Athletes know not to diverge from the playbook, but drivers routinely stretch speed limits. More than a decade after the 1995 repeal of the 55 mph national maximum limit, the United States remains a nation of lawbreakers, not law abiders, when it comes to speeding. The latest Institute research reveals that travel speeds generally have risen on interstate highways and arterial roads. On some freeways, heavier traffic volume may hold down speeds. On others, speed cameras dissuade drivers from
Average speeds on the arterials exceeded posted limits, except in Atlanta, where they were slightly slower than the 45 mph limit. On a Boston arterial with a 45 mph limit, 42 percent of passenger vehicles traveled faster than 60 mph. A Denver arterial with a 40 mph limit had the slowest speeds. Still, 3 percent of vehicles surpassed 50 mph.

**Large truck speeds:** On average trucks tend to go slower than passenger vehicles. In 2007, the proportion of large trucks exceeding 70 mph on urban interstates ranged from none in Tampa and Denver, where limits are 55 mph, to 27 percent in Atlanta, where there is a 65 mph truck limit. On suburban and rural interstates, the proportion traveling faster than 70 mph ranged from 1 percent in Los Angeles to 29 percent in Tampa, where the limit is 70. On intercity segments of rural interstates, 5 percent of trucks traveled faster than the 70 mph limit in Atlanta, while 17 percent surpassed 70 mph in Los Angeles, where the truck speed limit is 75. Outside Washington, DC, where the truck limit is 65 mph, 18 percent traveled faster than 70 mph.

“During the 1990s, opponents of the national maximum speed limit argued that since drivers were already exceeding posted limits, states should be able to set limits to match then-current travel speeds,” notes Anne McCartt, Institute senior vice president for research. “The result was faster travel and more highway deaths.”

Postings higher speed limits generally means more vehicles will go very fast. This is risky because faster speeds increase the frequency as well as the severity of crashes and help push up crash death rates (see Status Report, Nov. 22, 2003; on the web at iihs.org). Speeding was cited by police as a contributor in about 32 percent of US crash deaths in 2006, resulting in more than 13,500 fatalities.

**Trends over time:** The Institute has been monitoring speeds on certain interstates for more than 20 years and began its metro speed study in 2003. Researchers that year recorded the highest average speeds they’d ever observed (see Status Report, Nov. 22, 2003; on the web at iihs.org).

“Atlanta was the worst offender in 2003, with nearly 1 in 5 drivers exceeding 80 mph on an urban interstate with a 55...” (continues on p. 6)
HOW POSTED LIMITS AFFECT SPEEDS

A not so surprising thing happened in Montana once it reinstated a numeric daytime speed limit for passenger vehicles in 1999 after nearly four years without one on rural interstates. Travel speeds plunged.

“What’s impressive is the huge drop between 1996 and 2006 in the percentage of vehicles going very fast,” says Anne McCartt, Institute senior vice president for research. “The proportion of passenger vehicles exceeding 75 mph, the limit set in 1999, tumbled 45 percent. The proportion surpassing 80 mph plummeted 85 percent. Large trucks slowed, too.”

Texas is another example of what happens when speed limits change. In 2002 the state lowered limits for passenger vehicles on urban freeways to 65 mph from 70. The result was a 66 percent decline between 1996 and 2006 in the proportion of passenger vehicles exceeding 70 mph.

While Texas lowered its urban interstate speed limit, in May 2006 it raised to 80 mph from 75 the daytime limit for passenger vehicles on sections of 2 western rural interstates, I-10 and I-20. On I-20 the proportion of passenger vehicles exceeding 80 mph rose to 10 percent in September 2007 from fewer than 1 percent before the limit changed. On I-10 the proportion surpassing 80 mph initially fell to 2 percent in August 2006 from 4 percent in May but rose to 7 percent in September 2007.

“The initial drop on I-10 may be because of its location near the US border with Mexico, which is heavily patrolled by law enforcement,” McCartt says. “Several highly visible border patrol initiatives coincided with posting the higher speed limit. The I-20 sites didn’t have the same level of enforcement during the study, so drivers may have felt more at ease going faster.”

Texas and Montana are among 5 states the Institute has monitored since the 1995 repeal of the national maximum speed limit. In 1996 California, Nevada, New Mexico, and Texas raised limits on interstates 10-15 mph, and travel speeds increased (see Status Report, March 22, 1997, and Oct. 11, 1997; on the web at iihs.org). Passenger vehicle speeds have continued to climb on rural interstates in the intervening years. Between 1996 and 2006, the proportion exceeding 80 mph tripled on rural interstates without speed limit changes. Speeds generally fell on urban interstates and freeways where the limits didn’t change, with small increases on some roads.

