



National Highway Traffic Safety Administration

Adapting Motor Vehicles for Older Drivers



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Introduction

A Proven Process for Maintaining Freedom on the Road

New and existing adaptive technologies continue to broaden opportunities for older drivers to drive comfortably and safely — and enjoy the freedom of driving for as long as possible. Some of these adaptive technologies are as simple as swivel seats for more convenient access. Others, such as hand controls, may be necessary for a driver to safely operate a vehicle. All drivers who are facing, or may soon face, age-related driving challenges should become familiar with the technologies available to support any special driving needs.

The information in this brochure is based on the experience of driver rehabilitation specialists and other professionals who work with people who require adaptive devices for their motor vehicles. The

steps outlined here represent a proven process — **evaluating your needs, making sure the vehicle “fits” you properly, choosing appropriate features, installing and knowing how to use adaptive devices, practicing good vehicle maintenance** — that can help you avoid costly mistakes when modifying or purchasing a vehicle to accommodate age-related changes that may affect your driving.

Also included is general information on cost savings, licensing requirements, and organizations to contact for additional assistance. Although the brochure focuses on drivers of modified vehicles, each section also contains important information for people who provide transportation for passengers with special needs.

Investigate Cost-Saving Opportunities and Licensing Requirements

Cost-Saving Opportunities

With such a wide range of adaptive equipment solutions available, associated costs for modifying a vehicle can vary greatly depending on an individual's needs. Some adaptive equipment, such as a special seat-back cushion, can provide a better view of the road for as little as \$50. More complex equipment, such as hand controls, can be purchased for under \$1,000. However, a new vehicle modified with adaptive equipment will cost anywhere from \$20,000 to \$80,000.

Whether you are modifying a vehicle you now own or purchasing a new vehicle with adaptive equipment, it pays to do your homework first. By consulting with a driver rehabilitation specialist before you buy, you can learn what adaptive equipment you need now or may need in the future, avoid paying for equipment you don't need, and learn about opportunities for public and private financial assistance.

There are programs that may help pay part or all of the cost of vehicle modification. For information, contact your State's Department of Vocational Rehabilitation or another agency that provides vocational services, and, if appropriate, the U.S. Department of Veterans Affairs. You can find phone numbers for these State and Federal agencies in your local phone book.

Also be aware of the following:

- Some nonprofits that advocate for individuals with disabilities offer programs that may help pay for adaptive devices. Generally, these groups and programs represent local resources. To learn about any available programs in your area, contact your State government office that handles services for persons with disabilities.
- Automotive insurance may cover all or part of the cost of adaptive equipment if your need for such equipment is a result of a motor vehicle crash.
- Workers' compensation typically covers the cost of adaptive equipment if your need for such equipment is a result of a job-related injury.

- Most major vehicle manufacturers offer rebates on adaptive equipment, usually up to \$1,000, provided you purchase a vehicle less than one year old. Your local automobile dealer can supply information on these programs and assist you with the application process. Contact information for vehicle manufacturers offering rebates on adaptive equipment is listed in the "Resources" section of this brochure.
- National Mobility Equipment Dealers Association (NMEDA) members are also familiar with vehicle manufacturer rebates, can help you apply for these rebates — and can provide pre-purchase advice about the type of vehicle that will accommodate your adaptive equipment needs. NMEDA contact information is listed in the "Resources" section of this brochure.
- Some States waive the sales tax for adaptive devices if you have a doctor's prescription for their use.
- The cost of adaptive equipment may be tax deductible. Check with a qualified tax consultant to learn more.

Licensing Requirements

All States require a valid learner's permit or driver's license to receive an on-the-road driving evaluation. You cannot be denied the opportunity to apply for a permit or license because of age or disability. However, a driver's license with restrictions may be issued based on your need of adaptive equipment.

Evaluate Your Needs

Driver rehabilitation specialists perform comprehensive evaluations to identify the adaptive equipment most suited to your needs and medical condition. As part of this process, a rehabilitation specialist will take into consideration your future equipment needs based on your medical condition and the repetitive stress an adaptive aid may place on a particular muscle group.

