

# Transportation: Tell Us Where To Go— A Report on Televote '85

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## ABSTRACT

The process and results of Televote '85 are summarized and evaluated in this paper. Sponsored by the Southern California Association of Governments, Televote provided television viewers and radio listeners in Southern California the opportunity to participate in an electronically assisted "public opinion poll." Televote '85 used an interactive (two-way) format. After receiving information on a transportation issue through the media, individuals were asked to express their opinions through a vote-by-phone process. In this manner five issues were presented and voted on, one each night during a 1-week period. In an effort to validate the results of Televote '85, a scientific, random survey was conducted during the same week that the Televote program was aired on television and radio stations. A close examination of the results reveals that the general direction of the responses is the same in both the Televote and the random survey, but the random survey results are less extreme or polarized than the Televote results. In other words, both methods agree on the public preference; the only difference between the two is the level of preference. Reasons for these differences are examined and suggestions are made for improving the consistency of the results. Among the suggestions is a recommendation to choose issues that have previously received some public discussion.

On May 13, 1985, the Southern California Association of Governments (SCAG) and its Regional Advisory Council, in conjunction with KHJ-TV Channel 9 and KHJ Radio, presented Televote '85. The theme for this program was Transportation: Tell Us Where To Go. The first such program to focus exclusively on a regional issue, Televote '85 set out to pursue the question of how traffic managed to move smoothly during the Olympics and how Southland commuters can keep it moving year round.

## INTRODUCTION

Televote '85 was aired for five consecutive nights, May 13-17, 1985, on KHJ-TV during the "News at Nine." Each program presented a brief examination and discussion of a transportation issue. Viewers were then presented with two options to vote on. This they were to do by calling the designated telephone numbers that were specifically set up for Televote. State-of-the-art telecommunication equipment was used to monitor and register the high volume of calls that came in. The radio program followed the same format as the television program. KHJ Radio presented Televote to its listeners during the 8:00 a.m. and 5:00 p.m. newscasts.

In addition to the week-long television and radio news programs, two special half-hour live public affairs programs, one for television and one for radio, were produced. The television half-hour "special" aired at 10:00 p.m. on May 17, 1985, and the radio half-hour "special" aired at 10:00 p.m. on May 19, 1985. Both programs had a common purpose: to gather a group of panelists to review and critique the Televote results, discuss major transportation

issues facing Southland commuters, and explain the position and the vision of the region's policy makers and decision makers. Furthermore, both programs provided an opportunity for the public to pose questions on the air to the panelists.

## Olympics Experience

Horrible traffic jams and severe mobility stoppages were expected to occur during the Olympics. As it turned out, however, traffic conditions actually improved. The reason for this was, in part, that individuals made changes in their normal travel behavior. The understanding of the anticipated traffic conditions during the Olympics and the cooperation of the media, private business, and public agencies contributed greatly to the success. Consequently, the challenge became: can we continue the same on a long-term basis? To pursue this further, Televote provided an excellent vehicle for getting the message across and at the same time obtaining public opinion on specific issues. To this end, Televote '85 had the following objectives:

- Communicate to the public that transportation problems are not insurmountable, provided everyone makes an effort to cooperate;
- Emphasize that the cumulative effect of minor changes in travel behavior by individuals can be quite significant (e.g., changing work hours, sharing a ride); and
- Provide an opportunity for the public to express their opinion on specific transportation issues.

## Choice of Issues

When the objectives of Televote '85 had been defined, the next step was to select a set of issues for the

Televote presentation. To make the best use of the time and resources available, as well as to ensure thoroughness and clarity, the following parameters were established at the outset:

- Present one issue per night to keep public attention focused and
- Present five issues, Monday through Friday, to provide continuity yet avoid monotony.

