DOT News

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Get the Point?

Points, Fines Await Speeders

If you feel that the 55 mph speed limit is cramping your style and letting your engine rust up needlessly, a glance at the motor vehicle codes of the District, Maryland, and Virginia might adjust your thinking along more positive lines.

In the District, exceeding the speed limit automatically earns four points. Eight points accumulated over a three-year period results in suspension of the driving permit. The period of suspension is variable.

Fines for speed limit violations in the District are computed on this formula: up to 10 mph over the limit, $10; 11 to 15 mph, $15; 16 to 19 mph, $25; 20 mph and over, $50.

The same point and fine system is employed by the Park Police in its jurisdiction, which includes the Suitland Parkway and the Baltimore/Washington Parkway (old rt. 10). In addition, the Park Police can utilize traffic laws included in the Federal Code which provide fines up to $50 for traffic violations, including illegal parking.

In Maryland, exceeding the speed limit by as little as one mph is a one-point violation. Ten mph over the limit, two points, and over 30 mph, five points. Collecting 12 points in a two-year period means suspension of the driving permit. The amount of fine imposed is at the discretion of the court.

Heavy-footed drivers in Virginia are subject to point penalties, too. Eighteen points in a two-year span can deprive a driver of his license for months, or even a year, depending on the judge, who also decides the amount of fine.

Oscar does a lot of traveling but he doesn't go very far. And he has a lot of accidents. To find out more about the hectic "life" of one of NHTSA's most valuable employees turn to page 3.

Virginia R. Allan

State Official Will Keynote IWY Program

In observance of International Women's Year, the Federal Highway Administration will sponsor a program on September 15, featuring Ms. Virginia R. Allan as keynote speaker. Ms. Allan is Deputy Assistant Secretary of State for Public Affairs. She will speak on "International Women's Year and Interdependence," and will be introduced by FHWA Administrator Norbert T. Tiemann.

The program is scheduled to begin at 10:00 a.m. in Room 2230 of the Nassif Building. A special session in the afternoon from 1:30 to 3:30 will be for FHWA employees only. A panel of speakers from the Office of Personnel and Training and National Highway Institute will discuss "Merit Requirements—How the System Works," and "Education and Training Opportunities in the FHWA."

NHTSA Seeks Cut In 'Cycle Accidents

Motorcycle accidents have been on the rise in the United States since the mid-1960s. Last year an estimated 3,380 cyclists died in traffic accidents.

In an effort to reverse this trend the National Highway Traffic Safety Administration (NHTSA) has awarded a $570,240 contract to the California Department of Motor Vehicles to conduct an improved motorcycle driver licensing and training program.

The three-year program seeks to demonstrate that upgrading beginner's skills for new motorcyclists will result in a lower accident rate.

The contractor will use refined motorcycle driver skill and knowledge tests developed by the Motorcycle Safety Foundation and a modified MSF Beginning Rider Course to assure that randomly selected beginners have the basic knowledge and skills to drive safely.

The first phase of the contract will consist of the preparation of a comprehensive plan for conducting and evaluating an improved motorcycle driver license examination program.

The second phase will divide thousands of applicant drivers into study and control groups. The accident and violation experience of the two groups will be analyzed on a periodic basis for two or three years following the issuance of licenses.

The final phase will involve a report period during which the California Department of Motor Vehicles will conduct an in-depth analysis of the demonstration project.

Executive Suite

Hall is New FRA Chief; Patricelli Heads UMTA

New administrators for the Federal Railroad Administration (FRA) and the Urban Mass Transportation Administration (UMTA) were sworn in by Deputy Secretary of Transportation John W. Barnum in a ceremony on August 6.

Asaph H. Hall, acting FRA Administrator since November 1, 1974, became FRA Administrator and Robert E. Patricelli UMTA Administrator.

Asaph H. Hall

From 1969 to 1973 Hall was Special Assistant to both the Under Secretary and to the Deputy Under Secretary of Transportation. In February 1973, he was appointed Special Assistant to former Secretary of Transportation Claude S. Brinegar, working mainly on railroad problems. He also was placed in charge of the DOT Northeast Corridor Program Office with responsibility for developing plans for improved high speed rail passenger service between Washington and Boston.