In addition, you can expect a complete evaluation to include vision screening as well as:

- Muscle strength, flexibility, and range of motion;
- Coordination and reaction time;
- Judgment and decision-making abilities; and
- Ability to drive with adaptive equipment.

After you finish the evaluation you should receive a report containing specific recommendations on driving requirements or restrictions. You should also be given a complete list of any recommended vehicle requirements or modifications. The recommendations should suggest obtaining on-the-road training to practice safe operation of the equipment and learn safe driving habits.

Finding a Qualified Driver Rehabilitation Specialist

Check with a rehabilitation center in your area to find a qualified driver rehabilitation specialist to perform your evaluation. You'll find rehabilitation centers for each State listed on the Web sites for the Association for Driver Rehabilitation Specialists (ADED) and the American Occupational Therapy Association, Inc. (AOTA). These associations maintain lists of qualified driver rehabilitation specialists in areas across the United States and Canada. Contact information for these groups is located in the "Resources" section of this brochure.



Paying for an Evaluation

- Vocational rehabilitation agencies and workers' compensation agencies may assist in the cost of a driver evaluation.
- Your health insurance company may pay for part or all of the evaluation. Find out from your insurance company if you need a doctor's prescription or other documentation to receive such benefits.
- Many driver evaluation programs offer senior drivers a discount on evaluations. Ask if your driver rehabilitation specialist offers a discount to seniors.

Determining the Best Time to Seek a Driving Evaluation

Consult with your doctor to make sure you are physically and psychologically prepared to drive. Being evaluated too soon after an injury, stroke, or other trauma may be misleading because it may show the need for adaptive equipment that you will not need in the future. You want to be functioning at your best when you have a driver evaluation. For the evaluation, you will need to take any equipment you normally use, such as a walker or neck brace. If you use a wheelchair and are planning to modify

the wheelchair or obtain a new one, be sure to tell your driver rehabilitation specialist prior to the evaluation.

Evaluating Passengers with Disabilities

Driver rehabilitation specialists may also give advice on compatibility and transportation safety issues for passengers with special needs. They determine the type of seating needed and the person's ability to enter and exit the vehicle. They provide advice on the purchase of modified vehicles and recommend appropriate wheelchair lifts or other equipment that would work in your vehicle.



Select the Right Vehicle

Although the purchase or lease of a vehicle is your responsibility, your mobility equipment dealer and driver rehabilitation specialist are qualified to ensure the vehicle you select can be modified to meet your adaptive equipment needs. Take the time to consult with these professionals before you make your purchase decision.

To find a qualified dealer in your area, contact the National Mobility Equipment Dealers Association (NMEDA). To find a qualified driver rehabilitation specialist, contact the Association for Driver Rehabilitation Specialists (ADED). Complete contact information for these two organizations is listed in the “Resources” section of this brochure.

The following questions can help with vehicle selection. They can also help determine if you can modify a vehicle you already own:

- Does the vehicle have the cargo capacity (in pounds) to accommodate the equipment you require?
- Will there be enough space and cargo capacity to accommodate your family or other passengers once the vehicle is modified?
- Is there adequate parking space at home and at work for the vehicle and for loading/unloading a wheelchair?
- Is there adequate parking space to maneuver if you use a walker?
- What additional options are necessary for the safe operation of the vehicle?

If a third party is paying for the vehicle, adaptive devices, or modification costs, find out if there are any limitations or restrictions on what is covered. Always get a written statement on what a funding agency will pay before making your purchase.

Once you select and purchase a vehicle, be aware that you will need to also purchase insurance to cover your vehicle while it's being modified — even though it will be off the road during this period.

