

WORK SESSION
Wednesday, November 16, 1988

Careers in Transportation

Co-Moderators

John Carr
Transportation Engineer
Division of Specialized Programs
Kentucky Transportation Cabinet

Tony Huff
Past President
Student Chapter of American
Society of Civil Engineers

Panelists

Joe Dougherty
Executive Director
Kentucky Society of Professional Engineers

Jack Deacon
Associate Director for Research
Kentucky Transportation Center

R. R. Dawson, Jr.
President
R. R. Dawson Bridge Company

Terry Chism
Assistant Engineering Coordinator
Federal Highway Administration

Careers in Transportation

INTRODUCTIONS

Co-moderator, Tony Huff, is an engineering student at UK and represents the student viewpoint. Mr. Huff is Past President of the Student Chapter of American Society of Civil Engineers.

The other moderator, John Carr, has been with the Kentucky Transportation Cabinet since 1985, currently serving as Transportation Engineer in the Division of Specialized Programs. Along with his duties as transportation engineer, Mr. Carr is recruiter and training program coordinator for graduate engineers.

Joe Dougherty, Executive Director of the Kentucky Society of Professional Engineers, has spent almost 30 years on active duty as an officer in the United States Air Force. A native Kentuckian, Mr. Dougherty earned his undergraduate engineering degree from the United States Military Academy at West Point and his MS from Vanderbilt University.

John "Jack" Deacon has taught civil engineering courses at UK since 1967 and has served as Chairman of the Civil Engineering Department. Dr. Deacon is recognized nationally for his transportation research activities. A native Kentuckian, he earned BS and MS degrees from UK and holds a Doctor of Engineering Degree in Transportation from the University of California at Berkeley.

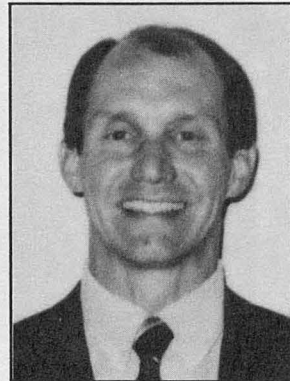
Robert R. Dawson, Jr., is a partner in R. R. Dawson Bridge Company and Secretary-Treasurer of R. R. Dawson Realty Company. Mr. Dawson is active on the board of directors of several area banks as well as Lexington's Good Samaritan Hospital, and serves on the board of curators at Transylvania University.

Terry L. Chism has been with the Federal Highway Administration since 1971, currently assigned to Frankfort as Assistant Engineering Coordinator/Recruiter. Mr. Chism earned his engineering degree from the University of Louisville/Speed Scientific School.

SUMMARY OF PRESENTATIONS

by John Carr

The emphasis for the "Careers in Transportation" workshop is the need for attracting more students into the civil engineering field, particularly transportation. As we all are acutely aware, the highway engineering function in the public and private sectors "geared up" during the late 1950's and early 1960's for the nation's Interstate Highway Program. Many of those hired are now eligible to retire and are taking advantage of retirement windows and incentives that are offered today.



John Carr

The panelists for this workshop will discuss the need for engineers in their particular employment sector.

Bob Dawson informed the audience of the need for engineers in the construction contracting area. Mr. Dawson said that the need for field construction engineers had increased due to several factors. The first was the increased federal and state requirements for highway construction due to emphasis on protection of the environment and highway. The second was greater emphasis on traffic control. Traffic control is becoming more complicated due to more 3R and 4R interstate work and more work being done under traffic. The construction industry also was affected by the recent retirements of those hired during the 1950's for the interstate program.

Joe Dougherty informed the group of the need for more civil engineers with transportation/highway consultants. More complex designs, especially in urban areas where right-of-way availability is limited, additional federal safety requirements, and computerization has increased the need for more highly skilled engineering and technical personnel. Mr. Dougherty emphasized the need for engineers in the private sector was going to increase since more governmental agencies were relying on consultants to do larger percentages of their work program.



Jack Deacon

Terry Chism said FHWA had a 30-month training program that all new recruits must enter. These assignments rotate through all the functional areas within FHWA and in different geographical areas of the country. Mr. Chism emphasized that FHWA was restricted as to the number of new engineers it can hire each year. As a result of shifting traditional federal roles in the federal-aid highway construction program back to the states and retirements of more experienced engineers, the Federal Highway Administration has reduced its engineering staff nationwide.

Jack Deacon informed the participants of the opportunities for persons entering the transportation research field. Dr. Deacon described the positive and negative factor of careers in transportation research. The positives included: excitement of the unknown, potential benefits to society, work independence, challenge, variety of projects, and a chance for growth and knowledge. Research negatives include infrequency of finished "products", limited job opportunities, restricted job mobility, and an environment that undervalues, misunderstands, and discredits research. It also was emphasized that a post-graduate education is the "gateway" to productive research careers. Dr. Deacon summarized his presentation by saying that mobility is essential for economic and personal prosperity and that new knowledge gained through research is necessary to maintain and improve our mobility.

John Carr reported to the group that the KYDOH had lost 56 registered professional engineers due to a retirement window recently

offered by the state government. This represented 20 percent of the professional engineering staff. In addition, in August of 1988, the department identified a need for an additional 70 engineers-in-training. Mr. Carr stated the Department's greatest need was for engineering graduates in the western district offices of Paducah, Madisonville, Bowling Green, Elizabethtown, and the eastern districts of Jackson, Manchester, and Pikeville. The Department's 12-month rotational training program was explained to the participants. There are three training paths available:

1. Highway path, which is aimed at persons desiring to enter the roadway construction, design, and material areas;
2. Planning path, for graduates who desire to enter the highway transportation planning or environmental areas; and,
3. Structures path, which prepares graduates for assignments in bridge design, maintenance, or construction. Mr. Carr indicated enrollment in civil engineering at Kentucky's two engineering colleges was down to where only about 60 to 70 graduates would be available for each of the next two years. However, the Department hopes to meet its staffing needs by hiring 35 engineering graduates during each of the next two years.

Mr. Carr also explained that the Transportation Cabinet has had a transportation or highway engineering scholarship program since 1950. Currently, 77 students are receiving these engineering scholarships at the University of Kentucky and Kentucky State University and an engineering technology program at Western Kentucky University. The scholarship program has provided the Department with many of its highway engineers since 1950; however, many of those were hired as a result of the Interstate Highway Program and construction of Kentucky's parkway system. At its current level, the scholarship program is expected to produce between 12 to 15 graduate engineers per year with recruiting expected to supplement the Cabinet's need for engineering graduates.

Co-moderator Tony Huff opened the workshop for questions of the panel members by the participants.