THE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

TRAFFIC SAFETY PLAN FOR OLDER PERSONS

March 1993

PREFACE

In the mid-1980's, it became apparent that the problems facing older drivers, occupants, and pedestrians required increasing attention. Not only were the number of older Americans increasing, more were driving and the incidence of injury and fatality resulting from motor vehicle crashes was increasing at a faster rate than the population growth. To address this problem the agency developed and published an action plan, "The National Highway Traffic Safety Administration's Traffic Safety Plan for Older Persons," in September 1988.

The research undertaken to implement the 1988 plan indicated that older drivers are overrepresented in crashes at intersections and during certain hours of the day, that they are underrepresented in crashes involving alcohol or speed, and that many older drivers tend to self- adjust their driving to accommodate any reduction in functional capacity. The results also showed that older driver safety problems are concentrated among older drivers who are either unaware of their difficulties or unable to make compensating adjustments to their driving. Included are drivers with peripheral vision problems that are not easily detectable with standard vision tests or those who cannot comprehend their difficulties, such as those with dementia. Similar problems were also uncovered in pedestrian safety. In addition, the research confirmed that drivers, passengers, or pedestrians over age 80 are more likely to be injured or killed in a crash than younger persons.

The 1990 census data showed that the rapid growth of the older population that initially triggered the agency's efforts to focus on older person traffic safety continued and if anything accelerated From 1980 to 1990 the population over age 65 increased 20.9% while the general population grew by just 9.2% percent. While this difference is substantial, it will be overshadowed by changes projected by the U.S. Census Bureau for the future. For the decade from 2010 to 2020, the overall population increase is expected to be 8.2 percent, while the over 65 year old population is expected to grow by 35.1 percent!

In response to the continuing and growing older person traffic safety problem, the agency prepared this Traffic Safety Plan for Older Drivers. It describes major agency efforts in Problem Identification, Program Development, and Program Evaluation activities intended to improve the safety of older drivers, vehicle occupants, and pedestrians. It follows the information presented in "Addressing the Safety Issues Related to Younger and Older Drivers, A Report to Congress," February 1993.

As with earlier efforts, the projects summarized in this plan continue to involve other Department of Transportation agencies, including the Office of the Secretary of Transportation, the Federal Highway Administration, and the Federal Transit Administration regarding projects in such areas as pedestrian safety, alternative transportation systems, and driver/highway interface. The plan also involves the highly specialized expertise found in other government agencies, including the National Institute on Aging, the Administration on Aging, and the Centers for Disease Control. In addition, NHTSA will continue to involve non-government organizations familiar with the needs and concerns of older persons as appropriate.

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Problem Identification

1. Establish the Crash Risk for Specified Medical/Functional Conditions

This project, begun during 1992 with Oak Ridge National Laboratories, will determine the conditions under which older drivers pose a threat to public safety and therefore need to be identified and made subject to license control. The study will establish a statistical link between crash risk, moving violations, and physical or mental conditions. It will also identify the extent to which individuals with conditions that affect driving performance correctly modify their driving behavior.

Estimated time: Initiation - Fall 1992
Completion - Fall 1994

2. Determine If Older Drivers Adequately Self-Regulate

NHTSA will determine the characteristics of drivers who do and do not adequately self-regulate, and also the conditions, if any, under which these drivers may be able to drive while preserving safety.

Estimated time: Initiation - Fall 1994
Completion - Fall 1996

3. Document the Mobility Consequences of Relinquishing the Driver License

This research, expected to be conducted jointly with the Federal Transit Administration and the Administration on Aging, will document the broad array of concerns expressed by older persons who surrender their driver license, and will prepare materials for use by local community planners in assessing available transportation remedies that address these concerns.

Estimated time: Initiation - Fall 1994
Completion - Spring 1996

4. Analyze Vehicle Crashworthiness for Older Occupants

NHTSA will analyze crash data to compare the injuries older persons receive when they are restrained with lap and shoulder belts and/or air bags, in contrast to the injuries sustained by similarly restrained younger persons. Since older occupants are more likely to be involved in side impact crashes, NHTSA also will monitor the

changes in injury to older and younger vehicle occupants to determine the relative effectiveness of the side padding and structural improvements that manufacturers will be installing as the new dynamic side impact regulation is phased into passenger cars in the next few years.

