Driving Miss Daisy: Fleet Safety and Older Drivers

by Paul Farrell

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Historically, injuries and fatalities caused by vehicles have taken a terrible toll on people's lives, cost insurers millions of dollars, and disrupted employers' operations. In fact, motor vehicle crashes in the United States continue to be:

- the leading cause of workplace fatalities
- the most costly lost-time workers compensation injury
- one of the leading causes of off-the-job, unintentional injury

One area of traffic safety that periodically makes national headlines is older drivers and tragic crashes that occur when they may no longer be qualified to operate their vehicles due to age-related cognitive or physical limitations.

For instance, in October 2005, a St. Petersburg, Florida resident hit a pedestrian and severed the pedestrian's leg. Instead of stopping and getting help, the man continued to drive another three miles with the pedestrian's body lodged in his car's windshield. Ultimately, the driver was stopped by a tollbooth operator who contacted the police. The driver was 93 and had begun to show signs of dementia at least a week before the accident. The driver had renewed his license in 2003, and was not scheduled to renew it until 2010.

In 2003, a California resident, age 86, killed 10 bystanders and injured 63 others at a farmers' market in Santa Monica. The driver said he was trying to stop, but may have confused the gas and brake pedals as his car crashed through three blocks of pedestrians and parked vehicles. In November 2006, the driver was sentenced to probation.

As recently as June 15, 2007, a 92-year-old California resident confused the gas and brake pedals while trying to park his vehicle and ended up killing a bystander in a local San Diego community.

Tragedies like this spur a lot of discussion about public safety, license renewal issues, and the rights of older drivers to continue driving.

Age and the Need to Drive

According to the Administration on Aging (AoA), older citizens (aged 65+) make up roughly ". . . 12.4 percent of the U.S. population, about one in every eight Americans." However, "By 2030, there will be about 71.5 million older persons, more than twice their number in 2000."

It is expected that this generation will spend much more time "behind the wheel" of a car or truck than previous generations. For older citizens, driving provides a "lifeline" to meet daily needs and engage in social activity. For some, driving will also be a key part of obtaining an income.

In fact, AoA's statistics reveal that older Americans contribute to ". . . one of the highest labor force participation rates in the developed world." Several factors are driving this trend:

- Continuing advances in medical treatments that have extended the average lifespan.
- Some older workers are delaying retirement due to financial concerns, for personal fulfillment, or to enjoy the social relationships associated with working.
- To many employers, the 70-plus million members of the "baby boomer" generation represent a tremendous resource pool of experience and skills.

How will this shift in workplace demographics affect fleet safety results?

Age and Traffic Safety Results

Traffic safety specialists have long observed an odd distribution of mileage-based crash rates based on the age of the driver. The crash rates of very young

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drivers and those of older drivers tend to be much higher than drivers in the "middle" of the age range. This produces an "inverted bell curve," or simply a "U"-shaped curve.

A great deal of crash information has been developed for older drivers. Generally, older drivers take few risks and try to follow recommended practices. The Centers for Disease Control and Prevention (CDC) observes that:

- Older adults wear safety belts more often than any other age group.
- Among older occupants involved in fatal crashes, 75 percent were using restraints at the time of the crash, compared to 62 percent for other adult occupants (18 to 64 years old).
- Older adult drivers tend to drive when conditions are safest. They limit their driving during bad weather and at night, and they drive fewer miles than younger drivers.
- Older adult drivers are less likely to drink and drive than other adult drivers.
- During 2005, most traffic fatalities involving older drivers occurred during the daytime (79 percent) and on weekdays (73 percent); 73 percent of the crashes involved another vehicle.

Despite these positive trends in behavior, the Insurance Institute for Highway Safety (IIHS) provides additional insights into older drivers' crash statistics:

- Forty percent of the fatal collisions of people 70 and older occur at intersections and involve other vehicles.
- Thirty-seven percent of drivers aged 70 or older failed to yield the right of way at intersections (more commonly at stop-sign controlled intersections than traffic-signal-controlled intersections).

Beyond drivers' behavioral patterns, a significant factor that influences traffic safety results among older drivers is the treatment of crash injuries. As people age, their bodies become less efficient at healing, bones become more brittle, and various body systems decline in efficiency. These physiological conditions directly influence the traffic safety results—longer hospital stays and increased mortality rates.