Standard Features to Look for in a New Passenger Vehicle

Before purchasing a new vehicle, always sit in it first to make sure you are comfortable. Check to see that you can enter and exit the vehicle with ease. If possible, take it out for a test drive. How well does the car fit your body? To prevent air bag-related injury, you should keep 10 inches between your breast bone and the steering wheel, which contains

the driver's side air bag. At the same time, you'll need to be able to easily reach the pedals while maintaining a comfortable line of sight above the adjusted steering wheel. Also, make sure the vehicle provides you with good visibility in all directions — front, rear, and sides. Your dealer can demonstrate the use of adaptive features, such as adjustable foot pedals and driver seats, which can help ensure a good person-vehicle fit.

Check to see if the model you are considering purchasing has good crash test results and is resistant to rollover. Visit www.safercar.gov or call the Vehicle Safety Hotline at **888-327-4236** to obtain government crash test results and rollover ratings for specific makes and models.

When selecting a vehicle, look for and ask about available features designed to improve both the comfort and safety of drivers experiencing physical or visual challenges associated with aging. Some of these features are:

- High or extra-wide doors;
- Adjustable foot pedals;
- Large interior door handles;

- Oversized knobs with clearly visible labels;
- Support handles to assist with entry and exit;
- Large or adjustable-size print for dashboard gauges;
- Seat adjusters that can move the seat in all directions — particularly raising it so the driver's line of sight is 3" above the *adjusted* steering wheel; and
- Dashboard-mounted ignition rather than steering column-mounted ignition.



Choose a Qualified Mobility Dealer to Modify Your Vehicle

Even a half inch change in the lowering of a van floor can affect a driver's ability to use equipment or to have an unobstructed view of the road. So it's important that you take the time to find a qualified dealer to modify your vehicle. Your driver rehabilitation specialist may be able to provide referrals depending on where you live and your vehicle modification and adaptive equipment needs.

Note: Some State agencies specify the dealer you must use if you want reimbursement. For example, some States require that dealers bidding on State vocational rehabilitation jobs be members of the National Mobility Equipment Dealer's (NMEDA's) Quality Assurance Program. You'll find contact information for NMEDA within the "Resources" section of this brochure.

To find qualified mobility equipment dealers, begin with phone inquiries to learn about credentials, experience, and references. Ask questions about how they operate. Do they work with qualified driver rehabilitation specialists? Will they look at your vehicle before you buy it? Do they require a prescription from a physician or driver evaluation specialist? How long will it take before they can start work on your vehicle?

Also ensure that the dealer you choose to modify your vehicle is registered with the National Highway Traffic Safety Administration (NHTSA). In order to adapt a vehicle to meet your needs, registered equipment dealers are permitted to modify existing federally mandated safety equipment. In addition, registered mobility equipment dealers must provide you with a written statement regarding the work that was performed, as well as list any Federal Motor Vehicle Safety Standards affected by their modification work on a label adjacent to the original equipment manufacturer's label or the modifier's certification label. These labels are often found inside the driver's door. Visit www.nhtsa.dot.gov/cars/rules/adaptive/Modifier/Index.cfm to find out if a mobility equipment dealer is registered with NHTSA as a vehicle modifier.

Questions to consider in evaluating a mobility equipment dealer's qualifications are listed below:

- Is the dealer registered with NHTSA?
- Is the dealer a member of NMEDA — and a participant in this organization's **Quality Assurance Program**?
- What type of training has the staff received?

- What type of warranty is provided on work?
- Does the dealer provide ongoing service and maintenance?
- Are replacement parts stocked and readily available?

If you are satisfied with the answers you receive, check references; then arrange to visit the dealer's facility. Once you are comfortable with a dealer's qualifications, you will want to ask more specific questions, such as:

- How much will the modification cost?
- Are third-party payments accepted?
- How long will it take to modify the vehicle?

- Can the equipment be transferred to a new vehicle in the future?
- Will existing safety features need to be modified to install the adaptive equipment?

While your vehicle is being modified, you will most likely need to be available for fittings. This avoids additional waiting time for adjustments once the equipment is fully installed. Without proper fittings you may have problems with the safe operation of the vehicle and have to go back for adjustments.



