

ful transfer of experience between the sectors. For example, work on the peak problem pioneered was in the context of electricity supply, which was and is of direct relevance to transport; work on cost forecasting and learning functions that originated in the airframe production industry has potentially wide applications in the fields of maintenance and forecasting construction costs; and benefit/cost analysis was first developed in water resource management. Also, management, information systems development, and policy administration are not sector specific, and these are the areas in which professional training is particularly needed in most countries.

An example of a workable combination of related sectors would be transport--communications--energy (i.e., an infrastructure-sector program). It is impossible to determine on an a priori basis the balance between advantages and disadvantages of more-specific versus more-general programs. The practical considerations (as usual) have to prevail: What is feasible under the given circumstances? How much interest in a specific program can be generated among senior staff and where do the recognized training needs exist? Clearly, a strong and direct interest by senior staff is essential for the success of a program of this nature. The advantage enjoyed by the TPTE program in Argentina was that both the Transport Planning Directorate and World Bank were interested in its success.

National Versus International (Regional) Program

Argentina is a large, advanced, wealthy country; thus it could afford to develop a program of its own. This is, however, a special situation. The question thus arises, Could the advantages of a national program be maintained if it were organized for a group of countries in the same region that shared similar cultural and institutional backgrounds and similar problems? An international or regional program would obviously enjoy the potential advantages of economies of scale and continuity. The key questions remain: Could the program also generate strong sustained interest within the countries associated in the scheme? Could it acquire a style of its own that would be consistent with the

character of the region or would it become a distant, or foreign international, organization? Who could take the leadership role and how could the leader be prevented from dominating the program to the extent that the feeling of participation by weaker partners would disappear? There exists considerable experience in international (regional) educational research centers that range from well-developed international graduate schools to more-specialized establishments. It would appear that, with the assistance of international institutions, development of more research-training regional centers that specialize in transport-infrastructure planning would meet the long-run needs of many of the Third World regions, provided that they obtained full support of the countries involved and were adopted by them as their own foundations rather than as another set of international (foreign) institutions.

ACKNOWLEDGMENT

This paper is based on my experience as a director of the transport planning and transport economics course in Argentina in 1979-1980. Although I assume full responsibility for the review of this experience and the opinions expressed in discussing it, I owe (directly or indirectly) all the ideas to those who were responsible for the organization, supervision, and conduct of the course. In particular, I am indebted to Vincent Hogg (formerly of EDI, now of Central Projects Staff, World Bank); to Jorge H. Kogan (Dirección Nacional de Planeamiento de Transporte y Obras Públicas, Argentina), who conceived the idea, made it happen, and gave full support to the program; to Carlos A. Basco, who provided constructive supervision and advice and was able to resolve numerous problems that ranged from the most fundamental to the most practical; and to P. Malone (EDI, World Bank), who has been most helpful throughout the project. The members of the assessment team (A.H. Petrei, R. Izquierdo, and G. Murray) forced me to crystallize and reassess my ideas on future training options, and I learned much from their comments. And, of course, the most critical and useful lessons were learned from the trainees themselves.

Who Reads the Transportation Planning Literature?

GERALD S. COHEN, FRANK McEVOY, AND DAVID T. HARTGEN

This paper reviews the role of professional journals in transportation planning and evaluates the degree to which the literature is used. A stratified random sample of professionals in eight separate work settings was drawn and sent an extensive questionnaire on journal-reading habits, preferences for journal characteristics, and uses made of specific journals. Results show that the most popular journals (based on percentage of professionals who read them) are the Transportation Research Board Record (76 percent), National Cooperative Highway Research Program reports (57 percent), Institute of Traffic Engineers (ITE) Journal (56 percent), the Transit Journal (48 percent), and Traffic Quarterly (48 percent). But overall time spent reading is low; collectively the 17 major journals in transportation are read on the average of 7 h/month by the average professional. Reading professional literature is a low-priority activity; journals are scanned, generally on receipt, for relevant articles, which are rarely read thoroughly. The average professional sees 5.6 journals per month. The ideal journal has middle-of-the-road articles that center on a balance of theory, practice, modal focus, and policy subjects. The most popular journals are

those that contain such mixes and provide the professionals with general awareness and information on new practical techniques for use in their own work. The paper concludes that, if transportation professionals are not avid readers of their professional journals, they are at least avid scanners who continuously search a number of sources for relevant material. The incidence of journal use could therefore probably be substantially increased by increasing the direct relevance of the published material to the needs of the practicing professional.

