

CHAPTER 10

Moving Beyond This Guide: Future Plans to Meet the Transportation Needs of Older Adults

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The previous chapters provide physicians with recommendations and tools for enhancing the driving safety of their patients. As in other aspects of patient care, however, further research can lead to more effective care. We eagerly await further evaluation of in-office tools that can predict crash risk or determine fitness-to-drive, as well as improved access to driver assessment and rehabilitation. We also look forward to advanced technology in vehicles to assist drivers with navigation and safety issues. At the same time, we wish for safer roads, better transportation alternatives, increased crashworthiness of vehicles, and other vehicular improvements that can help keep our patients safe on the road as long as possible.

In this chapter, the AMA advocates for coordinated efforts among the medical and transportation communities, policymakers, community planners, the automobile industry, and government agencies to achieve the common goal of safe transportation for the older population. As this population continues to expand and live longer, we all have the challenge of keeping pace with its transportation needs.

Listed below is the AMA's checklist of research, initiatives, applications, and system changes that we believe are crucial for improving and increasing the safe mobility of the older population. We encourage readers of this guide to use this list as a launching pad to boost your future plans and efforts.

1. Improved physician tools for the assessment of driving safety

Physicians need an assessment tool that reliably identifies patients who are at increased risk for a car crash. This test battery must assess the primary functions that are related to driving, and must form a basis for medical interventions to correct any functional deficits that are identified. In addition, this tool must be brief, inexpensive, easy to administer, and validated to predict crash risk and/or the ability to pass a performance-based, standardized, reliable and valid road test.

At present, no comprehensive tool is available. Individual functional tests (such as the Trail Making Test, Part B; see Chapters 3 and 4) have been repeatedly shown to correlate with crash risk, yet there is still not a universal cut-off or score on these tests that can determine fitness-to-drive. Researchers are currently studying other tests in relation to driving. The field has focused on heterogeneous groups of older adults with modest correlations in functional batteries.²⁹⁰ Further steps will likely require a focus on different batteries or tests in a given specific older population with a specific disease (e.g., glaucoma, dementia).

While researchers work toward achieving a comprehensive test battery, physicians can best evaluate their patients' driving

safety by assessing the functions related to driving (see the Assessment of Driving Related Skills [ADReS] in Chapter 3) and reviewing the presence and/or severity of important medical illnesses (Chapter 9). The AMA will continue to promote awareness of the most recent assessment and rehabilitation tools, and we encourage physicians to stay informed on these developments.

2. Increased availability and affordability of driver rehabilitation

When the results of physician assessment are unclear, or when further correction of functional deficits through medical management is not possible, driver rehabilitation specialists (DRSs) are an excellent resource. DRSs can perform a focused clinical assessment, observe the patient in the actual driving task, and train him/her in the use of adaptive techniques or devices to compensate for functional deficits. (See Chapter 5 for more information.)

Unfortunately, access and cost remain major barriers to the utilization of DRSs by older drivers and their referring physicians. DRSs are not available in all communities, and there are presently too few to provide services to all older drivers who are in need of their services. Furthermore, driver assessment and rehabilitation are expensive, and Medicare and private insurance companies rarely pay for these services.

290. Ball, K. K., Roenker, D. L., Wadley, V. G., et al. (2006). Can high-risk older drivers be identified through performance-based measures in a Department of Motor Vehicles setting? *J Am Geriatr Soc.* 54:77–84.

The American Occupational Therapy Association (AOTA) is addressing these issues through two initiatives. First, AOTA is devising a framework to increase the number of DRSs within the occupational therapy (OT) profession. This framework will include strategies to promote older driver practice among current OT practitioners, curriculum content for continuing education programs, and training modules for entry-level OT educational programs. Secondly, AOTA is actively lobbying for consistent Medicare coverage of OT-performed driver assessment and rehabilitation, under the assertions that these services fall under the scope of OT practice and that driving is an instrumental activity of daily living. Individual DRS programs have also pursued insurance coverage from Medicare and other providers, with varying degrees of success.

