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DOT News



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Douglas E. Busby



Joseph M. Del Balzo

In FAA

Busby is New Deputy Air Surgeon; Del Balzo Named NAFEC Deputy Chief

FAA Administrator John L. McLucas has appointed Dr. Douglas E. Busby deputy federal air surgeon in FAA's office of aviation medicine, and Joseph M. Del Balzo deputy director of the agency's National Aviation Facilities Experimental Center (NAFEC), Atlantic City, N.J.

Dr. Busby was chief of the FAA's aeromedical research branch in the Civil Aeromedical Institute, Oklahoma City, and Del Balzo was chief of the agency's advanced concepts branch in the office of systems engineering management in Washington, D.C.

Dr. Busby will assist in developing medical standards for airmen, investigation of medical aspects of aircraft accidents, operation of the FAA employee occupational health program and the direction of the medical research and aeromedical education programs.

In addition, his office is responsible for some 7,000

aviation medical examiners (AMES)—private physicians appointed by the FAA to handle medical certification of pilots and other airmen.

A native of Toronto, Dr. Busby received his M.D. (*cum laude*) in 1960 from the University of Western Ontario and in 1964 he earned his M.S. in biophysics from the same institution. He received his specialty training in aerospace medicine at Ohio State University, is certified by the American Board of Preventive Medicine, and is a Fellow of the American College of Preventive Medicine.

Del Balzo, a veteran of 18 years with the FAA, will be second-in-command of NAFEC, a research and development complex which employs some 1,800 people and includes approximately 20 buildings situated on an area of 5,054 acres.

NAFEC is responsible for testing and evaluating aviation

(See PROMOTE, p. 2)

Coleman to Hold Public Forum On I-66 Future

Secretary of Transportation William T. Coleman, Jr., will hear arguments on the proposal to construct I-66 as a four-lane highway between the Capital Beltway (I-495) and Rosslyn, Va., at a public hearing on Saturday, Oct. 2, 1976.

The application now before the Secretary, submitted by the Virginia Department of Highways and Transportation and the Federal Highway Administration, is a revision of a previous proposal to build a six-lane highway in the same corridor.

The original proposal was rejected by Secretary Coleman in a decision released on Aug. 1, 1975.

The October 2 hearing on the revised proposal will be held at the Departmental Auditorium, Constitution Ave. between 12th and 14th Streets, N.W., Washington. Hours for the hearings are: 9:30 a.m. to 11:30 a.m., and from 1 p.m. to 3:30 p.m.

DOT Officials Will Address Civil Engineers

Future developments in transportation will be discussed by Department of Transportation officials on September 27 at the national convention of the American Society of Civil Engineers in Philadelphia.

Assistant Secretary of Transportation for Systems Development and Technology Hamilton Herman will introduce three DOT speakers, and also will be chairman of a panel discussion on the future of transportation.

The DOT speakers will discuss future transportation systems, such as those using fixed guideways and magnetic levitation, and the role civil engineers will play in their development and use.

Jerry D. Ward, director of the office of research and development policy, will compare the relative cost and service characteristics of the various modes of intercity passenger travel. He also will discuss different ways the total transportation system may develop, including the possible effects of new technology such as a new high-speed ground system for medium-distance passenger travel.

Research and development policy of the Urban Mass Transportation Administration

(See FUTURE, p. 3)



Federal Railroad Administrator Asaph H. Hall dedicating the new rail facility for accelerated service testing (FAST) at FRA's Transportation Center, Pueblo, Colo.

FRA Rail Loop to Speed Testing of Railroad Rolling Stock and Track

American railroads now have access to a new test track that is capable of measuring up to ten years of wear and tear on rails and rail cars in one year's time.

This is the Federal Railroad Administration's new facility for accelerated testing (FAST) at the DOT's Transportation Test Center, Pueblo, Colo.

The 4.8-mile loop contains 22 test sections of track. Each section features combinations of different types of ties, ballast, rail fastening systems and switches. FAST will be used to

accumulate data on track structures and rail vehicles and how they wear under heavy demand conditions.

