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Older Drivers...Older Pedestrians

Planning Ahead for an Aging Population

By the year 2020, adults 65 years of age and older will make up 20% of the population. The "Baby Boomer" generation, (those born between 1946 and 1964) as they age, will make an increment from 9% to 17% in the elderly population in the U. S. This translates to a large number of older drivers in a system that was designed based on data for younger, healthier drivers.

As we age, our sensory, physical and cognitive skills start to change. Our eyes don't focus like they used to, our bodies don't move as quickly or as easily as they used to. These changes will affect our lives, and our driving abilities in great part.

Vision plays a great role in driving ability. Ninety percent of the information required to drive is acquired visually. Our vision starts to change when we reach our late forties or early fifties. Contrast and detail losses make it difficult for the older motorist to distinguish objects, especially in cluttered backgrounds. Thus, the detection of pedestrians, signs, and worn pavement markings is made difficult.

An average 55-year-old motorist requires more than 8 times longer to recover from glare than a 16 year old. This makes night driving and entering or exiting from tunnels or other dim areas very difficult and risky, for the driver could be driving blind for many seconds after exposure. Peripheral vision also narrows as the eyes age, making it difficult for older drivers to see what is going on around them. They may not see cars approaching an intersection, or could miss an important directional or warning sign.

Physical changes, such as reduction in strength, range of motion, and flexibility due to arthritis, or other conditions could also affect out ability to drive safely. Difficulties in turning one's head makes it harder to check intersections, to pass, and to merge into traffic. Information processing slows down with age, and the individual has a harder time ignoring irrelevant information. Decision-making becomes more difficult, thus reducing response time.

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In This Edtion....

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Research has been done, and guidelines developed to aid roadway engineers to design safer, user-friendlier highways for the older driver. As a result of the ongoing research, the Federal Highway Administration has put together a handbook outlining the recommendations and guidelines developed for areas such as signage, intersection and interchange design, and passing zones. Things as simple as increasing letter size on signs or adjusting the timing on intersection lights can make a big difference in the comfort and safety of the older driver.

Average Life Expectancies
Male: 86 years of age
Female: 92 years of age

USA Elderly Population
In 1998= 9.7%
In 2020, it will be 17%

USA Driving Population
1995-1998: increased by 4.7%
Drivers aged 75+ increased by 12.8%

Adapted from: "Gem State Roads

Effects of Changing Speed Limits in Speed Zones

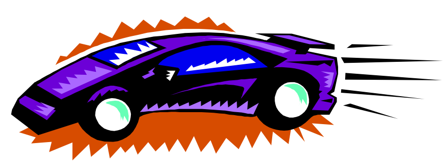
In most communities, speed limits are considered a "cure-all" for its traffic problems. Citizens frequently demand speed zone changes in order to find a solution to a complicated traffic problem. It is important, therefore, to determine the effects of changing speed limits on traffic operations and safety for surface (non freeway) rural and urban roadways.

Speed and accident data were collected in 22 states, at 100 sites before and after speed limits were altered. Speed limits were lowered at 59 sites, and raised at 41 sites. The sites included 63 rural sites, 22 small urban sites and 15 urban sites. Speed and accident data were collected at 83 similar comparison sites, where speed limits were not altered.

Traffic data were collected before and after the speed limits were changed for 24-hour periods, using automated roadside units connected to inductive loop mats to record speeds, headways, and types of vehicles. Data were collected for more than 1.6 million vehicles. Accident data included more than 6,000 reported accidents. For most sections, accident data were collected for a 3-year period before, and a 2-year period after the speed limits were changed. The information was coded for accident type, severity, light and surface conditions. Mean (average) speeds, standard deviation of the speed distribution, percentile speeds, and percentage of vehicles exceeding the posted speed limits by 5, 10, 15, and 20 mph were computed for all sites. Comparisons were made for groups of sites where the speed limits were lowered by 5, 10, 15 and 25 mph.

The results indicated that neither raising nor lowering the speed limit had much effect on vehicle speeds. The average speeds did not change more than 1 or 2 mph. The percent compliance with the posted speed limits improved when the speed limits were raised. When the limit was lowered, the compliance decreased. The changes in accidents at the study sites were not statistically significant at the 95th percentile confidence level.

