Can't Get There From Here

The Declining Independent Mobility of California's Children and Youth

A Joint Project of:

Surface Transportation Policy Project,
Transportation and Land Use Coalition
and Latino Issues Forum

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The Surface Transportation Policy Project (STPP) is a national coalition of more than 200 organizations working to promote transportation policies that protect neighborhoods, provide better travel choices and promote social equity. STPP has offices in San Francisco, Sacramento, Albuquerque, NM, Pittsburgh, PA, and Washington, D.C. For more information about STPP, please visit http://www.transact.org/ca/.

The Transportation and Land Use Coalition (TALC) is a partnership of over 90 Bay Area groups working to promote transportation choices, affordable housing and healthy, walkable communities. We work together to analyze policies and spending priorities, develop alternative proposals, and spearhead grassroots campaigns. For more information on TALC please visit http://www.transcoalition.org.

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A State of Mind

It's every teen's fantasy to drive past a friend's house honking the car horn, waving and grinning, celebrating a new-found "freedom" — the driver's license. Teens talk about it, dream about it, and count the days until they sit alone behind the wheel. It's true, I know, because I was one of them. Annoyed at the hassle of riding a bicycle home from school and arranging my own carpool rides, I was ten going on sixteen.

In junior high and the early years of high school, I rode my bike home from school every day because my parents' work schedule made it impossible for them to pick me up. Although I lived only two miles from campus, the journey home was always challenging. Many roads in Orangevale are not built for bikers and pedestrians, and a number lack any real sidewalk or shoulder. I often struggled to stay in the designated "bike lane," a strip of asphalt barely wider than my handlebars. Trash day was often the most traumatic day of the week, as I took a risk each time I was forced into the road to avoid hitting a can.

Because the roads were so unsafe, I was one of the few students at my school who commuted by bike. The majority of students stood in front of the school at the end of the day, waiting for parents to make their way through the traffic jam in the school parking lot. While about a thousand cars moved in and out of the parking lot daily, the bike racks and school buses were nearly empty.

Every time I rode my bike to school I was wishing I could drive instead. At the end of my junior year, a few months after I turned 16 and got my driver's license, my parents gave me a car as a gift. I drove home from school the day I got it, and my biking days were temporarily over. I drove my car to and from work that summer, and I was able to make shopping trips on my own. I felt so liberated.

But now that I've had a license for almost two years, my perspective on driving is entirely different. Gas is increasingly expensive, traffic is never fun and accidents are always waiting to happen. Driving has come to seem anything but liberating.

I first started to realize this during that first summer after I got my car. I spent a lot of time in traffic jams on the way to work, and I was spending a lot of money on gas. Although I still felt liberated, I learned quickly that driving is not much fun.

I've also become more aware of the negative effects driving is having on the health and attitudes of children and teens. In my job as a camp

counselor last summer, I worked every day with kids who would rather perfect their Nintendo skills than practice a new sport, and I began to realize that our society's focus on car travel is contributing to an epidemic of laziness and dependence among children.

Many kids I know would rather sit around and wait for a ride than to expend the energy to walk. This lack of physical activity, combined with the poor nutrition many kids get, is causing more and more children to be overweight and out of shape.

Children would be better off if they traveled by car less and could walk or bike to more of their destinations. But before this happens, our society will have to change its car-focused state of mind. Kids will continue to rely on cars to get around until traffic engineers make pedestrian safety a higher priority and streets become safer to travel by foot or bike. And kids will remain reluctant to walk until communities start controlling the sprawl which often makes trip distances too long to walk.

If streets and communities are designed with pedestrians and bicyclists in mind, many more kids will choose to walk and bike - in part because they want to. If that happens, teens could do something more meaningful and productive than fantasize about becoming a licensed driver.

By Amanda Johnson

Eighteen-year-old Amanda Johnson grew up and attended school in Orangevale, a Sacramento suburb. She graduated from high school in June 2002 and now attends Stanford University.

EXECUTIVE SUMMARY

Ask any old-time Californian about his or her childhood, and you'll most likely hear stories about walking to school, running to a corner grocery store or bicycling over to a friend's house. Walking and biking were a part of everyday life, he or she will tell you, and kids were able to get around on their own most of the time.

How times have changed. Unlike the children of earlier generations, who as recently as the 1960s still traveled to school by foot or bike in majority numbers, today's kids depend on rides from mom or dad to get almost everywhere they need or want to go. Survey data from the California Department of Transportation — published for the first time in this report — show that California children now make about three-quarters of all their trips in automobiles, while walking and bicycling now account for just 16 percent of children's trips. National surveys confirm that driving has become the dominant mode of travel for children, even when trip distances are short.

Sprawl Reduces Children's Mobility

Much of the decline in walking and biking can be attributed to changes in land use and community design. Many of California's children now live in sprawling, automobile-oriented neighborhoods, built in recent decades, where it is neither safe nor convenient to travel by foot or bicycle. Not only does the housing-only zoning so often found in these places separate children's homes from schools and commercial areas, but the cul-de-sacs and curvy streets that characterize many suburban and exurban communities stretch the distances of many trips beyond easy walking range.

The low-density layout of many newer communities also limits the efficiency and appeal of public transit, one of the few sources of independent mobility available to children other than walking and riding a bike.

Moreover, the landscape of subdivisions, parking lots, strip malls and wide streets that typifies California's newer communities often contains few of the amenities — such as sidewalks, crosswalks and bike lanes — that make it safer and easier to walk or ride a bike. Indeed, this design better suits the type of high-speed vehicular traffic that is most lethal for pedestrians and bicyclists. Statistics collected by the California Highway Patrol show that, in areas characterized by rapid, sprawling growth, a disproportionately high number of child pedestrians are killed and injured in traffic accidents.

Traffic Hazards Curtail Walking and Biking

Although children are taught to "look both ways" before crossing the street almost as soon as they can walk, that instruction fails to protect

them from the dangers posed by fast-moving traffic, busy streets and aggressive drivers. This report finds that California's children are disproportionately represented as victims of pedestrian-vehicle crashes, largely because they still rely more heavily than adults on walking and biking to get around and are therefore exposed more frequently to the dangers of the street.

In 2001, children were involved in more than one-third of all pedestrian-vehicle collisions in California, though they accounted for just over one-quarter of the state's total population. As a result, pedestrian collisions now rank among the leading causes of death and hospitalized injury for children. Particularly vulnerable are minority children and children from low-income households, who make a higher percentage of their trips on foot and are more likely than other children to be hurt in pedestrian-vehicle accidents.

Faced with these numbers, many of today's parents feel compelled to chauffeur their kids to almost all their activities, even when distances are short. Indeed, so many parents now drive their kids to school that home-to-school trips account for as much as 21 percent of all trips during the morning peak commute period in some California communities.

However, this increase in child shuttling has boosted traffic levels around schools, making it even more perilous for kids to travel to class by foot or bike. In many cases, the children who still walk or bike to school come from low-income households and do not have access to car rides.

Fear of Abduction and Other Barriers

Further limiting children's independent mobility is the fear of violent crime, which has been heightened in recent years by a series of highly publicized child abductions. As a result, many parents would rather play chauffeur than permit their children to travel around by themselves and risk the possibility that they could be abducted by strangers. But this response has its own safety drawbacks: while a total of 364 children are known to have been abducted by strangers in California between 1995 and 2000, more than 17,000 California children were killed or badly injured while riding in automobiles.

At the same time, children's reliance on cars has been intensified by cutbacks in school bus service. Facing chronic budget shortages, school districts throughout the state have been trimming routes and raising or imposing fees for bus service. These moves help explain why California now has the nation's lowest school bus ridership rate.

When school bus service is unavailable, some parents are left with no alternative but to drive their kids to school, particularly when schools are located far from children's homes. And this is increasingly the case. Due largely to school siting guidelines adopted by the California Department of Education and state funding policies that discourage construction or rehabilitation of schools in existing neighborhoods, new schools are increasingly being built on undeveloped lands far from the neighborhoods where students live.

All this child-shuttling places a heavy financial burden on families, especially low-income households whose average wages have not kept up in real terms with rises in transportation expenses. In metropolitan regions of the American West, two-parent families now spend more than twice as much on children's transportation as they do on children's health care. Moreover, the rise of the taxi-parent has coincided with a diminished quality of life for many families, as parents and children both spend more time in cars and less time at more rewarding activities.

Lack of Transportation Options Harms Children's Health

Although traveling on foot can be deadly, not walking contributes to another type of health hazard for children. The percentage of children who are overweight and out-of-shape has reached epidemic levels in recent decades, as the amount of walking and other physical activity children engage in has tailed off. Recent surveys have found that between one-quarter and one-third of California's children are either overweight or at risk of becoming so. At the same time, the prevalence of type 2 diabetes, high blood pressure and other debilitating weight- and fitness-related diseases is soaring among the state's children.

The decline in transportation alternatives has also contributed to a dramatic rise in childhood asthma, a disease aggravated by air pollutants such as ozone and particulate matter that are largely generated by motor vehicle emissions. The number of children diagnosed with asthma has jumped 160 percent in California since 1980, and asthma attacks are now the number one cause of children's emergency hospital visits.

Policy Recommendations

Presented with this evidence, it is apparent that, as currently designed, California's transportation network is failing the state's youngest and most dependent residents. Exacerbated by recent trends in land use and neighborhood design, the dwindling availability of transportation choices has not only robbed children of the independence and mobility that previous generations enjoyed, but has also contributed to an epidemic of life-threatening health problems. Making matters worse, transportation planners and elected officials have largely overlooked the needs of children, as evidenced by the fact that there is little available data from state officials, transit agencies and metropolitan planning organizations regarding the travel patterns and mobility needs of children.

In conclusion, this report suggests new policies and investments that can make California's cities, towns and suburbs safer and more convenient for walking, bicycling and transit — changes that would benefit both the health and mobility of children. The report's recommendations, which are covered in more detail in Chapter Five, include:

- Prioritizing Safe Walking and Bicycling Routes for Kids
- Promoting and Funding Safe Routes to Schools Programs
- Building Child-Friendly Neighborhoods
- Removing Regulatory Barriers that Discourage Neighborhood Schools
- Making School Bus Service a Higher Priority
- Prioritizing Funding for Transportation Projects that Improve Air Quality
- Collecting Better Data on Children's Travel Patterns
- Involving Youth in Transportation Decision-Making
- Providing Free and Discounted Public Transit Passes For Children

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CHAPTER 1

How California's Children Get Around

Like many children growing up in California today, 15-year-old Scott feels trapped and isolated when his parents aren't available, or aren't willing, to drive him places. "I feel enclosed in my own neighborhood. It's very frustrating," says Scott, who lives in the rural outskirts of Salinas. Most of the places Scott likes to go during his free time are too far apart or too far from his home to get there on foot or by riding a bicycle, and he seldom uses public buses to get around because service is limited and inconvenient in his low-density neighborhood. "I have to get my parents to give me a ride," he says. "I can't wait until I'm old enough to drive because then I'll be able to go wherever I want."

Daniel, a 15-year-old from Fresno, also equates freedom with having a driver's license. "I'm sick of having to wait for my mom to give me a ride and waiting to get picked up after school," he says. Ever since his parents divorced and his mother moved with him to a new subdivision that forms part of the city's northward sprawl, Daniel has relied on his mother to drive him almost everywhere — to school, afterschool activities and weekend destinations. "Walking is really difficult around here because things are so spread out," he says. "Plus my mother doesn't really want me walking around much because the streets are full of traffic."

Today's Kids Depend Heavily on Cars

You can hear similar stories almost everywhere you go in California. Unlike the children of earlier generations who regularly commuted to school, ran errands or visited friends' homes by foot or bicycle, today's children rely on other people to drive them almost everywhere they need or want to go. According to a recent survey by the California Department of Transportation (Caltrans),* children under the age of 18 now make almost three-quarters (74 percent) of all their trips in private vehicles, either as passengers or drivers.[1]

Caltrans survey data also show that walking

* The California Department of Transportation's 2000-2001 California Statewide Household Travel Survey was conducted between October 2000 and December 2001. The survey reflects responses from 17,040 households with a total of 8,582 children under the age of 18. Households and children from each of the state's 58 counties participated in the survey. All Caltrans children's data included in this report refers to "unlinked" trips. The 2000-2001 California Statewide Household Travel Survey is available online at http://www.dot.ca.gov/hq/tsip/TSIPPDF/2000_Household_Survey.pdf. For more information on the Caltrans survey data used in this report, please see this report's methodology section.

and biking, the least expensive and most independent modes of travel for children, together make up just 16 percent of children's trips, while public transportation accounts for less than 2 percent of the total trips made by California's children. This report marks the first time that statewide Caltrans survey data specific to children and youth has been isolated from other data collected during household travel surveys.

Similarly, a new analysis of data collected for the 1999 California Children's Eating and Exercise Practices Survey (CalCHEEPS) shows that California children aged nine to 11 made nearly two-thirds (63%) of their school commute trips in private vehicles, while walking and bicycling accounted for a combined 21 percent of their school trips.[2]

Table 1: How Children Get Around in California (Ages 0-17)

Car	74.3%
Walk	15.2%
Bicycle	1.0%
School Bus	7.5%
Transit	1.5%
Other	0.5%

Source: California Department of Transportation, 2000-2001 California Statewide Household Travel Survey

But kids weren't always so dependent on cars. As anyone who has lived in California for a few decades can attest, there was a time not so long ago when a majority of children got to school on foot and kids routinely walked or biked to stores, friends' homes and other places they needed or wanted to go. In the nine-county Bay Area, for example, one study found a 100 percent jump in the percentage of children traveling to school by private vehicle from 1965 to 1990, while walking and biking in the same region plunged 50 percent.[3]

> ***"We go to the skatepark only when someone can drive us there, which isn't very often."***
>
> ***— Ramone, 10, Oceano (San Luis Obispos County)***

National studies also show hefty increases in driving, as well as steep declines in walking and bicycling, in recent decades. The National Personal Transportation Survey (NPTS)* found, for example, that walking trips made by U.S. children dropped 37 percent between 1977 and 1995.[4] More recently, the 2001 National Household Transportation Survey found that American children use private vehicles for nearly four out of every five trips (78.4%) they make, while walking and biking combine for less than 10 percent (9.3%) of children's total trips.

These trends are further illustrated by a national survey conducted by Belden Russonello & Stewart for the Surface Transportation Policy Project in 2002. Seven in 10 responding adults (71%) said they regularly walked or rode a bike to

*The National Household Transportation Survey (NHTS), formerly called the National Personal Transportation Survey (NPTS), is one of the most comprehensive efforts undertaken by the U.S. Department of Transportation to identify changes in American travel patterns over time. The household telephone survey documents mode, time, length and destinations of trips. The most recent survey, conducted in 2001, includes data from 25,721 households. The previous survey, conducted in 1995, includes data from 42,633 households. The 2001 NHTS can be found on the Web at http://nhts.ornl.gov. For more information on the NPTS and NHTS data used in this report, please see this report's methodology section.

school when they were children, but just 22 percent of the poll's respondents said their children walk or bike to class even occasionally.[5]

> ***"I've learned that you've got to watch out for yourself because cars don't stop when they're supposed to."***
>
> ***— Stephanie, 16, Stockton***

Indeed, so many parents now shuttle their children to school that traffic jams have become a common sight around schools, and in many regions the home-to-school commute accounts for a sizeable share of morning rush-hour traffic. In the San Francisco Bay Area, one study found the school commute is now responsible for about 10 percent of all vehicle trips on weekday mornings.[6] Even more striking, the Marin County Congestion Management District recently reported that "school trips account for 21 percent of all trips in the morning commute, creating much of the peak period congestion" in Marin County.[7]

All this driving has, in fact, contributed to the declines in walking and bicycling. As more and more parents chauffeur their children to school, the volume of traffic near schools has risen dramatically and school environments have become increasingly dangerous for the dwindling number of children who still walk or bike to class.[8] In Santa Ana, a low-income community in Orange County where many children have no choice but to walk or bike to school, a recent study found that two-thirds of all local traffic accidents involving pedestrians occur within a quarter-mile of schools, and half of all the victims are children.[9]

Who Walks and Who Drives

Children from low-income families are more likely to walk or ride a bicycle than children from more affluent families. In California, Caltrans data show that walking and biking combine for nearly one-third (29.5 percent) of the trips made by children from households with annual incomes under $25,000, while 53 percent of their trips are made in private vehicles.[10] In comparison, children from households with annual incomes above $75,000 walk or bike for about 10 percent of their trips, and drive or are driven more than 85 percent of the time. Children from lower income families also use public transit in greater numbers.

Table 2: How Children of Different Racial & Ethnic Groups Get Around in California (Ages 0-17)

	Car	Walk	Bicycle	School Bus	Transit	Other
Caucasian	82.1%	9.8%	1.1%	6.1%	0.5%	0.4%
Latino	58.6%	26.3%	1.3%	12.3%	1.2%	0.3%
African American	61.0%	14.1%	1.9%	12.1	8.4%	2.6%
Asian and Pacific Islander	79.8%	12.2%	0.5%	7.1%	0.2%	0.1%
Native American	74.5%	8.2%	0.5%	16.0%	0.8%	0.0%
Other	72.6%	11.7%	1.1%	6.5%	7.5%	0.5%

Source: California Dept. of Transportation, 2000-2001 California Statewide Household Travel Survey

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Studies also show that Latino and African American children are more likely to get around by walking or riding a bicycle, and are less likely to be driven, than Caucasian and Asian/Pacific Islander children. Caltrans survey data show, for example, that in California, Latino children make more than twice as many of their trips on foot compared to Caucasian children.[11]

These disparities are explained, at least in part, by correlations between race, ethnicity and socioeconomic status. Latino and African American children are more likely than Caucasians and Asians/Pacific Islanders to walk, bicycle or ride public transit because their families are less likely to own a car.[12] Additionally, Latino and African American children often live in older, densely populated neighborhoods where trip distances are more likely to be walkable and public transit service is more extensive and frequent than in suburban and rural areas.

As a result, low-income and minority children have greater exposure to traffic dangers, and they are disproportionately impacted as victims of pedestrian-vehicle collisions. Some Latino groups have, in fact, begun to organize around school safety issues in Los Angeles and other parts of California, and there are likely to be more efforts in the future.

It is worth noting, however, that even the state's poorest children rely on car rides for the majority of their trips. Caltrans survey data show, for example, that children from the lowest-income households (those earning less than $25,000 per year) still make 53 percent of their overall trips in private vehicles. This is an indication that, despite the higher cost, many low-income children in California often find it necessary or more convenient to travel in automobiles.

CHAPTER 2

Factors Behind Children's Growing Dependence on Driving

Why are today's children so dependent on driving? The answer lies, to a large extent, in the physical design of many suburban neighborhoods and communities built since World War II, where many of California's children now live.[13]

Sprawling Neighborhoods Make Walking Difficult

The scattered, automobile-tailored development and shortage of pedestrian infrastructure that characterize many of the state's modern neighborhoods — in booming suburban and exurban communities as well as in newer sections of Los Angeles, San Diego, Sacramento and other cities — deter walking and bicycling, limit the efficiency of public transit and thereby hinder children's ability to get around on their own.

In many newer communities, restrictive zoning codes and ordinances separate residential neighborhoods from schools and commercial areas, making trip distances too long to travel on foot. Zoning codes that require businesses to be fronted by enormous parking lots further lengthen travel distances and impede walking by forcing pedestrians to thread their way through a maze of parked cars to reach their destination. Moreover, the cul-de-sacs, T-intersections and curvilinear street layouts that typify newer communities minimize "connectivity" and often stretch distances between trip origins and destinations beyond the quarter- to half-mile radius that is most convenient for foot travel.[14]

Numerous studies have shown that average trip distances are longer in recently developed places than in traditional urban settings, where grid-like street networks tend to support a mix of homes and businesses. A recent study comparing travel distances in two Sacramento subdivisions found, for example, that people living in an "infill" subdivision traveled substantially shorter distances to supermarkets, parks, schools and other destinations than residents of a "greenfield" subdivision built on undeveloped land.[15]

Although relationships between community design, trip length and travel behavior are not fully understood and are not consistent across all regions, many studies do suggest that people are more likely to walk, bike or ride public transit in traditional urban neighborhoods than in neighborhoods with low-density suburban design characteristics. One Bay Area study found that pedestrian activity was 50 percent higher in compact communities with grid-like street networks than

in suburban ones.[16] As California's nonpartisan State Legislative Analyst's Office put it in 1998, low-density development "makes pedestrian, bicycle and transit impractical" and "increases trip length and vehicle miles traveled."[17]

One indication that community design affects children's travel patterns is provided by studies that show teenagers living in suburban and rural areas are more likely to have a driver's license than those living in urban areas — where trip distances tend to be shorter and more transportation alternatives exist. In rural Alpine and Placer counties, for example, more than 60 percent of youths aged 16 and 17 are licensed to drive; in comparison, less than 16 percent of San Francisco's 16- and 17-year-olds hold a driver's license.[18] (See Table 19 in Appendices).

Further evidence is provided by the national HealthStyles Survey, which found in 1999 that long commute distances are the number one barrier that prevents children from walking or biking to school.[19]

Pedestrian Safety Neglected

The physical design of many newer neighborhoods and communities makes walking and bicycling not only unpleasant and inconvenient but downright hazardous, especially for children. Pedestrians traveling in residential and commercial areas built to facilitate automobile traffic are often forced to walk along wide, high-speed arterial streets with no sidewalks and few safe crossing points. Crosswalks in these places are sometimes spaced as much as a half-mile apart, leaving pedestrians little choice but to cross these streets unprotected, and bike lanes are often nonexistent. One recent Seattle study found, for example, that sidewalks are present along only half of the public streets in suburban communities on average.[20]

In many cases, street design is a byproduct of the attitudes toward traffic safety in the minds of traffic engineers who see their chief priority as improving "levels of service" on streets so that more traffic can be accommodated with fewer delays and higher speeds. That typically means designing roads with wide lanes, large turning radii at intersections, ample passing and turning lanes — and little consideration of the impact this might have on those not driving.

Neighborhoods featuring high-speed traffic and little pedestrian infrastructure are the most lethal places for walkers and bicyclists. Numerous studies have demonstrated a strong correlation between higher vehicle speeds and both a greater likelihood of pedestrian collisions and more serious injuries. The National Highway Traffic Safety Administration has found, for example, that while only 5 percent of pedestrians die when struck by a vehicle traveling at 20 mph or less, the fatality rate rises to 40 percent at a speed of 30 mph, 80 percent at 40 mph and nearly 100 percent at a speed of 50 mph.[21]

School Sprawl Limits Kids' Ability to Walk or Bike to Class

The location of many newer schools further

Table 3: Barriers to Walking & Biking to School (1999 HealthStyles Survey)

Barrier	Percent of Respondents Naming Barrier
Long distances	55%
Traffic danger	40%
Adverse weather conditions	24%
Crime danger	18%
School policy	7%
Other	26%

> ***"I usually just stay close to home. If my neighborhood weren't so spread out, maybe I could go somewhere."***
>
> ***— Brian, 15, Salinas, CA***

COURTESY: WWW.PEDBIKEIMAGES.ORG | DAN BURDEN

reduces children's ability to get around without a car. Schools in California are being constructed with increasing regularity on undeveloped or underutilized lands far from the residential neighborhoods where students live. This trend is largely the result of school size and design guidelines, developed by the Council of Educational Facilities Planners International (CEFPI), which recommend that new school campuses have at least one acre for every 100 students plus 10 acres for an elementary school, 20 acres for a middle school and 30 acres for a high school.

Like its counterparts in many other states, the California Department of Education (CDE) has made these guidelines the regulating standard for all new schools. Because the minimum acreage guidelines call for campuses the size of shopping malls[22] — a 2,000-student high school built according to the CEFPI's formula requires at least 50 acres — school districts are often obliged to build new schools on undeveloped lands at the edge of communities, as existing neighborhoods in California rarely have enough land available.

The construction of new schools on community fringes — a trend in many other states as well — is one reason the average distance between home and school now exceeds four miles nationwide.[23] In comparison, more than half of all American schoolchildren lived within two miles of school as recently as the late 1960s.[24]

When schools are situated beyond a convenient walking or biking distance from residential neighborhoods, students have no choice but to use motor vehicles — automobiles, school buses or public transit — to get to class. Even when newer schools are located closer to children's homes, they are frequently separated from residential neighborhoods by wide, busy streets, making it dangerous for students to reach them on foot. A recent study of South Carolina's coastal

counties found that students living within 1.5 miles of school are over three times more likely to use "hazard bus" transportation to get to schools built after 1971 than to those built before 1971.[25]

Exceptions to the Rule

The CDE recognizes, however, that not all school districts can meet its minimum-size specifications,[26] and the rules have been relaxed in some cases — usually in urban school districts that have requested a waiver from the CDE's construction regulations for new schools.[27] For example:

- In Los Angeles, where the costs of acquiring 20- to 40-acre parcels of land are prohibitive, the Los Angeles Unified School District plans to build dozens of new schools over the next few years that will be substantially smaller than the sizes recommended by the CDE.[28] Many of these schools will be situated in or near residential neighborhoods, increasing their students' ability to walk and bicycle to class.
- Elsewhere in Southern California, districts in Long Beach and Pomona have received permission from the CDE in recent years to build elementary schools in converted shopping malls and parking lots.[29]

As Jim Bush, Assistant Director of the CDE's School Facilities Planning Division explains: "We try to hold districts to the averages [in school size] if at all possible, but we understand there are circumstances that don't allow it. It's mainly the suburban communities that are able to build to the sizes we recommend."[30]

Funding Formulas Favor Sprawling New Schools

The trend toward construction of mega-schools in outlying areas can also be chalked up to state funding formulas that favor the construction of new schools over upgrading older schools, and to funding policies that often fail to provide incentives to keep existing schools in good condition.[31] For example:

- California law stipulates that local school districts cannot receive state funding to renovate an existing school if the rehabilitation cost exceeds 50 percent of the cost of building a new school.[32]
- The state tends to provide school construction funding to school districts that prepare their applications quickly. This system has incentivized districts to build on undeveloped lands that are less expensive to acquire and less fraught with obstacles to development than urbanized lands. In Elk Grove, a fast-growing suburb of Sacramento, the construction of more than 20 new schools — including several built on farmland located miles outside of existing communities — has been largely funded by state bond money, in part because district officials have been able to complete applications quickly.[33]

State regulations that impede the conversion of existing commercial buildings into school facilities have also contributed to school sprawl. For example:

- The Field Act of 1933 requires all school buildings to meet exceptionally stringent seismic

> The term "hazard busing" refers to the use of school buses to transport children short distances from home to school to avoid unsafe street crossings. Children using "hazard busing" generally live too close to school to qualify for school bus service, but an exception is made for these students because of the traffic dangers they face on their way to school. Unfortunately, there is little statewide information about the prevalence of hazard busing in California.

safety specifications, and upgrading commercial buildings to meet these requirements is often cost-prohibitive for school districts.

- State law now prohibits schools that are 25 years or older from applying more than once for modernization grants. In an effort to encourage the renovation of older neighborhood schools, and strike a blow against school sprawl, members of California's Legislature introduced a bill (AB 1244) in 2003 that would allow school districts to apply for modernization grants every 25 years for existing schools.[35]

Meanwhile, class size reduction efforts and minimum classroom size requirements have also

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contributed to the increasing size of California's schools. Additionally, California school districts, like those in many other states, are considered a "state agency" function and therefore are technically exempt from local zoning and planning regulations, meaning they can ignore city or county growth policies and build mega-schools in outlying areas.[36]

Low-Density Neighborhood Design Makes Transit Inconvenient

California's children make less than 2 percent of their overall trips (1.5%) on public transportation, according to Caltrans survey.[37] This number — which is astonishingly low, given that bus and rail systems provide one of the only ways for children under the legal driving age to get around by themselves — is explained, at least in part, by the fact that transit is difficult and inconvenient to use in many California neighborhoods.

Numerous studies have demonstrated that the efficiency of transit is diminished by the curvy street networks and scattered destinations that characterize the suburban communities where most of California's children now live.[38] Ride times are generally longer and transit service tends to be less frequent and less extensive in these places than in traditional urban settings, and suburban transit users often have to walk longer distances between transit stops and trip origins or destinations.