A 75-car test train will operate over the track for at least 16 hours a day, five days a week at an average speed of 45 miles per hour.

Much of the track materials and rolling stock for this cooperative government-industry effort was provided by suppliers and railroad companies through the Association of American Railroads (AAR) and the Railway Progress Institute (RPI).

A Little Night Music

USCG Band Schedules D.C. Concert

The U.S. Coast Guard Band, one of the five premier armed forces bands, will visit Washington, D.C., Thursday, October 21 to perform a free concert at the Departmental Auditorium, Constitution Ave. between 12th and 14th Streets, N.W.

The concert begins at 8:30 p.m. with ample public and commercial parking available in the immediate vicinity.

The program is the second annual Department of Transportation concert. The national Coast Guard Band, stationed at New London, Conn., is directed by Lt. (j.g.) Lewis J. Buckley.

Mr. Buckley is the youngest person, other than march king John Philip Sousa, to be assigned to lead one of the five premier armed forces bands.

Quotable . . .

Our National Transportation Policy is one which puts into perspective the demands and conflicting concerns of the 1970s in a way which will not hamstring future generations, whose needs may be different than as today's needs are from the last generation. It is a policy designed to direct—not dictate—and much of its success depends on the involvement of state and local officials, as well as private citizens, in helping to translate this policy into effective programs.

Secretary of Transportation William T. Coleman, Jr.
Southern Governors Conference,
Williamsburg, Va., Aug. 31, 1976



Registered nurses Eleanor Baldwin and Carol Zimmerman prepare Deputy Secretary of Transportation John W. Barnum for a blood donation. DOT begins its year-long Red Cross blood donor campaign September 29. Blood will be collected in room 4234 in the Nassif building from 9 a.m. to 3 p.m. Telephone Steve Tuller, Coast Guard Health Service (x-61156) for the name of your blood coordinator.



Luis F. Gomez

Gomez Appointed As Law Judge By Coast Guard

Luis F. Gomez has been appointed a Coast Guard administrative law judge, with assignment to the Houston office.

Previously he was engaged in the private practice of law as a member of the firm of McConnell, Valdes, Kelly, Sifire,

Griggs and Ruiz-Suria, in San Juan. During 1963 he was, for a time, employed in the New York law office of Bernard Rolnick, specializing in admiralty matters.

His extensive experience in the legal departments of municipal, state and federal governments, includes service as a city attorney in San Juan, counsel to the New York City Commission on Human Rights, and field attorney with the National Labor Relations Board.

Born in Santurce, Puerto Rico, in 1931, Mr. Gomez was graduated with a B.B.A. from the City College of New York, and received his law degree from the Brooklyn Law School in 1962.

He is licensed to practice law in New York, Florida and Puerto Rico. He served in the Marine Corps during the Korean conflict.

Judge Gomez is married to the former Haydee Rodriguez of Santurce, Puerto Rico. They have a son and a daughter, Luis F. Jr., and Milagros.

NHTSA Asks 85 mph Speedometer Limit as Safety, Fuel-saving Move

Automobile speedometers that register speeds as high as 120 miles per hour or more may become collector's items under a recommendation issued by the National Highway Traffic Safety Administration (NHTSA).

Beginning with model year 1980, the proposal requires that all passenger cars, multipurpose vehicles, trucks, buses and motorcycles be equipped with speedometers with a top speed reading of 85 mph. No higher.

Motor driven cycles able to reach a top speed of 30 mph, or less, in one mile, and vehicles used by police agencies, would be exempt.

NHTSA said a scale limited to 85 mph would increase speedometer readability in normal speed ranges, and that a higher limitation might encourage immature drivers to test the top speed limit of their vehicles.

The safety agency also said the proposed standard could help maintain lower highway speeds which effectively have reduced traffic fatalities and saved fuel.

Comments on the proposal should be sent to the Docket Section, National Highway Traffic Safety Administration, 400 Seventh St., S.W., Washington, D.C. 20590 before Nov. 29, 1976.

DOT Study Says MPG Meter Not Good Gas Saver

If you are considering adding a miles-per-gallon (mpg) meter to your car's instrument panel as a fuel saving device, forget it.

