

HIGHWAY ENGINEERS ASSESS THE PUBLIC HEARING PROCESS

by

Jerome R. Saroff
Faculty Research Analyst

(The opinions, findings, and conclusions expressed in this report are those of the author and not necessarily those of the sponsoring agencies.)

Virginia Highway & Transportation Research Council
(A Cooperative Organization Sponsored Jointly by the Virginia
Department of Highways & Transportation and
the University of Virginia)

Charlottesville, Virginia

August 1976
VHTRC 77-R9

SUMMARY

Representatives from the eight construction districts of the Virginia Department of Highways and Transportation were interviewed concerning their involvement in public hearings. The sample consisted of seven district engineers and eighteen other district officials.

The interviews contained both open- and closed-end questions, and took from 40 minutes to 1 hour and 50 minutes to administer. All interviews were completed within a six-week period in June and July 1975.

Overall, the respondents were found to be at least abstractly sympathetic to the concern of the ordinary citizen, and to understand the inability of the layman to appreciate the time constraints and technical considerations involved in the planning, location, design, programming, and construction of highways. The study indicated that the engineers considered the hearing not to be a mere formality but a source of information to be reviewed and used where justified.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The engineers interviewed were sympathetic with the concern of the ordinary citizen, and they understand the inability of laymen to appreciate the time constraints and technical considerations involved in the planning, location, design, programming, and construction of highways. There was significant mention that projects have been improved as a result of citizen comments, enough mention to suggest that for these engineers the hearing process is not merely a task to be got through and bucked over to the central office. Rather, the comments are seriously reviewed and are used where justified.

Recommendations

1. A departmental task force should be established to develop a program for training highway engineers in the skills needed to conduct hearings. Interpersonal and communications skills should form the basis of the curriculum.
2. The task force should produce a training schedule for a system of both initial and repeat workshops and determine selection procedures for personnel requiring training.
3. As with any training program, a procedure should be developed to assess its effectiveness. This procedure could require periodic sampling of hearings over time to determine the trends and training needs.
4. A suggested makeup of the task force would be representatives from the Personnel, Location and Design, Environmental, and Right-of-Way Divisions, and field representatives involved in the hearing process.
5. The task force should develop criteria for regularizing informal hearings, such as, widespread advertising of informal hearings.
6. The task force should design formats for prehearing and post hearing meetings.
7. The Department should urge the federal government to re-examine the requirements and regulations which mandate the type of data presented at hearings and the kind of information

expected from hearings. For example, hearings could be divided into clearly identified "technical" presentations and hearings which focus primarily on the impact of the project on individual citizens and individual properties. This division of the hearing process would permit the improved efficiency in the assignment of specific personnel, such as, technicians to the technical hearings, and those individuals with knowledge about individual properties and local conditions to other hearings.

HIGHWAY ENGINEERS ASSESS THE PUBLIC HEARING PROCESS

by

Jerome R. Saroff
Faculty Research Analyst

Over the past few years tremendous interest has been generated in the multitude of activities labeled "citizen participation." This interest has been nationwide, and has affected all levels of government. Articles beyond count have appeared in publications ranging from Sunday supplements to specialized professional journals for planners, public administrators, and political scientists. If one may boldly risk a characterization of the national "mood," it is that there is more interest now, today, among this generation of Americans in issues of participation in government decision-making than can be easily recollected by most living men. At the least, one must scan back to the Progressive Era, around the turn of the century, for such a sustained concern with issues of citizen involvement in governmental decision-making — with the consequent alterations in the processes and operations of our governmental institutions.

Although the issue of citizen participation in the highway location and design process is hardly new among transportation professionals, a visible upsurge of concern in citizen participation arose with the issuance of the "Commandments of Participation," PPM 20-8, by the FHWA in 1970. From that date forth the amount of research on citizen participation and the number of published articles dealing with various aspects of citizen participation in the highway location and design process have been large. An assortment of Transportation Research Board committees have scheduled papers on citizen participation, and in 1973 a separate committee, "Citizen Participation in Transportation Planning," was established. To date, there is no indication of a slackening of interest in citizen participation; the future of research and experimentation in citizen participation appears to be bullish indeed.

More than casual reading of the literature of citizen participation reveals that research has focused on three aspects of participation: the context (i.e., setting) within which participation takes place; the content (i.e., concerns) of those who participate; and the contributors to the participation process. Put another way, participation research has explored the context, the environment of the public hearing process, physical and sociological. It has examined where hearings are held, the facilities available, and the "atmosphere" of the hearing

(whether authoritarian, democratic, tense, relaxed, formal, informal). Participation research has focused on the content of concerns — what do people say, what issues agitate them, what problems are mentioned most frequently? And participation research has examined the contributors to the highway hearing process — who comes, what is their socioeconomic status, age, sex, political affiliation? And many resulting recommendations have suggested how the environment in which hearings take place can be improved, how citizens can be encouraged/directed to provide more and more useful information, and how a greater number and broader cross section of the citizenry may be convinced to participate in the hearing process.

But the emphasis on context, content, and contributors to the hearing process has focused on only three of the four major elements in participation — like the carpenter who built an absolutely wonderful table with only three legs. In this case, the fourth leg is the conductors of highway hearings, the highway professionals who must stand up and either conduct hearings or present information (and answer questions) at hearings. The conductors are those highly visible transportation professionals, who are "on the line" with the public, hearing in and hearing out. It is these professionals who are continually at the point of involvement between highway agencies and the public. Without their assessment and evaluation, a balanced view of the hearing process and a critical source of information for its improvement is overlooked.