"The fact that so many kids live in suburban areas that favor using a car over transit helps explain why overall transit usage is so low in California," explains a spokeswoman for the Santa Clara Valley Transportation Authority. "Many [children] are growing up in households where driving everywhere is the norm and they've become conditioned to driving. It's hard to get these kids to think about using transit."[39]

Because automobiles provide a more convenient way to get around in many modern neighborhoods, transit is frequently shunned by children with access to a car. As a result, transit usage is highest among low-income and minority children, who tend to have less access to cars than Caucasian and more affluent children, and who are concentrated in urban areas where buses and trains are easier to use.[40]

Caltrans survey data show that bus and rail systems account for nearly 5 percent of the trips made by children from households with annual incomes under $25,000, a rate roughly 10 times higher than children from wealthier families.[41] And while African American and Latino children ride transit for 8.4 percent and 1.2 percent of their trips, respectively, Caucasian and Asian/Pacific Islander children both use transit for less than one-half of one percent of their trips.

Transit Fares Are a Barrier for Some Children

Although a small percentage of children rely on transit, for those that do bus and rail systems provide a critical lifeline for getting to school and other destinations. Included in this group are well over a hundred thousand California children from low-income households who do not have access to cars, and for whom transit fares can sometimes be a barrier to ridership.

In 2001 and 2002, for example, dozens of high school students from Oakland, Richmond, El Cerrito and other San Francisco Bay communities with large minority populations testified, during meetings with officials from the Bay Area's Metropolitan Transportation Commission and AC Transit, that without access to public transportation they would not attend school, and that they needed free transit passes because they sometimes had to choose between buying lunch or bus fare.[42]

In response, AC Transit (which serves Alameda and Contra Costa counties) began offering free bus passes in 2002 to kids who qualify for school lunch vouchers. During the 2002-2003 school year, the program served more than 25,000 low-income youths and has provided much-needed financial relief for many low-income families. But faced with a $50 million deficit in its operating budget, AC Transit decided in August 2003 to suspend the free pass program and replace it with a program that provides a steep 75 percent discount to all youth.[43]

Table 4A: California Children's Transit Usage by Race & Ethnicity (Ages 0-17)

Race/Ethnicity	Percentage of Trips by Public Transit
Caucasian	0.5%
Latino	1.2%
African American	8.4%
Asian and Pacific Islander	0.2%
Native American	0.8%
Other	7.5%

Table 4B: California Children's Transit Usage by Household Income (Ages 0-17)

Annual Household Income	Percentage of Trips by Public Transit
<$25,000	4.7%
$25,001-34,999	0.6%
$35,000-49,999	0.6%
$50,000-74,999	0.7%
>$75,000	0.4%
No response	2.3%

Source: California Department of Transportation, 2000-2001 California Statewide Household Travel Survey

Peer Pressure Curtails Transit Use Among Children

The low rate of transit usage among children cannot be attributed entirely to their dissatisfaction with transit service, or to the relative con-

venience of automobile travel. The fact that transit accounts for less than 5 percent of total trips even the state's poorest kids suggests that other barriers are also causing children to keep away from transit.[44]

Indeed, youths aged 13 to 26 who participated in a recent national survey by the Federal Transit Administration[45] named the following as reasons they avoid using transit:

- **Peer pressure —** transit isn't "cool" and there's a social stigma associated with using transit.
- **Car culture —** automobiles have a positive image and persuasive marketing.

> ***"I can't do anything unless someone drives me there so I don't feel like I have many options. I'd like to be able to go to the movies easily on weekends, but I'd have to ask my parents and they don't like going out after work. They're too tired. My friends all live really far away from my house."***
>
> ***— Andrew, 16, rural Monterey County***

- **System condition —** buses are unreliable, dirty and unsafe (from crime).
- **Parental concern —** Their parents won't allow them to use transit, due to concerns about safety and security.
- **Incentives to drive —** for example, their schools provide free parking.
- **They don't have to —** they have a car or their parents drive them.

In other words, youth ridership is curtailed, to at least some extent, by obstacles beyond the control of transit agencies.[46]

School Bus Service Cuts Boost Car-Dependence

Children's dependence on automobiles has been exacerbated by the fact that many public school districts in California have scaled back their school bus programs. The result is that a growing number of students simply don't have the option of riding a school bus — and when school bus service isn't available, and routes to school are too long or too hazardous to travel by foot or bicycle, parents have little choice but to chauffeur their kids to school.

Although few California school districts have entirely eliminated bus programs, many have reduced the scope of their programs in recent years, and many districts have raised or begun charging fees for school bus service. Districts have cut back on service by running fewer buses, trimming routes and by extending the minimum walking distance children must travel between home and school to qualify for bus service.[47]

"Most districts have been forced to make at least some service cuts" in recent years, says Bob Austin, coordinator of the California Department of Education's Office of School Transportation.[48] Examples include:

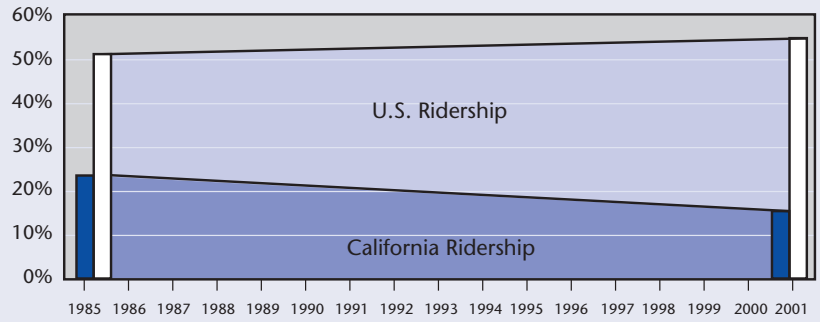
- The William S. Hart Unified School District in Los Angeles County
- The Encinitas Union School District and San Dieguito Union High School District in San Diego County.
- In Riverside County, the Romoland School District eliminated bus service in the mid-1990s for all except special needs students
- The Capistrano Unified School District in Orange County has proposed eliminating busing in 2003 because of budget problems.

The shrinking availability and rising cost of bus service help explain why California now ranks dead last among all 50 states in the percentage of children who ride school buses (see Table 20 in Appendices). Just over 16 percent of California's public school students rode school buses in 2001, down from 23 percent in 1985.[49] In contrast, the percentage of public school students transported to and from school in school buses increased nationally from 51 percent in 1985 to 54 percent in 2001 (see Figure 1).[50]

The following factors have contributed to California's declining school bus ridership:

- **Bus service is not required:** The state does not require school districts to provide bus service for all students, so they don't. Under federal law, school districts are only obligated to provide free bus service for special needs students, so California's districts are free to curtail — or even eliminate — bus programs serving "regular" students whenever they need to cut costs.[51]
- **Rising fees:** California school districts are also free to charge or increase student fees for bus service, and many are doing so. For example, districts in Orange County are considering increasing bus fees, which now total about $225 per child annually, and the Pajaro Valley Unified School District in Watsonville may impose a $270 bus fee.[52] Redwood City has also considered charging full-pay students up to $600 per year for school bus services.[53] About one-third of California's 1,048 school districts now charge bus fees.
- **Demographics:** Demographic trends have contributed to the percentage decline in school bus ridership. Although the number of school bus riders in California has actually increased slightly in recent years (annual public school K-12 ridership rose by about 8,000 students statewide between 1985 and 2001), the state's overall student population has grown at a much faster rate (annual public school K-12 enrollment grew by nearly 2 million students over the same span).[54]

Figure 1: U.S. and California School Bus Ridership (1985-2001)



Sources: California Department of Education's Office of School Transportation; School Transportation News

- **Financial constraints:** In addition to bus service, California school districts use general funds to pay for textbooks, teacher salaries, facilities maintenance and many other items. Many cash-strapped school districts have opted to shrink or freeze bus service, which is often viewed as a lower priority than teachers and textbooks, when faced with budget shortages. "School districts are faced with the choice of either taking teachers out of the classroom or taking buses off the road," says Bob Austin of the CDE's Office of School Transportation.
- **Insufficient reimbursements:** California school districts are now forced to cover a major portion of their transportation expenses with general funds, largely because state reimbursements for home-to-school transportation and school bus replacement have shrunk (as a percentage) since the late 1970s, when the state capped spending

on school transportation programs following the passage of Proposition 13. The state now reimburses most school districts for less than half of their home-to-school transportation costs — districts are reimbursed for 40 to 50 percent of their transportation costs, on average, but many districts receive an even smaller subsidy.[55] Several legislative efforts to require the state to review its current school transportation funding formula have failed in recent years.[56]

In contrast to California, most states either require or tacitly mandate that school districts provide school bus service for all students, and most states reimburse school districts for a much larger percentage of their transportation costs. "No one even questions the necessity of providing school bus service in other states...and because most states make universal bus service a priority, they are willing to subsidize it at a higher level" than California, explains Ron Kinney, Director of Business and Government Relations in California for Laidlaw Education Services, the largest private contractor of student transportation in North America.[57]

As a result, California ranks last amongst all 50 states in school bus ridership (see Table 20 in Appendices). In New York, for example, where spending on school transportation accounts for nearly 5 percent of the state's overall K-12 education budget, 69 percent of all K-12 public school students ride school buses — a rate four times higher than in California, where about 3 percent of the state's overall K-12 education expenditures go to school transportation.[58] New York also has more than twice as many school buses in operation than California, despite the fact that California's K-12 student population is twice the size of New York's.

The inadequate funding for school bus programs in California also helps explain why the state has the oldest and dirtiest bus fleet in the nation. The average age of California school buses is more than 14 years, and about 10 percent of the state's school buses — the highest number in the country — were purchased before 1977 and do not meet federal safety standards.[59] Additionally, about 30 percent of California's school buses fail to meet diesel school bus pollution standards set by the state's Air Resources Board.[60]

School Buses Are The Safest Way To Travel To School

The low ridership rates in California are unfortunate from a safety standpoint, as statistics show school buses are by far the safest travel mode for children. A recent study by the Transportation Research Board (TRB) shows that while school buses accounted for 25 percent of all trips made by U.S. children during normal school commute hours between 1991 and 1999, they accounted for just 2 percent of the deaths and 4 percent of the injuries sustained by children traveling to school.[61] In comparison, roughly 74 percent of the accidental deaths and 84 percent of the injuries suffered by students on commuting to school occurred in passenger vehicles. In California, no school bus riders died or suffered incapacitating injuries in 2000, while 21 students were killed and 17 suffered incapacitating injuries while riding to or from school in passenger vehicles.[62]

Ironically, a new state law intended to increase the safety of school buses could further strain districts' transportation budgets and further reduce the capacity of school bus programs — meaning fewer children will have access to what is already the safest travel mode.[63] The law, which takes effect in January 2004, will require all new school buses to be equipped with lap/shoulder belts, which means new buses will likely seat fewer children. This requirement — which couldn't come at

a worse time for school districts given the state's enormous budget deficit and the cuts in education funding that will likely result — could lead school districts to delay new bus purchases and to augment bus fleets with older buses.

Additional Factors That Discourage Walking and Biking

Pedestrian-unfriendly community design and the inconvenience of public transportation are not the only reasons children have become so reliant on automobiles. Other factors limiting the ability of today's kids to get around on their own include:

- Busy parents: Increased time pressures have left parents with less time to walk their children to school and other destinations, and many parents don't want their children walking around unaccompanied by an adult.[64] One study found that the average middle-income, two-parent American family now works 660 more hours per year than in 1979.[65]
- Fear of abduction and other crime: Concerns that their children will be abducted or otherwise harmed by strangers while walking or biking prompts many parents to drive their children around, even when trip distances are short. This barrier to children's independent mobility is discussed in greater depth in the next chapter.

The Costs of Car-Dependence

Children's growing reliance on car rides has added substantially to families' transportation expenses, which have risen by more than 10 percent on average since 1990. In 2001, transportation costs accounted for nearly one-fifth (19.3%) of every dollar spent by the average American household,[66] and transportation is now the second biggest expense category after housing in most families' budgets.

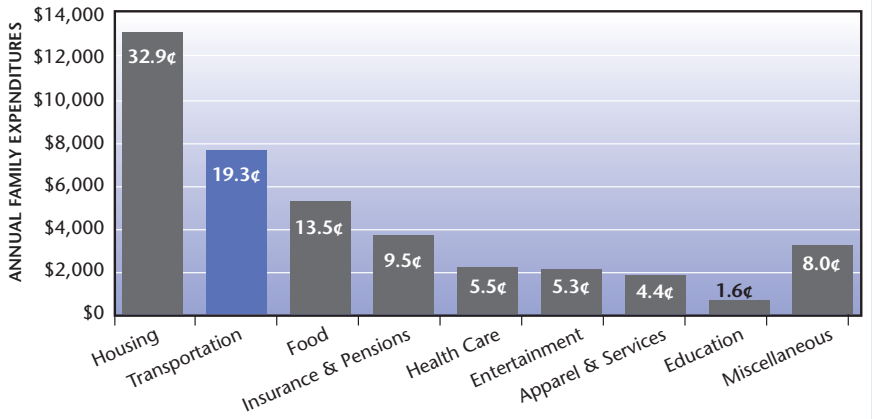
Moreover, motor vehicle-related costs make up the lion's share of families' transportation spending. According to a survey by the U.S. Bureau of Labor Statistics, the purchase, fueling, insurance

Table 5: U.S. Deaths & Injuries Sustained During School Commute Trips (1991-1999)

Travel Mode	Percent of Total Trips(1)	Fatalities (% of Total)(2)	Non-Fatal Injuries (% of Total)(2)
School Bus	25%	2%	4%
All other buses*	2%	<1%	<1%
Passenger vehicles** with drivers age 19 and older	45%	20%	33%
Passenger vehicles** with drivers below age 19	14%	54%	51%
Bicycles	2%	6%	5%
Walking***	12%	16%	6%

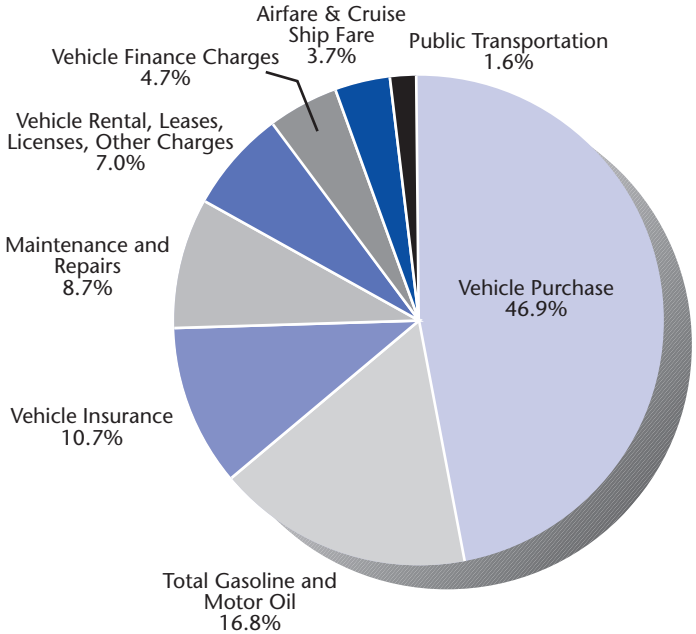
(1) 1995 National Personal Transportation Survey; (2) Fatality Analysis Reporting System (FARS), General Estimates System (GES)
**Includes transit, paratransit and motorcoach service*
***Includes all motor vehicles except school buses and other buses with drivers at least 19 years old*
****Includes scooters, skateboarding and rollerblading*
(Source: Transportation Research Board, "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment," 2002. Data pertains to children aged 5-18.)

Figure 2: How American Families Spend Each Dollar (2001)



Source: STPP analysis of the U.S. Bureau of Labor Statistics' Consumer Expenditure Survey 2001. See www.bls.gov/cex/.

Figure 3: Transportation Expenditures by Families



Source: STPP analysis of the U.S. Bureau of Labor Statistics' Consumer Expenditure Survey 2001. See www.bls.gov/cex/.

and maintenance of vehicles account for roughly 95 percent of the money spent by the average household on transportation.[67]

In urban regions of California and other Western states, two-parent families spent more than $13 billion on children's transportation in 2001 — more than twice as much as they spent on children's health care.[68] According to a new data analysis by the U.S. Department of Agriculture (USDA), the increase in child-shuttling has contributed (along with other factors such as the increased use of larger, more expensive vehicles) to an inflation-adjusted 14 percent rise in annual per-child transportation costs since 1980 among families in the urban West.[69]

The rise in transportation costs places an especially heavy burden on the poorest families, whose real annual incomes declined by an average 5.5 percent in California between the late 1970s and the late 1990s, according to U.S. Census data.[70] In 2001, the lowest-income families included in the USDA's new data analysis — those earning less than $39,600 per year in the urban West — spent a larger chunk of their average household budget on children's transportation than they spent on health care, child care and education combined (see Table 6).[71]

As transportation costs consume a growing share of family budgets, families across the economic spectrum have less money to invest or spend on important items. But high transportation costs make it especially difficult for low-income families to save for a down payment on a house, pay for education or afford other investments that build equity and give them a better chance of moving into the middle class.

To be sure, the increased driving of children is not solely responsible for the run-up in household transportation expenses. Another significant cause is the population shift toward sprawling, suburban and exurban communities.[72] One Bay Area study from the mid-1990s found, for example, that residents of low-density suburbs spend far more money on driving-related expenses than people living in denser urban areas.[73] According to the study, people living in northeast San Francisco spent an estimated average of $4,200 per year on car-related costs, compared to $17,800 per year for residents of suburban Danville and San Ramon.

Costs Beyond the Pocket Book

Families with children who rely on car rides for most of their trips also pay a price in diminished quality of life. As more and more of their time is spent in cars, parents and children have less time for other activities like family dinners, homework and relaxation. Working parents, in particular, struggle to maintain a balanced life. Those who drive their kids to school often have longer commutes, and often must plan their

Table 6: Expenditures on Children (Ages 0-17) by Families in the Urban West (2002)

Two-parent families' before-tax income	Housing	Food	Transportation	Clothing	Health care	Child care & education	Other	Total
Less Than $40,300 Average cost per child[A]	$3,055	$1,538	$1,047	$463	$463	$585	$833	$7,984
$40,300-$67,800 Average cost per child[A]	$3,965	$1,822	$1,443	$548	$623	$1,032	$1,193	$10,626
More than $67,800 Average cost per child[A]	$5,935	$2,213	$1,912	$700	$730	$1,662	$1,845	$14,997
Average cost per child for all income levels in the Urban West[A]	$4,318	$1,858	$1,467	$570	$605	$1,093	$1,290	$11,202
Total cost for children of all income levels in California[B]	$39.8 billion	$17.1 billion	$13.6 billion	$5.3 billion	$5.6 billion	$10.1 billion	$11.9 billion	$103.6 billion

Sources:
A U.S. Department of Agriculture, Expenditures on Children by Families, 2002 Annual Report. Table 2.
B 2000 U.S. Census. The total number of children living in California was used as a multiplier to obtain the total costs.

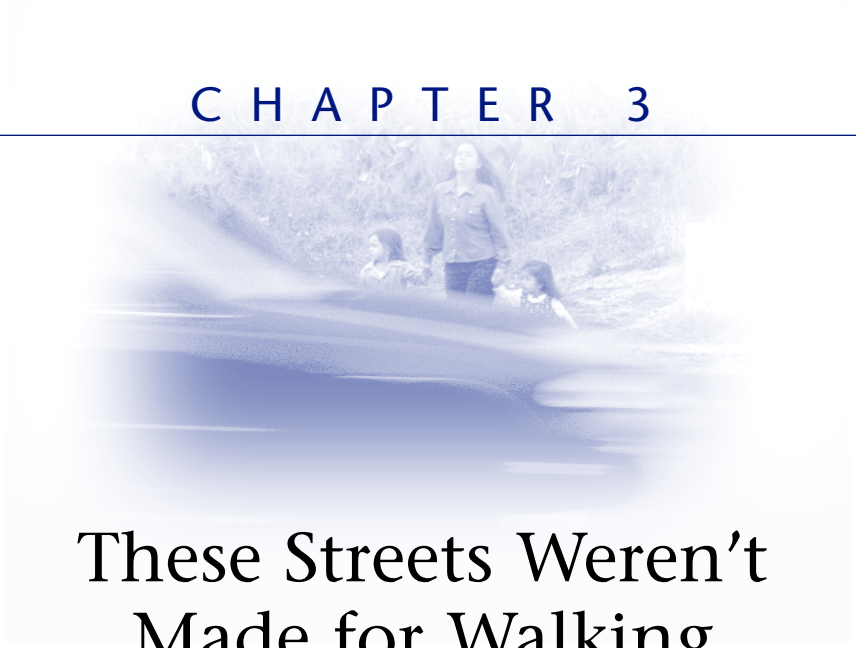
weekday schedules around their children's school schedules and extracurricular activities. Many of today's parents also spend a substantial share of their weekends ferrying children to birthday parties, soccer games, friends' houses and other activities. As one San Francisco mother with an eight-year-old daughter puts it, "Some of the other mothers I know spend four hours in their car per day. They have no time for themselves after that."[74]

Indeed, mothers with school-aged children, who make more car trips per day than any other population group, spend so much time shuttling kids to and from school and other activities that the term "soccer mom" was coined to describe the phenomenon. In California, married mothers with school-aged children now average more than 87 minutes each day behind the wheel, while single mothers with school-aged children average even more time (94 minutes) driving, an amount that is slightly higher than the national average.[75] Additionally, national research by the Surface Transportation Policy Project has found that mothers with school-aged children drive 20 percent more than other women.[76]

All this driving also takes a toll on kids. Nationwide, children under the age of 18 spend an average of more than 45 minutes a day in cars.[77] Even young children are spending large chunks of time in cars, as "mobile child care" has become a way of life for working parents who bring their children along in the car because other child-care options are expensive or unavailable.[78] In an effort to distract children from their long commutes, some parents have turned their vehicles into rolling entertainment centers. A recent Wall Street Journal article reports that sales of in-car DVD players and VCRs are running 50 percent higher in 2003 than a year earlier.[79]

Furthermore, while automobiles provide many children with access to afterschool and weekend activities, and to destinations they otherwise might not be able to reach, dependence on car rides is also a source of stress for many children — especially teenagers who want to be able to get around on their own. Many of the teenagers interviewed for this report said their inability to go places without assistance from their parents made them feel frustrated and isolated.[80]

CHAPTER 3



These Streets Weren't Made for Walking

One of the major reasons California's children are walking and riding bicycles less often than in the past is that today's children are often not allowed to roam around on their own. Concerned about crime and motor vehicle traffic, many parents would rather drive their kids to school and other destinations than expose them to the dangers of the street.

Child Pedestrians Face Heightened Risk from Traffic Dangers

From the windows of her home in Santa Barbara, 16-year-old Meehan can see part of her high school campus. Unlike many of her classmates, she lives just a few blocks from school and walks to class almost every day. But Meehan's windows also look out on the busy, six-lane street she must cross to get to school. "There is so much traffic in the mornings that it looks like an L.A. freeway," she says. "And people are in such a hurry to get to work they don't even want to slow down when people are in the crosswalk."

Her worst fears about this street were realized one day in 2001, while she was walking home for lunch with two friends. The driver of an approaching car didn't see the three girls as they entered the crosswalk, and narrowly missed colliding with Meehan. But the speeding vehicle did hit one of her friends in the leg, sending her to the hospital with serious injuries. "It was a traumatizing experience," Meehan recalls. "It's really scary to see a car coming at you and then to see one of your best friends lying in the street."

Frightening as it sounds, Meehan's experience isn't unusual in California. Fast-moving traffic, aggressive drivers and high traffic volumes have turned many streets and crosswalks into danger zones for child pedestrians and bicyclists.

Nearly 5,000 children are reported injured each year in California while walking on public roads.[81] And that's probably an understatement, as it's been estimated that pedestrian injuries are underreported by as much as 56 percent.[82] Police often do not report collisions that result in emergency room treatment but not hospitalization, and don't report collisions that occur on private property or in alleys or driveways, locations where many accidents involving the youngest children occur.

Throughout the state, statistics show children are disproportionately represented as victims of pedestrian-vehicle accidents, in part because they depend on walking and bicycling to get around more than any other segment of the population

and therefore have relatively high exposure to the dangers of the street. Young children are especially vulnerable to traffic dangers, largely because they are smaller and more difficult for drivers to see, and because they lack the necessary developmental skills to determine when cars are a danger.[83]

In 2001, more than one-third (34.3%) of all pedestrian-vehicle collisions in California involved children under the age of 18, although children in this age bracket made up just over 27 percent of the state's population.[84]

The public health consequences of this disparity are alarming: statistics from the state's Department of Health Services show that vehicle-pedestrian collisions are the third-leading cause of fatal injury, and the sixth-leading cause of hospitalized injury, among California children under the age of 18.[85] Traffic accidents involving bicyclists have also made getting around on two wheels one of the leading causes of death for children (see Table 7).

Worried Parents Restrict Walking and Biking

Not surprisingly, the high rate of injury and death among child pedestrians has led many parents to curtail the amount of walking and bicycling their children are allowed to do. Indeed, many parents regularly shuttle their kids around even when trip destinations are within easy walking or biking distance.

In one indication that concerns about traffic safety are affecting children's travel patterns, 40 percent of the parents who responded to the national HealthStyles Survey in 1999 said traffic dangers prevent their children from walking or biking to school.[86] Long trip distances were the only barrier cited more often by parents. Additionally, nearly 60 percent of the parents and children surveyed by the National Safe Kids Campaign said they encountered at least one serious hazard — such as lack of a sidewalk or crosswalk, wide roads, complicated traffic conditions, improper parking and speeding drivers — along their routes to school.[87]

Table 7: Top 10 Causes of Accidental Death and Injury Among Children Aged 0-17 in California (1995-2000)

Accidental Deaths		Hospitalized Injuries from Accidents	
Motor Vehicle Accident (Occupant)	1,523	Falls	49,967
Drowning	866	Motor Vehicle Accident (Occupant)	15,730
Motor Vehicle Accident (Pedestrian)	572	Other	10,699
Suffocation	335	Poisoning	10,654
Motor Vehicle Accident (Unspecified)	246	Struck By Object	10,189
Burn	219	Motor Vehicle Accident (Pedestrian)	9,646
Pedestrian (Non-Motor Vehicle Accident)	201	Bicyclist (Non-Motor Vehicle Accident)	7,074
Other Transportation Accident	201	Natural/Environmental	5,625
Motor Vehicle Accident (Bicyclist)	131	Burn	4,827
Poisoning	113	Cut/Pierce	4,752

Source: California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC)

These findings help explain why, across the United States, less than one-third (31%) of school trips made from one mile away or less are made on foot, while bicycles were used for just 2 percent of school trips made from within two miles.[88]

But parents who try to protect their children from traffic dangers by limiting their walking and biking have increased their exposure to another type of danger — the health risks associated with physical inactivity. Decreases in walking, biking and other exercise among children have contributed to a rising prevalence of diabetes and other weight-related health problems among California's children, as discussed in Chapter Four in greater depth. Additionally, keeping children indoors or strapped into the back seat of a car can prevent them from acquiring the traffic skills they need to be able to walk or bike safely along roadways.

Another unintended consequence of this protectiveness is that it has helped make the streets even less safe for child pedestrians. As the amount of child-driving has increased, traffic volumes around schools and other places frequented by children have risen, making streets more dangerous for those children who still walk or bicycle and causing still more parents to play chauffeur.

> ***"I get scared sometimes when I'm walking to school. The streets around here are really busy in the mornings. Sometimes I have to walk in the street because the sidewalk is blocked with garbage cans, and the cars aren't watching for people who are walking."***
>
> ***—Yelena, 9, Sacramento***

Illustrating the perils faced by students who walk to school is a recent study by the Santa Ana Unified School District, which found that more than half of the city's 72 pedestrian accidents during the first six months of 1998 involved children walking near schools.[89] Both students and residents reported that motorists regularly sped by them, running stop signs and ignoring children in crosswalks.

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Furthermore, the shrinking percentage of children who get around by foot or bike has helped shift public attention away from pedestrian safety issues, making it more difficult for supporters of improved pedestrian and bicycling infrastructure to capture the attention of engineers, planners and political leaders.