After lengthy discussion and careful consideration the following line of thought was developed and adhered to:

- The issue presented on Monday was to provide a tie-in with the Olympics.
- The issues presented on Tuesday, Wednesday, and Thursday were to examine transportation measures that were successful during the Olympics. The responses to these issues would be usable in developing specific transportation strategies.
- The issue presented on Friday was to provide a wrap-up for the series.

#### Telephone Voting System

Essential to the entire Televote program was the telephone system. It was considered imperative to design a telephone system that met the following criteria:

- Have sufficient capacity to handle a large volume of calls coming in at once,
- Have a reliable method of enumerating the calls, and
- Be free of charge to callers who phone in their responses.

To this end, the services of an independent consultant was sought. The consultant provided 12 multiline answering machines with automatic counting devices. Pacific Bell was requested to install 66 (800 service) toll-free lines. Of these, 33 lines were given a designated number to register "Yes" or "Choice a" calls; the other 33 lines were given another designated number to register "No" or "Choice b" calls. The answering machines were set up on a rotary basis and had a brief prerecorded message saying, "Thank you for calling Televote; your vote has been recorded, please hang up." This message was repeated till the caller hung up. Each call was electronically counted and displayed on a counter.

#### TELEVOTE PROGRAMS

To maximize participation in Televote '85 and to reach different audiences, a variety of media was used. To improve effectiveness, a separate program was developed for each medium, but particular emphasis was given to ensuring that these programs inter-related and complemented one another. The media included television, radio, a school program, ballots, and a random survey.

#### Television

KHJ-TV Channel 9 was selected to air Televote '85. The series was scheduled for the week of May 13-17, 1985, which coincided with National Transportation Week. Both the News Department and the Public Affairs Department of KHJ-TV showed enthusiastic support for the program. Given the interest shown by the two departments, two separate but complementary programs

were agreed on. Detailed next are the format of those program and their manner of presentation.

The News Department of KHJ-TV presented five nightly segments, each of 3- to 5-min duration, during the "News at Nine" from May 13 through May 17, 1985. Each night a separate transportation issue was presented and discussed by news reporter Ron Tank. Viewers were then posed a question relating to the topic of that night and were given 1 hr to phone in their votes by calling the designated telephone number. The results of each night's vote were presented the following night before that night's Televote segment.

On the last night of Televote, the Public Affairs Department of KHJ-TV presented a half-hour special live broadcast during which invited guests reviewed the week's results and discussed major transportation issues facing Southlanders. The panelists were Pat Russell, President of the Los Angeles City Council; John Dyer, General Manager of the Southern California Rapid Transit District; Sabrina Schiller, Project Coordinator for the Coalition for Clean Air; and Tad Widby, President of Commuter Computer. The program was hosted by KHJ-TV's Vice President and Public Affairs Director Fernando Del Rio and KHJ-TV's Ron Tank.

#### Radio

After agreement was secured with KHJ-TV to air Televote '85, it appeared logical to contact KHJ Radio (930 AM) for the radio programming. Here again, both the News Department and the Public Affairs Department of KHJ Radio expressed an interest in Televote '85. For consistency, the same formats and dates were followed for the radio programs as for the television programs.

The News Department of KHJ Radio presented twice-daily, brief news segments on Televote '85 during their 8:00 a.m. news and 5:00 p.m. news from May 13 through May 17, 1985. Each day a separate issue was presented and discussed. Listeners were then posed a question and given 1 hr to phone in their vote by calling the designated telephone number.

The Public Affairs Department of KHJ Radio presented a half-hour special live broadcast during which invited guests critiqued the Televote results and discussed major transportation issues facing Southern California residents. The panelists were Councilwoman Jacki Bacharach, Chair of the Los Angeles County Transportation Commission; Gary Edson, Rideshare Manager for the Orange County Transit District; Pamela Williams, Director of Governmental Relations for the Central City Association of Los Angeles; and Mark Pisano, Executive Director of SCAG.

