

ATTITUDINAL SEGMENTATION:
A NEW PERSPECTIVE ON TRANSPORTATION PLANNING

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ABSTRACT

Public participation in transportation planning is required by law. Such input can be obtained through representative surveys. And the survey data can be used to understand the preferences of different segments in anticipation of open meetings. In this paper the preferences of four segments, environmentalists, tax haters, localists, and bus haters, are explored as an example.

INTRODUCTION

Public participation has been part of transportation planning for some time. Experience has revealed both positive and negative aspects. Participation creates a sense of community involvement and has allowed the people to halt projects they consider to be onerous; but "public participation" frequently becomes special interest lobbying and sometimes results in conflicts among partisan groups which can paralyze the entire planning process (Cupps 1977).

Both of these problems with public participation stem from the fact that the "public" is not a single homogeneous entity with identical needs and preferences. Instead, the "public" is an amalgam of many different groups, each with unique demands and requirements. Some groups are represented in the public participation arena by partisan advocates. Other groups have no voice (Wellman 1977).

Recognizing the diversity in public participation calls for market segmentation, the process of identifying groups of people with different desires or requirements. It is commonly accomplished in the sphere of consumer products with the aid of geographic, demographic and psychographic characteristics. Attitudinal segmentation may be necessary because attitudes often cut across numerous geographic or demographic categories (Wellman 1977).

Typically, market segmentation analysis is accomplished through scientific surveys of the entire population. Surveys not only enable planners to identify the needs of different segments but also to associate the needs empirically with attitudes and other personal characteristics which cause needs.

The survey process has two advantages over other methods of public participation. Carefully designed surveys will reflect opinions of the population as a whole and not merely the expressions of highly active special interest groups. This will insure democratic participation in transportation planning (Brown, et al. 1978).

Surveys can also be used as tools in the resolution of conflicts among interest groups. In the first place, the mistake of creating some conflicts can be avoided by determining beforehand that what appears to be a neutral overall feeling on the part of the public is really an average of multiple, highly polarized positions. In the second place some conflicts which do crop up may be mediated by understanding the parties to the debate. Understanding their motivations may enable the planner to work out compromises of quid pro quo bargains.

AN EXAMPLE OF ATTITUDE SEGMENTATION

This paper asks the following question: Can general attitudes be used to identify segments that can be used by transportation planners to define their publics? The test of this question became possible through analysis of data from survey conducted for the Oregon Department of Transportation in the Spring of 1977 by a commercial research organization. A cluster sampling procedure was employed to ensure representation of major urban areas and adequate coverage of rural areas. Approximately 800 personal interviews were completed. An extensive questionnaire was used, covering both national and state-wide transportation issues. All the questions in the present analysis utilized a seven-point scale indicating agreement or disagreement.

Four questions were used to define general attitude positions, each would be viewed as substantially independent of any specific transportation decisions:

1. I consider myself to be environmentalist. (ENVIRONMENTALISTS)
2. I would vote against any tax increase. (TAX HATERS)
3. People in the state government in Salem do not understand our local transportation problems. (LOCALISTS)
4. I would not ride a bus even if it were free. (BUS HATERS)

For all groups but the ENVIRONMENTALISTS, the two extreme response categories at each end of the seven point attitude scale were used to define segment positions. Only a response indicating extreme agreement was used to define the ENVIRONMENTALIST segment. In Oregon, it may be difficult for people to reject environmentalism completely.

Responses for members of the three segments were compared with the remainder of the sample using cross tabulation and Chi square significance tests. As if they were voting, responses were compared on 17 questions indicating whether or not they felt that the Oregon Department of Transportation should take a particular action.

Hypotheses were formed a priori on the basis of logical relationships between the four general attitude positions and the 17 more specific questions relating to ODOT activities. For example, the ENVIRONMENTALISTS should be in favor of acts of conservation such as the retention of the 55 mile per hour speed limit. The objective was not merely to discover how ENVIRONMENTALISTS would vote, but more important, to find out if being in this group would dictate a different response compared to a non-environmentalist.

RESULTS

A substantial number of respondents identified themselves as members of each segment: 199 ENVIRONMENTALISTS, 394 TAX HATERS, 250 LOCALISTS, and 99 BUS HATERS. Since these segments were not mutually exclusive, they were cross-tabulated with each other to investigate the possibility of association among segments. There was little association between membership in one segment and membership in others.

Transportation issues were divided into two categories: general transportation issues (TABLE I) and transportation issues within Oregon (TABLE II).

Within the general transportation issues, the ENVIRONMENTALIST position was applied to four hypotheses. Three of these were confirmed. The profile of ENVIRONMENTALIST, then, describes someone who is more likely to support the 55 mile per hour speed limit, more likely to prefer allocating money for buses rather than roads, and more likely to support high registration fees for gas guzzling cars.

For TAX HATERS, on the other hand, only one of the four hypothesized relations was confirmed. They were more likely to hold the opposite view of the ENVIRONMENTALISTS on the gas guzzler issues, presumably because they are opposed to higher taxes in any form.

There were no a priori hypotheses raised for LOCALISTS but two hypotheses for BUS HATERS were confirmed. Again in contrast to the ENVIRONMENTALISTS they were less likely to approve a higher registration fee for gas guzzlers and more likely to prefer spending on roads to buses.

The specific transportation issues presented more opportunity for hypothesis generation. For the ENVIRONMENTALISTS there were seven hypotheses, five of which were supported by the data. ENVIRONMENTALISTS were more likely to feel that highway funds should be used to finance parks, greenways and scenic rivers, less likely to feel that too much effort was being expended on non-highway projects, more likely to support bus lanes on a major freeway, more likely to oppose the building of a freeway, and more likely to approve of a major conservation project, the Willamette Greenway.