That's the word from the Department of Transportation which sponsored a study to determine if the mpg meter would save significant amounts of fuel under typical driving conditions. The study concludes that the meters have little potential for encouraging fuel saving in congested city and suburban traffic with its low-speed, stop-and-go driving.

The study said city driving, in particular, requires a driver's close attention and he would find it difficult to pay much attention to a mpg meter. Over one-half of the nation's driving occurs on city and suburban streets.

The meter, which costs a minimum of \$130 installed in a used car, and about \$75 as added equipment in a new car, measures and displays for the driver his rate of fuel consumption. It takes into account the fuel flow in gallons-per-hour, the speed in miles-per-hour and processes this information electronically.

With the device, a driver can see directly the effects on fuel consumption of such driving operations as accelerating, braking and hill-climbing.

Testing of the meters under actual driving conditions conducted by the Automobile Club of Southern California, under DOT sponsorship, has shown no significant increase in average fuel economy during the first six weeks of the test.

Promote—[from page one]

concepts, procedures and equipment, and assists other elements of the agency with research, development and implementation.

Del Balzo had been assigned to NAFEC twice before. First, in 1960, as a project manager after two years in Portland, Me., as a district electronic engineer, and again in 1973 as chief of engineering management. He returned to Washington in 1974.

He became chief of the advanced concepts staff in 1975 and then was selected for a year's study as a Fellow in the Woodrow Wilson School for Public and International Affairs at Princeton University.

Del Balzo received his B.S. in electrical engineering in 1958 from Manhattan College, and a masters degree in management from Drexel University in 1967.



The Coast Guard's new prototype 399-ft., 13,190-ton icebreaker *POLAR STAR* took her first ice tests in the Arctic off Alaska during May and June 1976. Commissioned on Jan. 7, 1976, and based in Seattle, the *POLAR STAR* is America's largest and most powerful icebreaker. She can break six-foot-thick ice at a continuous speed of 3 knots, and by riding up on the ice she can smash ice 21 feet thick.

Oldest Sea Service

Busy Year Logged by Coast Guard

When the U.S. Navy first put to sea in 1798, the U.S. Coast Guard had already been patrolling American waters for eight years.

Now marking its 186th birthday, the forerunner of today's Coast Guard came into existence on Aug. 4, 1790, when Congress authorized the Treasury Department to build 10 boats to patrol the Atlantic because of wholesale smuggling along the Atlantic Coast.

The Coast Guard now has 250 ships, more than 2,000 small craft, and 160 aircraft. And, there are 37,000 military and 6,000 civilian personnel.

The Coast Guard's 186th year has been a busy one.

It convoyed barges through Arctic ice to Alaskan oil fields, perfected technology to identify unseen polluters at sea, admitted women cadets to the 100-year-old Coast Guard Academy, and sent its first women officers to flight training.

In the past year the Coast Guard saw its area of jurisdiction along the nation's coastline increased in excess of two million square miles, with the signing of the Fisheries Conservation and Management Act of 1976.

In late September 1975, the cutters *STORIS*, *CITRUS*, and *BURTON ISLAND* broke a track through Arctic ice to Prudhoe Bay, Alaska, for 15 barges loaded with \$500 million worth of oil field equipment.

The icebreaker *POLAR STAR*, powered by 60,000 horsepower turbines, was commissioned Jan. 17, 1976, and underwent sea trials in the Arctic in the spring of 1976.

In November 1975 the Coast Guard arrested the master of the Liberian flag tanker *GARBIS* and charged him with spilling 40,000 gallons of oil off the Florida Keys in July 1975. The alleged offender was identified through chemical analysis or "oil fingerprinting," a technique developed by the Coast Guard.

The Coast Guard's National Strike Force responded to nearly 50 major pollution incidents last year. Team members assisted in cleanup operations following a 250,000-gallon oil spill in the Chesapeake Bay, February 1976. The spill, described as the worst in the history of the bay, resulted from the sinking of a barge that ran aground in rough weather.