In the effort to keep older drivers on the road safely as long as is reasonable, increased access to and affordability of driver assessment and rehabilitation are essential. We support the AOTA's initiatives, and suggest that physicians use DRSs as a resource for their patients whenever possible. We also encourage research in this field to create standardized off-road and on-road tests that have respectable levels of reliability, validity, and test stability. Correlating results on road tests with prospective at-fault crash data remains an important area of future study. Finally, the added value of physicians referring their patients to an OT driving program, in comparison to "usual care," would be an important step in the process of obtaining Medicare and insurance company support for funding these types of evaluations.

3. Increased investigation into the use of simulators and comprehensive assessment methods techniques

Validated driver assessment technologies may help make driver assessment more widely available to older drivers. Preliminary research with a commercially available driving simulator has demonstrated a strong correlation between simulated driving performance

and on-road performance in cognitively impaired and healthy older drivers.²⁹¹ Certainly, limitations exist with the use of simulators, such as lack of standardization in the field, use of different crash scenarios, expense, need for technological support, and simulator-induced sickness. However, unlike on-road assessment, simulators can evaluate performance in driving situations that would otherwise be infeasible or dangerous.^{292 293} In addition, there have been recent attempts to study their validity²⁹⁴ and reliability.²⁹⁵ Yet, a recent study was not able to correlate simulator findings with crash data in a cohort of sleep apnea patients, who have one of the highest crash rates associated with any medical conditions.²⁹⁶ Further research and experience may confirm that driving simulators are safe, effective, and readily acceptable to the public. It will also be useful to discover if familiarity with computers and games by successive aging cohorts affects the outcome of simulator performance and/or reduces crashes.

We applaud recent efforts to further understand the complex role the central nervous system plays in operating a mo-

tor vehicle.^{297, 298} We encourage State licensing authorities and driver rehabilitation programs to investigate the use of technologies to increase the availability of reliable driver assessment services to the public. Such technologies, if integrated into or aligned with current practices, could help form an intermediate step between physician assessment and driver rehabilitation or increase the licensing authority's capacity to offer specialized driver assessment to medically at-risk drivers.

4. The enhanced role of the driver licensing agency in promoting the safety of older drivers

As the agency that ultimately awards, renews, restricts and revokes the driver's license, each State's driver licensing agency has the task of distinguishing unsafe drivers from safe drivers. While each State has its own procedures, which are highly variable, potentially unsafe drivers are usually identified by one of four means: (1) failure of the individual to meet licensing or license renewal criteria; (2) report from the individual or family; (3) report from physicians, DRSs, law enforcement officers, and others; and (4) judicial report.

To meet the standards for licensing, the driver licensing agency initially requires individuals to pass assessments of knowledge, vision, and driving skills. License renewal tends to be less stringent, with many States permitting renewal by mail. In recent years, certain States have increased their efforts to identify older drivers who are at risk for unsafe driving by stipulating special renewal procedures for this population. These procedures include shortened renewal intervals, in-person renewal, and mandatory reassessment of knowledge, vision, and driving skills.

291. Freund, B., Gravenstein, S., Ferris, R. (2002). Evaluating driving performance of cognitively impaired and healthy older adults: a pilot study comparing on-road testing and driving simulation (letter to the editor). *J Am Geriatr Soc.* 50:1309.

292. Reimer, B., D'Ambrosio, L., Coughlin, J., et al. (2006). Using self-reported data to assess the validity of driving simulation data. *Behav Res Method.* 38(2):314-324.

293. Uc, E. Y., Rizzo, M., Anderson, S. W., et al. (2006). Unsafe rear-end collision avoidance in Alzheimer's disease. *J Neurol Sci.* 251 (1-2):35-43.

294. Reimer, B., D'Ambrosio, L., Coughlin, J., et al. (2006). Using self-reported data to assess the validity of driving simulation data. *Behav Res Method.* 38(2):314-24.

295. Contardi, S., Pizza, F., Sancisi, E., et al. (2004). Reliability of a driving simulation task for evaluation of sleepiness. *Brain Res Bull.* 63(5):427-431.

296. Turkington, P. M., Sircar, M., Allgar, V., & Elliott, M. W. (2001). Relationship between obstructive sleep apnoea, driving simulator performance, and risk of road traffic accidents. *Thorax.* 56(10):800-805.

