

Unique Lighting May Ease Driving

Who says there is nothing new under the sun? Texas A&M researchers are working to make night highway driving as safe as day driving for the nation's motorists. Their ideas are being put to practical use in San Antonio, Texarkana, Sioux Falls and Rapid City, South Dakota.

Better illumination is the answer Dr. Neilon J. Rowan and Ned E. Walton have come up with after four and one-half years of research. Rowan heads the Texas Transportation Institute's Driving Environment program. Walton is a research assistant.

"We are trying to reproduce as nearly as possible seeing conditions for night drivers that are experienced by daytime drivers," Rowan emphasized. "Achieving daylight intensity of light is not our objective. But we want to illuminate entire interchange areas sufficiently so drivers may see roadway features necessary for safe driving."

Rowan said drivers need to readily see all interchange roadways, signs, guardrails, curbs and other things to quickly and calmly make numerous decisions which contribute to safe driving in interchange areas.

Floodlighting is not exactly unique, Rowan hastens to note. It is, he said, new in its form of application to roadway lighting in that less illumination is required for functional efficiency.

Floodlights, familiar sights in sports and industry, may soon become even more notable along the country's highways, the researcher feels.

"Our research is sponsored by the Texas Highway Department in cooperation with the Bureau of Public Roads' Department of Transportation," Rowan said. "The cost totals \$260,000 to date, including \$82,000 for this year."

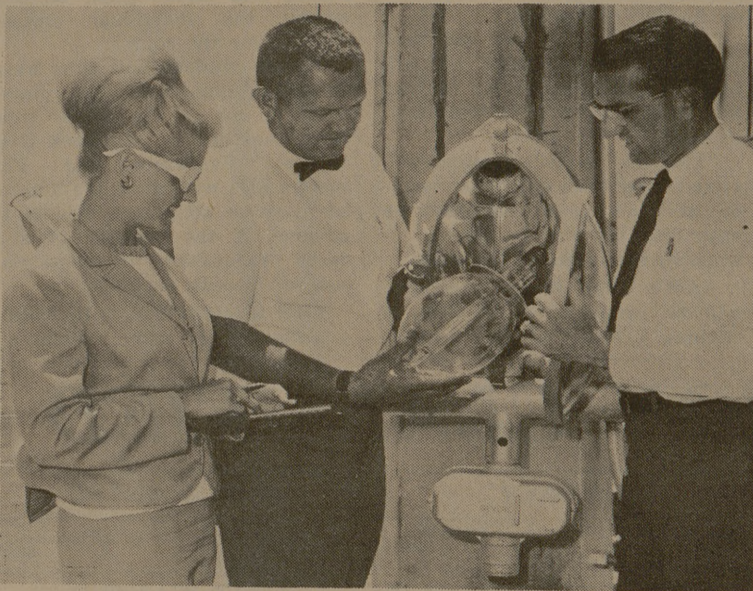
Rowan and Walton are not "talking" fixed mounting heights now although they readily admit poles may range from 80 to 150 feet high, depending on topography and other factors.

The 100-foot towers being installed in San Antonio are designed to withstand 100-mile-per-hour winds. For safety's sake, Rowan explained, the poles are being mounted 100 feet or more from the roadway's edge, making it highly improbable that they would be struck by motor vehicles.

Researchers' quest for safety doesn't end there. They are working on shock absorbing devices which may be placed around poles to reduce probability of injuries to drivers and passengers if their vehicle should crash into the towers. Rowan said TTI researchers already have devised impact attenuation devices which will stop a car traveling 60 miles per hour in 15 feet. This type collision, he added, is considered survivable accident.

According to Rowan, use of lower mounted lighting systems in interchange areas light only individual roadways and as a result do not allow drivers to see the total picture.

With low mounted lighting, Rowan added, drivers have difficulty determining relationships of other roadways with the roadway on which he is driving. Also, he continued, glare from light sources on other roadways may interfere with his driving and add to his confusion.



LIGHTS BOOST LIVING

Making night driving almost as safe as day driving is a goal of Texas Transportation Institute researchers at Texas A&M University. Mrs. Ray Stanford Jr. jots notes as Dr. Neil Rowan and Ned Walton inspect ten 1,000-watt lights soon to be installed atop a 100-foot pole for further research at A&M's Research Annex.