#### School Program

The Audubon Junior High School, which belongs to KHJ's Adopt-a-School Program, became an active and enthusiastic participant of Televote '85. For a period of 1 week, 75 students selected from the leadership classes of 8th and 9th graders studied transportation issues covered by the Televote '85 program. SCAG staff were available to participate in this process. Televote questions were given to the students in the form of a ballot. They were asked to debate and discuss the issues with their families and then to fill in their responses. A week later, on May 6, 1985, they were asked to report on their findings. Five student "news anchors" reported on the students' responses to each question and conducted interviews with sample respondents. At the completion of that presentation, students were given

additional Televote '85 ballots and asked to distribute them to their families and to the community. The completed ballots were then collected by the students after completion of the Televote program and returned to the school on May 20, 1985. A total of 478 completed ballots from a total of 1,800 distributed were returned by the students.

### Ballots

The ballot was designed so that the one-page flyer announcing the Televote '85 program contained the five Televote issues in a questionnaire format and also had a brief description of pertinent program information folded into a self-addressed, postage-paid envelope.

Because the Televote '85 program was part of SCAG's Regional Advisory Council's Transportation Outreach Program, the council members, who comprise a wide range of private entities and citizen groups, agreed to distribute the ballots to their member organizations. About 2,000 ballots were distributed in this manner.

### Random Survey

Critics of media-based experiments such as Televote claim that programs of this nature fail to measure or even adequately monitor a representative sample of public opinion. Unlike respondents to traditional survey techniques, media-generated respondents are self-selected from an already unrepresentative audience.

To address this concern, a separate random survey to validate results of the Televote program was conducted in parallel with the Televote survey. Northcutt and Associates was hired as consultant to conduct the random survey. The random survey was administered much like a traditional public opinion poll. A description of the procedure used by the consultants in conducting the random survey follows.

### Random Survey Population and Sampling Plan

The sampling design used in the survey was simple random. Specifically, the method of random digit dialing was employed. Five Southern California counties were surveyed: Los Angeles, Orange, San Bernardino, Riverside, and Ventura.

Because the data to be collected were to be representative of the entire five-county population, all working residential telephone numbers within the study area had to have an equal chance of being selected. To ensure that the sample selection was truly random, the following procedure was employed by the consultant:

- All working telephone exchanges (the three-digit prefixes immediately preceding the last four numbers) were identified for the five counties of Los Angeles, Orange, San Bernardino, Riverside, and Ventura. The prefixes were identified through an examination of all the relevant telephone directories. To ensure that no new exchanges had been added since the publication of the latest directory, all telephone companies in the survey area were contacted for information concerning new exchanges.
- Using a computer, sheets of randomized four-digit numbers were generated for each of the three-digit telephone prefixes in Los Angeles, Orange, San Bernardino, Riverside, and Ventura counties.
- To ensure that no county within the five-county study area was under- or overrepresented in

relation to its population, the total number of respondents (1,000) was proportionately allocated to each of the five counties.

In addition, elaborate screening procedures were used to reduce or avoid bias resulting from interviewing whoever answered the telephone.

The method of random digit dialing produced a survey population representative of the entire five-county population. Table 1 gives a comparison of the demographics of the survey population and those of the general population.

### Questionnaire Design and Development

One of the most critical elements of a telephone survey is the design and development of the survey questionnaire. When such a questionnaire is developed, care must be taken to ensure that the instrument gathers the information sought. The literature on questionnaire development was thoroughly researched before the first draft of the questionnaire was begun. The following principles are a sample of the guidelines that were followed in developing the questionnaire:

- Are all of the important phases of the survey adequately covered?
- Does the questionnaire format flow smoothly?
- Does the questionnaire stimulate respondent cooperation?
- Does the wording avoid ambiguities?
- Are the response options mutually exclusive and sufficient to cover each conceivable answer?
- Are the questions relevant, interesting, easy to answer, and applicable to everyone in the study?