It is interesting to see what can happen, however, when pedestrian safety does become a priority, and planners and political leaders look

for ways to make walking and bicycling both safer and easier. California's Safe Routes to School efforts, which combine education and outreach to children with funding for bicycle and pedestrian safety projects, has achieved remarkable results since the late 1990s. In Marin County, for example, the program has helped boost the percentage of children who walk to public schools participating in a local Safe Routes to School program from 14 percent in 2000 to 23 percent in 2002, and has doubled the percentage of children biking to these schools from 7 percent to 15 percent.[90]

Sprawl Heightens Traffic Dangers

While children suffer a disproportionately large share of all pedestrian injuries and fatalities across California, child pedestrians appear to be especially endangered in places marked by low-density, automobile-oriented development. In Yolo and Merced counties, for example, child pedestrians were involved in more than half of all pedestrian-vehicle collisions in 2001 (for a complete list of counties, see Table 21 in Appendices). In both of these largely agricultural counties, farmland is rapidly being replaced by residential subdivisions and other sprawling, pedestrian-unfriendly development. In contrast, children were involved in less than 12 percent of pedestrian accidents in high-density San Francisco County.[91]

Table 8: California Counties with the Highest Percentage of Traffic Accidents Involving Child Pedestrians (2001)

County	Percentage of Total Pedestrian Incidents Involving Children Aged 0-17
1. Yolo	56.1%
2. Merced	54.2%
3. Contra Costa	42.9%
4. Kern	47.8%
5. San Joaquin	45.3%

Sources: 2001 Provisional numbers from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS)

Minority Children Hardest Hit

While one might assume that traffic dangers affect all children equally, statistics show that minority children are far more likely than other children to be killed or injured in pedestrian accidents. Between 1995 and 2000, African American children accounted for 14.5 percent of all deaths and hospitalized injuries suffered by child pedestrians in California, more than twice their percentage of the state's overall child population. Meanwhile, Latino children suffered more than 47 percent of all fatalities and hospitalized pedestrian injuries, though they comprised less than 42 percent of California's child population.[92]

Other studies have produced similar findings at the local level. Researchers at U.C. Irvine[93] and the Santa Ana Unified School District in Orange County[94] have found that Latino children are twice as likely as Caucasian children to be injured or killed in pedestrian-vehicle accidents. Other studies have found that African American children face a significantly higher risk of pedestrian injury compared to other children.[95] Additionally, a recent analysis by the *Los Angeles Times* found that fatal pedestrian accidents, including hit-and-run deaths, are heaviest in communities with large African American and Latino populations, such as South and Southeast Los Angeles.[96]

The disproportionate rate of pedestrian injury and death among children of color is explained, at least in part, by correlations between ethnicity and household income. As mentioned earlier, Latino, African American and Native American

Table 9: Deaths & Injuries Among Child Pedestrians in California by Race/Ethnicity (1995-2000)

Race	Fatal Pedestrian Injuries among Children Aged 0-17 1995-2000 (1)	Hospitalized Pedestrian Injuries among Children Aged 0-17 1995-2000 (1)	Percentage of Total Accidents Sustained by Child Pedestrians Aged 0-17 (1)	Percentage of California's Total Child (Age 0-17) Population in 200 (2)
African American	83	1,395	14.5	7.0
Asian/Pacific Islander	37	583	6.1	11.8
Latino	269	4,576	47.4	41.6
Native American	4	29	0.3	0.6
Caucasian	179	2,661	27.8	38.5
Unknown/Other	—	402	3.9	—
Total	**572**	**9,646**	**100**	**100**

Sources: (1) California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC); (2) California Department of Finance, www.dof.ca.gov/html/demograp/race.htm

children tend to have less access to a car than Caucasian children and are therefore more likely to walk, bike and use public transportation, elevating their risk of injury and death in traffic accidents.[97]

These disparities are further explained by the fact that affordable housing is often located along high-speed, high-volume arterial streets, and the fact that minority children often live in urban neighborhoods that lack parks, playgrounds and other safe places to play, which causes them to play in the street in greater numbers than children living in communities with more recreational amenities.[98]

Blaming the Victim

As difficult as it may be to understand, the high number of pedestrian injuries and deaths in California was largely overlooked by traffic engineers, planners and political leaders for several decades. Rather than taking steps to make walking safer and easier, state and local governments have largely left pedestrians to fend for themselves, focusing transportation policy and investments on accommodating more traffic by widening streets, increasing speed limits, removing crosswalks, installing pedestrian barricades at intersections and enacting laws that ultimately encouraged speeding and discouraged walking and bicycling.[99]

The institutional bias in favor of motorists is also evidenced by the fact that pedestrians, even if they are very young children, are often found to be at fault in traffic accidents, obscuring the fact that speed limits may be set too high or that there may be a lack of crosswalks and safe places for kids to play. Statewide, police blamed pedestrians for 59 percent of all serious pedestrian accidents between 1994 and 1998.[100] And, according to the *Los Angeles Times*, police in Santa Ana have blamed hundreds of accidents over the last decade on children as young as age two years old, and assigned fault to pedestrians in dozens of hit-and-run accidents.[101]

Furthermore, police reports are often designed to describe pedestrian-vehicle collisions in terms of what the pedestrian did wrong,[102] and seldom note the actions of the driver or the speed of the vehicle — despite the fact that drivers are often at fault in pedestrian-vehicle collisions. A 2003 analysis by the *San Francisco Chronicle* found, for example, that nearly 8 percent of all fatal crashes in California involved hit-and-run drivers in 2001, a higher rate than any other state.[104] And UCLA researchers found in 1997 that 25 percent of all pediatric pedestrian injuries involved hit-and-run drivers.[104]

> ***"We live less than a mile from Patrick's school, but we choose to drive rather walk to school. It's a narrow sidewalk, and there's a busy street we have to cross."***
>
> ***— Mother of 7-year-old Patrick, San Diego County***

Speeding is a particular problem around schools. One national survey found that two-thirds of drivers in school zones exceeded the posted speed limit during the before- and after-school hours, despite the fact that 85 percent of these zones had one or more safety measures, such as crosswalks, flashing lights or a crossing guard in place.[105] The survey also found that one-third of drivers in school zones were traveling at speeds of 30 mph or more, an issue of concern given that pedestrians are eight times more likely to die if struck by a vehicle moving at 30 mph than they are if the vehicle is traveling at 20 mph or less.[106]

The Cost of Pedestrian Accidents

Although spending on pedestrian safety projects remains a low priority in most local, regional and state transportation funding programs, health providers, private companies and families are spending billions of dollars as a result of pedestrian injuries and deaths. In California, hospital and physician charges, drug prescriptions, physical rehabilitation and other medical expenses for injuries and fatalities sustained in motor vehicle accidents by child pedestrians and bicyclists under the age of 18 topped $138 million in 2001 — a cost only partially covered by health insurance providers (see Tables 10A and 10B).[107]

Yet these initial costs do not factor in property damage, missed school, lost work wages or such "quality of life" costs as pain and suffering. When these costs are factored in, motor vehicle accidents involving child pedestrians and bicyclists cost California more than $1.2 billion in 2001, according to estimates by the Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center.[108]

The burden of paying any out of pocket expenses not covered by insurance carriers falls heaviest on low-income and minority families — those who, in many instances, can least afford it — as their children are disproportionately represented as victims of pedestrian-vehicle collisions.

More Kids Injured in Cars Than by Cars

Even more astounding than the cost of accidents involving child pedestrians and bicyclists, however, is the amount of money lost as a result of injuries and deaths sustained by children riding inside private vehicles. Although statistics show that walking and biking are the most dangerous ways for children to get around on a per-mile-traveled basis, far more children are injured or killed as passengers in motor vehicles.[109] One national study found, for example, that walking and bicycling together accounted for 11 percent of the injuries sustained by children commuting

Table 10A: Total Cost of Non-Fatal Injuries Sustained in Collisions by Persons Aged 0-17 in California (2001) (Total Costs based on 2001 SWITRS Incidence; Costs in 2000 Dollars)

Mechanism	Driver	Passenger	Pedestrian	Bicyclist	TOTAL Costs
Unit Cost	$61,450	$35,060	$99,891	$108,131	$2,431,943,015
Medical	$8,097	$5,218	$15,017	$16,256	$356,304,938
Victim Work Loss	$13,405	$7,619	$20,650	$22,354	$519,159,960
Public Services	$136	$144	$164	$178	$6,957,982
Property Damage	$4,498	$4,128	$4,676	$5,061	$203,188,399
(Subtotal Economic Costs)	$26,136	$17,109	$40,507	$43,849	$1,085,611,279
Lost Quality of Life Costs	$35,314	$17,951	$59,384	$64,282	$1,346,331,736
Number of Non-Fatal Injuries from Collisions	6,692	31,566	5,146	3,699	47,103
Total Cost of Motor Vehicle Traffic Non-Fatal Injuries	**$411,223,400**	**$1,106,703,960**	**$514,039,086**	**$399,976,569**	**$2,431,943,015**

Table 10B: Total Cost of Fatal Injuries Sustained in Collisions by Persons Aged 0-17 in California (2001)
(Total Costs based on 2001 SWITRS Incidence; Costs in 2000 Dollars)

Mechanism	Driver	Passenger	Pedestrian	Bicyclist	TOTAL Costs
Unit Cost	$3,110,243	$3,002,896	$3,389,656	$3,133,438	$1,218,239,374
Medical	$13,486	$13,486	$13,486	$13,486	$5,286,512
Victim Work Loss	$704,630	$680,099	$768,481	$709,930	$275,991,888
Public Services	$998	$998	$998	$998	$391,216
Property Damage	$12,307	$12,307	$12,307	$12,307	$4,824,344
(Subtotal Economic Costs)	$731,421	$706,890	$795,272	$736,721	$286,493,960
Lost Quality of Life Costs	$2,378,822	$2,296,006	$2,594,384	$2,396,717	$931,745,414
Number of Fatalities from Collisions	50	239	87	16	392
Total Cost of Motor Vehicle Traffic Fatalities	**$155,512,150**	**$717,692,144**	**$294,900,072**	**$50,135,008**	**$1,218,239,374**

Source: Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center. Incidence based on 2001 provisional numbers from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). The unit costs are based on the average cost of a U.S. motor vehicle injury for drivers, passengers and non-occupants. Injuries are defined by police reporting as disabling, evident and possible. (See methodology section for more info on how these numbers were calculated.)

to school between 1991 and 1999, while students riding to class in passenger vehicles made up 84 percent of total injuries (see Table 5 above).[110]

Given these numbers, it comes as little surprise to find that California pays far more for injuries and deaths sustained by child passengers than it does for pedestrian and bicyclist injuries and deaths. Injuries and deaths suffered by children riding in private vehicles cost the state more than $1.8 billion in 2001, when medical treatment, work loss and quality of life expenses are tallied (see Tables 10A and 10B).[111]

Stranger Danger Limits Walking and Biking

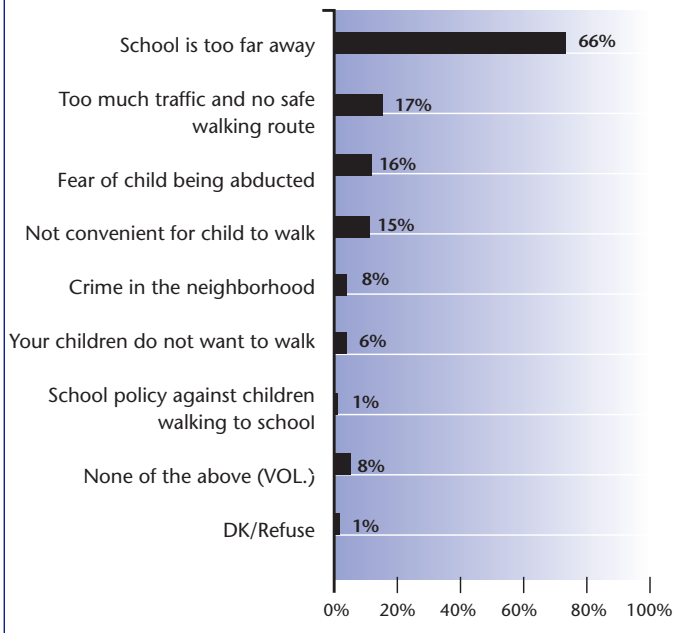
One of the greatest fears faced by today's parents is the prospect that their children could be abducted or otherwise harmed by a stranger. One study by a group of Mayo Clinic pediatricians found, for instance, that 72 percent of parents feared "that their child will be kidnapped by a stranger," and that "it is not uncommon for mothers to report that fears about abduction inhibit their ability to foster independence and self-reliance in their children."[112] Similarly, a 1997 survey conducted by the Princeton Survey Research Association Poll found that parents' top worry was the fear that their child might be kidnapped or become the victim of a violent crime.[113]

It is not surprising, then, that fear of "stranger danger" has led many parents to curtail the amount of walking and biking their children do. A poll conducted for STPP in 2002 found, for instance, that fear of abduction was the third-leading reason parents don't allow their children to walk or bike to school.[114]

These concerns are certainly understandable, given the string of child abductions that have horrified the nation in recent years, and the sensational media coverage they have received. Indeed, it would be hard for any parent, following the highly-publicized kidnappings of Polly Klaas, Samantha Runnion, Xiana Fairchild, Elizabeth Smart and other children, not to feel a mounting dread of strangers, and of what might happen to their children when they are left alone. "There is a real culture of fear among parents these days," says Brad Marshland, a 38-year-old father of two school-aged boys in Kensington, California.[115] "When I was a kid, almost all the children in my neighborhood walked to school. Now, in the same neighborhood, hardly any kids walk to school. The main change is the media and the resulting paranoia parents feel about letting their kids out of their sight."

But while newspapers and television sometimes make it seem as though children are being abducted left and right by strangers, reports by police and other law enforcement agencies indicate the abduction of children by people outside their families is a relatively rare occurrence. In California, a state that now has more than 9 million children under the age of 18, an annual average of 60 children were witnessed being abducted

Figure 4: Reasons U.S. Children Do Not Walk to School (2002 Survey Results)



Source: At STPP's request, Belden Russonello & Stewart conducted a national random sample telephone survey of 800 adults, age 18 and older in October 2002. The margin of sampling error for the survey is plus or minus 3.5 percentage points at the 95% level of tolerance. For this question (in which pollsters asked parents about reasons their child does not walk to school) multiple responses were accepted. (Base: N=166 whose children ages 7-17 do not walk or bike to school.) See http://www.transact.org/library/reports_html/pedpoll/pedpoll.asp.

by non-family members — complete strangers as well as neighbors and other acquaintances — between 1995 and 2001 (see Table 11).[116]

An additional 852 children per year were reported missing under suspicious circumstances, on average, during the same seven-year span. Although law enforcement officials do not know how many of these kids were actually abducted,[117] most experts believe the number is small. According to Shirley Goins, Executive Director of the National Center for Missing and Exploited Children's West Coast office in Tustin, California,[118] many kids reported missing under suspicious circumstances are reported missing for reasons unrelated to any crime (for example, because they did not show up at school) and are recovered shortly after they were reported missing. A number of children are also reported missing under suspicious circumstances after they were taken by family members.

Indeed, the abduction of children by family members happens far more often than stranger abductions, though it garners less media attention. In California, police reports show that an annual average of 2,506 children were kidnapped by family members between 1995 and 2001, often as a result of custody disputes. Nationwide, analysis of Federal Bureau of Investigation statis-

Table 11: Reported Missing, Abducted & Runaway Children in California (1995-2001)

Report Type	1995	1996	1997	1998	1999	2000	2001
Runaway — missing child that has left home without the knowledge or permission of parents or guardian.	116,811	116,276	120,180	109,443	100,998	81,291	90,453
Lost — any person who has strayed away or whose whereabouts are unknown.	544	483	601	518	505	377	388
Catastrophe— any person who is missing after a catastrophe (i.e., plane crash, boating accident, fire, flood).	23	21	12	23	18	11	25
Stranger Abduction — any person taken (witnessed) by a stranger/non-family member.	54	56	81	58	64	51	57
Parental/Family Abduction —child taken by a parent/ family member	2,974	2,733	2,793	2,540	2,379	1,938	2,183
Suspicious Circumstances — missing under suspicious circumstances that may indicate a stranger abduction.	1,172	929	948	805	887	644	580
Unknown Circumstances — when circumstances surrounding MP's disappearance are unknown.	4,941	5,153	5,990	5,391	5,471	4,489	4,902

Source: California Office of the Attorney General, Missing Persons Section. Data refers to children aged 0-17.

tics shows that kidnapping by a stranger accounts for less than one-quarter (24%) of total child abductions.[119] National data also suggest that kidnappings of all types — by strangers as well as family members — account for just 1.5 percent of all violent crimes against juveniles.[120]

This is not to downplay parents' fear of stranger abductions, or to say parents should be more concerned that their kids could be snatched by other family members. For starters, stranger abductions, though less prevalent, are more dangerous than those committed by relatives. Furthermore, the very nature of these crimes — the violation of their children by an unknown person — is enough to panic parents, no matter how slim the chance that it will happen to their child.

"The bottom line is that fear of abductions will remain a very real barrier [to walking and biking by children] so long as there is even one of these cases per year. Protecting the personal safety of children is part of parents' programming," says Shirley Goins of the National Center for Missing and Exploited Children.[121]

FATIMA ANGELES

Driving Children Doesn't Necessarily Protect Them

Although discouraging children from walking around or playing outdoors, and opting instead to drive them everywhere they need or want to go, may reduce the likelihood of stranger abduction, it does little to improve children's overall safety. Statistics show, for example, that children are far more likely to be harmed while traveling in a motor vehicle than they are to be abducted by a stranger. While a total of 364 children under the age of 18 were witnessed being abducted by strangers in California between 1995 and 2000, more than 17,000 were killed or injured badly enough to require hospitalization while riding in private vehicles (see Table 12).[122]

Moreover, preventing children from getting around by foot or bicycle is not a surefire way to protect them from abductions because these crimes don't happen only when children are on the street journeying from point A to point B. Many stranger abductions have occurred in homes, malls, video arcades and other seemingly safe destinations. Polly Klaas, for example, was kidnapped from her bedroom in Petaluma in 1993, and nine-year-old Jeanette Tamayo was taken from the garage of her San Jose home in June 2003.

Additionally, increases in child-chauffeuring may actually heighten the risk of abduction for other children by reducing the overall number of people on streets, trails, parks, playgrounds and other public places. When streets and neighborhoods have high levels of pedestrian activity,

Table 12: Motor Vehicle Accidents vs. Witnessed Stranger Abductions in California (1995-2000)

Number of Fatal Injuries Sustained by Child Passengers Aged 0-17 in Motor Vehicle Accidents (1)	1,523
Number of Hospitalized Non-Fatal Injuries Sustained by Child Passengers Aged 0-17 in Motor Vehicle Accidents (1)	15,730
Number of Fatal Injuries Sustained by Child Pedestrians Aged 0-17 in Motor Vehicle Accidents (1)	572
Number of Hospitalized Non-Fatal Injuries Sustained by Child Pedestrians Aged 0-17 in Motor Vehicle Accidents (1)	9,646
Number of Children Aged 0-17 Witnessed Being Abducted by a Stranger or Other Non-Family Member (2)	364

Sources: (1) California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC) (http://www.applications.dhs.ca.gov/epicdata/TBfatal.html and http://www.applications.dhs.ca.gov/epicdata/TBnonfatal.html); (2) California Office of the Attorney General, Missing Persons Section

there are more "eyes on the street" and violent crimes are less likely to occur.

Recognizing that child pedestrians are less likely to be harmed, by crime as well as automobile traffic, when they travel in groups, neighborhood groups and pedestrian advocates throughout California are developing programs to encourage more children to walk to school. In Sacramento's Natomas Park neighborhood and in several Marin County communities, parent groups have organized "walking school buses" — a kind of walking car pool, accompanied by at least one adult, that follows a fixed route and gathers students along the way. On a larger scale, the California Department of Health Services helps organize and support California's Walk to School Day, which annually involves thousands of parents and children in communities across the state and publicizes pedestrian safety issues.

Neighborhood groups are also organizing "adopt a street corner" programs that put more parents on streets during the times when children are commuting to school. And, as mentioned earlier, Safe Routes to School programs in Marin County and elsewhere are encouraging more children to walk.

CHAPTER 4

California's Lack of Transportation Options Harms the Health of Children

The lack of transportation options is taking a physical toll on California's children, not only by raising their exposure to traffic dangers but also by contributing to a rising prevalence of asthma and weight-related health problems among children.

Less Physical Activity, More Overweight Kids

Declines in physical activity among children have been linked to rising prevalence of childhood overweight and related health problems since at least the 1950s. "There is deep concern in high places over the fitness of American youth," began one *U.S. News & World Report* article from 1957. "Parents are being warned that their children — taken to school in buses, chauffeured to activities, freed from muscle-building chores and entertained in front of TV sets — are getting soft and flabby."[123]

Five decades later, these trends have become cause for even greater concern. While the amount of exercise children get has continued to wane and their dependence on automobiles has intensified, the number of fat and out-of-shape children has reached epidemic proportions. Nationwide, the percentage of overweight* children between the ages of six and 17 has more than tripled from about 5 percent in the 1960s to more than 15 percent today.[124] An additional 14 percent are at risk of becoming overweight,[125] meaning that more than one in four American children are now overweight or at risk.

California is no exception. Recent surveys have found that more than one in five (21%) of the state's teenagers,[126] and more than one-third (34%) of children aged nine to 11,[127] are either at risk or overweight. Another study, which calculated children's weight categories based on height, weight, gender and age, found that more than one-quarter of California's fifth-, seventh- and ninth-grade schoolchildren (26.5%) are overweight.[128] "The numbers vary from study to study, but it's clear that California's kids are getting bigger," says Gail Woodward-Lopez, Associate Director of U.C. Berkeley's Center for Weight and Health.[129]

A large number of California's children are also

* Children with a Body Mass Index (BMI) above the gender- and age-specific 95th percentile, based on the CDC's Growth Charts for the United States, are defined as "overweight." Children with a BMI between the 85th and 95th percentile are considered "at risk" of becoming overweight.

Children with a Body Mass Index (BMI) above the 95th percentile are defined by the CDC as "overweight." The term "obese" is not used in reference to children, largely because there is no scientifically recognized data linking height and weight relationships among children to morbidity and mortality. Furthermore, children are not labeled obese — a term that suggests a permanent condition — because they are still growing, and some overweight children move out of this category as they grow and their body proportions change. The impermanence of children's height and weight relationships also explains why public health officials define children with a BMI at or above the 85th percentile as "at risk" of becoming overweight. Additionally, health officials avoid describing overweight children as obese because of the social stigmas associated with the term. However, the word obese is used with reference to adults, because they are no longer gaining height and because relationships between weight, morbidity and mortality have been scientifically established among adults.

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out of shape. In 2002, 76 percent of the fifth-, seventh- and ninth graders who took it flunked the California Physical Fitness Test, a series of aerobic, strength and body fat tests given each year in public schools to determine the physical fitness of the state's schoolchildren (see Table 24 in Appendices).[130] One study that focused solely on aerobic capacity — a good indicator of a child's ability to engage in strenuous exercise for a prolonged duration — found that 40 percent of the state's schoolchildren are physically unfit.[131]

Higher Prevalence of Overweight Among Low-Income and Minority Children

The prevalence of overweight also appears to be disproportionately high among minority children. One California survey found, for instance, that Latino teens were twice as likely as their Caucasian peers to be overweight or at risk (see Table 13).[132] Another statewide survey of children aged nine to 11 shows similar discrepancies, with 43 percent of African Americans, 37 percent of Latinos and 29 percent of Caucasians either overweight or at risk.[133]

Correlations between race, ethnicity and socioeconomic status help explain these differences. Studies have shown that lower household income is associated with higher rates of overweight in children.[134] In part this is because the diets of poor families tend to feature low-cost foods that are high in calories and low in nutritional value.[135] A 1998 survey by the U.S. Department of Agriculture found that more than 8 percent of American households felt they could not afford to feed their children balanced meals.[136] Additionally, access to healthy foods is often limited in low-income neighborhoods.

Health Implications of Childhood Overweight

The medical implications of these trends are staggering. The rise in childhood overweight has been linked to the increasing prevalence among children of:

- diabetes

Table 13: Overweight and At Risk Teenagers by Race/Ethnicity in California (2000)

Race/Ethnicity	Percentage At Risk of Becoming Overweight*	Percentage Overweight*
Caucasian	10%	7%
African American	12%	17%
Latino	19%	15%
Asian/Other	12%	9%
Total	14%	10%

Source: 2000 California Teenage Eating, Exercise and Nutrition Survey (CalTEENS)
** Overweight is defined as having a Body Mass Index (BMI) — a measurement of height, weight and age — above the 95th percentile. At risk is having a BMI in the 85th to 95th percentile.*

- hypertension
- orthopedic problems
- gallbladder disease
- sleep apnea
- cardiovascular disease risk factors
- and other health problems that used to occur primarily in adults.[137]

Overweight children also face an elevated risk of chronic ailments later in life — an estimated 50 to 70 percent of overweight children go on to become overweight or obese adults, who suffer far higher levels of heart disease, diabetes, hypertension and certain forms of cancer than adults of normal weight.[138]

In California, one recent study found that while about 12,000 adolescents aged 12 to 17 have been diagnosed with diabetes, an additional 176,000 adolescents are at risk of developing diabetes because they do not participate in regular physical activity and were overweight or at risk of becoming so.[139] Furthermore, it is estimated that between 20 and 30 percent of all new childhood and adolescent diabetes cases in California are type 2,[140] a disease that increases the likelihood that children will develop serious complications later in life such as blindness, kidney disease, heart disease and limb amputation.

Responding to the escalating problem, Oakland's public schools recently became the first in the nation to hire a diabetes nurse educator to train teachers to spot symptoms and handle diabetic emergencies.[141] About 75 percent of the Oakland school district's students are African American or Latino, groups whose risk of getting the disease is often two to three times higher than Caucasians — due in part to their comparatively high rates of overweight.[142]

Overweight children are also more prone than those of normal weight to suffer psychological and social problems, including low self-esteem, poor body image, eating disorders and depression.[143]

Moreover, in a society obsessed with thinness, overweight children are often discriminated against by their peers and excluded from such activities as sports and dating. These psychosocial problems frequently persist into adulthood. Studies have shown that overweight adults tend to earn less money and are less likely to marry than adults of normal body weight.[144]

The mounting percentage of health problems attributable in one way or another to being overweight places a growing economic burden on states like California. The Surgeon General has estimated the annual cost of obesity among people of all ages in California — including direct medical costs, lost productivity, disability and premature death — at $14.2 billion.[145] Another study found that, among children aged six to 17, hospital costs alone for overweight-related health

problems more than tripled nationwide between 1979 and 1999, from $35 million to $127 million.[146] And these numbers are probably an understatement, as doctors often don't record weight problems on hospital discharge records because insurance companies don't pay to treat it until a child is diagnosed with a formal illness.

Why Is This Happening?

Numerous factors have contributed to the alarming increase in childhood overweight. The problem is largely related to:

- Children's increasing consumption of foods that are high in fat and sugar, such as fast food and soft drinks, and the trend toward "super-size" portions.[147]
- Fewer activities that could burn off all these calories. Although it is recommended that children and adolescents perform at least 60 minutes of vigorous physical activity per day, only three of 10 teens in California meet this standard.[148] Moreover, the 1997 Youth Risk Behavior Study (YRBS) showed that just 51 percent of California high school students had participated in at least 20 minutes of vigorous activity on at least four of the previous seven days.[149]

Part of the problem is the fact that children are getting less exercise at school. One recent survey found that 17 percent of nine- to 11-year-olds in California don't receive any physical education (PE) or gym classes at school,[150] while another survey shows that nearly half (44%) of the state's high school students do not participate in PE classes.[151] Children are also increasingly sedentary when at home. One survey found that California teens now spend twice as much time watching television or playing video games than they do at sports or other physical activities.[152]

But the marked decline in such everyday sources of exercise as walking and bike riding has also contributed substantially to weight- and fitness-related health problems among children.

