

Special Report: Overwhelmed and Undertrained



Danica Lacy's friends called her the granny driver.

From the moment she got her learner's permit, just after her 15th birthday, Danica followed every traffic law, every rule of the road. She obeyed every nuance of California's strict graduated-licensing laws. She looked both ways at every intersection. She never got so much as a parking ticket.

Then came that night in the middle of July.

Lacy's boyfriend Donovan Tessmer, a star running back at Liberty High in Madera, California, had just finished his last day of football camp. The couple had the rest of the summer in front of them, but this night began quietly enough, at Tessmer's house, where they played Scattergories with his parents. As the game dragged on, Lacy and Tessmer remembered making plans to drive a few friends to see the new Transformers movie. They begged their parents for slack on their curfews.



Jeff Singer

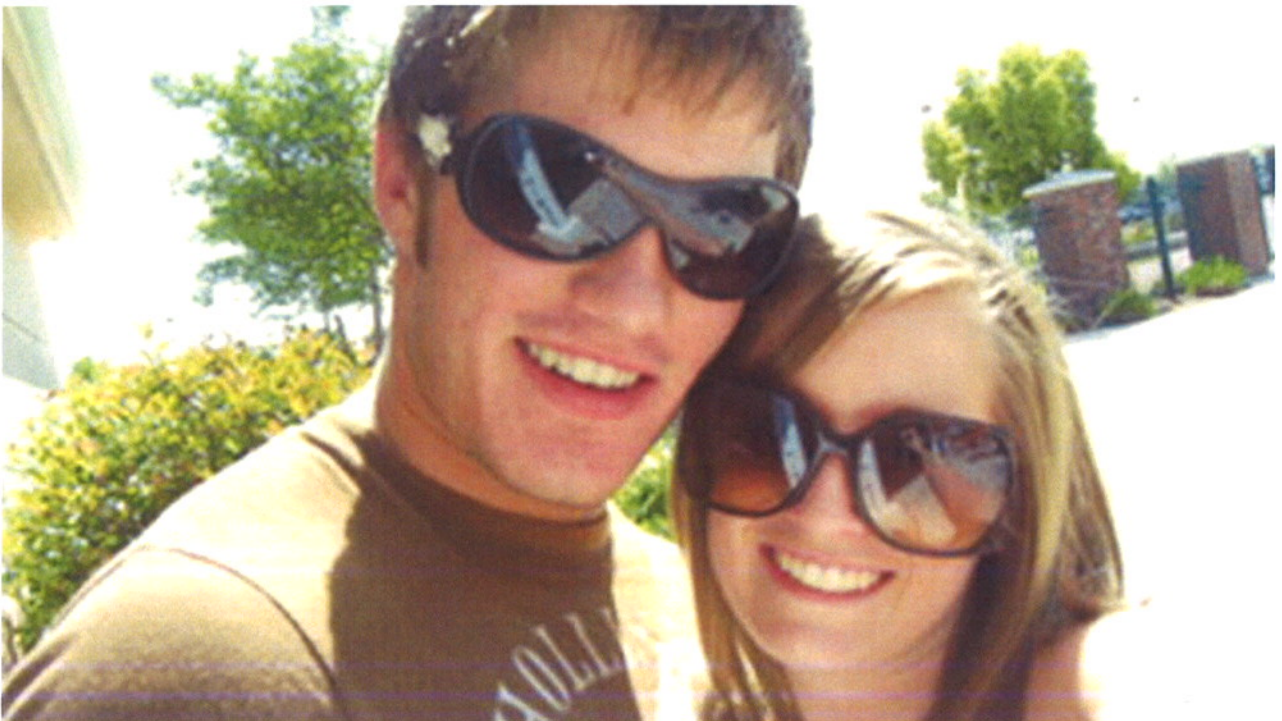
Lacy would drive. She was the only one old enough to have passed all her licensing requirements; Tessmer was 10 days too young to drive at night with passengers. They picked up three friends in the silver Toyota Corolla that Lacy's father had bought her for her 16th birthday, headed to the Cineplex, and spent two hours watching Camaros come to life on the big screen. As they started home, Tessmer realized he left his Game Boy in the theater. Tessmer and Lacy split up. He went back to the Cineplex. She went off to get gas, chips, and energy drinks.

