Older Drivers Should be Required to Pass Vision tests in Order to be Licensed to Drive
Proposed Legislation to Require Optometrists to Report Vision Problems to the DMV


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Summary: Age-related loss of eyesight is responsible, at least in part, for the increases in auto accidents involving elderly drivers. Vision screenings for licensing older drivers should be made more frequent in order to detect these vision problems so that injury and death related to auto accidents can be prevented.

Video Link: https://youtu.be/U16pd1AuNxU

The Issue: Older Drivers Should be Required to Pass Vision Tests in Order to be Licensed to Drive
In 2012, more than 5,560 older adults above the age of 65 were killed and more than 214,000 were injured in motor vehicle crashes (1). This amounts to 15 older adults killed and 586 injured in crashes on average every day. According to the New Jersey Motor Vehicle Commission, car crashes are the main cause of injury related deaths for individuals between 65 and 74 years of age. Due to the fact elderly individuals drive much less, people assume they pose a lesser threat to overall traffic safety. However, by 2025, consequence of the retiring baby boomers, drivers older than 65 will represent about 25% of the driving population, so the threat they pose to road safety will drastically increase (2).

Approximately one in three of these elderly persons have some form of vision-reducing eye disease by the age of 65. Cataracts, glaucoma and macular degeneration are three of the most common vision related diseases affecting the elderly. These conditions can impair sight or lead to permanent vision loss. If a motorist has impaired vision, they are not fit to be on the road. Licensing should be more stringent for older adults with more frequent license renewals and the requirement that aging motorists pass a vision screening test at every renewal.

General Vision Problems in the Elderly (LL)
Three of the most common diseases in the elderly are macular degeneration, glaucoma, and cataracts, each of which leads to worsened eyesight or even permanent loss of sight. There is actually no true solution to this problem, as patients tend to experience side-effects with treatments. New studies reveal other possible ways to prevent or slow the development of these diseases. Nutrition and nutritional supplements is one of the major factors in helping people avoid the loss of eyesight (3).
Inflammation of microglia, or the cells of the retina, promotes age-related macular degeneration and glaucoma. The connection between aging and the inflammatory reactions in the eye are unknown. Recent research states that the genetic, biochemical, and cellular pathways that regulate lifespan are relevant to many age-related diseases and that the diseases in the eye are the effect of accelerated aging. It is possible to delay or slow the progression of these diseases with lifestyles that promote better health, but the retina naturally has poor regenerative properties and, therefore, patients generally continue to lose vision resulting, for some, in blindness (3, 4).

Rate of Vision Deterioration
According to the AOA, adults typically experiencing minor vision changes/issues in their forties, such as presbyopia (a decrease in focusing ability)(5). These changes and deteriorations in vision tend to be exacerbated with age. It is recommended that the people between 41-60 years have a comprehensive eye exam every 2 years (5). A comprehensive eye exam can include the most of the following tests: visual acuity, color blindness, cover test, ocular motility, depth perception, retinoscopy, refraction, test for detecting glaucoma, pupil dilation, and visual field test. Depending on the number of tests performed, the exam can take about an hour or longer (6). The comprehensive eye exam unlike a basic vision screening can diagnose a patient with a particular eye disease such as glaucoma, cataracts, or age-related macular degeneration (6). These exams test both the central and peripheral fields of vision and are therefore important in determining the fitness of an elderly driver.

After the age of 60, people are more likely to develop eye diseases and other vision problems. For this reason eye exams are recommended annually. An NIH survey in 2014 shows that people between the ages of 65-74 reported vision trouble at a rate of 11.5%, a value twice that of people 18-44 years. Beyond 75 years, the reported rated increases to 16.5%, three times higher than the reported rate 18-44(7).

By the age of 65 it is estimated that an eye disease affects one in three people. Of the common eye diseases, cataracts are the most common visual impairment in the elderly. The prevalence of cataracts increases from 5% in people under age 65 to 50% in the population over 75 (8).

Current Vision Regulation in New Jersey (SM)
According to the American Optometric Association, after the age of 60, individuals are more likely to develop diseases that can permanently affect their vision. Changes can cause objects to become unclear, peripheral vision can be obstructed and a number of other changes. The deterioration of one’s eyesight progresses as one advances in age. Therefore, annual eye exams are highly encouraged for all. For this reason, it is important that licensed drivers especially older drivers have frequent eye exams (9).