Before his federal service, Hall, 41, was employed by the Westinghouse Electric Corporation for 12 years holding several management positions in marketing and planning in the company's defense electronics and space operations.

He received his bachelor's degree in 1955 and his master's degree in 1956, both in engineering and business administration, from Dartmouth College. In 1966 he received a Brookings Institution Public Affairs Fellowship.

In the past several years, Patricelli, 35, has served as

(See ADMIN, p. 2)

Robert E. Patricelli

He Has Lots On His Mind

Youthful Inventor Develops 'Seeing' Aid for the Blind

Randall Mier, a Coast Guard engineer, has in the last four years invented and patented a self-guiding lawn mower, a filter for smokestacks and a device that helps warn blind people of approaching objects. He has received international awards, been recognized by major corporations and anticipates making a million dollars.

He's also sixteen years old.

Mier was a summer employee with the Research and Development division of the Coast Guard. He won the job in recognition of his exhibit at the 26th Annual International Science and Engineering Fair held last May in Oklahoma.

"Inventing is like a hobby," he says. The fourth of five brothers from Trenton, New Jersey, he received his first patent at the age of 13. He has entered his senior year of high school and eventually hopes to go into medical research.

His most important invention to date is the "Stroll-Aid," a device which blind people can carry and which vibrates when they approach a solid object. It promises to dramatically improve life for the visually handicapped. Mier and his lawyer have already looked into production possibilities and hope to soon market the device.

Randy was one of ten youths hired at the fair by DOT for the summer as part of the department's effort to encourage research and interest in transportation.

USCG Academy

Women to Join Cadet Corps

Admiral Owen W. Siler, Commandant, U.S. Coast Guard said women will be admitted to the U.S. Coast Guard Academy, New London, Connecticut, with the class entering next July.

It will mark the first time in the 100-year history of the Academy that women will join the Corps of Cadets.

Admiral Siler said his decision to admit women to the Academy was based on the many contributions he expected women to make in the peacetime missions of the Coast Guard, such as marine environmental protection, law and treaty enforcement, boating safety, aids to navigation and life saving. He noted that current statutes do not bar the admission of women to the Coast Guard Academy and that action by Congress will not be required.

This decision is in keeping with the strong commitment of the leadership of the Department of Transportation to assure equal rights for women, according to the Coast Guard Commandant.

Of the 452 women on active duty in the Coast Guard, 32 are officers and 420 are enlisted. The highest ranking woman in the Coast Guard today is a captain.

Appointments to the Coast Guard Academy are tendered solely the basis of an annual nationwide competition. There are no Congressional appointments, as at the other service academies, nor are there any geographical quotas. Deadline for submitting applications to the Academy for the Class of 1980 is December 15, 1975.

Office Answers Housing Needs

DOT employees who want to buy or sell a house, rent an apartment or house, or find temporary lodging for out-of-town guests can get assistance from the Coast Guard's Housing Referral Office (HAIL).

The three-person staff is skilled in meeting employees' housing needs. Operated since 1971, the office is designed to assist military personnel new to this area find housing and aid civilian employees in locating a home or apartment, and when transferred, list their homes for sale or rent. Its services are available to all DOT personnel.

The office also has publications to help individuals select appropriate housing.

HAIL is located in Room 7425 of the Nassif Building. Telephone numbers are 64125 and 60208, and the office is open from 7:30 a.m. to 4 p.m.

Youths at the Randall Recreation Center in the District accept bats, balls, and gloves donated by UMTA and the American Public Transit Association (APTA) after their challenge match July 25. UMTA's former acting administrator Judith T. Connor (far right) and APTA's executive director Bill Stokes (second from left) presented the equipment to Mrs. V. Ellerbe (center, white shirt) assistant director of the center, and Wallace Darius (left) Area Nine manager, representing the District. UMTA defeated the APTA team 8-1 in seven innings. The game was arranged after APTA, in an editorial in its weekly newspaper, issued a challenge to the UMTA team.