“One reason could be increased traffic volume, which tends to tamp down speeds,” McCartt notes. In Nevada, where limits remained constant and traffic speeds declined, the number of vehicles per hour increased by nearly half. Three California freeways where average speeds either declined or remained constant saw traffic counts rise by as much as 146 percent.

For a copy of “Traffic speeds on interstates and freeways 10 years after repeal of the national maximum speed limit” by R. Retting and E. Teoh, or “Traffic speeds associated with implementation of 80 mph speed limits in West Texas” by Retting and I. Cheung, write: Publications, Insurance Institute for Highway Safety, 1005 N. Glebe Rd., Arlington, VA 22201, or email publications@iihs.org.

### Suburban/Rural Interstates

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<tr>
<th>City</th>
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### Urban Interstates

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CAMERAS HELP LOWER SPEEDS ON ARIZONA FREEWAY

Before the city of Scottsdale, Arizona, kicked off a pilot speed-camera enforcement program, 15 percent of drivers were traveling faster than 75 mph on sections of a busy urban freeway with a 65 mph posted limit. Once the cameras were in place on Loop 101, the number of violators plunged to 1-2 percent, a new Institute study reveals.

What’s more, speed violations fell on the same freeway 25 miles outside of the enforcement area. Surveys also indicate that speed cameras garnered the support of local drivers.

“These results show how the combination of highly visible warning messages and camera enforcement deters speed violations,” says Richard Retting, Institute senior transportation engineer and the study’s lead author. “The program wasn’t about tickets. The goal was to drive down violations by sending a message that speeding is unacceptable. Scottsdale’s program is one of the best examples we’ve seen of how to accomplish that.”

In early 2006 Scottsdale began a 9-month pilot program to evaluate speed-camera enforcement on an 8-mile stretch of a busy urban freeway, becoming the first US locality to use fixed devices on a major highway. Fixed devices don’t require manpower, while mobile cameras are attended by police officers and can be moved among locations. About 35 US jurisdictions use speed cameras (see www.iihs.org/research/topics/auto_enforce_cities.html).

Whether fixed or mobile, speed cameras monitor traffic speeds and photograph vehicles going faster than specified speeds, usually well above posted limits. Along with a picture of the offending vehicle, the cameras record the date, time, location, and vehicle’s speed (see Status Report, Sept. 28, 2005, Nov. 22, 2003, Sept. 14, 2002, and May 4, 2002; on the web at iihs.org).

In Scottsdale, cameras at 6 sites photographed vehicles going 11 mph or more over the 65 mph speed limit on Loop 101, a 6-lane freeway encircling the Phoenix metro area. Citations were mailed to registered vehicle owners.

Institute researchers collected independent data at several locations in the city’s enforcement zone. Speeding decreased among both passenger vehicles and large trucks, with the combined proportion of vehicles exceeding 75 mph dropping to 1-2 percent while the cameras were in use from 15 percent ahead of camera enforcement. The proportion fell to 2 percent from 16 percent for cars and to 1 percent from 9 percent for trucks.

Average speeds in the enforcement area declined to 63 mph soon after the program began from 70 mph beforehand, remaining around 65 mph, the posted speed limit, during the pilot program. Immediately after it ended and camera enforcement stopped, average speeds increased to 69 mph, and 12 percent of drivers were going faster than 75 mph.

By comparing Loop 101 speeds with speeds on nearby freeways that didn’t have cameras, researchers concluded that the Scottsdale program was associated with as much as a 95 percent decrease in the odds that drivers would surpass 75 mph. Previous studies in Europe and Australia, where speed cameras are widely used, have reported 50-60 percent reductions in the proportions of vehicles exceeding speed limits by more than 9 mph.

Sprint violations of 11 mph or more also declined on another section of Loop 101 about 25 miles away in Glendale, Arizona, where cameras weren’t used. Freeway drivers traveling through Glendale slowed down an average of 5 mph soon after Scottsdale’s speed camera program began and kept their speeds in check until camera enforcement ended.
"We were surprised to see speeds decline so far away from the pilot enforcement area," Retting says. "Drivers seem to have associated Loop 101 with speed cameras, not just certain stretches of the freeway, maybe because in Scottsdale itself, prominent signs alerted drivers that speed-camera enforcement was under way and the pilot program attracted lots of attention from the media."

Still, Retting notes, 1-2 percent of drivers continued to exceed the posted limit by 11 mph or more during the pilot. And once it ended speeds quickly increased, indicating that without camera enforcement drivers revert to their old habits.