RESEARCH OBJECTIVES AND METHODOLOGY

To fill the gap of knowledge about highway engineers' responses to the citizen participation process and, specifically to one segment of it — the highway hearing process — a systematic survey was undertaken of engineers from the Virginia Department of Highways and Transportation.

The information gathered fell into four main categories:

1. A profile of the demographic, educational, and professional characteristics of highway engineers;
2. highway engineers' assessment of the quality and successfulness of the present highway hearing process in Virginia;

3. recommendations for improvements and alterations in the format, style, and management of hearings; and
4. the perceived needs for training to improve highway engineers' skills at leading and conducting hearings.

The Virginia Department of Highways and Transportation is divided organizationally into districts with a district engineer in charge of a particular district, and one or more assistant district engineers for support. Within each district there is a further subdivision of organization, the residency; each residency has a resident engineer in charge. At both the district and the resident levels, there are detailed several kinds of specialists, e.g., location and design engineers, right-of-way engineers, and environmentalists.

In Virginia, it is customary for the districts and residencies to conduct highway hearings. Although the central office may provide valuable advice and support, direct organization responsibility for hearings rests with the districts and the residencies. Because this particular research was concerned only with those highway professionals who conduct hearings and have direct responsibility for the operation of the hearings — no central office personnel were included in the sample.

The method of selecting respondents was based on a strategic sample of highway engineers, rather than a random (and inappropriate) sample of all highway engineers or isolated case studies. Thus, those respondents selected were required to fit the main criterion for selection: appearance on the firing line of at least five hearings since January 1973.* The strategic sample was based upon a "rolling" selection process. Initially, all eight district engineers in Virginia were contacted. Each was asked whether he had been directly involved in either conducting hearings or in the question and answer part of a public hearing. Seven of the eight qualified for inclusion in the sample. Each was then asked for the names and titles of his staff members who either had conducted hearings or had presented information and engaged in question and answers at five or more hearings since January 1, 1973. Thus, each seasoned district engineer's knowledge of his operation and his personnel was the screening device used to select respondents. The sample was accordingly "strategic" in that only those highway personnel directly involved in the hearing process over time were interviewed; engineers with knowledge and experience directly relevant to the research were selected, none others.

*In order to obtain coverage from all districts in Virginia, this rule was waived in two instances.

The personal interview survey was the research instrument. Each respondent was personally interviewed by the author. The time of interview ranged from 40 minutes to 1 hour and 50 minutes, with a median of 1 hour and 15 minutes. Interviews were conducted over a six-week period in June and July 1975. The interview schedule contained a mixture of both open- and closed-end questions. Open-end questions were used to ascertain information which lent itself to personal judgement and evaluation. Closed-end questions were employed to gather factual data, such as length of time with the Virginia Department of Highways and Transportation, and educational status.

BACKGROUND ON RESPONDENTS

There were 26 respondents. By job title, the distribution of respondents was as shown in Table 1.

Table 1

Job Titles

District Engineers	7
Asst. District Engineers	7
Resident Engineers	4
Other	<u>8</u>
	26

Seven of eight district engineers qualified for inclusion in the sample as did seven of 18 assistant district engineers. Only four resident engineers were included in the sample, mainly because in some districts only the district engineer and his staff conduct hearings. The "other" category of respondents includes location and design engineers (4), right-of-way engineers (3), and environmentalists (1). This category includes personnel who do not conduct hearings but do present information and field questions from the floor.

The respondents were well seasoned and widely experienced in the transportation profession. The median years worked for the Virginia Department of Highways and Transportation was 22.5, with a range from 10-44 years. Seventeen of 26 respondents had 21 years or more service to the Department.

Similarly, respondents represented a mature group of males (no female qualified for inclusion in the sample). The median age for the sample was 41.5 years with a range from 32-69 years; 23 of 26 respondents were age 40 or over.

To get an objective gauge of the "professionalism" of respondents, the number of years of education and degree earned were ascertained. Twelve of 26 respondents were college graduates with a bachelor's degree in civil engineering. Almost all respondents with engineering degrees were district engineers, assistant district engineers, or resident engineers. Nine respondents had only a high school education, and were found almost exclusively among those working in location and design or right-of-way.

A summary profile of respondents shows a group of widely experienced white, middle-aged males whose profession is that of highway engineer or technical support staff and whose long-term career is with the Virginia Department of Highways and Transportation.

ASSESSMENT OF THE HEARING PROCESS

A technique consistently used in the interview schedule was to ask respondents first about the present highway hearing process and then to ask them about the future, of changes and improvements in the hearing process. The approach is a well-known one in interviewing whereby one first helps a respondent "click in" by focusing on the present situation, which then lays the foundation for later suggestions for a future system. Although the purpose of the highway hearing process is presumably well-known, the first question asked was, "Could you tell me what you see as the purpose of a public hearing? Just tell me what your personal view is." It was important to see if there was a shared understanding among respondents of the objectives of the highway hearing process. As can be seen in Table 2, the two official objectives of a highway hearing, to gather information from the public and to present data to the public, are shared by over 80 percent of respondents.

Table 2

Purpose of Public Hearing
(N = 53. Multiple responses permitted.)

