QUALITATIVE RESEARCH REGARDING
TRANSPORTATION STUDIES PROGRAMS AT THE
UNIVERSITY OF MINNESOTA

PREPARED FOR: CENTER FOR TRANSPORTATION STUDIES
EDUCATION COUNCIL COMMITTEE
University of Minnesota
Minneapolis, Minnesota 55455

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BACKGROUND AND OBJECTIVES

The University of Minnesota’s Center for Transportation Studies through the Continuing Education and Extension Division contracted with C.J. Olson Market Research, Inc., to conduct three focus group discussions. The first group was made up of engineering and construction people; the second, persons involved in logistics and distribution, and the third, those in planning and policy making. Participants represented both the public and private sectors, and were involved in hiring and/or training decisions for their organizations.

The primary objective of the research was to provide information regarding the educational needs of transportation professionals as seen from a management perspective.

The purpose of the research was to determine:
- Skills, knowledge, and experience sought when hiring transportation professionals
- Definition of the term "continuing education"
- Attitudes toward hiring someone with experience vs. education
- What transportation studies should include
- Appropriateness of transportation studies programs at undergraduate vs. graduate level
OBJECTIVES (CONT’D)

- Program format preferences
- Value of transportation studies being interdisciplinary
- Value of studies to organizations and businesses who hire transportation professionals
- Tuition expectations
- Identification of transportation challenges
METHODOLOGY

Carolyn Olson of C.J. Olson Market Research, Inc., and Florence Lewellen, the consulting discussion group moderator, met with Jim Newland, Chairman of the Center for Transportation Studies Education Council Committee, and Rachel Nelson, Market Research Specialist of the University of Minnesota's Continuing Education and Extension Division, to discuss the research objectives and project specifics. Following this meeting, Olson designed a discussion guide for review and approval by the committee.

In addition to Rachel Nelson and Jim Newland, other committee members involved in the discussion guide design included Ed Edman, Sue Muehlbach, and Jon Huseby of the Minnesota Department of Transportation (MnDOT), Stephanie Eiler of the Regional Transit Board, Gary Eikaas of Wintz Companies, Bob Johns and Sandy Kelley of the University of Minnesota, and Connie Kozlak of the Metropolitan Council.

Focus group participants were recruited by Rachel Nelson from lists provided to her by the Education Council Committee after the potential participants received an initial letter from Dick Braun. The engineers were invited to a lunch meeting on Tuesday, January 28, 1992, the logistics management people were invited to a discussion during the breakfast hour on Wednesday, January 29, 1992, and the planning and policy experts were invited to a lunch discussion on the same day.
METHODOLOGY (CONT’D)

The three groups were observed by several committee members, Rachel Nelson, Bob Johns, and Carolyn Olson. All discussions were audiotaped. A total of 30 participated in the discussions.
SUMMARY OF FINDINGS
SUMMARY OF FINDINGS

HIRING TRANSPORTATION SPECIALISTS:

The skills most desired by participants in all three groups were communication skills, both verbal and written. Apparently several participants felt that both entry-level employees and experienced people lack the ability to write understandable reports and to communicate their ideas well to diverse audiences.

Typical comments regarding communication skills were, "I WOULD LIKE TO EMPHASIZE AGAIN THE COMMUNICATION SKILLS. WE HIRE TRANSIT PLANNERS AND WE SEND THEM OUT INTO THE FIELD QUITE A BIT. THEY'VE GOT TO BE ABLE TO TALK TO CITY COUNCILS AND BE ARTICULATE...AND BE ABLE TO WRITE. THEY NEED GOOD WRITING SKILLS."

"THEY NEED TO BE ABLE TO TALK ON THEIR FEET, TO BE ABLE TO REPRESENT YOU AND YOUR AGENCY AND BE ABLE TO ADJUST TO DIFFICULT SITUATIONS WITHOUT LOSING THEIR TEMPER."