From August 1975 through June 1976, the Coast Guard seized 19 foreign vessels for violating fishing regulations or illegally taking creatures of the continental shelf, such as lobsters.

Estimated statistics for fiscal year 1975 show that the Coast Guard lived up to its nickname, the *lifesavers*, by answering more than 71,700 calls for assistance. An estimated 4,000 persons were saved from death, and more than \$306 million in property recovered.

On July 4, 1976, the Coast Guard training barque *EAGLE* led the parade of 150 tall ships of Operation Sail into New York harbor to climax one of the nation's major Bicentennial events.

That was the year that was, the 186th birthday of the U.S. Coast Guard.



Jerome Griffith, 18-year-old resident of Export, Pa., accepts a set of cuff links from Transportation Secretary William T. Coleman, Jr., at a ceremony honoring Griffith for winning the "National Teen-Age Safe Driver" contest. Griffith also won a Dodge *Aspen* and a \$2,000 scholarship. The contest is sponsored jointly by Chrysler Motor Corp. and the American Veterans of WW II, Korea and Viet Nam. At left is Philip Buckminster, head of Chrysler's Washington office. AMVET national commander Paul C. Welsh is at right.

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Secretary of Transportation William T. Coleman, Jr.
 Assistant to the Secretary
 and Director of Public Affairs C. Ramon Greenwood
 Assistant Director for Communication
 Programming James L. Stafford
 Editor Frank J. Clifford



Automobile Balancing and Trade-Off Requirements

Almost two dozen factors must be taken into consideration in increasing the miles-per-gallon performance of automobiles, as this diagram demonstrates.

Task Force Studies Auto Future

Auto manufacturers may be able to exceed the required 27.5 miles-per-gallon federal fuel economy standard in the later part of the 1980s.

This is one of the key findings in a report by the Interagency Task Force on Motor Vehicle Goals Beyond 1980 to the President's Energy Resources Council.

Transportation Secretary William T. Coleman, Jr., is chairman of the task force. Task force manager is Herman Hamilton, Assistant Secretary of Transportation for Systems Development and Technology.

The report said that total automobile fuel consumption could be reduced by up to 1.3 million barrels a day in the mid-1990's compared to 1975 if manufacturers introduce lighter weight auto structures, more fuel-efficient engines and more efficient auto drivetrains.

That amount would be more than 4 million barrels a day less than the present fleet of cars would consume if driven the number of miles projected for the mid-1990's. Automobiles are the largest single consumer of petroleum, using 31 percent of the nation's production—about 5 million barrels a day.

The report concludes the dilemma facing the federal government and the auto industry is how to convince the American public of the need for a change-over to more fuel-efficient motor vehicles and to encourage them to purchase cars which will achieve better fuel economy.

"Without public acceptance and purchases, the most fuel-efficient design is useless," the task force said. "The mandated 27.5 miles-per-gallon (mpg) fleet fuel consumption standard in 1985, for example, appears to be technologically feasible, but can only be realized with

public cooperation and full understanding of the purpose."

The Energy Policy and Conservation Act of 1975 sets a minimum average fuel economy standard an auto manufacturer must reach for his entire passenger car production in a model year. The regulation requires 18.0 mpg for 1978 models and increases to 27.5 mpg for 1985 models. The 1976 average fuel economy level for new cars is 17.1 mpg.

Further Changes

Among the steps the report said manufacturers would be required to take to reach the 1985 standard is a reduction in automobile acceleration below the current average of zero to 60 miles per hour in 15 seconds. It is possible, the report added, consumers will not accept the less powerful cars.

Other required steps outlined by the task force include incentives which would lead to smaller cars taking a larger share of the market than the present 25 percent, faster development and introduction of upgraded transmissions, and introduction of innovative auto body structures in the early 1980's.

However, manufacturers who build only small cars probably would not have to take any of these steps, the report noted. As a result, the full-line manufacturers, including General Motors, Ford and Chrysler, may be placed at a competitive disadvantage. The larger auto companies would have to make their smaller cars lighter in weight or, more likely, lower in performance to raise the mpg level above the 27.5 mpg standard and balance off their less fuel-efficient larger cars, the task force found.

