



SMART FEATURES

for Older Drivers

MOBILITY, COMFORT AND VALUE
Finding a vehicle to meet your needs

In collaboration with the Institute for Mobility,
Activity and Participation at the University of Florida

UF UNIVERSITY of
FLORIDA





How does driving change as we age?

Our ability to drive requires not only knowledge and experience, but healthy visual, physical and cognitive capabilities. While our knowledge and experience expand with age, changes to and possible losses in vision, physical health and mental capabilities require adjustments to help us remain safe, responsible drivers.

Natural age-related changes occur so subtly that we don't notice them progressing. For example:

- **At age 40:** Mental sharpness begins to diminish, thought processing slows, multitasking is more challenging, night vision worsens and recovery from glare is reduced.
- **At age 50:** Nine in 10 people require bifocals, and reaction time slows.
- **Between ages 30 and 60:** Muscle strength and range of motion can decrease up to 40 percent.
- **At age 70:** Arthritic joints may make movement painful and restrict mobility, and conditions such as stroke, Parkinson's disease, hypertension and diabetes may affect how we interpret and react to the driving environment.

Choosing a vehicle with the right features can help us adapt to these changes and improve safety and comfort behind the wheel.

So, which features should you look for? AAA worked with the University of Florida Institute for Mobility, Activity and Participation to help answer this question and identify vehicle features that optimize older driver comfort and safety in three steps.

STEP 1

Understand How Vehicle Features Can Keep Drivers Safer

Our expert team recommends you consider the following factors when evaluating a vehicle:

- **Safety features**, such as seat belts and the positions and types of airbags.
- **Ergonomics**, or design features, that reduce operator fatigue and discomfort.
- **Comfort**, such as ease of entry and exit, leg room and size of control buttons.
- **Value**, which incorporates the total cost of ownership including price, operating and maintenance costs, as well as reliability, fuel economy and resale value.

Regardless of your age and overall health, any vehicle you purchase should include:



Proven crashworthiness. Vehicle crash test and rollover ratings are provided by the National Highway Traffic Safety Administration, www.safercar.gov, and the Insurance Institute for Highway Safety, www.iihs.org/ratings.



Side and dual-stage/threshold airbags. Side airbags protect the torso, pelvis and head. Dual-stage and dual-threshold airbags are recommended because senior drivers risk injury if airbags deploy with too much force. The force with which this type of airbag inflates depends on crash severity, distance from the driver and passenger and weight of the driver and passenger to ensure optimal protection for all vehicle occupants during a crash.



Head restraints and extra padding. Head restraints move forward to cushion the head and reduce the risk of neck injuries when a car is hit from behind. Interior crash protection, such as extra padding, also can minimize injuries.



Antilock brakes. An antilock braking system, or ABS, prevents wheels from locking and ensures better steering control during emergency braking. ABS automatically pumps the brakes, up to 18 times per second, to prevent the wheels from locking up.



Dynamic stability control. This feature helps prevent loss of control in a turn, especially on slippery roads, to enable drivers to compensate for slower reaction times and make quick corrections.

STEP 2

Tailor to Your Needs

The following pages recommend features that will help you adapt to changing visual, physical and cognitive needs. Features are listed in no particular order.

Features to look for if you experience:

- ◆ Hip or leg pain
- ◆ Decreased leg strength
- ◆ Limited knee range of motion
- ◆ Diabetic neuropathy (numbness or tingling) in the legs, feet or toes

Recommended Feature	Driving Benefit
Six-way power seats that adjust the seating position forward, backward, up and down and the seatback forward and backward	Ease entry and exit from vehicle and facilitate seat adjustment for leg room and reduction of hip or leg pain
Comfortable seats set between mid-thigh and lower buttocks	Ease vehicle entry and exit
Low door threshold	Eases vehicle entry and exit
Leather or faux leather seats	Ease vehicle entry and exit
Adjustable brake and accelerator foot pedals	Allow drivers to comfortably reach pedals without having to scoot down and compromise visibility



