Raise the driving age. That idea is gaining momentum in the fight to save the lives of teenage drivers—the most dangerous on the USA's roads—and their passengers.

Brain and auto safety experts fear that 16-year-olds, the youngest drivers licensed in most states, are too immature to handle today's cars and roadway risks.

New findings from brain researchers at the National Institutes of Health [NIH] explain for the first time why efforts to protect the youngest drivers usually fail. The weak link: what's called "the executive branch" of the teen brain—the part that weighs risks, makes judgments and controls impulsive behavior. Studies have convinced a growing number of safety experts that 16-year-olds are too young to drive safely without supervision.

Scientists at the NIH campus in Bethesda, Md., have found that this vital area develops through the teenage years and isn't fully mature until age 25. One 16-year-old's brain might be more developed than another 18-year-old's, just as a younger teen might be taller than an older one. But evidence is mounting that a 16-year-old's brain is generally far less developed than those of teens just a little older.

The research seems to help explain why 16-year-old drivers crash at far higher rates than older teens. The studies have convinced a growing number of safety experts that 16-year-olds are too young to drive safely without supervision.

Teen Driving Fatalities

Already, on average, two people die every day across the USA in vehicles driven by 16-year-old drivers. One in five 16-year-olds will have a reportable car crash within the first year. In 2003, there were 937 drivers age 16 who were involved in fatal crashes. In those wrecks, 411 of the 16-year-old drivers died and 352 of their passengers were killed. Sixteen-year-old drivers are involved in fatal crashes at a rate nearly five times the rate of drivers 20 or older.

Most states have focused their fixes on giving teens more driving experience before granting them unrestricted licenses. But the new brain research suggests that a separate factor is just as crucial: maturity. A new 17- or 18-year-old driver is considered safer than a new 16-year-old driver.

Even some teens are acknowledging that 16-year-olds are generally not ready to face the life-threatening risks that drivers can encounter behind the wheel. "Raising the driving age from 16 to 17 would benefit society as a whole," says Liza Darwin, 17, of Nashville. Though many parents would be inconvenienced and teens would be frustrated, she says, "It makes sense to raise the driving age to save more lives."

Attitudes About Teen Driving

For those who oppose raising the minimum age, their argument is often this: Responsible teen drivers shouldn't be punished for the mistakes of the small fraction who cause deadly crashes.

The debate stirs images of reckless teens drag-racing or driving drunk. But such flagrant misdeeds account for only a small portion of the fatal actions of 16-year-old drivers. Only about 10% of the 16-year-old drivers killed in 2003 had blood-alcohol concentrations of 0.10 or higher, compared with 43% of 20- to 49-year-old drivers killed, according to the Insurance Institute for Highway Safety.

Instead, most fatal crashes with 16-year-old drivers (77%) involved driver errors, especially the kind most common among novices. Examples: speeding, overcorrecting after veering off the road, and losing control when facing a roadway obstacle that a more mature driver would be more likely to handle safely. That's the highest percentage of error for any age group.

For years, researchers suspected that inexperience—the bane of any new driver—was mostly to blame for deadly crashes involving teens. When trouble arose, the theory went, the young driver simply made the wrong move. But in
recent years, safety researchers have noticed a pattern emerge—one that seems to stem more from immaturity than from inexperience.

"Skills are a minor factor in most cases," says Allan Williams, former chief scientist at the insurance institute. "It's really attitudes and emotions."

A Peek Inside the Brain

The NIH brain research suggests that the problem is human biology. A crucial part of the teen's brain—the area that peers ahead and considers consequences—remains undeveloped. That means careless attitudes and rash emotions often drive teen decisions, says Jay Giedd, chief of brain imaging in the child psychiatric unit at the National Institute of Mental Health, who's leading the study.

"It all comes down to impulse control," Giedd says. "The brain is changing a lot longer than we used to think. And that part of the brain involved in decision-making and controlling impulses is among the latest to come on board."...

When a teen is traveling 15 to 20 miles per hour over the speed limit, the part of his or her brain that processes a thrill is working brilliantly. But the part that warns of negative consequences? It's all but useless.

"It may not seem that fast to them," Giedd says, because they're not weighing the same factors an adult might. They're not asking themselves, he says, "Should I go fast or not?" And dying is not really part of the equation."...

What Happens Behind the Wheel

The new insights into the teen brain might help explain why efforts to protect young drivers, ranging from driver education to laws that restrict teen driving, have had only modest success. With the judgment center of the teen brain not fully developed, parents and states must struggle to instill decision-making skills in still-immature drivers.

In nearly every state, 16-year-old drivers face limits known as "graduated licensing" rules. These restrictions vary. But typically, they bar 16-year-olds from carrying other teen passengers, driving at night or driving alone until they have driven a certain number of hours under parental supervision.

These states have, in effect, already raised their driving age. Safety experts say lives have been saved as a result. But it's mostly left to parents to enforce the restrictions, and the evidence suggests enforcement has been weak.

Teens probably appear to their parents at the dinner table to be more in control than they are behind the wheel. They might recite perfectly the risks of speeding, drinking and driving or distractions, such as carrying passengers or talking on a cell phone, Giedd says. But their brains are built to learn more from example.