297. Walter, H., Vetter, SC., Grothe, J., et al. (2001). The neural correlates of driving. *Neuroreport.* 12(8):1763-1767.

298. Ott, B. R., Heindel, W. C., Whelihan, W. M., et al. (2000). A single-photon emission computed tomography imaging study of driving impairment in patients with Alzheimer's disease. *Dement Geriatr Cogn Disord.* 11(3):153-160.

We encourage all States to maintain or adopt renewal procedures for the most effective identification of at-risk older drivers. (See also Enhanced role of the Medical Advisory Board below.) We also encourage States to base their standards for licensing on current scientific data. For example, visual acuity standards that are based on outdated research may be unnecessarily restrictive to all drivers and to older drivers in particular. As noted in Chapter 7, the only recent licensing renewal procedure that has been associated with decreased crash risk is the requirement for in-person renewal.

In addition to the vision screens that are currently in use, driver licensing agencies may also wish to utilize newer tools (such as contrast sensitivity and the useful field-of-view test) that have been shown to correlate with crash risk.^{299, 300} Some of these tools, along with other tests of function and driving skills, are currently being field-tested by the California Department of Motor Vehicles as part of its three-tier assessment system.³⁰¹ Future findings from this system may be useful to some driver licensing agencies that are interested in establishing similar tier systems.

Many individuals are understandably reluctant to report themselves to the driver licensing agency as unsafe drivers. Although there are few data on this issue, recent research on referrals for fitness-to-drive in Missouri suggests that few if any drivers take this step.³⁰² Driver licensing agencies can do their part by creating a more supportive sys-

tem for older drivers. For example, the agency can work more closely with the at-risk drivers' physicians or the Medical Advisory Board to correct functional deficits through medical treatment, if possible. Drivers with a high potential for rehabilitation can be referred by the licensing agency to a DRS to learn adaptive techniques and devices. Licensing agencies can also consider the patient's driving needs by issuing restricted licenses whenever possible to help the driver maintain mobility while protecting his/her safety. For those drivers who must relinquish their license, the agency can provide guidance in seeking alternative transportation.

At-risk drivers can also be brought to the attention of the driver licensing agency by physician referral. However, many physicians are not aware of their State's referral procedures,³⁰³ and others fear legal liability for breach of confidentiality. With the advent of the Health Insurance Portability and Accountability Act (HIPAA), physicians may have questions about the extent and detail of patient information they should provide in a referral. Driver licensing agencies can encourage physician referral by establishing clear guidelines and simple procedures for referral (e.g., comprehensive referral forms that can be accessed over the Internet) and promoting physician awareness of these guidelines and referral procedures. In many States, physicians who refer patients to their State's driver licensing agency are not granted legal protection against liability for breaching the patient's confidentiality. Indeed, several States encourage or require physicians to report impaired drivers without specifically offering this legal protection. Physicians should join advocacy groups in their States to pass fair laws that protect physicians who report in good faith and ensure anonymity for reporting. State legislatures are encouraged to establish or maintain good-faith reporting

laws that provide immunity from breach of confidentiality lawsuits for physicians and others who report impaired drivers to their State licensing authority.

5. Enhanced role of the Medical Advisory Board

A Medical Advisory Board (MAB) is generally composed of State-licensed physicians who work in conjunction with the driver licensing agency to determine whether mental or physical conditions may impair an individual's ability to drive safely. MABs vary among States in size, role, and level of involvement. For example, the MAB of the Maryland Motor Vehicle Administration reviews the fitness of individuals to drive safely, while California's MAB provides recommendations to DMV staff for use in developing policies that affect medically and functionally impaired drivers.³⁰⁴ Many States lack an MAB altogether or have one that is ineffective.

We encourage each State driver licensing agency to enhance the role of its MAB in order to provide a greater capacity for assessment, rehabilitation and support to older drivers. We also encourage States that lack MABs to create a multi-disciplinary team of medical experts to develop and implement recommendations on the medical fitness of their State's licensed drivers. Such recommendations should be based on the most current scientific data, and should be implemented in an efficient review process.