Features to look for if you are:

- ◆ Small-statured
- ◆ Overweight/obese

Recommended Feature	Driving Benefit
Adjustable brake and accelerator foot pedals	Help drivers reach pedals, yet maintain a safe distance from the steering wheel airbag
Tilt and telescoping steering wheel	Helps drivers maintain at least 10 inches between their chest and the front airbag
Six-way adjustable seats	Help drivers obtain a line of sight above the steering wheel and sit comfortably

Features to look for if you experience:

- ◆ Arthritis in the hands
- ◆ Finger pain or stiffness
- ◆ Diminished fine motor skills, such as the ability to manipulate small objects

Recommended Feature	Driving Benefit
Four-door models	Require less strength to open and close doors than two-door models
Thick steering wheel	Requires less hand and wrist strength to grip and handle
Keyless entry	Eliminates pain or difficulty associated with turning a key
Power mirrors and seats	Ease adjustment for drivers with limited strength or arthritis
Larger dashboard controls with buttons	Easier to manipulate than knobs, especially as drivers age and fine motor skills diminish
Dashboard-mounted push-button ignition	Reduces pain or difficulty associated with turning a key
Automatic tailgate closer	Requires no strength to open and close trunk or rear door
Automatic side door openers	Require no strength to open and close doors
Heated side mirrors	Eliminate need to scrape ice
Sliding channel gear selector	Eliminates need to press selector button when changing gears
Rain sensor	Eliminates need to manually turn wipers on and off



Features to look for if you experience:

- ◆ Limited range of motion in your upper body
- ◆ Back, neck, arm or shoulder pain or stiffness
- ◆ Decreased or limited balance

Recommended Feature	Driving Benefit
Tilt and telescoping steering wheel	Helps drivers find a comfortable position to alleviate neck and shoulder pain
Large, wide-angle mirrors	Compensate for limited range of motion or difficulties turning to check for blind spots while merging or backing up
Comfortable, heated seats with lumbar support	Alleviate back pain
Adjustable seat belts	Assist drivers in reaching for buckling/unbuckling
Automatic tailgate closer	Requires no strength or balance to open and close trunk or rear door
Automatic side door openers	Require no strength or balance to open and close doors
Heated side mirrors	Eliminate the need to scrape ice
Large rear window	Increases overall visibility and reduces turning required for backing up
Rear backup camera*	Increases visibility of objects behind the vehicle and reduces turning required for backing up
Active parallel park assistance*	Requires less twisting of the upper body
Front and rear sensors and warning systems*	Monitor immediate space ahead of and behind vehicle to minimize driver twisting and upper body rotation
Foot-engaged emergency brake	Easier to engage than a hand-operated brake

These systems are intended to **supplement a driver's visual checks. They are **NOT** replacements for mirrors and should not be used as such.*





Features to look for if you experience:

- ◆ Diminished vision due to glaucoma, cataracts or other conditions
- ◆ Diminished night vision
- ◆ Problems with visual contrast sensitivity or depth perception
- ◆ Slow recovery from glare

Recommended Feature	Driving Benefit
Visors, including extendable sun visors	Help drivers adjust to and prevent glare from the sun
Larger audio and climate controls with contrasting text	Easier to see and make drivers more confident and less distracted
High-contrast instrument panel with large number and letter displays	Allows for better visibility with quick glances
Auto-dimming rearview mirror and glare-reducing side mirrors	Reduce blinding glare from headlights of other vehicles



Features to look for if you experience:

- ◆ Cognitive decline or reduced mental capabilities

Recommended Feature	Driving Benefit
"Classic Car" designs – limited technology or added features	Lessen distractions and improve familiarity with controls
High-contrast instrument panel with large number and letter displays	Allows for better visibility with quick glances
Rain sensor	Turns wipers on and off automatically and lessens driver distraction

**STEP
3**

Make Additions (optional)

Inexpensive assistive devices can be added to your car to further address your specific needs.