<u>VDH present L & D data</u>	
"Inform public of the what, how, when, and the plus and minus of it"	38%
<u>Get citizen input</u>	
"Let public express views"	
"See how it fits with VDH plans"	43%
<u>Other</u>	
"For Public Relations purposes"	
"It's required"	19%

Having first ascertained that a common understanding of the main objectives of the public hearing process was shared by most respondents, the next step was to ask a qualitative question requiring a judgement of the value or lack thereof of the hearing process. The critical nature of the question becomes readily apparent for if the hearing process is viewed by highway engineers merely as a paper requirement imposed upon already overworked highway personnel, the positive outcome of the hearing process will be very slight. So the highway engineers' perceptions of the value of hearings are strategic to any effort to improve the process. Each respondent was handed a card with a scale and the following phrase:

Some people believe that public hearings are a very valuable and important part of the highway location and design process. Some people feel that hearings are of little, if any, value. And others find themselves somewhere in between these two poles. Where would you place yourself? Just indicate a number on this scale.

Card 1	
Not Valuable	Very Valuable
1	2
3	4
5	6
7	

The responses to the question on Card 1 are given in Table 3.

Table 3

Value of Public Hearings
(N = 27. Multiple responses permitted.)

	Not Valuable								Very Valuable		
		1	2	3	4	5	5.5	6		6.5	7
District Engineers	7			-	1	1	1	1		-	3
Assistant District Engineers	7			1	2	3		-	1	-	1
Resident Engineers	4			1	3	-	-	-	-	-	-
Other	8			1	3	1	-	2	1	-	-
TOTAL	26			3	9	5	1	4	1	4	

Although the distribution of responses speaks for itself, two major findings deserve separate emphasis.

1. Only three of 27 respondents rated the hearing process at less than "four" value, at minimum implying hearings are at least not viewed as worthless.
2. On a proportionate basis, substantially more district engineers — those individuals with the broadest managerial and highest professional responsibility in the organization — assess hearings as highly valuable and important than do the lower ranks. One might speculate that this is because those in the top positions have a broader understanding of the highway location and design process ("the big picture") and, thus, a greater appreciation of the overall worth of the hearing process.

In the responses to this battery of questions dealing with the value and usefulness of the highway hearing process, it is clear that almost all the transportation professionals interviewed view hearings with essential goodwill, as yet another task to be performed in the best professional manner.

To probe for the background behind the preceding rating of the hearings an open-end question was asked, "Why is that? What made you rate the hearings that way?" Table 4 indicates the distribution of responses.

Table 4

Reasons for Hearing Ratings
(N = 32. Multiple responses permitted.)

POSITIVE

<u>Citizen suggestions/information improved L & D</u> "Learn from citizen things the Department didn't know!" "In one case, project was greatly modified."	25%
<u>Responsive to Citizen Questions</u> "Answer questions people have"	19%
<u>Public Relations</u> "Helps improve Department image"	9%

NEGATIVE

<u>Other</u>	25%
<u>Limitations of Hearing Format</u> "Laymen don't have knowledge to deal with technical issues. They get confused and can become hostile."	22%

Not surprisingly, most of the reasons for rating the hearings were positive. But, somewhat surprisingly, the most frequently mentioned reason for rating the hearing process positively was based on the usefulness of (non-technical) information that citizens gave and the application of such information to the improvement of the project. The second most frequently mentioned aspect of the hearings involved the inherent limitation of the hearing format and, specifically, the inability of laymen to understand technical issues and questions. In effect, highway engineers were suggesting that as an educational device the public hearing is an inappropriate mechanism.

One technique employed in the interview schedule was to ask essentially the same basic question from several different angles. This permitted the scanning of material from different wave lengths, thus producing a picture of greater depth and color than might

ordinarily be achieved. Accordingly, a question was asked about the ways in which highway engineers experience hearings as being useful. The responses are summarized in Table 5.

Table 5

Ways Hearings Are Useful
(N = 39. Multiple responses permitted.)

<u>Efficient way to give and get information and educate public</u>	33%
<u>Citizen Input</u>	
"Citizen can tell us what changes to make and we can sometimes make them"	
"Broadens knowledge about local conditions"	29%
<u>Public Relations</u>	
"Gets Department in public eye and explains our services and proposal"	
"Creates familiarity with community leaders"	15%
<u>Makes Department more flexible</u>	
"Department becomes more responsive"	5%
<u>Reduces Citizens' anxiety</u>	5%
<u>No Response</u>	10%
<u>Don't Know</u>	3%

Hearings were seen as most useful in sending and receiving information efficiently. In other words, public hearings were perceived as efficient in terms of the cost effectiveness of gathering or disseminating information. (This comment should not be stretched to suggest that the public hearing is the most effective way of getting or giving complex information.) Mentioned again is the usefulness of the citizen information, particularly on right-of-way questions and information about specific local conditions so the project may be designed to smoothly fit into the particular locality.

Of course, a question probing ways in which hearings were not useful was asked in order to get both sides of the engineers' perceptions and thereby give greater depth to the overall portrait.

Fewer than half as many "negative" responses (18) were elicited compared to the "positive" question asking about the usefulness of hearings. There was no central tendency clearly indicating the directions in which hearings were not useful. Responses ranged from the hearings being unuseful because of politicians speechifying, to hearings as yet another step which slows down the location-design process, to the hearing as a happening in which citizens simply blow off steam about all manner of issues unrelated to the particular project at hand.