Adapted from: FHWA Research Report



FHWA Recognizes Local Efforts to Stop Red Light Running

The Federal Highway Administration recognized the success of the safety efforts to stop red light running. These efforts started on Oct. 8-14, 2000, which was labeled "Stop Red Light Running Week." New data demonstrated that in the most active of days, of the National Stop Red Light Running Partnership, fatalities related to red light running decreased dramatically.

This year's National Stop on Red Week marked the third annual observance of this safety effort. It is a public-private partnership between the FHWA and the American Trauma Society. According to U.S. Department of Transportation statistics, between 1996-1999, the period of most aggressive stop red light running activities, there was a 10.3% decrease in the number of fatalities at intersections with red lights.

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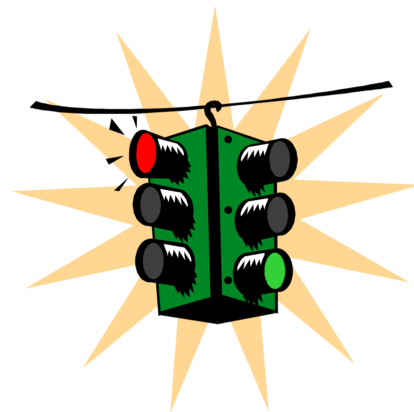
The FHWA and the Institute of Transportation Engineers (ITE) are joining efforts to identify engineering countermeasures that can contribute to reductions in red light running.

The Stop Red Light Running program provides those interested in promoting highway safety with technical and program support for local initiatives. For further information, please visit: http://safety.fhwa.dot.gov/programs/srlr.htm.

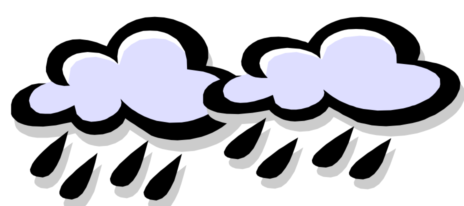
Adapted from: Institute of Transportation Engineers Washington Weekly



How to Drive in the Rain

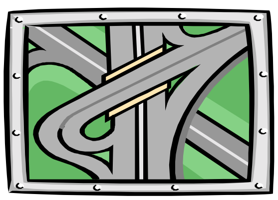
When the rain starts to pour, the road is one of the most dangerous places to be. For this very significant reason, it is of maximum importance to know how to react and to handle bad road conditions and weather. The Network of Employers for Traffic Safety provides a few important tips that can save lives:

- Reduce speed to 10 mph below the speed limit
- Create Space. Keep an 8 to 10 second distance between you and the car in front.
- If your tires lose contact with the road, (known as hydroplaning), grip the steering wheel firmly and apply the brakes **slowly** until control is regained.
- Avoid hard acceleration, braking, or any sudden movements.
- If the vehicle skids, take your foot off the brake, ease off the accelerator, and steer in the **opposite** direction of the skid.
- Always keep your tires and brakes in good condition. Make sure the defroster works to prevent the windshield from fogging up. Change your windshield wiper blades twice a year.



Pan American Institute of Highways (PIH)

The Pan American Institute of Highways was created in 1986 by the Pan American Highway Congress to act as a network between road and transportation organizations for transferring highway technology. The primary mission of the PIH is to share both innovative and traditional technology. The PIH has set important goals for improving the transportation network which include compiling and distributing information on transportation research; developing appropriate and effective training methods; promoting the establishment of a network of centers, and strengthening communication among members for more efficient implementation of highway related activities and to integrate the highway community of the Western hemisphere.



The PIH Executive Committee has asked the Federal Highway Administration (FHWA) to serve as the headquarters for the PIH. The next general assembly of the PIH members will come together in ST. Petersburg, Florida, July 29- August 2, 2001, during the International Symposium on Transportation Technology Transfer sponsored by the FHWA Office of the International Programs. The FHWA has accepted this responsibility of being the PIH Headquarters and as such has assigned Mr. Antonio Nieves Torres, as Executive Director.

The PIH Headquarters is collocated with the FHWA's Office of International Programs. The PIH is structured to support all its members through local Technology Transfer Centers throughout Latin America. PIH Centers have been established in Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Spain, Trinidad & Tobago, United States, Uruguay, and Venezuela. Through its centers, the PIH promotes continuing education and highway research. The centers train professionals, technicians, and highway personnel in highway and transportation related activities.