Mary Manross, mayor of Scottsdale, points out that “as soon as our demonstration program launched, the results were dramatic. Our program clearly worked. Throughout the process — from discussion to implementation, right through to the analysis — surveys indicated a solid majority of Scottsdale residents supported the freeway photo-enforcement demonstration program. Experience in Scottsdale was so positive that Governor Janet Napolitano directed the Arizona Department of Transportation to devise a statewide program of photo enforcement.”

The majority of Scottsdale drivers the Institute surveyed by telephone about the camera enforcement program agreed that speeding was a problem. They were aware that cameras were in use on Loop 101, and they supported the pilot. These responses are in line with a 2007 Insurance Research Council survey finding that about 60 percent of US drivers support speed cameras (see ircweb.org/news/20070719.pdf).

Speed-camera enforcement was reinstated on the Scottsdale section of Loop 101 in February 2007.

For a copy of “Evaluation of automated speed enforcement on Loop 101 freeway in Scottsdale, Arizona” by R. Retting et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201, or email publications@iihs.org.

**EARLY RESULTS ARE PROMISING IN MARYLAND**

Montgomery County, Maryland, is using speed cameras to enforce limits of 35 mph or less in residential areas and school zones. An Institute evaluation indicates this is helping to reduce travel speeds. Researchers measured speeds 6 months before and 6 months after camera enforcement began in May 2007 in this Washington, DC, suburb. The proportion of vehicles going more than 10 mph faster than posted limits fell by 70 percent on roads where cameras were operational and by 39 percent on roads with signs warning of enforcement but where cameras weren’t yet in place. Violators pay a $40 civil fine. An Institute survey 6 months after the kickoff found that 74 percent of county respondents considered speeding a problem on residential streets, 60 percent were aware of camera enforcement, and 62 percent favored it.

“Our goal is to save lives, and speed cameras give us another resource that complements our existing enforcement measures,” says police chief J. Thomas Manger.

For a copy of “Evaluation of automated speed enforcement in Montgomery County, Maryland” by R. Retting et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201, or email publications@iihs.org.
CHAMPAGNE, NOTRE DAME, ET LES RADARS

Champagne, the Eiffel Tower, or the French Riviera might spring to mind as things quintessentially French. Speed cameras probably don’t make the list, but French drivers are well acquainted with its radar, the automated enforcement devices used in the nation’s crackdown on speeding.

Up to 2,000 cameras pepper the 985,000-kilometer (610,700-mile) road network. The program was put in place under former French President Jacques Chirac, who declared a “fight against road violence” targeting speeding, alcohol-impaired driving, nonuse of safety belts, and other violations. With speeding identified by French officials as the No. 1 cause of traffic fatalities, speed cameras became the centerpiece of the enforcement efforts. The program continues apace under President Nicolas Sarkozy.

Between 2003 and 2005, the proportion of drivers traveling 10 km/h (6 mph) or more above the speed limit fell to 20 percent from 35 percent, while the number of drivers exceeding the limit by more than 30 km/h (18 mph) tumbled 80 percent, according to the European Transport Safety Council. Average speeds fell 5 km/h (3 mph). The Brussels-based group notes that France is the only European Union country to lower average speeds on all types of roads by 6 to 11 percent since 2002.

Along with speeds, highway fatalities fell 31 percent between 2003 and 2005. Improved speed management based on camera use is credited for 75 percent of the decline, the French Road Safety Observatory reports. Deaths slid an additional 12 percent in 2006 compared with the previous year.

Millions of speeding have been ticketed. As of October 2006, 18 million penalty notices had been issued. Two million were sent out during 2004, the first full year of camera operation. Speeders are fined, and they risk losing their licenses as points are deducted with each offense. Camera locations are clearly marked, and a website pinpoints every enforcement site.

“France gives us a great example of what can be accomplished when there’s a focused, nationwide effort to target speed violators,” says Anne McCartt, Institute senior vice president for research. “The combination of automated enforcement, license points, and fines makes France’s program extremely successful. This shows that when it comes to reducing speed violations and saving lives on the road, automated enforcement is effective.”

Surveys show 80 percent of French drivers support the cameras and believe they have reduced speeds and improved safety, the Ministry of Transport reports.

(continued from p. 2) mph limit,” McCartt says. “Speeds on urban expressways in Atlanta, Boston, and Denver have declined since then, while those in Albuquerque and Los Angeles have climbed.”