"I THINK THE THING I LOOK FOR FIRST IS COMMUNICATION SKILLS. I SAY THAT ALMOST NEGATIVELY BECAUSE SO MANY PEOPLE DON'T HAVE THEM. PEOPLE CANNOT COMMUNICATE PROPERLY, EITHER WRITTEN OR VERBALLY. WHAT I LOOK FOR IS BOTH. PEOPLE DON'T KNOW HOW TO PUT A SENTENCE TOGETHER ANYMORE. IT'S VERY FRUSTRATING, BUT IT IS PROBABLY THE FIRST THING I LOOK FOR."
Other skills/knowledge/qualities that applicants need to have if they are to be seriously considered as transportation professionals include computer knowledge and expertise, technical knowledge, leadership capabilities, marketing skills, interpersonal skills, public policy knowledge, and creative problem-solving capabilities. Based on the research findings, transportation professionals need to be analytic thinkers, intelligent, independent, responsible, self confident, competitive, flexible, and, as someone said, "HAVE A LUST FOR LEARNING."

Participants indicated that at the present time people are gaining the desired knowledge and experience mostly from on-the-job training. Several people named MnDOT's training program, as well as programs at the University of Wisconsin, University of Iowa, and the Humphrey Institute. Other participants mentioned internships and summer work programs as opportunities for learning.

Participants generally placed as much value on experience as on education when hiring transportation professionals. Those in the engineering group were equally divided in their feelings that education or experience was more important. Several of the logistics people felt that "IT DEPENDS ON THE JOB." They expressed strong opinions on the education/experience issue.
SUMMARY (CONT'D)

Comments representative of those who favor experience were, "TOO OFTEN YOU FIND PEOPLE WHO COME IN WHO HAVEN'T SEEMED TO HAVE DONE ANYTHING, HAVEN'T GONE ANYWHERE, DON'T HAVE ANY EXPERIENCE. TO ME, EXPERIENCE IS GETTING UP AND BRUSHING YOUR TEETH, IT'S HAVING SOMEONE WHO HAS DONE SOMETHING AND IF HE'S FAILED AT IT, I THINK YOU PROBABLY HAVE A BETTER PERSON THAN A PERSON WHO CAME THERE AS A GENERIC. I THINK EXPERIENCE SIGNIFIES HE'S DONE SOMETHING." "IF YOU WANT A MATERIALS COORDINATOR, YOU'JD BETTER HAVE SOMEONE WITH EXPERIENCE."

Others said that they prefer to train someone who has no experience. Someone said, "WE WANT TO TRAIN THEM. WE MOVE THEM AROUND A GOOD DEAL WITHIN THE CORPORATION WITHIN THEIR FIRST 7-10 YEARS. WE BUILD THEIR EXPERIENCE FOR THEM."

The consensus within the logistics group appeared to be that they want to be able to train entry-level people in their own systems and ways of doing things, but when hiring management-level people, logistics group members look for someone with the experience and education required to perform well.

Planners look for people with broad life experiences, professional experiences, and advanced education degrees. Someone said that his organization preferred people who have a four-year degree, then some work experience, and finally a Master's Degree.
SUMMARY (CONT’D)

When asked what skills and knowledge new graduates lack today, most participants agreed that communication skills are sorely lacking. Other skills/knowledge/qualities lacking in new graduates include knowledge of legal issues, environmental issues, management skills, a sense of the broad picture, time management skills, and marketing skills.

CONTINUING EDUCATION:

When asked what continuing education meant to the participants, responses ranged from, "SOMETHING YOU HAVE TO DO WHEN YOU’VE LOST YOUR JOB" to "SOMETHING THAT SHOULD BE REQUIRED FOR ENGINEERS AS IT IS FOR REALTORS, TEACHERS AND LAWYERS." Some described continuing education as a "REFRESHER COURSE" and "A MEANS OF ADAPTING TO NEW TECHNOLOGY."

The consensus among those participating was that valuable continuing education consists of high-quality courses taught by high-quality instructors. Some opinions indicated that continuing education has a higher quality image when offered in a university setting rather than a "TWO-DAY CONFERENCE AT A HOTEL."

