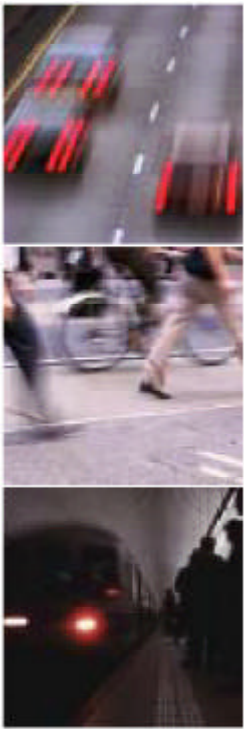


Alan M. Voorhees Transportation Center

Edward J. Bloustein School of Planning and Public Policy



Safe Mobility at Any Age Policy Forum Series

Summary Proceedings
December 10, 2003 Forum

Proceedings prepared and published by:

Alan M. Voorhees Transportation Center

Edward J. Bloustein School of Planning and Public Policy

and

New Jersey Foundation for Aging

January 2004

SAFE MOBILITY AT ANY AGE POLICY FORUM SERIES

SUMMARY PROCEEDINGS

DECEMBER 10, 2003 FORUM

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FOREWARD

The first policy forum in the **Safe Mobility at Any Age** series was held on December 10th, 2003 at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey. Speakers at the first of the six forum series, which is cosponsored by the Alan M. Voorhees Transportation Center and the New Jersey Foundation for Aging, explored issues related to safe mobility issues in New Jersey, facts and myths regarding New Jersey's mature drivers and the State of Maryland's safe mobility research consortium.

The topic of safe mobility is timely and has far reaching policy implications related to public health, public safety, community development and personal autonomy across all age groups. Because this is a complicated many-sided issue, we have planned six forums in the series over one year so that each forum, while continuing to maintain the broad context of the topic, will focus and target attention on different aspects of the question. Each forum will bring together policy and regulatory experts from inside and outside of New Jersey to aid the discussions. We anticipate that the forum series will lay the foundation for and culminate in recommendations for future policy and legislative initiatives.

The policy forum series will enable attendees to explore "safe mobility" issues in the New Jersey context and consider a variety of topics including: what events and circumstances should trigger driver's license retesting; what role health care and community professionals should play as "gatekeepers" related to an individual's fitness to drive; what resources are available to family members; and what community supports need to be in place to ensure safe mobility at any age.

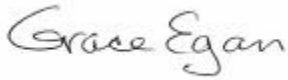
Fifty attendees participated in the first forum, sharing their perspectives and providing feedback and comments. The session confirmed that the topic has far-reaching policy implications and that there is strong interest in continued participation at the future forums. Key issue areas to be discussed at the second through fifth sessions will include:

- Functional assessment and health screening looking at risk management and liability issues as well as remedial/restorative health programs that may enhance driver skills (topics to be covered at the February 18, 2004 forum);
- Regulatory practices and compliance issues related to driving licensure;
- Community mobility options exploring volunteer recruitment, screening, insurance, consumer utilization and satisfaction; and
- Safety perspectives addressing roadway design and signage, pedestrian safety, vehicle design and adaptive devices to enhance driver ability.

The sixth and final forum meeting will engage participants in a discussion of systemic and integrated policy reforms aimed at ensuring safe mobility at all levels. We strongly urge all participants to attend each of the planned meetings because safe mobility at any age touches many aspects of our professional and personal lives. Sharing a broad range of expertise will help to inform participants and engage us all in finding the best set of recommendations for family members, community, transportation and health care professionals.

Our hope is that this policy series stimulates attention to safe mobility issues by a broad range of practitioners and interest groups; that this consortium of interests recognizes the benefit of sharing perspectives; and that together, New Jersey can develop best practices, develop policy and legislation that moves in the direction of safer mobility at all ages.

With this in mind, we present the Summary Proceedings of the first policy forum. We hope you find them interesting and professionally useful.



Grace Egan, MS
Executive Director
New Jersey Foundation for Aging



Martin E. Robins
Director
Alan M. Voorhees Transportation Center

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Don't take away elderly driving privileges

There's no doubt that headlines screaming "tragedy!" caused by "senior" drivers has drawn attention to our capability or lack thereof of continuing to be licensed. I can understand the growing demand for use to be tested for fitness to retain such licenses, though I worry what the test will be like, who will have devised it and whether it will be altogether fair. After all, we've all had experience with the state Division of Motor Vehicles and New Jersey insurance companies, and most of us are aware of their reach within the state.

Nevertheless, putting all the possibilities of political shenanigans aside, I wonder if those pushing hard to get seniors retested understand what would be required if they take away our driving privilege.

- Broad-scale public transportation will have to be reinstated. Right now, I can drive to my food store, my bank, my druggist, and any mall I choose to shop at on any given day. If I can't drive there, I'll somehow need to be transported at a reasonable price. Countywide bus service routes will need to be reactivated, and someone will need to underwrite the cost.
- Taxi you say? Other private transportation? Eight years ago, it cost \$8 for a one-way trip from East Brunswick to New Brunswick. Even then, one shared the ride with as many as four other people and waited for that ride at the convenience of the company. I doubt much has changed. I know this option would not be affordable for most.
- Family help seems a reasonable alternative. The problem is many of us don't have any family in the area or family at all. We must depend solely on ourselves. Since this is the case, we are, generally speaking, very responsible people.

For example, I keep my car in excellent mechanical condition. I'm aware that my vision and reflexes are not what they once were, so I avoid major highways at peak traffic hour, when people much younger than I seem to be in some kind of local Indy 500 where "cut me off" or "tailgating" are the games of choice. I do very little night driving, though I've been to my eye doctor for lenses that dampen the glare I experience from the high headlights of the "muscle trucks" and the extra-bright lamps of some cars. In short, I'm doing my best to be a safe driver, despite my advancing age.

I would ask, before anyone passes sweeping legislation regarding me and my colleagues, that they insure that we have affordable alternatives to driving and allow us some dignity in the process of taking our driving privilege away. For some of us, it is our last vestige of independence.

Mary H. McGuire
East Brunswick

Letter to the editor
Reprinted from the 12/10/03
edition of the Home News & Tribune

SUMMARY PROCEEDINGS

Welcoming Remarks

Grace Egan, Executive Director of the New Jersey Foundation for Aging, Don Borowski, Director of Driver Management and Regulatory Affairs at the NJ Motor Vehicle Commission, and Martin Robins, Director of the Alan M. Voorhees Transportation Center, gave welcoming remarks and shared their thoughts on why the topic is important from their organization's perspective. The three discussed the importance of safe mobility as it relates to older drivers and suggested that the issue has far reaching policy implications related to public health, public safety, community development and personal autonomy. In addition, the Honorable Bob Smith, Senator from District 17 in New Jersey, welcomed the participants.

Senator Smith read aloud a letter to the editor from the December 10th edition of the Home News & Tribune, a local newspaper (see box on previous page). The letter was a particularly complete and personal statement of the issues involved in senior driving which managed to capture the essence of the topic, and could not have been better timed. Following that erudite opening, Senator Smith outlined legislation (S2202) that he has co-sponsored with Senator Ciesla.

