

distance and time that are beyond their experience. Children are also unable to understand the driver's point of view and typically assume they are safe, especially if they are in a crosswalk.

For these reasons, the researchers conclude, traffic safety education must be expanded to target motorists as well as incorporate both speed enforcement and street engineering strategies in order to reduce child pedestrian accidents. "Modifications in street design and operation by traffic engineers also are required to prevent child pedestrian injuries . . . neighborhood streets need to be designed to reduce traffic speeds," write the authors. "Society cannot adapt children to traffic; society has to adapt traffic to children."

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