Most agreed that they are more likely to hire individuals who continually upgrade their skills through continuing education courses than individuals who don’t. Some said, "IT IMPLIES MOTIVATION AND INTEREST IN SELF IMPROVEMENT."
A participant in the logistics and materials group said, "THE STRENGTH OF THE PROFESSION IS IN ITS CONTINUING EDUCATION. THE UNIVERSITY OF WISCONSIN HAS DONE AN EXCELLENT JOB AT THIS. IF YOU WANT TO BE IN THE SHORT LINE BUSINESS, THEY HAVE CLASSES DOWN THERE THAT HELP YOU IN THE SHORT LINE BUSINESS. THIS PROFESSION WILL BECOME A STRONGER PROFESSION BY A CONTINUING EDUCATION PROGRAM."

DESIGNING TRANSPORTATION STUDIES PROGRAMS:
Discussion group participants were evenly split on whether such programs should be offered at the undergraduate or graduate level, with a significant number in the group preferring that such programs be offered at both levels. Those participants who suggested that Master's programs would be most appropriate believed that most students need four or five years to learn the basics without focusing on a specialty, and that more mature students would be better able to understand leadership concepts, analysis, and creative problem solving.

Participants who favored offering transportation studies to undergraduates are probably more likely to hire inexperienced people who are right out of school and who will be trained. While most participants are willing to train these graduates in the specific functions of certain job responsibilities, there is
resentment about having to teach basic things such as how to communicate related concepts, write reports, do computer programming, understand modeling, and appreciate the relationship between transportation and land use.

Someone in the logistics materials group said, "I DON'T WANT TO TRAIN THEM ON HOW TO TALK AND I DON'T WANT TO TRAIN THEM ON HOW TO WRITE AND I DON'T WANT TO SEND THEM TO MILITARY SCHOOL TO LEARN LEADERSHIP. I HAVE ONE YOUNG FELLOW, WHERE PART OF THE STUFF ON HIS DESK, ALONG WITH PENCILS AND ERASERS, IS A PC, AND HE SAYS 'WHAT'S THIS?' I DON'T WANT TO TEACH THEM HOW TO RUN LOTUS. THAT'S THE STUFF THAT I WANT THE SYSTEM TO PROVIDE."

Those participating generally thought the courses should be for credit, although some saw value in offering noncredit transportation studies for individuals who want refresher courses without the stress of grade point averages, grades, and exams.

According to participants from the engineering and construction group transportation studies should include urban geography, transportation geography, economics, writing, social sciences, traffic engineering in the field, transportation-related construction, management engineering, process management, and basic computer skills. Students should be taught "HOW TO THINK
LIKE DRIVERS, NOT ENGINEERS," to deal with the media, to show sensitivity to customers, to promote teamwork, and to see the "big picture" in terms of systems.

Logistics people want transportation studies to include basic understanding of business issues, operations management, environmental issues, estimating, setting rates, ergonomics, international business, safety, and problem solving. One participant felt very strongly that programs ought to include instructors who are business people, which would give students an opportunity for practical business experience and provide a "bridge" between the academic and business communities, where each could learn from the other. In addition to giving students business experience, educators also ought to gain practical experience from the workplace, the logistics and materials people thought.

Based on this qualitative research, planners would design transportation studies programs to include engineering, planning, public policy management, politics, designing, traffic management, building, costing, traffic engineering, and computer training. Planners would want students from such programs to have a solid understanding of urban planning, the relationships between land use and transportation, public policy, and
environmental policy. These students would also have opportunities to learn in non-traditional settings, for example, the students would learn to present reports and concepts to a group of practitioners who would then critique the presentations.