He explained that the legislation is intended to establish three senior citizens safe driving health centers; protect senior citizen drivers, passengers and pedestrians; revise various parts of statutory law and make an appropriation to fund the necessary elements of the act. Senator Smith noted several key elements of the legislation, including a provision which will enable the centers to provide confidential fitness to drive evaluations for seniors. The bill also provides for incentives, such as a 10% reduction on auto insurance rates, to encourage seniors to voluntarily seek fitness to drive assessments. Senator Smith concluded his remarks by urging everyone in attendance to review the proposed legislation and, as appropriate, support the bill as a positive way to help seniors drive more safely, longer.

The New Jersey Context

Jon Carnegie, Assistant Director of the Voorhees Transportation Center, provided an overview of safe mobility issues in New Jersey. He began by reciting some quick facts about transportation and travel in New Jersey.

- Quick Fact 1 – According to the 2000 Census, New Jersey had 8.4 million residents AND we are the most densely populated state in the nation with 1,100 persons per square mile.
- Quick Fact 2 – According to the NJ Motor Vehicle Commission, New Jersey has more than 5.9 million licensed drivers.
- Quick Fact 3 – According to the New Jersey Department of Transportation, New Jersey drivers travel more than 68 billion miles per year on 36,000 miles of state, county and local roadways.
- Quick Fact 4 – Public transit users in New Jersey take more than 222 million trips per year on NJ TRANSIT's extensive bus and rail network.

- Quick Fact 5 – All of this trip making activity is not without incident. In fact, more than 320,000 crashes occurred on NJ roads in 2002. Of those, more than 83,000 involved personal injury and 730 involved a fatality.

He suggested that these statistics illustrate the significance of safe mobility as an important public policy topic in New Jersey. He explained that the concept of safe mobility is broad and can encompass a variety of policy responses. For the purpose of his presentation, he organized them into three general categories:

- Safe mobility for everyone
- Safe mobility in terms of young drivers; and
- Safe mobility in terms of older drivers.

He noted that over the past several decades, safe mobility concerns and policy responses have manifested themselves in a variety of forums on a variety of topics, including a number that apply across the board to all age groups. He gave the following examples:

- Improvements to motor vehicle design and construction to enhance safety for drivers and passengers. One of many examples is the significant improvements made in safety restraint systems, including seat belt and air bag technology.
- Adopting and enforcing more stringent penalties for driving while under the influence of drugs and alcohol.
- Passing laws requiring mandatory seat belt use, and in some states like New Jersey, mandating the use of child safety seats.

Mr. Carnegie noted that mobility for young drivers in particular has become a growing concern in many states. He stated that for a variety of reasons, young drivers, account for a disproportionate number of crash incidents. According to the National Highway Traffic Safety Administration, nationally, 16-year old drivers have crash rates 3 times higher than 17 year old drivers, 5 times higher than 18 year olds, and 2 times greater than drivers over the age of 85. In response to these troubling statistics, he noted that in at least 11 states, including New Jersey, legislators had enacted multi-staged “graduated drivers license” programs. He described New Jersey’s program and reported that early evaluations of graduated license programs in several states and countries demonstrate a 5-15% reduction in crashes for drivers between the ages of 16 and 19.

Next, Mr. Carnegie opined that one area not as well addressed, at least in New Jersey, is safe mobility as it relates to older drivers and he recited what he described as some “food for thought” about the changing demographics of New Jersey’s senior population.

- Today’s seniors are living longer, more active lives;
- Like most Americans of all ages, most seniors travel by private automobile. In fact, according to the National Household Transportation Survey conducted in 2001, the overwhelming majority – 89% – of all trips made by seniors are made by private automobile. Only 9% of seniors walk or bike and slightly more than 1% take transit.

- Like in the United States as a whole, the effect of the aging baby boomer generation continues to be felt demographically. New Jersey's senior population is growing. In 2000, 1.1 million New Jersey residents were over age 65. By 2020, the number is expected to grow to 1.5 million. While New Jersey's population as a whole is expected to grow by 16%, the portion of the population over age 65 will grow by 39%... with the greatest increase in the 85 and older age cohort.
- Finally, New Jersey's senior population is growing in rural and suburban counties where there are fewer travel options and where driving a car may likely be the only viable means of meeting daily travel needs. Over the next two decades, New Jersey's fastest growing counties in terms of residents 65 and over will be:
 - Sussex (106%),
 - Hunterdon (98%),
 - Ocean (70%)
 - Gloucester (69%),
 - Somerset (66%), and
 - Burlington (65%).

Further, the counties that will receive the largest share of overall growth in senior population in the next two decades will be:

- Ocean (+79,540 or 18%),
- Monmouth (+40,577 or 9%),
- Middlesex (+37, 210 or 9%),
- Burlington (+34, 782 or 8%), and
- Morris (+ 34,670 or 8%)

More than ½ the growth will occur in these 5 counties.

Mr. Carnegie concluded his remarks by suggesting that all of these factors will play a role in shaping New Jersey's policy responses designed to ensure safe mobility for older drivers.

Slides from Mr. Carnegie's presentation are included as an appendix.

The Mature Driver in New Jersey

Dr. Naomi Rotter, professor of management at NJIT, presented the findings of a study she and Dr. Claire McKnight, associate professor of civil engineering at City College of New York, completed in 2001 for the NJ Department of Transportation. The study entitled *The Mature Driver: Safety and Mobility Issues*, investigated whether New Jersey's mature drivers are at an increased risk of injury and fatalities to themselves and others.

Dr. Rotter began her presentation with some statistics about New Jersey's older population. She reported that New Jersey's seniors are slightly older than the U.S. population and that the proportion of the state's senior population 85 years and older ("older-olds") was growing rapidly – 94% from 1980 to 2000 vs. 38% nationally. She also reported that the number of licensed drivers 85 years old and older increased by 26% between 1996 and 2000.

Dr. Rotter briefly described the methodology used to analyze crash and violation data and reported the following general findings, which apply to all drivers, not just mature drivers:

- crash incidents generally decline with age;
- more crashes occur during daylight hours and during good weather conditions; and
- more accidents occur on local and private roads;

She further reported that mature drivers in New Jersey do not present an increased crash risk to other drivers. However, she noted that to the extent they are a risk, older drivers appear to be primarily a risk to themselves in that there is a slight increase in fatalities as mature drivers get past the age of 65. She attributed this finding to the increased frailty of older-old drivers. Dr. Rotter suggested that such a problem might be best remedied through redesigning automobiles to address the needs of frail drivers rather than by necessarily changing policies regarding licensure.

Dr. Rotter reported that crashes involving older drivers in New Jersey, like the rest of the country, are more frequent during daytime versus nighttime hours. Older drivers are also less likely than younger drivers to be in accidents when weather and road conditions are poor; and somewhat more likely to be involved in crashes on local roads than state or interstate highways. She opined that such a pattern suggests that older drivers are attempting to limit opportunities for crashes by avoiding driving situations and conditions that put them at greater risk.

She also reported that older drivers in New Jersey, as elsewhere, show a greater propensity to be involved in left-turn crashes than younger groups. She stated that data indicates that driver inattention, failure to yield right of way and failure to obey traffic devices are the most frequently cited contributing circumstances related to crashes involving older drivers. Dr. Rotter suggested three potential remedies that might be appropriate to address these findings:

1. training older drivers for intersection maneuvers and giving them techniques for getting through the intersection safely;
2. redesigning intersections that show high accident rates in general; and
3. a human engineering approach with some device that could warn drivers of oncoming cars and whether they can get through the intersections safely.