Although such moderate forms of exercise were once considered irrelevant to good health, a number of recent studies have shown that walking or doing other moderate exercise for at least 30 minutes per day offers substantial health benefits. Researchers at the University of Pittsburgh School of Medicine have found, for example, that "lifestyle" exercise such as walking to school have an even greater impact on weight loss among children than aerobic exercise.[153]

> ***"Regular physical activity is probably as close to a magic bullet as we will come in modern medicine...If everyone in the U.S. were to walk briskly 30 minutes a day, we could cut the incidence of many chronic diseases 30% to 40%."***
>
> ***— Dr. JoAnn Manson, Chief of Preventive Medicine at Harvard's Brigham and Women's Hospital***

In a similar vein, researchers at the Harvard School of Public Health have found that people can reduce their risk of type 2 diabetes by as much as 50 percent simply by accumulating one hour per day of brisk walking or other moderate exercise.[154] "The activity can come from a variety of sources throughout the day: walking to the bus stop in the morning, taking the stairs at work or running errands," states the study's lead author. "It doesn't have to mean going to the gym and exercising furiously."[155]

Research by the Surface Transportation Policy Project also indicates strong relationships between the amount of walking people do and

> ***"I can't sleep, and I can't go out and play with my friends anymore. Most days, I can't breathe right [due to asthma]."***
>
> ***— Christian Cerpa, 9, Parlier (Fresno County)[156]***

S.C. DELANEY / EPA

the likelihood of overweight, finding that places where people walk further each day tend to have fewer people who are at risk of health problems due to overweight. For every 10 percent increase in the amount of walking, this research has found a drop of almost 1 percent (0.7%) in the number of people who are overweight. This relationship remained the same when researchers controlled for age, race and income.[157]

"Walking or bicycling to school is a great way to build physical activity into children's daily lives," says Dr. William Dietz, director of the CDC's Division of Nutrition and Physical Activity.[158] "Children who don't get enough exercise stand a greater chance of becoming overweight, and overweight children are at increased risk for cardiovascular diseases, diabetes and other serious health problems."

In addition to helping build muscles and stamina, regular exercise has also been linked to improved school performance by children. One recent study by the California Department of Education found a clear relationship between academic achievement and physical fitness among the state's public school students.[159] "We now have the proof we've been looking for; students achieve best when they are physically fit," State Superintendent of Public Instruction Delaine Eastin declared after the study was released.[160]

Asthma and Air Pollution On The Rise

California has also witnessed a dramatic rise in respiratory diseases, especially asthma, that are exacerbated by air pollution. The number of California children diagnosed with asthma has soared 160 percent since 1980,[161] and asthma attacks are now the number one cause of emergency hospital visits by California children. As a consequence, the medical costs alone of treating asthma in children under the age of 18 — including physicians' services, hospital care and drugs — has soared to more than $296 million a year in California,[162] the country's highest tally by far.

Children are disproportionately affected by asthma, a disease that can permanently damage lung tissue, aggravate heart and lung illnesses, stress the cardiovascular system and, in rare cases, cause death.[163] A survey by the UCLA Center for Health Policy research (see Table 25 in Appendices) estimates that 13.6 percent of California children under the age of 18 — about 1.2 million kids — have been diagnosed with asthma at some point in their lives (called "lifetime asthma prevalence").[164] In comparison, 11 percent of adults aged 25 years old and up have been diagnosed with this disease.

Studies have also shown that minority children are especially vulnerable to asthma. A recent

California survey found that one in five (21.1%) African American children, and more than one in four (25.5%) Native American children, had been diagnosed with asthma, rates that are far higher than those for Caucasians and Asians (see Table 14).[165] Although the lowest asthma rates were found among Latino children, it is believed this number may reflect the Latino community's comparatively low rates of health insurance and health care access, particularly among non-citizen immigrants.

In California, three out of eight Latinos are uninsured, compared to one of eight non-Latino whites, and one in three immigrant children have not had a doctor visit during the past year, which is twice the rate for other children.[166] "If Latino children aren't seeing doctors as regularly as other children, then the chances that their asthma will be diagnosed or reported is also lower," explains Raquel F. Donoso, Deputy Director of the Latino Issues Forum.[167]

The elevated prevalence of asthma among minority children is linked, many health experts agree, to the fact that air quality is frequently poor in neighborhoods with high concentrations of minority residents. Neighborhoods located near urban highways, for example, tend to have disproportionately high numbers of minority and low-income residents.[168] One California study found that the air in predominately African American and Latino communities is three times more likely to contain unhealthy pollutant levels than air inhaled by residents of predominantly Caucasian communities.[169] Differences in patient education, income, medical care and exposure to indoor allergens may also help explain the disparities in asthma prevalence.

Asthma's Links to Smog

Few experts doubt that air pollution is responsible, at least in part, for the rising prevalence of asthma across all segments of California's population. An abundance of scientific literature has established that exposure to ground-level ozone — better known as smog — can aggravate asthma and other respiratory illnesses,[170] and that children are particularly sensitive to smog and other airborne pollutants. Children are particularly susceptible to the damaging effects of air pollution in part because their lungs are still developing. Children also breathe more rapidly than adults, and therefore inhale more pollutants relative to their body weight. Additionally, irritation or inflammation caused by inhaled air pollution is more likely to obstruct children's comparatively narrow airway passages.[171]

Research also suggests that prolonged exposure to smog may actually cause, rather than simply aggravate, asthma in children. A recent Southern California study found, for example, that children who play sports in areas with high ozone concentrations — and therefore tend to be outdoors more often breathing polluted air — face a greater

Table 14: Lifetime Asthma Prevalence Among Children Aged 0-17 by Race/Ethnicity in California (2001)

Race/Ethnicity	Percent
Caucasian	14.3%
Latino	9.7%
Asian	11.7%
African American	21.1%
AIAN	25.5%
NHOPI	22.3%
Others	15.6%
Total	**13.6%**

Source: 2001 California Health Interview Survey (CHIS)
Note: AIAN = America Indian and Alaska Native; NHOPI = Native Hawaiian and Other Pacific Islander

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risk of developing asthma then children who play no sports.[172] Other research has shown that exposure to smog and other air contaminants during infancy or childhood can affect development of the respiratory, nervous, endocrine and immune systems.[173]

The connection between unhealthy concentrations of air pollutants and asthma prevalence is clear in places like the San Joaquin Valley, a region that features some of California's dirtiest air as well as some of the state's highest per capita asthma rates. In Fresno, for example, reported asthma cases among public school students jumped 156 percent between 1990 and 1999, far outpacing an 18 percent growth in student enrollment.[174] Childhood asthma has become such a serious problem in the southern portion of the valley, where ozone levels are generally highest, that schools have equipped coaches and athletic directors with beepers so they will know when to order athletes indoors on dangerously smoggy days.[175]

Particulate Matter: Another Asthma Trigger

Although smog comes first to mind when most people think of air pollution, a number of recent studies have concluded that particulate matter (PM) may be an even more harmful air pollutant. Composed of soot, dust and other tiny particles produced by such sources as diesel trucks and buses, coal-fired power plants and fireplaces, PM is capable of penetrating deep into the lungs, where it can irritate respiratory tracts and trigger asthma attacks.[176] Studies have shown that prolonged exposure to PM can stunt the growth and functioning of children's developing lungs, and researchers have linked PM exposure to increased rates of lung cancer.[177]

One recent report found that breathing soot released by diesel-powered trucks, buses and construction and farm equipment greatly increases a person's risk of developing cancer.[178] And a 2002 study by the California Air Resources Board (ARB) found an increase in hospitalizations and emergency room visits after periods of high PM episodes in the San Joaquin Valley.[179]

It should be noted, however, that smog and PM aren't the only causes of California's worsening asthma problem. The causes of asthma are complex, and research indicates that a variety of other outdoor and indoor allergens act as asthma triggers, including dust mites, cockroaches, tobacco smoke, pollen and mold. Additionally, better reporting and improved diagnosis have contributed to the rise in reported asthma cases.

Motor Vehicles Are a Major Source of California's Air Pollution

California's persistent air pollution problems are closely linked to its population's heavy reliance on automobiles. Motor vehicles are by far the largest producer of nitrogen oxides and volatile organic compounds (VOCs), chemicals that combine in sunlight to form ozone. Cars, trucks and other on-road motor vehicles account

for more than half (52%) of all nitrogen oxides and 40 percent of all VOCs spewed each day into California's air, according to the California Air Resources Board.[180]

Although strict emissions standards, routine vehicle inspections and clean technologies have succeeded in cutting motor vehicle emissions per mile driven, these measures have been largely offset by huge increases in driving and trip-making. While California's population grew 28 percent between 1981 and 2000, annual motor vehicle registrations increased by more than one third[181] and the average number of vehicle miles traveled daily in the state climbed 48 percent.[182]

The Nation's Dirtiest Air

Whatever the causes, the result is that the Golden State now has what is arguably America's worst air pollution. Nine of the nation's 10 most ozone-polluted counties — San Bernardino, Fresno, Kern, Tulare, Riverside, Los Angeles, El Dorado, Merced and Kings — are located in California, according to a 2003 report by the American Lung Association.[183]

California also leads the nation in ozone alert days. A study by the U.S. Public Interest Research Group (PIRG) found that the federal 8-hour ozone standard was exceeded in at least one California location on 130 days in 2001.[184] This is almost twice as many "smog days" as the next closest state, Texas, which registered 72 "smog days." Just seven of California's 15 air basins have managed to attain federal ozone standards, and just 10 of the state's air basins have attained federal health-based standards for PM-10.[185]

Moreover, air pollution appears to be worsening in some of parts of the state. In the San Joaquin Valley, for example, the air is now dirtier than in Los Angeles, which for decades has been the nation's air pollution poster child. The valley's air basin exceeded the national 8-hour ozone standard a combined 220 days in 2000 and 2001, while the Los Angeles area's South Coast Air Basin violated the standard on 186 days.[186]

As a result of this deterioration, the valley's air quality management district is considering asking the EPA to "bump up" the region's ozone classification from "severe" to "extreme" so that it will have more time to figure out how to address the problem before federal sanctions kick in. The South Coast Air Basin is currently the only region in the country now classified as "extreme." Emissions of PM-10 are also increasing in the San Joaquin Valley,[187] one of just eight U.S. air basins classified as "serious" by the U.S. Environmental Protection Agency (EPA).

> ***"There is a connection...between the fact that the urban sprawl we live with daily makes no room for sidewalks or bike paths and the fact that we are an overweight, heart disease-ridden society."***
>
> ***— Dr. Richard J. Jackson, Director of the U.S. Centers for Disease Control and Prevention's National Center for Environmental Health***

Lack of Travel Options Slows Cognitive Development

In addition to helping control weight, reduce fat and build muscle, regular exercise has been shown to reduce feelings of depression, stress and anxiety, in people of all ages. Available data also suggest that physical activity improves the ability to sleep, boosts self-esteem and increases attentiveness and energy levels,[188] which means exer-

cise may also increase learning capacity and improve students' academic performance.

Some researchers also believe that kids who regularly walk or bike to school and other destinations have faster rates of cognitive development and keener observational skills than children who rarely walk or bike. Studies have shown that children who are driven everywhere and who aren't permitted to play outdoors or walk around their neighborhoods are often unable to draw basic maps of their communities and develop an understanding of spatial relationships, while children who do walk and bike around their neighborhoods are able to give directions to their homes at a young age.[189]

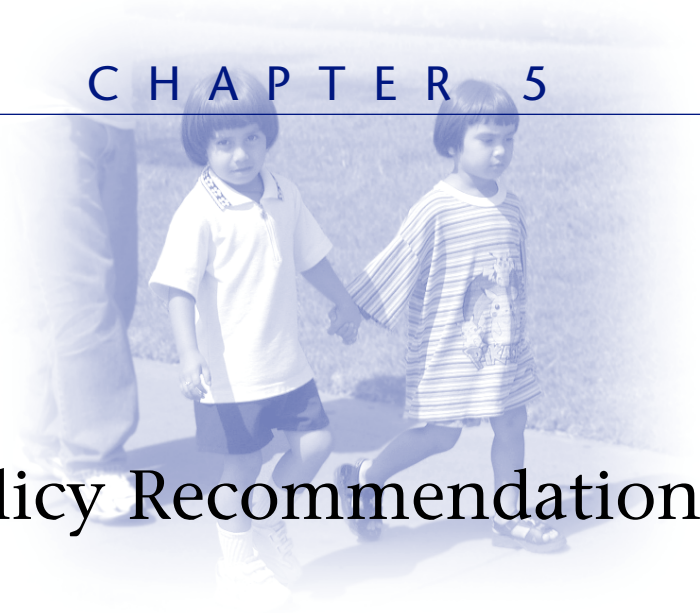
In one study that looked at how schoolchildren are affected by automobile traffic, U.C. Berkeley urban design students asked nine- and 10-year-old children to draw maps of the route between their homes and their schools. An assessment of these "cognitive maps" showed that children who live in neighborhoods with higher traffic levels produced maps with far less detail than children from neighborhoods with less traffic and children who regularly walk or bike to school. One child, who was often driven to school, could only draw a straight line down the middle of the paper when asked to depict the route between his school's playground and his home, suggesting the child had virtually no association with the neighborhood in between these two places.[190]

Table 15: Ozone and PM-10 Pollution in California Air Basins (2000-2001)

Air Basin	Days Above National 8-Hour Ozone Standard		Calculated Days Above State 24-Hour PM-10 Standard	
	2000	2001	2000	2001
Great Basin Valleys	1	0	19	90
Lake County	0	0	0	0
Lake Tahoe	0	0	0	19
Mojave Desert	72	65	63	84
Mountain Counties	65	56	60	57
North Central Coast	1	0	54	24
North Coast	0	0	9	42
Northeast Plateau	0	0	66	60
Sacramento Valley	43	35	144	81
Salton Sea	33	54	330	341
San Diego	16	17	144	146
San Francisco Bay Area	9	4	63	42
San Joaquin Valley	117	103	216	237
South Central Coast	24	30	108	135
South Coast	94	92	300	278

Source: California Air Resources Board

CHAPTER 5



Policy Recommendations

If California is to become a place where children can get around on their own more of the time — by walking, bicycling or riding public transit — then we must take bold steps to make streets less hazardous for pedestrians and bikers, and to alter current community and school design patterns that have contributed greatly to the state's lack of transportation options. The following recommendations, if implemented, could go a long way toward improving the health, safety and independent mobility of California's youngest residents:

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(1) Prioritize Safe Walking and Bicycling Routes for Kids: Walking and bicycling ought to be a safe, convenient and reliable transportation mode for children and youth. Yet the dangers from traffic and the lack of design and funding for bicyclists and pedestrians in modern streets and residential developments has made it far more difficult and dangerous for a new generation of children to walk or bike. New design policy guidelines issued by the Federal Highway Administration and adopted by the California Department of Transportation (Caltrans) recommend that state and local planners and road builders design all street and transportation facilities from the start with pedestrians and bicyclists in mind (see: Deputy Directive #64 on Accommodating Non-Motorized Travel, http://www.dot.ca.gov/hq/oppd/non-motor-travel.pdf). Local cities and counties across California should adopt similar design guidelines.

Traffic speeds must also be reduced in new communities by designing narrower, slower, safer streets that accommodate pedestrians, bicyclists and motor vehicles. In existing neighborhoods with overly wide streets that encourage speeding and discourage pedestrian use, "traffic calming" techniques can be used to moderate vehicle speeds and improve conditions for pedestrians. The difference between a child pedestrian being hit at 20 mph and 40 mph is literally a matter of

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life and death. Communities throughout California should adopt street design guidelines for new development that balance the needs of all users, and they should promote more flexible street designs that use traffic circles, raised crosswalks, sidewalk "bulb outs" and other traffic calming measures to slow traffic speeds and improve safety for both drivers and pedestrians.*

(2) Promote and Fund Safe Routes to Schools Programs: While the commute to school is by no means the only trip made by children and youth, it is nevertheless one of the most visible and predictable. Therefore, the trip to school has consistently been the target of grassroots campaigns around the world to get children back on their feet and their bikes by educating parents and students, improving safety by reducing risks associated with both crime and speeding traffic, and building mile after mile of sidewalks, bike lanes and trails.

The California Department of Health Services helped launch the Safe Routes to School effort in this state by sponsoring a 2-year demonstration project. This initiative helps mobilize community members locally through California's annual Walk to School Day events, and through ongoing community education, engineering improvements, law enforcement and community involvement efforts. The project's final report, published in 2002, documents best practices for achieving no- or low-cost improvements immediately and for funding larger construction projects over time.

Every community and county in California should follow the example of Marin County, which has prioritized local efforts around Safe Routes to Schools, mobilized community members through a variety of outreach, education and enforcement efforts, and set aside enough transportation funding to make it happen. Caltrans should make the state-level Safe Routes to School funding program permanent, triple the size of the program to $75 million a year, and allow additional education and outreach efforts to be funded through the program.

The same is true for the state's Bicycle Transportation Account (BTA), a grant program administered by Caltrans, which helps local governments improve street and trail systems for bicycling. Many BTA-funded projects have improved access to schools and other key destinations for children. Although recent legislative efforts have increased the BTA's annual allocation to $7.2 million, cities and counties have consistently submitted funding requests totaling three to six times this

*The national Institute of Transportation Engineers (ITE) has begun to incorporate pedestrian-friendly concepts into its guidelines, but local transportation engineers have not all embraced this new way of thinking. For more information on traffic calming and pedestrian-friendly street design, see Dan Burden, et al., "Street Design Guidelines for Healthy Neighborhoods," Local Government Commission's Center for Livable Communities, January 1999; Local Government Commission's Center for Livable Communities, "Why People Don't Walk and What City Planners Can Do About It" available at www.lgc.org; Metro Regional Services, "Creating Livable Streets: Design Guidelines for 2040," Portland, Oregon, November 1997.

amount. Caltrans should increase BTA funding from $7.2 million to $20 million per year.

(3) Build Child-Friendly Neighborhoods: Distance is often cited as one of the biggest obstacles to children walking and bicycling more often. Over the past 50 years, urban and suburban development patterns in California have increasingly segregated different uses and spread them out over greater distances. New neighborhoods in California should be built so that all residents — in particular children, youth, seniors and the disabled — are within a reasonable walking distance of shops, offices, schools, libraries and transit stops. This means changing local zoning codes to allow more "mixed-use" development in place of the "single-use" zoning that is now common in many communities.

To achieve this goal, the State of California should issue standards for such "mixed-use" zoning and use state funding as incentives for their adoption. An example of how the state should act is provided by a 2002 bill (SB 1521) that would have required the state's Office of Planning and Research to develop a statewide plan for land use and growth. The bill, which failed to win approval in the state Legislature, aimed to provide financial incentives for cities and counties that preserve open space and encourage mixed-use development around existing infrastructure and public transit lines.

It is important to remember that changing the design of our neighborhoods may be the best way to promote physical activity — as well as the use of public transit — among children and youth. Changes that improve the safety and convenience of walking and bicycling will not only decrease the number of deaths and injuries from accidents, but will also help reduce the prevalence of weight-related diseases and put more "eyes on the street" to help alleviate parents' concerns about stranger danger.

(4) Remove Regulatory Barriers that Discourage Neighborhood Schools: One of the main reasons more children walked and bicycled to school in the past is that schools were located much closer to the neighborhoods where students lived. Unfortunately, new schools in California are often located far from where anyone lives due to school siting guidelines, funding policies and other regulations that discourage the renovation of older neighborhood schools and instead favor the construction of large new schools, which are often built on undeveloped land.

California should overhaul these guidelines and policies so that the renovation of existing neighborhood schools, or the construction of smaller, community-based schools, becomes an attractive alternative to sprawling, new "greenfield" campuses. Existing schools are often sited close to or within residential neighborhoods, and could be retrofitted or modernized at a fraction of the cost of building new schools.

When new schools are needed, they should be constructed in or near residential neighborhoods, where they will have an opportunity to serve as centers of community activity. Siting schools closer to existing neighborhoods would not only encourage students to walk and bike to school

* A series of bills that would go a long way toward removing barriers to the modernization and rehabilitation of existing neighborhood schools, clearing the path for joint- and mixed-use projects, and streamlining the school construction approval process have been introduced in the California Legislature in 2003. These bills include AB 225, AB 545, AB 560, AB 1244, AB 1382 and AB 1550, all of which were sponsored by the Mexican American Legal Defense and Educational Fund (MALDEF). For more information, contact Francisco Estrada, senior policy analyst for MALDEF.

more often, but would also reduce the need for parents to drive their children to school and diminish the cost of school bus programs.

"Before safe routes to school were established, the volume of traffic in the mornings was intense. People were going too fast. It felt dangerous to go for a walk. Now it is quiet and peaceful as if we had returned to an earlier time. Kids with moms walk past and say hello. Little boys on bikes stop at each others houses until they have their full group together, then they cruise down the tree-shaded lanes by the creek. The kids will be healthier and less stressed because of the exercise, moms more relaxed not having to do that extra drive."

— Marin County mother, in response to the county's overwhelmingly successful Safe Routes to School program.

(5) Make School Bus Service a Higher Priority: Even if regulations that discourage neighborhood schools are loosened and more funding is made available for safety improvements on bicycle and pedestrian routes, there will still be many children who live beyond walking or biking distance from a school. School buses have long played a vital transportation role for these children. Yet California today has the lowest school bus ridership rate in the country, in large part because many cash-strapped local school districts have reduced their busing programs and/or increased the fees they charge students for bus service. In many districts, school bus programs are made to compete with text books and teachers, and more often than not end up with the short end of the stick.

California should maintain and extend school bus programs to ensure that all children have a guaranteed, safe ride to school. Rather than squeezing education budgets, school bus service should be funded through traditional state and local transportation funding sources, leaving school districts with more money to spend on educating our children. Additionally, school bus services should be combined with mass transit in more urban areas to eliminate redundant routes and reduce costs.

(6) Prioritize Funding for Transportation Projects That Improve Air Quality: Emissions from automobiles, trucks and other motor vehicles are leading contributors to ground-level ozone and particulate matter, air pollutants linked to the rising prevalence of asthma and other health problems among California's children. Heavily polluted regions, such as San Joaquin Valley and the area around Los Angeles, should be required to use a percentage of their regional transportation improvement program funds "off the top" for projects that improve air quality. Project examples include diesel engine retrofits, clean fuel buses and programs that promote walking and bicycling. Additionally, in regions that have failed to attain state and federal air quality standards, any local ballot measure that would impose or increase sales taxes for transportation purposes should dedicate at least 10 percent of its revenues to transportation projects that help reduce air pollution.

(7) Collect Better Data: If Kids Count, Then Count Kids: Another fundamental step toward

improving California's transportation systems and planning, so that they better meet children's needs, is to collect more information about how, when, why and where kids travel. Most government agencies only collect data about motor vehicles, a fact that tends to focus discussions among engineers, planners and politicians around levels of service for traffic. As one transportation official put it, "What gets counted counts."

Currently, very few agencies collect data on whether or not they are meeting the health, mobility and safety goals of children and other Californians who depend on walking, biking or public transit for independent mobility. For example, Caltrans does not routinely report statewide household travel survey data for children and youth. The Caltrans data cited in this report was only made available after the Surface Transportation Policy Project requested a special data run. These data have never before been published. Additionally, one reason for the low usage of public transportation among children and youth is that transit service providers often do not track their ridership, and children are frequently omitted from general surveys of transit passengers.

In the future, Caltrans should report this data according to age group, and treat children and youth as specific subgroups. Additionally, regional transportation agencies should collect and report data regarding the travel patterns of children and youth, acknowledging their place in the region's transportation system. Using these data, agencies should begin developing strategies that will improve the mobility options available to kids.

(8) Involve Youth in Transportation Decision-Making: For some time now it has been noted that younger Americans are increasingly disengaged from and disenchanted with civic issues and politics in general. As this report demonstrates, transportation decisions — which have a profound impact on the health, independence and safety of children and youth — are rarely made in consultation with them. Indeed, some transportation agencies don't even consider people under 18 years of age to be part of their customer base, and routinely leave them out of customer surveys.

Instead of being ignored, children — youth in particular — should be involved in the design of projects that have an impact on their well-being. This will be especially important in coming years as the number of Californians under the age of 18 is projected to grow 37 percent by 2025. Safe Routes to School projects and programs should involve the children they are intended to help. Citizen seats on local and regional transportation agencies — though they rarely have voting powers — should be opened up for youth delegates interested in having a say in the design and funding of local transportation systems. Additionally, transportation curricula should be taught in schools throughout California, particularly in high school civics classes.

(9) Provide Free and Discounted Public Transit Passes For Children: Local transit agencies should work with the state to develop innovative funding approaches that will enable transit agencies, even those facing budget deficits, to provide deeply discounted or free bus passes for children, particularly those from poor families. Additionally, local and regional transportation tax measures in California should consider setting aside a portion of tax revenues for the purpose of providing free transit passes for kids.

Definition of Terms Used in This Report

Automobile: In this report, the term "automobile," is used interchangeably with "car," "motor vehicle" and all other types of privately owned motorized passenger vehicles.

Children: In this report, the term "children" refers to people aged 18 and younger, unless otherwise specified. Although this age category includes some people old enough to drive (i.e., those aged 16 and older), it enables the authors to analyze the travel patterns of children through high school, a time when many children leave the family home and assume a more independent lifestyle. The term "children" is used interchangeably with "kids," while "youth" and "teenagers" are used to describe people between the ages of 12 and 18.

Exurban: Exurban development refers to development that occurs outside the central urbanized area of a metropolitan region (even outside the suburbs of central cities) but is still within commuting distance of the central urbanized area.

Greenfield: Farmland and other undeveloped land where there has been no previous industrial, commercial or residential development.

Household: Although households generally describe all the occupants of a housing unit (including people who are unrelated), the term is used primarily to describe families in this report.

Infill: Development of vacant or underdeveloped land within neighborhoods or communities that are otherwise substantially developed, as opposed to building on undeveloped land.

Latino: The term "Latino" refers to people of any race, heritage, nationality group, lineage or country of birth who classified themselves in one of the specific Spanish, Hispanic or Latino categories listed on the U.S. Census Bureau's 2000 Census of Population questionnaire. These categories include "Mexican, Mexican American, Chicano," "Puerto Rican," "Cuban" and "other Spanish/Hispanic/Latino."

Mixed-Use Zoning: The term "mixed-use zoning" is used to describe neighborhoods that contain a mixture of homes, shops and businesses. In contrast, "single-use zoning" refers to neighborhoods that are zoned for only one type of use. In many new suburbs and exurbs, some neighborhoods are zoned solely for homes, while in other neighborhoods only shops and other commercial uses are permitted.

Social Equity: Equal opportunity and access for all members of society to such things as nutritious food and transportation access to jobs.

Traffic Calming: Traffic calming efforts are aimed at reducing the speed of motor vehicles along neighborhood streets and intersections to make them more pedestrian- and bicyclist-friendly, and to improve quality of life in these neighborhoods. Traffic calming efforts generally focus on physical

design changes, such as adding traffic circles, speed bumps, street trees and textured pavement. For more information about traffic calming in California, contact the Local Government Commission at http://www.lgc.org.

Transit: Public transit systems convey people from one place to another in multi-passenger vehicles along fixed routes on a fixed schedule. In this report, "transit" includes buses, trolleys, light-rail, subways, trains and other forms of city-, regional- or state-managed ground transportation.

Trip: The term "trip" is used to describe purposeful or utilitarian travel between one place and another, such as between home and school. Unpurposed travel, such as "just walking around," walking for exercise or walking around inside one's home, is not counted as a "trip" in this report.

Unlinked vs. Linked Trips: A "linked" trip refers only to the dominant travel mode used for a trip. For example, if a child walks 100 yards from his or her home to a bus stop, then rides a bus two miles to school, the child is said to have used public transit for this trip. An "unlinked" trip can be any mode segment of a trip. In the example above, both the walk from home to bus stop and the bus ride are counted as "trips." The Caltrans 2000-2001 California Statewide Household Travel Survey data included in this report measures unlinked trips.

Urban Sprawl: Low-density, dispersed development outside of compact urban centers. Sprawling metro areas tend to segregate housing, workplaces and stores from one another in single-use districts. Trip distances in sprawling areas are often too long for walking or bicycling to be convenient travel modes.

Walking Trips: The term "walking" includes trips made by skateboard, rollerblade, scooter and other non-motorized, non-pedicycle travel modes.

Zoning: Zoning is a system of development that divides communities by land use. Zoning determines the type of land use, lot size and restrictions for each piece of property or neighborhood. For example, areas can be zoned for residential, industrial, commercial or mixed uses.

ENDNOTES

Chapter One:

1 California Department of Transportation, "2000-2001 California Statewide Household Travel Survey," special data run requested by Surface Transportation Policy Project.

2 California Children's Eating and Exercise Practices Survey (CalCHEEPS). Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level. This unpublished analysis was provided to the Surface Transportation Policy Project by the California Department of Health Services' Chronic Disease and Injury Control/Cancer Prevention and Nutrition Section in July 2003.

