

GEORGIA INSTITUTE OF TECHNOLOGY

OFFICE OF RESEARCH ADMINISTRATION

RESEARCH PROJECT INITIATION

Action
Wright

Date: 2-22-74

Project Title: **"Dynamic Design for Safety Seminar"**

Project No: **E-20-650**

Principal Investigator **Dr. Paul H. Wright**

Sponsor: **State Office of Highway Safety (Ga.); Atlanta**

Agreement Period: From 1-17-74 Until 3-30-74

Type Agreement: **Grant (Highway Safety Project No. 612-74-001-002).**

Amount: **\$3,500 GOHS Funds (E-20-650)**
1,119 GIT Contrib. (E-20-324)
\$4,619 Total

Reports Required: **Final Evaluation Report**

Sponsor Contact Person (s):

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Assigned to: **School of Civil Engineering**

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Security-Reports-Property Office	
Patent Coordinator	Other

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF RESEARCH ADMINISTRATION
RESEARCH PROJECT TERMINATION

Date: May 13, 1974

Project Title **Dynamic Design for Safety Seminar**

Project No: **E-20-650**

Principal Investigator: **Dr. Paul H. Wright**

Sponsor: **State Office of Highway Safety; Atlanta 30334**

Effective Termination Date: **3-30-74 (Grant Expiration)**

Clearance of Accounting Charges: by 3-30-74

Grant ~~CLOSEOUT~~ Closeout Actions Remaining: **Final billing as soon as all charges are clear.**

Assigned to School of Civil Engineering

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Terminated Project File No. _____

Other _____

EVALUATION OF DYNAMIC DESIGN FOR SAFETY SEMINAR
CONDUCTED AT GEORGIA INSTITUTE OF TECHNOLOGY
MARCH 13-15, 1974

A three day seminar was presented in "Dynamic Design for Safety" at Georgia Institute of Technology, March 13-15, 1974. The seminar was funded by the Georgia State Office of Highway Safety and the Federal Highway Administration. It was sponsored by the Georgia Division, Institute of Traffic Engineers.

Objectives, Scope, and Course Content

The seminar was intended for engineers and technicians who design and review highway improvement plans and who need to have access to the most up-to-date safety design concepts and techniques. Its purpose was to provide training in all areas of Highway Safety Program No. 12; however, emphasis was given to the following areas of instruction:

1. Utilization of design standards relating to safety features such as sight distance, curvature, spacing of decision points, etc.
2. Providing highway design and construction features for accident prevention and survivability including clear roadsides, breakaway sign supports, energy absorbing devices, and safe barriers and bridge railing.

The seminar employed a mix of formal classroom lectures, demonstrations, films, slide presentations, and informal workshop sessions. A detailed description of the course content is given in the printed brochure attached to this report.

Staff

The course administrator was Dr. Paul H. Wright, School of Civil Engineering at Georgia Tech. The instructors consisted of eight qualified professionals,

five of whom had previously participated in such seminars. The instructors were:

Gerson J. Alexander - Chief, Human Factors Branch, FHWA

A. R. Cowan - Chief, Design Branch, Highway Design Division, FHWA

Paul D. Cribbins - Professor of Civil Engineering, N.C. State University

Herman A. Hill - Traffic Engineer, Georgia Department of Transportation

Ivan C. Jenkins - Chief, Regional Design Office, FHWA

Don P. Ryan - Regional Traffic Operations Engineer, FHWA

Bob L. Smith - Professor of Civil Engineering, Kansas State University

Paul H. Wright - Professor of Civil Engineering, Georgia Institute of Technology

Excellent cooperation and assistance was provided by Georgia Tech's Department of Continuing Education.

Student Participants

The seminar was open only to employees of state and local governments of Georgia who were already working in or identified with highway design or traffic safety and who expected to continue to do this type of work upon completion of the seminar.

Thirty-four students attended the seminar. Approximately one-half of the enrollees were employees of the Georgia Department of Transportation, and the remaining students were employed by counties, cities, and the Federal Government.