Dr. Rotter next reviewed the findings of a policy analysis undertaken as part of the study. The study looked at licensing issues related to older drivers, as well as medical issues and fitness to drive considerations in the context of how other state's have addressed these issues. To do this, the research team surveyed practices in other states. The survey resulted in the following findings:

- 32 states have no restrictions regarding older drivers, including New Jersey;
- 13 states have accelerated license renewal cycles;
- 7 states restrict mail renewal, some for reasons other than age;
- 3 states have age related vision test requirements;
- 2 states have age related road testing;
- Utah has a special licensing program for drivers with medical conditions;
- Several states have mandated reporting of medical conditions; and finally,

- California, Maryland and the Center for Applied Gerontology at the University of Alabama are experimenting with fitness to drive programs.

Dr. Rotter concluded her remarks by suggesting that any policy agenda to address safe mobility for mature drivers should include:

- Solutions for specific driver fitness problems such as inattention and diminished reflex time;
- A program of engineering changes and safety enhancement to improve the design and condition of roadways and intersections; and
- Reforms to the medical review process to improve the uniformity and effectiveness of fitness to drive assessments and encourage the use of remedial and skill enhancement programs.

She suggested that one area that emerged from the study as appropriate for additional analysis is the medical review policy in each of the states. It seemed clear that this policy allows states to evaluate the fitness to drive of older drivers without using age as a screening criterion. However, there is variability as to how the process is initiated, whether or if there is mandatory physician reporting, whether there is confidentiality of reporting, how the medical review process works, and finally if there are alternatives to suspending or restricting licenses. She stated that an examination of the medical review policy in all states would provide a knowledge base for good practice here in New Jersey.

Slides from Dr. Rotter's presentation are included as an appendix.

The Maryland Experience

Dr. Loren Staplin, principal partner in the firm TransAnalytics, replaced Dr. Robert Raleigh as the presenter of Maryland's safe mobility initiatives. Dr. Raleigh, who is the key architect of the *Maryland Research Consortium*, was ill and could not attend.

Dr. Staplin began his remarks by describing the philosophical underpinning of Maryland's approach to safe mobility for older drivers. He explained that Maryland's approach:

- recognizes functionally impaired driving as a public health and safety issue;
- integrates health, social service and motor vehicle agency functions; and
- links fitness to drive screening with community mobility solutions.

Dr. Staplin stated that the key health factors which result in an increased risk for crash incidents are:

- functional declines in critical abilities such as visual, cognitive, physical and perceptual abilities, important to certain driving tasks;
- increased incidence of disease and pathology; and
- more extensive use of multiple medications.

He noted, for illustrative purposes, that the biggest predictor of nursing home entrance was how long since the individual had lost their driving license. He suggested a relationship between losing one's license and declining medical and psychological condition. He also observed that in most parts of the U.S., losing one's ability to drive severely impacts quality of life, which may hasten physical and mental decline.

He explained that, in Maryland, safe mobility for older drivers is treated as a preventive care issue as well as a public health and safety issue. For instance, functional fitness screening can be used as an early detection method to uncover potential health issues that may not be discovered by diagnostic tests until conditions worsen. According to Dr. Staplin, the Maryland model is focused on helping older drivers drive safer longer, as opposed to preventing crashes.

Dr. Staplin next described the Maryland Research Consortium, a multidisciplinary team representing over 25 State and national organizations and private sector partners. It was established in 1996 to coordinate efforts to more fairly and accurately identify high-risk older individuals, and to help those who need it improve their skills, change their habits, or find better alternatives to driving. The consortium's mission is "to create and offer a program of safe mobility for Maryland's older drivers." The vision of the consortium is "to become the national model for safe mobility for life."

The consortium's four key performance areas and goals are:

- identify and assess the ability of functionally at-risk drivers;
- counsel and provide rehabilitation services to those with functional limitations so that they remain safely mobile, and identify providers of these services;
- ensure the availability of feasible, affordable and desirable transportation options for those who cannot continue to drive; and
- inform and educate the public about functional fitness to drive issues.

Dr. Staplin described Maryland's Medical Advisory Board process. He noted that potentially at-risk drivers are referred to the board through self, court system, law enforcement, family/friends or medical referrals and explained the process once a driver is referred to the board (see Figure 1 on next page).

Dr. Staplin reported the following "products and policy contributions" from the Maryland pilot program:

- The functional areas identified as significant predictors of "at-fault" crashes are:
 - visualization of missing information;
 - directed visual search;
 - information processing speed under divided attention conditions;
 - working memory;
 - leg strength and general mobility; and
 - head and neck flexibility.
- Functional capacity screening adds value to traditional medical evaluation procedures;

PARTICIPANT DISCUSSION

The following comments and questions were shared by participants during the facilitated discussion that followed the speaker presentations:

- A member of the audience noted that driver improvement classes and exams are offered by organizations such as AAA and AARP to improve driving skills. Completion of such courses often results in lower automobile insurance rates. Although these courses and exams improve knowledge, they fail to test key factors, such as driver reaction time. In addition, because of the nature of these knowledge-based tests, few participants ever fail the exams. It was suggested that any organization that provides such testing should be licensed by the state and that these programs could be retrofitted to address the specific functional fitness needs of older drivers. Don Borowski, NJMVC, responded that the MVC reviews and approves such programs. He noted that most programs are geared to all drivers and not specifically to older drivers.
- A member of the audience inquired whether there was data available from states that have placed greater age-related statutory restrictions on their drivers, regarding whether or not these restrictions have helped to decrease accident rate. Dr. Rotter, NJIT, responded that few studies on the effectiveness of driving restrictions have been done; however, she noted an Illinois study that found that road-testing does not appear to provide benefit in terms of safe driving results. The same study showed that vision testing did provide benefit. It was noted that New Jersey requires a vision re-test every ten years which may be changed to every four years with the introduction of the digital licensing.
- A member of the audience commented that resources/funding for alternatives to auto travel are insufficient to meet demand. This is a critical issue that must be addressed when discussing any new safe mobility program. The commenter opined that volunteer driving networks could not work in New Jersey for insurance and liability reasons. Ms. Egan, NJFA, observed that there are some New Jersey examples where volunteer drivers have been used successfully. Jon Carnegie, VTC, acknowledged the importance of these topics and suggested that they will be explored in more detail at a future safe mobility forum.
- A member of the audience questioned if any studies have been done of the cost of implementing safe mobility programs. Dr. Staplin, TransAnalytics, responded that a cost analysis in Maryland demonstrated that the use of automated fitness to drive testing could be cost effective, because it could decrease staff costs by reducing the need for more administering more expensive written and road tests. In Maryland, it was estimated that fitness to drive testing administered at the motor vehicle agency would cost the state only \$5 per driver. It was noted that the state of Florida is piloting the concept of creating senior safety resource centers, which would administer fitness to drive testing. These centers would be privately run under state guidelines and supervision. This model has promise for holding down costs. Finally, it was noted that the costs of public education and training for law enforcement and administrative staff have not been calculated into any cost-benefit analysis done thus far.