HEARING EFFECTIVENESS

Inquiring about the usefulness of hearings is a somewhat different kind of question than asking about the effectiveness of hearings. That is, whether the information from the hearings actually finds its way into project modification ("useful information") does not correlate directly with the hearing as an effective mechanism for transmitting and receiving information from the citizenry (of whatever quality).

To explore this distinction, highway engineers were asked first a here-and-now question, "How do you assess the effectiveness of highway hearings in transmitting and receiving information between the citizenry and the Virginia Department of Highways and Transportation?" Table 6 indicates the distribution of the responses.

Table 6

Assessment of Effectiveness of Hearings
(N = 48. Multiple responses permitted.)

<u>Effective</u>	
Presenting Department data	15%
Allows citizens to talk, get public feelings	15%
Other	<u>17%</u>
	47%
<u>Not Effective</u>	
Technical data overload	21%
Hearing time is too short	8%
Limits interactions	7%
Other	<u>17%</u>
	53%

In these batteries, highway engineers for the first time display significant reservations about the public hearing. Over half (53 percent) judge hearings to be "not effective." On the "not effective" side there is a preponderance of opinion that hearings are not effective because of the difficulty of transmitting technical data to laymen in a brief period of time. On the "effectiveness" side, responses tended to be rather general, indicating simply that hearings were effective as a means by which to present information and as a way citizens may communicate personal opinions to the Department.

An additional battery of questions was then asked about future improvements; that is, how effectiveness of hearings could be increased both in terms of communication patterns from the Department to citizens and from the citizens to the Department. Respondents had some definite ideas about how the communication process from the Department to the citizens at hearings could be improved, as shown in Table 7.

Table 7

Improving Effectiveness of Hearings —
From VDH&T to Citizens
(N = 61. Multiple responses permitted.)

<u>Improved Information Flow</u>	54%
"Say it in plain language"	
"Have informational hearings"	
"Reduce technical information"	
"Give total background, alternatives"	
<u>Technical Improvements</u>	12%
"Better visual aids"	
"Invisible mikes"	
<u>Style</u>	16%
"Should be as informal as possible"	
"Flow with what public wants to know"	
"Limit presentation time"	
"Use professional moderator, not a studios engineer"	
<u>Other</u>	18%

By almost two to one respondents asserted that "saying it in plain language," "having informational hearings before the formal hearing," "presenting the background of the project with alternatives" were the most important ways the Department could improve the effectiveness of its communications to citizens.

On the other hand, highway engineers were much less certain about how the hearing process could be improved so that citizens could communicate more effectively to the Department. (There were only one-third as many responses (22) to this question compared to Table 7, which may simply indicate that less thought has been given to the citizen side of the communications equation.) However, responses pointed to a system of pre-formal (informational) hearings and generally earlier contact with citizens. Suggestions ranged from having two hearings and allowing citizens one week between each to assimilate the findings to "more one-on-one highway engineer-citizen contact," and advertising of informational hearings; there were also suggestions that mechanisms be established to facilitate citizen mail-in comments to the Department.

Clearly the preparation of information for presentation at public hearings and the necessity of having responsible transportation professionals present at hearings constitute uses of departmental manpower which might be otherwise employed. The efficiency (defined as output in relation to input) of the public hearing thus becomes a critical one, for if there are more efficient ways of sending and receiving information, then such means should be explored. But by more than a 3:2 margin respondents assert that the existing public hearing process is efficient in the use of time and manpower. Highway engineers who felt that the present hearing process was not efficient gave a wide variety of reasons for their conclusions: too much repetition in presentation; too few citizens at hearings; extraneous data presented by the Department; "too much talk by everyone"; and an indictment of the basic hearing structure itself.

After the respondents had been questioned about the purpose, effectiveness, and efficiency of the hearing process, a deliberately "emotional" question was asked, "Describe the atmosphere of hearings you've attended." The rationale behind such a question was to get at the feeling tones, by definition subjective, that highway engineers perceive at hearings. The supposition is that feelings about the hearings are just as important as the facts, for feelings and perceptions can affect highway professionals' performance at hearings. The distribution of responses is indicated in Table 8.

Table 8

Atmosphere of Hearings
(N = 30. Multiple responses permitted.)

<u>Positive</u>	50%
"Congenial"	
<u>Negative</u>	27%
"Department going through with something they don't want and are afraid of"	
"Basically hostile atmosphere"	
<u>Mixed</u>	13%
<u>No Answer</u>	3%
<u>Don't Know</u>	7%

Frankly, the author was surprised that a majority of highway engineers experienced the atmosphere of hearings as "positive." However, this observation is somewhat qualified by a rural-urban distinction. Evidently, the more rural the area, the more "congenial" the hearing, and the more accepting the citizenry of the Department's proposals; the reciprocal seems to be that the more urban the area, the greater the scepticism and sharp questioning of Department plans, and the less "congenial" the atmosphere. Two factors probably explain the rural-urban distinction. First, there is still a need in many rural areas for road improvements which will facilitate the movement of goods and people; second, there is a less sharply fragmented citizenry in rural than in urban areas, with fewer shades of opinion, and hence less dissent.

HIGHWAY ENGINEERS' AUTHORITY AT HEARINGS

One hypothesis tested was that highway engineers feel a lack of authority to adapt and adjust hearings to local conditions on both state and federally aided projects. The hypothesis was rejected. Table 9 illustrates that respondents believe they have sufficient flexibility to deal with hearings on state projects.