Some in the planners group agreed that the programs could be modeled after the American Studies Program at the University of Minnesota. One person commented, "A SUGGESTION WOULD BE TO LOOK AT THE MODEL OF SOMETHING LIKE THE AMERICAN STUDIES PROGRAM AT THE UNIVERSITY THAT WAS FOUNDED YEARS AGO. PEOPLE WOULD GET THEIR FIVE CORE AREAS THAT ARE DETERMINED TO BE VERY IMPORTANT, AND I DARE SAY WE COULD PICK THEM OUT HERE. TO GET A DEGREE IN AMERICAN STUDIES YOU HAVE TO HAVE A CERTAIN AMOUNT OF COURSES IN THOSE FIVE CORE AREAS, THEN YOU HAVE TO ALSO TAKE A NUMBER OF OTHER COURSES IN A VARIETY OF DIFFERENT AREAS SO THAT WHEN YOU’RE ALL DONE IT LOOKS LIKE AN APPLE WITH A CORE. THE CORE IS THERE AND YOU HAVE SOME ROUNDED EDUCATION AROUND IT. THE AMERICAN STUDIES PROGRAM IS RIGHT THERE. THE MODEL SITS 450 FEET OR LESS AWAY FROM THE ENGINEERING SCHOOL AT THE UNIVERSITY."

Participants in all three groups emphasized the need to teach written and verbal communication skills to students. The participants want people who can understand and research a problem and can write a concise, understandable report and present it convincingly to diverse audiences.
In addition, the three groups were in agreement on the perceived need for student exposure to the "real world" of business. Several felt that the private sector tends to be underrepresented in most academic courses and that the classroom ought to welcome practitioners with transportation experience. This, along with case studies of companies that failed and those that succeed, would better prepare students for work life. A typical comment regarding this concept was, "HOW CAN SOMEBODY TEACH YOU HOW TO DO A TRAFFIC IMPACT STUDY, WHO HAS NEVER DONE ONE AND DOESN'T KNOW THE OTHER KINDS OF REALITIES THAT EXIST AROUND THE PROBLEM?"

Opportunities for student internships was also named as an important component of transportation studies programs. A participant of the engineering group, emphasizing the importance of intern programs said, "IT SEEMS TO ME THE INTERN PROGRAM IS SO IMPORTANT. I DO A FAIR AMOUNT OF INTERVIEWING STUDENTS OVER THERE [U OF MN] FOR SCHOLARSHIPS FOR VARIOUS ORGANIZATIONS THAT I BELONG TO, AND IT'S ALWAYS AMAZING AND ALMOST SCARY TO ME THE NUMBER OF STUDENTS WHO WORK AT MCDONALDS IN THE SUMMER. THERE IS NOTHING WRONG WITH MCDONALDS, BUT TO ME THERE ARE SO MANY BETTER PLACES TO GET A LOT OF GOOD EXPERIENCE WHICH WOULD BE GREAT WHEN YOU ARE LEAVING THAT EDUCATIONAL ENVIRONMENT. I THINK WE SHOULD EMPHASIZE THE INTERN PROGRAM."
Participants were divided regarding the value of offering a certificate in transportation studies in conjunction with an undergraduate field of study. The engineers and planners were notably more in favor of the idea than were logistics people, who thought most people would prefer a degree to a certificate. Others thought a certificate program would be appropriate for someone who wanted to return to school for refresher courses in transportation studies.

There was agreement on the importance of assuring that future studies be interdisciplinary in nature. The consensus was that such studies would be more likely to produce students with well-rounded educations, and with a better understanding of the "big picture." The thought was also expressed that persons coming out of interdisciplinary programs would be more marketable, and thus be better able to find immediate employment.

VALUE OF TRANSPORTATION STUDIES PROGRAMS:
Having transportation studies programs at the University of Minnesota was appealing to those who participated in the three discussion groups. A comment regarding this was, "FIRST OF ALL, SHOULD THE UNIVERSITY OF MINNESOTA DO IT? YES. BECAUSE THERE IS
ENOUGH NEED EVEN WITHIN THE STATE TO DO BETTER THAN THEY ARE DOING IN TRANSPORTATION. SECONDLY, THEY COME TO ME AND WANT MY DOLLARS ALL THE TIME, AND I SAY THEY HAVE TO SHOW LEADERSHIP SOMEPLACE OTHER THAN ON THE BASKETBALL COURT TO GET THOSE DOLLARS. THIRD, THE REASON THE SUPER BOWL WENT SO WELL WAS BECAUSE THERE WAS A GENERATION OF REALLY QUALIFIED TRANSPORTATION PEOPLE INVOLVED, AND PROBABLY SOME OTHER FOLKS WHOSE ORGANIZATIONAL SKILLS I DON'T KNOW ABOUT. AND THAT WAS, QUOTE UNQUOTE 'A MINNESOTA MIRACLE.' THAT MEANS WE HAVE SOMETHING TO OFFER AND THE ENERGY TO DO IT RIGHT. WHY SHOULDN'T THE UNIVERSITY REFLECT THAT KIND OF TALENT, WHICH IS ALREADY IN THIS METRO AREA?"