3 C.L. Purvis, "Changes in Regional Travel Characteristics and Travel Time Expenditures in the San Francisco Bay Area: 1960 to 1990," Paper submitted to the Transportation Research Board for the 1994 Annual Meeting. See http://www.mtc.ca.gov/datamart/survey/changes.htm

4 National Personal Transportation Surveys of 1995 and 1977, U.S. Department of Transportation. The 37% decline in walking among children aged 5 to 15, and a related 9% increase in car usage, between 1977 and 1995 was confirmed by CDC researcher Sandra Hamm. Additionally: National surveys show similar declines in walking among adults as well as children. NPTS data show a 42% drop in the number of trips taken on foot among people of all ages between 1977 and 1995, while U.S. Census data shows that the number of Americans who walk to work has dropped from 10% in 1960 to less than 3% in 2000.

5 National randomized survey conducted in October 2002 by Belden Russonello & Stewart at the request of the Surface Transportation Policy Project. The survey found additionally that most school-aged children are either driven by a parent (53%) or a school bus (38%). Additionally (1): An estimate widely cited in the media and attributed to researchers at the U.S. Centers for Disease Control and Prevention (CDC) states that the percentage of American children who walk or bike to school has plummeted from nearly two-thirds in the 1950s to less than 10 percent today. Additionally (2): The number of children aged seven to 15 who ride bicycles to school has fallen more than 60 percent since the 1970s, according to the CDC's Richard Killingsworth. (See: "No Work for a Bicycle Thief: Children Pedal Around Less," *New York Times*, June 7, 1999.)

6 Metropolitan Transportation Commission, "San Francisco Bay Area Regional Travel Characteristics: Working Paper No. 4, " 1990. Page 14 states that school trips account for 9.9% of all regional weekday morning trips.

7 Marin County Congestion Management District, "The Facts May Be Surprising," 2000. Additionally: It is interesting to note than, in an effort to reduce morning commute-time traffic congestion, Marin County supervisors approved a free transit pass for schoolchildren in early 2003. (See: Mark Prado, "Bus Rides for Students Target Traffic," *Marin Independent Journal*, March 24, 2003.)

8 For example, Bernadette Kowey, coordinator of a walking school bus program in British Columbia, has said "more parents chose to drive [to school] because other parents were driving, and they didn't want their kids walking through that congestion." (See: *School Bus Fleet*, June/July 2000.)

9 Jason Kandel and Richard Marosi, "Walk to School Hazardous for Santa Ana Kids," *Los Angeles Times (Orange County Edition)*, May 27, 1999. The article cites data from a 1999 study by the Santa Ana Unified School District. Additionally: A study by the Washington State Department of Transportation found that 50% of children who are hit by cars near schools are hit by cars driven by parents of other students.

10 California Department of Transportation, "2000-2001 California Statewide Household Travel Survey," special data run requested by Surface Transportation Policy Project. Additionally: A new analysis of data collected by the California Children's Eating and Exercise Practices Survey (CalCHEEPS) in 1999 finds that California's lowest-income 9- to 11-year-olds (those from families with an annual income under $20,000) were three times more likely to walk to school than children from families with annual incomes at or above $50,000. (See: California Children's Eating and Exercise Practices Survey (CalCHEEPS). Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level. This unpublished analysis was provided to the Surface Transportation Policy Project by the California Department of Health Services' Chronic Disease and Injury Control/Cancer Prevention and Nutrition Section in July 2003.)

11 California Department of Transportation, "2000-2001 California Statewide Household Travel Survey," special data run requested by Surface Transportation Policy Project.

12 Numerous surveys have shown that Caucasians are more likely than minorities to own cars. The U.S. Census Bureau has reported that while 24% of African American households and 17% of Latino households own no cars, just 7% of Caucasian households own no cars. Additionally: Studies in the United Kingdom have shown that access to a car is closely linked to household income, and that people from the poorest 20% of households make about twice as many journeys on foot and three times as many journeys by bus than those from the richest 20% of households. (See: Child Accident Prevention Trust, "Summer Safety Campaign Aims to Strike Healthy Balance For Kids At Play," 2001 press release, http://www.capt.org.uk/.)

Chapter Two:

13 A series of maps prepared for the University of California Transportation Center's California Trends Project show the state's highest concentrations of youths under the age of 18 are in suburban areas. (See: Elizabeth Deakin, et al. "Twelve Trends for Consideration in California's Transportation Plan," May 2001, http://www.uctc.net/trends/.) These maps appear in this report's Appendices, beginning on page 79.

14 For a discussion of interconnected street networks, see: Ellen Greenberg and Fred Dock, "Design Guidance for Great Streets: Addressing Context Sensitivity for Major Urban Streets," 2003.

15 Study comparing an infill subdivision in Sacramento and a "greenfield" counterpart by the Natural Resources Defense Council and the U.S. Environmental Protection Agency , 2000. Additionally: A study in Seattle found that people in older neighborhoods travel less than four miles from their home on average to reach a park or other recreation area, whereas people in the region's newest communities had to travel more than eight miles to get to these areas. (See: "Suburbia's Road to Weight Gain; Land-Use Designs Discourage Pounding the Pavement, Some Say," *Washington Post*, January 21, 2001, which quotes Lawrence D. Frank of the Georgia Institute of Technology who led the study.)

16 Bruce Friedman, Stephen P. Gordon and John B. Peers, "Effect of Neotraditional Neighborhood Design on Travel Characteristics," *Transportation Research Record 1466*, pp. 63-70. Additionally (1): A study of 27 neighborhoods in Northern and Southern California found that doubling residential density reduced automobile ownership and resulted in 20 percent to 30 percent fewer annual vehicle miles traveled. (See: John Holtzclaw, "Using Residential patterns and Transit to Decrease Auto Dependence and Costs," Natural Resources Defense Council and California Home Energy Efficiency Rating Systems, 1994.) Additionally (2): A study in Portland, Oregon, found that residents of pedestrian-friendly, mixed-use neighborhoods made three times the number of walking trips daily, on average, than residents of typical suburban developments in the area. (See: Peter Calthorpe, "The Next American Metropolis," *Princeton Architectural Press* 1993, p. 48.) Additionally (3): A national study found that people living in compact, pedestrian-friendly neighborhoods make twice as many walking trips as people in sprawling neighborhoods. (See: Brian E. Saelens, et al., *Annals of Behavioral Medicine*, April 2003.) Additionally (4): A 2002 report by Smart Growth America found that 50 percent fewer commuters walk to work in sprawling areas than in more traditional communities with grid-like street networks and more pedestrian infrastructure. (See: Reid Ewing, Rolf Pendall and Don Chen, "Measuring Sprawl and Its Impact," Smart Growth America, October 2002, http://www.smartgrowthamerica.com/sprawlindex/sprawlindex.html.) Additionally (5): A national poll conducted for the Surface Transportation Policy Project offers further evidence that people are less prone to walk when they perceive distances to be long: 61 percent of the survey's respondents said they do not walk more because "things are too far to get to and it is not convenient to walk." (See: National randomized survey conducted in October 2002 by Belden Russonello & Stewart at the request of the Surface Transportation Policy Project, available online at http://www.transact.org.) Additionally (6): The 2001 National Household Transportation Survey (NHTS) found the highest rates of walking and biking in urban areas. The survey found that people in urban metropolitan statistical areas (MSAs) made just over 12% of all utilitarian trips by walking or bicycle, while less than 8% of all trips in suburban MSAs and just over 6% of all trips in exurban MSAs were made on foot or bicycle. (See: http://nhts.ornl.gov/2001/index.shtml.)

17 State Legislative Analyst's Office, "1998 Report on Transportation."

18 California Department of Motor Vehicles and 2000 U.S. Census data. Additionally: A nationwide study found that about one-third (33.4 percent) of age-eligible teenagers living in urban areas have a license compared to about three-fourths of teenagers living elsewhere (Kelly J. Clifton of University of Iowa's Graduate Program in Urban & Regional Planning, "Independent Mobility Among Teenagers: An Exploration of Travel to After-School Activities," presented at the Associate of Collegiate Schools of Planning 2001 Annual Conference).

19 Additionally: A poll conducted for STPP in 2002 found that long distances were the leading reason that children don't walk or bike to school. Sixty-six percent of responding parents said their children's schools were "too far away" from home to permit walking or biking. (See: National randomized survey conducted in October 2002 by Belden Russonello & Stewart at the request of the Surface Transportation Policy Project, available online at http://www.transact.org.)

20 Anne Vernez Moudon, et al., "Effects of Site Design on Pedestrian Travel in Mixed-Use, Medium-Density Environments," Washington State Transportation Center (TRAC), May 1997.

21 W.A. Leaf and D.F. Preusser, "Literature Review on Vehicle Travel Speeds and Pedestrian Injuries," National Highway Traffic Safety Administration, 1999. Additionally (1): In 2000 and 2001, 59 percent of the pedestrian fatalities nationwide for which location information was recorded occurred in places where no crosswalk was available, while less than 10 percent of pedestrian deaths in 2000 and 2001 occurred inside a crosswalk (Surface Transportation Policy Project's analysis of National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS) database for 2000 and 2001). Additionally (2): A recent study in Colorado highlights the heightened dangers that wide, busy streets pose for pedestrians and bicyclists, and the ways in which narrower streets can slow vehicle speeds and improve safety. "As street width widens, accidents per mile per year increases exponentially," the study concludes. (See: New Urbanism: Comprehensive Report & Best Practices Guide, Second Edition (2001), New Urban Publications, Ithaca, NY, pp. 8-

15, http://www.newurbannews.com/.

22 Unlike traditional neighborhood schools that were often located in multi-story buildings, newer schools that comply with state and federal guidelines are almost always set in single-story buildings and are often surrounded by athletic fields and other campus structures. According to California Department of Education data, California's largest-enrollment high schools are now 13 percent bigger on average than similar-enrollment high schools built in the mid-1960s, while the largest elementary schools are 11 percent bigger. (See: California Department of Education's School Facilities Division, "Guide to School Site Analysis and Development," 2000 edition, http://www.cde.ca.gov/facilities/field/sitereview.htm.)

23 CDC researcher Sandra Hamm, calculations from the 1995 NPTS, unpublished data.

24 U.S. Department of Transportation, "Transportation Characteristics of School Children, 1969 National Personal Transportation Study" (1972). See http://www.fhwa.dot.gov/ohim/1969/1969page.htm.

25 South Carolina Coastal Conservation League, "Wait for the Bus: How Lowcountry School Site Selection and Design Deter Walking to School," Charleston, S.C., 1999, see: http://www.scccl.org. This study also found that students are four times more likely to walk to schools built before 1983 than to those built after 1983, largely because older schools tend to be located closer to children's homes.

26 California Department of Education, "Small School Site Policy," February 28, 2001. See http://www.cde.ca.gov/facilities/field/smschste.htm.

27 California school districts may request a waiver to the CDE's regulations for new school construction. However, districts requesting a waiver must demonstrate that proposed smaller, neighborhood schools can meet minimum classroom size requirements and other regulations.

28 Conversations with Jim Bush, Assistant Director of the CDE's School Facilities Planning Division, on November 5, 2002, and with Grant Langan, LAUSD's Chief Boundary Coordinator, on April 17, 2003.

29 In Long Beach, the Gonzalo and Felicitas Mendez Fundamental Intermediate School was constructed on top of a parking garage in 2000, under a state pilot program for "space saver" schools. (This program is intended to encourage multi-story construction, below-ground construction and joint use by schools of shopping centers, office complexes and other facilities in high-density urban areas, see http://www.documents.dgs.ca.gov/OPSC/sab-policies/123b.pdf.) For more information, see: Doug Smith and Jessica Garrison, "Schools That Aren't Built by the Book," *Los Angeles Times*, September 24, 2000.

30 Conversation with Jim Bush, Assistant Director of the CDE's School Facilities Planning Division, on November 5, 2002.

31 Constance E. Beaumont and Elizabeth G. Pianca, "Historic Neighborhood Schools in the Age of Sprawl: Why Johnny Can't Walk to School," National Trust for Historic Preservation, November 2000. See http://www.nationaltrust.org/news/docs/20001116_johnny_cantwalk.html. Additionally: Funding formulas that favor new school construction are discussed in S. Passmore, "Education and Smart Growth: Reversing School Sprawl for Better Schools and Communities," Funders' Network for Smart Growth & Livable Communities, Translation Paper Number 8, March 2002.

32 This law contributed to the San Mateo Union High School District's decision in 2002 to demolish San Mateo High School, following its closure for seismic-safety reasons the previous year. The district opted to build a new structure on the same site rather than renovate the 76-year-old landmark school in part because the cost of seismic retrofits exceeded 50 percent of the estimated $53 million price tag for a new school.

33 California school districts must submit three "approvable" sites for new schools they propose building, a requirement that favors suburban and exurban districts, which tend to have more land available for school development than urban districts. Additionally: Elk Grove has also been able to exploit a loophole that helps many rapidly growing communities qualify for state funding and compete for funding with large, urban districts: The state formula for counting "unhoused" students (i.e., those for which there is inadequate classroom space) counts students who don't live in the district yet, but are expected to arrive based on development plans.

34 Sections 39140, et seq. of the Education Code. Interestingly, a bill (AB 225) was introduced in the California Legislature in 2003 that would have established new guidelines for the seismic evaluation of commercial buildings being considered for use as school facilities. However, the bill failed to clear the Legislature.

35 Also of interest: Another bill was introduced in the California Legislature in 2003 (AB 560) that would phase out the use of the Concept 6 multi-track year-round educational calendar. By reducing the school year from the traditional 180 days to 163 days, Concept 6 enables school districts to increase student enrollment at existing schools and avoid having to build new schools, a situation that results in crammed classrooms and reduced learning opportunities for students. The vast majority of students on Concept 6 are low-income Latinos that do not speak English. For more information on state policies and fiscal incentives that have helped promote school sprawl, contact Mike Buhler of the National Trust for Historic Preservation, Julie Spezia of California Futures Network or Francisco Estrada of MALDEF.

36 Email correspondence with R. Thomas Jones, Executive Director of California Futures Network, in August 2002. For more information, see Constance E. Beaumont and Elizabeth G. Pianca, "Historic Neighborhood Schools in the Age of Sprawl: Why Johnny Can't Walk to School," National Trust for Historic Preservation, November 2000.

37 California Department of Transportation, "2000-2001

California Statewide Household Travel Survey," special data run requested by the Surface Transportation Policy Project. Note that because children's travel survey data collected by Caltrans has never been disaggregated until now, it is not possible to determine whether children's statewide transit usage has increased or decreased over time. However, an analysis of National Personal Transportation Survey data shows that children's usage of public transit decreased nationwide by 58 percent between 1977 and 1995, from 3.1% of overall children's trips in 1977 to 1.3% of all trips in 1995 (National Personal Transportation Surveys 1995 and 1977, U.S. Department of Transportation. Data analysis by Surface Transportation Policy Project, confirmed by CDC researcher Sandra Hamm). It should also be noted that children aren't alone in using transit for a small percentage of their trips. 2001 NHTS data shows that, for trips of all lengths, Americans use public transit for just 2.9% of their overall trips.

38 Robert Cervero and Roger Gorman, "Commuting in Transit Versus Automobile Neighborhoods," *Journal of the American Planning Association*, Spring 1995.

39 Conversation with Anne-Catherine Vinickas, Director of Marketing & Customer Service at Santa Clara Valley Transportation Authority (VTA), on December 16, 2002.

40 This finding is further supported by research showing that 76% of riders on Metropolitan Transportation Authority (MTA) buses in Los Angeles County had no access to a car in the late 1990s. (See: APMG, Study of the Role of the State in Mass Transportation, January 1998.)

41 California Department of Transportation, "2000-2001 California Statewide Household Travel Survey," special data run requested by the Surface Transportation Policy Project.

42 See Metropolitan Transportation Commission's consideration in 2001 of a proposal to provide free bus passes for low-income students to improve school attendance, and numerous articles in 2001-2003 in the *San Francisco Chronicle*, *Oakland Tribune* and *Contra Costa Times* regarding AC Transit's free transit pass program. For example, see: Sean Holstege, "AC Transit Offers Free Bus Passes to Poor Children," *Oakland Tribune*, August 28, 2002.

43 See: *Contra Costa Times*, June 18, 2003 and *Oakland Tribune*, June 19, 2003. Additionally (1): Sacramento's Regional Transit (RT) is another California system that now provides discounted transit passes for students, in response to advocacy from student groups. High school students can purchase a monthly pass for $15, a savings of $45 compared to a non-student adult monthly pass. The San Mateo County Transit District (Samtrans) also sells $22 transit passes for $16 to low-income students (i.e., those who qualify for free lunches), and the San Francisco Municipal Railway (MUNI) offers $8 monthly passes for all youths. Additionally (2): There are numerous other reported instances in which low-income students have made it clear that transit fares sometimes prevent them from going to school. In Providence, Rhode Island, an informal survey of more than 500 high school students found that a number of students whose families weren't able to afford bus passes stayed home and missed school (see: DARE Seeds of Change, 2003), and in Portland, Oregon, a survey of more than 2,000 students found that 11% reported missing school due to their inability to meet transportation costs (see: Girls Initiative Network, 2000).

44 California Department of Transportation, "2000-2001 California Statewide Household Travel Survey," special data run requested by the Surface Transportation Policy Project. Additionally: The 1995 National Personal Transportation Survey also shows low usage of public transit among children, even in cities that have extensive bus, subway and light rail systems. In San Francisco, the 1995 NPTS shows that transit accounted for 6.1% of trips made by kids aged five to 15, while transit made up less than 2% of kids' trips in Chicago and Boston.

45 Federal Transit Administration, Challenger Session Proceedings, November 19, 2002.

46 Children's use of transit is also limited by a federal statute that prohibits transit agencies from establishing or maintaining routes that run directly between residential neighborhoods and school areas. "We're not supposed to compete with school buses," a spokesman for the Metropolitan Transit Development Board (MTDB) in San Diego told the Surface Transportation Policy project in early 2003. "We'd carry more kids if we were allowed to provide routes designed specifically to transport children to school. But we have the understanding that this would violate the federal regulation."

47This method of reducing school bus service was explained by Ron Kinney, Director of Business and Government Relations in California for Laidlaw Education Services on October 23, 2002, and by Bob Austin of the CDE's Office of School Transportation on May 21, 2003. When a district extends its minimum walking distance from, say, half a mile to one mile, "regular" students living between half a mile and a mile from school lose their eligibility for school bus service. For more information on methods California school districts are using to reduce school bus service, see: Erika Chavez, "Free Bus Service Fades as Districts Cut Costs," Sacramento Bee, November 22, 2001.

48 Conversation with Bob Austin of the CDE's Office of School Transportation on May 21, 2003.

49 California Department of Education statistics. Ranking of school bus ridership rates in all 50 states for the 1997-1998 school year is provided by School Transportation News, see http://www.stnonline.com/stn/statesprovinces/unitedstates/index.htm.

50 School Transportation News, K-12 Student Enrollment and Transportation Data, http://www.stnonline.com/stn/schoolbussafety/ridership/index.htm.

51 The absence of this requirement in California was confirmed by Ron Kinney, Director of Business and Government Relations in California for Laidlaw Education Services on October 23, 2002.

52 *Associated Press*, April 22, 2003.

53 Millicent Mayfield, "Redwood City Schools May Charge for Bus Service," San Mateo County Times, April 5, 2002.

54 California Department of Education statistics. Additionally: Some of the largest enrollment increases have occurred in urban school districts, which have made some of the state's steepest bus service reductions.

55 Confirmed by Ron Kinney, Director of Business and Government Relations in California for Laidlaw Education Services on October 23, 2002, and by Bob Austin of the CDE's Office of School Transportation on May 21, 2003.

56 Assembly Bill 2803 was vetoed by Gov. Gray Davis on September 12, 2002.

57 Conversation with Ron Kinney, Director of Business and Government Relations in California for Laidlaw Education Services on October 23, 2002.

58 School Transportation News, see http://www.stnonline.com/stn/statesprovinces/united-states/index.htm.

59 Data based on the California Department of Education's June 2000 school bus inventory.

60 Stephen Rhoades & David Randall, "New School Buses Finally in Sight," CASBO Journal, January/February 2002.

61 Transportation Research Board, Committee on School Transportation Safety, "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment," Special Report 269, 2002. See: http://www.nap.edu/html/SR269/SR269.pdf . The study focuses on deaths and injuries that occurred between 6 a.m. and 8:59 a.m. and 2 p.m. to 4:59 p.m. on weekdays between September 1 and June 30. For more information on this study, see Paul S. Fischbeck & Beverly M. Huey, "The Relative Risks of School Travel," TR News 224, January-February 2003, pp. 39ff.

62 Cal LeMon, "2000 Report Card on School Bus Safety in the U.S.," School Bus Information Council, 2000. http://www.schoolbusinfo.org/intro.htm#overview. Additionally: Data from the California Highway Patrol's Statewide Integrated Traffic Reporting System (SWITRS) shows that just five school bus passengers were killed in California between 1981 and 2000.

63 Senate Bill 568 was signed by Gov. Gray Davis in October 2001. The California Statute is Vehicle Section 27316 Stats, of 2002, Chapter 360.

64 For example, CDC researcher Catherine Staunton has said that "increased time pressures on families [is] leaving less time to walk kids to school," November 5, 2002 email correspondence.

65 L. Mishell, J. Bernstein and J. Schmitt, "The State of Working America 2002-2003," The Economic Policy Institute, Washington, D.C.

66 Surface Transportation Policy Project's analysis of the Bureau of Labor Statistics' Consumer Expenditure Survey 2001, see www.bls.gov/cex/. For more information on this topic, see "Transportation and the American Dream," a 2003 decoder by the Surface Transportation Policy Project, available online at www.transact.org.

67 Bureau of Labor Statistics' Consumer Expenditure Survey of 2001. Additionally: An April 2003 study by the American Automobile Association found that the average cost of driving a new car is 3 percent higher in 2003 than in 2002, due largely to higher fuel and insurance costs. According to the study, a motorist driving 15,000 miles in 2003 will spend about $7,754 in auto-related expenses, up $221 from 2002.

68 U.S. Department of Agriculture (USDA), "Expenditures on Children by Families, 2001 Annual Report," Table 2. The total number of children living in California (based upon the 2000 U.S. Census) was used as a multiplier to obtain the total expenditures on children in California.

69 U.S. Department of Agriculture (USDA), "Expenditures on Children by Families, 2001 Annual Report," Table 2. The total number of children living in California (based upon the 2000 U.S. Census) was used as a multiplier to obtain the total expenditures on children in California.

70 David Carroll and Jean Ross, "Boom, Bust and Beyond: The State of Working California," California Budget Project, January 2003. Additionally: A report by the Public Policy Institute of California ("The Distribution of Income in California," July 1996) found that the real adjusted income for households in the 20th income percentile declined by 22% in California between 1976 and 1994. See: http://www.ppic.org/content/pubs/R_796DRR.pdf.

71 U.S. Department of Agriculture (USDA), "Expenditures on Children by Families, 2001 Annual Report," Table 2. The total number of children living in California (based upon the 2000 U.S. Census) was used as a multiplier to obtain the total expenditures on children in California.

72 Suburban and exurban areas gained 18 percent more residents across the United States during the 1990s, according to the 2000 Census.

73 John Holtzclaw, "Using Residential Patterns and Transit to Decrease Auto Dependence and Costs," Natural Resources Defense Council, June 1994. Additionally: Research by the Surface Transportation Policy Project has found that households in the one-third of U.S. metro areas that are the most sprawling devote about 20 percent more of their expenditures to transportation than do households in the one-third of U.S. metro areas that are the least-sprawling. (See: Surface Transportation Policy Project, "Driven to Spend," 2000, available online at http://trans-act.org.)

74 Conversation with the mother of eight-year-old Grace in San Francisco in June 2001.

75 2001 National Household Transportation Survey (NHTS), U.S. Department of Transportation.

76 Surface Transportation Policy Project, "High Mileage

Moms," May 1999, available online at http://www.transact.org.

77 Analysis of 2001 National Household Travel Survey (NHTS) by Patricia Hu, Director of the Center for Transportation Analysis at Oak Ridge National Laboratory.

78 Katherine Shaver, "The Road Too Much Traveled," *Washington Post*, January 27, 2003.

79 Sue Shellenbargar, "Work & Family," *Wall Street Journal*, January 30, 2003. Statistics cited in this article were provided by the Mobile Enhancement Retailers Association in Indianapolis.

80 The Surface Transportation Policy Project interviewed more than 30 California children and adolescents in 2001 regarding their transportation experiences and preferences.

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81 Surface Transportation Policy Project, "Caught in the Crosswalk," September 1999. Report available online at http://www.transact.org/ca/.

82 J.C. Stutts and W.W. Hunter, "Police Reporting of Pedestrians and Bicyclists Treated in Hospital Emergency Rooms," *Transportation Research Record 1635*, pp.88-92.

83 James Thomson and Andrea Gielen, "The Role of Elementary and Adult Education in Childhood Pedestrian Injuries," Paper presented to the CDC's Proceedings to Prevent Pedestrian Injuries, Atlanta, September 1998. Additionally (1): A study by researchers in Orange County found that while children as young as nine 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. The study also finds that because children are small and have a narrower field of vision they are less visible to drivers and les able to see approaching vehicles. (See: Peter Jacobsen, et al., "Child Pedestrian Injuries on Residential Streets: Implications for Traffic Engineering," *Institute of Traffic Engineers Journal*, February 2000. Additionally (2): According to Richard Blomberg, President of Dunlap & Associates, a Stamford, CT, research organization that specializes in pedestrian safety research, young child pedestrians are especially vulnerable to traffic dangers because "their ability to localize sound isn't fully developed. Their judgment isn't fully developed. Their vision isn't fully developed." (See: "Streets in America are Unsafe and Unforgiving for Kids," article by Emily Smith of the University of North Carolina's Highway Safety Research Center for Walkable America, http://www.tfhrc.gov/safety/pedbike/articles/unsafe.htm.)

84 2001 provisional numbers from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) and Census 2000.

85 California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC), data for 1995-2000.

86 1999 HealthStyles Survey, an annual mail survey of health-related attitudes and behaviors. CDC provides technical assistance to Porter/Novelli (Washington, D.C.) in conducting the HealthStyles Survey. In 1999, a total of 2,636 households responded to the survey. The 749 households with children aged 5-18 were asked whether their youngest child walked or biked to school at least once a week during the preceding month, and whether any of six specified barriers (traffic danger, crime danger, long distances, weather, opposing school policies or other reasons) made it difficult to do so.

87 National Safe Kids Campaign, "Report to the Nation on Child Pedestrian Safety," October 2002. Additionally (1): More than 40 percent of parents responding to a recent British survey named traffic danger as the reason they restrict their younger children from coming home alone after school. This survey found that 63% of primary schoolchildren in the UK were allowed to go out alone in their leisure time in 1971, while by 1990 only 37% were allowed to go out alone, primarily because of increased traffic safety concerns. (See: Mayer Hillman, John Adams and John Whitelegg, "One False Move...A Study of Children's Independent Mobility," Policy Studies Institute (London), 1990). Additionally (2): A national survey by the Federal Highway Administration (FHWA) found that many people are concerned about the hazards traffic poses in their communities for children. More than half (56%) of the respondents with children living in their household rated their communities fair to poor in meeting the transportation needs of school children and young adults who don't drive (See: Federal Highway Administration, "Moving Ahead: The American Public Speaks on Roadways and Transportation in Communities," February 2001, http://www.fhwa.dot.gov/reports/movingahead.htm).

88 1995 National Personal Transportation Survey (NPTS), U.S. Department of Transportation. Additionally: It should be noted that children aren't the only segment of the U.S. population that rarely walks or bikes, even for short-distance trips. The 2001 National Household Transportation Survey (NHTS) shows that, for trips of between one-half of a mile and one mile, Americans of all ages opt to drive more than 81 percent of the time, and walk or ride a bike for just 15 percent of these trips. For trips of all lengths, the 2001 NHTS shows that Americans use private vehicles 88.6% of the time, while they walk or bike for 8.5% of their trips and ride public transit for 2.9% of their trips.

89 Jason Kandel and Richard Marosi, "Walk to School Hazardous for Santa Ana Kids," *Los Angeles Times (Orange County Edition)*, May 27, 1999. The article cites data from a 1999 study by the Santa Ana Unified School District.

