SMART

Operational Field Test Evaluation:
Public Support For Bus Transit In Tri-County Area Of Southeastern Michigan

FINAL REPORT

September 1997

The University of Michigan

Prepared by:

Yu-hsin Tsai, M.U.P.
Research Associate

Richard R. Wallace, MS.
Project Manager

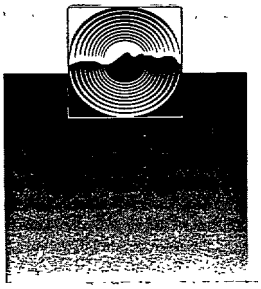
Jonathan Levine,. Ph.D.
Co-Principal Investigator

Steven E. Underwood, Ph.D.
Project Director and Co-Principal Investigator

200 Engineering Programs Building
2609 Draper Drive
Ann Arbor, MI 48109-2101

Program Offices Te!ephone
(313) 764 4333

Program Offices Facsimile
(313) 763 1674



S M A R T

Operational Field Test Evaluation:
Public Support For Bus Transit In Tri-County Area Of South-Eastern Michigan

FINAL REPORT

September 1997

Prepared by:

Yu-hsin Tsai, M.U.P.
Research Associate

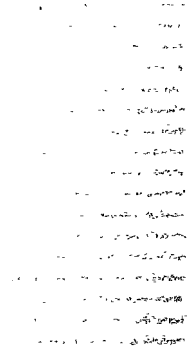
Richard R. Wallace, M.S.
Project Manager

Jonathan Levine, Ph.D.
Co- Principal Investigator

Steven E. Underwood, Ph.D.
Project Director and Co-Principal Investigator

This report presents the results of a survey of voters within Southeastern Michigan, completed as part of the University of Michigan' s evaluation of SMARTS ITS Operational Field Test. This report also is an official deliverable as described in the Statement of Work for the evaluation.

Table of Contents



PUBLIC SUPPORT FOR BUS TRANSIT IN TRI-COUNTY AREA OF SOUTHEASTERN MICHIGAN

Yu-hsin Tsai, Richard R Wallace, Jonathan Levine, and Steven E. Underwood
University of Michigan
September 1997

EXECUTIVE SUMMARY[1]

Despite ever-decreasing public transit rider-ship in the U.S., public transit continues to enjoy moderate to high amounts of public support, meaning that the public continues to support public expenditures on transit. Indeed, since the 1970s some transit agencies have succeeded in passing dedicated tax millages in support oftransit service. In the spring of 1995, the Suburban Mobility Authority for Regional Transportation (SMART), which provides public transit in the greater Detroit region, became one such agency. Why voters, most of whom do not use public transit, continue to offer political support for transit remains an open question.

In August 1998, SMART will present the voters in its region with a proposal to renew a transit millage. Thus, SMART provides an excellent oppoprunity to study voter preferences for and support of public transit. On November 5, 1996, the authors conducted an exit poll of voters in the SMART region to assess overall levels of support for the SMART millage renewal and to test several hypotheses regarding why voters continue to support public transit.

In this study, four alternative hypotheses are tested. These include: (1) voters support transit because they use it, (2) voters support transit so that others will use it and thereby reduce traffic congestion, (3) voters support transit because they view transit as a needed social service, and (4) voters offer greater support for transit as the quality of the service increases. To examine the accuracy of each hypothesis, numerous predictions that derive from each hypothesis were tested using statistical models (logistic regression) built from the voter survey data and census data. Hypotheses for which more predictions are supported by the data are judged to be superior.

The results of our analyses suggest that SMART should successfully pass its millage renewal within its current service area, and could also pass it in two additional areas that now he outside this area. Among likely voters in the renewal election, support for the millage renewal is even higher than among voters as a whole.

Results addressing the efficacy of the four hypotheses indicate strongest support for hypothesis four-higher quality service receives more support. Following this in importance are hypothesis one--voters support transit because they use it--and hypothesis three-voters support transit because they view it an a needed social service. Hypothesis two generally is not supported by the data.

---

1 Acknowledgment -- The authors are grateful to the Suburban Mobility Authority for Regional Transportation (SMART) in southeastern Michigan, and the Intelligent Transportation Systems (ITS) Laboratory at the University of Michigan for financing this research; to John Nystuen, Mitchell Rycus, and Michael Traugott, all at the University of Michigan, for critical comments and helpful suggestions; and to those who helped administer the exit polling survey through voter surveying, data entry, and polling place supervision.

INTRODUCTION

For decades, public transit has not been economically profitable in the U.S. For the fiscal year that ended in 1989, the ratio of operating revenue to cost was 48 percent, though up from 38 percent in 1980. During this period, transit rider-ship was virtually unchanged (Fielding, 1992). While relatively few people ride it, public transit continues to enjoy considerable public support. Indeed, many local and regional bus systems have won millage elections to fund services; for example, in spring 1995 the Suburban Mobility Authority for Regional Transportation (SMART) in southeastern Michigan won a millage election to fund service for the following three years in 77 out of 130 cities and townships (opt-in communities) in its service area. Results such as this mean that many non-bus users supported the millage. This paper aims to discover the socio-economic characteristics of millage supporters, the neighborhood characteristics that affected voters' attitudes toward bus transit, and why voters supported the millage. Based on this understanding, a statistical model is built to predict how voters will vote in an upcoming millage election.