Like other policy-oriented academic fields, transportation planning has come to rely greatly on publications for the interchange of ideas. Government agency publications and a myriad of professional journals have significantly increased the volume of material published in order to serve this role adequately.

In recent years many in the field have come to realize that the study of transportation-related phenomena is not confined to engineering and public policy analysis. Disciplines like psychology, marketing research, geography, and others have made important contributions to a more-complete understanding of the transportation process.

Even in the face of this progress there remains, to a certain degree, an information gap between the academic researcher and the day-to-day practitioner, and vice versa. This may result in part from the extreme rapidity with which changes have occurred within the profession over the last 15 years.

In a recent paper, Hartgen referred to transportation planning as "having undergone vast changes in objectives, structure, and approach over the last 15 years. Those of us who have been associated with it and have seen the changes close up often have been amazed at their rapidity" (1, p. 1). Techniques widely used for many years have often been outpaced by this rate of change. The profession overall has undergone a major change of focus from evaluation of large-scale, capital-intensive, long-term projects to smaller-scale, capital-efficient concerns. Accompanying this refocus is the parallel change of techniques required. This point has been well outlined in the literature of the 1970s. Specifically, the profession has addressed the inadequacy of older techniques with attempts to gain a fuller understanding of the role of behavior and behavioral science and a move toward greater acceptance of new evaluation methods. Recent research has progressed to update and refine these methodologies even further. It is unreasonable to assume an end to this process of definition and refinement in the near future.

In this light one key role of the professional journal is the ongoing exchange between researcher and practitioner. It is through this exchange and others that practitioners remain reasonably well informed about progress in the discipline.

Yet it appears that little or no research has been done to directly evaluate the role of these publications in transportation studies. It is obvious that no two professional journals have exactly the same content or focus, which makes direct comparison difficult. Rather, an attempt is made here to compare the general characteristics of publications. Preference and demographic data and other information collected about readers are evaluated in an attempt to define the type of journals preferred by the professionals sampled. By undertaking this research we have attempted to establish the interaction between reader profiles and the professional journals that are being read. Other objectives are also evaluated by this research: determination of the commonly used professional journals and the pattern of their use and examination of the extent to which these professional journals contribute to the exchange of ideas within the field.

SURVEY DESIGN

In an effort to collect data that would shed light on the objectives outlined above and to allow further study, the Planning Research Unit of the New York State Department of Transportation (NYSDOT) in cooperation with the Department of Geography, State University of New York at Albany, conducted a mail-out survey of 400 randomly selected transportation planning professionals in the spring of 1980. The survey was designed and conducted to gain adequate representation of various subgroups within the transportation planning profession. A large portion of the progress in research has been due to the

planning and policy analysis subgroups of transportation.

The mailing list compiled and maintained by the Planning Research Unit was taken to contain a cross section of the professionals we wished to sample. The list was used as the basic sampling frame. For purposes of this research, 200 individuals were randomly selected from the mailing list for the preliminary research report. Specific proportions were allocated judgmentally and care was taken to ensure the efficiency of the sample. Allocation was made on a judgmental basis rather than through calculation because the underlying parameters of this population were not readily available. Still, it has been shown that, from a practical point of view, moderate sample sizes are often sufficient. Significant conclusions can be drawn from surveys that have sample sizes as small as 100 respondents. A reasonably high response rate was expected from those surveyed, which further reduced the necessity of a large, expensive mailout survey. The actual response rate was moderate, perhaps because of the great length of the questionnaire and the fact that no return envelope was included. The original groups selected and the rates of return are shown below:

Subgroup	Sample Size	Number of Responses	
		Group 1	Group 2
School	80	11	4
Consultant	80	10	6
Regional planning group	80	15	10
Other state transportation department	80	12	9
Federal government	40	10	2
Transit authority	40	6	6
	400	64	37

Individuals were selected in an effort to produce a significant number of responses for several population subgroups. Samples from each list were drawn systematically by using random numbers. Accompanying each primary questionnaire was a second copy marked with a red S. The secondary questionnaires were distributed based on the following instructions included in the introductory letter:

1. Identify the major part or parts of your organization that deal primarily with transportation planning, development, environment, or administration, e.g., a planning division. Exclude those parts that have as their primary functions design, construction, maintenance or operations, and administration or staff functions.