- A member of the audience asked if states receive “more bang for their buck” if they pursue harsher restrictions for drivers or by offering increased funding for fitness to drive remedial programs and paratransit programs designed to reduce the need to travel by auto. Dr. Rotter responded that most states, often for political reasons, are not pursuing harsher restrictions/re-testing at this time. However, she noted that there is nationwide interest in examining the benefits of promoting safe mobility with functional fitness to drive programs.

The following is a list of possible future policy topics as identified by forum participants on forum evaluation sheets:

1. Counseling for older drivers, remedial programs
2. Public education and increasing visibility of safe mobility as a public health issue.
3. Functional screening tests/tools
4. Driver retesting and evaluation programs
5. Community mobility solutions (models, funding, insurance issues, etc)
6. Infrastructure & roadway safety (signage, lighting, intersection design, etc.)
7. Vehicle design and adaptive technologies
8. Incorporating senior/safe mobility issues into the planning process and in relation to smart growth.
9. International approaches to safe mobility and assessment
10. Approaches for therapists and physicians working with seniors on mobility issues
11. Safe pedestrian access for seniors and disabled
12. Integrating engineering, enforcement and education programs
13. Teen drivers

SPEAKER AND MODERATOR BIOGRAPHIES

Don Borowski is Director of Driver Management and Regulatory Affairs at the NJ Motor Vehicle Commission. In addition to administering federal programs for commercial drivers and motor carriers, he oversees five bureaus including Driver Management (driver suspensions, restorations, driver improvement programs), Motor Carrier Services (International Registration Plan and International Fuel Tax Agreement), Business Licensing Services (motor vehicle dealers, autobody, driving schools, vehicle inspection facilities), Insurance Surcharge (billing and collections) and Driver Review (background checks, medical review, fatal accidents and Medical Advisory Board).

Before his appointment at MVC, he served as manager of the NJ Department of Transportation's Freight Services Bureau. Also at NJDOT, he was Transportation Technology Manager, a position that emphasized interagency and public private partnerships. Don started his career in government at the Division of Motor Vehicles in 1986 where he worked as an analyst in the Planning Office. At the time, the agency was undergoing major reform, similar to the effort currently underway at the Motor Vehicle Commission.

Don is a graduate of Rider University, where he received a Bachelor's Degree in Management. He currently attends Rutgers University where he is pursuing a Masters Degree in Public Administration.

Jon A. Carnegie, AICP/PP, is the Assistant Director of the Alan M. Voorhees Transportation Center at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey. Mr. Carnegie has 12 years experience in the fields of land use and transportation planning and policy, working for the Township of West Orange, NJ; the Mercer County Planning Division; Looney, Ricks, Kiss Architects, a nationally known traditional town planning and design firm based in Memphis, TN; and The Regional Planning Partnership (formerly MSM Regional Council), a nonprofit land use planning and policy organization based in Plainsboro, New Jersey. Mr. Carnegie's current projects include: coordinating a multidisciplinary team of professionals responsible for conducting the Penns Neck Area Environmental Impact Statement (EIS) for the New Jersey Department of Transportation; overseeing the evaluation of NJ Transit's "Transit-friendly Communities" initiative, a federally funded demonstration project designed to foster the use of transit facilities and services as a catalyst for community development; coordinating the development of a five-year transportation plan for the NJ Division of Disability Services; and leading a team of researchers investigating the impacts and fairness of driver's license suspension in New Jersey. He received a Bachelor of Arts Degree from Rutgers College in 1988 and a Master of City and Regional Planning Degree from Rutgers Graduate School – New Brunswick in 1992.

Grace Egan, M.S. is the founding Executive Director of the New Jersey Foundation for Aging (NJFA). NJFA's mission is to improve and expand new and innovative approaches in the delivery of services that enable older adults to live in the community with independence and dignity through grantmaking to address unmet needs and through increasing society's

awareness in order to influence public policy. NJFA examined the issue of medical transportation in 2002 and the barrier that the lack on transportation imposes on seniors and their caregivers to accessing health care. NJFA hosted a statewide conference examining best practices in transportation, housing and care management in 2003. Ms, Egan has worked in social services and community services planning, program development and program evaluation for over 20 years. She has a Bachelor's degree form Saint Peter's College in Urban Studies and a Masters in Science from Rutgers University.

Martin E. Robins, has a distinguished 25-year career in the field of transportation policy and planning. He presently serves as Director of the Alan M. Voorhees Transportation Center at the Edward J. Bloustein School of Planning and Public Policy at Rutgers, The State University of New Jersey. Mr. Robins is responsible for implementing a program of policy research and public forums on transportation-related issues in the New Jersey- New York Metropolitan Region. He recently helped organize a regional forum on variable pricing with the Regional Plan Association, and a Bi-State Interdependence Symposium: The Economy and Transportation with the New York University Wagner School Rudin Center for Transportation Policy and Management.

Naomi Rotter, Ph.D., is Professor of Management in NJIT's School of Management. She received her PH.D in Industrial and Organizational Psychology from New York University. This current research, *The Mature Driver: Safety and Mobility Issues*, blends her research interests in social issues of gerontology with behavioral aspects of safety. Dr. Rotter's research in transportation has focused on its behavioral aspects from a variety of perspectives. These include training needs in transportation, managerial issues in telecommuting and the current research on safety issues regarding mature drivers. Her homepage is <http://eies.njit.edu/~rotter>.

State Senator Bob Smith represents the rights and interests of the citizens of the 17th Legislative District which includes parts if Middlesex and Somerset Counties. Having served in the New Jersey State Legislature since 1986 first as a State Assemblyman and more recently as State Senator, Bob Smith is considered one of the State's leading environmental lawmakers.

Smith's legislative accomplishments include authoring the Ocean Pollution Bounty Act, Sludge Management Act, Oil Spill Prevention Act, the Worker and Community Right to Know Act and the Clean Water Enforcement Act. He has fought for the enactment of laws affording greater protection to child victims of abuse and sponsored bills to increase the penalties for car jacking. Smith was a leader in the fight to protect citizens from lead poisoning. In the devastation following Hurricane Floyd, he sponsored the Emergency Disaster Relief Act and Local Flood Aid Act to aid economic recovery. Formerly a member of the Assembly Appropriations Committee and the Assembly's Policy and Rules Committee, Smith served as Chairman of the Assembly Committee on Energy and the Environment and was ranking minority member of the Environment, Science and Technology Committee. Currently, Senator Smith is a member of the Senate Environmental Committee and the Senate Judiciary Committee as well as an alternate member of the State House Commission.

Senator Smith has a long record of public service having served as Mayor of Piscataway Township from 1981-1986 and was a member of the Township Council from 1977-1981, serving as Council President and Vice President. From 1991-1992 he served as the Chairman of the Middlesex County Democratic Organization. He also served as Chairman of the New Jersey Democratic Task Force on the Environment in 1987 and was counsel to the New Jersey State Democratic Platform in both 1987 and 1989. From 1995-1996 he served as Deputy Minority Leader in the General Assembly.

Prior to becoming an attorney in private practice, Senator Smith was a Professor of Chemistry and Environmental Science at Middlesex County College. He holds Master's degrees in Chemistry and Environmental Science from the University of Scranton and Rutgers University, respectively, as well as a J.D. in law from Seton Hall University.