Recently, the National Highway and Traffic Safety Administration and the American Association of Motor Vehicle Administrators (AAMVA) completed a study of each State's

299. Owsley C., Stalvey BT., Wells J., Sloane M. E., McGwin G. Visual risk factors for crash involvement in older drivers with cataract. *Arch Ophthalmol.* 119:881–887.

300. Owsley C., Ball K., McGwin G., Sloane M. E., Roenker DL., White M. F., Overley ET. Visual processing impairment and risk of motor vehicle crash among older adults. *JAMA.* 279(14):1083–1088.

301. Personal correspondence with Mary Janke, Ph.D., September 26, 2002; and Janke M. K., & Eberhard J. W. Assessing medically impaired older drivers in a licensing agency setting. *Accid Anal Prev.* 30(3):347–361.

302. Personal communication, Dr. Tom Meuser, Director of Aging, University Missouri St. Louis.

303. Cable, G., Reisner, M., Gerges, S., & Thirumavalavan, V. (2000). Knowledge, attitudes, and practices of geriatricians regarding patients with dementia who are potentially dangerous automobile drivers: a national survey. *J Am Geriatr Soc.* 48(1):14–17.

304. Raleigh, R., & Janke, M. (2001). The role of the medical advisory board in DMVs: protecting the safety of older adult drivers. *Maximizing Human Potential: Newsletter of the Network on Environments, Services and Technologies for Maximizing Independence.* American Society on Aging 9(2):4–5.

MAB practices.³⁰⁵ This project detailed the function of each State's MAB, its regulatory guidelines, and barriers to the implementation of screening, counseling, and referral activities. The executive summary of this study had many important recommendations for States that license medically impaired drivers, such as: each State should have an active board to set standards and guidelines and to be involved in fitness-to-drive evaluations; board members should be adequately compensated; immunity for physicians for reporting should be granted; and national standards and forms, and referrals for mobility counseling and/or DRSs, should be considered.

7. Increased public awareness of medication side effects that may impair driving performance

Many prescription and over-the-counter medications have the potential to impair driving performance. Despite warnings on the label and counseling by physicians and pharmacists, many patients are unaware of these risks.

To address this problem, the National Transportation Safety Board (NTSB) has recommended (in its Safety Recommendation I-00-5) that the U.S. Food and Drug Administration (FDA) establish a clear, consistent, and easily recognizable warning label for all prescription and over-the-counter medications that may interfere with the individual's ability to operate a vehicle. This recommendation was the focus of a FDA/NTSB joint public meeting held in November 2001. This meeting hosted presentations of epidemiological and controlled data on the effects of sedating drugs and crash risk, as well as presentations from innovators of devices that are designed to test the degree to which drugs may impair driving.

305. Lococo, KH., & Staplin, L. (2005). Strategies for Medical Advisory Boards and Licensing Review. DOT HS 809 874. Washington, DC: National Highway Traffic Safety Administration. www.nhtsa.dot.gov/people/injury/research/MedicalAdvisory/pages/Executive.html. Accessed November 14, 2007.

As a result of the meeting, the FDA and NTSB concluded that steps must be taken to better educate the public and prescribing physicians on the effects on driving of potentially sedating drugs. Only limited steps have been taken thus far, but we support efforts to increase patient and physician education and clarify labeling for consumers. One recent educational effort informs pharmacists about potentially driving-impairing drugs, and offers an extensive curriculum that reviews causes of crashes and the mechanisms whereby drugs may impair driving.³⁰⁶ Physicians are encouraged to review this excellent resource, given the trend toward polypharmacy and the myriad problems associated with adverse drug events.

Currently, manufacturers of medications do not routinely test their products for effects on driving, nor are they required to do so. We support the identification and routine use of effective testing parameters to identify medications that may interfere with the ability to safely operate a motor vehicle. Similarly, such parameters could be utilized in the identification of medications that do not impair drivers when typically used as directed.