For TAX HATERS there were five hypotheses, three of which were supported. TAX HATERS were less likely to support the application of highway funds to parks, greenways, and scenic views, more likely to feel that too much effort was being expended on nonroad projects, and less likely to agree that the State Department of Transportation was spending tax money wisely.

For LOCALISTS four hypotheses were supported. This segment was more likely to agree with statements that too much highway department effort was being diverted to nonroad projects, that the state government has been too anxious to build more roads, that the state government spends too much money in Portland, and that the State DOT does not spend money wisely.

For BUS HATERS there were two hypotheses, and both were supported. This segment was more likely to agree with the statement that too much money was being allocated to buses instead of road repair and less likely to agree that special bus lanes are a good idea.

Most of the results are not surprising. They reinforce basic stereotypes that one might have of the attitude segments. ENVIRONMENTALISTS were more supportive of all basic environmental issues. LOCALISTS and TAX HATERS also took predictable stands on most, although not all, relevant issues.

CONCLUSIONS

Given that public participation in transportation planning is required by law, it is important that planners incorporate such input democratically and effectively. The proper time to find out what the public wants is prior to commitment on specific projects or courses of action. Knowing ahead of time will allow planners to educate the public, or at the very least, avoid intractable conflicts. Of course, the proper method depends upon a representative sampling of the public -- not just those who enjoy attending public meetings. It also depends upon a representative weighting of opinions from all segments of the population.

Identifying key segments with different needs and opinions is an intriguing problem. This paper investigated how the process might develop through applying attitude segmentation based on survey research. Several potential "extremist" segments were selected a priori on the basis of general opinions: ENVIRONMENTALISTS, TAX HATERS, LOCALISTS and BUS HATERS.

As expected, the study found that these four groups did represent relatively independent segments of significant and identifiable proportions. It also found that these segments held different orientations toward certain transportation activities.

Although the results of the study are presented as a prototype (which of course would have to be further developed as a formal process before application to specific decision situations), several suggestions can be made. The first involves representation. To understand the signals given by the public to the planners about planning options, planners must recognize the characteristics of the segments of the public holding particular attitudes. They must also recognize the numerical strength of these segments existing within the public-at-large. This permits planners to identify the degree of representation for publicly held opinion. It also permits them to lean against the opinions expressed at public meetings but which in reality have little constituent support.

The second involves the identification of implicit coalitions. Coalitions in a political environment are held together by commonly expressed attitudes and preferences. These attitudes can be studied as attributes of individual segments of the public. The findings then become the basis for creating combinations of segments, through commonly held attitudes. This then becomes a foundation for creating supporting coalitions in a political process.

Closely related is the third concept, in effect to "bargain" among segments, so that preferences of low priority within a group are "traded" with preferences of other groups in order to establish coalitions which would then advocate the preferences held in common by both groups.

The concept of segmentation in public participation is thus both a unit of analysis and of action. Most people have multiple preferences; segmentation based on singular variables cannot be expected to define their positions conclusively. However, by the identification of salient attitudes, it permits the initial segregation of major constituent groups, from which further elaboration may proceed. Rigorously pursued segmentation can produce equitable representation that normally occurs in public meetings or solicitation of voluntary opinion, devices which reflect the current state of public input mechanisms. Finally, it provides a conceptual basis for planning strategies in order to ensure the success of projects.

REFERENCES

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TABLE I

RESPONSES TO GENERAL ISSUES INVOLVING TRANSPORTATION ACROSS FOUR ATTITUDINAL SEGMENTS

(% indicating agreement)

	ENVIRON- MENTALISTS		TAX HATERS		LOCALISTS		BUS HATERS	
	Yes	No	Yes	No	Yes	No	Yes	No
1. Putting people to work repairing roads is not a good way to increase employment.	14	21	15	15	14	19	26	11*
2. Trucks do not pay their fair share of what it costs to build and maintain roads.	43	32	40	41	45	31*	26	42*
3. The 55 mile per hour speed limit should be increased to a higher speed.	20	40	30	21	36	16*	33	24
4. More Federal gas tax money should be returned to Oregon for improving primary and secondary State roads.	97	93	96	91	93	94	89	95
5. Assuming we need additional transportation, I would prefer to see more roads than more buses.	27	49	43	21*	43	23*	62	23*
6. Cars with poor fuel economy should be charged a higher registration fee.	61	30	37	65	47	56	26	57

TABLE II

RESPONSES TO SPECIFIC ISSUES INVOLVING TRANSPORTATION ACROSS FOUR ATTITUDINAL SEGMENTS

(% indicating agreement)

7. I favor statewide transportation planning.	88	59	76	84	78	80	61	87*
8. Local government needs more money for local streets.	80	67	71	87	75	80	73	78
9. Highway funds should be used to finance things like parks, greenways and scenic rivers.	61	34	46	66	48	52	36	58
10. I think too much state money is now going to buy buses rather than to repair roads.	40	51	56	23	50	33	81	36*
11. The Oregon Highway Department expends too much effort on projects other than roads and highways.	42	63*	58	36*	62	28*	62	44
12. In the past, the people in the state government have been too anxious to build more roads.	69	63*	67	57	65	48*	59	67
13. It was a good idea to cancel the Mount Hood Freeway through Southeast Portland.	50	32*	39	48	38	46	29	44
14. The Oregon Department of Transportation spends too much money in Portland and neglects the remainder of the state.	46	63	59	34*	67	25*	59	48
15. The special car pool and bus lanes called H.O.V.'s on the Banfield Freeway in Portland are a good idea.	67	44*	35	65	60	62	41	66*
16. The Oregon Department of Transportation spends our tax money wisely.	51	26*	28	49	29	62	33	40
17. The Willamette Greenway is a good idea.	84	46*	63	91*	70	83	69	82