Loren Staplin, Ph.D is the founder and Principal Partner of the consulting firm TransAnalytics, LLC. He has successfully led over twenty research grants, contracts and subcontracts for Federal and State government clients as the Principal Investigator or Project Manager since the early 1980's, with a recent focus on the relationship between driver functional abilities and traffic safety, and its implications for transportation policy and practice. Significant products of Dr. Staplin's work in this area include the Safe Mobility for Older People Notebook, available on the website of the National Highway Traffic Safety Administration; the Highway Design Handbook for Older Drivers and Pedestrians, published by the Federal Highway Administration in 2001 and also available online at the FHWA website; the Model Driver Screening and Evaluation Program: Guidelines for Motor Vehicle Administrators; a 2003 publication of NHTSA in conjunction with the American Association of Motor Vehicle Administrators, and two chapters in the pending National Academy of Sciences/Transportation Research Board publication Transportation in an Aging Society: A Decade of Experience.

FORUM AGENDA

- 9:00** **Registration and Continental Breakfast**
- 9:30** **Welcome**
Grace Egan, Executive Director, New Jersey Foundation for Aging
Donald Borowski, Director, Driver Management and Regulatory Affairs, NJ Motor Vehicle Commission
Martin Robins, Director, Alan M. Voorhees Transportation Center
Honorable Bob Smith, New Jersey Senate, District 17
- 9:50** **The New Jersey Context – *Jon Carnegie, PP, AICP***, Senior Project Manager at the Voorhees Transportation Center, will provide an overview of the safe mobility issues facing New Jersey, including a brief history of the state's policy response to young driver safety issues and the changing demographics and mobility needs of New Jersey's seniors population.
- 10:15** **The Mature Driver in New Jersey – *Naomi Rotter, Ph.D.***, Professor of Management at New Jersey Institute of Technology's School of Management, will present the findings and recommendations of a May 2002 study completed for the New Jersey Department of Transportation. The study found that statistically, older drivers (age 65 and older) do not present an increased crash risk; however, they are at a greater risk of being involved in a fatal accident and they show a greater propensity to be involved in certain types of accidents. Among the studies many recommendations is further study of medical review policies related to evaluating a driver's fitness to drive without using age as a screening criteria.
- 10:45** **The Maryland Experience – *Robert Raleigh, M.D.***, Director of the Maryland Motor Vehicle Administration's Medical Advisory Board, will discuss the Maryland Consortium on Safe Mobility. Dr. Raleigh, as the consortium's founder and convener, will present the rationale for and composition of the consortium and its goals and objectives. The consortium offers a quarterly series of forums on best practice models and has initiated two pilot studies on driver fitness screening tools.
- 11:45** **Question and Answer and Facilitated Discussion**
- 12:15** **Next Steps**

LIST OF PARTICIPANTS

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>
Elizabeth	Adams	Warren County Division of Senior Services
Rosemarie	Anderson	Delaware Valley Regional Planning Commission
Donna	Ankison	
Morteza	Ansari	Keep Middlesex Moving, Inc.
Marilyn	Askin	AARP
Rose	Berger	American Red Cross of Central New Jersey
Don	Borowski	New Jersey Motor Vehicle Commission
Jon	Carnegie	Alan M. Voorhees Transportation Center - Rutgers University
Adele	Clark	Greater Mercer TMA
Serena	Collado	Somerset Medical Center
Flora	Davis	CWW
Rose	Deuger	
Rosemarie	Doremus	Hunterdon County AAA
Chris	Dorey	
Grace	Egan	New Jersey Foundation for Aging
Anthony	Gambilonghi	Middlesex County Planning Board
Barbara	Geiger-Parker	New Jersey Brain Injury Association
Nat	Giancola	AARP - Driver Safety Program
Roderick	Gilmore	New Jersey Department of Transportation
Lois	Goldman	North Jersey Transportation Planning Authority
Caroline	Granick	Middlesex County Planning Department
Holly	Hardaway	Occupational Therapy Consultants, Inc.
Susan	Harris	Daughters of Israel Nursing Home
Victoria	Hasser	Saint Barnabas Ambulatory Care Center
Jim	Healy	New Jersey Department of Transportation
Larry	Higgs	Courier News
Kathy	Higham	NJ Motor Vehicle Commission
Habtewold	Kassa	Meadowlink TMA
Elaine	Katz	Kessler Foundation
Kay	Klotzburger	Stephenson-Klotzburger Foundation
Debra	Kole	New Jersey League of Municipalities
Geoffry	Lane	UBHA/UMDNJ
Walter	Lane	Somerset County Planning Board
Peggy	Lanni	City of Bayonne Office on Aging
Maggie	Manza	New Jersey Assembly – Majority Office
Claire	McKnight	City College of New York
Henry	Nicholson	County of Monmouth Department of Transportation
William	O'Donnell	Senior Exec Council, NJFA
Martin	Robins	Alan M. Voorhees Transportation Center - Rutgers University
Naomi	Rotter	New Jersey Institute of Technology
Julie	Salvi	The Elder Care Companies, Inc.
Kathleen	Seaman	NJDHSS - Division of Aging and Community Services
Robert	Smith	New Jersey Senate - District 17

Loren	Staplin	TransAnalytics
Lynn	Thornton	West Windsor Senior Center
Charles	Volpe	Warren County Division of Senior Services
Aruna	Wadha	Somerset Medical Center
Carl	West	Pres, NJFA; Exec Dir., Mercer County AAA
Erma Polly	Williams	New Jersey Division of Addiction Services
Caroline	Willner	Warren County Division of Senior Services
Pippa	Woods	Alan M. Voorhees Transportation Center - Rutgers University

APPENDIX 1

PRESENTATION SLIDES

Safe Mobility at Any Age

December 10, 2003

Special Events Forum

Edward J. Bloustein School of Planning and Public Policy
New Brunswick, New Jersey

Alan M. Voorhees Transportation Center



Safe Mobility at Any Age

The New Jersey Context

December 10, 2003

Special Events Forum

Edward J. Bloustein School of Planning and Public Policy
New Brunswick, New Jersey

Alan M. Voorhees Transportation Center



Quick Facts: Transportation and Travel in New Jersey

- 8.4 million residents (2000, Census)
 - 1,122 persons/sq. mile
- 5.9 million licensed drivers (2003, NJMVC)
- 68 billion vehicle miles traveled (2002, NJDOT)
 - 36,000 miles of roadway
- 222 million public transit trips (2002, NJDOT)
- 320,000 crashes on NJ roads (2002, NJDOT)
 - 83,000 crashes involving injuries
 - 730 crashes involving fatalities

Alan M. Voorhees Transportation Center



Safe Mobility: Policy Responses

- Safe mobility for everyone
- Safe mobility for young drivers
- Safe mobility for older drivers

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Safe Mobility: Everyone

- Improve motor vehicle safety
 - Advancements in vehicle design and construction
- Enact and enforce stricter DUI penalties
- Enact laws intended to protect driver/passenger safety
 - Mandatory use of seat belts
 - Mandatory use of child safety seats