8. Promote self-awareness and appropriate self-regulation.

Our society relies on self-regulation at every level, including driving. Most drivers with adequate cognitive function and some modest assistance with compensatory behaviors and alternatives will choose to preserve safety. Some preliminary data from California indicate that drivers with greater impairment were actually safer drivers, perhaps because they had perceived the need to make adjustments and had successfully done so. More research must be done on appropriate self-regulation, and productive use must be made of results as a part of a comprehensive solution. A recent study suggests this may be a

306. Lococo, K., et al. Pharmacist Curriculum Drugs and Driving. <https://webapp.walgreens.com/cePharmacy/programsHTML/transportation-tech.pdf>. Accessed November 12, 2007.

fruitful area that warrants additional investigation.³⁰⁷

9. Vehicle designs that optimize the safety of older drivers and their passengers

Age-related changes in vision, cognition, and motor ability may affect an individual's ability to enter/egress a motor vehicle with ease, access critical driver information, and handle a motor vehicle safely. Older persons are also less able to endure and recover from injuries sustained in an automobile crash. We encourage vehicle manufacturers to explore and implement enhancements in vehicle design that address and compensate for these physiological changes.

In particular, vehicle designs based on the anthropometric parameters of older persons—that is, their physical dimensions, strength, and range of motion—may be optimal for entry/egress; seating safety and comfort; seat belt/restraint systems; and placement and configuration of displays, mirrors and controls. Improvements in headlamp lighting to enhance nighttime visibility and reduce glare, as well as the use of high-contrast legible fonts and symbols for in-vehicle displays, may help compensate for age-related changes in vision.³⁰⁸ In addition, prominent analog gauges may be easier to see and interpret than small digital devices.³⁰⁹ Computers have revolutionized the motor vehicle industry by managing airbag safety systems, anti-lock brakes, and global positioning systems. In-vehicle assessment tools to assess for high-risk conditions may be developed in the future.

In the event of a crash, increasingly crashworthy vehicle designs and

307. Bedard, M., Porter, M. M., Marshall, S., et al. (2008). The combination of two training approaches to improve older driver safety *Traffic Inj Prev.* 9:70–76.

308. Schieber, F. (1994). High-priority research and development needs for maintaining the safety and mobility of older drivers. *Exp Aging Res.* 20:35–43.

309. Koonce, JM., Gold, M., & Moroze, M. (1986). Comparison of novice and experienced pilots using analog and digital flight displays. *Aviat Space Environ Med.* 57(12 pt. 1):1181–1184.

restraint systems designed for fragile occupants may enhance the safety of older drivers and passengers. Furthermore, certain add-on features may make current vehicle designs safer and more accessible for older drivers. For example, handholds and supports on door frames may facilitate entry/egress for drivers and their passengers. Padded steering wheels and seat adjuster handles (rather than knobs) may benefit drivers with decreased hand grip, while adjustable steering wheels and foot pedals may aid drivers with limited range of motion.³¹⁰ Other adjustable controls and displays may allow older drivers to tailor their vehicle to their changing abilities and needs. New safety features with the potential to prevent injury in older adults include: tire pressure monitoring systems, adaptive cruise control/collision mitigation systems, blind spot detection/collision warning, lane departure warnings, rollover prevention, occupant-sensitive airbags, emergency brake assist, rearview cameras, and on-demand emergency response systems (e.g., OnStar).³¹¹

10. Optimal environments for older drivers and pedestrians

Many older road users are at a disadvantage on roads and highways that are most heavily used by and traditionally designed for a younger population. In a telephone survey of 2,422 people 50 and older, nearly one of five participants considered inconsiderate drivers to be a significant problem. Other commonly identified problems included traffic congestion, crime, and fast traffic.³¹²

These problems may be ameliorated through traffic law enforcement and better road and traffic control designs.

310. Ageing and Transport: Mobility Needs and Safety Issues. (2001). Organisation for Economic Co-Operation and Development; p. 69–71.

311. Edmunds.Com. Top 10 High-Tech Car Safety Technologies; 2007. www.edmunds.com/reviews/list/top10/114984/article.html. Accessed November 15, 2007.

312. Ritter, AS., Straight, A., & Evans, E. (2002). Understanding Senior Transportation: Report and Analysis of a Survey of Consumers Age 50+. American Association for Retired Persons.