More is Less: Carpools Cut Commuting Cost

Operating a car is an expensive proposition, as every driver knows. Exactly how expensive is now easy to determine by use of a handy reference table compiled by the Federal Highway Administration (FHWA).

The table covers subcompacts, compacts, and standard size cars. It considers costs of fuel, oil, maintenance and repair, parking, insurance, depreciation, miles driven in commuting, and the numbers of persons in a car.

By sharing a car with one person, a driver can save up to 50 percent in transportation costs. With five persons per car, drivers save up to 80 percent, an *annual* after-tax saving of $281 to $1,390, depending on the size of the car, carpool, and distance traveled.

Additional benefits include: less driving, reliable transportation, a guaranteed comfortable seat, the option of selecting riders, acceptable door to door travel times, saved energy resources, reduced air pollution and reduced congestion in parking facilities and on highways.

Carpools carry more than 20 million commuters each day, more than twice as many as buses and fixed rail system combined. Big corporations have discovered that carpooling can increase auto occupancy between 10 to 35 percent. This kind of reduction in an urban area can dramatically reduce rush hour congestion.

Nationwide, 50 million automobiles used for commuting each working day have had an average occupancy rate in the rush hour of 1.4 persons. However, 75 percent of the automobiles involved in the commuter working day carry only one person—the driver.

Simply "doubling-up" in commuting automobiles (raising the occupancy rate to 2.0 persons per car) would save more than 500,000 barrels of oil daily and remove 15 million cars from the road.

Raising the occupancy rate to 3.2 persons per car would save more than one million barrels daily.

SEE HOW MUCH CAR EXPENSE YOU CAN SAVE IN ONE YEAR BY CARPOOLING

HOME TO WORK	ANNUAL ROUND TRIP COSTS AND SAVINGS	SUBCOMPACT (PINTO, DATSUN, VEGA, VW, COLT)	COMPACT (NOVA, DART, MAVERICK, PACER)	STANDARD (MATADOR, CUTLASS, LTD, CAPRICE)
10 MILES	COST OF DRIVING TO WORK ALONE			
	GASOLINE AND OIL	$128	$176	$234
	MAINTENANCE AND REPAIR	97	109	130
	PARKING	145	145	145
	INSURANCE	166	176	189
	DEPRECIATION	110	143	250
	TOTAL	$646	$749	$948
	SAVINGS PER PERSON IN A:			
	2-PERSON CARPOOL	$281	$332	$427
	3-PERSON CARPOOL	361	427	553
	4-PERSON CARPOOL	402	474	617
	5-PERSON CARPOOL	425	502	654

Portion of the FHWA table showing savings possible when commuters travel via carpool. The chart, which is the size of a sheet of typewriter paper, shows savings attainable over distances of 15-20-25 miles.

Q and A

Cyclist Wants to be Easy Rider

As a new bike owner I am interested in obeying the law and in operating it safely. Does D.C. have a pamphlet on this?

Indeed the District does. Drop into any post office or police district and ask for a copy of D.C. Department of Motor Vehicles' Pamphlet No. 9 or, visit or write to: Office of Traffic Safety, Department of Motor Vehicles, Room 400, 499 Pennsylvania Ave., NW.

If I am a plaintiff or defendant in a civil suit can I get court leave?

No. Court leave is authorized only for jury duty or for time spent as a witness on behalf of a state or local government.

If I change health plans will I get a new identification card?

Your new carrier will automatically send you an identification card.

What if I lose my ID card?

Write to your carrier immediately. Your request for a replacement should include, if possible, your full name, address, and date of birth, the name of your agency, whether your enrollment is for self only or self and family, whether your enrollment is in the high or low option, and your identification number (the carrier control number which appears on the upper right hand corner of your copy of SF 2809, Health Benefits Registration Form). Your carrier's address appears in your brochure. Some carriers provide cards which are convenient for this purpose.

Administrators—*from page one*

vice president of two business-sponsored, non-profit community planning and development companies in Hartford, Conn., his native city.