90 Marin County Bicycle Coalition, 2002 report on the Safe Routes to School Program. See http://www.saferoutestoschools.org/article8_8_02.html. Additionally (1): A walking school bus program in British Columbia called Way to Go! reports that traffic congestion at schools participating in the program has dropped by 25% to 60% (See: *School Bus Fleet*, June/July 2000).

91 2001 provisional numbers from the California Highway

Patrol's Statewide Integrated Traffic Records System (SWITRS). Additionally: A study comparing cities and suburbs in the Pacific Northwest found that suburban children face a greater risk from traffic accidents than urban children do from gun violence. (See: Alan Durning, "The Car and the City," 1993).

92 California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC) and California Department of Finance, www.dof.ca.gov/html/demograp/race.htm.

93P.F. Agran, et al., "Pediatric Injury Hospitalization in Hispanic Children and Non-Hispanic White Children in Southern California," *Archives of Pediatrics and Adolescent Medicine*, April 1996, pp. 400-406.

94 Scott Gold and Ana Cholo-Tipton, "Santa Ana's Grim Safety Record Has Human Side," *Los Angeles Times*, Orange County Edition, December 27, 1999.

95 W.D. King and P.A. Palmisano, "Racial Differences in Childhood Hospitalized Pediatric Injuries," *Pediatric Emergency Care* 1992; 8 (4); pp. 221-224. Additionally (1): A New Mexico study found that Native American children had a death rate 2.5 times that of other ethnic and racial groups. (See: L.M. Olson, et al., "Analysis of Childhood Pediatric Deaths in New Mexico, 1986-1990," American Emergency Medicine 1993; 22: pp. 512-16.) Additionally (2): U.C. Irvine researchers concluded that "pedestrian injury death rates for non-white children are consistently found to be higher than the rates for white children," after reviewing nearly 100 studies on child pedestrian injuries. (See: P. Agran, et al., "Epidemiology of Pediatric Pedestrian Injuries," paper presented at the Panel to Prevent Pedestrian Injuries, convened by the CDC and U.S. Department of Transportation, 1998.)

96 Hugo Martin and Maloy Moore, "Inequities in Pedestrian Deaths, Safety: Times Study Finds Latinos, Seniors at Highest Risk," *Los Angeles Times*, August 19, 2002. Additionally: Another survey conducted by The *Los Angeles Times* in Orange County found that while Latinos made up 28% of the county's population in 1999, they accounted for 40% of all pedestrian injuries and 43% of all pedestrian deaths. (See: Richard Marosi, "Pedestrian Deaths Reveal O.C.'s Car Culture Clash," *Los Angeles Times*, Orange County Edition, November 28, 1999.)

97 Numerous studies have shown that lack of access to a car is associated with a much higher risk of injury as a pedestrian. For example, a British study found that children in families without a car are twice as likely to be injured in traffic accidents as those in car-owning families. (See: Ian Roberts, et al., "Effect of Environmental Factors on Risk of Injury of Child Pedestrians by Motor Vehicles: A Case-Control Study," *British Medical Journal* 1995; 310; pp. 91-94.).

98 For example, a Baltimore study found that children whose parents own a car and home cross an average of 3.7 streets a day, whereas children whose parents do not own a car and home cross an average of 5.4 streets a day, a difference the researchers describe as "highly significant." (See: R. Rao, M. Hawkins and B. Guyer, "Children's Exposure to Traffic and Risk of Pedestrian Injury in an Urban Setting," *Bulletin of the New York Academy of Medicine*, Summer 1997; 74 (1): pp. 65-80.) Additionally (1): Ian Roberts, who has done extensive research on the socioeconomic and racial determinants of pedestrian injury and death, has found that "The association between injury and poverty is particularly strong for traffic accidents." (See: *British Medical Journal* 1995; 311; pp. 925-28.) Additionally (2): Luis Arteaga, Associate Director of Latino Issues Forum, explains that many Latinos in California work swing shifts and therefore must often walk around late at night in places that are not pedestrian-friendly and lack adequate public transportation.

99 Despite the fact that pedestrians and bicyclists account for roughly 25 percent of all traffic-related deaths each year in California, less than 1 percent (0.6%) of all federal transportation safety funds apportioned to Caltrans were spent on sidewalks, crosswalks and other pedestrian and bicycle safety improvement projects in 2000 and 2001. Although Caltrans does work to integrate such improvements into every major project they undertake, the only currently available way of measuring the scope of those improvements is via this aggregate percentage.

100 Richard Marosi and Ray F. Herndon, "Pedestrians Often Blamed When Struck," *Los Angeles Times*, Orange County Edition, September 7, 1999.

101 Richard Marosi and Ray F. Herndon, "Pedestrians Often Blamed When Struck," *Los Angeles Times*, Orange County Edition, September 7, 1999.

102 Roberts and Coggan, "Blaming Children for Child Pedestrian Injuries," *Social Science Medicine 38*, no. 5 (1994): pp. 749-753.

103 Michael Cabanatuan and Erin McCormick, "California's Hit-and-Run Crisis," *San Francisco Chronicle*, July 27, 2003.

104 Lightstone, Peek-Asa and Krauss, "Relationship Between Driver's Record and Automobile Versus Child Pedestrian Collisions," *Injury Prevention*, Vol. 3, No. 4, December 1997. This study also found driver negligence to be a factor in one-third to one-half of all child pedestrian collisions. Additionally (1): A study by the *Los Angeles Times* found that nearly one-quarter of all pedestrian deaths in Los Angeles County are caused by hit-and-run drivers. (See: Hugo Martin and Maloy Moore, "Inequities in Pedestrian Deaths: Times Study Finds Latinos, Seniors at Highest Risk," *Los Angeles Times*, August 19, 2002.) Additionally (2): A study of pedestrian fatalities in New York City found that drivers are largely or partly to blame in more than 70 percent of all incidents, while pedestrians were at fault just 18 percent of the time. (See: "Killed by Automobile," Right of Way, New York, March 1999, http://www.rightofway.org.)

105 National SAFE KIDS Campaign, "Child Pedestrians at Risk in America: A National Survey of Speeding in School Zones," 2000. Report available at www.safekids.org.

106 W.A. Leaf and D.F. Preusser, "Literature Review on Vehicle Travel Speeds and Pedestrian Injuries," National Highway Traffic Safety Administration, 1999.

107 Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center. Incidence based on 2001 California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) data. Unit costs are based on the average cost of a U.S. motor vehicle injury for pedestrians.

108 Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center. Incidence based on 2001 California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) data. Unit costs are based on the average cost of a U.S. motor vehicle injury for pedestrians.

109 1991-1999 Fatality Analysis Reporting System (FARS) and General Estimates System (GES) data, from Transportation Research Board's "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment," 2002.

110 1991-1999 Fatality Analysis Reporting System (FARS) and General Estimates System (GES) data, from Transportation Research Board's "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment," 2002. Note: There is no source of California-specific data. Additionally: Recent studies in the U.S. and Holland suggest another reason that driving is often more harmful to human health than walking or bicycling: The air people breathe inside a car is anywhere from two to 10 times more polluted than the air outside. Comparing the pollutant intake of drivers, bicyclists and pedestrians, researchers in the Netherlands found that bicyclists inhale less carbon monoxide, benzene, toluene and xylenes than drivers, despite a faster breathing rate, and pedestrians walking along roadways inhaled the fewest gases, due to slower breathing and better air quality. (See: J.H. van Wijnen, et al., "The Exposure of Cyclists, Car Drivers and Pedestrians to Traffic-Related Air Pollutants," International Archives of Occupational and Environmental Health 1995; 67, pp. 187-193.)

111 Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center. Incidence based on 2001 California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) data. Unit costs are based on the average cost of a U.S. motor vehicle injury for pedestrians.

112 Gunnar B. Stickler, et al., "Parents' Worry About Children Compared to Actual Risks," *Clinical Pediatrics*, Vol. 30, No. 9, pp. 522-528 (1991).

113 Princeton Survey Research Association Poll conducted in 1997, reported in Newsweek and referenced in: Daniel D. Broughton and Ernest E. Allen, "How to Keep Your Child Safe: A Message for Every Parent," article available at http://www.missingkids.org/. Additionally: A Roper poll reported in the *Washington Post* in 1987 found that 76% of children "feared being kidnapped," their number one concern.

114 National randomized survey conducted in October 2002 by Belden Russonello & Stewart at the request of the Surface Transportation Policy Project, available online at http://www.transact.org. Additionally: Parents responding to the 1999 HealthStyles Survey also named fear of crime as the third-leading reason they don't allow their children to walk or bicycle to school.

115 Conversation with Brad Marshland on March 1, 2003. Additionally: The recent introduction of America's Missing: Broadcast Emergency Response Alert (AMBER Alert) programs — a system of media broadcasts and electronic billboards that provide the public with information about kidnapped children — in California and other states has added to parents' heightened the sense of danger, according to other parents interviewed for this report.

116 Data from California Office of the Attorney General, Missing Persons Section, see http://caag.state.ca.us/missing/index.htm. This data pertains to children aged 0-17.

117 California Department of Justice's Missing and Unidentified Persons Unit and the National Center for Missing and Exploited Children both confirmed that the total number of children abducted by strangers is not tracked, and that it is unknown how many children reported missing under suspicious circumstances were in fact abducted.

118 Interview with Shirley Goins, Executive Director of the West Coast office of the National Center for Missing and Exploited Children on June 23, 2003.

119 David Finkelhor and Richard Ormrod, "Kidnapping of Juveniles: Patterns from NIBRS," *Juvenile Justice Bulletin*, June 2000. NIBRS is the National Incident-Based Reporting System.

120 David Finkelhor and Richard Ormrod, "Kidnapping of Juveniles: Patterns from NIBRS," *Juvenile Justice Bulletin*, June 2000. NIBRS is the National Incident-Based Reporting System.

121 Interview with Shirley Goins, Executive Director of the West Coast office of the National Center for Missing and Exploited Children on June 23, 2003.

122 California Department of Health Services, EPIC data. Additionally: A United Kingdom study found that for every child murdered by a stranger, 50 are killed on the roads as pedestrians or bicyclists. (See: Townsend and Son (editors), "Inequalities in Health," The Black Report, 1988.)

Chapter Four:

123 *U.S. News & World Report*, August 2, 1957. A description of this article appears in "Five Decades of Warnings Fail to Get Americans Moving," *The New York Times*, September 10, 2002.

124 C.L. Ogden, et al., "Prevalence and Trends in Overweight Among U.S. Children and Adolescents, 1999-2000," *JAMA 2002*; 288:1728-32. This study is based on the 1999-2000 National Health and Nutrition Examination

Survey (NHANES). Additionally: Numerous other scientific studies have shown a dramatic increase among U.S. children in recent decades, including: a) S.L. Gortmaker, W.H. Dietz, A.M Sobol and C.A. Wehler, "Increasing Pediatric Obesity in the United States," *American Journal of Diseases of Children 1987*;141, pp.535-540; b) A.P. MacKay, et al., "Adolescent Health Chartbook," *Health,* United States, 2000. Hyattsville, Maryland: National Center for Health Statistics (2000); c) Z. Mei, et al., "Increasing Prevalence of Overweight Among U.S. Low-Income Preschool Children," CDC Pediatric Nutrition Surveillance, 1983 to 1995, *Pediatrics* 1998; 101,pp. 1-6; d) C.L. Ogden, R.P. Troiano, et al., "Prevalence of Overweight Among Preschool Children in the United States, 1971 to 1994," *Pediatrics* 1997; 99, p. E1.

125 United States Department of Health and Human Services, "Physical Activity and Good Nutrition: Essential Elements for Good Health," 1999, Atlanta, GA: USDHHS, CDC, National Center for Chronic Disease Prevention and Health Promotion. See also: a) R.C. Whitaker, et al., "Predicting Obesity in Young Adulthood from Childhood and Parental Obesity," *New England Journal of Medicine*, 1997; 337 (13), pp. 167-177; b) R.P. Troiano and K.M. Flegal, "Overweight Children and Adolescents: Description, Epidemiology, and Demographics," *Pediatrics* 1998; 101(3), pp. 497-503.

126 2000 California Teenage Eating, Exercise and Nutrition Survey (CalTEENS). Conducted in 2000 by the Public Health Institute, CalTEENS surveyed via telephone approximately 1,200 randomly selected teens aged 12-17, with a margin of error of plus/minus 3%. This data was provided by Sharon Sugerman of the California Department of Health Services and is expected to be published in the winter of 2003. Additionally: The 2001 California Health Interview Survey (CHIS), which like CalTEENS and CalCHEEPS was based on self-reported heights and weights, found that 11.4% of California adolescents aged 12-17 were overweight (see Table 23 in Appendices). The CHIS is conducted by the UCLA Center for Health Policy Research, in collaboration with the California Department of Health Services (DHS) and the Public Health Institute (PHI).

127 California Children's Eating and Exercise Practices Survey (CalCHEEPS). Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level.

128 California Center for Public Health Advocacy, "An Epidemic: Overweight and Unfit Children in California Assembly Districts," 2002. See: http://www.publichealthadvocacy.org/policy_briefs/overweight_and_unfit.html This study analyzed the California Department of Education's 2001 California Physical Fitness Test.

129 Conversation with Gail Woodward-Lopez, Associate Director of the Center for Weight and Health at U.C. Berkeley, on May 27, 2003.

130 California Physical Fitness Test 2002, administered by the California Board of Education. See http://www.cde.ca.gov/statetests/pe/2002aboutstateresults.pdf and http://www.cde.ca.gov/statetests/pe/datatables.pdf. See also: A. Chilcott, "Are California's Children Physically Fit? Eighty Percent Fail to Meet Minimum Standards," Sacramento, CA: California Center for Health Improvement, 2000, http://www.cchi.org/.

131 California Center for Public Health Advocacy, "An Epidemic: Overweight and Unfit Children in California Assembly Districts," 2002. See: http://www.publichealthadvocacy.org/policy_briefs/overweight_and_unfit.html. This study analyzed the California Department of Education's 2001 California Physical Fitness Test.

132 2000 California Teenage Eating, Exercise and Nutrition Survey (CalTEENS). Conducted in 2000 by the Public Health Institute, CalTEENS surveyed via telephone approximately 1,200 randomly selected teens aged 12-17, with a margin of error of plus/minus 3%. This data was provided by Sharon Sugerman of the California Department of Health Services and is expected to be published in the winter of 2003. Additionally: Data from the CDC's Pediatric Nutrition Surveillance System (PedNSS) show consistently higher rates of overweight in California compared to the national average for low-income children (aged 0-12) of all races and ethnicities. (See: Lorrene Ritchie, et al., "Pediatric Overweight: A Review of the Literature," The Center for Weight and Health at U.C. Berkeley, June 2001, http://www.cnr.berkeley.edu/cwh/PDFs/Full_COPI_secure.pdf.)

133 California Children's Eating and Exercise Practices Survey (CalCHEEPS). Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level. Additionally (1): According to the CDC's Pediatric Nutrition Surveillance System (PedNSS), the prevalence of overweight among low-income children aged 0-12 was 10.6% for Caucasians, 12.4% for African Americans and 15.6% for Latinos in 1999. (See: Lorrene Ritchie, et al., "Pediatric Overweight: A Review of the Literature," The Center for Weight and Health at U.C. Berkeley, June 2001, http://www.cnr.berkeley.edu/cwh/PDFs/Full_COPI_secure.pdf.) Additionally (2): The disproportionate rate of overweight among minority children is supported by numerous state and national studies, including a) C. Ogden, et al., "Prevalence and Trends in Overweight Among U.S. Children and Adolescents, 1999-2000," *JAMA*, Vol. 288, No. 14, Oct. 9, 2002, pp. 1728-1732; b) P.B.Crawford, et al., "Ethnic Issues in the Epidemiology of Childhood Obesity," *Ped Clin N Am 2001*; 48, pp. 855-878.

134 M.L. Patterson, et al., "Sociodemographic Factors and Obesity in Preadolescent Black and White Girls: NHLBI's

Growth and Health Study," *Journal of the National Medical Association*, 1997; 89, pp. 594-600. See also: R.P. Troiano and K.M. Flegal, "Overweight Children and Adolescents: Description, Epidemiology and Demographics," *Pediatrics*, 1998; 101(3), pp. 497-503.

135 E. Kennedy and J. Goldberg, "What are American Children Eating? Implications for Public Policy," Nutr. Reviews 1995; 55, pp. 1111-126. See also: M. Nestle and S. Guttmacher, "Hunger in the United States: Rationale, Methods and Policy Implications of State Hunger Surveys," *J. New Eng. Med.* 1992; 24, pp. 18-23S.

136 CDC, Pediatric Nutrition Surveillance, 1997, Full report, Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 1998. Additionally: Differences in physical activity levels may also help explain why children from certain racial and ethnic groups are more likely to become fat. Despite the fact that African American and Latino children make more of their trips by foot or bicycle than Caucasian children, studies have shown that minority and low-income children spend more of their overall time at sedentary activities like watching television. The 1998 California Teen Eating, Exercise and Nutrition Survey (CalTEENS) found, for example, that rates of physical inactivity among African-American and Latino teens were twice as high as among their Caucasian peers (14% and 12% vs. 7%, respectively).

137 Gail Woodward-Lopez, et al., Excerpt from "Improving Children's Academic Performance, Health and Quality of Life: A Top Policy Commitment in Response to Children's Obesity and Health Crisis in California," The Center for Weight and Health, University of California at Berkeley. See: http://www.cnr.berkeley.edu/cwh/PDFs/CewaerPaper_Research.pdf. Additionally: Numerous studies describe the relationship between pediatric overweight and increased health risks among children, including: a) G.A. Bray, "Complications of Obesity," Ann. Int. Med. 1985; 103, pp. 1052-1062; b) R. Figueroa-Colon, et al., "Prevalence of Obesity with Increased Blood Pressure in Elementary School-Aged Children," *South Med. J* 1997; 90, pp.806-813; c) D.S. Freedman, et al., "The Relation of Overweight to Cardiovascular Risk Factors Among Children and Adolescents: The Bogalusa Heart Study," *Pediatrics* 1999; 103, pp. 1175-1182; d) O. Pinhas-Hamiel, et al., "Increased Incidence of Non-Insulin-Dependent Diabetes Mellitus Among Adolscents," *J Pediatr* 1996; 128, pp. 608-615; e) A.K.C. Leung and W.L.M. Robson, "Childhood Obesity," *Postgrad Med* 1990; 87, pp. 123 ff.; f) A.L. Rosenbloom, et al., "Emerging Epidemic of Type 2 Diabetes in Youth," *Diabetes Care* 1999; 22(2), pp. 345-354; g) American Diabetes Association, Type 2 Diabetes in Children and Adolescents," Diabetes 2000; 23(3), pp. 381-389; h) W.H. Dietz, "Health Consequences of Obesity in Youth: Childhood Predictors of Adult Disease," *Pediatrics* 1998; 101, pp. 518-525.

138 Numerous scientific studies describe the higher likelihood that overweight children will become obese adults, and the increased health problems experienced by obese adults. These include: a) M.K. Serdula, et al., "Do Obese Children Go On to become Obese Adults? A Review of the Literature," Prev. Med. 1993; 22, pp. 167-177; b) F.X. Pi-Sunyer, "Health Implications of Obesity," *Am. J. Clin. Nutr.* 1991; 53, pp. 15955-16035; c) A. Must, et al., "The Disease Burden Associated with Overweight and Obesity in the United States," *JAMA* 1999; 282, pp. 1530-1529; d) "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity 2001"; e) J. McCarthy, et al., "Pediatric Obesity in the Clinical Setting: Epidemiology of Childhood Obesity," University of Florida, Dept. of Comm. Health & Fam. Med. See http://www.priory.com/childobesity.htm ; f) J. Koplan. and W. Dietz, "Caloric Imbalance and Public Health Policy," *JAMA*, Vol. 282, No. 16, Oct. 27, 1999, pp. 1579-1582; g) Warren Karp, "Childhood and Adolescent Obesity: A National Epidemic," CDA Journal October 1998; h) Rebecca Moran, "Evaluation and Treatment of Childhood Obesity," American Family Physician, February 15, 1999.

139 Allison L. Diamant, et al., "Diabetes in California: Findings from the 2001 California Health Interview Survey," April 2003, see http://www.chis.ucla.edu/main/DQ/default.asp. Additionally: In June 2003, Dr. K.M. Venkat Narayan,a CDC diabetes epidemiologist, warned that one in three U.S. children born in 2000 will become diabetic unless more people start eating less and exercising more, and most of these cases will be type 2 diabetes. Dr. Narayan also warned that odds are particularly bad for African American and Latino kids, who have roughly a 50% chance of developing diabetes during their lifetime. (See: "One in Three Born in 2000 Are Likely to Become Diabetic," *Los Angeles Times*, June 15, 2003.)

140 Interview with Dr. Kenneth Lee Jones, Professor and Chair of the Department of Pediatrics at the University of California at San Diego and Physician-in-Chief at Children's Hospital of San Diego, in June 2003. See also: a) N. Glasser and K.L. Jones, "Noninsulin-Dependent Diabetes Mellitus in Children and Adolescents," *Adv Pediatr* 1996; 43, pp. 359-396; b) American Diabetes Association, "Type 2 Diabetes in Children and Adolescents," *Diabetes*, 23(3), March 2000, pp. 381-389; c) A.L. Rosenbloom, et al., "Emerging Epidemic of Type 2 Diabetes in Youth," *Diabetes Care*, 1999; 22(2): 345-354.

141 See: Dana Hull, "California School District First to Target Obesity-Induced Diabetes," San Jose Mercury News, September 19, 2002.

142 A.L. Rosenbloom, et al., "Emerging Epidemic of Type 2 Diabetes in Youth," *Diabetes Care* 1999; 22, pp. 345-354.

143 Numerous studies have examined the damaging impact childhood overweight can have on psychosocial and emotional development, including: a) Jeffrey B. Schwimmer, et al., "Health-Related Quality of Life of Severely Obese Children and Adolescents," *JAMA*; 289, pp. 1813-1819, April 9, 2003; b) M.H. Falkner, et al., "Social, Educational and Psychological Correlates of Weight Status in Adolescents," *Obes Res* 2001; 9, pp. 32-42; c) A. Must and R.S. Strauss, "Risks and Consequences of Childhood and Adolescent Obesity," *Int J Obes Relat Metab Disord* 1999; 23, pp. S2-S11; d) R.S. Strauss, "Childhood Obesity and

Self-Esteem," *Pediatrics* January 2000; e) Caroline Braet, et al., Psychological Aspects of Childhood Obesity," *Journal of Pediatric Psychology*, January 1997.

144 S.L. Gortmaker, et al., "Social and Economic Consequences of Overweight in Adolescence and Young Adulthood," *New England Journal of Medicine* 1993; 329 (14), pp. 1008-1012. For more on the psychosocial impacts of obesity among adults, see: Gail Woodward-Lopez, et al., "Improving Children's Academic Performance, Health and Quality of Life: A Top Policy Commitment in Response to Children's Obesity and Health Crisis in California," The Center for Weight and Health, University of California at Berkeley. See: http://www.cnr.berkeley.edu/cwh/PDFs/CewaerPaper_Research.pdf.

145 Surgeon General's 2001 assessment of the annual national cost of obesity. Additionally: Calculations by the California Department of Health Services show that California residents spend $24.6 billion annually on health care related to physical inactivity and poor diet. For more on the economic costs of obesity in the United States, see: A.M. Wolf and G.A. Colditz, "Current Estimates of the Economic Costs of Obesity in the United States," *Obesity Res* 1998; 6, pp. 97-106.

146 G. Wang and W. Dietz, "Economic Burden of Obesity in Youths Aged 6 to 17 Years: 1979-1999," *Pediatrics*, Vol. 109, No. 5, May 2002, p. 81. Data is in 2001 dollars.

147 Among other studies, see: a) S.B. Foerster, et al., "1998 California Teen Eating, Exercise and Nutrition Survey: Also Profiling Body Weight and Tobacco Use — Media Highlights," Public Health Institute, Berkeley, CA, 2000; b) P.M. Guenther, "Beverages in the Diets of American Teenagers," *J Am Diet Assoc* 1986; 86(4), pp. 493-498; c) K.A. Munoz, et al., "Food Intakes of US Children and Adolescents Compared with Recommendations," *Pediatrics* 1997; 100, pp. 323-329; d) M.F. Jacobsen, "Liquid Candy — How Soft Drinks are Harming America's Health," Center for Science in the Public Interest, Washington, DC, 1999; e) P. Fabry, et al., "The Frequency of Meals: Its Relation to Overweight, Hypercholesterolaemia and Decreased Glucose Tolerance," *The Lancet* 1964; 2, p. 614.; f) "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity" (2001). Additionally: Much has been written about how the consumption of junk food has been made easier by schools that line their hallways with vending machines stocked with candy and soft drinks. The cafeterias at many California high schools now resemble mall food courts, selling lunch from chains like Pizza Hut, Domino's and Taco Bell.

148 S.B. Foerster, et al., "1998 California Teen Eating, Exercise and Nutrition Survey: Also Profiling Body Weight and Tobacco Use — Media Highlights," Public Health Institute, Berkeley, CA, 2000.

149 California Department of Education, California Youth Risk Behavior Survey Results, 1997. This 1997 survey also found that one-third of California's high school students had not walked or bicycled for at least 30 minutes at any time during the previous week. Additionally (1): The 1996 Surgeon General's report on Physical Activity and Health revealed that just 26 percent of U.S. youths aged 12 to 21 walked or bicycled for 30 minutes a week in 1992, a figure that dropped to 21 percent in 1995. Additionally (2): A recent study by the Oregon Department of Transportation's Bicycle and Pedestrian Program showed a dramatic decline in the average number of youths cycling daily at a number of monitored sites, from 61 in 1987 to 27 in 1997. (Source: Michael Ronkin at Oregon Department of Transportation's Bicycle and Pedestrian Program.)

150 California Children's Eating and Exercise Practices Survey (CalCHEEPS). Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level. Additionally: It is well known that many California schools now provide their students with even less PE than the state requires — 100 minutes per week for first- through sixth-graders, and 200 minutes per week for seventh- through tenth-graders. Children's decreasing participation in PE programs is largely explained by the fact that California's public schools have been relaxing PE requirements since the late 1970s, when state funding for education began tightening in the aftermath of Proposition 13. For more information, see: T.L. McKenzie, et al., "Effects of a Curriculum and Inservice Program on the Quantity and Quality of Elementary Phsyical Education Classes," *Research Quarterly for Exercise and Sport* 1993(64), pp. 178-187.

151 California Department of Education, California Youth Risk Behavior Survey Results, 1997. Additionally: The CDC's 2001 Youth Risk Behavior Survey (YRBS) found that only 52 percent of U.S. students were enrolled in a PE class in 2001.

152 California Teenage Eating, Exercise and Nutrition Survey (CalTEENS). Conducted in 1998 by the Public Health Institute, CalTEENS surveyed via telephone 1,213 randomly selected teens aged 12-17. Additionally: Numerous studies have shown that TV viewing has become an increasingly popular pastime among US children, and that large amounts of time spent watching TV is often linked to overweight in kids. These studies include: a) A 1998 Nielsen Media Research report that found the average American child between the ages of eight and 18 spends more than three hours a day watching television and another three or four hours with the Internet and video games; b) D.F. Roberts, et al., "Kids and Media at the New Millennium: A Comprehensive National Analysis of Children's Media Use," The Henry J. Kaiser Family Foundation Report, Menlo Park, CA, 1999; c) R.E. Anderson, et al., "Relationship of Physical Activity and Television Watching with Body Weight and Level of Fatness among Children: Results from the Third national Health and Nutrition Examination Survey," *JAMA* 1998; 279, pp. 938-942; d) C.S. Berkey, et al., "Activity, Dietary Intake and Weight Changes in a Longitudinal Study of

Preadolescent and Adolescent Boys and Girls," *Pediatrics* 2000; 105, pp. E56. For more information, see Lorrene Ritchie, et al., "Prevention of Childhood Overweight: What Should be Done?" Position Paper, The Center for Weight and Health at U.C. Berkeley, 2001, see: http://www.cnr.berkeley.edu/cwh/PDFs/Prev_Child_Oweight_10-28-02.pdf.