One of the top requests of the nearly 200 Iowans (older drivers, transportation professionals, and senior-related professionals) attending the Iowa Older Drivers Forum was the enhanced enforcement of speed and aggressive driving laws.³¹³ In terms of road and traffic engineering, the Federal Highway Administration (FHWA) has recognized and addressed the needs of older road users in its Highway Design Handbook for Older Drivers and Pedestrians, a supplement to existing standards and guidelines in the areas of highway geometry, operations, and traffic control devices.³¹⁴ These design features may be implemented in new construction, renovation and maintenance of existing structures, and “spot” treatment at certain locations where safety problems exist or are anticipated.³¹⁵ Recent positive news is a trend or reduction in highway deaths for the first time since 1992, which in part has been attributed to installation of median guard cable on busy highways, building better roads, and the addition of rumble strips to the shoulders of roads.³¹⁶ The FHWA handbook will soon be updated to incorporate the latest research on the effectiveness of design and engineering enhancement to accommodate older road users.

11. Better alternatives to driving

For the older population, alternatives to driving are often less than ideal or non-existent. When faced with the choice of driving unsafely or losing mobility, many risk their safety by continuing to drive.

313. Iowa Safety Management System: Safe Mobility Decisions for Older Drivers Forum. June 19-20, 2002.

314. Staplin, L., Lococo, K., Byington, S., Harkey, D. (2001, October). Highway Design Handbook for Older Drivers and Pedestrians. FHWA-RD-01-103. Washington, DC: Federal Highway Administration.

315. Ageing and Transport: Mobility Needs and Safety Issues. (2001). Organisation for Economic Co-Operation and Development; p. 60.

316. Tom Warne Report. (2007). Missouri Highway Deaths Decline. http://tomwarnereport.com/twr/twr_v4n28.html. Accessed November 15, 2007.

Existing forms of transportation clearly need to be optimized for use by older persons. In a telephone survey of 2,422 people 50 and older, ride-sharing was the second most common mode of transportation (after driving); however, nearly a quarter of the survey participants cited feelings of dependency and concerns about imposing as a barrier to use. Public transportation was the usual mode of transportation for fewer than 5 percent of survey participants, with many citing unavailable destinations, problems with accessibility, and fear of crime as barriers to use. Fewer than 5 percent used taxis as their usual mode of transportation due to their high cost.³¹⁷ Until these barriers are addressed, these forms of transportation will remain inaccessible to many older persons.

Transportation programs created specifically for the older population, such as senior shuttles and vans, exist in certain communities. Certain States have adopted the independent transportation network (ITN) model developed by Dr. Katherine Freund initially in Maine.³¹⁸ These programs address the Five A's of Senior-Friendly Transportation; namely, availability, accessibility, acceptability, affordability, and adaptability (see Figure).³¹⁹ As the older population continues to grow, we encourage the creation of new programs or the expansion of existing ones to keep pace with passengers' needs. We also encourage stronger community outreach to increase awareness of such programs.

317. Ritter, AS., Straight, A., & Evans, E. (2002). Understanding Senior Transportation: Report and Analysis of a Survey of Consumers Age 50+. American Association for Retired Persons; Policy and Strategy Group, Public Policy Institute.

318. ITN America. (2007). www.itnamerica.org. Accessed November 12, 2007.

319. Supplemental Transportation Programs for Seniors. (2001, June). By the Beverly Foundation, prepared for AAA Foundation for Traffic Safety.

Figure 10.1 The Five A's of Senior-Friendly Transportation

(Reproduced from *Supplemental Transportation Programs for Seniors*, The Beverly Foundation)

Availability: Transportation exists and is available when needed (e.g., evenings, weekdays, weekends)

Accessibility: Transportation can be reached and used (e.g., bus stairs are negotiable, seats are high enough, vehicle comes to the door, transit stops are reachable)

Acceptability: Deals with standards including cleanliness and safety (e.g., the transporting vehicle is clean, transit stops are in safe areas, drivers are courteous and helpful)

Affordability: Deals with costs (e.g., fees are affordable, vouchers or coupons are available to defray out-of-pocket expenses)

Adaptability: Transportation can be modified or adjusted to meet special needs (e.g., the vehicle can accommodate a wheelchair, trip chaining is possible, escorts can be provided)

12. Education and training tools

Additional resources

The following resources contain additional information on meeting the mobility needs of the older population:

Ritter, A. S., Straight, A., and Evans, E. *Understanding Senior Transportation: Report and Analysis of a Survey of Consumers Age 50+*. AARP, Policy and Strategy Group, Public Policy Institute, 2002. This paper was created to explore the problems of people 50 and older, in particular, those 75 and older with relation to transportation. May be used in the development of policies that expand and improve transportation options for older persons.