When Lacy swung by for the 20-minute drive home, Tessmer and his two football-player friends piled into the Corolla's back seat and did what teenage boys do: They began wrestling over the snacks. With the stereo pumping out music and three boys wrestling in her back seat, Lacy started driving faster. Too fast-75 or 80 mph in a 55, down the back road to Madera Ranchos. Most drivers avoid the deserted two-lane that winds through the apple orchards, but Lacy liked how it was usually free of traffic.

"Can't you keep this car going straight?" Tessmer joked from the back seat. The silver Toyota was trying to tell Lacy something, but she didn't understand. "You mean like this?" she said. She playfully jerked the steering wheel.

What happened next was a confluence of physics, bad luck, and bad judgment. In that long moment when the car began to slide and Lacy realized something was very wrong, she looked for a solution. "What do I do?" she asked her friends. No one had an answer.

The Toyota left the road and careened into an orchard, crashing into one tree, then another. A rear door was ripped off. The boys in the back, unbelted, were hurled from the vehicle. Lacy and her front-seat passenger were merely shaken up. Two of the rear passengers were seriously injured.



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Donovan Tessmer, the third, wasn't so lucky. "I saw him lying in his own blood," said Tessmer's best friend, Dustin Simpson. "We were having fun, and in a split second, he was dead."

In 2011, 3291 American teenagers were killed in automobile accidents. Car crashes account for more than a third of teenage deaths, by far the largest cause-surpassing the number of teens killed separately by guns, drugs, cancer, homicide, and suicide. Drivers between 16 and 19 years old have a fatal-accident rate more than three times that of those between 30 and 69.

If this were a disease, we'd declare it an epidemic. If kids were being killed by a foreign government, we'd go to war. But since these deaths happen one at a time, nine or so Donovan Tessmers every day, no one seems to care enough to do anything. Not the government, not the insurance companies, not even the parents.

Upper-middle-class American parents spend almost \$9000 annually on enrichment activities for their children. But \$100-per-hour cello lessons won't make most kids Yo-Yo Ma. The soccer career of the average boy or girl in a \$1500-a-season travel league ends with high school. Most teenagers will drive for the rest of their lives.

Yet parents tend to cheap out when it comes to teaching driving to kids. The price of a typical driving course is \$300. When Mercedes-Benz started its driving academy in 2009-at \$1390, more than four times as expensive as the average American driving class-the company conducted focus groups with its upper-income customers, asking them how they would go about selecting a piano teacher for their kids. The answers were thoughtful, including soliciting referrals from other parents, conducting personal interviews, and observing actual lessons. By contrast, those same parents found driving schools through the Yellow Pages.

Jeff Singer

Conventional driver's-ed wisdom can be summed up in one word: Don't. Don't drink and drive. Don't text. Don't drive at night. Don't drive with your friends. These warnings are well-intentioned, but they clearly aren't enough. We need to teach teens what to do before we turn them loose in traffic.

The ugly truth is that most new drivers are concerned about one thing: getting a license.

"No one ever got killed parallel parking," says Matt Edmonds, marketing vice president of the Tire Rack and father of four teenagers. The Tire Rack is title sponsor of the critically acclaimed, nonprofit Street Survival program, and Edmonds is committed to driver education. As a parent, he also understands the troubling reality: The only thing that worried his kids when they took the driving test was the prospect of knocking over a traffic cone as they tried to back into a parking spot.

Although specific questions and exam practices vary from state to state, the current U.S. licensing test is preposterously easy. It was devised about 60 years ago, before the Edsel, modern cockpit distractions, or the interstate highway system, and it has hardly changed since. The written portion might include a few trick questions about reporting requirements when selling a vehicle, but the road test is a mere formality, consisting of a brief drive on low-traffic roads, and sometimes just a parking lot. If the student doesn't flagrantly violate the rules of the road, avoids hitting anything, and doesn't insult the examiner, he or she passes.

Compare our current exam to, say, England's. In the U.K., the test isn't a joke. Getting a permit in Great Britain requires passing a difficult written exam, then a "hazard perception test" in which the candidate watches real-world traffic footage on a computer screen. The goal is for students to recognize potential dangers early and monitor them as they develop into actionable hazards. The road test itself is an hour-long grind in real-world traffic, and it includes advanced maneuvers like a full panic stop. Almost half of applicants fail at least once.

Jeff Singer

England's test isn't even the most rigorous. In Finland, drivers can start learning at 17 and a half years old. They need 43 hours of theory and practice and cannot get an unrestricted license until age 20. Part of Finnish testing involves being placed on a wet skidpad and having to put the car into a slide and recover without knocking over any cones. In Germany, where high-speed travel is the norm, prospective drivers can start learning at 16 years and five months; they then need 28 hours of training and a two-year minimum probation, and a full license cannot be awarded to anyone under the age of 19. The German practical examination involves mandatory time on the autobahn, as well as driving at night and in inclement weather.