Alan M. Voorhees Transportation Center



Safe Mobility: Young Drivers

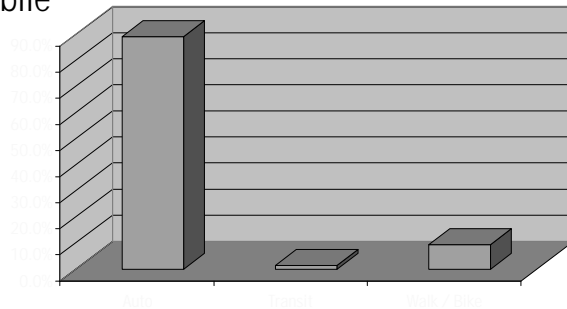
- Enact "graduated driver's license" programs
 - In New Jersey:
 - Stage 1: Student Permit
 - Stage 2: Provisional License
 - Stage 3: Basic License

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Safe Mobility: Older Drivers

- Things to consider:
 - Seniors are living longer, more active lives
 - Travel mode of choice for most seniors is the private automobile



Source: John Pucher and John Renne, "Socioeconomics of Urban Travel: Evidence from the 2001 NHTS," *Transportation Quarterly*, 57 (c) (2003)

Safe Mobility: Older Drivers

- New Jersey's senior population (age 65 & over) is growing

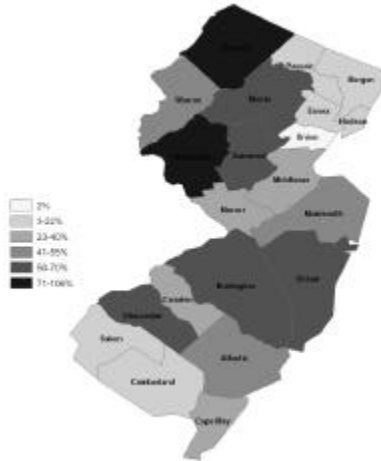
<u>Age Cohort</u>	<u>2000</u>	<u>2020</u>	<u>Absolute Change</u>	<u>% Change</u>
65-74	574,669	882,600	307,931	54%
75-84	402,508	450,800	48,292	12%
85 & older	135,999	213,600	77,601	57%
All Seniors	1,113,176	1,547,000	433,824	39%

Source: US Census Bureau, NJ Dept. of Labor

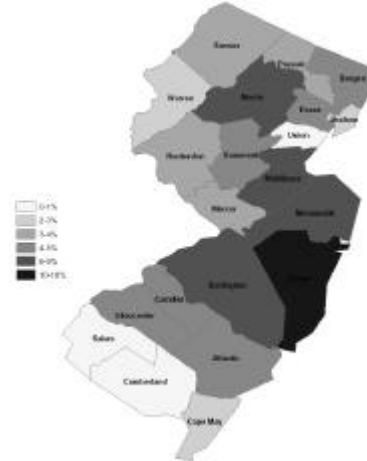
Safe Mobility: Older Drivers

- New Jersey's senior population is growing in places where there are fewer travel options

Fastest Growing



Growth Share



Safe Mobility at Any Age

What's Next?

The Mature Driver in New Jersey

Naomi Rotter

New Jersey Institute of Technology

Claire McKnight

City College, CUNY

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Safe Mobility at Any Age

Overview of Our Study

- Background for the study
- Analysis of crash and accident data
 - Where the data come from
 - Results of our analyses
 - Some outstanding characteristics
- Policy issues related of older drivers

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Background for the Study

- New Jersey's Older Population in 2000
 - Slightly older than the US population
 - 13.2 % in NJ vs 12.4 % in USA over 65
 - Growth rate of older olds is increasing rapidly
 - 85s and older grew by 94.3 % in NJ vs 37.6 % in USA from 1980 to 2000.
 - More older drivers on the road in NJ
 - Licensed drivers in NJ increased by 3% from 1996-2000
 - Licensed drivers 85 and up increased by 26% from 1996-2000

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Crash and Violation Data Analysis

- Two sets of data – crash data and accident and violation data
- Crash records from the NJDOT cover 1998-2000
- Suspension and violation data from DMV cover 1996-2000
- Exposure measures
 - involvements per licensed driver
 - involvements per population
 - vehicles miles per drivers was not available as an exposure measure.

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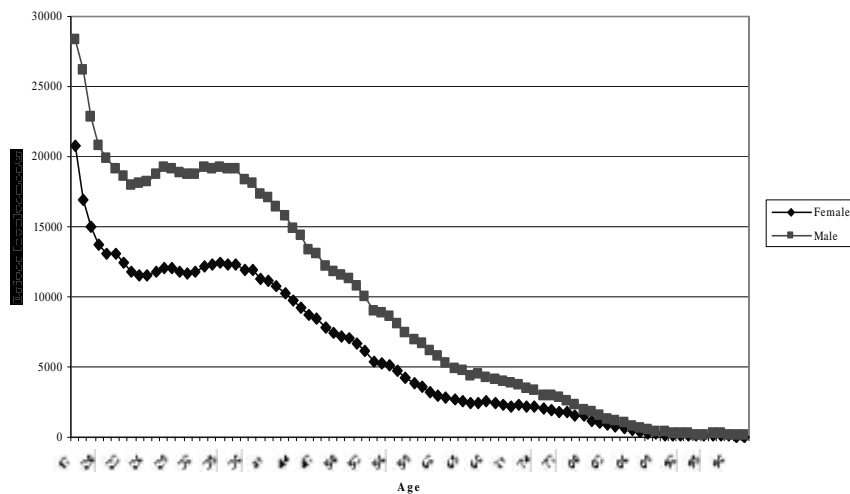
Crash Results by Age

- Crashes decline with age for
 - Crashes per population
 - Crashes per licensed driver.

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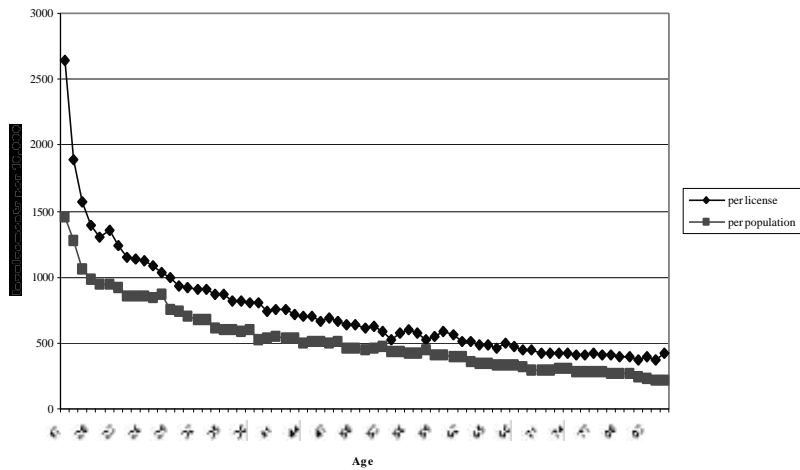
Crash Involvements by Age and Gender (1998 to 2000)



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Crash Involvement Rate per 10,000 Population and per 10,000 Licensed Drivers