SMART is a regional transit agency that serves the suburban areas of Macomb, Wayne, and Oakland counties in the greater Detroit area. In its opt-in communities (i.e., those that passed the millage) SMART provides transit services, such as linehaul and paratransit, from four terminals: Macomb, Wayne, and two Oakland terminals (Troy and Pontiac). In August 1998, a millage renewal election is planned for this opt-in area and perhaps other opt-out cities. In order to predict the results of the upcoming millage election, SMART requested that Transportation Planning and Evaluation Group (TPEG) within the Intelligent Transportation Systems (ITS) Laboratory at the University of Michigan conduct voter research. Political geography defined the study area of this research -- opt-in communities, plus Bloomfield Hills and Novi. These two categories can serve as treatment and quasi-control groups in the research. The opt-out communities are considered a quasi-control, instead of a control, group for two reasons: (1) the opt-in and opt-out communities are different in terms of demographic characteristics, and (2) the opt-out communities were not randomly selected from all the opt-out communities in this region.

This paper begins with a theoretical perspective on why transit users, non-users, and the public as a whole support transit, as well as why performance of bus transit affects public attitudes toward it. Next, it presents the methods of data collection for this study in terms of sampling and data analysis. Finally, it presents the results of the data analysis, including characteristics of those who support SMART, what variables relate to the voters' attitudes toward SMART, and a predictive model of how voters are likely to vote in the upcoming millage renewal election.

THEORY

Public attitudes toward bus transit are affected by two major factors: (1) the public's physical and mental needs, and (2) the performance of the bus service. According to the former, the more one benefits or expects to benefit from transit, the more likely one will support it. The utility of bus services can be discussed from the perspectives of users, non-users, and the public as a whole. With regard to the performance of bus transit, on-time performance, the transit network and schedule structure, the fare structure, the information service, and so on will influence public support to some degree.

A focus on the public's needs suggests three hypotheses for why users, non-users, and the general public support transit:

Hypothesis 1: Voters support transit because they may need it (i.e., the transit dependent population and those who select transit by choice).

Bus users are assumed to support bus transit more than non-users from the demand point of view. This group consists of those who lack a car, are physically disabled, are economically disadvantaged, and are served to their satisfaction by transit over other transportation modes. The physically disabled population includes the older adults and the people with disabilities, who may use the bus due to a lack of suitable alternatives. The economically disadvantaged, such as the unemployed and those with low incomes, may use the bus as their major transportation mode due to economic necessity. The last user group consists of those for whom the bus provides the **best** travel alternative in certain circumstances.

Based on this understanding, some predictions can be developed to evaluate the correctness of this hypothesis. This research, limited by available data, does not intend to test all possible criteria. Nevertheless, the following predictions arise from this hypothesis as criteria for testing its validity:

1. the older adults (people 65 or over) are more likely to support transit,
2. the unemployed are more likely to support transit, and
3. low-income people are more likely to support transit.

Hypothesis 2: Voters support transit to "get others off the roads."

This hypothesis helps explain why car users may support transit. It is reasonable to assume that car users want to travel as fast as possible on the roads and highways. Hence, to reduce congestion, they may prefer that other travelers do not use roads and highways as intensely. To achieve this goal, they may support policies that can shift other travelers to other travel times, routes, or modes (Downs, 1992). Supporting bus transit can play this role by providing others with another travel mode.

The extent to which car users support the bus service to "get other people off the road" may be dependent on how long they stay on the road, to what degree they are stuck in traffic congestion, and to what degree they prefer to use the road. In this view, professional drivers, such as truck drivers and delivery drivers, are likely to support transit more because they use the roads more than others. This logic also applies to the those who commute long distances. Also, the greater the chance that one will be stuck in traffic, the greater the chance that one will support bus transit to reduce traffic on the road. This group may include those who commute during peak hours, those who live in high population density areas, and those who live in an area in which car ownership is higher than average. Finally, high-income people may prefer to use the car due to its convenience and privacy characteristics. The outcomes predicted from this hypothesis are as follows (though again not all predictions are listed due to the limited data):

1. high-income people support transit more,
2. those who live in areas with higher income per capita support transit more because car ownership is higher there, and
3. those who live in areas of higher population density support transit more.

Hypothesis 3: Voters support transit because it is a necessary social service.

Bus transit, as a major transportation mode for certain groups such as the poor, the people with disabilities, and the older adults, is considered a necessary social service by some people. The extent to which one considers bus transit a needed service may depend on one's education, the neighborhood in which one lives, and personal characteristics. Those with higher education, for example, may view transit more as a necessary social service. Besides gaining this perspective due to schooling, people may view transit as a social service due to characteristics of their neighborhood. Neighborhoods with lower incomes, more retired people, higher unemployment, and more people with disabilities may affect residents' view, increasing support for transit as a social service. Finally, personal characteristics, such as gender, race, and political party affiliation, may also influence one's view of transit as a social service. The predicted outcomes for testing this hypothesis are:

1. higher educated people support transit more;
2. those who support other public services more, such as crime prevention, road and highway spending, and public education, support **bus** transit more;
3. those who live in areas with lower income per capita support transit more; and
4. people of different genders, races, and political party affiliations may support bus transit differently.