Unusual Bicycle Used For Tests

By TOM CURL

A physical education graduate student at A&M uses a bicycle for something besides getting to class or skinning knees and elbows.

Earl Yarbrough, a weight training instructor and a student, is working on a project of determining heartbeat reactions to increased resistance. The bicycle is more properly called an "ergometer." The unit is stationary and has no spoked wheels; only a large flywheel with a tension band that can be tightened to increase resistance on the pedals.

Yarbrough had a two-fold purpose in starting this particular project. He wanted to use it as the object of a problem course in his graduate work and also he hopes to base his Ph.D. dissertation on the results of the work.

Using volunteer subjects, Yarbrough has made about 55 tests since he started in April.

The test involves the subject being fitted with chest electrodes that are connected to a physiograph, a device used to measure rate of heartbeat and recorded as an electrocardiogram (EKG). The person then pedals the bicycle ergometer at the rate of 50 times per minute in cadence with a musical metronome.

The actual goal is to determine the amount of resistance needed to bring the average person's heart rate up to a level 125 to 145 beats per minute.

Yarbrough records the rate of heartbeat every thirty seconds until the rate levels off. Some tests involve a constance resistance while in others the resistance is gradually increased to observe the effect on the heart. All tests are stopped when the heart beat rate reaches 160 beats per minute.

Yarbrough has noticed that some of the EKG graph lines jump sharply due to emotional reaction.

"Perhaps I would have a freshman on the machine and an upper-classman would walk in; or some

Dr. Wallace Pasika To Join Faculty Of Chemistry Dept.

Dr. Wallace M. Pasika will join the Texas A&M Chemistry Department faculty June 1 as an associate professor, announced Dr. A. E. Martell, head.

Pasika, 34, has been a faculty member at East Texas State since 1965.

The physical chemist obtained bachelor and master's degrees at the University of Manitoba and the Ph.D. at the University of Alberta, Canada.

other emotional factor would cause the heart rate to momentarily jump," he remarked.

In addition to emotional stresses affecting heart rate, Yarbrough said that heart rate is difficult to measure in people who have non-rhythmic heartbeats.

Three Officers Reassigned To S.E. Asia

Three Air Force officers currently assigned at Texas A&M will move to new jobs in Southeast Asia this summer.

Maj. Deward Johnson, Maj. Philip I. Caleb Jr. and Capt. Samuel J. (Joe) Boles Jr. are Air Force ROTC instructors.

Johnson and Caleb will be reassigned in South Vietnam and Boles will be stationed at Korat, Thailand.

Boles, the operations staff officer-to-be at the 7th Air Force headquarters, Tan Son Nhut AB is married and has two children. He came to A&M in 1965. In addition to instructor duties, the Versailles, Ky., native has been Boy Scout liaison officer and instructor pilot, information and safety officer of the detachment.

Johnson supervised student pilots as flight instruction program project officer and was military advisor to the 4th Group, President's Flag winner; Squadron 13, Academic Achievement award unit, and Squadron 11, winner of the General Moore and Spencer J. Buchanan awards.

Major Caleb hopes to complete master's degree work in history before leaving A&M in August. He will be an AC-47 Dragonship crew member with the 5th Air Commando Squadron at Nha Trang, Vietnam.

Training at Fairchild AFB, Wash., England AFB, La., and Clark Field, Philippines, will precede his assignment. The father of two children, Caleb has been at A&M four years and is a member of St. Thomas Episcopal Church.

Captain Boles will be reassigned as a 553rd Reconnaissance Wing navigator, flying out of the Royal Thai AB. Instructor of junior and freshman aerospace studies, he has been Wings and Sabres advisor, Squadron 2 military advisor and taught navigation in the flight instruction program. Boles, the father of four, is detachment testing officer and AFROTC project officer of new student summer conferences.

The three officers were honorees of a recent detachment farewell social.

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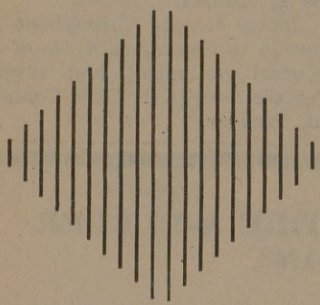
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