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TRANSPORTATION RESEARCH

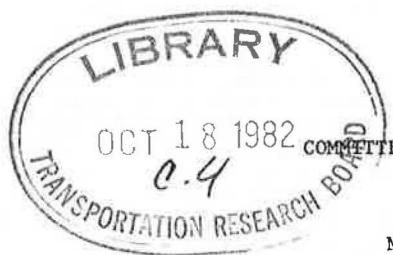
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CIRCULAR

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UPDATE ON TRANSPORTATION EDUCATION PROGRAMS

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FROM THE CHAIRMAN'S DESK

Michael D. Meyer

The decade of the 1980s is sure to be one of change and transition. We are already seeing rather dramatic shifts in the roles of agencies at all levels of government, problems of financing transportation systems, a sense that the private sector might have something to offer public agencies in the transportation sector, and broader definitions of what the major transportation "problems" really are.

For the past several years, the TRB Committee on Transportation Education and Training has focused on what these changes might mean with regard to the education and training opportunities provided to existing and future transportation professionals. As Chairman of this committee, I cannot help but feel a sense of anxiety about the future of the profession.

Although the TRB Committee covers issues related to transportation education and training, I would like to focus on education in this Circular. If government, industry, and educational institutions do not work together in identifying a strategy for attracting highly qualified students to our nation's transportation education programs, the profession will, in five year's time, experience tremendous problems in carrying out its responsibilities. I base this statement on an examination of graduate enrollment trends in transportation programs over the past years. Even this year, graduate applications for 1982-1983 study in three of the largest graduate transportation education programs in the United States are still way below where they were two or three years ago. There is also a growing consensus among transportation educators that the quality of these students has decreased along with the numbers. Furthermore, the percentage of U.S. citizens applying to graduate programs has declined to an unbelievably low number at some schools.

Why is this happening? I suspect there are a number of reasons. First, the state of the economy and government cutbacks have sent a message to many a would-be graduate student that the public sector is not the place to get a job. As many enrollments in public-oriented academic programs plummet, business schools enjoy record enrollments. Second, in those cases where private sector jobs are available, the pay is usually high enough to discourage students from continuing with their education. Third, most undergraduates (especially in civil engineering) often do not view transportation as a possible career. The emphasis in undergraduate civil engineering programs is usually first on structures, then water resources, and then transportation engineering.

What are the implications of these trends? We are already seeing some early implications in the classroom--declining class enrollments and an inability to attract qualified individuals to faculty positions. The problem of qualified faculty has serious long-term implications. If these trends are not turned around soon, the small classroom sizes will translate into a serious deficiency in the number and quality of new professionals entering the field.

The possible actions that could be taken by academic institutions, government agencies, and private firms are many. First, we could do nothing. This is probably the easiest course to follow, and one most easily justified. After all, the downturn in graduate enrollments can be explained quite nicely by the current state of the economy. Second, individual universities could spend a great deal of resources (if they have them) on marketing their transportation program and, by so doing, marketing transportation as a career. Third, universities and professional societies can join together to examine some of the issues now being faced and to develop some overall strategy for dealing with them. Fourth, universities, professional societies, private firms, and government agencies can become concerned about the problem and develop a more extensive strategy reaching from high school and undergraduate education to the job market.

I think the problem is serious enough to warrant the fourth approach. In this regard, I will be focusing my energies during this coming year on the organizing of a conference with all concerned parties to examine transportation education issues. The last conference on transportation education was held in 1973 and was dominated by educators. We clearly need such a gathering again, only with more representation from those who will gain or lose by the current situation.

The Committee will also be using Circulars as a means of disseminating information to the transportation community. I encourage you to send related articles and comments to TRB Committee on Transportation Education and Training, c/o Harvey E. Heiges, National Highway Traffic Safety Administration, NRM-01, U.S. Department of Transportation, Washington, DC 20590.

ASCE EDUCATION COMMITTEE MEETS

At the first meeting of the newly formed Committee on Transportation Education of the Urban Transportation Division of the American Society of Civil Engineers (ASCE), held last October at the national convention in St. Louis, it was determined that three areas require action:

1. Civil engineering undergraduate students need an introductory course (or courses) in the area of

transportation engineering prior to graduating, and such a course should be fairly uniform among universities and colleges.