153 L.H. Epstein, et al., "Ten-Year Outcomes of Behavioral Family-Based Treatment for Childhood Obesity," *Health Psychol*. 1994; 13(5), pp. 373-383. Other research by Dr. L.H. Epstein points to similar relationships between physical activity and childhood overweight, including: L.H. Epstein, et al., "Decreasing Sedentary Behaviors in Treating Pediatric Obesity," *Arch Pediatr Adolesc Med*. 2000 Mar; 154(3), pp. 220-226 and L.H. Epstein, et al., "Exercise in treating obesity in children and adolescents," *Med Sci Sports Exerc* 1996 Apr; 28(4), pp. 428-435.

154 Frank Hu, et al., "Walking Compared with Vigorous Physical Activity and Risk of Type 2 Diabetes in Women," *JAMA*, October 20, 1999.

155 Quoted in Harvard School of Public Health newsletter (*Around the School*), October 22, 1999.

156 Quoted in The *San Francisco Chronicle*, August 17, 2002.

157 Surface Transportation Policy Project, Mean Streets 2000, Washington, DC, 2000, p. 18. Report available online at http://www.transact.org. Additionally: Numerous scientific studies show a relationship between low levels of physical activity and increased overweight among children. These include: a) C.S. Berkey, et al., "Activity, Dietary Intake and Weight Changes in a Longitudinal Study of Preadolescent and Adolescent Boys and Girls," *Pediatrics* 2000; 105, pp. E56; b) J.P. DeLany, et al., "Energy Expenditure in Lean and Obese Prepubertal Children," *Obes Res* 1995; 3 Suppl 1, pp. 67-72; c) M. Garaulet, et al., "Differences in Dietary Intake and Activity Level Between Normal-Weight and Overweight or Obese Adolescents," *J Pediatr Gastroenterol Nutr* 2000; 30, pp. 253-258; d) D.W. Harsha, "The Benefits of Physical Activity in Childhood," *Am J Med Sci* 1995; 310, pp. S109-113; e) C. Maffeis, et al., "Relationship Between Physical Inactivity and Adiposity in Prepubertal Boys," *J Pediatr* 1997; 131, pp. 288-292; f) O.T. Raitakari, et al., "Effects of Persistent Physical Activity and Inactivity on Coronary Risk Factors in Children and Young Adults: The Cardiovascular Risk in Young Finns Study," *Am J Epidemiol* 1994; 140, pp. 195-205.

158 Quote from Dr. William Dietz emailed by his office to the Surface Transportation Policy Project on July 1, 2003.

159 The California Department of Education released a study on December 10, 2002, showing a significant relationship between academic achievement and the physical fitness of California students. The study matched scores from the spring 2001 administration of Stanford 9 Test (SAT-9) with results of the same 954,000 students' performance on the 2001 physical fitness test, and found that students' academic achievement is related to their levels of health related physical fitness. Additionally: Studies have shown that exercise reduces depression and anxiety and improves people's moods. These include: U.S. Department of Health & Human Services, "Physical Activity and Health: A Report of the Surgeon General," Washington, DC, 1996.

160 See press release from the National Association for Sport and Physical Education, December 10, 2002 at http://www.ncaahperd.org/FitnessAcademicstudy.html.

161 R. Kreutzer, et al., "Asthma in California: Laying the Foundation for a Statewide Strategy." *California Policy Seminar*, August 1998. Additionally; Nationwide, the percentage of children diagnosed with asthma more than doubled between 1980 and 2001, from 3.6 percent to 8.7 percent. And among children under four years old, the prevalence of asthma increased 160% nationwide between 1980 and 1995, from 2.3 million children in 1980 to 5.5 million in 1995. (See: U.S. Department of Health and Human Services and National Heart, Lung and Blood Institute, *Data Fact Sheet: Asthma Statistics*, 1999, see: http://www.nhlbi.nih.gov/health/prof/lung/asthma/asthstat.pdf.) Asthma is also the number one cause of hospitalization among children under the age of 15 nationwide. (See: American Lung Association, Pediatric Asthma: A Growing Threat, 2002, see: http://www.lungusa.org/asthma/merck_pediatric.html.)

162 Asthma and Allergy Foundation of America (AAFA), "The Costs of Asthma in the United States," http://www.aafa.org/states/index.cfm. Additionally (1): The 2001 National Health Interview Survey found that the percentage of U.S. children with asthma more than doubled between 1980 and 2001, from 3.6 percent to 8.7 percent. Additionally (2): An estimated 10.1 million school days are lost to asthma each year among the nation's children.

163 Centers for Disease Control and Prevention. "Asthma Prevalence, Health Care Use and Mortality, 2000-2001" NCHS Health E-Stats, http://www.cdc.gov/nchs/products/pubs/pubd/hestats/asthma/asthma.htm.

164 E.R. Brown, et al., "Asthma in California in 2001: High Rates Affect Most Population Groups," analysis of 2001 California Health Interview Survey data, May 2002. This study also finds that asthma is a particularly serious problem in California: Nearly 12 percent of the state's overall population has been diagnosed with asthma at some point in their lives, compared to about 10 percent of the national population.

165 E.R. Brown, et al., "Asthma in California in 2001: High Rates Affect Most Population Groups," analysis of 2001 California Health Interview Survey data, May 2002. Additionally: Another study found that African American children were four times as likely to be hospitalized, and seven times more likely to die, of asthma in California than Caucasian children between 1995 and 1998. (See: California Department of Health Services, Environmental Health Investigations Branch, California County Asthma Hospitalizations Chart Book, Aug. 2000.) This study also found that, in San Francisco, Latino children were 50% more likely than Caucasian children to be hospitalized for asthma between 1995 and 1998. For more information

about the higher prevalence of asthma among minorities in the U.S., see: American Lung Association. Minority Lung Disease Data 2000. http://www.lungusa.org/pub/minority/mldd_00.html.

166 See: E. R. Brown, et al., "Noncitizen Children's Rising Uninsured Rates Threaten Access to Health Care," UCLA: Center for Health Policy Research, 1999 and E. R. Brown, et al., "The State of Health Insurance in California: Recent Trends, Future Prospects," UCLA: Center for Health Policy Research, 2001.

167 Conversation with Raquel F. Donoso, Deputy Director of Latino Issues Forum, in June 2003.

168 M. Cone, "Hot Spots for Cancer Risk from Toxic Air Identified," *Los Angeles Times*, November 5, 1999.

169 Environmental Working Group, "People of Color in California Breathe the Most Heavily Polluted Air," 1997. See:
http://www.ewg.org/reports/caminority/caminority.html

170 American Lung Association. "Annotated Bibliography of Recent Studies on the Health Effects of Air Pollution," October 11, 2002. Additionally (1): Some of the most compelling evidence of how pollution from cars and trucks is linked to asthma comes from Atlanta, where during the 1996 Summer Olympics the city made a concerted effort to reduce driving. These efforts were so successful that morning traffic dropped by 22.5 percent, with a commensurate decline in peak daily ozone levels of 28 percent and particulate matter of 16 percent. Researchers found a large drop — 41.6 to 44.1 percent — in acute care visits for asthma and an 11.1 percent reduction in pediatric hospital emergency room visits. (See: M.S. Friedman, et al., "Impact of Changes in Transportation and Commuting Behaviors During the 1996 Summer Olympic Games in Atlanta on Air Quality and Childhood Asthma." *JAMA* 2001; Vol. 285, No. 7: pp. 897-905.) Additionally (2): Numerous studies have linked ozone and other air pollutants emitted by cars and trucks not only to asthma, but also to such health problems as cancer, heart attacks, strokes, hypertension and birth defects in both children and adults.

171 Environmental Protection Agency's Office of Environmental Assessment and the American Lung Association, "Air Pollution and Children's Health" (fact-sheet), http://www.californialung.org/downloads/diesel010501/ALA-OEHHA_children.pdf. For more information on why children are at special risk for asthma, see American Lung Association, "State of the Air: 2003," pp. 17-18.

172 R. McConnell, et al., "Asthma in Exercising Children Exposed to Ozone: A Cohort Study," *The Lancet*, v. 359, Feb. 2, 2002, pp. 386-391. See also: a) University of Southern California and the California Air Resources Board, "Epidemiologic Investigation to Identify Chronic Health Effects of Ambient Air Pollutants in Southern California (The Children's Health Study)," 1991-2001, http://www.arb.ca.gov/newsrel/nr013102.htm; b) W.F. McDonnell, et al., "Long-Term Ambient Ozone Concentration and the Incidence of Asthma in Nonsmoking Adults: The Ashmog Study," *Environmental Research* 1999, Section A Vol. 80, pp. 110-121; c) M. Brauer, et al., "Air Pollution from Traffic and the Development of Respiratory Infections and Asthmatic and Allergic Symptoms in Children," *American Journal of Respiratory and Critical Care Medicine* 2002; Vol. 166, No. 8, pp. 1092-1098; d) Y.L. Guo, et al., "Climate, Traffic-Related Air Pollutants, and Asthma Prevalence in Middle-School Children in Taiwan," *Environmental Health Perspectives* 1999; Vol. 107, No. 12, pp. 1001-1006.

173 See: a) N. Künzli, et al., "Association Between Lifetime Ambient Ozone Exposure and Pulmonary Function in College Freshman-Results of a Pilot Study." *Environmental Research* 1997; Vol. 72, pp. 8-23; b) J.M. Peters, et al., "A Study of Twelve Southern California Communities with Differing Levels and Types of Air Pollution. II. Effects of Pulmonary Function," *American Journal of Respiratory and Critical Care Medicine* 1999; Vol. 159, pp 768-775; c) A. Galizia and P.L. Kinney, "Long-Term Residence in Areas of High Ozone: Associations with Respiratory Health in a Nationwide Sample of Nonsmoking Young Adults," *Environmental Health Perspectives* 1999; Vol. 107, No. 8, pp. 675-679; d) E.L. Avol, et al., "Respiratory Effects of Relocating to Areas of Differing Air Pollution Levels," *American Journal of Respiratory and Critical Care Medicine* 2001; Vol. 164, pp. 2067-2072; e) W.J. Gauderman, et al., "Association between Air Pollution and Lung Function Growth in Southern California Children: Results from a Second Cohort," *American Journal of Respiratory and Critical Care Medicine* 2002; Vol. 166, pp. 76-84; f) F. Horak, Jr., et al., "Particulate Matter and Lung Function Growth in Children: A 3-Year Follow-up Study in Austrian Schoolchildren," *European Respiratory Journal* 2002; Vol. 19, pp. 838-845. Additionally: A study of Mexico City children with no known symptoms of lung problems found that two-thirds of children with prolonged exposure to air pollution developed excessive inflation of both lungs. (See: Dr. Lynn Ansley Fordham of the University of North Carolina School of Medicine, et al., study reported by The *Associated Press*, November 29, 2001.) Additionally: Several scientific studies have demonstrated that children living near heavily traveled roads, particularly those with significant truck traffic, are much more likely to be hospitalized for asthma. (See: a) S. Lin, et al., "Childhood Asthma Hospitalization and Residential Exposure to State Route Traffic," *Environmental Research* 2002; Vol. 88, No. 2, pp. 73-81; b) J. Edwards, et al., "Hospitalization Admissions for Asthma in Preschool Children: Relationship to Major Roads in Birmingham, United Kingdom," *Archive of Environmental Health* 1994; Vol. 49, No. 4, pp. 223-227; c) R.L. Pearson, "Distance-Weighted Traffic Density in Proximity to a Home is a Risk Factor for Leukemia and Other Childhood Cancers," *Journal of Air Waste Manag Assoc*; 50(3), pp. 175-180.)

174 S. Duesberg, "Asthma and School Nursing in Fresno Unified School District," Fresno, CA: California State University, Fresno.

175 *The Fresno Bee*, Aug. 18, 2002. Additionally: A recent survey of Central Valley residents found that 41% of

households with children younger than 18 had at least one family member with a respiratory problem such as asthma. The poll was conducted by the Public Policy Institute of California and the Great Valley Center in early 2003. (See: Eric Bailey, "Smog Fears High in Central Valley," *Los Angeles Times*, April 30, 2003.)

176 Environmental Protection Agency's Office of Environmental Assessment and the American Lung Association, "Air Pollution and Children's Health" (fact-sheet), http://www.californialung.org/downloads/diesel010501/ALA-OEHHA_children.pdf .

177 C.A. Pope, et al., "Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution," *JAMA* 2000; 287(9), pp.1132-1141.

178 U.S. Public Interest Research Group (PIRG), "Danger in the Air: The 2001 Ozone Season," http://uspirg.org/reports/dangerintheair2002.pdf. Additionally: A recent study in Los Angeles found that the tiniest airborne particles found in smog (particulate matter measuring 2.5 microns across) can penetrate and deform cells such as those in lung lining and kill the cells. The study's lead author has said that many of these particles "are derived from vehicle emissions." (See: Andre Nel, John Froines, et al., "Ultrafine Particulate Pollutants Induce Oxidative Stress and Mitochondrial Damage," *Environmental Health Perspectives*, 2003; Vol. 111, No. 4, pp.455 ff. Dr. Nel. The lead author, is quoted by The *Associated Press*, April 7, 2003.)

179 California Air Resources Board, "Particulate Air Pollution and Morbidity in the California Central Valley: A High Particulate Pollution Region," Stephen K. Van Den Eeden (principal investigator), Final Report, July 2002. The study looked at hospital and emergency room admissions of Kaiser Permanente patients in the San Joaquin Valley between 1996 and 2000. (See ftp://ftp.arb.ca.gov/carbis/research/apr/past/97-303.pdf.) For these reasons, California enacted a new law in December 2002 prohibiting drivers of diesel school buses and trucks from leaving engines running idle for long stretches within 100 feet of a school or playground when schoolchildren are present.

180 California Air Resources Board, "2002 California Almanac of Emissions & Air Quality." Additionally: Tailpipe emissions from motor vehicles also play a role in the production of "secondary" particulate matter, which forms when nitrogen oxides and VOCs react with ammonia in the atmosphere. Studies suggest that secondary particulate matter accounts for a major portion of the PM-10 levels in urban areas. Dust kicked up from roads that cars and trucks drive on also adds to particulate matter levels. (See: California Air Resources Board, "2002 California Almanac of Emissions & Air Quality.")

181 Vehicle registration data provided by Bill Davidson of the California Department of Motor Vehicles' Forecasting Section.

182 California Air Resources Board, "2002 California Almanac of Emissions & Air Quality." Additionally: Californians aren't just traveling farther, they're also traveling more often. Data from the Bay Area's Metropolitan Transportation Commission shows, for example, that the number of trips made daily in personal vehicles within the Bay Area grew nearly 17% between 1990 and 2000. The increase in trip making is especially bad news for air quality, as 60% to 80% of pollutants are emitted during the first few minutes after a car or truck has been turned on, before the catalytic converter can start doing its job. (See: Metropolitan Planning Commission, "Travel Forecasts for the San Francisco Bay Area 1990-2025: Auto Ownership, Trip Generation and Trip Distribution," Data Summary, May 2001.)

183 American Lung Association, "State of the Air: 2003." See http://www.lungchicago.org/programs/SOTA_03.pdf.

184 U.S. Public Interest Research Group (PIRG), "Danger in the Air: The 2001 Ozone Season," http://uspirg.org/reports/dangerintheair2002.pdf.

185 Conversation with Choe Owen, Environmental Scientist, Air Division, EPA Region IX, San Francisco, on September 5, 2002.

186 California Air Resources Board (CARB). Data provided by CARB's Mary Nystrom in June 2003. This data for 2000 varies slightly from the 2000 data found in CARB's "2002 California Almanac of Emissions & Air Quality" and from data for 2000-2001 reported previously by some media (for example: John Doxey, "A Lush Valley Struggles to Breathe," *Business Week*, February 25, 2002.) Ms. Nystrom explains that CARB has revised some of the 2000 data published in the "2002 California Almanac of Emissions & Air Quality.") Additionally: It is also interesting to note that, after decades of improvement, ozone levels in the Los Angeles area appear to be climbing, due largely to the region's growing population and motor vehicle traffic. (See: Gary Polakovic, "Smog Woes Back on Horizon" and "Smog Fighters Out of Weapons," *Los Angeles Times*, July 15 and July 16, 2003 (respectively).)

187 California Air Resources Board, "The 2002 California Almanac of Emissions & Air Quality."

188 Gail Woodward-Lopez, et al., Excerpt from "Improving Children's Academic Performance, Health and Quality of Life: A Top Policy Commitment in Response to Children's Obesity and Health Crisis in California," The Center for Weight and Health, University of California at Berkeley. See: http://www.cnr.berkeley.edu/cwh/PDFs/CewaerPaper_Research.pdf.

189 Dan Burden, Verbal Communication, Walkable Communities, Inc. Additionally (1): "Independent play and mobility by school-aged children in their neighborhoods have been found to contribute to their social and spatial development," states a recent article by a team of U.C. Irvine researchers (See: Peter Jacobsen, et al., "Child Pedestrian Injuries on Residential Streets: Implications for Traffic Engineering," *Institute of Traffic Engineers Journal* on the Web, February 2000.) Additionally (2): "Residential neighborhoods without a safe and healthy environment do not accommodate the developmental needs of children," says Dr. Judy Young, Executive Director of the National

Association for Sport and Physical Education. Dr. Young also says that walking and other exercise benefits more than children's bones and muscles, and that "in very young children, movement reinforces cognitive development" (*Chicago Daily Herald*, September 30, 2002).

190 Bruce Appleyard, Marcus Diederich and Vijay Jayachandran, "Effects of Traffic on Children's Sense of Place: A Case Study in Environmental Research," Urban Design Research Seminar Class Project, U.C. Berkeley, 1995. Additionally: High traffic volumes and car-dependence not only make children unfamiliar with their neighborhood, but they can also isolate children socially. Studies have also shown, for instance, that children and other residents of streets with low levels of traffic have more friends and acquaintances than residents of streets with higher traffic volumes. (See: Natural Resources Defense Council, "Using Residential Patterns and Transit to Decrease Auto Dependence and Costs," June 1994.)

METHODOLOGY

TABLES 1, 2, 4A, 4B: The California Department of Transportation's 2000-2001 California Statewide Household Travel Survey was conducted between October 2000 and December 2001. The survey reflects responses from 17,040 households with a total of 8,582 children under the age of 18. Households and children from each of the state's 58 counties participated in the survey. It should be noted that all Caltrans children's data included in this report refers to "unlinked" trips. The 2000-2001 California Statewide Household Travel Survey is available online at http://www.dot.ca.gov/hq/tsip/TSIPPDF/2000_Household_Survey.pdf.

The children's transportation data that appear in this report were collected during the survey process, but have never been reported or published until now as a separate data set. Caltrans disaggregated children's survey data for the first time in 2002, following a request by the Surface Transportation Policy Project, and this report marks the first time that Caltrans survey data specific to children has been broken out and published.

Because Caltrans has never disaggregated children's data collected during the agency's previous statewide travel surveys, the authors of this report have not been able to use Caltrans data to compare children's travel patterns in California over time. This has limited the authors' ability to show historical changes in the way California's children get around, as Caltrans' surveys are the most comprehensive source of statewide travel data.

National Personal Transportation Survey and National Household Transportation Survey: The National Household Transportation Survey (NHTS), formerly called the National Personal Transportation Survey (NPTS), is one of the most comprehensive efforts undertaken by the U.S. Department of Transportation to identify changes in American travel patterns over time. The household telephone survey documents mode, time, length and destinations of trips. The most recent survey, conducted in 2001, includes data from 25,721 households. The previous survey, conducted in 1995, includes data from 42,633 households. The 2001 NHTS can be found on the Web at http://nhts.ornl.gov.

Due to differences in survey questioning and methodology, direct comparisons of modeshare data from the various NHTS and NPTS surveys are often difficult or impossible. For example, the 2001 NHTS reports data for children aged 0-15 while the 1995 NPTS reports data for children aged 5-15. Also, the 2001 NHTS shows an artificially large increase in walk and bike trips vs. the 1995 NPTS, due to more questionnaire prompts. However, differences in survey questioning and methodology for the 1977 and 1995 NPTS surveys are small enough to permit direct modeshare data comparisons. The 1977 vs. 1995 comparisons contained in this report have been previously cited and approved by researchers from the U.S. Centers for Disease Control & Prevention and Oak Ridge National Laboratory.

TABLE 3: To analyze why the majority of American children do not walk or bike to school, the U.S. Centers for Disease Control & Prevention (CDC) analyzed data from the national HealthStyles Survey, an annual mail survey of health related attitudes and behaviors. CDC provides technical assistance to Porter/Novelli (Washington, D.C.) in conducting the HealthStyles Survey. In 1999, a total of 2,636 households responded to the survey. The 749 households with children aged 5-18 were asked 1) if their youngest child walked or biked to school at least once a week during the preceding month, and 2) whether any of six specified barriers made

it difficult to do so: traffic danger, crime danger, long distances, weather, opposing school policies or other reasons. Multiple responses were accepted. Respondents also had the option of stating that their children had no barriers to walking or biking to school. Of the 611 respondents, 16% reported no barriers to their children walking or biking to school and 25% reported children walking or biking to school at least once a week during the preceding month. Of the 16% who reported no barriers, 85% reported children walking or biking to school at least once a week during the preceding month. Children with no barriers were six times more likely to walk or bike to school than their peers aged 5-18 with one or more barriers. For more information about the methodology of this survey, see the CDC's Morbidity and Mortality Weekly Report (MMWR), Vol. 51, No. 32, August 16, 2000.

TABLE 6: Data used to estimate expenditures on children are from the 1990-92 Consumer Expenditure Survey-Interview portion (CE). Administered by the Bureau of Labor Statistics (BLS), U.S. Department of Labor, this survey is the most comprehensive source of information on household expenditures available at the national level. The sample consists of 12,850 husband-wife households and 3,395 single-parent households and was weighted to reflect the U.S. population of interest, using BLS weighting methods.

Multivariate analysis was used to estimate household and child-specific expenditures, controlling for income level, family size, and age of the younger child so estimates could be made for families with these varying characteristics (regional estimates were also derived by controlling for region). Households with two children were selected as the base since this was the average number of children in two-parent families.

Estimated household and child-specific expenditures were allocated among family members. Since the estimated expenditures for clothing, child care, and education only apply to children (adult-related expenses for these items were excluded), allocations of these expenses were made by dividing the estimates equally among the children.

TABLES 7, 9, 12: EPIC's main data sets include fatal and hospitalized nonfatal injuries. Fatal cases are identified by searching the death certificates of California residents for any record where the underlying cause of death was an injury (defined as cases where there was a nationally recognized categorized external cause or "E-Code" listed as the underlying cause of death). Similarly, nonfatal injuries are identified by searching hospital discharge data (HDD) for records where a California resident was hospitalized for an injury (an E-Code was present in the record). To ensure an injury event is not recorded twice, cases that died in the hospital are removed from the HDD data. Thus fatal and nonfatal data sets should be mutually exclusive. Injuries due to adverse effects of medical encounters and drugs are also excluded.

TABLES 10A, 10B: As recommended by the Panel on Cost-Effectiveness in Health and Medicine, the Pacific Institute for Research & Evaluation's Children's Safety Network: Economics and Data Analysis Resource Center reports the present value of future costs (computed at a 3% discount rate) and adopts a societal perspective that includes all costs associated with the injuries-costs to victims, families, government, insurers, and taxpayers. Cost-of-injury estimates were computed by multiplying the number of victims from the 2001 CHP SWITRS incident data times corresponding costs per victim (in 2000 dollars). Cost was estimated separately for

fatal and non-fatal injuries, and for medical, work loss, public service, property damage and quality-of-life (QOL) costs. Medical includes spending on hospital and professional services, rehabilitation, prescriptions, home health care, medical equipment, and funeral expenses (if necessary adjusted by the health care index). Victim Work Loss includes wages, fringe benefits and household work for adults. It is the present value of a lifetime's worth of wage and household work that children will be unable to do as adults if they are killed or permanently disabled, these earnings include fringe benefits (if necessary adjusted by the wage index). Public Services includes police, fire, ambulance, and helicopter services. Property Damage is the cost to repair or replace damaged vehicles or property. Quality of Life places a dollar value on the pain, suffering, and lost quality of life that children and their families experience due to death ands injury.

2001 provisional numbers from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS) (Tables 8, 10A, 10B): The Statewide Integrated Traffic Records System (SWITRS) processes all reported fatal and injury collisions which occurred on California's state highways and all other roadways, excluding private property.

Figure 4: At STPP's request, Belden Russonello & Stewart conducted a national random sample telephone survey of 800 adults, age 18 and older in October 2002. The margin of sampling error for the survey is plus or minus 3.5 percentage points at the 95% level of confidence. For this question (in which pollsters asked parents about reasons their child do not walk to school) multiple responses were accepted. (Base: N=166 whose children ages 7-17 do not walk or bike to school.) See http://www.transact.org/library/reports_html/pedpoll/pedpoll.asp.

California Teenage Eating, Exercise and Nutrition Survey (CalTEENS): Conducted in 1998 and 2000 by the Public Health Institute, CalTEENS 2000 surveyed by telephone approximately 1,200 randomly selected teens aged 12-17, with a margin of error of plus/minus 3%. This unpublished data was provided to the Surface Transportation Policy Project by Sharon Sugerman of the California Department of Health Services and is expected to be published in the winter of 2003.

California Children's Eating and Exercise Practices Survey (CalCHEEPS): Conducted in 1999 by Fleishman-Hilliard Research and the Public Health Institute, CalCHEEPS surveyed via mailings 814 children aged 9-11. The mailing was sent to a demographically balanced sample of California market research panel members from throughout the state who have a 9- to 11-year old child. The survey had a sampling error of 4-5 percentage points at the 95 percent confidence level.

California Health Interview Survey (CHIS): The California Health Interview Survey (CHIS) is conducted by the UCLA Center for Health Policy Research, in collaboration with the California Department of Health Services (DHS) and the Public Health Institute (PHI). CHIS is the largest state health survey in the United States. It is a telephone survey conducted every two years on public health topics and access to health care.

Table 16: Children's Demographics in California (2000)

County	Total Population	Percentage of Population Aged 0-17	County	Total Population	Percentage of Population Aged 0-17
Alameda	1,443,741	24.6%	Placer	248,399	26.5%
Alpine	1,208	22.8%	Plumas	20,824	22.7%
Amador	35,100	20.6%	Riverside	1,545,387	30.3%
Butte	203,171	24.0%	Sacramento	1,223,499	27.6%
Calaveras	40,554	22.8%	San Benito	53,234	32.2%
Colusa	18,804	31.6%	San Bernardino	1,709,434	32.3%
Contra Costa	948,816	26.5%	San Diego	2,813,833	25.7%
Del Norte	27,507	25.1%	San Francisco	776,733	14.5%
El Dorado	156,299	26.1%	San Joaquin	563,598	31.0%
Fresno	799,407	32.1%	San Luis Obispo	246,681	21.7%
Glenn	26,453	30.8%	San Mateo	707,161	22.9%
Humboldt	126,518	23.2%	Santa Barbara	399,347	24.9%
Imperial	142,361	31.4%	Santa Clara	1,682,585	24.7%
Inyo	17,945	24.4%	Santa Cruz	255,602	23.8%
Kern	661,645	31.9%	Shasta	163,256	26.1%
Kings	129,461	29.0%	Sierra	3,555	23.3%
Lake	58,309	24.1%	Siskiyou	44,301	24.0%
Lassen	33,828	21.8%	Solano	394,54	28.3%
Los Angeles	9,519,338	28.0%	Sonoma	458,614	24.5%
Madera	123,109	29.6%	Stanislaus	446,997	31.1%
Marin	247,289	20.3%	Sutter	78,930	29.0%
Mariposa	17,130	21.6%	Tehama	56,039	27.4%
Mendocino	86,265	25.5%	Trinity	13,022	22.8%
Merced	210,554	34.5%	Tulare	368,021	33.8%
Modoc	9,449	25.6%	Tuolumne	54,501	20.7%
Mono	12,853	23.0%	Ventura	753,197	28.4%
Monterey	401,762	28.4%	Yolo	168,660	25.2%
Napa	124,279	24.1%	Yuba	60,219	31.0%
Nevada	92,033	23.1%	**California**	**33,871,648**	**27.3%**
Orange	2,846,289	27.0%			

Source: U.S. Census 2000

Table 17: California Children Aged 0-17 by Race/Ethnicity (2002)

Race/Ethnicity	Number	Percentage
Asian/Pacific Islander	1,117,000	11.3%
African American	663,000	6.7%
Latino	4,335,000	43.9%
Caucasian	3,577,000	36.2%
Other (STPP Estimate)	184,000	1.9%
Total	9,876,000	100%

Source: California Department of Finance, Demographic Research Unit, Current Population Report, March 2002 (See: www.dof.ca.gov/HTML/DEMOGRAP/CPS-2002.pdf)

Table 18: Poverty Among California Children Aged 0-17 (1999)

Number of California Children Aged 0-17 Whose Household Income was Below the Federal Poverty Level in 1999	1,757,100
Percentage of California Children Aged 0-17 Whose Household Income was Below the Federal Poverty Level in 1999	19%

Source: Counting California (See: http://countingcalifornia.cdlib.org). Universe: Population for whom poverty status is determined. "Poverty" is defined by the Office of Management and Budget.