2. From this group, select that professional-rank individual whose last name most closely follows yours in the alphabet; if yours is the last such name alphabetically, continue to the beginning of the alphabet.

These questionnaires represent the second group of the survey and were included to ensure a wider distribution and representation in responses from the various subgroups, since it was believed that the initial mailing list might have contained individuals who had a greater propensity to read professional journals than others. Inclusion of this second sample resulted in doubling the original mailing to 400. Of the 400 questionnaires sent out, 101 were received in complete-enough form to be included in this analysis. Data on the journals examined in this study are given in Table 1.

ANALYSIS AND RESULTS

In the next sections we will analyze the responses

Table 1. Major journals in transportation planning and policy analysis.

Name	Publisher and Place	Frequency of Publication	Subscription Rate (\$)	
			Regular	Member
Transportation Research	Pergamon Press, Elmsford, NY			
Part A		Bimonthly	121	
Part B		Quarterly	75	
Both			187	
Journal of Transport Economics and Policy	London School of Economics and Political Science, England	Three times yearly	50.70	
ITE Journal	Institute of Transportation Engineers, Arlington, VA	Monthly	13	10
Transportation Science	Transportation Science Section, Operations Research Society of America, Baltimore, MD	Quarterly	30	Less
Transportation Engineering Journal	American Society of Civil Engineers, New York, NY	Bimonthly	30	12.50
Transit Journal	American Public Transportation Association, Washington, DC	Quarterly	18	
Transportation	Elsevier Scientific Publishing Co., Amsterdam, Netherlands	Quarterly	44.10	
Transportation Research Board (TRB) Record	Transportation Research Board, Washington, DC	Continuous	Varies	
Special Report		Continuous	Varies	
Transportation Planning and Technology	Gordon and Breach Science Publishers, London, England	Two volumes yearly	137.50	
Journal of Advanced Transportation	Institute for Transportation, Durham, NC	Three times yearly	50	
Traffic Quarterly	Eno Foundation for Transportation, Westport, CT	Quarterly	Free	
Transportation Journal	American Society of Traffic and Transportation, Chicago, IL	Quarterly	20	Free
Public Roads	Office of Research and Development, U.S. Department of Transportation	Quarterly	7.60	
National Cooperative Highway Research Program (NCHRP) reports	National Cooperative Highway Research Program, Washington, DC	Continuous	Varies	
NTIS abstracts	National Technical Information Service, Springfield, VA	Continuous	Varies	
HRIS Abstracts	Highway Research Information Service, Washington, DC	Continuous	Varies	

Note: Subscription prices are as of 1980.

to a number of issues addressed by the study. The data have been stratified so we can see whether the nature of the responses varies by any of the following:

1. Readership of a given magazine: For example, we might expect to find that a higher proportion of those who read Transportation Research, Part A, will have advanced degrees than does our data set as a whole.
2. Nature of employer: For example, we might expect that the distribution of salaries might be different for those employed by consultants or schools than it would be for the data set as a whole.
3. Nature of job: For example, we might expect that the number of journals read per month would vary with one's duties.

General Reading Habits

Journal Popularity

The percentages of readership of the 17 journals mentioned are shown below:

Rank	Journal	Readership (%)
1	TRB Record	76
2	NCHRP reports	57
3	ITE Journal	56
4.5	Traffic Quarterly	48
4.5	Transit Journal	48
6	Transportation Research, Part A	42
7	Transportation Engineering Journal	40
8	NTIS abstracts	34
9	HRIS Abstracts	30
10	Transportation Research, Part B	29
11.5	Public Roads	20
11.5	Transportation	20
13	Journal of Transport Economics and Policy	12
14	Transportation Science	10
15	Journal of Advanced Transportation	8

Rank	Journal	Readership (%)
16	Transportation Journal	8
17	Transportation Planning and Technology	3

Of the journals surveyed, the TRB Record and NCHRP reports were the most popular, read by 76 and 57 percent of respondents, respectively. ITE Journal was a close third, read by 56 percent. Journals less frequently read tended to be foreign or international in content or highly specialized.