Recommended Feature	Driving Benefit
Larger, angled rear and side mirrors	Improve visibility and minimize blind spots
Pedal extenders	Help drivers obtain a safe distance from the steering wheel/airbag and optimize visibility
Steering wheel covers	Improve grip for drivers with arthritic hand joints
Cushions and seat pads	Improve line of sight and can help alleviate back or hip pain
Key extenders	Offer more leverage for turning keys in locks or the ignition and reduce stress on finger joints
Leg lift straps	Allow the driver to use upper body strength to lift legs into and out of the vehicle
Hand controls	Allow the driver to perform all vehicle maneuvers and functions without the use of lower extremities
Leveraging devices	Allow driver to use upper body to ease vehicle entry and exit
Seat belt adjuster	Improves seat belt positioning
Seat belt pull	Reduces distance in reaching for the seat belt and improves ease of grasping seat belt
Shear seat covers	Decrease resistance when adjusting seated position
Flat swivel seat	Eases vehicle entry and exit
Rain-repelling glass treatment	Sheds water on exterior glass and improves visibility
Anti-glare film for side mirrors	Reduces glare from other vehicle headlights

Aftermarket vehicle adaptations or those offered by manufacturers—such as lumbar supports, door openers, hand controls, lifts and steering devices—also can help.

Never purchase or install these features without first consulting an occupational therapy–driver rehabilitation specialist (OT-DRS). Some aftermarket products can alter the effectiveness of seat belts, airbags or other safety features. Along with properly installing new features in your vehicle, an OT-DRS can recommend vehicle modifications to adapt your vehicle to individual needs.

To find an OT-DRS, visit the American Occupational Therapy Association online at www.aota.org/olderdriver.

To find adaptive devices offered by specific manufacturers, visit the National Mobility Equipment Dealers Association online at www.nmeda.com.



Some expensive, high-tech solutions marketed to mature drivers do not have enough current research support to earn a place on our recommendations list.

High-tech options to weigh carefully:

- Lane deviation prevention systems
- Navigation systems
- Head-up displays that project speed and other data onto the windshield
- Adaptive cruise control to help drivers maintain a consistent following distance
- Collision warning systems that signal the potential for a crash
- Lane change assist that signals to drivers when it is unsafe to make a lane change

Want help selecting a vehicle that fits your needs?

Visit the interactive SeniorDriving.AAA.com/SmartFeatures website, where you can find a vehicle that meets your mobility, comfort and financial needs.

Additional resources for mature drivers



AAA's SeniorDriving.AAA.com

website provides expert advice, science-based resources and interactive tools to help older drivers assess their skills and keep them driving as long as safely possible.



CarFit is a free, individualized safety check to help drivers increase vehicle control and comfort. Discover easy adjustments that can protect you behind the wheel.

The CarFit program was developed by the American Society on Aging in partnership with AAA, AARP and American Occupational Therapy Association.



Roadwise Review

is an easy-to-use computer program that helps identify age-related changes that could put drivers at risk behind the wheel. Test your driving abilities—

confidentially, and in the comfort of your home.

Roadwise

Roadwise Rx, developed by the AAA Foundation for Traffic safety, is a free online tool that enables you to check how prescription and over-the-counter medications can affect driving. Your confidential results can be saved to your computer and printed to share with your health care provider or pharmacist.



AAA's Safe Driving for Mature Operators Driver Improvement Program

is packed with up-to-date safe driving techniques that can help sharpen your skills to make you as safe as possible behind the wheel. Courses may be offered through the classroom, online or both. Contact your local AAA club for more information.

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The Fitness-to-Drive Screening Measure, available at <http://fitness.todrive.php.ufl.edu>, is a free tool developed by the University of Florida to help caregivers or loved ones to assess an older adult's driving fitness.



SeniorDriving.AAA.com/SmartFeatures

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