Engineers felt programs would be especially valuable to large organizations, since they would be likely to offer incentives to employees interested in pursuing additional education. It was suggested that large companies or organizations could pay tuition and even provide time away from work for employees, whereas small firms may have difficulty providing such benefits.

Logistics people felt the value of such programs would be enhanced if they were designed to bridge the academic and business communities, and included course work that would ultimately develop problem solving skills in future employees.
SUMMARY (CONT’D)

Participants in the planners group felt that the value of transportation studies programs goes beyond the organizational level and actually benefits the public with final products that are feasible, practical and doable. Many felt these studies would assist in institutionalizing change and broadening the scope of transportation professionals.

TRANSPORTATION CHALLENGES:

When asked what they perceive to be significant transportation challenges facing our society today, participants said environmental issues were at the top of the list. An engineer defined the challenge to be, "ENVIRONMENTAL. WE’RE TRYING TO HELP SOLVE THE SOCIAL ISSUES OF WASTE PROBLEMS IN ONE AREA, THE WETLANDS SITUATION IN ANOTHER. WHERE TO PUT A ROAD? SHOULD YOU PUT A ROAD THERE OR NOT? CAN YOU PUT THE WASTE PRODUCT ONTO THE ROAD IN SOME WAY TO MAKE IT USABLE AND NOT HURT THE ENVIRONMENT?"

Financial issues were cited as a major challenge. Finding the most cost-effective way to build as much as possible, to move as many people as possible for the least amount of money, was predicted as an ongoing challenge.
Other challenges included managing changing demographics and predicting how different groups will react to changing technologies, the deteriorating infrastructure, safety issues, energy problems and the growing international business climate.

Participants from the logistics management group suggested that transportation studies programs could best address these challenges by bringing together educators and the business community for mutual problem solving.

In addition, such programs should teach students to look at the whole problem, to appreciate how engineering impacts on the environment, society, safety and funding, and to know how to deal with single-issue politics.

To successfully address transportation challenges facing society today, transportation studies programs must develop the technical expertise necessary to most effectively utilize and implement new techniques in the industry.
CONCLUSIONS
CONCLUSIONS

Based on this qualitative research, management professionals in the transportation field agree that transportation studies at the University of Minnesota need to be maintained and expanded to meet the continuing educational needs of transportation professionals.

The list of needed course work suggested by participants indicates that the goals of such a program could not be accomplished with a two-day seminar alone. This research indicates that a Transportation Studies Master's Programs would meet the participants' goals although there was some support among participants for including similar course work in a four-year degree programs, also.

There also ought to be opportunity for refresher course work during working, evening, or weekend hours. This would enable working people to stay current with changes in technology and methodology. These individuals are not particularly interested in grades or credits.
CONCLUSIONS (CONT’D)

Transportation studies programs should include the following topics in order to be of value to engineers, logistics management people, and planners:

- TECHNICAL TRAINING
- VERBAL AND WRITTEN COMMUNICATION
- MANAGEMENT
  - PROCESS
  - TRAFFIC
  - PUBLIC POLICY
  - ENGINEERING
  - OPERATIONS
  - LAND USE
  - GENERAL BUSINESS
- COMPUTER MODELING
- ENVIRONMENTAL POLICIES AND ISSUES
- ECONOMICS
- SOCIAL SCIENCES

It is highly recommended that programs be designed to provide a bridge between the public and private sectors by bringing together educators, business, and public agency people to focus on the goal of training and educating individuals in
CONCLUSIONS (CONT'D)

transportation. Some believe that if the bridge concept is fully developed it will break down the "we-they" mentality that currently exists, and ultimately result in a more cooperative attitude.