Because interviewing by telephone is totally dependent on what can be verbally communicated, considerable care was taken in wording questions so that

TABLE 1 Comparison of Survey Sample and Total Populations

Characteristic	Populations		
	Survey Sample (%)	Total Five Counties <sup>a</sup> (%)	Difference (%)
Sex			
Male	48	49	1
Female	52	51	1
Education <sup>b</sup>			
High school	27	31	4
Some college	28	22	6
College or more	28	20	8
Political party			
Republic	35	39	4
Democrat	45	51	6
Independent	7	8	1
Income (\$)			
Less than 5,000	6	6	0
5,000-14,999	24	25	1
15,000-24,999	23	26	3
25,000-34,999	20	20	0
35,000-49,999	12	14	2
50,000 or more	15	9	6
Ethnic identification			
Caucasian and other	68	74	6
Black	13	6	7
Hispanic	19	20	1
Age (yr)			
18-24	15	17	2
25-34	24	25	1
35-44	20	17	3
45-54	17	14	3
55-64	12	13	1
65 or older	12	13	1

<sup>a</sup>Data for the five-county total were compiled from the 1980 U.S. census.

<sup>b</sup>Age 24 and older.

they not only read well but also sounded good to the listener. As a result, the draft questionnaire was extensively pretested.

During the pretest, frequent debriefing sessions were conducted with the project staff and the interviewers to discuss the format and the content of the questionnaire. Interviewers were able to provide insight about the amount of time needed to administer the questionnaire, respondent willingness to answer the different questions, and other important elements of questionnaire design. On the basis of the pre-testing results, a survey schedule was determined and the questionnaire was given its final form.

## RESULTS

For each Televote question presented, four sets of results were gathered:

- Television--telephone call-ins by viewers,
- Radio--telephone call-ins by listeners,
- Ballots--mail returns by the students and the community at large, and
- Random survey--telephone interviews with a sample group of the population.

Presented next are a summary and a comparison of these results. For simplicity, the information is presented in the following order: a brief statement explaining the intent of the question, the question, a summary of the number of responses, the results in tabular form, and a brief statement interpreting the results.

### Question One

Some people believe that actions such as changing work hours and using buses helped avoid major traffic jams during the Olympics. With the population of the region continuing to increase, more of these types of action are needed to prevent such traffic jams from occurring every day. Therefore the question posed was

Would you be willing to change your work hours or means of getting to work?

- a. Yes
- b. No

This question elicited 1,401 phone-in responses from the KHJ-TV and Radio audiences, 586 ballot responses, and 1,000 random survey responses. The responses shown in percentages by medium are

	<u>Television</u>	<u>Radio</u>	<u>Ballots</u>	<u>Random Survey</u>
Choice a	80	72	71	60
Choice b	20	28	29	40

In all cases, a clear majority of respondents indicated that they would be willing to change their work hours or means of getting to work.

### Question Two

Traffic congestion occurs when a lot of people commute at the same time; this results in longer travel times. However, if people were to adjust their work hours, travel demand would spread over a longer time and congestion would thereby be reduced. Therefore the question posed was

If you could change your work hours, would you rather

- a. Start earlier or later in the day?
- b. Work more hours each day and get an extra day off?

This question received 939 calls from the KHJ-TV and Radio audience, 586 ballot responses, and 1,000 random survey responses. The responses given in percentages by medium are

	<u>Television</u>	<u>Radio</u>	<u>Ballots</u>	<u>Random Survey</u>
Choice a	21	18	48	43
Choice b	79	82	52	57

The results indicate that the television and radio responses are more polarized, with close to four out of five respondents preferring to get an extra day off, than are the ballot and random survey results, which are not as dramatic. Nevertheless, in every case the clear preference was for fewer days and longer hours.

### Question Three

The costs of driving and maintaining the roadways will increase as the population of the Southland increases. Therefore the question posed was

The costs of travel are going up. Who should pay?

- a. Only drivers and riders?
- b. All taxpayers?