The above three hypotheses are related primarily to voters' characteristics. The final hypothesis, however, is related primarily to characteristics of transit service.

Hypothesis 4: The better the transit service, the more support it gains.

The basic assumption behind this hypothesis is that the better the bus service, the more support that it gains; Viewed from another angle, the more needed services that bus transit provides, the more support that it acquires. Due to the complexity of this issue, however, this research cannot conduct an in-depth analysis of this hypothesis. Nevertheless, we will try to shed light on this hypothesis with available data.

With regard to transit service types, besides line haul and paratransit, SMART also provides a special service called Jobs Express, which is designed to increase the accessibility of suburban employment centers. The criteria for testing this hypothesis are based on the assumption that this additional service will increase SMART's public support. Furthermore SMART is working on improving its transit service through the use of advanced computer and commum'cations technologies. This research assumes that these improvements, too, will increase public support. Additionally, the organization of transit and the cooperation between transit authorities in the region (mostly between SMART and DDOT, the Detroit Department of Transportation) may influence service quality. For example, more cooperation between SMART and DDOT in terms of schedules and routes may increase transit quality for users that need to transfer between the two systems. Finally, ifparatransit users need to travel across community boundaries, then a regional transit authority may gain more support than a local system The above logic gives rise to the following predictions for Hypothesis 4:

1. dose who are aware of Jobs Express service support SMART more;
2. those who are aware of the use of advanced computer and communications technologies support SMART more;
3. those who live in areas with bus transit will support SMART more than those with no bus transit;
4. under the assumption that greater coordination between SMART and DDOT will improve service quality, those who favor more cooperation or merger will support the SMART millage more; and
5. those who prefer regional paratransit will support SMART more than those who prefer local provision of paratransit.

METHODS

The data required for this study were collected from the 1990 U.S. Census and a survey of voters. Neighborhood related data were collected from the former source, while attitudinal data and data about voters were acquired from the latter source. In fact, the voter survey provides most of the data needed for this study. This survey was conducted during the last U.S. presidential election, which was held on November 5, 1996, and employed an exit polling approach. Specifically, a self-administrated, secret ballot questionnaire (Appendix A) was used, because this approach can reduce the number of respondents who refuse to answer specific questions and the occurrence of other evasive forms of responding that sometimes occur in association with socially sensitive issues (Bishop and Fisher, 1995). With this type of questionnaire, voters fill out the survey on their own and place it anonymously into a collection box, much as they do in the voting booth.

Why an **Exit Poll?**

An exit poll is a survey conducted of voters as they leave their polling places -- that is right after they have voted. Relative to other types of surveys, an exit poll has certain advantages for this research. First, exit polls are surveyed from a universe of people who are known to be voters. Outcomes from this survey thus are more relevant to future SMART millage elections than surveys of the population at large, which contains many people who do not vote. Furthermore, the relatively large voter turnout associated with a presidential election, as opposed to the lower turnout rates associated with some other elections, can provide a picture of how a broad swath of the electorate views SMART services. Also, an exit poll is of relatively low cost, because the survey subjects are congregated at discrete locations and times, lowering the costs of making contact with them There is, however, one disadvantage to an exit poll. Exit polling does not allow for a detailed questionnaire, because the interviewing is done outside as people leave the polling place. Thus, the interview location lacks the comfort of a home or office environment. Consequently, many voters would be unwilling to complete a long instrument. Overall, given budget and time constraints, exit polling is an economic and efficient survey method for this research.

Sampling Method

The target population for this study is composed of two subpopulations: (1) the opt-in communities in which SMART provides service, and (2) the two opt-out communities, Bloomfield Hills and Novi. Instead of randomly sampling from all the opt-out communities, Bloomfield Hills and Novi were selected for this research because SMART officials thought that these two communities represent two typical communities that may hold their first SMART millage election in August, 1998, if not before.

With regard to selecting respondents, different principles and sampling techniques were employed to sample the polling places first. Then within the selected polling place, the first voter **to** exit the polling place when surveyors were ready to conduct the survey was chosen as the first respondent. Next, surveyors selected the next voter to exit the polling place after the previous respondent completed the survey form

For the opt-in stratum and Novi, multistage cluster sampling was used to select polling places. The general guideline for a cluster design is to maximize the number of clusters selected, while decreasing the number of elements within each cluster (Babbie, 1992). Hence, by dividing the election day into morning and afternoon shifts for the polling places, our approach doubled the selected polling places from 16 to 32 without increasing the overall effort. For Bloomfield Hills, both of the two polling places (four shifts) were selected. As a result, 36 half-day shifts of polling places were implemented.