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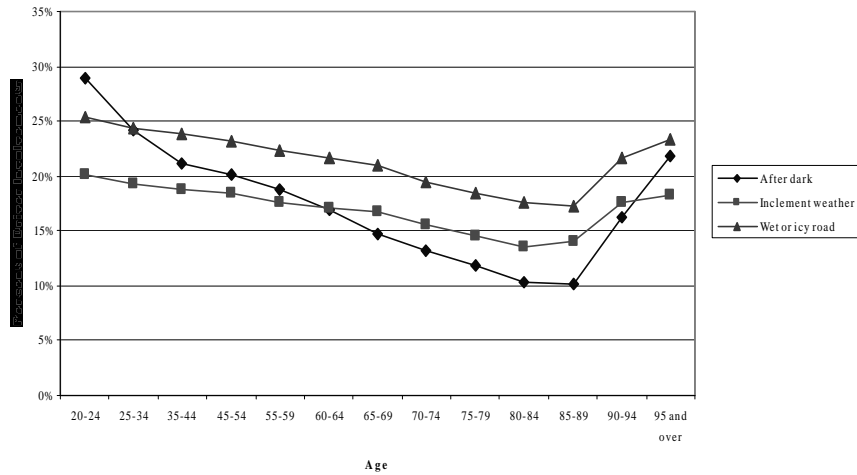
Crash Results by Conditions

- More accidents during daylight hours and good weather
 - probably avoid dark and bad weather
- More accidents on local and private roads
 - probably avoid high speed roads

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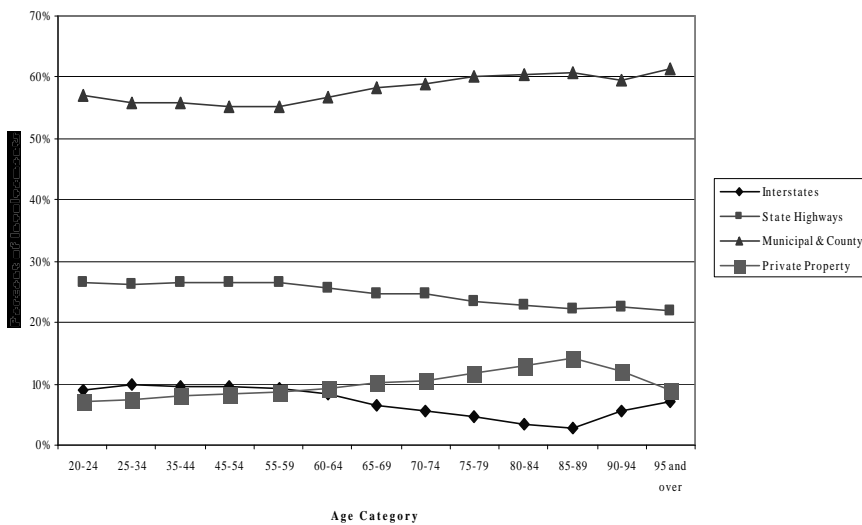
Percent of Crashes after Dark, in Bad Weather, or on Wet Roads by Age



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Percent of Involvements by Road System



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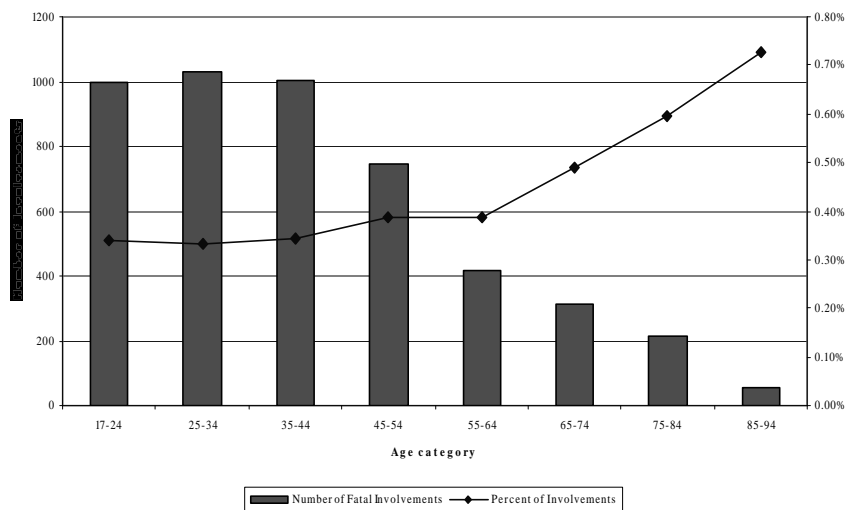
Severity of Crash

- A greater percent fatal
 - but fewer fatal accidents than younger drivers.

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Number and Percent of Fatal Crash Involvements by Driver Age



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Crash Characteristics

- Left turns
- Inattention
- Failure to yield right of way
- Failure to obey traffic signals
- More likely to be at fault

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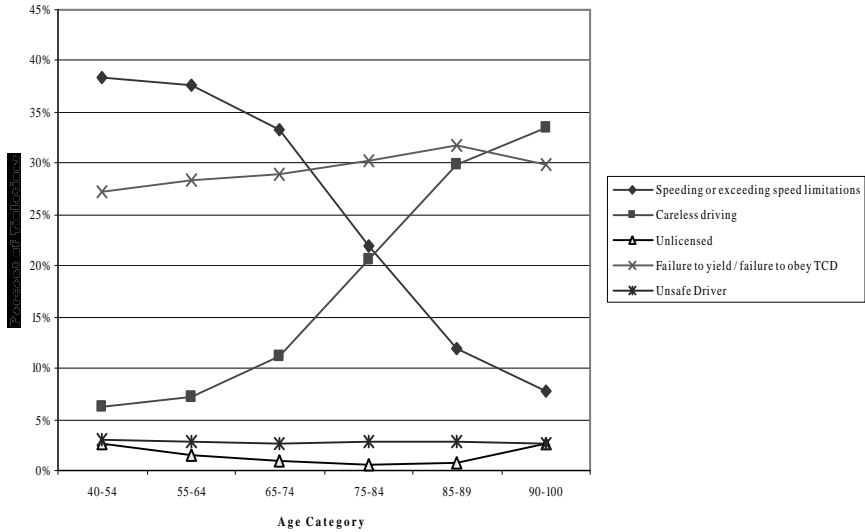
Violation & Suspension Data

- Lower rate of traffic violations per population
 - more frequently due to careless driving and
 - less frequently due to speeding.
- Lower rate of suspensions
 - due to physical or medical conditions
 - 100 percent for drivers over 90 year old.