Staplin, L., Lococo, K., Byington, S., and Harkey, D. *Highway Design Handbook for Older Drivers and Pedestrians*. FHWA-RD-01-103, October 2001. This applications-oriented handbook provides detailed design recommendations for five types of sites: (1) intersections (at grade); (2) interchanges (grade separation); (3) roadway curvature and passing zones; (4) construction/work zones; and (5) highway-rail grade crossings. This handbook is primarily intended for highway designers, traffic engineers, and highway safety specialists involved in the design and operation of highway facilities. It may also be of interest to researchers concerned with issues of older road user safety and mobility.

Ageing and Transport: Mobility Needs and Safety Issues. Organisation for Economic Co-Operation and Development (OECD), 2001. The OECD, an international organization dedicated to addressing the economic, social, and governance challenges of a globalized economy, produced this investigation of the travel patterns, transport and safety needs, and mobility implications of tomorrow's elderly. It is intended to inform strategists, policy-makers, regulators, and the general public of the aging population's safety and mobility needs; dispel myths and misconceptions about older road users; and present the latest research findings to assist decision-makers in formulating sound policies

and programs for the safe mobility of the aging population.

Supplemental Transportation Programs for Seniors. By the Beverly Foundation, prepared for AAA Foundation for Traffic Safety, June 2001. This report contains the findings of the Supplemental Transportation Program for Seniors project, which was initiated in 2000 by the AAA Foundation for Traffic Safety, a philanthropic foundation in Washington, DC, and the Beverly Foundation, a private foundation in Pasadena, California. This project was designed as a nine-month effort to gather information about community-based transportation programs for seniors in the United States. In describing and evaluating these programs in order to provide their findings to interested organizations, the project staff recognized the importance of five criteria for senior-friendly transportation, which are listed.

Lococo, K., Tyree, R. *Medication-Related Impaired Driving*. By NHTSA and co-sponsored by Walgreens, 2007. By NHTSA and co-sponsored by Walgreens, this excellent review of potential driving-impairing drugs provides credits or CEUs for pharmacy technicians. However, this curriculum is useful reading for any clinician who prescribes drugs to older adults. The manual covers causes of motor vehicle crashes, reviews functional abilities that are key for operating a motor vehicle, and lists reasons why medications may impair driving. There is a discussion of the term "potentially impairing medications" and an updated review of the literature that identifies high risk drugs. Ethical and legal issues in drug prescribing are addressed. Although the curriculum was created for pharmacists, much of the information is helpful to physicians.

Lococo, K., Staplin, L. *Strategies for Medical Advisory Boards and Licensing Review*. DOT HS 809 874, July 2005. This NHTSA-funded project, written by Lococo and Staplin, reviews the current operations and practices of MABs. A summary of what each State is currently doing in this area is provided.

An executive summary is especially useful in outlining the direction States and MABs should pursue in order to enhance their usefulness and viability, and have an impact on public safety.

Maintaining Safe Mobility in an Aging Society. The overarching objective of this book is to provide a concise, comprehensive, and up-to-date resource on aging and transportation. Specifically, it has the following goals: Enable readers to understand the issues related to aging and mobility and to respond to the often heard comment “Just take their driver license away”; describe the skills related to safe driving and how they can be affected by aging; critically examine the current evidence on how medical conditions and medications affect driving skills; provide a comprehensive description of screening and assessment practices, issues, and tools; provide information to help older adults transition from full driving to driving cessation; and explore various means by which an aging individual can maintain safe mobility. (Eby, D.W., Molnar, L.J., & Kartje, P.S.. *Maintaining Safe Mobility in an Aging Society*. New York, NY: CRC Press. ISBN: 9781420064537. In press.)