Within a polling place, the surveyors selected the next voter to exit the polling place after the previous respondent placed the questionnaire in the collection box. The advantage of this method for selecting respondents over other methods, such as a fixed skip interval (e.g. every fifth voter or one voter every ten minutes), is that it better deals with peak and off-peak voting hours. For the method of selecting every nth voter, during peak hours the traffic of exiting voters may be too heavy to select the voter at the designed interval; during off-peak hours, there may be time wasted while waiting for the nth voter to emerge. For the case of selecting one voter every ten minutes, during peak hours many potential respondents may be lost as many voters exit the polling places; during off-peak hours, the traffic of exiting voters may be too low to select a respondent every ten minutes. The method of selecting a new respondent as soon as the previous interview is finished can avoid the above disadvantages and also increase the sample size as a side benefit. The disadvantage of this method is that off-peak voters are over-sampled because the proportion of selected respondents to all the exiting voters is higher during off-peak hours than during peak hours.

To account for this oversampling problem we employed a weighting scheme based on the number of voters exiting the polling sites at any given time. In comparing the survey results with the actual presidential election results (see Table l), however, we discovered that the unweighted results provided a much better fit. As described below, these results are statistically identical to the actual election results. This outcome suggests, that at least in the Detroit region, de characteristics of voters changes insignificantly over the course of the day. For the remainder of this report, therefore, our analyses are based on unweighted data.

Sample Size and Sampling Error

For the opt-in communities, Bloomfield Hills, and Novi, 1022, 194, and 423 voters were sampled, respectively. In order to ensure that the sample represents the population, the question "For whom did you vote for President today?' was included in the questionnaire. By comparing

the actual and observed (in the survey) presidential results (using chi-square tests and tests of differences of proportion), we found that all three samples are statistically identical to the actual results at a 95 percent confidence interval (Table 1). This examination of the raw data shows that the sample represents voters' behavior concerning their presidential vote.

Table 1. Actual and Observed (survey) Presidential Vote Results (by proportion of vote received).

		Clinton	Dole	Perot	Other
Opt-in Communities (n=1022)	Actual Results*1	0.526	0.377	0.082	0.014
	Observed Results	0.503	0.351	[redacted]5	0.029
	Chi-square (P-value)	0.9985*2			
	*Proportion*3 (Z-score)*	-1.3568*4			
Bloomfield Hills (n=194)	Actual Results	0.265	0.698	0.029	0.008
	Observed Results	0.339	0.570	0.059	0.032
	Chi-square (P-value)	*0.9856*2*			
	*Proportion*3 (Z-score)*	1.8824*4			
Novi **(n=423)**	Actual Results	0.400	0.513	0.074	0.013
	Observed Results	0.432	0.460	0.107	0.010
	Chi-square (P-value)	0.9991*2			
	Proportion*3 (Z-score)	1.2409*4			

*1 Data source: Election offices of Macomb, Wayne, and Oakland counties.
*2 P-value is greater than 0.05 (significance level), so the hypothesis that the actual and observed presidential results are the same cannot be rejected.
*3 Given P = Clinton, and Q = Not-Clinton.
*4 Z-score is within the interval of -1.96 and 1.96 (95 percent confidence interval), so again the hypothesis that the actual and observed presidential results are the same cannot be rejected.

Data Analysis

Based on the hypotheses discussed in the preceding section, there are four major analyses to perform. The first analysis is voter survey results. The next analysis is to explore the characteristics of the voters who support SMART. For this analysis, statistical techniques such as frequency tables, crosstabulation, and the chi-square test are employed. Then, a discussion of the significance and validity of the four hypotheses is conducted through the use of bivariate logistic regression. The last analysis is an attempt to develop a predictive model of how voters will in the upcoming millage renewal election. The statistical technique applied in this analysis is multivariate logistic regression.

RESULTS

There are four major parts of the analysis: (1) voter survey results, (2) exploration of de characteristics of those who support SMART, (3) identification of variables that relate to the

voters' attitudes toward SMART, and (4) development of a statistical model to predict how the voters are likely to vote in the millage renewal election.

Before beginning the analysis, the question we face first is how to define support of SMART. Support may be defined narrowly as reporting an intention to vote in favor of SMART in the millage renewal election. In a broader sense, support may be defined as willingness to have the government spend money on bus transit. The question "Should public spending on public transit (buses or trains) be increased, decreased, or kept the same?" was proposed to the respondents. In the opt-in communities, since residents have already approved money for bus transit, those who support SMART include voters who agree to have the budget increased or kept the same.

The gap between these broad and narrow definitions of support is quite large. The exit poll survey finds that in opt-in communities those who support SMART number 57.4 and 92.3 percent of the voters in terms of the narrow and broad definitions, respectively. The gap is about 34.9 percent. Because not all the supporters in the narrow sense are supporters in the broad sense and vice versa, the true gap is larger. This phenomenon regarding the relationship between the intended voting behavior and voters' expressed opinion on public spending, however, is not explored here in more detail. For this study, we will adopt the more conservative, narrow definition, meaning that support will be defined as reporting an intention to vote in favor of the SMART millage.