Estimated time: Initiation (Restraints) - Fall 1992
Initiation (Side Impact) - Fall 1994
Completion (Restraints) - Spring 1995
Completion (Side Impact) - Fall 1998

5. Identify the Causes of Older Driver Intersection Crashes

This research will investigate the causes of older driver crashes at intersections, especially those involving left turns. The findings from this research will become the basis for new informational or training materials for older drivers.

Estimated time: Initiation - Fall 1993
Completion - Fall 1995

6. Identify Barriers to Physician Referral of Patients for License Re-exam

This project will investigate the legal, ethical, and practical barriers to effective reporting by physicians of suspected diminished driver capacity and will examine ways to improve safety by improving the reporting requirements by physicians. This analysis will include an investigation of the safety and mobility impacts in States with different reporting requirements.

Estimated time: Initiation - Fall 1995
Completion - Fall 1996

7. Identify the Practical Problems with Family or Friends' Reporting of Suspected Diminished Driver Capacity

This study will examine the practical effects of the existing State laws that either require or prohibit families' and friends' reporting of a potentially unsafe driver. Some States require that the driver called in for re-examination be given the name of the individual who reported the unsafe driving. This project will recommend improvements for these various State reporting laws.

Estimated time: Initiation - Fall 1995
Completion - Fall 1996

8. Identify Specific Vehicle Design Practices that Enhance Older Driver Crash Avoidance

Crash avoidance and older drivers will be addressed as a dedicated research program with the following major objectives:

1. Assess research needs and opportunities relating to older driver safety, with emphasis on vehicle design practices and potential countermeasures.

2. Develop methodologies and perform research on the effect of vehicle design practices, including advanced technology countermeasures, on older driver crash involvement.

3. Recommend specific vehicle design practices, including crash avoidance countermeasures.

In addition to this research on specific vehicle design practices, Project #15 will continue, on an on-going basis, to consider the needs and functional limitations of the older driver in virtually all NHTSA crash avoidance research.

Estimated time: Initiation - Spring 1993
Completion - Spring 1997

Program Development

9. Develop Performance Assessment Techniques

This project will produce tests that will more closely duplicate driving situations faced by older drivers. The products developed will be field tested prior to any generalized distribution. The purpose of these tests will be to better detect problem older drivers than the generalized tests typically in use today. In particular, functional limitations that are most often the result of medical conditions will be identified through these new testing procedures.

Estimated time: Initiation - Fall 1993
Completion - Winter 1997-8

10. Develop Ways to Meet Mobility Needs of Older Former Drivers

This project is expected to be conducted in cooperation with the Federal Transit Administration and the Administration on Aging. It will use the results from Project #3 to produce strategies for meeting the transportation needs of older people who can no longer drive. This project will prepare informational packages, training materials, and guidelines designed for use by State and local officials.

Estimated time: Initiation - Fall 1996
Completion - Fall 1998

11. Develop Improved Intersection Negotiating Practices

NHTSA will develop behavioral and other solutions for improving intersection negotiating practices by older drivers. This project will utilize the findings from Project #5 to develop informational and training programs for older drivers that are designed to help them compensate for their limitations.

Estimated time: Initiation - Fall 1995
Completion - Winter 1997-8

12. Develop Empirical Guidelines for Medical Practitioners

This research will build on the conclusions and findings from Projects #1, 2, 3, 4, 6, and 7 to develop practical guidelines for physicians and other medical practitioners based on NHTSA epidemiological data. These guidelines will provide the medical

community with clear criteria on when and whether a patient's driving should be curtailed or stopped based on physical or psychological findings. These guidelines will replace current medical practice that relies upon an individual's "best professional judgement" rather than upon empirical data.