Because of particularly small sample sizes associated with some journals, the remainder of our analysis generally concentrates on those journals for which we have sufficient information to draw statistical conclusions. These are in general the first nine publications listed above, although others are included on occasion of interest.

Time Spent Reading or Using Professional Journals

It is generally believed that transportation analysts spend much time reading the professional literature; this is not so. The mean time spent reading professional journals is 6.99 h/month (the average analyst in our profession spends less than 5 percent of his or her work time reading the professional literature). The results given in the tabular material below are based on the following percentages of all responses for hours per month spent reading professional literature (not hours spent reading each journal but total hours spent reading by readers of each journal, since such readers usually read other journals too):

Time Spent Reading (h/month)	Percentage of All Responses
1	3
1-3	24
4-6	41
7-10	13
11-15	12
16-20	6
21+	1

The breakdown by journal (in average hours per month) is as follows (N = number of readers in the sample):

<u>Journal</u>	<u>N</u>	<u>Avg (h/month)</u>
Transportation Research, Part A	42	6.58
ITE Journal	56	7.65
Transportation Engineering Journal	40	8.13
Transit Journal	48	6.16
TRB Record	76	6.91
Traffic Quarterly	48	7.60
Transportation	20	5.90
NCHRP reports	57	8.74
NTIS abstracts	34	6.50

The breakdown (in average hours per month) in terms of type of work of reader is planners, 5.07; administrators, 7.41; researchers, 9.60; and teachers, 6.34. By employer, the average number of hours per month spent reading professional literature breaks down as follows:

<u>Employer</u>	<u>N</u>	<u>Avg (h/month)</u>
Federal government	12	6.05
New York State (NYS) regional planning agency	9	7.54
Transit agency	12	4.83
State department of transportation	21	7.36
Regional planning agency not in New York State	16	5.12
Consultant	16	5.09
School	13	8.96

Readers of NCHRP reports are the most avid (8.74 h/month); readers of Transportation, the least avid (5.90 h/month). General reading rates are highest among researchers and school employees (professors and students) and lowest among planners and employees of transit agencies, followed closely by consultants. Some would say that this reflects the general relevance of the journals to the practicing profession.

Number of Journals Read

Only about 4 percent of the sample does not read any journals; 75 percent of those surveyed read at least four journals. The mode for our survey is five journals. Results showed that federal employees and employers of consultants read at least one journal. There is one surprising result: Although 8 percent of those who work for schools do not read any journals, all the teachers read at least four. This suggests that a number of those engaged in research who are employed by colleges and universities read no professional journals. This is consistent with the 20 percent of all researchers who indicate that they read no professional journals. Sample sizes, of course, are too small to be sure of the significance of this result, but the numbers do suggest that some researchers in schools do not find any of the current journals useful and that there may be a gap that needs to be filled.

Combining the average number of hours spent reading (6.99) with the average number of journals read (5.95), we note that the average journal is read 1.17 h/month by the average professional.

Allocation of Time Spent Reading

General journal reading is a haphazard activity that is done on the spur of the moment and has fairly low priority. Approximately 82 percent of those sampled indicate that they read journals on receipt, they

read them if they have the time, or they allocate time for reading journals differently for different needs. Almost no one sets aside a specific amount of time daily or weekly for reading. Readers of the less widely read journals are more likely to read journals only if they find the time. Those who work for either the federal government or the schools are most likely to be influenced by specific needs in deciding to read journals. Sampled employees of regional planning organizations are more likely to set aside time weekly than those in the data set as a whole. Teachers appear to vary their reading habits according to specific needs.

Characteristics of Readers

Nature of Work

Relatively few of those sampled indicated that they did much location planning or (more surprisingly) project development and implementation. This may well be due to the nature of the sampling frame. The pattern shown when the data are stratified by readership of particular journals varies somewhat less than might be expected. It was noted that users of NCHRP reports and Traffic Quarterly are somewhat less likely to do a good deal of program management.

Those who work for schools do the bulk of their work in research and teaching. However, 16 percent of those who work for schools spend most of their time on policy formulation or system planning. Over half of those in our sample who are employed by New York State (NYS) regional planning agencies describe the bulk of their work as policy formulation as do 25 percent of those in our sample who work for the federal government.

