

HIGHWAY EDUCATIONAL OPPORTUNITIES IN KENTUCKY

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I was a bit surprised when the program committee announced my subject, in fact, I had become so accustomed to having nothing more to do at one of these meetings than to preside at one session. I am happy to have the opportunity to talk on a subject in which I have great interest.

Let me say at the outset that we are glad to see such a representative audience present and we extend a hearty welcome to all, and especially do we appreciate the cooperation of the Department of Highways and that of Governor Wetherby. This program has been planned for you and we hope you will not hesitate to let us know where you think changes should be made.

I could go a long way into the history of highway building in Kentucky and there is nothing I like to talk about more than the history and development of our highway system in Kentucky.

Our highway program started from scratch in 1912 and that same year I came to the University of Kentucky as Acting Professor of Highway Engineering. The University had established a two year course in Rural and Highway Engineering in 1908 under the direction of my brother, Robert C. Terrell, who was Professor of Highway Engineering and became the first Commissioner of Highways under the legislative act of 1912, which created the Department of Highways.

In 1908 two free so-called scholarships were made available to each county. These were just appointments and allowed free tuition which amounted to little or nothing at that time. This course was not a success since very few people enrolled. It was thought advisable to go to a short course. First a course of six weeks was tried. When reduced to two weeks, we were able to muster a small class of, perhaps, a dozen men. The two or three day road school idea had come into use — we organized such a school with success. The attendance was good and no doubt the school was instrumental in stimulating the development of the Department of Highways. Both state and federal aid became available as well as local bond issues. By 1920 the attendance had dropped down; there seemed to be a lack of interest and for various reasons it was decided to drop the road school after the 1920 session. It was not until 1949 that this work was revised in the form of this Con-

ference and I may say that the revision took place at the request of the County Judges Association and with the guarantee of the full support of the Department of Highways.

The special course in Highways was dropped in 1918 when all departments of engineering were rearranged to form the College of Engineering. The Civil Engineer was to be trained for highway work as a part of the regular Civil Engineering course, which we believe has worked out very satisfactorily. We have furnished a great many engineers to the Department of Highways. Our success in the highway education field is due to the fact that our Department of Highways has taken the lead and is foremost in the nation today in the support of an educational program, looking toward better training in Highway Engineering.

When the chief engineer and others in the department began to see the real need for more highway engineers back as far as 1948, they proposed our present Highway Scholarship Plan which was put into effect in the fall of 1948 with 18 students. Later the highway industry began to take part in the program and this year we will award 12 scholarships for the department and 6 for industry.

The plan in brief —

In 1948 a plan was devised in cooperation with the Kentucky Department of Highways to aid those interested in Civil Engineering, especially in highway development work.

Employee Classification

TITLE: Student Engineering Employee

QUALIFICATIONS:

- (1) Male graduate of an accredited Kentucky high school during the current year.
- (2) Receive a satisfactory rating on competitive examination.
- (3) Have the approval of the Personnel Department and the Committee on Scholarships at the University of Kentucky.

DUTIES:

- (1) Study of highway materials and methods under supervision of engineering personnel, through seminars, observations on the job, and inspection trips.
- (2) Make satisfactory progress in assigned studies in the College of Engineering.
- (3) Perform other minor duties that may be assigned by the Department of Highways.

Method of Selecting Employees

Twelve student engineering employees will be chosen by competitive examination. At least one, if qualified, will be selected from each of the highway districts for enrollment in the College of Engineering. They will be associated with the State Highway Materials Research Laboratory which is located on the University campus. The Personnel Department of the University of Kentucky will conduct the examinations and recommend those best qualified for employment. The examinations will be held early in April, the exact time and place to be announced by each district.

Cooperative Plan

At the end of the first two semesters, or about June 1, he will be transferred to the field, office, or laboratory work on a full-time basis at which time he will be paid the regular rate of other highway employees in similar positions. This will continue until the beginning of the winter semester, or about February 1, when he will return to the College of Engineering on leave without pay.

With alternate periods of school during the second semester and regular work throughout the summer and fall months, the sophomore and junior years will be completed. After summer employment following the completion of his junior year, each Student Employee will return to complete both fall and winter semesters of his senior year. It is expected that the student, during the full-time work periods, will be able to save enough money to finance himself in school, especially after the start afforded him by the freshman year scholarship. There will also be the opportunity of part-time work available during the school periods.

Schedule For Employees

Those chosen will have the opportunity of working with the Highway Department until time to register and classify for freshman work in September.

Each student will pursue the regular assigned studies during the first school year and receive pay at the rate of \$60.00 per month from which he will take care of his own expenses at the University.

Under this plan, which requires six years, the Student Employee will have completed requirements for the degree of Bachelor of Science in Civil Engineering and have three years of diversified Highway Engineering experience to his credit.

Alternate Plan

The military situation is uncertain at the moment and many of our students sign up in the R.O.T.C. unit in the freshman year. This means,

of course, that the student must stay in school and will only be able to work for the Department of Highways in the summers. It also means that the student must finance himself after the first year. He will be expected to complete the course, as outlined, and to work for the Department whenever he can fit such work in with the military requirements.

Obligation of Student Engineering Employee

After graduation, he will be expected to serve the Department of Highways for at least one year, and if called by the military upon graduation, he will have the obligation to serve the Department for one year as soon as his military term has ended.