2. Since there are few textbooks available in the area of transportation engineering for undergraduate level courses, there is a need to develop a list of existing resource material that is currently being utilized. This list can serve as a resource for universities or colleges that have or plan to establish a transportation engineering curriculum.

3. Critical areas in transportation engineering that may become important in the future need to be identified. This would help educators to better anticipate future needs in transportation engineering.

Based on this consensus, the ASCE committee established three task forces to (1) Determine what topics in transportation engineering are currently being taught to undergraduate civil engineering students, (2) Develop a resource guide of existing transportation education materials that are available in order to be able to teach undergraduate level civil engineering students, and (3) Identify future areas of emphasis in transportation engineering that will be important for educators and practitioners. The ASCE Transportation Education Committee is seeking input to these three tasks. Send comments to the Committee Chairman, Lester Hoel, Department of Civil Engineering, School of Engineering and Applied Sciences, University of Virginia, Charlottesville, VA 22901.

MEETING THE TRANSPORTATION ENGINEERING EDUCATION CHALLENGES

As graduate enrollment declines and research funding becomes more scarce, transportation education programs must seek new ways to maintain enrollments and active research programs. The Transportation Systems Engineering Group in the Department of Civil Engineering at West Virginia University used a traveling workshop on the fundamentals of traffic engineering for community officials as one approach to dealing with some of these problems.

For a variety of reasons, persons responsible for traffic control in most West Virginia communities have had little formal training in the subject. There was a need to inform local officials about the capabilities and limitations of traffic engineering. It was felt that by conducting a series of 11 half-day traffic engineering workshops at convenient locations throughout the state, the Transportation Group could fulfill one of its public service responsibilities. In addition, there were a number of ways in which the group could benefit from conducting such workshops: (1) gain practical experience, (2) recruit graduate students, (3) identify relevant research topics, and (4) identify areas in which to expand continuing education programs.

Funds were needed to cover costs of materials development and for the necessary travel. Funding was obtained from Title I-A of the Higher Education Act of 1965 on the basis of a proposal submitted to the West Virginia Board of Regents, the state agency responsible for administering Title I funds. The original purpose of Title I-A legislation was to assist in the solution of community problems such as housing, recreation, transportation, health, and land use by strengthening community service and continuing education programs of colleges and universities. Specific objectives for Fiscal Year 1980 included providing continuing education courses, institutes, and seminars for working adults in

several career areas, one of which was municipal and county government, in order to improve competence, work-related skills, and professional abilities. While Title I funds have been a valuable resource for college and universities nationwide, future appropriations are in doubt.

To make the workshops more attractive to local officials, Continuing Education Units were awarded to those attending. A participant notebook which included an introduction to traffic engineering, sources of detailed information, and guidelines, procedures and accepted practices for various areas of traffic engineering, was given to workshop attendees. Attendance at the workshop averaged seven persons per session. In spite of relatively poor attendance, the workshops were considered successful because participants stated that they received needed information. There was good variety in terms of participant background: law enforcement officials, city managers, city engineers, planners, and street and maintenance supervisors. The biggest disappointment was that only one elected official attended. Specific education needs of local officials were identified and special in-depth programs for professionals, such as city managers, planners, and engineers, are being developed.

Additional information about the workshop planning, funding, publicity, and evaluation can be obtained from Ronald W. Eck, Department of Civil

Engineering, West Virginia University, Morgantown, WV 26506.

SHORT COURSES IN TRANSPORTATION

The University of Alberta is offering several short courses during 1982-1983. The remaining schedule includes Traffic Incident Management, Edmonton, Alberta, October 18-22, 1982. This course will cover topics such as transportation system management and its incident-management subsystem, psychology of incidents, ambient effects, disaster management, special considerations regarding highways, tunnels, transit and constructions, traffic flow theory, automatic incident detection, low-cost incident management as well as examples from existing systems.

Courses planned for 1983 include traffic control (one week), Red Deer, February 1983; and an LRT study program--one week of lectures in Edmonton, followed by a two- and -one-half week tour of European LRT facilities, May-June 1983. The exact dates and other arrangements will be announced at a later date.

For additional information on these courses please call 403-432-5061 or 432-5532, or write to Transportation Programs, Faculty of Extension, University of Alberta, 82 Avenue and 112 Street, Edmonton, Alberta T6G 2G4.