The administrators in our sample indeed do a good deal of program management but a plurality of our sampled administrators describe their work as policy formulation. The planners sampled tend to be engaged in program planning.

Salary

Publishers of magazines for the general public are often pleased to discover that their readers are particularly affluent. Perhaps then the publishers of Transportation can be happy in spite of their somewhat low circulation among those sampled: 40 percent of the readers of Transportation that were sampled in our survey earn \$40 000 or more, a sum earned by only 15 percent of our survey as a whole. In contrast, only 10 percent of the sampled readers of the Transit Journal earned \$40 000 or more.

Only 24 percent of those sampled who worked for state departments of transportation (DOTs) earned \$30 000 or more, whereas 67 percent of those sampled who worked for the federal government earned this figure. These results may be caused by the nature of the list used to obtain respondents. More significant, however, is that 90 percent of those who describe themselves as planners earned less than \$30 000, whereas only 38 percent of the administrators and 36 percent of the teachers in our survey earned less than \$30 000.

Education

Our sample has a very large number of persons who have doctoral degrees. This is partly because 85 percent of those who work for a college or university have the advanced degree. In our sample the master's degree is much more common than is the bachelor's degree. A higher proportion of the readers of Transportation seem to have a Ph.D.,

whereas the journals that have the largest proportion of M.S. degrees among their readers are the Transportation Engineering Journal and the ITE Journal. (The latter result is certainly not unexpected.)

The doctoral degree occurs most often in our sample for employees of the federal government and of colleges and universities. The bachelor's degree is most common among employees of state DOTs. It is interesting to note that there are more administrators with B.A.'s than with B.S.'s in our samples, although the difference is not significant.

Professional Membership

Generally, almost everyone sampled belongs to four organizations or less; approximately 13 percent of those sampled belong to no professional organization. The readership of particular magazines does not seem to relate strongly to the number of organizations to which one belongs. The average number of organizations to which readers in the overall distribution belong is 1.87. The results given in the following tabular material are based on the following percentages of professional membership:

<u>No. of Organizations</u>	<u>Percentage Who Belong</u>
None	13
1	31
2	27
3	21
4	7
5	0
6	1
7	1

The breakdown by journal of average number of professional organizations to which readers belong is as follows:

<u>Journal</u>	<u>Avg No. Organizations</u>
Transportation Research	1.75
ITE Journal	2.36
Transportation Engineering Journal	2.69
Transit Journal	1.92
TRB Record	2.09
Traffic Quarterly	2.16
Transportation	2.20
NCHRP reports	2.19
NTIS abstracts	1.83

The breakdown in terms of type of reader is planners, 1.53; administrators, 2.17; researchers, 2.20; and teachers, 2.34. By employer, the average number of organizations breaks down as follows:

<u>Employer</u>	<u>Avg No. Organizations</u>
Federal government	1.23
NYS regional planning agency	2.31
Transit agency	1.24
State DOT	1.44
Non-NYS regional planning agency	2.34
Consultant	2.16
School	2.62

Readers of magazines sent to members (ITE Journal, Transit Journal) are slightly more likely to belong to an organization. The users of NTIS abstract services and NCHRP reports are, on the other hand, slightly more likely not to belong to any organization.

All the teachers belong to at least one organization, but 24 percent of the planners do not belong

to any organization. A plurality of the sample belongs to one organization, but an almost equal number belongs to two.

Almost 30 percent of those who work for state DOTs do not belong to any organization and another 30 percent belong to only one. This may be in part because the states often have general memberships in these organizations and can pass the states' organizational benefits on to their staff. All of those employed by schools are members of at least one organization, and most of those in this category who were sampled belong to at least two or three.

General Preferred Characteristics of Journals

Range of Subject Matter

Those questions that dealt with a 5-point scale used to rank characteristics of professional journals that the respondent finds useful proved somewhat disappointing. Respondents tended to avoid extremes and only a few patterns emerged. Respondents were asked to indicate their preference on a 5-point scale on which only the end points were labeled. The end given a score of 1 was labeled "concentrates on one subject area" and the end given a score of 5 was labeled "covers many different areas."

Almost no one wanted a journal that concentrated on only one subject area. Administrators were strongest in support of journals that deal with many different areas. The reader of both Transportation Research and Traffic Quarterly showed some tendency toward preferring a narrower range of subject matter. None of those employed by colleges or universities selected the score that suggested the strongest support for many different areas.