Of the 79 men who have participated in the program 51 are in college this semester. We consider this a rather large survival percentage for any group of students. How many would have been in school in any case we do not know, we do think it safe to say that more than half the number would not have gone to college at all. How many will continue through the program to graduation we do not know. The military has somewhat upset the plan and many are now obliged to follow the alternate plan if they want to stay in school until graduation before going to the military service.

We are now in the process of selecting the scholars for the year 1952-53, some 16 to 20 will be selected, depending on the renewals by highway industry. This year we have proposed to the scholars that they give written assurance that they will render service to the Department of Highways and they will be asked to sign the following statement:

Date

To – D. V. Terrell, Dean
College of Engineering
University of Kentucky
Lexington, Kentucky

This is to certify that I have carefully read the 1952-53 bulletin on Scholarship Opportunities at the University of Kentucky.

If offered one of the Highway Scholarships I will accept it and carry out the provisions of award including an agreement to serve the Department of Highways for at least one year after graduation. If it becomes necessary for me to enter the military service upon gradua-

tion, I will consider it my obligation to serve the Department of Highways for at least one year upon my return from military service.

Yours very truly,

.....
(Name)

.....
(Address)
.....

It will meet with my approval for

if offered, to accept a Highway Scholarship. (Name)

.....
(Parent or Guardian)

The first year we had only a total of 80 boys take the competitive examination. This year out of 450 boys indicating interest in engineering, some 200 specified Highway Engineering.

There has been some complaint that the department was not getting any of our graduates. Professor Shaver has just completed a survey in which he showed that 13% of those graduating since 1948 were in the highway service as of February 1952, however there is considerable moving but I would say not an excessive amount.

Another co-operative service between the Department of Highways and the College of Engineering is the operation of the Highway Research Laboratory which is located on the campus. The department financed the building, some 8,000 sq. ft., in 1940. They provided a budget of more than \$100,000 for operation. The personnel consists of one associate director, five civil and one electrical engineer, a chemist, a geologist and seven laboratory and clerical assistants, with several part-time graduate assistants and a number of student workers. The dean of engineering serves as director. In general, the operation is directed by a research committee consisting of all district engineers, division head, the chief highway engineer and his assistants, the commissioner of highways and some four or five from the University. Time will not permit me to discuss the projects, past, present, or future. We can say that the laboratory has given a good account of itself and that the funds spent in research are being reflected in the production of better roads at the most economical figure. A number of bulletins and publications are available upon request.

The department maintains a branch bridge office in one of our drafting rooms. They furnish one full-time structural engineer and have some ten or a dozen desks for upperclassmen and graduate students whom they employ on an hourly basis, requiring ten hours and not permitting more than eighteen hours a week. This not only aids the students financially but gives them some first-hand experience. The department reports satisfactory production from the student which we think is largely due to the leadership furnished by the department man on the job.

Recently a branch office for the Planning Division was authorized, it will be worked on the same basis as the branch bridge office and will employ 8 to 12 students.

The department maintains a district, also a zones office in Lexington and many of our students find employment in these offices.

Our Metallurgy Department has undertaken a project in which they are producing historic markers, bridge, and other metal markers. The department provides the material and furnishes the student help.

Some three years ago the Highway Department supported an extension program consisting of the equivalent of 120 hours classroom work in Highway Engineering. This course operated over a two year period and of 250 who started in ten different locations in the state, 95 finished the course and received certificates. This course is available through University Extension.

A new course, 24 classroom hours, in the use of Photogrammetry as it applies to Highway Engineering was organized. Some 45 will complete this course before June. Still another 24 hour course is to be developed during the coming winter on Hydraulics as it applies to Highway Engineering.

And, may I say, if you folks want a course just "muster" up a class of 20 or more and tell us about it and we will try to help you get it started. The Department of Highways, I am sure, stands ready to aid any plan looking to a sound program for upgrading its employees.

I am happy to announce that the department has just given approval to what I consider to be the capstone to its educational program. The details are as follows:

Graduate Program in Highway Engineering

The Kentucky Department of Highways will sponsor a graduate program in Highway Engineering in cooperation with the University of Kentucky beginning in June, 1952.

To be eligible for participation in this program one must have ob-

tained the Bachelor's degree in Civil Engineering, within three years of his appointment, and have been a resident of the State of Kentucky for the past ten years. These appointments will be for a term of three years. The appointee will begin his employment under the graduate program in June when he will be assigned to work in the Department of Highways and will also be assigned to an adviser in the Graduate School who will advise in planning his future course. He will continue on this assignment until a year from the first of September following his appointment when he will then be assigned to work in the Graduate School at the University of Kentucky where he will enroll and carry a full graduate load and such other assignments as may be considered reasonable by the Department of Highways and his school advisers. It is expected that he will complete the class work in two semesters and that he will complete his thesis by the end of the third year of his appointment.

To be eligible to receive the Master's degree under this program the candidate must complete the three full years of his appointment in the services of the Department of Highways and meet all other requirements for the degree as set forth by the Graduate School of the University of Kentucky.

Selection will be made by the University Scholarship Committee based on previous record and recommendations of the Professor of Civil Engineering and Dean of Engineering.

The employee will be on the same salary scale as other similar employees of the Department of Highways and be promoted in accordance with the established rules of the department.

The employee will be responsible for all of his school expense including tuition, books, supplies, and personal expenses.

The Department of Highways proposes to offer aid under this program to not more than five new employees each year.

The applicant will be required to file an application and sign an agreement showing his good intentions and interest in the program.

We believe this program will be enthusiastically received and will produce worthwhile results by bringing more young engineers into the field of Highway Engineering.