A NHTSA study titled, "An Aging Population: Fragile, Handle With Care" notes that:

1. Older drivers (60+) had more than twice the mortality rate than younger drivers (<60).

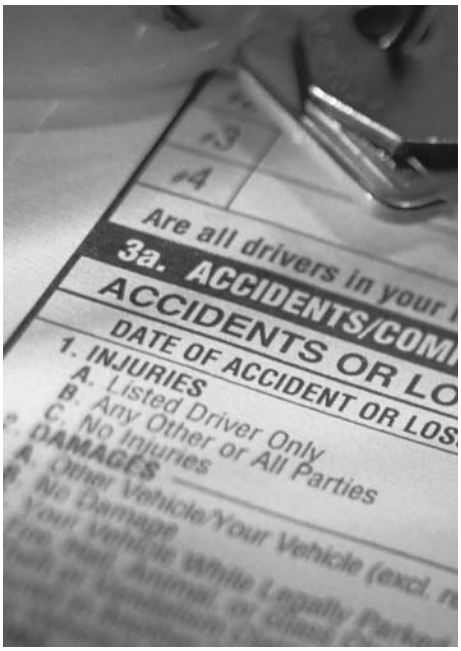
2. Older drivers take longer to recover than younger drivers. "Given equivalent injury scores, the over-65 age group has higher admission rates, hospital length of stay, and mortality than younger patients. Despite a distinct tendency to be more aggressive in the treatment of the elderly, especially with regard to internal fixation of fractures, the rate of recovery is much slower, and the older age group requires nearly double the number of outpatient visits post-op."

Serious motor vehicle crash injuries among older drivers tend to be chest injuries with rib fractures. Difficult to treat at any age, some commonly encountered age complications include bone brittleness (more likely to fracture, more fractures per case), preexisting medical conditions or diseases (especially chronic conditions such as heart disease, cancers, etc.), and organ damage (organs are normally protected by ribs, but may suffer damage during a crash where the ribs are fractured).

Factors Leading to Increased Crash Risk among Older Drivers

Senescence, or the process of aging, affects drivers' crash risk in two areas:

- biological/physiological changes
- mental/cognitive changes



As mentioned in the previous section, body changes can include: loss of muscle and bone mass, lowered metabolic rate, lower reaction times, and declines in organ performance including immune functions. As a result of (or complication of) the normal aging process, diseases may appear such as Diabetes Mellitus (DM). A University of Rochester study found that changes in hormone levels (often associated with the aging process) may also affect diverse issues such as kidney regulation and even hearing.

One of the most common physiological changes as we age is our ability to see clearly. Older drivers may have impaired or diminished visual acuity due to:

- changes in eye shape
- the development of cataracts
- lens degradation
- diseases affecting vision such as Glaucoma, Macular Degeneration, HIV, Diabetes

Driving with impaired vision can directly lead to crashes, especially during situations with road glare, twilight conditions, or low sun angle (sun directly in eyes). A re-evaluation of vision testing,

including the types of tests, is slowly occurring among several states' licensing agencies since visual acuity is a key concern for traffic safety.

In addition to physiological changes, decreases in cognitive ability can affect judgment and situational awareness. Common forms of mental impairment include:

- dementia, Alzheimer's
- emotional duress (living on fixed income, rising costs, inadequately funded retirement, rising medical costs, loss of spouse, limited network of resources and support team)

Finally, impairment of body or mind functions may be caused through the intake of prescription medication(s) for other conditions.

What Can Be Done to Diagnose and/or Assist Older Drivers?

Since individuals age uniquely, it is possible that an older person may be in better physical and mental condition than others who are several years younger. Also, older drivers' fitness to operate a vehicle (on or off the job) may change suddenly based on the natural aging process or the onset of age-related disease.

Since the issues are rooted in body and mind condition (not simply a person's age), the most promising programs focus on health and performance monitoring, and licensing practices.

Self-Evaluation and Education

Conscientious drivers may want to monitor their own health and driving performance, and proactively participate in tailored training programs to bolster driving skills. This enables them to take responsibility for their own actions, and preserve their safe driving records.