As of 2011, the State of New Jersey had 6 million licensed drivers on the road with approximately 1.1 million of those drivers over the age of 65 (10). With such a large number of drivers, it is important that laws and regulations are in place to ensure the competence and fitness of drivers. Current New Jersey regulations state that a licensed driver, regardless of age is required to have his or her vision re-examined only once within a ten year period (11). The New Jersey statute NJ Rev Stat § 39:3-10c (2015), details the vision screening requirements. The statute is as follows:
“The division shall require every licensed driver to take and successfully pass a screening of his vision at least once every 10 years as a condition for the renewal of his driver's license and of any endorsement thereon” (11).

It is important to note that the license renewal period is four years. It is therefore possible for an individual to have his license renewed twice before having the mandatory vision screening. Although vision acuity screenings are required within a ten year period, no regulations or statutes are in place that require more frequent screenings and renewal periods for older drivers in the State of New Jersey. New Jersey does offer a reduced license option for senior drivers under NJ Rev Stat § 39:3-10f (2015), but it is not mandatory (12). If mandatory, the restrictions/limitations on older drivers would promote the safety of drivers on the road.

**Regulations and Statistics Regarding Senior Drivers**

Not all states have regulations in place for older drivers. Those that do, typically start imposing regulations once a driver reaches 65 years of age. Upon reaching this age, the license renewal cycle is reduced. However, twenty-one states require vision screenings with every renewal (regardless of age), the average period of time between screening is 6.7 years (13). The new cycles last anywhere form 1-5 years (14).

Under most state regulations/statutes, an eye exam is required for an older driver to renew their license. Out of fifty states, less than half, 20 to be exact, reduce the license renewal period for individuals over the age of 59. Some states change the renewal period more than once. For example, Indiana first reduces its period to 3 years at 75 years of age and then to 2 years at 85 years of age. Additionally, New Mexico reduces its period to 4 years from 8 at 67 years of age, then annually at 75 years of age (14, 15). In addition to more frequent renewal periods, other limitations are also imposed upon older drivers. Common limitations include mandatory vision screenings and in person renewals. Occasionally, road tests are required during the renewal process. More frequent renewal periods test the fitness of senior drivers.

**Vision Laws**

A majority of states do require vision screenings, but at varying frequencies. 21 states require screening at every renewal, 8 states do not require any vision screening regardless of age (13, 15). Other states may require screening after a certain time period or at every in person renewal. Most of these requirements are altered for older drivers; renewal is required at every renewal for older populations.

**States with Models Requiring Revision**

Tennessee has a license renewal period of five years. However, it is only upon initial licensure that an applicant is required to take an exam that tests one’s visual acuity. At renewal, an applicant does not have to take vision exam. Furthermore, the state lacks limitations/regulations for older drivers (13, 16). The state of Oklahoma follows a similar model, except that its renewal period is only 4 years. In Mississippi, a driver can renew his license every 4 or 8 years, by mail or in person respectively. A visual acuity test is administered upon initial licensure but is not required for subsequent renewals. Once again, the state lacks requirements for older drivers. Other states with lacking models included Alabama, Connecticut, Kentucky, Pennsylvania and Vermont. These states do not have a reduced license renewal cycle for older drivers. Additionally, they do not have need for visual exams during renewal (13,16).
States with Promising Models (SM)

Hawaii and Missouri serve as decent models for the implementation of age-restricted driving laws. Under Missouri regulation MO Rev Stat § 302.177, an applicant “greater than sixty-nine years of age. [who] meet(s) the requirements” will receive a new or renewed license that will expire “in the third year of issuance” (17). Hawaii’s statute HI Rev Stat § 286-106 regarding age and driving states that at 72 years and older The license shall expire ...two years after the date of the issuance” (18). For the general population, the regular renewal periods are 6 and 8 years respectively. Regarding proof of adequate vision, MO Rev Stat § 302.175 statute states: The director shall not issue or renew a license to any applicant whose vision is not twenty-fourth or better with either eye according to the test for vision provided in this section (19). In the state of Missouri an applicant can not renew his/her license unless proof of adequate vision is provided.

The New York DMV follows a promising model in regards to vision screenings. A driver is required to have his or her vision retested upon license renewal (16). Regardless of the manner in which the renewal is obtained, whether in person, by mail or online, a vision test is required (20). This is a fairly good strategy; most states only require the vision test at in-person renewals. The license renewal page states that the applicant MUST pass an eye exam to obtain a valid license. Additionally, the DMV provides applicants with a list of vision providers throughout the state that can administer the exam. According to the NY DMV site, exam results are sent directly to the DMV within 24 hours (21). While New York’s current model is good, it unfortunately does not have any regulations for older drivers. The state of Rhode Island has a license renewal period of five years for those aged 75 and under. At 75 years of age, a renewal is required every two years. A vision examination will typically be administered at an in person renewal. If a license is renewed online, an applicant will be expected to ask questions related to their vision (16).