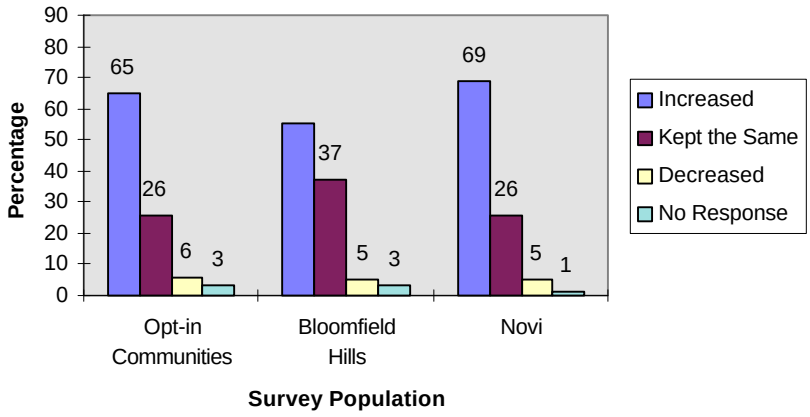
Voter Survey Results

This section provides the basic frequency-related results form the exit polling survey. These results are presented in the same order as given in the questionnaire. The raw data are presented in tabular form in Appendices B1, B2, and B3.

1(A). Public Spending on Public Education

The majority of respondents (about 90 percent) in the opt-in communities, Bloomfield Hills, and Novi reported preferring that public spending on public education should, at least, be kept at the current level (about 30 percent), or increased (about 60 percent) (Figure 1). Relatively few respondents expressed a preference to decrease public spending on public education.

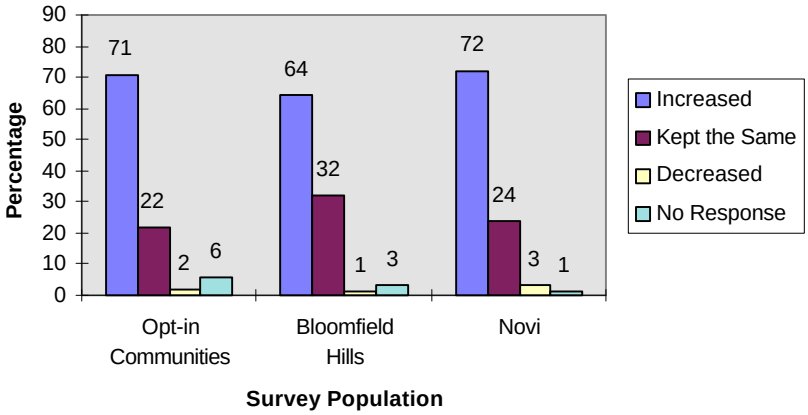
Figure 1. Voters' Preferences for Public Spending on Public Education.



1(B). Public Spending on Roads and Highways.

The results of a question concerning "public spending on roads and highways" are similar to those of "public spending on public education." In all three populations, the majority (about 95 percent) expressed the belief that this public spending should be kept at the current level (about 25 percent) or increased (about 70 percent) (Figure 2). Relatively few voters expressed a preference to decrease this spending.

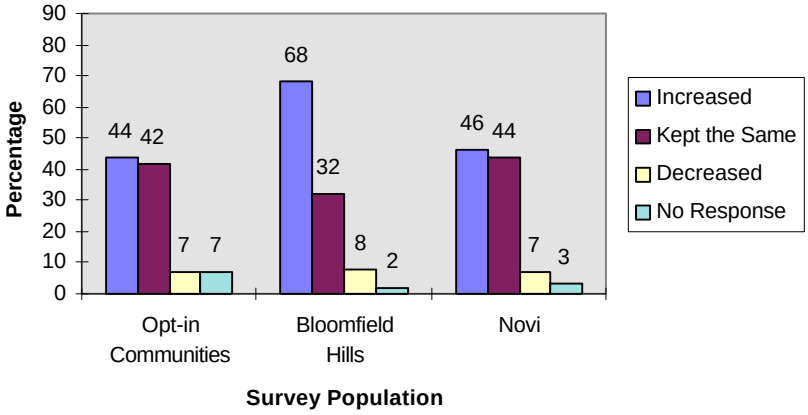
Figure 2. Voters' Preferences for Public Spending on Roads and Highways.



1(C). Public Spending on Public Transit

The majority of respondents (about 90 percent) in the three populations prefers that public spending on public transit should be kept at the current level (about 45 percent), or increased (about 45 percent) (Figure 3). Different from the above two results, the proportions of those who support increasing public spending, and those who prefer to keep the same level of this public spending are very close. Again, relatively few voters (about seven percent) prefer to decrease this public spending.

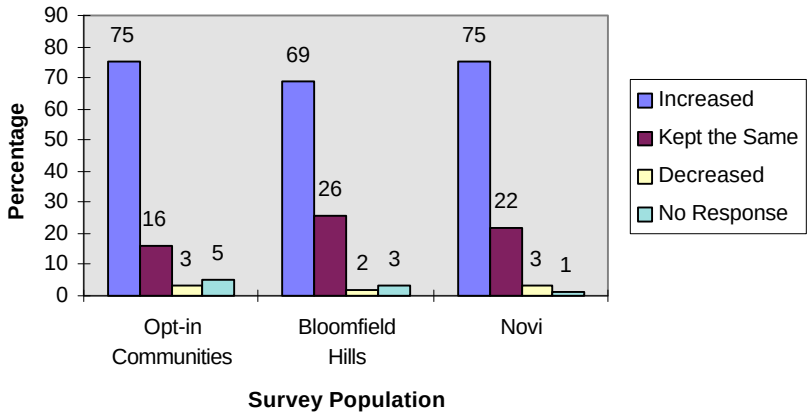
Figure 3. Voters' Preference for Public Spending on Public Transit.