Currently, there are a number of driver safety programs available for older drivers, and more are under development. Programs available for older drivers range from basic driver's education presentations to software tools that exercise and measure cognitive functions. Some examples of resources to aid older drivers:

- AARP offers a driver training program tailored to drivers who are over age 50. Described as the ". . . first and largest refresher course for drivers age 50 and older . . ." almost 590,000 students participated in a classroom driver training program during 2006.
- AAA has developed a program called "Roadwise Review": a CD-ROM-based program that enables seniors to measure ". . . the eight functional abilities shown to be the strongest predictors of crash risk among older drivers."
- AdeptDriver.com has previously provided teen driving programs and is preparing to release a program for older drivers.
- A company called Cognifit produces several software programs (i.e. MindFit, DriveFit, etc.) that enable clients to exercise and measure cognitive tasks like ". . . visual search, time estimation, naming, categorization, visual short-term memory, auditory short-term memory, location memory, spatial orientation, planning, ability to inhibit planned action, speed of reaction, and hand-eye coordination."
- www.agenet.com—Offers a self-evaluation checklist for older drivers.
- www.seniordrivers.org—Provides various bulletins and resources for older drivers.

Unfortunately, older drivers may not be inclined to participate in routine self-evaluation since the potential outcome may be a negative one (to stop driving).

Employer-Based Performance Monitoring

Employers have the option to use various tools to monitor the driving performance of all their employees (regardless of age). These "driver monitoring systems" help document behaviors and provide a basis for peer coaching or retraining when driving becomes erratic or unsafe.

Driver monitoring systems range from "How's My Driving?" call-in programs to satellite-based Global Positioning Systems (GPS) and camera-in-cab video recorders.

- "How's My Driving?" programs have been widely documented by insurers and fleet managers as effective in most commercial use (business use) settings. Crash rate reductions of 20 to 30 percent are common when reports are consistently used for coaching and re-training. The application of these programs to personal use driving has been inconsistent, poorly documented, and focused on teen drivers. For employers, this type of program can benefit all business drivers regardless of age.
- GPS systems can provide turn-by-turn directions and positive location of the vehicle. Despite many benefits for users, these devices could add to driver confusion and distraction if they are improperly used while driving. Additionally, their ability to provide "behavioral" insights is largely limited to speed and direction unless specially equipped with additional sensors (i.e. to detect hard braking, abrupt lane change, etc.).
- Camera-in-cab video recorders have recently been introduced to help document fleet driver and teen driver behaviors, but may have some application for older drivers, too. Designed to capture risky driving maneuvers on short video segments, the benefit of the program comes from coaching and retraining after careful analysis of the video clip. The video may be discoverable during litigation following a crash. Relatively new to the traffic safety arena, there has been limited documentation of this system's effectiveness (client-specific

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testimonials only, no large-scale, statistically relevant studies published).

Each of these systems depends on supervisory support in the form of coaching or retraining based on data developed from the program.

Routine Health Screening and "Fitness to Drive" Reporting

Discussing a person's health and fitness to perform physical tasks (related or unrelated to employment) is highly personal and can be emotionally stressful. Separating opinion and speculation from medical fact requires professional diagnosis/testing of a driver.

Drivers who operate "commercial motor vehicles" (those subject to Federal Motor Carrier Safety Regulations) must satisfy a periodic medical evaluation by a licensed physician. The regulations specify key areas of fitness that must be evaluated: blood pressure, vision, hearing, cognitive ability, etc. These regulations typically affect drivers of extra-heavy, interstate, long-haul operations. Contractors, local delivery, sales and service operations are usually not subject to these types of regulations.

Older drivers who voluntarily visit their "family doctor" for a checkup or a diagnosis may be reported to the local Department of Motor Vehicles if the doctor suspects that the driver is a danger to him or herself or the general public, and will not voluntarily surrender his or her driver's license.

While the American Medical Association (AMA) has published voluntary guidelines for reporting unsafe drivers, state law varies greatly on physician reporting. In most states, physicians are not legally obligated to report unsafe drivers. In a small number of states, physicians are required to report unsafe drivers, and are provided with immunity from liability.

Pennsylvania's Department of Motor Vehicles (DMV) statistics show that more than 20,000 new physician reports are submitted annually. Further, these reports result in modification of existing licenses (adding or deleting restrictions) and in some cases (estimated to be 14 percent
of the total) recall of driving privilege. In Pennsylvania, physicians who do report drivers who are unsafe are immune from civil or criminal liability.

> ***Some states have introduced "accelerated renewal" cycles after some threshold age has been met.***

In Canada, physicians are obligated to report unsafe drivers; however, the larger question of whether doctors should be required to report "unfit to drive" requires a delicate legal balance between a patient's privacy and public safety.