Over 20 years, the report said, a 25 mpg fuel average

compared to the 1975 level of 15 mpg can save about 9.5 billion barrels of oil, comparable to the size of the Alaskan oil field. At \$11 a barrel, the reduction would be worth more than \$100 billion.

The study predicts the fuel economy of all autos may improve to about 30 mpg by 1995 as new, fuel-efficient automobiles replace less-efficient older cars. The actual fuel saving will depend on the market situation, future safety and environmental regulations and the results of on-going research and development programs.

The report foresees a good future for auto companies and their employees. Desired improvements can be made in fuel economy, safety and emissions while meeting other requirements for the auto such as price, operating costs and performance, the task force said.

The report says, "The nation can continue to have the valuable mobility provided by the automobile, with automobile use increasing with the increase in driving-age population."

No Engine Breakthrough

Prospects are dim for a breakthrough in engine technology in the 1980's that would make major improvements in fuel efficiency, the report said. Improvements will come primarily from changes in present body and frame structures, engines and drivetrains. Any advanced engine technology, such as the turbine or external combustion Stirling engine, might not be available until the late 1980's, but could provide in the 1990's another way to reduce fuel consumption or emissions and perhaps, more important, could be operated on a more easily-refined fuel.

The outlook for a highly-efficient electric vehicle remains poor, for at least the next 10 years, according to the report. A substantial breakthrough in battery technology is needed before the electric car can become a viable alternative to gasoline or diesel-powered automobiles.

Current problems with electric vehicles include deficiencies in range, payload, performance, cost and overall energy efficiency. They may be feasible for special purposes, such as postal delivery vans, but their effect on petroleum use over the next 15 years will be minimal, the task force said.

Prospects for further reductions in air pollution caused by autos are excellent, the report said. The major factor is the replacement of older cars with much cleaner new autos that meet federal emission standards. Further progress in reducing auto emissions while increasing fuel economy is likely to depend on the timing and degree of tighter emission standards as well as the status of new developments in emission control technology.

The report also discusses the risks for the nation's four major

automakers that may be caused by the mandated fuel economy standard. The requirement will mean a 15 percent to 25 percent increase in capital investment—\$5-10 billion—over the normal spending for facilities and equipment. If the companies continue to sell cars at their normal rates, this additional capital can be raised, the report said. But certain risks will be associated with the increased investments:

- Consumers may not buy the lighter cars in sufficient quantities to yield the mandated fuel standards. Fines imposed by the law on auto manufacturers who fail to meet the fuel economy standards will not necessarily solve the problem because the increased cost probably will be added to the new car's price. Low total sales

eventually may jeopardize the economic position of the auto industry.

- Smaller auto manufacturers may be seriously hampered because of their inability to risk needed capital on new technologies.

- Changes in the national economy may cause shifts in consumer buying habits, as has happened in the past.

- The behavior patterns of consumers are changing and hard to predict, a situation which could have an important effect on the acceptance of smaller cars.

- Potential changes in regulations on safety, emissions and fuel economy may cause further uncertainties.

- Unpredictable changes in technology may occur.

NHTSA Offers Free Motorcycle Booklet to Cut Accident Rate

How does the motorcycle compare with the automobile from the safety standpoint?

The question is explored in a new booklet, "Motorcycle Safety," prepared by the National Highway Traffic Safety Administration with assistance from the Motorcycle Safety Foundation.

The booklet describes the causes of motorcycle accidents, provides tips on selecting the right motorcycle and discusses

the protective clothing and equipment necessary for safe motorcycling.

Also included are safe driving tips, suggestions on how to react to emergency situations, and recommendations for preventive maintenance.

Single copies may be obtained at no cost from the National Highway Traffic Safety Administration, ATTN: General Services Division/Distribution, 400 Seventh St., S.W., Washington, D.C. 20590.

Future—[from page one]

(UMTA) will be discussed by C. Kenneth Orski, UMTA's associate administrator for policy and program development.

Among UMTA's priorities are improving traffic and public transportation, shaping community development to promote more energy-efficient land use and protection of the environment, and directing automobile use in urban areas to encourage greater transportation efficiency.