Obtain Training on the Use of New Equipment

Both new and experienced drivers need training on how to safely use newly installed adaptive equipment. Your equipment installer and driver rehabilitation specialist should provide information on the new devices and off-road instruction.

But literature and off-road instruction aren't enough to equip you to drive safely with your new adaptive equipment. This equipment can be very complex. So it's extremely important to obtain on-the-road training and practice with a driver rehabilitation specialist who has advanced expertise and knowledge of adaptive technologies. If your driver rehabilitation specialist does not offer such training, ask him or her for a referral, or inquire at your local driver licensing office.

State vocational rehabilitation departments and workers' compensation plans will pay for driver education and training under certain circumstances. At a minimum, their staffs can help you locate a qualified driver rehabilitation specialist to provide training.

Finally, remember to enlist the help of a family member or friend to drive you to all of your training sessions. (It's important to have someone else who can drive your vehicle in case of an emergency.)

Ensuring Safe Operation and Warranty Compliance

Regular maintenance is important for keeping your vehicle and specially installed adaptive features safe and reliable. It may also be mandatory for compliance with the terms of your warranty. Some warranties specify a time period during which adaptive equipment must be inspected. These equipment check-up schedules may differ from those for your vehicle. Make sure you or your modifier submit all warranty cards for all equipment. This will not only ensure coverage, but will also enable manufacturers to contact you in case of a recall.



Maintain Your Vehicle

Vehicle Safety Checklist

Your vehicle warranty and owner's manual will describe regularly required vehicle maintenance. Keep in mind that your adaptive equipment may need special attention or more frequent check-ups than your vehicle alone. However, the following checklist represents basic maintenance that applies to all vehicles:

- Check tire pressure at least once a month and always before a long road trip.
 - Change oil as recommended by your owner's manual, using the grade recommended.
 - Check all fluids when you change the oil, including power steering fluid, brake fluid, and engine coolant.
 - Routinely check headlights, brake and parking lights, reverse lights, and turn signals.
- Remember to keep your windows and headlights clean. You need to clearly see where you are going. Keeping the headlights clean will help other cars see you too.
 - Check for damage from road hazards by having your vehicle put on a service lift at least once a year.

Proper maintenance can keep your vehicle running smoothly, leaving you free to concentrate on the road and enjoy the freedom of driving.

Resources

Association for Driver Rehabilitation Specialists (ADED)

711 S. Vienna Street
Ruston, LA 71270
800-290-2344
www.aded.net

American Occupational Therapy Association (AOTA)

4720 Montgomery Lane
P.O. Box 31220
Bethesda, MD 20824-1220
301-652-2682
TDD: 800-377-8555
www.aota.org/olderdriver

National Mobility Equipment Dealers Association (NMEDA)

3327 West Bearss Avenue
Tampa, FL 33618
800-833-0427
www.nmeda.org

National Highway Traffic Safety Administration (NHTSA)

1200 New Jersey Avenue SE.
Washington, DC 20590
888-327-4236
TDD: 800-424-9153
www.nhtsa.gov
www.safercar.gov

Department of Veteran Affairs

800-827-1000
www.va.gov

State Departments of Vocational Rehabilitation

Listed in telephone book.

The following manufacturers offer rebates or reimbursements on new-vehicle modification.

Audi

800-822-2834
www.audiusa.com

DaimlerChrysler Corporation

800-255-9877
(TDD Users: 800-922-3826)
www.daimlerchrysler.com

Ford Motor Company

800-952-2248
(TDD Users: 800-TDD-0312)
www.fordmobilitymotoring.com

General Motors Corporation

800-323-9935
(TDD Users: 800-TDD-9935)
www.gm.com

Saturn

800-553-6000, Prompt 3
(TDD Users: 800-833-6000)
www.saturn.com

Toyota

800-331-4331
www.toyota.com/mobility

Volkswagen

800-822-8987
www.vw.com

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