This question elicited 951 phone-in responses from the KHJ-TV and Radio audience, 586 ballot responses, and 1,000 random survey responses. The responses given in percentages by medium are

	<u>Television</u>	<u>Radio</u>	<u>Ballots</u>	<u>Random Survey</u>
Choice a	23	27	39	44
Choice b	77	73	61	56

Responses to this question follow the same pattern as those in Question 2. The television and radio responses are more polarized than the ballot and random survey results. However, in all cases, the general indication is that all taxpayers should pay for the increased cost of transportation.

### Question Four

It has been suggested that some people would give up driving alone if they had some other convenient and reliable means of getting around available to them. Therefore the question posed was

If you were able to choose not to drive to work, would you prefer to

- a. Take a bus or other mass transit?
- b. Carpool or vanpool?

This question received 1,051 phone-in responses from the KHJ-TV and Radio audience, 586 ballot responses, and 1,000 random survey responses. The responses given in percentages by medium are

	<u>Television</u>	<u>Radio</u>	<u>Ballots</u>	<u>Random Survey</u>
Choice a	76	33	36	37
Choice b	24	67	64	63

The radio, ballot, and random survey results are fairly consistent, which indicates that the majority of commuters prefers to carpool or vanpool. However, the television results show a reverse trend that indicates that the majority of people prefers to take the bus or other mass transit system. A closer scrutiny of the videotapes of the televised news segments



indicates that comments made by the news anchor personnel may have biased viewers' responses.

#### Question Five

Some people think that traffic congestion is becoming intolerable. Therefore the question posed was

Are we in or close to a transportation crisis?

- a. Yes
- b. No

This question received 1,109 phone-in responses from the KHJ-TV and Radio audience, 586 ballot responses, and 1,000 random survey responses. The responses given in percentages by medium are

	Television	Radio	Ballots	Random Survey
Choice a	96	95	70	74
Choice b	4	5	30	26

The response to this question was an emphatic "yes." Once again the television and radio results were more extreme than the ballot and random survey results. This should not come as a surprise because those who thought there was a crisis would be more willing to make the effort to register their opinion.

#### Evaluation of Results

One of the primary objectives of the random telephone survey was to validate the results of the televised Televote program. One way to check the validity of the Televote results is to measure the statistical variation in attitudes toward transportation among respondents of the Televote program and the random telephone survey.

The underlying assumption of this approach is that the results of the scientific telephone survey are an accurate reflection of the population at large. Although no researcher can be absolutely assured that the results of a random survey will be an exact reflection of the attitudes and behavior of a larger population, it is possible through statistical evaluation to calculate what the chances are that the results of the survey accurately reflect the larger population.

In a probability sample, sampling error is largely determined by the size of the sample, not the size of the population being surveyed. In general, the larger the sample, the smaller the sampling error that can be expected. For this survey, a survey population of 1,000 respondents was selected using the proven and widely accepted method of random digit dialing. Based on probability theory and a sizable amount of empirical evidence, a margin of error in the results of plus or minus four percentage points could be expected. In other words, it can be expected with 95 percent certainty that the mean of the sample will be within 4 percent of the true mean.

On the surface, the comparison of Televote results and the random survey results is not encouraging to those who argue that Televote can accurately measure public opinion. However, a closer examination of the results reveals that although the random survey results are less extreme or less polarized than the Televote results, the general direction of the responses, with the one notable exception of Question 4, is the same. In other words, both methods agree on the public preference; the only difference between the two is the level of preference.