1(D). Public Spending on Crime Prevention

In all three populations, respondents reported that public spending on crime prevention should be kept at the current level (about 20 percent), while about 75 percent prefer to see spending increased (Figure 4). Five percent of fewer prefer to see spending on crime prevention decreased.

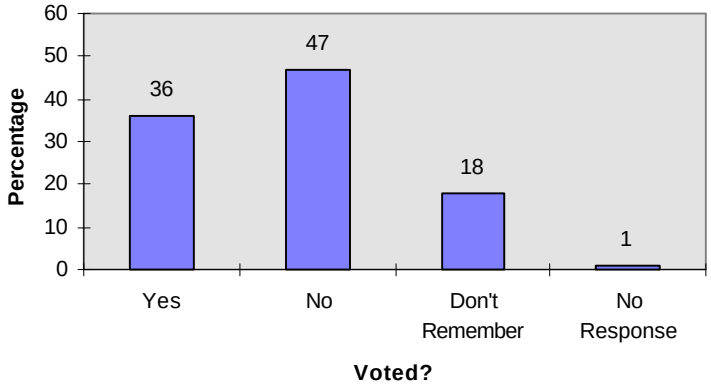
Figure 4. Voters' Preferences for Public Spending on CrimePrevention.



2(A). Voter Turnout in 1995 SMART Millage Election

This question was designed only for opt-in communities, as there was no SMART millage election in either Bloomfield Hills or Novi in 1995. For the opt-in communities, about one third of respondents reported that they had voted in SMART' s 1995millage election. Nearly half indicated that they did not vote in this election, and the remainder did not remember or did not answer this question (Figure 5).

Figure 5. Voter Turnout in the 1995 SMART Millage Election.

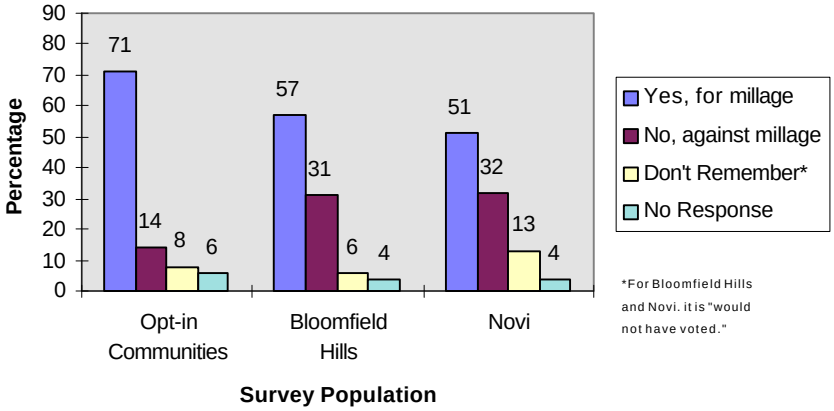


2(B). How Did Voters Vote (or How Would they Have Voted) in the 1995 Millage Election?

For those who reported voting in SMART' s 1995millage election in opt-in communities, the majority (about 71 percent) voted for the SMART millage, and 14 percent reported that they voted against the SMART millage election (Figure 6). For Bloomfield Hills and Novi, there was

no SMART millage election in 1995. In these communities, voters were asked instead that if your town had participated the 1995 SMART millage election, how would you have voted. Under these circumstances, the majority responded that they would have voted for SMART (about 55 percent), about one third responded that they would have voted against SMART, and very few responded that they would have not voted (about ten percent).

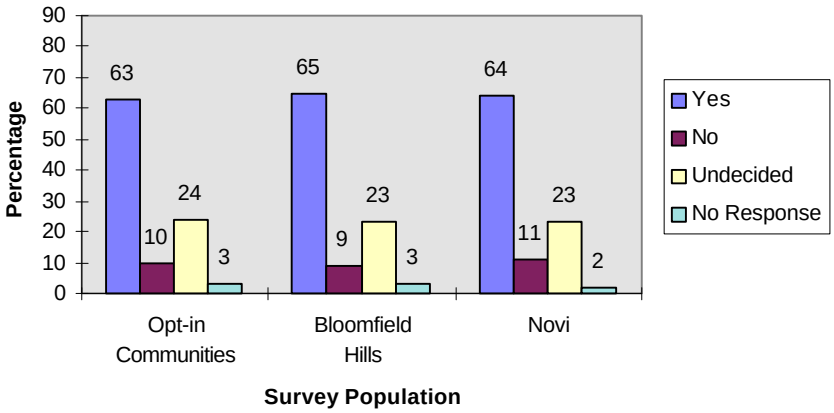
Figure 6. How did Voters Vote (or How Would Voters Have Voted) in 1995 Millage Election?



3. Do Voters Plan to Vote in SMART' sMillage Renewal Election?

For opt-in communities, Bloomfield Hills, and Novi, the majority (about 65 percent) responded that they plan to vote in the upcoming renewal millage election, while relatively few voters (about ten percent) expressed a plan not to vote (Figure 7). And about 23 percent of respondents reported that they had yet to decide if they will vote or not.