<u>Employer</u>	<u>Number of Students</u>
Georgia Department of Transportation	18
County	7
City	7
Federal Government	2

Both designers and traffic engineering specialists were well represented at the seminar.

The students ranged in age from 24 to 55 years. The average age was 34.7. In terms of experience, the students had spent an average of 5.4 years in traffic/safety engineering. The range of experience was zero to 20 years.

Evaluation

At the conclusion of the seminar, the students were asked to fill out a three-page questionnaire consisting of 10 questions. (A sample questionnaire is attached.) Thirty-two students filled out the questionnaire. The results are summarized below.

In reply to question 1, the students showed a high degree of satisfaction with the seminar. Seven ranked the seminar "superior", twenty-two indicated it was "very good", and three ranked it "good".

Twenty-three of the respondents indicated that the length of the seminar was "about right", while seven thought it was not long enough. Only one person thought the course was too long. Even stronger sentiment for increasing the length of the seminar seems to be shown by replies to question 7 which sought the student impression about the amount of time allocated the specific topics. The results for question 7 are shown in Table 1.

All of the respondents thought that the level of presentation was "about right", and only one respondent reported that the audio-visual materials were deficient. General satisfaction with the seminar was also reflected with the replies to question 5 which asked: "About what percent of the material presented do you feel is relevant in some way or another to your job responsibilities?" The replies to this question were:

<u>Percent</u>	<u>Number of Replies</u>
90-100	9

Table 1. The Number of Replies to Various Cells in the Matrix for Question 7: "What is your impression regarding the amount of time that was allocated to the various topics?"

Topic	Too Much	About Right	Too Little
Accidents related to roadway features	0	23	9
Philosophical considerations	2	26	4
Human factors	0	24	8
Three dimensional aspects	2	26	4
Signing and implementation	4	20	8
Urban arterials	2	20	10
Design of roadway features for safety	0	20	10
Safety project--specific design feature	0	19	12
Intersections, interchanges, etc.	3	18	11
Design analysis techniques	2	22	8
Multi-discipline design teams, etc.	2	19	9
Safety analysis procedures	0	16	15
Work sessions	2	15	15

70-89	12
50-69	9
30-49	2
10-29	0
0-09	0

The students would have preferred more time devoted to demonstrations, work groups and reports, and general discussion as opposed to lectures. This is indicated by the replies to question 6, shown in Table 2.

The students were well pleased with the notebook. Thirty of the respondents indicated that the notebook was "relevant to my responsibilities and I can make good use of it". One respondent indicated that the notebooks needed "more about safety", and one stated that the notebook "will be of little use to me".

On the basis of the replies to question 9, the students indicated that the material learned in the seminar will be applied to their work. The numbers of replies to various choices for question 9 are shown below:

<u>Choice</u>	<u>Number</u>
I definitely plan to apply aspects of what I learned.	14
I will probably implement some of the material.	13
What I have learned will be of general usefulness but probably will not change our procedures.	5
No, the material will not effect my work.	0

For question 10, the students were asked to list any suggestions for improvement of the general teaching effectiveness. Only twenty of the students responded to this question and the responses were varied. There seemed to be fairly widespread opinion that more attention should be devoted to local and collector (non-access controlled) facilities in future seminars

Table 2. The Number of Replies to Various Cells in the Matrix for Question 6: "What is your impression regarding the amount of time spent for various teaching methods?"

Method	Too much time was spent	About right	Too little time was spent
Lectures	6	25	1
Demonstrations	0	22	10
Work groups and reports	2	16	14
General discussion	0	18	14

and less to freeways. Some dissatisfaction was also expressed with the lecture on multidiscipline design teams and design review and analysis techniques. It was suggested that this lecture be presented during the early part of the course rather than at the end.

In summary, the evaluation questionnaires indicate widespread student approval and satisfaction with the seminar. It is believed that the material presented at the seminar will be of great value to the participants in their efforts to improve the state's roadways for safety.