The best long-term data come from Albuquerque. When the Institute began tracking speeds there in 1987, right after the limits on rural interstates were raised to 65 mph from 55, the mean passenger vehicle speed was 63 mph, with fewer than 1 percent of passenger vehicles going faster than 80. In 2007 the mean speed was 74 mph, and 14 percent of passenger vehicles exceeded 80 mph. New Mexico raised speed limits on rural interstates to 75 mph in 1996.

On urban interstates in 2007, passenger vehicle travel speeds were the highest the Institute had ever logged on these roads. Thirty-eight percent exceeded the 65 mph limit by at least 5 mph and 13 percent exceeded it by at least 10 mph. During 2003 and 2005, almost 1 of every 3 passenger vehicles traveled at least 5 mph faster than the posted limit.

These studies provide a clearer picture of travel speeds but not a complete one. Beyond the sites where they monitor speeds, Institute researchers can’t say definitively whether speeds nationwide are up, down, or stable.

“In general we know that when traffic volume allows and drivers think the risk is low of getting a ticket, they tend to speed. And we know for certain that speeding persists as a major cause of highway deaths, even though today’s vehicles do a good job of safeguarding occupants in crashes,” McCartt says. In fact, deaths in crashes that occur at faster speeds offset some of the lives saved by more crashworthy vehicle designs and advanced safety features.

“Although speeding is a fact of life, speed limits do help keep travel speeds in check,” McCartt concludes. “Tougher enforcement of posted limits, whether via traditional manpower or speed cameras, is key to persuading drivers to stick to the playbook. Stealing home might pay off in baseball but could get you or someone you love killed on the highway.”
INSURANCE LOSSES RISE AS AUTOMAKERS REV UP HORSEPOWER

Automakers are putting faster, more powerful engines in even the humblest of vehicles, and insurance losses are rising in tandem. This is the main finding of a new report from the Highway Loss Data Institute examining the effect of vehicle power on the insurance losses of 2003-05 model 4-door cars. All of this power on US roads has translated into higher insurance losses. The addition of just 1 horsepower per 100 pounds of vehicle weight resulted in estimated 5 percent higher losses under collision coverage per insured vehicle year (a vehicle year is 1 vehicle insured for 1 year, 2 insured for 6 months each, etc.), 1 percent higher property damage liability losses, 5 percent higher personal injury protection losses, and 4 percent higher losses under bodily injury liability coverage for rated drivers ages 25-64 (see iihs.org/research/hldi/fact_sheets/default.html for descriptions of the various insurance coverages).

Losses among 16-24-year-old drivers were even greater, except under property damage liability coverage. Among drivers 65 and older, losses increased for collision and liability coverages. Pricier cars with more horsepower typically showed elevated insurance losses, and men had higher losses than women.

"Many people think high-horsepower cars are risky only for very young people or drivers of sports cars," says Institute president Adrian Lund. "This analysis shows that insurance losses are mounting even for people who are middle-age and drive rather ordinary cars. It's true that horsepower is a bigger problem for young drivers, but it's not just a youthful problem." Power on the upswing: The performance capabilities of new cars have been increasing for 30 years (see Status Report, Nov. 22, 2003; on the web at iihs.org). Between 1985 and 2005, average horsepower climbed 64 percent to 183 from 111. Cars have gotten heavier, too, but their engines still pack more horsepower per 100 pounds of vehicle weight than earlier models.

The horsepower of Honda's midsize Accord, for example, more than doubled between 1981 and 2005, moving from 75 to 160 horsepower for the base model and 240 for the 6-cylinder version. The 1981 Accord produced 3.3 horsepower per 100 pounds of vehicle weight, compared with 5.2 for the 2005 base Accord and 7.2 per 100 pounds for the 6-cylinder version.

Similar cars, different losses: The effect of vehicle horsepower on insurance losses is apparent in a comparison of a 2005 Nissan Altima and a 2003 Pontiac Grand Am. Both are midsize cars. Their price tags are similar. But at 3.5 liters, the Altima's engine is bigger than the Grand Am's 2.2 liters. The Altima produces 240 horsepower to the Grand Am's 140. Factoring in the weights of the two cars, the difference between them is 3.5 units of vehicle power. Collision losses for the more powerful Altima are an esti-
SPECIAL ISSUE

This special issue focuses on speed.
Other special issues include:

- Convertibles ............... 42:6 (2007)
- Older drivers ............... 42:3 (2007)
- Crash incompatibility ... 41:5 (2005)
- Airbag ........... 41:4 (2005)
- Driver death rates .......... 41:3 (2005)
- Rear crash protection ....... 41:10 (2004)
- Crash incompatibility ... 38:3 (2003)
- Safety as a priority ...... 37:10 (2002)

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