A state-by-state breakdown of reporting requirements is included in the AMA guide. Additionally, each state's DMV provides information on its web site regarding physician and/or family member reporting of unsafe drivers.

Of course, not all drivers routinely visit their doctor. Yet, the principal factors leading to increased crash risk suggest that a periodic physical and mental (cognitive) evaluation would be potentially life saving.

Short of a clinical diagnosis of a cognitive or physical impairment, observed unsafe driving performance forms the basis for voluntary reporting in several states (i.e. California, Missouri, et al). If the behavior of an older driver becomes erratic, then a family member, neighbor, or employer could intervene by filing a report with the state. These reports typically lead to an evaluation of the affected driver by a medial board or other professional committee (similar to the outcome of physician reporting practices). Generally, these reports must be made in writing and include contact information for the complainant.

Changes in Licensing Practices

State-issued driver's licenses are a key to mobility, continued employment, and sense of independence or vitality. Removal or restriction of driving privileges is highly emotional and will likely force radical changes in the life of those drivers affected; however, this may be the last line of public safety's defense against medically unqualified drivers. Testing programs can be used to safely extend driving privileges for as long as possible, but many states do not re-test drivers upon license renewal (at any age).

In most states, a renewal notice is sent automatically if there are no outstanding suspensions or revocations. Many allow renewal by mail or online (no in-person visit required), and those renewal periods range from two to eight years. In the past, a Tennessee resident's license never expired after age 65! (Tennessee is presently moving all drivers into a standard five-year renewal cycle.)

Some states have introduced "accelerated renewal" cycles after some threshold age has been met. These shorter renewal cycles provide opportunities to test the qualifications or fitness to drive of renewal applicants. Some restrict renewal by mail privileges after a certain age, requiring applicants to appear before a clerk.

Regardless of renewal cycles, some states have added special provisions for older drivers such as vision checks and road tests. California is presently evaluating a new eye test call the Pelli-Robson contrast sensitivity test as an alternative to the Snellen eye test that was originally developed in 1862 to measure sharpness of vision, not general vision under low-contrast situations common to driving. According to a recent *Sacramento Bee*

article, "The Pelli-Robson contrast sensitivity test shows if drivers will have trouble seeing dark objects in the shadows or light objects, such as a gray truck, in the fog." Other states have considered the need to modify vision testing based on modern research.

A state-by-state summary of licensing procedures for older drivers was recently updated at the Insurance Institute for Highway Safety (http://www.iihs.org/laws/state_laws/older_drivers.html).

Some states' licensing laws specifically prohibit administrators from treating people differently solely by virtue of advanced age. This is an example of the confusion surrounding the underlying cause—medical condition, not age; however, it can be argued that when tying special testing to age, it becomes an age issue.

States should be careful to balance the need to properly protect the public from unsafe drivers, but the manner in which that goal is accomplished will not likely be through changes to licensing alone:

- A proper balance of public safety and personal freedom must be ensured.
- The goal of testing should be to properly qualify drivers, not to remove privileges based on age alone.
- Unfair discrimination based on age should be avoided.
- Social safety nets should be in place, easily accessed, and fully funded (accessible, dependable transit options for both urban and rural citizens).

Summary

Older drivers are typically very safe. They take few risks and may depend on their ability to drive for social interaction, getting to the grocery store, and perhaps to earn an income. Unfortunately, crash rates based on miles driven are high among older drivers.

Despite a multitude of factors that lead to crashes, older drivers have an increased risk of crash and fatality due to:

- declining visual acuity, changes in the shape of the eye, cataracts, etc.
- decreases in cognitive ability, especially with the onset of various disorders such as Alzheimer's or dementia
- fragility or a susceptibility to being injured and difficulty recovering from extensive injuries
- potential impairment through proper use of medication(s)
- onset of, and complications related to, age-associated diseases

Minimizing the potential for crashes and injuries incurred by older drivers can be accomplished when:

- Self-monitoring and tailored education are treated as important by the older driver.
- A monitoring program is in place to notice key behavior or performance changes and provide positive coaching feedback as needed.
- Physicians are part of the team, monitoring key health issues and providing professional support to the driver and his or her family (and employer in the case of commercial motor vehicle drivers).
- Licensing programs treat drivers respectfully and fairly, but with public safety properly balanced.
- Government agencies provide practical alternatives to driving when driving is no longer an option for older citizens. ■

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