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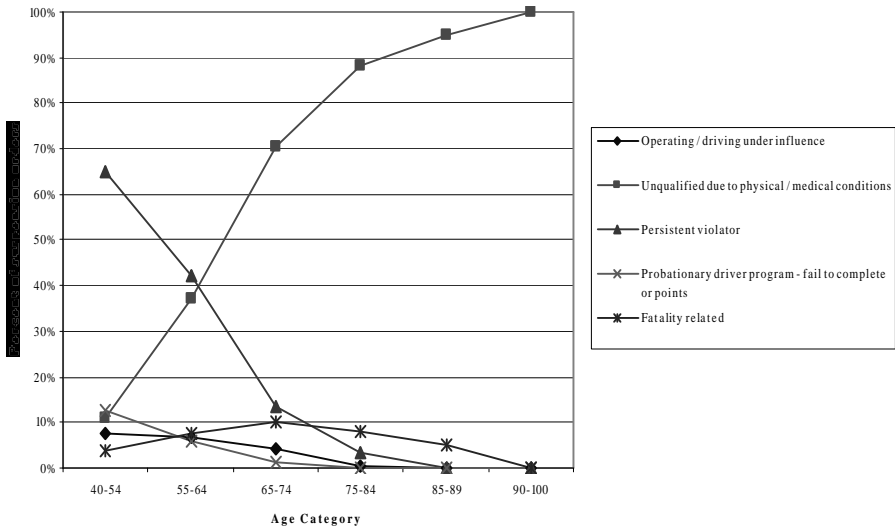
Percent of Traffic Violations by Type by Age



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Percent of License Suspension by Suspension Type by Age



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Policy Issues

- Licensing issues related to older drivers
- Medical issues & Fitness to drive
- Survey of selected motor vehicle agencies

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Licensing Issues

- The extent and types of restrictions
 - 32 states have no restrictions regarding older drivers including New Jersey
 - 13 states have accelerated renewal cycles
 - 7 states restrict mail renewal (some for reasons other than age)
 - 3 states have age related vision testing
 - 2 states have age related road testing

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Medical & Fitness to Drive Issues

- Medical Issues
 - Utah – special licensing program for drivers with medical conditions
 - Mandated reporting of medical conditions
- Fitness to Drive Programs
 - California Department of Motor Vehicles
 - Center for Applied Gerontology at UAB
 - Maryland Motor Vehicle Agency

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Survey of Motor Vehicle Authorities

- Survey design and data collection
- Survey Results
 - Medical review process
 - Types of restrictions
 - Medical review policy in New Jersey & Pennsylvania

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Conclusions

- Solutions needed for specific problems such as inattention and carelessness.
- Higher fatality rate suggests need for engineering changes within the car.
- Use of medical review to evaluate fitness to drive suggests need to examine how it is used and how it can be applied more uniformly and effectively.

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Safe Mobility at Any Age

The Maryland Experience 1997-2003

Robert Raleigh, M.D.
Chief, Medical Advisory Board
Maryland Motor Vehicle Administration

Loren Staplin, Ph.D.
Principal Partner, *TransAnalytics*
Principal Investigator, NHTSA Model Driver Screening and Evaluation Program

TransAnalytics

A New Approach for Injury Prevention

- **Recognize functionally impaired driving as a public health / safety issue**
- **Integrate health, social service and DMV functions**
- **Link screening with community mobility solutions**

TransAnalytics

Health Factors Which Increase Risk

- **Functional declines in critical abilities**
- **Increased incidence of disease and pathology**
- **More extensive use of multiple medications**

Medical Diseases & Functional Declines Related to Crashes

- Cataracts
- Glaucoma
- Diabetes
- Cardiovascular
- Back pain
- Anti-depressants use
- Neurologic conditions
- Memory problems
- Cognitive processing

Risk Ratios for Identified Medical Conditions

- | | |
|------------------------|-----------|
| • Alcohol | 10 |
| • Neurologic | 7.0 |
| • Cataracts | 2.5 |
| • Glaucoma | 5.0 |
| • Diabetic Retinopathy | 5.0 |
| • Diabetes | 2.6 - 8.0 |
| • Falls | 2.6 |
| • Cardiac Arrhythmia | 2.0 |
| • Antidepressant drugs | 1.98 |

TransAnalytics

Maryland Research Consortium

- **Mission:** To create and offer a program of safe mobility for Maryland Older Drivers.
- **Vision:** To become the national model for safe mobility for life.

TransAnalytics

Safe Mobility at Any Age Future Policy Options for New Jersey

Consortium Membership

MD Department of Aging
AARP
AOTA
Law Enforcement Agencies
Motor Vehicle Administration
Mass Transit Administration
Dept Health & Mental Hygiene
University of Maryland
Wilmer Eye Center
NHTSA
NIH/NIA
Federal Transit Administration
AAA Foundation Traffic Safety

County Health Departments
AAA
Driver Rehab Specialists (OT/CDRS)
County Planning & Zoning
State Highway Administration
Sinai Rehabilitation Center
TransAnalytics, LLC
Johns Hopkins Medical Center
Area Agencies on Aging -- Senior Centers
US DOT, Office of the Secretary
Federal Highway Administration
Ecosometrics, Inc
AAMVA
MD Association of Women
Highway Safety Leaders

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Safe Mobility at Any Age Future Policy Options for New Jersey

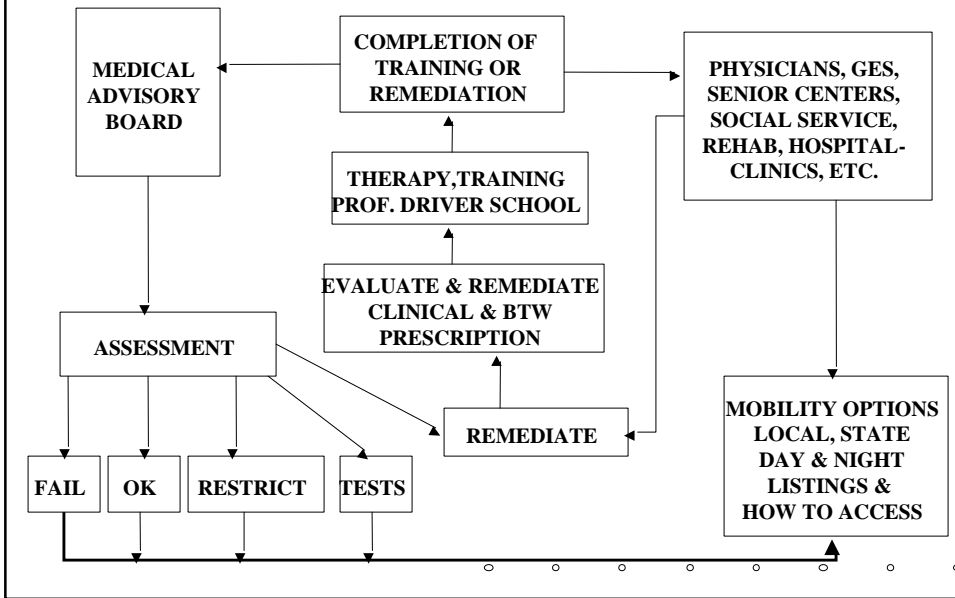
Maryland Research Consortium

Four Key Performance Areas

- Identification and Assessment of Functionally At-Risk Drivers
• Remediation and Counseling for Continued Safe Mobility
• Feasible, Affordable, Desirable Transportation Options in the Community
• Public Information and Education About Functional Fitness to Drive

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Maryland Pilot System: Making Safe Mobility For Life a Reality



Safe Mobility at Any Age Future Policy Options for New Jersey

Maryland Pilot Study: Products and Policy Contributions

- Functional domains identified as significant predictors of *at-fault* crashes visualization of missing information; directed visual search; information processing speed under divided attention conditions; working memory; leg strength and general mobility; head/neck flexibility » these are priorities for driver screening programs.
- Functional capacity screening adds value to traditional medical evaluation procedures.
- Functional capacity screening can be conducted cost-effectively at a DMV.
- Identifying functional loss promotes safe mobility by allowing earlier intervention -- not justified solely on safety (crash prevention) basis.

TransAnalytics