The State of Illinois requires that licenses be renewed every four years. A vision exam is required every 8 years for individuals 21-80 years, if the motorist has had “no moving violations during the renewal period”. After the age of 75, more limitations and new restrictions are imposed upon older drivers. A road test is mandatory after one reaches the age of 75. Between 81-86 years, the renewal period is reduced to 2 years and a vision exam is required. At 87 and onward, the renewal period is reduced to once a year and a vision exam is also required (16).

What is being done? (SM)

A majority of states allow medical professionals, law enforcement or concerned citizens to report an unsafe driver. As noted above, age raises concerns over driver safety. Medical reporting can be done by anyone concerned about a driver’s safety, as long they can provide the proper information. In most other states, reporting is encouraged but is not required. There are currently only a handful of states that have mandatory medical reporting laws. These states include: California, New Jersey, Oregon, and Pennsylvania (22). Conditions that are required to be reported include those that result in lapses in consciousness or impair one’s driving ability. Following reporting, drivers will typically undergo a review process that determines their competency as drivers. This process can result in license suspension, reduced privileges or a re-examination (vision, driving and writing).
**New Jersey (SM)**
When a motorist’s driving skills are of concern, they can be assessed via a medical review unit (MRU). The MRU identifies which of those reported motorists are high-risk and subsequently conducts an investigation to assess the driver. A review process can result in one of many actions: restricted driving privileges, suspended privileges, or reexamination (23). According to NJ law NJ S.A. 39:3-10.4, conditions that physicians are required to report are those characterized by recurrent seizure, periods of unconsciousness or impairment/loss of motor coordination (24).

**California (SM)**
According to the California Health and Safety Code, conditions that must be reported are those marked by lapses in consciousness, Alzheimer’s and related disorders (25). If a motorist’s driving ability is questioned, then an investigation is carried out. Physicians are required to report to the local health office (26). Depending on the investigation results, different actions are taken: medical probation, limited term licenses, periodic reexaminations, license suspension or revocation of a license (27).

**Oregon (SM)**
The Oregon At-Risk Drivers Program evaluates driver’s ability to operate a vehicle. The state mandates that conditions that are both severe and uncontrollable be reported. Such conditions are those typically characterized by loss of consciousness (28).

These programs are a useful method of alerting driving authorities of conditions and impairments that can affect the motorist’s ability to operate a vehicle. However, these programs mainly require the reporting of conditions that affect motor coordination or those attributed to nervous system disorders, not vision. These programs rely upon individuals visiting a doctor, it is possible for an elderly individual to be afflicted with a particular condition and not consult a doctor. So overall the programs are a good tool, but there is still great room for improvement.

**What Should Change? (SM)**
In New Jersey, one sixth of the drivers are over the age of 65 (10). While this may not seem like a large population, it is still vital to address issues associated with elderly on the road. The period of time allowed between vision screenings is far too long. The AOA recommends yearly vision exams; this is because vision can change drastically in the course of a year; especially if the problems are due to underlying health issues such as diabetes (9). It would be prudent for the State of New Jersey to amend the current regulation for vision screening and implement a mandatory reduction in the license renewal period. These changes would not only be useful in assessing older drivers, but all drivers. A number of other states have different licensing laws for the senior drivers. So while New Jersey does have beneficial regulations in relation to driving, amendments to current laws will further ensure the safety of drivers. Adopting some of the policies outlined in other states can improve and strengthen the areas in which New Jersey Regulations are lacking. We believe that the State of New Jersey should require vision exams with every license renewal, regardless of the renewal method. This would significantly reduce the time between vision screenings. The proposed changes to **NJ Rev Stat § 39:3-10c (2015)** are outlined in bold.
Our proposed amendment; the division shall require every licensed driver to take and successfully pass a vision screening as a condition for the renewal of his driver’s license and of any endorsement thereon.

Implementation of senior licensing laws/regulations will allow for more frequent assessment of older drivers. Based on current models as well as AOA recommendations, seniors should have limited renewal periods and options. Therefore, past the age of 65, license renewal periods should be reduced to 2 years and renewals should only be permitted in person. We advocate that the optional statute NJ Rev Stat § 39:3-10f, be revised such that a reduced renewal cycle is mandatory for older drivers.