Participants who expressed concern about this strongly suggested that these ideas would contribute to the bridge concept:

- INTERNSHIP PROGRAMS
- MENTORING PROGRAMS
- TRANSPORTATION PRACTITIONERS TEACHING SOME CLASSES
- ACADEMIC INSTRUCTORS WORKING FOR PERIODS OF TIME WITHIN THE TRANSPORTATION COMMUNITY

Support for transportation studies programs appears to be strong among the participant groups included in this qualitative research. The general attitude was that people in the transportation field today need to know more than how to design a safe, attractive system and how to transport goods and people quickly and efficiently. People in this field must also know that what they do affects society and the environment. That responsibility can be profound.
DETAILED FINDINGS
SKILLS/KNOWLEDGE/QUALITIES SOUGHT:

WHEN HIRING A PROFESSIONAL FOR YOUR ORGANIZATION, WHAT SKILLS DO YOU LOOK FOR?

ENGINEERS:

- Written and verbal communication skills
- Sense of self worth, self-confidence
- A well-rounded specialist
- Good human relations skills, people skills
- A good presenter, able to talk on his/her feet
- A good representative of the organization
- Cool-headed in difficult situations
- Technical skills, expertise in traffic/transportation engineering
- Computer programs/systems experience
- Marketing skills
- Flexibility/adaptability
- Able to anticipate opportunities and problems
- Good thinkers
- Good listeners
- High scholastic standing
DETAILED FINDINGS (CONT’D)

LOGISTICS:

- Written and verbal communication skills
- Ambition
- Interpersonal, people skills
- Leadership ability
- Knowledge of economic geography
- Knowledge of relationships in geography
- Broad beginning skills
- Intelligence
- Business experience
- Purchasing knowledge
- Marketing knowledge
- Transportation logistics knowledge
- Competitive nature
- Self-confidence
- Burning desire to learn
- Intellectual curiosity
- Computer knowledge
- Good thinker
- Sense of continuing education
- Responsibility
- Independence
- Lust for learning
- Logistics management
DETAILED FINDINGS (CONT’D)

LOGISTICS (CONT’D):

- Quantitative analysis ability
- Legal responsibility knowledge
- Ability to take the initiative

PLANNERS:

- Technical knowledge
- Written and verbal communication skills
- Interpersonal skills
- Marketing ability
- Understanding of basic planning and development process
- Knowing how to think
- Creative problem solving
- Computer knowledge and skills
- Ability to meld traffic engineering and comprehensive system planning
- Integrated thinking skills
- Analytical thinkers
- Public policy development knowledge
- Internship experience
- Education in different disciplines
- Experience
IF YOU WERE DESIGNING TRANSPORTATION STUDIES PROGRAMS, WHAT WOULD THEY INCLUDE?

ENGINEERS:
- Urban geography
- Transportation geography
- Teaching the big picture, in terms of systems
- Teaching teamwork
- Sensitivity to customers
- Management concepts
- Social sciences
- Economics
- Writing/report preparation
- Basic computer skills (operational and program)
- Basic hands-on field work opportunities
- Traffic engineering in the field
- Transportation-related instruction
- Management engineering
- Process management
- Group facilitation
- Dealing with the media
- Learning to think like drivers, not always engineers
- Human relations
- Roadway design
DESIGN (CONT'D)

ENGINEERS (CONT'D):
- Project case studies
- Practical work experience
- Basic engineering
- New concepts in design liability issues
- Creative problem solving
- How to study and learn

LOGISTICS:
- Practical business experience
- Basic understanding of business issues
- Management, in general
- Operations management
- Bring academics and practitioners together
- Internship opportunities
- Case histories of failed and successful companies
- Educators in the workplace for practical experience
- Practitioners teaching classes
- Environmental issues
- Estimating, setting rates
- Problem solving
- International business
- Ergonomics
DESIGN (CONT'D)

PLANNERS:
- Engineering
- Planning
- Public policy management
- Economics
- Politics
- Designing
- Traffic management
- Building
- Costing
- Traffic engineering
- Relationship between transportation improvement and land management
- Presentation/verbal communication
- Computer modeling
- Urban planning
- Public policy
- Environmental policy
- Knowledge of environmental impact studies
DESIRED FORMAT FOR TRANSPORTATION STUDIES PROGRAMS

WHEN SHOULD CLASSES BE HELD?
WHAT FORMULA WOULD BE MOST MARKETABLE TO INTERESTED STUDENTS?
WHAT WOULD BE MOST ACCEPTABLE TO EMPLOYERS?