One of the objectives of the PIH centers is to serve as a means for road organizations and individuals to access their counterparts in other countries. The centers prepare a newsletter to inform members of new and existing technology and training opportunities locally and internationally; maintain a library of technical publications and training materials such as videotapes, CD interactive courses and manuals; organize conference, workshops and seminars. As a co-sponsor, the centers assist with activities of the PIH Headquarters such as the PROVIAL Seminar and others. Also, provide support on subject matter by identifying experts, training programs, and technical information to other PIH centers.

The PIH and the highway community of Latin America and the Caribbean include a vast array of skills, talents, culture and technical diversity. The PIH provides the private sector with a direct link to potential Latin America markets. It provides the FHWA engineer and technician with a framework within which he can demonstrate his international expertise. While Latin America is associated with the Spanish language, there are numerous opportunities to excel n English, Portuguese and French.

The PIH counts with fifteen Corporate Sponsors that contribute to the financial operation of the Institute.

New Program Performs Life Cycle Cost Analysis

Life cycle cost analysis (LCCA) is a method to rationally evaluate the entire economic benefits of various options being considered for a given paving project. LCCA goes beyond consideration for only the initial cost of construction, and allows designers to include the impact of cost and timing for maintenance and rehabilitation activities.

The Asphalt Pavement Alliance has released a new Life Cycle Cost Analysis program that is based on the Federal Highway *Life Cycle Cost Analysis in Pavement Design*. Using deterministic and probabilistic procedures, this stand-alone program can be used to calculate life cycle cost. This computer program is easily able to calculate delay costs.

Data displayed on the screen includes inputs that are applicable to all alternatives. These include analysis period, discount rate, and traffic. Other pop-up screens for costs are displayed also, and they are used to calculate user delay costs. The user may modify these costs by inputting individual values using the consumer price indices, and update all costs.

Other inputs include average annual traffic (AADT), percent trucks, truck equivalency factor, recreational vehicle factor, lane width factor, and traffic growth rate. These values are used in the calculation of user delay costs.

The initial construction and maintenance inputs area are used to input agency costs, work zone and timing information for the initial construction and future maintenance and rehabilitation. The inputs to determine user delay costs include work zone length, speed limit, dissipation capacity and required time to complete the work zone activity.

The real power of the program shows up in a pop-up screen for determining work zone hours. The user may simply input the number of hours that the work zone will be in effect, click on the "find optimum" button, and the program will determine the time where these costs will be the lowest.

Because reduced work zone hours may affect costs such as traffic control there is also a pop-up menu for inputting time-related costs. When work zone hours are changed, the user does not have to change these costs-the program automatically calculates the change in costs.

This program is user-friendly, since help is provided for all inputs by either the general help file or help on a specific input.

To order copies of this software, contact Brenda Jew, Administrative Assistant, with the Asphalt Pavement Alliance, at 888-469-6499, or via e-mail at:
publications@asphaltalliance.com

Adapted from: "Hot Mix Asphalt Technology" March/April, 2001

AASHTO "Green Book" Now Available on CD-ROM

The best selling Green Book from the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets" is now available on CD-ROM, along with interactive features. This program is produced in HTML format, and incorporates full active object functionality, including hypertext linking, interactive graphs and tables, and equations. Through the rulemaking process, the FHWA has adopted the Green Book as a reference, for it contains standard design practices for highway geometric design. It can be ordered through AASHTO publication sales at 800-231-3475, or online at www.aashto.org. AASHTO offers discounts on many of their publications. If interested, you must submit your request in writing with your NACE ID number next to your name in the NACE Directory. It should be sent to 444 North Capitol Street, N,W. SUITE 249, Washington, D.C. 20001 or fax to 202-624-5806. The CD-ROM version of the Green Book is available at $130 to members and $165 for non-members. The book alone can be purchased for $80, and $102 for non-members.

Adapted from: "Gem State Roads"

Future

Events

January 13-17, 2002
TRB 81st Annual Meeting
Washington, D.C.
Contact: Mark Norman

February 14-16, 2002
International Deep Foundations Congress
Orlando, Florida
Contact: Carol Bowers, cbowers@asce.org
G.P. Jayaprakash, giayaprqa@nas.edu

March 11-13, 2001
Traffic Incident Management Conference
Irvine, California
Contact: Richard Cunard