Charles F. Scheffey, director of the office of research in

the Federal Highway Administration, will speak on possible new directions for the federal highway program in the next 20 years and future contributions of civil engineers to the program.

Information on the convention, which runs from September 27 to October 1, is available from the American Society of Civil Engineers, 345 East 47th St., New York, N.Y. 10017. Phone: (212) PL 2-6800.



With the use of a portable ultrasonic testing unit, a technician at DOT's Transportation Systems Center (TSC) can readily detect the presence and character of a rail flaw, which is indicated and registered by a mobile inspection system. The demonstration took place at TSC's rail facility at Cambridge, Mass., and is part of the Federal Railroad Administration's continuing search for increased safety.

You Just Dial a Number

DOT's TRISNET is Key to Transportation Data

Dr. Alex G. Hoshovsky works in the Office of the Assistant Secretary for Systems Development and Technology where he is responsible for the formulation and supervision of the Department's R&D information policy and programs. He is also a professor at the GWU's School of Engineering and Applied Sciences teaching graduate courses in the management of engineering enterprises. He believes that improved access to socio-economic, operational, and technical data can be one of the great DOT contributions to the future of U.S. transportation systems.

Dr. Hoshovsky, just what is TRISNET?

TRISNET stands for Transportation Research Information Services Network. It is a coordinated system of libraries, document repositories, indexing and abstracting centers, and other organizations that provide information services to transportation planners and technologists.

Who originated TRISNET?

The DOT proposed its development in 1971. The resources and program management came from the office of the assistant secretary for systems development and technology. Some elements of the current TRISNET, however, existed before 1971. This includes such organizations as the Highway Research Information Service (HRIS) and the Maritime Research Information Service (MRIS). The latter was established by the Maritime Administration (MARAD) of the Department of Commerce, while the former was created by the Federal Highway Administration and the state department of highways.

What other organizations are a part of TRISNET?

There is the Railroad Research Information Service (RRIS), and the emerging Air Transport Research Information Service (ATRIS). The document delivery system of TRISNET consists of transportation libraries of DOT, Northwestern University, and the Institute of Transportation Studies at Berkeley, and the DOT Technical Reports Center at the National Technical Information Service.

How large is TRISNET?

TRISNET is designed to cover some 17 core and associate information organizations. There are five major transportation libraries with a combined holding of over 500,000 documents on transportation law, technology, and economics and with subscriptions to more than 2,000 periodicals.

There are six indexing and abstracting organizations which



organize and disseminate information relevant to road, rail, maritime, air, traffic safety and tunneling research, development and technology.

The combined data base of abstracts of technical reports and summaries of on-going research that is produced by these organizations consists of over 100,000 items and continues to grow at a rate of some 20,000 items per year. The associate organizations of TRISNET provide access to approximately 1 million references in sciences and system engineering.

Also, TRIS-ON-LINE, a part of TRISNET, provides on-line access to about 50,000 of the most recent transportation abstracts and summaries.

What is TRIS-ON-LINE?

TRIS-ON-LINE is a common TRISNET data base that is computerized and stored in a central computer located in Columbus, Ohio. The system allows instant retrieval of abstracts and summaries at the user teletype or cathode-ray (CRT) terminals. The terminals can be located anywhere in the country wherever there is a regular telephone to carry the messages between the user and the computer.

How can I use TRIS-ON-LINE?

First you would need a terminal and instructions on the TRIS-ON-LINE use. You would also need an access code for the computer to recognize you as a legitimate user and to bill you for the computer costs that would be incurred by you during its use.

How much training would I need to operate the terminal and do my own retrievals?

One or two hours is about all that is necessary. You first learn how to register with the computer. We call this log-in. Then, you learn to use several simple commands like "help," "display" and "print." After

that you are on your own, entering your requests, specifying the conditions for retrieval of the desired records, and receiving responses directly on your terminal printer or on your TV display screen.

Assuming that I need information from TRISNET, how can I obtain it?