Table 9

Hearing Flexibility — State Projects
(N = 26)

<u>Enough latitude</u>	69%
<u>Not enough</u>	2%
<u>Not Ascertained*</u>	27%
<u>No Response</u>	2%

*e.g., Bureaucratic Perception of Role, "Not my decision".

A preponderance of engineers feel they have enough flexibility to modify the hearing process when appropriate. Engineers stated that they have the power, if needed, to modify hearings even in mid-course, and the ability to "ad lib it." As one seasoned engineer put it, "I once stopped a hearing for 30 minutes to describe the financing of a project." Of some interest, though, is the perceptible proportion of engineers who simply responded, "It's not my decision" (27 percent), and thus were coded as "Not Ascertained". Whether this statement indicates a bureaucratic, order-taking assessment of one's role, or unconcern, or other phenomena is now merely a subject for speculation.

A paired question about federally aided projects was asked to compare the flexibility highway engineers perceive on the two types of projects. In federally aided projects, a shade less than one-third (vs. 69 percent on state projects) of respondents indicated that engineers had enough latitude to make adjustments at hearings when appropriate. The single largest response (40 percent) was: "procedures layed out," "we have no authority." This assessment was volunteered as a simple acknowledgement of a reality which district and resident highway engineers had no power to alter.

Particularly where state projects are involved, it seems clear that highway engineers feel that they have sufficient flexibility and adequate authority to adapt hearings to the local environment and local needs. If there is one area in which respondents feel they lack sufficient flexibility and authority to modify the hearing format, it is in the presentation of location and design and right-of-way data. The requirement to present the "full novel, rather than a synopsis," epitomizes many reactions to these requirements.

PUBLIC COMMENTS USED

One dimension of the perceived usefulness of hearings by highway professionals is the percentage of public comments made that are used; that is, the number which eventually find their way into plans and result in modifying the final project. For it is one thing to assert generally that the highway hearing process is valuable and useful, but the significant test — the behavioral test — is whether, in fact, what the public suggests or observes is drawn into the blueprints of the project and built on the ground. Respondents indicate that a low proportion of comments find their way into plans. Eighteen (of 25) engineers stated that fewer than 25 percent of the public comments were used, with nine indicating use of fewer than 15 percent of comments at hearings. These data are at best a "guesstimate." But, nonetheless, a low percentage, rather than a high percentage, use of public comments is indicated. (The significance of the percentage of use calculus must be assessed critically, for there is a lack of information on the importance of comments used. Surely, one comment which changes the alignment of a four-mile stretch of roadway is much more significant than 35 comments which result in the saving of six-inches of right-of-way from a neighbor's yard.)

IMPACT OF HEARING: RELATIONSHIP WITH CITIZENS

An important function of engineers at the district and residency levels is that of contact point with the citizens, of an interface between the people in his area and the central office. Although such a role may not be written into job descriptions as clearly as more conventional qualifications (experience, education), in many ways the ability of the highway engineer to relate to the citizens in his district is becoming increasingly important as a part of his job and his effectiveness. In a time of restlessness in which basic institutions are questioned and scrutinized, the importance of communicating effectively and establishing relations of trust with the citizens is becoming a precondition for accomplishment of more conventional tasks such as the location and design of highways. Any event or situation which impairs the highway engineer's ability to communicate with citizens in his area or which forecloses the possibility of a free and unfettered interchange between the citizens and the Department is to be viewed with concern, if not outright alarm. Therefore, it was necessary to test the cliché that hearings have an "adversary" cast to them, pitting citizens against the Department and producing polarization of positions. On a five-point scale, highway engineers were asked, "Do you feel that your involvement in hearings has had any effect on your relationship with citizens?" The responses are indicated in Table 10.

Table 10

Effect of Hearings on Relationship With Citizens
(N = 26)

	1 None	2 Little	3 Moderate	4 Quite A Lot	5 Very Significant	6 Total
District Engineers	1	—	3	3	—	7
Asst. District Engineers	—	3	3	1	—	7
Resident Engineers	—	1	1	2	—	4
Other	—	—	2	5	1	8
TOTAL	1	4	9	11	1	26

However difficult to quantify, it was essential here to standardize responses so that comparisons could be made. The hypothesis was that hearings had an adverse effect on the engineer's relationship with the public. However, this is not the way highway engineers see it. Over twice as many engineers (12) assess hearings as positive in impact on their relations with citizens as opposed to only five who see them as negative. Overall, 21 of the 26 respondents see hearings as either being positive or at least "neutral." This finding raises the potential of employing the highway hearing more constructively to improve relationships between the citizens and highway engineers.

As a necessary follow-up, the engineers were asked the open-end question, "Why did you rate it that way?", in order to probe for the reasons behind the numerical rating. In over 75 percent of the cases, the reason for the rating was based on an "interpersonal residue from the hearing, rather than items of a specifically technical nature. The major reasons given are listed in Table 11.

Table 11

Reasons for Rating
(N = 29. Multiple responses permitted.)