ENGINEERS:

BEST TIMES:
- Starting at 4:00 or 5:00 in the afternoon, once a week
- Starting at 3:00 or 4:00 in the afternoon, once a week
- 7:00 a.m. classes
- 10:00 a.m. classes
- At beginning or end of week, not Tuesday or Wednesday, for working people

MOST MARKETABLE TO STUDENTS:
- 1 to 2-day seminars
- 3 to 4 hours a week for 6 weeks

MOST MARKETABLE TO EMPLOYERS:
- 2 to 3 days a week
- Quarter-long courses

LOGISTICS:

BEST TIMES:
- Incorporated into the work day
- 4 day work week and 1 day for education
- Alternate early evenings
- Weekends
MOST MARKETABLE TO STUDENTS:
- Quarter-long courses
- 3 to 4 hours per week
- Not seminars, too shallow and expensive

MOST MARKETABLE TO EMPLOYERS:
- Quarter long courses

PLANNERS

BEST TIMES:
- Last two hours of the day once a week
- Thursday or Friday classes

MOST MARKETABLE TO STUDENTS:
- 1 to 2-day seminars, of short duration with heavy emphasis
- 3 to 4 hours a week for 6 weeks

MOST MARKETABLE TO Employers:
- 2-day seminar
- Quarter-long courses at end of day and end of week
PROGRAM TUITION

WHAT WOULD YOU EXPECT THE TUITION TO COST?

PER CREDIT RANGE:
$50.00 TO $300.00 AVERAGE: $167.00

ONE-DAY SEMINAR RANGE:
$95.00-$250.00 AVERAGE: $162.00

TWO-DAY SEMINAR RANGE:
$250.00-$400.00 AVERAGE: $325.00

THREE DAY SEMINAR:
$300.00 INCLUDING TUITION AND BOOKS

PER QUARTER RANGE:
$50.00-$1,000.00 AVERAGE: $400.00

DEGREE OR CERTIFICATE RANGE:
$1,000.00-$3,000.00 AVERAGE: $2,000.00

THREE HOUR CREDIT CLASS:
$200.00-$500.00 (10 WEEKS) AVERAGE: $350.00

CONTINUING EDUCATION COURSES:
$5.00-$150.00 AVERAGE: $77.50

HALF-DAY SESSION:
$45.00-$150.00 AVERAGE: $85.00

ONE WEEK SEMINAR:
$500.00
MAKE-UP OF FOCUS GROUPS

GROUP I: ENGINEERS:

EDUCATION LEVEL:

4-year college degree ...................... 6
Some graduate school ..................... 2
Master's degree ......................... 2

POSITIONS/TITLES:

Principal (2)
Assistant Director
Manager Research Administration & Development
Assistant Commissioner
President
Director of Public Works
City Administrator/Public Works Director
Director of Office Materials & Research
Assistant Office Director

MODE OF TRANSPORTATION MOST INVOLVED WITH:

Highway .................................. 9
Transit ................................... 2
Air ....................................... 1
(Includes multiple responses)

WORK CLASSIFICATION:

Public agency/government ............... 7
Private industry ......................... 3
GROUPS (CONT'D)

GROUP II: LOGISTICS/DISTRIBUTION/TRANSPORTATION MANAGERS:

EDUCATION LEVEL:

Some college .................................... 3
4-year college degree .............................. 3
Some graduate school .............................. 1
Master's degree ................................... 2
Doctorate degree .................................. 1

POSITIONS/TITLE:

National Manager
Vice President Manufacturing
Group Operations Manager
Retired/Consultant
Manager Transportation Services/International
Customer Service