Prior to his return to Hartford in 1971, he had held several federal positions in the executive and legislative branches of government. He was Deputy Under Secretary of the Department of Health, Education and Welfare where he managed the development of major policies for the department, including welfare reform in 1969 and the President's health program in 1971.

Before that he was minority counsel for the Senate Subcommittee on Employment, Manpower and Poverty, and a legislative aide to Sen. Jacob K. Javits.

Patricelli was graduated from Harvard Law School in 1965 and was chosen a White House Fellow later that year. He worked in the office of Secretary of State Dean Rusk. He received his undergraduate degree from Wesleyan University in 1961.

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He Leads a Tough "Life"

There's Not Much About Car Crashes That NHTSA's Oscar Doesn't Know

By Mike Scott

His name's Oscar. His delivery cost at the hospital where he was born was around $10,000. His "social security" number is Part 572. He comes from a long line—of dummies.

Oscar 050—and his family—work for the National Highway Traffic Safety Administration (NHTSA) and Oscar and his brothers and sisters probably know more about automobile crash impacts than anyone.

Oscar's birth certificate is made up of an extensive set of Federal and commercial documentation—which includes his weight, his shape, his size, his ability to flex, and even his looks. More than 250 drawings and 40 pages of supporting documents issued by NHTSA went into making Oscar—and they even covered things like center of gravity of all of Oscar's parts, and their size and weight.

Oscar's "birth" came about as a result of work on auto safety which began during the 1960's. Before that, his forebears had been used to help design safe ejection seats for fighter planes.

"Parents" developed for auto safety use sometimes literally "cracked up". Completely. They were, in a sense, not as rugged as the real thing, the average male after which they were patterned. One of Oscar's older brothers, which had cost about $25,000, had a skeleton made of ceramic material which was said to have duplicated human bones. Built as a joint effort by General Motors and Sierra Engineering Co., Sierra Madre, Calif., his "life" came to an abrupt end when he was put into a test car and driven into a wall at 30 miles per hour. Every one of his ceramic "bones" disintegrated on impact.

OSCAR IS A MAN OF PARTS

Today, Oscar and his family have bodies made from aluminum, steel, vinyl foam, and leather. Several "midwives" have assisted in his birth. His head was designed by Sierra Engineering. His body was developed by Alderson Research Laboratories, Stamford, Connecticut.

Oscar's neck, made of rubber, came from General Motors. His "brain" contains electronic instrumentation and a memory system. He can memorize and store within his head the actual crash event when he's behind the wheel of a car undergoing testing. He could even be equipped to say, "Ouch, I've been hurt", "I'm dead", "my arm is broken", "my head is split"—in addition to more scientific readout.

Sensors placed in Oscar's head, chest, and knees record impact "injury". Bleeding from "injury" results in blue marks on Oscar's body. Just before crash tests begin, Oscar is covered with a special material which turns blue following an impact with whatever the dummy's body strikes—but the rest of his body remains white.

Following a bad "accident" to his car, Oscar gets taken to an air-conditioned hospital facility where he gets repaired and rehabilitated. Then he's released into the mainstream of "life".

Why go to all the trouble to re-create, as closely as possible, the human body's impact tolerance? Because nothing else can approximate so closely the effects of automobile collision on the human body.

In many crashes in the real world—real cars and real people—there is a second impact which follows the first one. Following actual collision between two moving vehicles, the sudden stop of the vehicles' forward motion, or deceleration, causes everything inside the two vehicles to decelerate also. This means that human bodies are going to continue forward, in the direction of travel of the vehicle, until they hit something inside the car that will stop them. This is the force which causes loss of life and serious injuries unless the car occupants are restrained by seat belts.

DISTINGUISHED FRIENDS

Oscar associates with the best people—the master models held at DOT headquarters.

Oscar, the anthropomorphic dummy built to NHTSA specifications, plays a vital role in automotive crash research. Built-in electronic sensors and sending units can transmit precise data on every phase of a crash test. Oscar costs about $10,000.