For teenagers, years of watching parents drive after downing a few glasses of wine or while chatting on a cell phone might make a deeper imprint than a lecture from a driver education teacher.

The brain research raises this question: How well can teen brains respond to the stresses of driving?
Commentators who claim that teen drivers are reckless and incapable of making good driving decisions ignore alternative explanations for the greater crash rate among teens. In fact, teen crash rates decrease sharply among teens who drive regularly. Thus laws that delay when and under what conditions teens may drive might in fact put all drivers at risk by preventing teen drivers from gaining valuable driving experience.

Reports have shown teenage drivers as dangerous, and proposed severe restrictions, or even outright bans, on driving by persons under 18, 21—or even 25, some suggest. A study released in January 2006 by the American Automobile Association's [AAA] Foundation for Traffic Safety, entitled "Teen Crashes: Everyone Is at Risk," stated that drivers ages 15-17 were "involved in ... fatal crashes that claimed the lives of 30,917 people" from 1995 through 2004.

News stories on teen drivers, and companion stories on teenage brain development, stated teens are inherent risk-takers, mentally incapable of good driving decisions. Experts and reporters labeled teens as "reckless," "stupid," "irrational," "crazy," even "alien." In raw numbers, teenaged drivers are involved in more traffic crashes, including fatal ones, per driver and per mile driven than older drivers. Authorities have attributed this to immaturity, which produces more recklessness and inability to recognize and manage dangerous situations; some also cite lack of driving experience. Nearly all states have implemented restrictions on driving by persons under age 18 or 20, such as graduated drivers' licensing (GDL) laws, which have been reported to reduce teenage traffic accidents, injuries, and fatalities.

Studies on teen driving risks have failed to examine ... alternative explanations for the greater traffic accident rate among teens and young adults.

**Alternative Explanations**

Despite the strong commentary, media reports, safety experts, and studies on teen driving risks have failed to examine two crucial factors that provide alternative explanations for the greater traffic accident rate among teens and young adults:

1. Researchers have assumed that teens drive under conditions reasonably identical to those of older adults. This is not the case. The percentage of teenagers and young adults living in households with incomes below federal poverty guidelines is two to three times higher than for middle-aged adults. Low-income status has been linked to higher risks of fatality, including traffic fatality. Poorer populations drive older, less safe vehicles, drive on less well-maintained roads, and access lower-quality medical care.

2. *The benefits of teens gaining experience with adult behaviors while young to reduce the risks they later face as adults.* Called "learning by doing," this theory states that it is not teens' immaturity or innate risk-taking, but their lack of driving experience, that produces higher rates of traffic fatality. Teenagers who drive more may be more at risk of accidents, but the experience they gain will reduce their accident rates as young adults.

**The Impact of Experience and Driving Conditions**

The most important factor predicting teen risk is driving experience. *Where teens drive a lot, they quickly improve—so much so that teens who drive a lot are actually safer than teens who drive very little.* Higher-income teens are safer than low-income teens not just due to their access to safer vehicles, driving conditions, medical care, and other benefits, but because *they drive many more miles per day.* Higher-income teens both drive more and are safer than low-income teen drivers—in fact, are at lower risk than older adults in high-risk counties.

**A Transition Period**
A transition period from non-driver to driver status remains warranted, but not just for teens. The less experience a driver has, the greater his/her odds of being involved in traffic accidents per mile driven. However, new drivers who drive a lot under favorable conditions gain experience and become safer drivers remarkably rapidly—so much so that teens in high-driving counties have fatal accident rates far below those of teens in low-driving areas, and below those even of middle-aged drivers in many poorer counties. The question for policy makers is to balance the need to minimize the risks for novice drivers while allowing them to gain experience on the road.

California's teen driving law should be changed in favor of requiring all new drivers, regardless of age, to complete intensive on-the-road driver training by professional instructors, subsidized for low-income applicants. Research should focus on which real-life factors reduce the dangers experienced by new drivers, especially teens in wealthier counties who (despite their greater driving) have much lower fatality rates compared to those in poorer counties....

A Commonsense Approach

Teenage drivers are far less dangerous, and the differences between teen and adult drivers much less extreme, than indicated in media stories. When examined in their full context, the risks posed by teen drivers (40% greater fatal crash rate per mile driven than the safest adult drivers under reasonably equalized conditions) are well within those society accepts for rare events. For example, male drivers are 77% more likely (per mile driven) to be in fatal crashes than are women drivers; doctors and lawyers as occupations are 95% more accident-prone than farmers and firefighters; drivers in Washington, DC, get into 140% more wrecks than drivers in Milwaukee; Mississippians and Montanans are 250% more at risk of fatal traffic accidents than residents of Connecticut and Massachusetts; drivers 75 and older suffer fatal crash rates 1.8 times those of middle-agers. Yet, no one is proposing severely restricting or banning men, doctors, Southerners, or federal government officials from driving. Traffic safety measures should target risky conditions, not the political powerlessness of younger population groups.

Preventing teens from driving under realistic conditions brings more risks later as inexperienced drivers enter the adult driving world at age 18 or older. Learning to drive at ages 18-19 appears to entail more hazards than learning to drive at age 16, when family influences remain strong and the learning curve is more rapid.