**Original mandate**

a person 70 years of age or older may elect to have a license issued for a period of two or four years, which election shall not be altered by the chief administrator(12).

**Our proposed change**

An applicant 70 years of age or older who is able to meet all the requirements will be issued a license that will expire two years after the date it was issued.

Both proposed amendments mean that all drivers would be required to take a vision screening or show proof of adequate vision upon renewal. Furthermore, older drivers (>70 years) would have a reduced license renewal period. We chose to have the age as 70 years because between 65-75 years individuals experience greater incidences of vision loss. Additionally the changes adhere closer to the recommendations of the American Optometric Association for annual eye exam than the current statute (9).

Bringing about change through the legal system can take a long time. However, raising concerns of the issue via letters to state legislators can promote change.

**Community Action Plan: Reaching out to Legislators and Informing the Public**

Research on current state licensing laws revealed that they vary drastically by state. Some states such as Oklahoma do not require vision testing during renewals nor do they have senior licensing laws. On the other hand, there are states such as Rhode Island, Missouri and Hawaii, which require vision screenings at every renewal and have more frequent renewal periods for those over the age of 70. In order to address the topic, we made a video that highlights the information regarding vision and elderly drivers. We also wrote a letter to Frank Lobiondo, a US Representative for the State of New Jersey, to voice concerns over the current laws. We chose Representative Lobiondo because he is on the subcommittee for Highways and Transit of the House Transportation & Infrastructure Committee (29). Being a representative on the transportation committee, he would be more likely to support legislature about senior drivers.

**Letter to New Jersey Legislator**

Dear Congressman Frank Lobiondo,

With today’s burgeoning senior population, we are currently experiencing an increase in the number of older drivers. It is expected that older drivers will account for 25% of the driving
population by 2025. In New Jersey, motor vehicle crashes are the main cause of injury-related deaths in individuals aged 65 to 74 years. Deteriorating health, reaction time and vision in older adults are likely a main cause of auto accidents that affect, not just the elderly, but all those on the road.

Older drivers are of particular concern because of their deteriorating vision. Most eye diseases lack warning signs/symptoms and can therefore go unnoticed until damage has occurred. The most common diseases experienced by the elderly are glaucoma, cataracts, macular degeneration and diabetic retinopathy. These diseases can lead to impaired vision or even permanent vision loss. It is recommended by the American Optometric Association (AOA) that individuals over 60 receive yearly eye exams.

Current New Jersey Law NJ S.A. 39:3-10.4 states that vision screening should be performed once randomly in a 10 year period. This law does not ensure the safety of our NJ drivers. Since license renewal cycles are four years, it is possible under New Jersey Law to renew a license twice before undergoing a vision screening. The disparity between screenings and renewals is cause for concern. One’s vision can change significantly over the course of a year and affect their ability to see what they are doing on the road.

States such as Rhode Island, Minnesota and Colorado require a vision screening or proof of adequate vision at every renewal. Such a policy provides the Department of Motor Vehicles with a concise record on drivers.

New Jersey lacks senior licensing laws/regulations. A number of states have implemented regulations and limitations on older drivers. Imposed limitations comprise of reduced license renewal periods, required vision screenings, only in person renewals or a road test. Amendments to current New Jersey laws would be more useful in assessing older drivers.

We are requesting that you consider amending NJ law to better protect our seniors and others on the road in NJ. Both proposed amendments (below) would mean that a vision screening or show proof of adequate vision be required for all drivers when renewing their license. Furthermore, older drivers (>70 years) would have a reduced license renewal period.

Sincerely,

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with

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References


Appendix 1  Age-related Eye Problems

Macular Degeneration
Macular degeneration is a disease of the retinal photoreceptors and visually impairs over 10 million Americans. Macular Degeneration is caused by the deterioration of the central portion of the retina called the macula. The macula is in charge of focusing central vision in the eye and therefore it controls our ability to read, drive a car, recognize faces or colors, and see objects in fine detail. There is no known cure for macular degeneration. “The only available therapy for this disease is the over-the-counter multivitamins plus macular xanthophyll which attempts to block the damages of oxidative stress and ionizing blue light (30)”. According to Gehlbach, there is a correlation between heart disease and strokes and AMD. Therefore, using statins, a drug that lowers blood cholesterol levels, may potentially protect patients from the onset or progression of AMD. Research for this theory is still ongoing, however.