Estimated time: Initiation - Fall 1996
Completion - Spring 1998

13. Develop Materials for Use by Older Drivers in Making Their Driving Decisions

NHTSA will use the results of Projects #1, 2, 3, 7, 9, and 10 to develop materials that will assist older drivers in determining when they have driving problems. This will be done in a number of ways, including offering "self-test" procedures that individual drivers may use to identify the extent to which they should limit their driving. These materials will also assist families, caregivers, and law enforcement personnel to identify drivers who present symptoms that impact the ability to drive safely. Finally, this project will develop materials for use by testing centersthat will provide independent counsel to older drivers on their ability to continue driving.

Estimated time: Initiation - Fall 1997
Completion - Fall 1999

14. Develop Training and Information Programs

NHTSA will use the results of projects #1,2,3,7, and 9-13 to prepare instructional materials to aid older drivers in safely meeting their mobility needs. This study will also examine existing training programs such as those that now teach stroke or head injured patients to drive again to ascertain the extent that such programs successfully reduce unsafe driving behaviors. This study will determine if these programs with or without modifications are transferrable to re-training of functionally limited older drivers, and will prepare training programs to be offered by national organizations to their older members.

Estimated time: Initiation - Fall 1998
Completion - Fall 2001

15. Consideration of Older Drivers in All Crash Avoidance Research

NHTSA's crash avoidance research program emphasizes the assessment of vehicle

design practices that influence driver performance and crash involvement. In virtually all such research, the older driver is considered as a critical component of the driver population. This research considers both "conventional" design features (e.g., lights, mirrors, brakes), as well as advanced technology such as Intelligent Vehicle Highway System (IVHS) devices. NHTSA recognizes that IVHS may be a "double-edged sword" for the older driver. While opportunities exist for safety improvements, some IVHS applications could have the potential to *degrade* older driver safety by distracting or confusing the older driver with excessive warnings or other information. The National Advanced Driving Simulator will be a valuable research tool in this activity.

Estimated time: Initiation - Summer 1991
Completion - Continuing

16. Develop Safety Information Materials and Safe Pedestrian Zones for Older Pedestrians

Based on pedestrian accident data compiled jointly by NHTSA and the Federal Highway Administration (FHWA), pedestrian safety materials were prepared for dissemination by organizations to large groups of older persons. Analyses of these accident data also showed that pedestrian accidents tend to be clustered together in "zones." This current project is being conducted jointly by NHTSA and FHWA. It identifies safe pedestrian zones, and saturates them with a mix of safety information materials and traffic engineering countermeasures. The materials and countermeasures will be demonstrated in selected sites prior to general distribution.

Estimated time: Initiation - Summer 1990
Completion - Winter 1995-6

Program Evaluation

17. Evaluate Driver License Re-examination Requirements

This study will evaluate the outcomes of the different existing State driver license examination requirements that pertain to older drivers. Some States require older drivers to personally appear for license renewal so licensing officials can directly observe driver behavior, while other States permit older drivers, especially those with clear driving records, to renew by mail. This study will evaluate the safety benefits of these varying requirements.

Estimated time: Initiation - Fall 1993
Completion - Fall 1996

18. Evaluate NHTSA/AAMVA Model Driver Screening and Evaluation Program

This project will document and evaluate the safety outcomes of a program that will use the conclusions from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to develop a set of guidelines for use by State driver licensing agencies to assist in detection and regulation of problem drivers.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001

19. Evaluate Medical and Community-Based Appraisal of Driving Limitations

This study will use the results from Projects #1, 2, 3, 6, 7, 9, 10, 12, and 13 to evaluate the safety outcomes of the medical community's actions in limiting the driving activity of functionally impaired drivers, and the functionally impaired driver's own limiting of the driving activity.

Estimated time: Initiation - Fall 1998
Completion - Fall 2001

20. Evaluate Programs that Maintain Former Driver Mobility

This study will evaluate the results of Project #9 to determine if programs developed for the purpose of assuring that older former drivers successfully maintain their mobility have attained that goal.

Estimated time: Initiation - Fall 1997
Completion - Fall 2001