<u>See each other as humans</u>	35%
"We've been able to talk"	
"A chance to chat with people"	
<u>Information-giving</u>	14%
"Able to clarify issues, problems"	
<u>Visibility</u>	
"More citizens know who I am"	10%
<u>Positive Feedback</u>	10%
"People come up after hearing and compliment me"	
<u>Other</u>	21%
<u>Not Ascertained</u>	10%

Evidently highway engineers experience hearings as having a "personalizing" (and perhaps humanizing?) effect, for over one-third of the respondents indicated that hearings helped them and the citizens "see each other as humans," as compared to before the hearing. Two other categories fall under the "humanizing" effect of the hearing, that of heightening the visibility of the highway engineer in a positive fashion and receiving favorable feedback after the hearing. These findings suggest considering ways and means by which the highway hearing process, while accomplishing federal and state mandated objectives, may be yet further designed to present the "human face" of the engineer and of the Department. Certainly, it would be useful to poll citizens who attend hearings to see if their reactions to the highway engineers (as a result of the hearings) square with the views of the highway engineers themselves concerning the humanizing function of the hearing.

IMPACT OF HEARINGS: ON TRAFFIC ENGINEERS

Stress is part of every job in one fashion or another. So the question of whether the highway hearing in and of itself was seen as a stressful situation by highway engineers was explored.

Reactions to the hearings while actually on the firing line, are slightly more positive than expectations of the hearings (see Table 12). Self-ratings by engineers of their reactions while the hearing was in progress show a large majority as positive: "prepared," "comfortable," "confident," "calm," or "relaxed." The two most frequently mentioned reactions to hearings made were "prepared," and "comfortable." The predominance of positive reactions among district engineers prevailed again; in this instance all stated their reactions to hearings were "positive."

Table 12

Reaction to Hearing: During
(N = 26)

	Positive	Negative	Mixed	Total
District Engineers	7	-	-	7
Assistant District Engineers	5	-	2	7
Resident Engineers	1	1	2	4
Other	6	2	-	8
TOTAL	19	3	4	26

Information which reinforces the "positive" reaction to hearings was elicited in response to a question asking if engineers felt they needed help at hearings. Twenty respondents indicated usually that they require no help at hearings, with only six indicating that they usually did require help. In a follow-up question inquiring from whom help was most needed (from the central office), the environmental division was most frequently nominated, with location and design and the urban division following in that order.

INFORMAL HEARINGS AND POST-HEARING CONTACT

Early in the research, it was decided to interpret the term "public hearing" as broadly as possible. This permitted exploration both of the front part of the formal hearing, the

informal or informational hearing — and of the end part of the hearing, follow-up contact after completion of the formal hearing. The idea of both pre- and post-hearing contact is hardly novel. However, few states have systematized pre- and post-hearing contact procedures; and it occurs informally in the state of Virginia. It was thus important to gauge the usefulness of this informal, yet fairly common practice in Virginia.

Respondents were asked for an assessment of informal hearings: whether the hearings were "very useful, useful, not useful, or what?" Virginia highway engineers were nearly unanimous about the usefulness of informal hearings prior to the formal public hearing (see Table 13). This assessment was distributed uniformly among all categories of respondents from district engineers to the technical specialists.

Table 13
Assessment of Informal Hearings
(N = 26)

<u>Very Useful</u>	19%
<u>Useful</u>	65%
<u>Not Useful</u>	4%
<u>Other — Not Ascertained</u>	12%

The perception of usefulness of informal hearings by 84 percent of the respondents is, of course, interesting. But the reasoning behind this assessment is even more interesting, as it illuminates the methods of operating and the motivations of the highway engineers. The most frequently mentioned categories included two rather divergent approaches — power orientation and people orientation. Power orientation: Over 25 percent stated that informal hearings were useful, as the pre-hearing contact facilitated the engineer's ability to "handle" citizens during the formal hearing; "Informal hearings make formal hearings easier;" "They defuse opposition;" "It cuts down formal hearing time;" and "People are satisfied and don't come to formal hearings." The first category of responses may be characterized by "control"; informal hearings make it easier for highway engineers to run the hearings and to control outcomes more effectively. The second major category of responses, also given by 25 percent of

respondents, is the "people oriented" approach. These highway engineers emphasized the usefulness of informal hearings because of the opportunity for personalized contact with the citizens, an interaction with individuals which is not possible in the orderly, structured environment of the formal hearing: "We can have one-to-one contact with citizens;" "Individualized responses to questions can be given;" and "Interaction between the citizens and highway engineers is possible."

A follow-up question was asked to extract suggestions about how and in what ways the informal hearing process might be made more useful. Almost half of the respondents suggested that "more" was the way to improve informal hearings. The "more" included, "Holding informal hearings earlier in the location and design process;" "Increase the number;" "Have as many as necessary to educate or inform the public;" and "Allocate additional time, manpower, and audiovisual aids to informal hearings." A less frequently mentioned suggestion for improving informal hearings was to better communicate the time and purpose of the informal hearing through more formalized advertising and notification procedures.

No matter how useful the informal hearing process and no matter how effective the formal hearing process, a preponderance of highway engineers felt that additional contact with citizens immediately after termination of the formal hearing was also necessary. Twenty-two of 23 respondents concluded that post-hearing contact was useful. (Twenty-four of 26 respondents indicated that at one time or another they had contact with citizens after termination of the formal hearing.)

When queried specifically about the way in which post-hearing contact was useful, the single most mentioned item (by 40 percent of respondents) was that it gave the highway engineer an opportunity to explain the impact of the proposed project on the particular individual; "We can deal with specific citizen's concerns one by one;" "The citizen can create the agenda;" "We can clarify points in a way that is not possible at formal hearings." Support for post-hearing contact was also based on its public relations value ("It conveys the Department's sincerity") and its usefulness as a non-threatening setting for citizens uncomfortable in the structured, formal hearing environment.