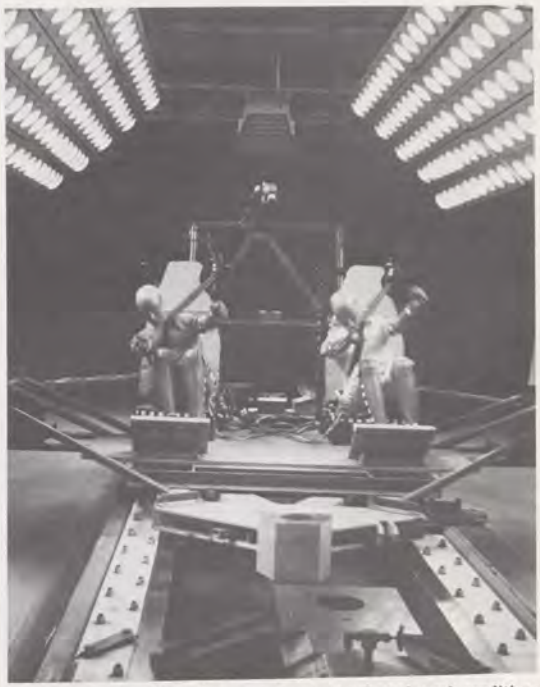
These special dummies are calibrated specially to serve as yardsticks to assure that all dummies, — er, Oscar's relatives—are built to the same measurements and quality.

NHTSA's Stan Backaitis, whose work is giving "life" to Oscar and his relatives, says Oscar's family is busily working for the Federal Aviation Administration (FAA) as well as for NHTSA. His relatives are being used in evaluating safety features of general aviation and commercial aircraft. More distant relatives of Oscar's family are being used in emergency medical services (EMS) training.

"We believe that there are many other uses for Oscar's family—they certainly won't be unemployed. Of course, they will be retired someday, as newer members of his family are born," Backaitis says.

"We're even getting inquiries from companies building industrial and farm machinery," says Backaitis, "and manufacturers are interested in using Oscar's family to develop farm tractors that are less jouncy and more comfortable to ride for long periods of time."

Linda Furgang assists Frank Dacosta, an engineering technician at the NHTSA's Safety Research Laboratory, Riverdale, Maryland, prepare Oscar and his "family" for an impact test.



Test sled can be adjusted to vary impact speeds and crash conditions. Restraint system under test shows similarity of dummy reaction to sudden stops.

Quiet, Please

Turning a Roar Into a Purr

Harry Close, Director of the Office of Noise Abatement in OST's Office of the Assistant Secretary for Systems Development and Technology (TST), is also manager of the truck and bus fuel economy improvement program. A Johns Hopkins graduate in engineering, he was a Special Assistant to the NASA Administrator before he came to DOT in 1968. (Close was interviewed by DOT NEWS Staff Writer Howard Coan.)

Mr. Close, what does the Office of Noise Abatement do?

We advise the Secretary on transportation noise. This includes close cooperation with the Environmental Protection Agency (EPA) both in terms of regulatory actions DOT takes and in the development and grant areas as they concern noise effect on the environment. There's a legal requirement to consult with EPA, and the EPA must consult with us in their rule-making program on noise control.

One of the hot current issues is the environmental impact statement (EIS) regarding the operation of the Concorde Supersonic Transport into Dulles and Kennedy Airports on a regular basis. We are working with the FAA developing analytical material and preparing the EIS itself.

When will the EIS be ready?

Probably by the first of September.

Do the DOT administrations have noise control programs?

Yes, each one has some regulatory or research program or a developmental program which is concerned with noise. My office coordinates these programs.

For example, FAA does research and operates programs in area traffic control, regulatory programs for aircraft noise control and grant programs for airport aid that have strong noise control implications. FHWA has research programs, regulations through the Bureau of Motor Carrier Safety and regulations pertaining to the siting and design of the Federal-aid highway system.

What are your office's direct functions?

We undertake research and development programs directly and through the Transportation Systems Center (TSC) pertaining to advanced technology in noise abatement and the assistance of modal administration programs. In the Act setting up DOT the Secretary is directed specifically to promote and undertake R&D related to noise abatement, paying particular attention to aircraft noise.