While it's difficult to parse out causation in traffic-safety statistics, both Finland and the U.K. (at 0.85 and 0.60 deaths, respectively, per hundred million miles driven in 2010) have far fewer road deaths than the United States (1.09 per hundred million miles). But this is only part of the story. Because car accidents have so many contributing factors and are relatively rare events, even among risky drivers, researchers have difficulty measuring the influence of driver's ed on crashes. According to a 2010

National Highway Traffic Safety Administration report, much of a new driver's learning takes place after licensing, as experience is gathered. And while crash risk declines over time, it can take as many as 10 years before full driver maturity is reached.

Think about your first decade behind the wheel: What changed about you in that time? Did you really learn more about car control and situational awareness? More likely, your motivation and risk-taking tendencies evolved. Similarly, studies have shown that while training can make older drivers safer, it doesn't reduce the risk of death for a novice driver.

This is the hitch. If educated teenage drivers are no less likely to die in an accident, then more rigorous education isn't the sole answer. Part of the problem might be unsolvable: It could be argued that most teenage drivers are at risk not due to a lack of advanced skills but because they're ordinary teenagers-irresponsible at times, and inexperienced enough to put themselves in dangerous situations.

The notion appears to be true the world over. According to a 2006 report by the European Conference of Ministers of Transport, America's youth represent 12.8 percent of the country's population and correspond to 30.3 percent of the nation's driver deaths. However, Finland's young drivers (8.9 and 28.5 percent) are not safer, and neither are those of the United Kingdom (9.9 and 29.9). German youth, at 8.2 percent of the country, make up a whopping 32.2 percent of driver deaths.

Jeff Singer

This is obviously a complex problem, and improved training is no silver bullet. Still, while education isn't the whole answer, it's a vital part of any solution we're going to come up with.

The first, most crucial step toward better American driver's ed is an exam that tests more than manners and parking skills. Next, we need to increase the number of qualified teachers. To get a manicurist's license in Indiana, applicants must complete 450 hours of training. In many states, the only qualifications to be a driving instructor are a license and a pulse.

Martha Tessmer, Donovan's mother, recalls with some horror that her son's driving

instructor once fell asleep in the front seat while the teenager followed the road into the surrounding mountains. His next two instructions: Turn the car around, and don't tell your parents.

Indeed, one of the reasons that the Mercedes-Benz Driving Academy has just one U.S. location-L.A.-is a lack of qualified instructors. Given that the average American driving teacher makes \$12 per hour, this isn't surprising.

According to Yale neuroscience professor Charles Greer, the brain has the miraculous ability to break down a complex activity, like walking, playing an instrument, or driving, into a sophisticated subroutine that can run with little or no conscious attention. The ability is called automaticity, and it's one of the things Danica Lacy was lacking on that fateful night.

Jeff Singer

"When I get into a car, I don't need to think about turning the key or using the turn signal," says Greer. "Those things have already been packaged into reflexes."

But between that first moment when a teenager sits behind the wheel, not knowing the difference between the gas and the brake, and the time that he or she is ready to drive confidently in heavy traffic lies a dangerous period when even minor commotion can send a brain into overload.

"Automaticity is an incremental process," Greer says. "It's derived from repetition."

The problem is that most conventional driving schools don't have enough hours, instructors, or cars to put young drivers through the surprisingly large number of reps required for mastery. The current graduated-licensing requirements acknowledge the conflict between strained resources and brain science, but in the clumsiest of ways. The laws require student drivers to complete a number of supervised hours behind the wheel-with a parent. Putting a 16-year-old in the family Camry with mom or dad is a recipe for rolled eyes and withering sarcasm, the special brand of tension that can only exist between parent and teen. That's one of the reasons compliance with graduated-licensing laws is spotty at best.

One of the biggest problems with driver's education is that when it comes to employing technology, most programs stopped innovating with the auxiliary brake pedal.

Jeff Singer

Simulators have long been a staple of the aviation industry because they allow pilots to log lots of seat time safely and cheaply. At one end of the sim spectrum is a program like TeenSmart, a computer-based driving tutorial. It's inexpensive and easy to use, but the slo-mo lane-change drills are like playing the world's worst version of Gran Turismo. The gold standard is a dedicated sim unit like Scottsdale, Arizona's DrivingMBA, where students can get a year's worth of driving-400 "trips"-in just a few sessions.