Figure 7. Do Voters Plan to Vote in SMART' sMillage Renewal Election?

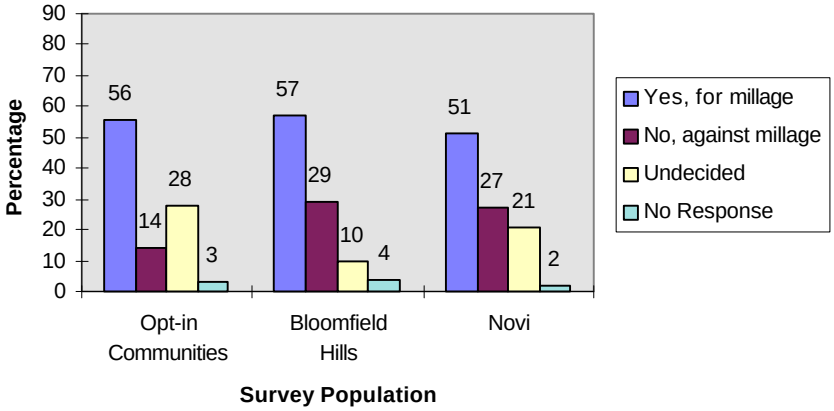


4. How Would Voters Have Voted on SMART Millage on Presidential Election Day?

Happily for SMART, the majority of respondents (about 55 percent) from the opt-in communities, Bloomfield Hills, and Novi reported that they would have voted for the SMART millage if the millage election had been held that day, November 5, 1996 (Figure Sa). Fewer respondents in opt-in communities reported that they would have voted against SMART under

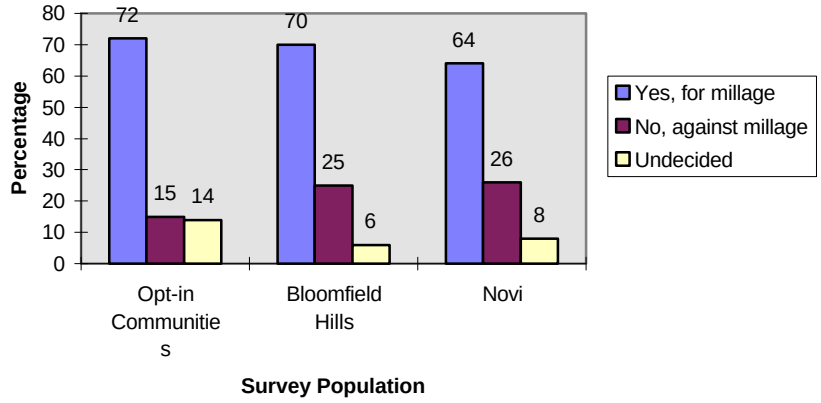
these circumstances (about 14 percent) than in Bloomfield Hills and Novi (about 28 percent). For the opt-in communities and Novi, more were not sure how they would have voted (about 28 and 21 percent, respectively) than in Bloomfield Hills (about ten percent).

Figure 8a. How Would Voters Have Voted on Millage on Presidential Election Day?



Perhaps of greatest interest to SMART is the intersection of questions three and four--that is, what are the voting intentions of those report that they plan to vote in the millage renewal election. As shown in Figure 8b, likely voters (i.e., those answering "yes" to question three) report even more support for SMART than do voters as a whole.

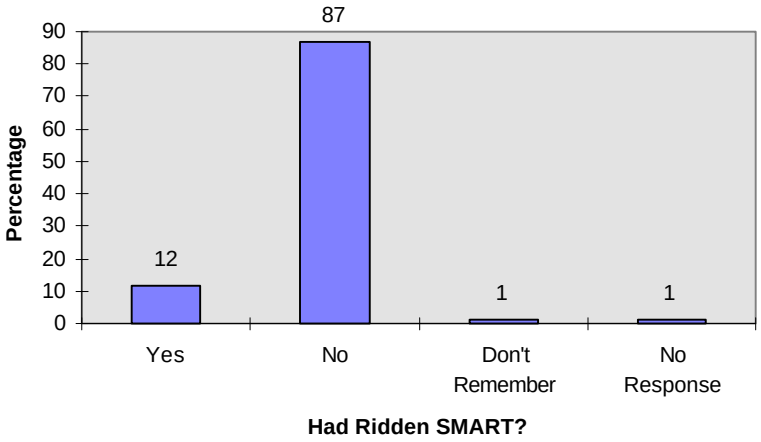
Figure 8b. Voting Intentions of Likely Voters.



5. Had Voters Ridden SMART in the Year Before the Survey?

For the opt-in communities, about 12 percent of respondents had ridden SMART in the year before the survey, which was conducted on November 5, 1996 (Figure 9). The majority (about 87 percent), however, had not ridden SMART during the same period of time. Voters in Bloomfield Hills and Novi were not presented with this question, because SMART service in there communities ceased in May 1995 when they opted-out of the millage election.