Table 2 gives a comparison of the results of the Televote and the random survey. An examination of

TABLE 2 Comparison of Televised Televote Results and Random Sample Results

Question	Televote Results (%)	Random Telephone Results (%)	Difference (%)
1. Would you be willing to change your work hours or your means of getting to work?			
a. Yes	80	59	21
b. No	20	40	20
2. If you could change your work hours, would you rather			
a. Start earlier or later in the day?	21	42	21
b. Work more hours each day and get an extra day off?	79	56	23
3. The costs of travel are going up. Who should pay?			
a. Only drivers and riders?	23	43	20
b. All taxpayers?	77	55	22
4. If you were able to choose not to drive to work, would you prefer to			
a. Take a bus or other mass transit?	76	33	43
b. Carpool or vanpool?	24	57	33
5. Are we in or close to a transportation crisis?			
a. Yes	96	71	25
b. No	4	25	20

Note: Percentages do not add to 100 because "No Opinion" and other categories were omitted for purposes of analysis.

the table indicates that the percentage direction is the same for each question in both samples with the notable exception of Question 4 (chose not to drive to work). However, even though the percentages are going in the same direction, the percentage differences between the two samples are large, and in all cases the differences exceed the range of statistical chance. In other words, the percentage differences for each question presented in Table 2 are statistically significant at the 0.05 level. Restating the probability, there are only 5 chances in 100 that the data presented in Table 2 are due to chance.

One possible explanation for these differences may be that the media-generated respondents, because they are self-selected from an already unrepresentative audience, do not represent a cross section of Southern California residents. Overall, the data suggest that Televote viewers may be somewhat different from the general population in terms of demographic characteristics.

Another possible explanation of the statistical difference in attitudes concerning transportation among respondents of the Televote survey and the random telephone survey may be related to the context in which the questions were asked. The random survey respondents were asked questions with no prior discussion of the issue. The Televote respondents, on the other hand, were given a 3- to 5-min presentation on the issue and up to an hour for considering it before voting. It would appear that the Televote respondents used the information they received in forming their opinions. Whether this information biased their opinion or whether it assisted them in making a better informed decision, thus providing a better measure of their true opinion, is a question that needs to be explored further.

Probability theory suggests that, in a nonrandom sample, the larger the response rate the more likely it is that the sample will be representative. If it is the case that a large response rate is required for a successful media-based survey, then future Televotes should be based on higher profile, emo-

tional, controversial, problem-solving issues. This would also mean that the issues covered would have been discussed fairly often in the media and among individuals. A more uniform context would then be provided for the various survey mechanisms to be used. This would probably result in a close correlation between Televote and random survey outcomes.

#### Lessons Learned

These conclusions have several implications for future Televotes. First, issues covered in the Televote program should have had previous public exposure and discussion. This will help to increase the response rate and help ensure that the Televote results are actually representative of the population at large. Also, using more salient issues that are on the public's agenda will help to ensure that the Televote respondents, and the random survey respondents, have a full understanding of the issues being discussed.

To test these hypotheses, future Televotes should contain a mixture of salient and highly controversial issues along with less controversial issues. There should also be a diversification of the media markets to ensure wider public participation.

#### CONCLUDING REMARKS

The data compiled from Televote '85 will serve an important role in the transportation planning work of SCAG. At a technical level, results of Televote

'85 will be used in the development of SCAG's Regional Transportation Plan, which serves as a blueprint for all transportation planning in the region. Specifically, the data will be used to develop transportation strategies that can be implemented in the region on a permanent basis. At a promotional and publicity level, the material produced for Televote '85 including the audiovisual material will be used to help perpetuate and maintain the spirit of cooperation that was experienced during the Olympics.

In view of the success of Televote '85, which had transportation as its focus, SCAG intends to explore the applicability of the Televote concept to other important regional issues, such as hazardous waste, housing, air and water quality, and economic development. SCAG firmly believes that Televote can make a major contribution to a better informed community and provide direct linkage of the public to the development of regional planning policies.

#### ACKNOWLEDGMENTS

The Televote '85 project was made possible by funds from the U.S. Department of Transportation and contributions from the following organizations: Audubon Junior High School, General Telephone Company of California, KHJ-TV and Radio, and Pacific Bell.

Publication of this paper sponsored by Committee on Social, Economic and Environmental Factors of Transportation.