In the same way that pilots learn how to deal with an engine failure on a 747, the sims at MBA can expose drivers to situations that can't be duplicated on the road. A student might be driving down a virtual highway when a tire blows or a truck pulls out in front or a snow squall pops up. The first time they face an on-road emergency, novice drivers invariably over- or underreact. But then they get to hit the reset button and try it again. A sim also allows instructors to forget about keeping their students safe and instead concentrate solely on the driver's performance. Focusing on the student's hands and feet, they act like coaches, offering feedback on things done right and wrong.

"I want to get to the lake and swim for a while before the mosquitoes come out," said nine-year-old Hayley Goodyear. But her 18-year-old brother, Chris, kept their Volkswagen Jetta under 40 mph as he headed toward his family's lake house. The two-lane country road ran past an outlet mall, and shoppers would often ignore the stop sign that divided the mall's parking lot from the street. As Chris approached it, he had a bad feeling about the intersection.

The lady in the minivan blew past the stop sign. Chris mashed the brake pedal, and it juddered as the car slowed. But he also swerved hard left and then right again as the car's anti-lock brakes worked. The Jetta's tires squealed, but they stuck, and the Goodyear siblings barely avoided T-boning the van.

When they got home, Hayley focused not on the close call, but on her brother's slick move.

Jeff Singer

"Chris was like a race driver out there," she told her mother. "He learned that from Dad."

Dad would be Scott Goodyear, the veteran driver who nearly won the Indy 500 twice.

"No, I learned it at Street Survival," Chris corrected her.

What could a one-day clinic possibly accomplish that a race-car-driving dad can't? Call it driver's-ed graduate school. The course, available nationwide and run by the nonprofit BMW Car Club of America Foundation with Tire Rack backing, takes young drivers who have mastered the basics and teaches them how to drive. Through a series of medium-speed maneuvers in a large parking lot, in their own cars, students learn threshold braking and emergency lane changes, as well as how to put a car into a skid and correct for one.

This kind of training is controversial. A study in Sweden discovered that young drivers taught high-level crash-avoidance skills were overconfident and actually more accident-prone after being educated. Fearful of instilling arrogance, most programs steer clear of skidpads.

Jeff Singer

Still, there are certain sensations and situations best experienced first-hand. Street Survival program director Bill Wade recalls talking to a student who had just completed a lap around the skidpad. He was more than a little shaken.

"He said, 'You know that feeling just before the car starts to skid? I felt that feeling before on the road, and I didn't know how close I was to losing control of the car.' "

Here's the best part: A day in one of Street Survival's courses costs only \$75. (The school actually raised the price because, when it was offered for free or nearly so, it

was too easy for kids-and their parents-to sleep in on a Saturday morning and blow it off.) The cost is low because the program's infrastructure is bare-bones; the instructors are all experienced volunteers from the BMW Car Club of America, the Porsche Club of America, or the Sports Car Club of America; and students drive their own cars.

Matt Edmonds hopes to make this sort of low-cost, high-level driving instruction available to all young drivers. "You could do an abbreviated version of Street Survival for driver's ed, one that takes place in four hours, that would be worth more than 40 hours of sitting in a classroom," he says. "I believe in dreaming big. Our true end game would see this program disappear."

For a complete list of the research used to assemble this story, visit roadandtrack.com/driversed.

American Driver Deaths by Age Group

Age: Deaths per 100 million miles travelled

16-19: 4.6

20-24: 3.8

25-29: 3.6

30-59: 1.2

60-69: 1.2

70-79: 2.4

80-plus: 5.5

Source: Insurance Institute for Highway Safety, 2013

Young-Driver Mortality by Population

Even in countries like Germany where driver training is emphasized, teen deaths are

disproportionate.

Youth % of population: Youth % of driver deaths

GERMANY

8.2: 32.2

USA

12.8: 30.3

UNITED KINGDOM

9.9: 29.9

FINLAND

8.9: 28.5

CANADA

12.9: 28

NETHERLANDS

8.3: 27.5

Source: European Conference of Ministers of Transport, 2006

2010 Deaths By Cause, Americans Age 15-24

MOTOR VEHICLE ACCIDENT

7024

HOMICIDE

4678

SUICIDE

4600

UNINTENTIONAL POISONING

3183

HEART DISEASE

1028

Source: Centers for Disease Control and Prevention