Treatment of Theory

Everyone wanted a happy medium in this area. No one selected the end point "very theoretical," and there was little support for a journal that had no theoretical content.

With every response near the mode, there was little variance when the data were stratified. Readers of Transportation showed a preference toward more theory, whereas readers of the Transit Journal showed a dislike for theory. Only 5 percent of those who worked for a state DOT indicated a preference for a good deal of theoretical content. As expected, researchers and teachers gave the strongest support for theoretical content.

Orientation to Mode

There was only limited support for a journal that concentrated on one specific mode, but there was moderate support for a journal that was strongly multimodal.

Only employees of state DOTs and consulting firms expressed interest in a journal that dealt with one specific mode. Readers of the TRB Record seemed to be particularly supportive of a multimodal journal. Administrators and researchers were most in favor of a strongly multimodal journal.

Treatment of Policy

Respondents were asked to rank on a 5-point scale that had the end "no coverage of policy issues" coded 1 and the end "comprehensive coverage of policy issues" coded 5. There were very few answers at either end point. Teachers and researchers were less interested in policy-oriented journals. Most of the sample (56 percent) selected the middle rank of 3. Readers of Transportation were most in favor

of a comprehensive coverage of policy issues.

Characteristics of Specific Journals

Each person who indicated that he or she read a given journal was also asked questions about that journal. Again, because it is difficult to draw conclusions when sample sizes are small, we will concentrate our analysis on the nine journals that we have looked at closely before.

What Journals Do You Read?

Tables 2 and 3 show the characteristics of the readers of each of the 17 journals studied. Sample-size problems prevent conclusions in some cases, but the following trends are apparent:

1. Planners constitute a greater share of the readership of the ITE Journal and NCHRP reports than the average;
2. Administrators make up a greater share of the

readers of the Journal of Transport Economics and Policy, Transportation Engineering Journal, and the TRB Record than the average;

3. Researchers and teachers make up a greater-than-average share of the readers of Transportation Research, Part B, Transportation Science, Transportation, and the NTIS abstracts;

4. Employees of the federal government make up a greater-than-average share of the readers of Transportation Research, Part A, Transportation, and Traffic Quarterly; and

5. Employees of state DOTs constitute a greater-than-average share of the readers of NCHRP reports, NTIS abstracts, and HRIS Abstracts.

How Much Time Do You Spend Reading Specific Journals?

In most cases, it appears that less than 1 h/month is spent reading any given journal. More time appears to be spent reading the TRB Record than is spent on any other journal. Only 28 percent of all those who read TRB publications spend 0.5 h or less

Table 2. Readership by work activity.

Name	Sample Size ^a	Percentage by Type of Work			
		Planner	Administrator	Researcher	Teacher
Transportation Research					
Part A	42	33	40	10	12
Part B	29	34	31	14	14
Journal of Transport Economics and Policy	12	17	58	0	17
ITE Journal	56	36	41	9	11
Transportation Science	10	10	30	20	8
Transportation Engineering Journal	40	25	50	13	0
Transit Journal	48	33	42	4	13
Transportation	20	20	35	15	20
TRB Record	76	32	43	9	13
Transportation Planning and Technology	3	100	0	0	0
Journal of Advanced Transportation	8	62	25	13	0
Traffic Quarterly	48	31	42	10	15
Transportation Journal	8	25	38	0	38
NCHRP reports	57	37	37	12	11
NTIS abstracts	34	29	32	18	12
HRIS Abstracts	30	30	27	20	17
Public Roads	24	29	33	21	8
Avg		34	40	10	11

^aN = 101.

Table 3. Readership by employer.