Inasmuch as hearings are a repetitive and expected part of the engineers' tasks, it becomes apparent that exploring the stressfulness (or not!) may bear substantially on the overall performance of an engineer's job. Recognizing the highly subjective nature of what might be defined as stress, a card containing 23 words, both positive and negative in effect, was shown to each respondent. He was asked to select as few or many words which characterize appropriately his reaction to hearings. This list of words was used twice to get desired information. First, it was used to probe for expectations about the hearing before it was actually held; second, the list was used to probe for actual reactions during the hearing itself. The objective in splitting reactions to hearings into a pre-hearing set of expectations and an actual on-the-line reaction to the hearing was to ascertain if the anticipation of the hearing as well as the experience of the hearing itself induced stress and anxiety. Responses were coded by totaling the valence of words selected, either positive or negative. The result was then summed up as either "positive", "negative", or "mixed" (if equivalent combinations of both positive and negative words were selected). In both situations the reaction to hearings was markedly positive. Perhaps demonstrating that anticipation is more unsettling than the actual experience, a lesser proportion of positive rankings was given about the anticipation of the hearing. Sixteen highway engineers described expectations about the hearing as "positive", three as "negative", and seven as "mixed." Interestingly, district engineers showed a higher level of positiveness about hearings than did the lower ranks (six of seven district engineers rated expectations about hearings as "positive").

CARD 3

An important part of the highway hearing process is the person conducting the hearing or answering the questions — in other words, you, the highway professional. Your reactions to the hearings you've conducted and been actively involved with since January 1, 1973, (not just as an observer) are useful. Now looking backward over the hearings in which you've played an active role, usually what were your reactions to the hearings? First, how did you feel the day of the hearing? Just select the most appropriate words from this card; that is, those words which most adequately characterize how you generally felt before a hearing.

anxious	calm	nervous	uptight	don't think about it
confident	confused	relaxed	prepared	want to get it over with
insecure	combative	eager	bored	challenged
worried	in command	excited	comfortable	like-a-fish-out-of-water
other	aggressive	defensive		

SKILLS NEEDED TO CONDUCT HEARINGS

The current popularity of research on the highway hearing process notwithstanding, there has been scant inquiry about the skills and abilities required to conduct hearings satisfactorily. While there are reports on investigations of the mechanics of hearings, the timing of hearings, the format of hearings, etc., little has been written about the particular interpersonal and professional skills required to produce useful information and to make the hearing be seen as credible ("sincere") by the public. What better source of information is there on this subject than the vastly experienced engineers in the study sample? The expectation was that the respondents would single out technical data and engineering information as being basic to the conduct of satisfactory hearings. Table 14 indicates a very different pattern of skills indeed.

Table 14

Skills Needed to Conduct Hearings
(N = 68. Multiple responses permitted.)

<u>Personality Characteristics</u>	41%
"Be cool"	
"Ability to think on feet"	
"Sincerity"	
"Diplomacy"	
<u>Communication Skills</u>	29%
"Public speaking"	
<u>Substantive Knowledge</u>	25%
"Know the project"	
"Know Department procedures"	
<u>Other</u>	3%
<u>No Response</u>	2%

Interpersonal skills and communications skills, in reality two sides of the same coin, accounted for 70 percent of all responses. And the single most mentioned category was interpersonal skills, with "diplomacy" ranked number one. Although technical skills and information did show up as essential skills needed to conduct hearings satisfactorily, this category accounted for only 25 percent of the responses. The intriguing part of

these findings is that a group of men trained as engineers and operating in an engineering/technical environment for many years, would select interpersonal and communications skills as dominant particularly when 18 of 26 respondents identified their professional affiliation as engineer/technician. (The remainder designated themselves as administrators.) Nonetheless, the ability to handle people is identified as the most important single skill needed to conduct hearings satisfactorily.

Building on the question of skills needed to conduct hearings satisfactorily, a follow-up probed the need for training to conduct hearings. Table 15 indicates the distribution of responses.

Table 15

Need for Training
(N = 27. Multiple responses permitted.)

	<u>Need</u>	<u>Don't Need</u>	<u>Other/Don't Know</u>	<u>Total</u>
District Engineers	2	4	1	7
Assistant District Engineers	3	4	-	7
Resident Engineers	2	3	-	5
Other	3	5	-	8
TOTAL	10	16	1	27

Because respondents indicated that interpersonal and communications skills were the most needed for satisfactory performance at hearings, it was somewhat surprising — and seemed contradictory — that only 10 of 27 respondents mentioned a need for such training, especially since none of them had had previous formal training for conducting hearings. However, upon reflection, it seems reasonable to posit that the reasons why so few respondents indicated the need for training was that they felt they had already gotten it the hard way — on the job, blow by blow, and bruise by bruise.

OBSERVATIONS

"Clear-eyed" and "unblinking" characterize highway engineers' views of the public hearing process. The people in the sample are neither cynical nor mushy about the assets and liabilities of the hearing process. Rather, as professionals, they accept the system and work within it with a more than moderate degree of success by their own accounting. A characteristic which typifies the respondents is a very much status quo, here-and-now approach to public hearings. In summary, the sample appeared to accept the process as it is and for what it is — a limited, but useful data gathering and public relations exercise, designed primarily to satisfy the requirements of federal and state regulations.