Table 19: Percentage of California Children Under Age 18 with a Driver's License (2003)

Percentage of Children Aged 16-17 With a California Driver's License by County	County	Percentage of Children Aged 16-17 With a California Driver's License by County	County
28.6%	Alameda	65.6%	Placer
62.5%	Alpine	42.6%	Plumas
45.0%	Amador	32.5%	Riverside
39.2%	Butte	31.4%	Sacramento
46.5%	Calaveras	24.1%	San Benito
34.1%	Colusa	26.7%	San Bernardino
38.1%	Contra Costa	32.4%	San Diego
19.6%	Del Norte	15.9%	San Francisco
58.2%	El Dorado	28.5%	San Joaquin
24.5%	Fresno	44.6%	San Luis Obispo
42.5%	Glenn	37.5%	San Mateo
38.0%	Humboldt	33.9%	Santa Barbara
18.2%	Imperial	30.9%	Santa Clara
44.5%	Inyo	36.7%	Santa Cruz
31.1%	Kern	48.1%	Shasta
23.4%	Kings	25.9%	Sierra
43.2%	Lake	41.1%	Siskiyou
40.0%	Lassen	35.6%	Solano
19.8%	Los Angeles	45.0%	Sonoma
26.7%	Madera	32.2%	Stanislaus
56.2%	Marin	42.7%	Sutter
44.5%	Mariposa	31.6%	Tehama
33.7%	Mendocino	35.8%	Trinity
21.1%	Merced	20.9%	Tulare
38.3%	Modoc	32.8%	Tuolumne
51.7%	Mono	38.6%	Ventura
27.9%	Monterey	37.4%	Yolo
43.0%	Napa	26.0%	Yuba
50.9%	Nevada	**29.2%**	**California**
35.0%	Orange		

Source: California Department of Motor Vehicles

Table 20: Percentage of Public K-12 Students Who Ride School Buses by State (1997-1998 School Year)*

State	Percentage of K-12 Students Bused at Public Expense	State	Percentage of K-12 Students Bused at Public Expense
Alabama	53.7%	Montana	35.5%
Alaska	32.8%	Nebraska	30.1%
Arizona	79.9%	Nevada	43.5% est.
Arkansas	70.3%	New Hampshire	71.4%
California	17.6%	New Jersey	55.6%
Colorado	40.3%	New Mexico	50.5%
Connecticut	74.7%	New York	68.8%
Delaware	84.4%	North Carolina	57.5%
District of Columbia	3.4%	North Dakota	40.9%
Florida	43.0%	Ohio	66.7%
Georgia	75.5%	Oklahoma	52.0%
Hawaii	21.5%	Oregon	41.5%
Idaho	45.4%	Pennsylvania	81.5%
Illinois	69.2%	Rhode Island	52.3%
Indiana	74.5%	South Carolina	80.3%
Iowa	51.4%	South Dakota	32.9%
Kansas	43.8%	Tennessee	62.3%
Kentucky	66.8%	Texas	34.8%
Louisiana	74.0%	Utah	35.4%
Maine	85.7%	Vermont	N/A
Maryland	72.9%	Virginia	80.1%
Massachusetts	N/A	Washington	50.4%
Michigan	N/A	West Virginia	78.6%
Minnesota	96.7%	Wisconsin	59.6%
Mississippi	79.3%	Wyoming	37.4%
Missouri	61.7%	**National Average**	**57.2%**

Source: School Transportation News (See: http://www.stnonline.com/stn/schoolbussafety/ridership/1997-98_enrollment.htm)

**Most recent available data for all states is from the 1997-1998 school year. School Transportation News relies on each state's transportation officials to provide these numbers.*

Table 21: Child Pedestrian-Vehicle Collisions by County (2001)

County	Total Number of Child Pedestrian Accidents (Deaths & Injuries) (1)	Percentage of Total Pedestrian Accidents Involving Children Aged 0-17 (1)	Percentage of Children in County's Overall Population (2)	Differential
Alameda	245	30.7%	24.6%	6.1
Butte	21	33.3%	24.0%	9.3
Contra Costa	130	42.9%	26.5%	16.4
El Dorado	7	23.3%	26.1%	-2.8
Fresno	80	36.0%	32.1%	3.9
Humboldt	17	28.8%	23.2%	5.6
Imperial	18	39.1%	31.4%	7.7
Kern	108	47.8%	31.9%	15.9
Kings	14	42.4%	29.0%	13.4
Los Angeles	2,026	34.2%	28.0%	6.2
Madera	10	27.0%	29.6%	-2.6
Marin	18	20.0%	20.3%	-0.3
Mendocino	8	34.8%	25.5%	9.3
Merced	45	54.2%	34.5%	19.7
Monterey	43	39.8%	28.4%	11.4
Napa	14	35.0%	24.1%	10.9
Nevada	7	25.9%	23.1%	2.8
Orange	363	38.4%	27.0%	11.4
Placer	17	36.2%	26.5%	9.7
Riverside	166	42.2%	30.3%	11.9
Sacramento	224	38.6%	27.6%	11.0
San Benito	6	42.9%	32.2%	10.7
San Bernardino	231	43.4%	32.3%	11.1
San Diego	362	30.9%	25.7%	5.2
San Francisco	112	11.9%	14.5%	-2.6
San Joaquin	120	45.3%	31.0%	14.3
San Luis Obispo	11	30.6%	21.7%	8.9
San Mateo	72	25.2%	22.9%	2.3
Santa Barbara	57	35.8%	24.9%	10.9
Santa Clara	198	33.8%	24.7%	9.1
Santa Cruz	33	33.0%	23.8%	9.2
Shasta	12	28.6%	26.1%	2.5
Solano	60	41.4%	28.3%	13.1
Sonoma	51	34.5%	24.5%	10.0
Stanislaus	88	44.4%	31.1%	13.3
Sutter	18	64.3%	29.0%	35.3
Tulare	49	46.2%	33.8%	12.4
Ventura	105	41.5%	28.4%	13.1
Yolo	32	56.1%	25.2%	30.9
Yuba	10	50.0%	31.0%	19.0
California	**5,233**	**34.3%**	**27.3%**	**7.0**

Note: Data was unavailable for the counties not included in this table. Sources: (1) 2001 provisional numbers from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS); (2) U.S. Census 2000

Table 22: Motor Vehicle Accident vs. Abductions in California by County (1995-2000)

County	Number of Fatal Injuries Sustained by Children Aged 0-17 in Motor Vehicle Accidents* (1)	Number of Hospitalized Non-Fatal Injuries Sustained by Children Aged 0-17 in Motor Vehicle Accidents* (1)	Number of Witnessed Stranger Abductions of Children Aged 0-17 (2)
Alameda	72	1,143	21
Alpine	0	0	0
Amador	6	44	0
Butte	30	188	5
Calaveras	6	42	0
Colusa	5	19	0
Contra Costa	39	620	13
Del Norte	3	23	1
El Dorado	11	128	0
Fresno	129	931	14
Glenn	8	26	0
Humboldt	16	107	1
Imperial	24	164	7
Inyo	1	12	0
Kern	76	748	17
Kings	16	105	3
Lake	6	62	0
Lassen	4	8	0
Los Angeles	572	8,249	67
Madera	23	134	7
Marin	3	68	1
Mariposa	3	20	0
Mendocino	11	65	1
Merced	47	188	11
Modoc	2	8	0
Mono	2	3	0
Monterey	41	228	1
Napa	8	61	1
Nevada	9	59	0
Orange	135	2,051	17
Placer	20	202	2

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Table 22: Motor Vehicle Accident vs. Abductions in California by County (1995-2000) Continued

County	Number of Fatal Injuries Sustained by Children Aged 0-17 in Motor Vehicle Accidents* (1)	Number of Hospitalized Non-Fatal Injuries Sustained by Children Aged 0-17 in Motor Vehicle Accidents* (1)	Number of Witnessed Stranger Abductions of Children Aged 0-17 (2)
Plumas	7	19	0
Riverside	177	1,465	17
Sacramento	103	1,456	27
San Benito	10	52	1
San Bernardino	199	1,926	21
San Diego	153	2,889	18
San Francisco	22	378	7
San Joaquin	61	533	13
San Luis Obispo	18	149	2
San Mateo	16	377	4
Santa Barbara	17	256	7
Santa Clara	74	951	11
Santa Cruz	7	134	3
Shasta	19	164	2
Sierra	0	0	0
Siskiyou	9	33	0
Solano	25	295	6
Sonoma	32	340	6
Stanislaus	48	443	7
Sutter	5	67	1
Tehama	8	53	3
Trinity	16	19	0
Tulare	48	343	6
Tuolumne	15	53	0
Ventura	40	502	8
Yolo	8	137	2
Yuba	10	77	0

Sources: (1) California Department of Health Services, Epidemiology and Prevention for Injury Control Branch (EPIC) (See: http://www.applications.dhs.ca.gov/epicdata/TBfatal.html and http://www.applications.dhs.ca.gov/epicdata/TBnonfatal.html); (2) California Office of the Attorney General, Missing Persons Section (See: http://caag.state.ca.us/missing/content/01rpt_ch.htm)

**Includes injuries sustained by both child passengers and pedestrians.*

Table 23: Prevalence of Overweight Among California Teens Aged 12-17 by County (2001)

County	Percentage of Surveyed Children Aged 12-17 Reported as Overweight	County	Percentage of Surveyed Children Aged 12-17 Reported as Overweight
Alameda	9.6*	Placer	5.9*
Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, Tuolomme	10.8*	Riverside	14.8
Butte	17.6*	Sacramento	15.8
Colusa, Glenn, Tehama	14.2*	San Bernardino	15.1
Contra Costa	4.0*	San Diego	6.9
Del Norte, Humboldt	11.4*	San Francisco	8.9
El Dorado	8.5*	San Joaquin	17.2
Fresno	14.1	San Luis Obispo	12.9*
Imperial	14.7	San Mateo	15.6*
Kern	7.0*	Santa Barbara	10.8*
Kings	14.9	Santa Clara	12.2
Lake, Mendocino	5.5*	Santa Cruz	16.6*
Lassen, Modoc, Siskiyou, Trinity	10.5*	Shasta	8.1*
Los Angeles	12.5	Solano	12.6
Madera	9.4*	Sonoma	8.8*
Marin	7.7*	Stanislaus	12.8*
Merced	18.0*	Sutter, Yuba	11.6*
Monterey, San Benito	18.5	Tulare	5.9*
Napa	14.5*	Ventura	8.4
Nevada, Plumas, Sierra	10.6*	Yolo	11.1
Orange	5.9*	**California**	**11.4**

Source: 2001 California Health Information Survey (CHIS). The CHIS is conducted by the UCLA Center for Health Policy Research, in collaboration with the California Department of Health Services (DHS) and the Public Health Institute (PHI). Note: The 2001 CHIS found that 11.4% of California's 12- to 17- year-olds are overweight (i.e., have a Body Mass Index (BMI) above the gender- and age-specific 95th percentile), a higher rate of overweight than the 10% rate found by the 2000 California Teenage Eating, Exercise and Nutrition Survey (CalTEENS) cited in Chapter Four, which is also a self-reported survey. The 2001 CHIS numbers are cited here because they provide a county-by-county look at childhood overweight in California.

**CHIS does not recommend using the portrayed estimate for policy or planning purposes, and provides it only for the sake of offering a complete table. In technical terms, the coefficient of variation exceeded 30% and/or the number of respondents was less than five.*

Table 24: Results of the 2002 California Physical Fitness Test by County

County	Percentage of 5th Graders That Passed *	Percentage of 7th Graders That Passed *	Percentage of 9th Graders That Passed *
Alameda	20.9%	21.7%	20.5%
Alpine	N/A	N/A	N/A
Amador	17.9%	29.2%	38.0%
Butte	26.7%	32.7%	29.1%
Colusa	22.2%	31.2%	23.1%
Contra Costa	28.3%	32.2%	28.3%
Del Norte	14.2%	29.8%	26.8%
El Dorado	34.1%	34.5%	35.4%
Fresno	23.5%	33.4%	22.4%
Glenn	20.6%	31.2%	31.9%
Humboldt	17.8%	23.3%	18.6%
Imperial	14.0%	13.3%	22.1%
Inyo	29.1%	16.9%	30.5%
Kern	21.7%	27.8%	20.8%
Kings	15.7%	18.6%	14.6%
Lake	17.3%	17.3%	25.7%
Lassen	12.6%	18.5%	13.4%
Los Angeles	19.4%	21.2%	16.9%
Madera	18.8%	23.8%	21.8%
Marin	31.9%	40.2%	42.5%
Mariposa	27.4%	16.8%	38.1%
Mendocino	6.3%	28.4%	29.0%
Merced	13.9%	24.9%	16.6%
Modoc	20.5%	25.2%	20.9%
Mono	13.7%	23.8%	22.7%
Monterey	17.3%	15.4%	19.7%
Napa	21.4%	29.1%	34.2%
Nevada	27.1%	41.5%	34.0%
Orange	23.4%	28.3%	26.6%
Placer	35.6%	29.3%	32.2%
Plumas	20.5%	28.7%	21.5%

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Table 24: Results of the 2002 California Physical Fitness Test by County (Continued)

County	Percentage of 5th Graders That Passed *	Percentage of 7th Graders That Passed*	Percentage of 9th Graders That Passed *
Riverside	24.6%	31.9%	23.6%
Sacramento	25.2%	24.5%	23.9%
San Benito	19.0%	27.0%	22.6%
San Bernardino	23.1%	23.6%	21.2%
San Diego	26.3%	30.9%	24.9%
San Francisco	14.4%	24.0%	21.1%
San Joaquin	16.7%	20.1%	17.1%
San Luis Obispo	26.8%	36.1%	31.6%
San Mateo	27.5%	29.8%	22.6%
Santa Barbara	27.6%	31.0%	28.2%
Santa Clara	21.9%	30.1%	29.9%
Santa Cruz	24.3%	27.7%	33.6%
Shasta	23.8%	26.9%	35.5%
Sierra	20.9%	41.1%	25.0%
Siskiyou	27.2%	23.5%	31.7%
Solano	25.2%	21.1%	22.8%
Sonoma	29.0%	31.6%	34.0%
Stanislaus	17.6%	26.2%	22.9%
Sutter	18.8%	24.5%	31.3%
Tehama	25.0%	27.0%	17.0%
Trinity	26.6%	40.3%	25.7%
Tulare	24.1%	26.2%	27.2%
Tuolumne	36.8%	28.9%	36.5%
Ventura	24.6%	31.1%	31.0%
Yolo	30.3%	27.5%	28.1%
Yuba	22.5%	28.5%	25.6%
California	**22.3%**	**26.0%**	**22.8%**

Source: California Department of Education's Standards and Assessment Division (See: http://data1.cde.ca.gov/dataquest/page2.asp?subject=FitTest&level=County&submit1=Submit)

**To pass, students must meet all six of the test's fitness standards (aerobic capacity, body composition, abdominal strength, trunk extension strength, upper body strength and flexibility). Of the 1,265,546 students who participated in this test in 2002, just 298,476 (or 23.6%) met all six standards.*

Table 25: Percentage of California Children Aged 0-17 Diagnosed with Asthma by County (2001)

County	Percentage of Children Aged 0-17 Diagnosed with Asthma	County	Percentage of Children Aged 0-17 Diagnosed with Asthma
Alameda	15.6	Placer	16.6
Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, Tuolumne	11.8	Riverside	12.0
Butte	14.1	Sacramento	16.8
Colusa , Glenn, Tehama	10.1	San Bernardino	16.3
Contra Costa	16.0	San Diego	14.7
Del Norte, Humboldt	13.5	San Francisco	13.4
El Dorado	12.3	San Joaquin	12.5
Fresno	21.0	San Luis Obispo	19.3
Imperial	15.5	San Mateo	10.9
Kern	14.5	Santa Barbara	10.0
Kings	20.5	Santa Clara	14.1
Lake, Mendocino	13.4	Santa Cruz	14.8
Lassen, Modoc, Siskiyou, Trinity	9.5	Shasta	15.4
Los Angeles	12.0	Solano	21.3
Madera	14.1	Sonoma	15.4
Marin	18.5	Stanislaus	13.6
Merced	15.9	Sutter, Yuba	13.9
Monterey, San Benito	12.2	Tulare	13.6
Napa	14.3	Ventura	12.3
Nevada, Plumas, Sierra	11.5	Yolo	16.6
Orange	10.5	**California**	**13.6**

Source: 2001 California Health Information Survey (CHIS)

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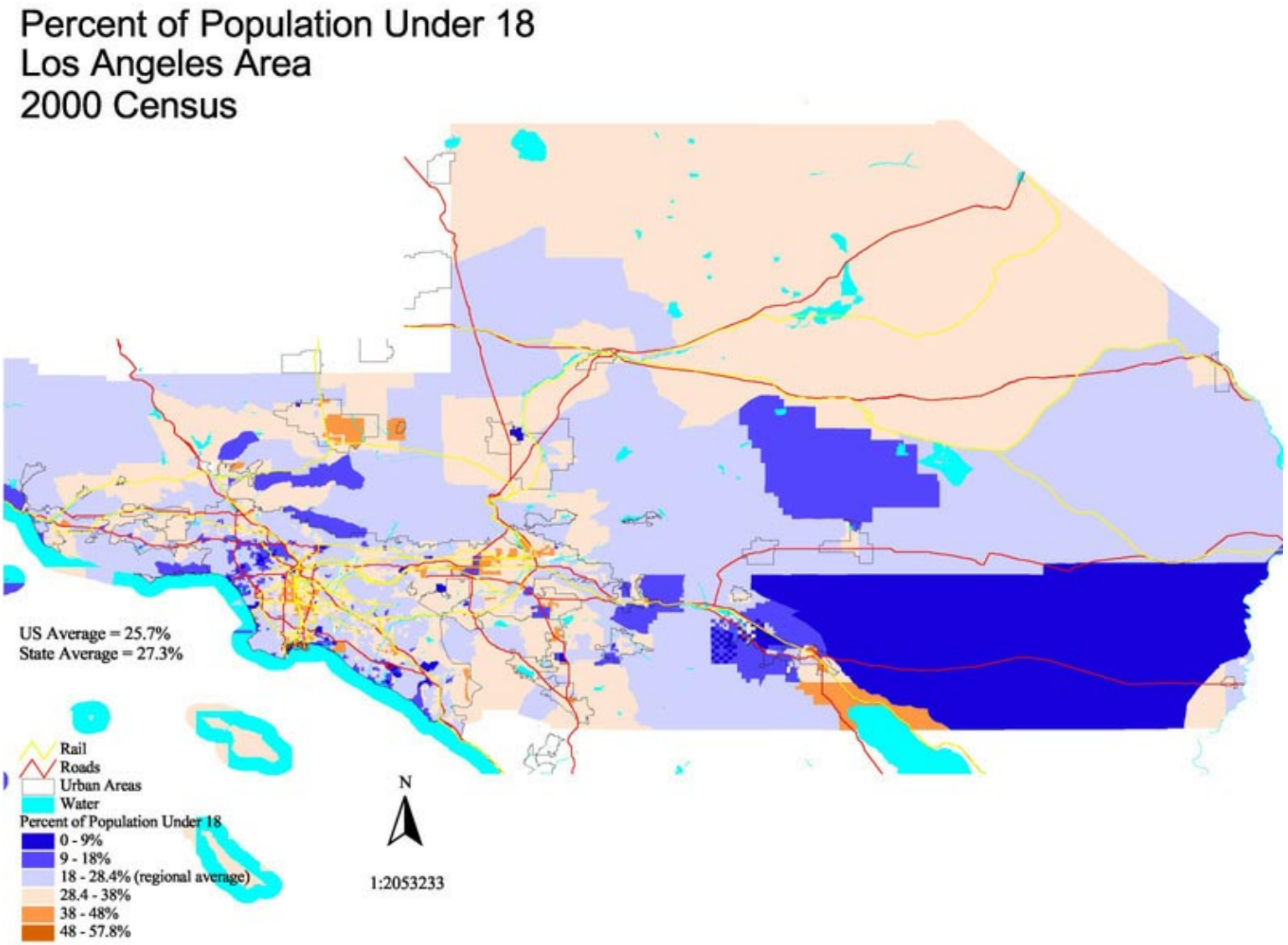

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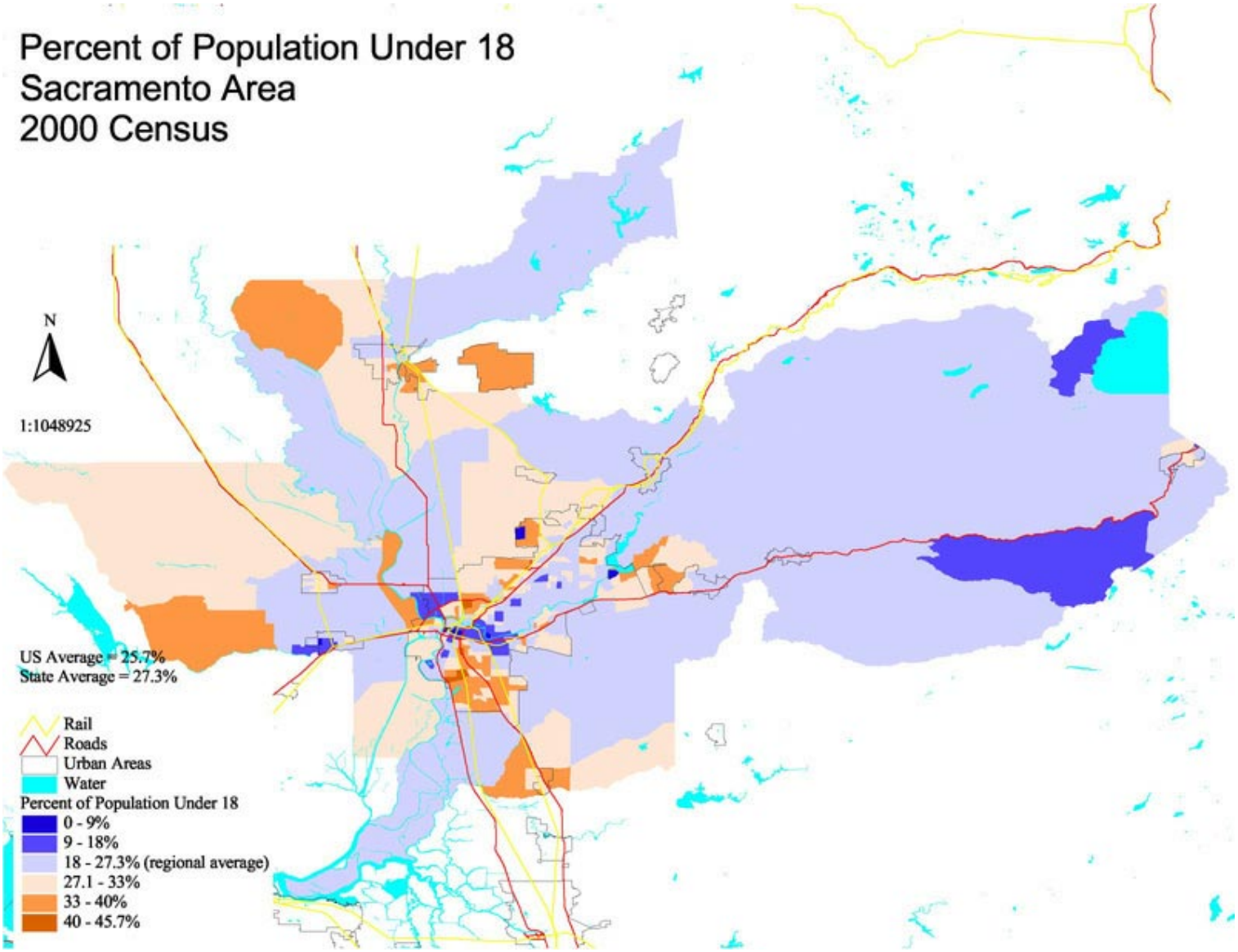

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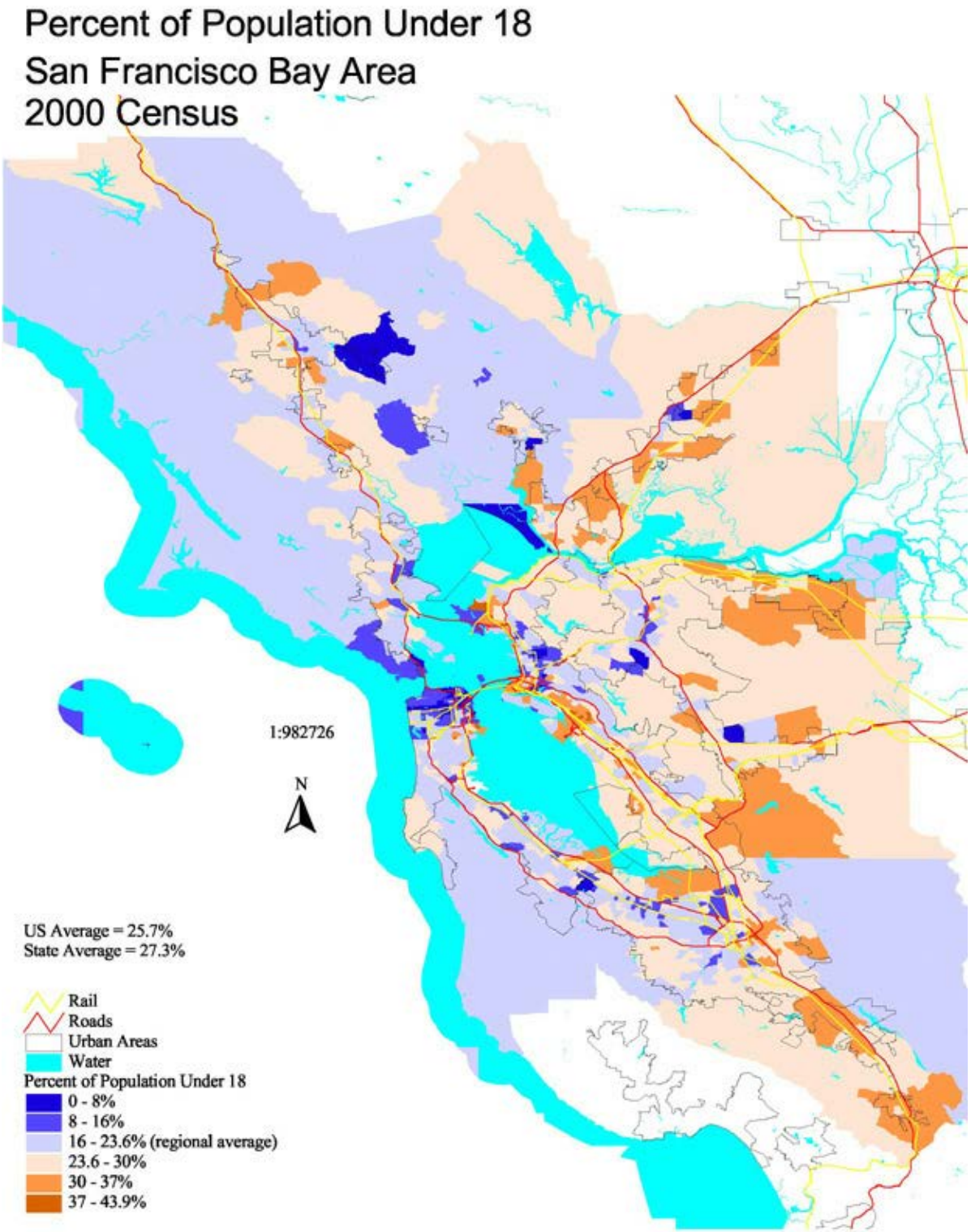

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