Name	Sample Size ^a	Percentage by Employer						
		Federal Government	NYS Regional Planning Agency	Transit Company	State DOT	Non-NYS Regional Planning Agency	Consultant	School
Transportation Research								
Part A	42	19	5	10	23	14	14	19
Part B	29	14	7	10	24	10	21	14
Journal of Transport Economics and Policy	12	8	0	0	17	8	33	33
ITE Journal	56	9	11	7	16	23	20	14
Transportation Science	10	10	10	8	20	10	20	13
Transportation Engineering Journal	40	13	18	0	23	15	20	13
Transit Journal	48	13	8	21	15	13	17	15
Transportation	20	20	10	0	20	5	25	20
TRB Record	76	12	8	9	22	16	18	14
Transportation Planning and Technology	3	33	0	0	0	33	33	0
Journal of Advanced Transportation	8	13	13	0	25	25	25	0
Traffic Quarterly	48	15	13	6	13	15	21	19
Transportation Journal	8	13	0	0	0	25	13	50
NCHRP reports	57	11	9	9	26	12	19	14
NTIS abstracts	34	12	3	15	32	12	18	9
HRIS Abstracts	30	7	3	10	40	7	17	17
Public Roads	24	13	8	8	29	13	13	17
Avg		12	9	12	21	16	16	15

^aN = 101.

reading them. In contrast, only 14 percent of those who read the Transit Journal devote more than 1 h/month to using it. A large percentage (45) of the readers of Transportation spends less than 15 min/month reading it.

How Do You Receive the Journal?

The answers to this question show some interesting patterns (Table 4). The journals associated with membership in an organization, such as the ITE Journal and the Transportation Engineering Journal, show a high proportion of readers who have a personal subscription. For most of the other journals, readers use company subscriptions. Some of the more-technical journals such as Transportation Research and Transportation are often borrowed from a library. It is interesting to note that the journals most likely to be obtained by borrowing from a friend or associate are those journals that have a high proportion of individual subscribers.

How Do You Usually Read the Journal?

From 10 to 20 percent of all respondents read a journal by scanning the table of contents. Apparently abstracts are less useful than might be expected since few of those sampled used the abstracts to decide which (if any) articles to read. Most of our sample approach journals by scanning or reading selected articles. A slightly higher proportion of the readers of Transportation read it from cover to cover, but the sample size is too small to draw conclusions.

What Is the Major Focus of Articles You Prefer?

It appears that readers of many of the journals are particularly interested in reading about issue-oriented studies (Table 5). NCHRP reports are most widely preferred as being valuable when one is writing about applied procedures. In fact, readers of the most popular journals prefer the articles on applied procedures and issue-oriented studies.

What Is the Primary Function of Your Reading?

For most readers the primary function of reading was to assist general awareness, to learn new techniques, or to follow the development of programs. More often than any other journal, the TRB Record was described as the journal to read "because it publishes my work." NCHRP reports are considered particularly useful for describing new techniques. Transportation Research, Part A, the Transit Journal, and Traffic Quarterly rate high on providing general awareness.

SUMMARY AND IMPLICATIONS

Many observations can be made by examining the data in the tables, and the reader is encouraged to do so. It would have been very difficult to obtain a timely random sample. The procedure used that involved the Planning Research Unit's mailing list probably has introduced bias. In particular, the distribution of degrees is surely skewed toward professionals who have advanced degrees. Since in many cases the potential bias is difficult to estimate, one should be cautious about extrapolating conclusions to the entire field of transportation planning. Some of the major observations that can be made are as follows:

1. Most professionals spend less than 7 h/month (less than 5 percent of work time) reading journals. Less than 1.2 h/month is generally spent on any given journal. However, a fairly large number of journals (5.6) are seen by the average professional each month.
2. More than 80 percent of those professionals who describe themselves as planners spend less than 7 h/month reading journals. Those who work for schools generally spend a good deal of the time reading journals.
3. Almost everyone sampled was a member of at least one professional organization; however, few are members of more than three organizations.
4. Journal reading is haphazard and low priority

Table 4. How journals are received.

Name	Sample Size	Percentage by Source				
		Personal Subscription	Office	Library	Friend or Associate	Other
TRB Report	76	26	58	4	4	4
NCHRP reports	57	25	63	4	5	2
ITE Journal	56	50	27	9	13	2
Transit Journal	48	6	67	19	4	2
Traffic Quarterly	48	17	58	19	4	2
Transportation Research, Part A	42	17	52	24	2	2
Transportation Engineering Journal	40	45	30	10	13	3
NTIS abstracts	34	3	74	9	0	9
Transportation	20	15	40	35	0	5

Table 5. What major focus of articles is preferred.