Overall, the respondents are at least abstractly sympathetic to the concern of the ordinary citizen and understand the inability of laymen to appreciate the time constraints and technical considerations involved in the planning, location, design, programming, and construction of highways. There was significant mention that projects had been improved as a result of citizen comments, enough mention to suggest that for these engineers the hearing process is not merely a task to be got through and bucked over to the central office. Rather, the comments are seriously reviewed and used where justified.

The generation of engineers in this sample — middle-aged, long-term, career employees of the Virginia Department of Highways and Transportation — have learned on the job to conduct hearings in what they believe is a satisfactory manner. But, is this the method of choice for training of future generations of engineers to conduct hearings, particularly in an era in which citizens are not only asking politely, but demanding insistently, to be "involved" more deeply in governmental decision making? A conclusion of this study is to establish a Departmental task force to work up a program for training highway engineers in the skills needed to conduct hearings. Based on this study, the job order is clear: interpersonal and communication skills should form the basis of the curriculum.* (Presumably the engineering and technical skills are learned in the conventional school environment.) The task force should produce a training schedule

*One resident engineer suggested an interesting model: in order to conduct hearings satisfactorily, highway engineers need essentially the same skills and abilities as does an effective classroom teacher.

for a system of both initial and repeat workshops, determine selection procedures for personnel requiring training, and develop an appropriate curriculum.

Tied into a systematic program for training highway engineers in hearing skills should be a procedure for assessing performance effectiveness of highway engineers at hearings. This assessment would require periodic sampling of hearings over time to determine the trends training needs must follow. In addition, the assessment could become a factor in determining professional advancement within the Department, just as the technical skills of engineers are today evaluated for promotion. The criteria for assessing effectiveness of engineers at hearings should grow out of direct and systematic observations of a number of hearings. The team responsible for establishing performance criteria should have on it a behavioral scientist to scan for necessary interpersonal and communications skills, and persons from the Location and Design, Right-of-Way, and Environmental Quality Divisions

Once criteria for assessing performance at highway hearings are established, they should be made known to engineers conducting hearings or presenting data at hearings, and performance targets may be established. The monitoring of hearings should be used not only to assess the effectiveness of highway engineers on a one-time basis, but also to provide continuing feedback over time. Thus, standards for evaluation could be adapted to current needs, for skills required at hearings might change. Before the performance criteria are finally established, the engineers to be evaluated should have the opportunity to comment upon them for there is no group with a greater reservoir of knowledge and information about the operation of hearings than those who conduct them.

Informational hearings are presently a fairly common though casual part of the hearing process. Statements and observations of highway engineers suggest that informational hearings deserve to be regularized and formalized as an ongoing part of the hearing process. Institutionalizing informal hearings would require additional manpower and resources to extract the maximum benefit from information hearings and to provide the maximum usefulness to the public. If, indeed, most "educating" and "explaining" and "satisfying" of citizens occurs at informational hearings, then decisions about additional resource allocation should be favorable. Regularizing informational hearings implies that knowledge of informational hearings becomes more widespread — that informational hearings be advertised by newspaper, radio, and television, that mailed notice be sent to affected individuals near the project.

As it is necessary to establish an evaluation mechanism for engineers' performance at formal hearings, it would be necessary to establish criteria for judging the effectiveness of the informational hearing.

There is also an additional source for evaluating the performance of highway engineers at hearings, both formal and informational: the citizens. It is simple to distribute at the door a brief evaluation form. Occasional samples employing personal interviews might be useful where more detailed information from citizens is desired.

Expectations about the kind of data which can be disseminated usefully at public hearings to broaden citizen understanding and the kind of informed information which can be gathered at hearings need to be reexamined. As the study respondents noted, citizens do not understand technical information, and engineering data, nor do they comprehend the overall project. This reported opinion implies that the traditional engineering data and overall highway impact thrust of formal hearings be reviewed critically. Obviously, the state of Virginia cannot alter federal regulations which point the hearing process in its present direction. However, it is possible for an individual highway department or AASHTO to respectfully urge the federal government to reexamine the requirements and regulations which mandate the type of data presented at hearings and the kind of information expected from hearings.

For example, hearings could be divided into (1) clearly identified, "technical" presentations, and (2) hearings which focus primarily on the impact of the project on individual citizens and individual properties. This division of the hearing process would permit the more efficient assignment of personnel — technicians to the technical hearings, and those individuals with knowledge about individual properties and local conditions to other hearings. This kind of division of labor might actually reduce the time (and some of the confusion and upset) that is occasionally characteristic of the formal hearing process.

Contact with citizens immediately after adjournment of the formal hearing should be considered part of the formal hearing process. This is yet another opportunity to meet the need that respondents identified so clearly — the need to respond to individual concerns and anxieties. To perform effectively after the termination of the formal hearing, it will be necessary for the engineer to have detailed data about the impact of the project on one particular property owner or parcel of land, particularly concerning right-of-way questions; and to arrange for meeting facilities which remain open longer than schools, for often the post-hearing contact must be cut short because of school closing

regulations. The normal advertising procedures for formal hearings should note that post-hearing one-on-one contact will be possible. This information should also be stated clearly at the outset of a formal hearing by the district engineer and reinforced by a large and well designed poster visible from all points of the room.