Researchers have thought of other possible ways to lessen the likelihood of getting AMD such as via a nutritional diet rich in antioxidant vitamins (carotenoids, vitamins C and E) or minerals (selenium and zinc) (4). However, the trend continues and there is not yet enough evidence to support this idea. In fact, it may be dangerous to take the vitamins unless proven safe. Other subjects in experimentations which have failed to yield results for the prevention of AMD includes increased Omega-3 fatty acid intake, steroids to prevent inflammation, and the reduction of drusen, which correlates with a higher risk of AMD, via laser treatment.

Glaucoma and Cataracts
Likewise with AMD, glaucoma and cataracts play a role in the loss of sight in many people as well affecting over 22 million Americans. Glaucoma occurs due to damage to the optic nerve connecting the eyes to the brain, usually because of high eye pressure. Furthermore, glaucoma cannot be cured, just treated. Currently, eye drops, medications, or surgery may help. Another problem with treatment is that surgery may actually accelerate cataracts progression, which is another disease impairing vision that commonly coexists with glaucoma (4). Cataracts are the clouding of the natural lens of the eye and are the most common cause of blindness and vision loss in people above the age of 40. Surgery for cataract alone may be more beneficial as it reduces intraocular pressure, the fluid pressure inside the eye which could alleviate symptoms of the glaucoma as well.
This is not to rule out the possibility that there may be a solution in nutrition for the prevention of AMD and glaucoma, but that because it conflicts with cataracts, it is all extremely risky (4). In other words, until there are true cures for the diseases—and as long as there is conflicting data and several side-effects—we cannot safely state that the vision of these elderly people will stabilize or improve.

1(http://eye-clarity.com/blog/glaucoma/?lang=de)
2(http://modernoptometry.com/blog.php?page=2)

**Other Age-related Eye Problems (LL)**

Although macular degeneration, glaucoma, and cataracts are the most prevalent damaging age-related eye issues, there are many other common problems which can occur. Presbyopia is a natural occurrence with the aging of the eye in which it loses the ability to focus on nearby objects. This can occur after the age of 40 and is as natural as the appearance of wrinkles on an aging face. Another troublesome visually impairing issue which can appear over time is the presence of “floaters” in the eye. These floaters are tiny spots which appear in the visual field and may not completely impair vision but definitely can hinder it. They are caused by shrinking collagen fibers in the vitreous humor and can signify retinal detachment.

**Eye Exams (LL)**
Eyes are one of the most sensitive areas of the body and thus also very complex. Many issues can affect the eye and it is important that all of them are tested for to allow for optimal safety when performing any daily task, not only driving on the road. Some of the more common eye tests are as follow:

**Visual Acuity**
Visual Acuity, in literal terms, is how sharp your vision is. This is measured by the common reading letter charts seen in optometry offices (8). Such as the one seen below:

![Visual Acuity Chart](image)

**Color Blindness**
Color blindness is the inability, or impaired ability to perceive colors or color differences. One of the more common ways to test for this is through Ishihara plates as seen below.
Those with red-green color deficiencies may not be able to see the number 62 in the middle.

**Ocular Movement**
Ocular movement is tested to determine how well your eyes can fixate on a moving object and measure how quick you can move between fixating on two separate targets. When testing for ocular movement, the optometrist will wave an object around you and tell you to keep an eye on it without moving your head (6).

**Cover Test**
During another test called a cover test, you will be asked to focus on a small object on the other side of the room and will then alternately cover one eye at a time whilst you look at the object. This test is repeated while looking at a nearby object as well and another object will be held close to your eye. By doing this, the visual field is assessed and so is the functionality of the optic nerve (6).

**Stereopsis**
Stereopsis is another word for depth perception and is the term used to describe eye teaming that allows for normal depth perception and the appearance of the 3-D nature of objects. In a common stereopsis test, one must wear a pair of 3-D glasses and look through many different test patterns. Each pattern contains four smaller circles in which the task is to point out which pattern’s circle seems closer than the other three circles (6).

**Refraction**
This is the exam in which you are placed into a chair and shown many different lenses through a machine called a phoropter and asked which lens looks better to accurately correct your vision and prescribe you the correct number for glasses (8).

**Slit Lamp Exam**
In the slit lamp exam, you must place your forehead and chin securely in front of the instrument and the optometrist will shine a bright light into your eyes and examine the cornea, iris, and lens. This tests for cataracts, macular degeneration, and many issues which are physically visible (6).
The Glaucoma Test
During this test a puff of air is aimed into an open eye. This tests for eye pressure and if you have a very high eye pressure you may be at risk of glaucoma (6).

All of these tests are very necessary for evaluating the visual health of the patient.