What are your major R&D programs?

We have an aggressive program in jet noise research which is aimed at providing scientific understanding of how noise is created in the mixing of exhaust in jet engines. There are a number of university grants and a $5 million, four-year theoretical and experimental research effort by General Electric Company.

At what stage is this jet noise research?

It's at the half-way point—to a degree of maturity where it's now being transferred to FAA.

We also have an analysis capability developed through a number of studies available at TSC. It's designed to provide airport noise contours that may be used to assess various fleet mix, operational, land use or new technology strategies in terms of the number of people affected by excess noise at airports.

What is being done about noise problems around airports?

Obviously, it is a serious problem which we think is well worth the many millions of dollars spent by the government in finding solutions. DOT is now approaching a decision on retrofitting commercial jet transports incorporating sound absorption materials in the inlet portion of engine nacells.

The technical feasibility of this retrofit has been demonstrated by FAA research programs. The proposal for this demonstration program originated in this office based on previous research by NASA.

How much noise reduction can be expected from this retrofit program?

It varies depending on the equipment used and flight patterns at a particular airport. We have demonstrated the benefits of retrofit by computer simulation at 23 airports around the country.

Do people living near airports ever get used to aircraft noise?

I'd say very few, maybe 5 to 10 percent. On the other hand, 5 to 10 percent can't get used to anything. It is the vast majority of people in the middle that concerns us.

Is soundproofing a house an adequate way to avoid aircraft noise?

Soundproofing is not a cost-effective approach and does not provide the normal utility of either a house or outdoor residential facility. The improvement of indoor acoustics as well as energy conservation obviously do come together and benefits can be realized since acoustical insulation also provides thermal insulation. However, insulation should not be the primary attack on noise.

What are the details of the Quiet Truck Program?

We have contracts with three builders of heavy duty truck tractors to determine how much quiet can be engineered into heavy duty truck tractors.

This program has demonstrated that as much as 16 decibels of noise reduction can be achieved. (A decibel is a measure of sound level.) That means a quiet truck would be about 70 percent quieter. It's eerie when you can hardly hear a 350-horsepower behemoth pussyfooting by in a wide-open throttle test.

As a part of the Quiet Truck Program, nine trucks were quieted and placed in regular fleet operation for a year to prove that a quiet truck can haul the freight as well as a noisy truck. We have gotten more than 1 million miles of service evaluation in the year of testing.

How have you made trucks quieter?

We have discovered a number of ways of reducing noise, essentially by making the fan work more efficiently and consume much less engine power thus improving fuel economy by as much as 10 percent.

What has your office done about tire noise?

We have run thousands of tire noise tests and have reported a variety of steps which could be taken to improve the situation. Clearly, the best way to reduce truck tire noise is the use of radial tires. Energy is conserved and fuel economy improvements of up to 10 percent have been demonstrated in a number of fleet tests of radial tires.

Are railroads considered noisy?

Railroads are not as big a difficulty but in some locations it is a problem. We are performing research on locomotive noise and the noise generated in classification yards. In "hump" yards cars make a high-pitched squeal, a very intense noise. People living near those yards can't and shouldn't be expected to get used to that noise. We think that solutions are near at hand for this and our tests should prove it.

How can noise abatement improve energy efficiency?

A noisy situation means inefficiency. When you solve the noise problem, chances are you will be improving a component the noise of which is a symptom of energy waste.

We seek new design approaches which are quieter and more efficient. We also have to find ways of covering over noise made by older systems—this usually means more weight and lower efficiency but innovation is often possible such as in the case of trucks to minimize the performance loss resulting from noise "fixes."

Handling daily operations on a joint NHTSA-FHWA task force for an updated Highway Safety Needs Study are James Koan (FHWA), left, Ruth Zekas and William Allen (NHTSA). The study being conducted by Research Triangle Institute will find safety areas or problems with a high potential for improvement in terms of a reduced number of accidents, deaths or injuries.