There are several ways. If you are not familiar with TRISNET, you should call the TRISNET Secretariat—the number is (202) 389-6611.

The Secretariat will refer you to the most appropriate source. If you have the TRISNET directory, you can call any of the information services listed. You can also contact your local librarian who knows about TRISNET and can help you with the information you need. Lastly, if a teletype terminal is available, you can dial the TRIS-ON-LINE computer directly.

What kind of information does TRISNET provide?

TRISNET provides all kinds of information, published and unpublished, relating to the problems of transportation policy or technology. Feasibility studies for new transportation systems, results of DOT demonstrations, system design studies, socio-economic analyses, and syntheses of transportation practice are some of the types of information TRISNET provides.

TRISNET also organizes and disseminates information on planned and on-going research, statistical and other numerical data banks, and other information resources which can be of help in transportation planning and decisions.

How current is the information in TRISNET?

It varies with the type and the source of information. Most of the domestic documents are available from TRISNET within one month of the date

of publishing. In foreign literature, the abstracts may lag as much as six to ten months between the date of publication and the date of the TRISNET announcement via the abstract bulletins or TRIS-ON-LINE.

How do I enter a request? For example: if I want information on the failure of automobile tire sidewalls, what would I say to the computer?

All you do is to type the words "automobile," "tire," and "sidewalls," one at a time, at your terminal, and push the carriage return button. In an instant the computer will respond by telling you how many records it has that contain these words. When you type "DISPLAY," the computer will print these records at your terminal.

If I wanted information only on the failures of recapped tires, can TRIS-ON-LINE be fine-tuned to this degree?

Yes, you just add the word "recapped" to your request. But, I would advise against it. Such a tight specification could eliminate perfectly good records simply because the word "recapped" may not have been used in the abstract or the title to the document.

Are TRISNET costs high?

TRISNET services are very inexpensive. A typical off-line computerized retrieval costs \$50. TRIS-ON-LINE search typically runs \$15-\$20 per question. Full documents are supplied from TRISNET repositories on loan or at the cost of reproduction, seldom exceeding \$10 per document. A subscription to a modal indexing and abstracting bulletin is \$40 per year. Custom-made bibliographies can, however, run up to several thousand dollars depending on the amount of technical labor required and the quantities of printing.

How does TRISNET cost compare to costs of other information services?

We made some comparisons recently and were impressed.

For example, a non-TRISNET search of literature on truck noise would have required that we request four separate searches of various data bases at a combined cost of over \$500.

This cost did not include the time our people would have used eliminating the duplicates and irrelevant records.

In contrast, the TRIS-ON-LINE search was done in less than two hours at a cost of \$35, and there were no duplicates.

In another example, we contemplated the use of a contractor for the production of a special bibliography on transportation construction technology. The cost estimate for the contractor was \$60,000 and \$8,000 for TRISNET. Naturally, we chose the TRISNET route.

What effect, if any, does TRISNET have on DOT?

TRISNET is information, and information benefits are difficult to measure. I can cite, however, from recent Congressional testimony, which points out that in 1975 alone, DOT saved more than 15,000 technical manhours by shifting from less efficient information searching methods. The system is also credited with enabling DOT to issue R&D contracts at less cost to DOT.

The testimony also revealed that TRISNET, especially its on-line component, TRIS-ON-LINE, strengthened the DOT efforts of coordinating R&D projects with other agencies at the working level. Direct access terminals are now used by such federal, state, and regional institutions as the Federal Energy Administration, Maritime Administration, Congressional Office of Technology Assessment, Bay Area Rapid Transit (BART), and others to give direct access to TRISNET data bases. The comments received from these agencies show that such access saves them time as well as ours and improves R&D program planning decisions.



Fuel sprays from a ruptured conventional wing tank as a Piper Navajo simulates a crash landing in a test of fuel tanks at FAA's National Aviation Facilities Experimental Center, N.J. A two-ply rubber-coated fabric tank designed to FAA specifications in the left wing survived the impact. William Perrella is the project engineer, assisted by James Daily, Harry Hogg and Maurice Dungan. The plane was donated by Piper Aircraft Corp.