Name	Sample Size	Percentage by Issues Preferred								Other
		Modeling	Case Studies	System Planning	Modal Planning	Program Management	Issue Orientation	Applied Program	Theoretical Work	
TRB Report	76	9	8	16	5	5	14	22	4	4
NCHRP reports	57	4	5	14	4	9	16	33	0	7
ITE Journal	56	0	18	13	4	5	20	27	2	5
Transit Journal	48	0	17	4	15	13	23	15	0	2
Traffic Quarterly	48	4	10	13	6	10	29	15	0	2
Transportation Research, Part A	42	7	2	21	7	2	17	10	12	5
Transportation Engineering Journal	40	3	15	10	3	8	23	18	8	5
NTIS abstracts	34	3	12	6	9	9	32	9	3	3
Transportation	20	10	5	5	0	10	35	0	15	5

and occurs most often immediately on receipt. Readers review magazines by scanning or reading articles. The abstract is not used to make the decision to read or not to read.

5. Ninety percent of those who describe themselves as planners earned less than \$30 000, whereas only 38 percent of the administrators and 36 percent of the teachers in our survey earned less than \$30 000.

6. Almost no one was interested in a journal that concentrated on only one subject area. Well-balanced subject matter, theory, modal treatment, and policy issues are preferred.

7. Most readers obtain their journals through office or firm subscriptions, but journals associated with organizations have a high proportion of readers who have individual subscriptions.

8. Readers are most interested in reading about issue-oriented studies and applied procedures. The most popular journals are those that focus on these topics.

9. Few journals have a narrow readership. Content of specific articles much more than association or name is what determines whether journals are read.

10. The primary function of most journals for their readers is to provide general awareness and information on new techniques.

The picture that emerges is of a dichotomy between reader and literature. On the one hand there is the busy professional who scans a number of journals and their articles (not abstracts) for issue-oriented studies and applied procedures. Apparently few are found, since this only takes 7 h/month. On the other hand there is a growing number of journals,

each of which offers a slightly different selection of articles. Through experience, exposure, and membership, our busy readers have learned in which journals to find material to their taste, and they focus on those publications. The image of a narrow-subject reader who immerses himself or herself in one journal or topic is a myth.

If only 5 percent of the professional's time goes to reading journals, what other reading is done? We have no evidence but suspect that, of the 30 percent or so of the professional's time spent reading, 20 percent goes to office material and subsurface professional literature and perhaps 5 percent to trade publications of various sorts. We have not studied these sources here; we leave that for a later effort. But one thing is clear: If 17 journals are collectively publishing material on which only 5 percent of the average professional's time is spent, then that literature must be collectively irrelevant.

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State and Regional Roles in Public Surface Transportation: Education, Training, and Research Contribution of Universities

MICHAEL D. MEYER AND ROBERT E. PAASWELL

This paper presents the results of two panel discussions that focused on the education, training, and research contribution of universities in helping state and regional transportation agencies identify and solve local problems. The panelists identified five areas in which universities can make important contributions—policymaking, formal education and training, continuing education, special training programs, and technical assistance. However, universities are facing serious problems in financial support and enrollment that could potentially reduce the role that universities play in helping transportation agencies in the future. In terms of research, the panelists distinguished between long-term (basic) and short-term research, identified a strong need for diversity in problems on which universities can work, discussed the need for continuity of research funding, and outlined the characteristics of a university that make it unique for investigating transportation problems. It was concluded by both panels that a dialogue between the universities and the transportation agencies must be established to ensure better integration of university capabilities into transportation policymaking.

Over the past several years, state and regional agencies have become actively involved in the planning, management, and financing of passenger trans-

portation services. To examine some of the issues being faced by these agencies, the Transportation Research Board sponsored a conference in the summer of 1980 that brought together a diverse group of transportation professionals who were concerned with some aspect of the emerging roles being played by state and regional agencies. Two conference sessions were devoted specifically to the potential contribution of universities in supporting the needs of these agencies. The first session, Transportation Education and Training Needs, focused on the role that universities play in providing the educational and training opportunities for existing and future transportation professionals. The following participants were present: Frank Enty, Urban Mass Transportation Administration (UMTA); Harry Heiges, U.S. Department of Transportation (DOT); Chester Higgins, Massachusetts Bay Transportation Authority; Byron Lewis, Southern California Rapid Transit District (SCRTD); John Fuller, University of Iowa; Les-