Vice President of Cargo Carrier
Director of Road Vehicle Information Services
Retired CEO
Executive Vice President
Inventory Management & Forecast Manager

MODE OF TRANSPORTATION MOST INVOLVED WITH:

Highway ........................................... 1
Rail ................................................. 2
Water ................................................ 1
Motor Carrier ...................................... 4
Multi-Modal ....................................... 3
GROUPS (CONT'D)

WORK CLASSIFICATION:

- Public agency/government .............. 1
- Private industry ...................... 8
- Consulting ............................ 1

GROUP III: PLANNERS/POLICY ANALYSTS:

EDUCATION LEVEL:

- Some college .......................... 1
- 4-year college degree ................. 3
- Master’s degree ........................ 6

POSITION/TITLE:

- Deputy Planning Director
- Vice President
- Executive Director
- Senior Transportation Engineer
- Metro Planning Office
- Personnel Administration
- Principal Planner
- Transportation Supervisor
- Director of Transit Office
- Director of Planning & Program

WORK CLASSIFICATION:

- Public agency/government .............. 7
- Private industry ...................... 2
- Nonprofit association .................. 1
I. INTRODUCTION: (10 minutes)

A. Moderator introduction. TOPIC: Transportation studies programs at the University of Minnesota.

B. Stress importance of each opinion, the fact that there are no right or wrong answers. Encourage full discussion.

C. Explanation of microphone and mirror.

D. Participant self introduction, first names only, where they work and what they do.

II. HIRING TRANSPORTATION PROFESSIONALS: (20 minutes)

A. When hiring a professional for your organization, what skills do you look for? Why is that so?

B. Up to now, how do people obtain knowledge about the transportation field? Is that adequate? Why/why not?

C. How important is experience, in your decision making regarding transportation professionals? Why is that so?

D. Which is more important, education or experience? Why?

E. Where are transportation professionals getting experience today?

F. What is missing in the training and/or experience opportunities available today?

G. What does the term "continuing education" mean to you? Would presenting transportation studies as continuing education courses be seen as negative or positive? Why is that so?

H. Are there skills, other than specific transportation knowledge/experience, that are needed/missing?

I. What skills or knowledge do new graduates lack?

J. Are you more or less likely to hire someone who has shown a tendency to continually update their skills by taking continuing education courses? Why/why not?
III. DESIGNING TRANSPORTATION STUDIES PROGRAMS: (30 minutes)

A. If you were designing transportation studies programs, what would they include? Why is that important?

B. Do you see such programs being offered at the undergraduate level or the graduate level? Why/why not? And for credit/noncredit? Why/why not?

C. What format would be most marketable to interested students? Quarter-long courses 3-4 hours per week? Week-long short courses? 1-or 2-day seminars?

D. What format would be most acceptable to employers who want employees to get additional education? Quarter-long courses 3-4 hours per week? Week-long short courses? 1-or 2-day seminars?

E. When should classes or training seminars be held? Mornings, noon hour, afternoons, early evenings, late evenings, Saturdays, weekdays, weekends? Why?

F. A certificate in transportation studies could be obtained by completing a series of courses that focus on the transportation field. Do you see any value in such a program in conjunction with an undergraduate field of study? Why/why not?

G. Do you see the value of such a program as part of a graduate studies program? Why/why not?

H. What does the term interdisciplinary mean to you?

I. Should such studies be interdisciplinary, going from planning to engineering to distribution, and even beyond to social issues,....or not? Why/why not?

J. Would you be more or less likely to hire someone out of an interdisciplinary program? Why/why not?
IV. VALUE OF TRANSPORTATION STUDIES PROGRAMS: (10 minutes)

A. How valuable would transportation studies programs be to your organization? Why?

B. Would your organization be likely to provide incentives for an employee to participate in such programs by providing tuition or giving time off work to attend classes? Why/why not?

C. What would you expect the tuition to cost? Is that per day, per class, per program, or measured in another way?

V. CONCLUSIONS: (15 minutes)

A. What are the significant transportation challenges facing our society or world today?

B. How would well-designed transportation studies programs best address these challenges?