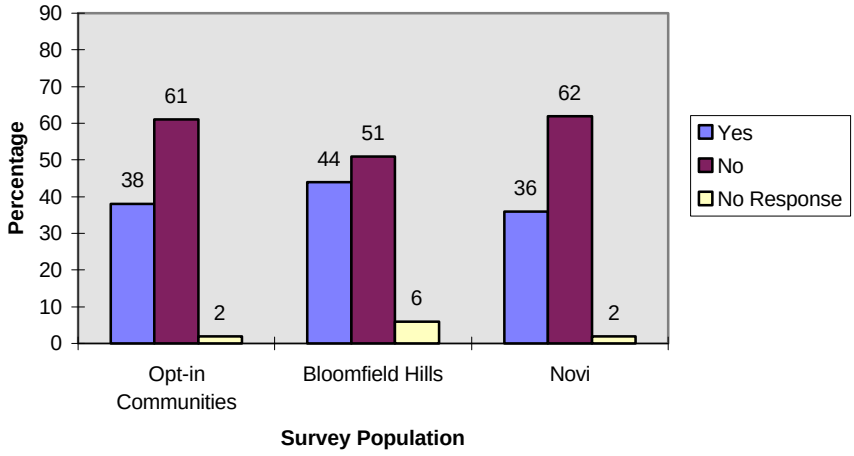
Figure 9. Had Voters Ridden SMART in the Year Before the Survey?



6. Voter Awareness of SMART' s Advanced Technologies

For the opt-in communities, Bloomfield Hills, and Novi, about 40 percent of respondents reported being aware that SMART was working on improving its transit service through the use of advanced computer and communication techniques (Figure 10). More than half of the respondents reported not being aware of SMART' s advanced technologies. Respondents from the opt-in communities, in which SMART was providing service at the time of the survey, did not report signifkantly greater awareness than respondents from Bloomfield Hills and Novi, which had no service at the time of the survey.

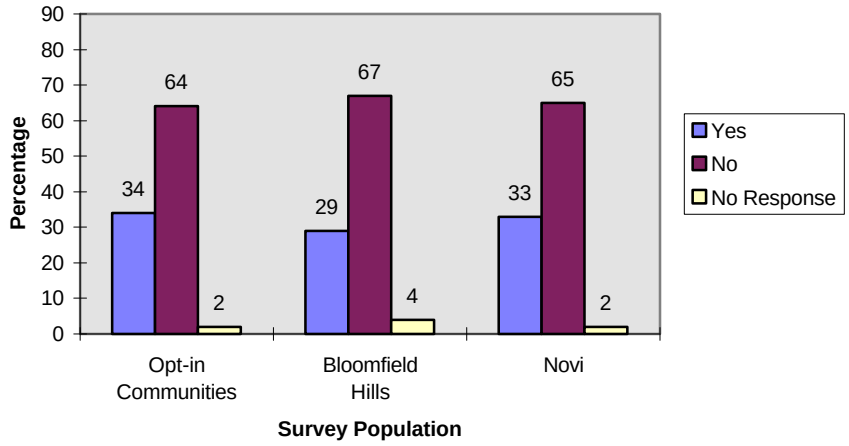
Figure 10. Voter Awareness of SMART' s Advanced Technologies.



7. Voter Awareness of SMART' s Job Express Service

About 30 percent of respondents reported awareness of SMART' s Job Express service in opt-in communities, Bloomfield Hills, and Novi (Figure 11). The majority (about 65 percent), however, were not aware of Job Express. Again, voters from opt-in communities did not express significantly greater knowledge, of SMART service.

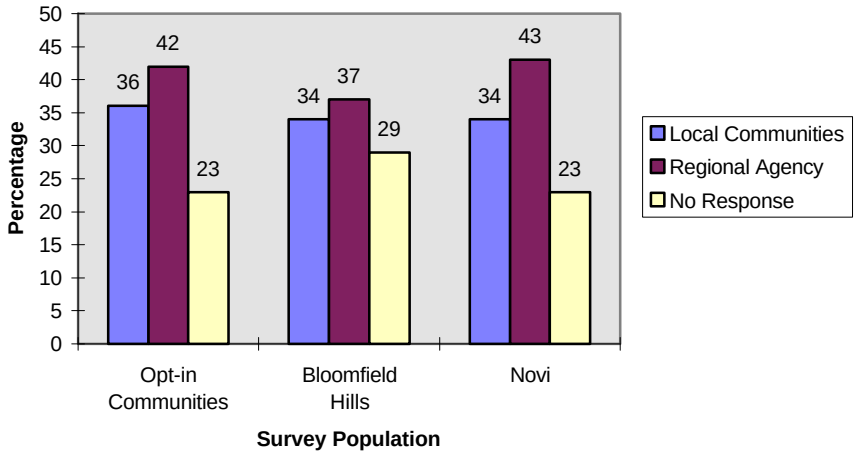
Figure 11. Voter Awareness of SMART' s Job Express Service.



8. Who Should Operate Community Transit?

For opt-in communities, Bloomfield Hills, and Novi, voters expressed a preference for a regional agency over local communities to operate Community Transit by a small gap (about 40 v. 34 percent)(Figure 12). About 25 percent of respondents did not answer this question, perhaps due to its complexity.

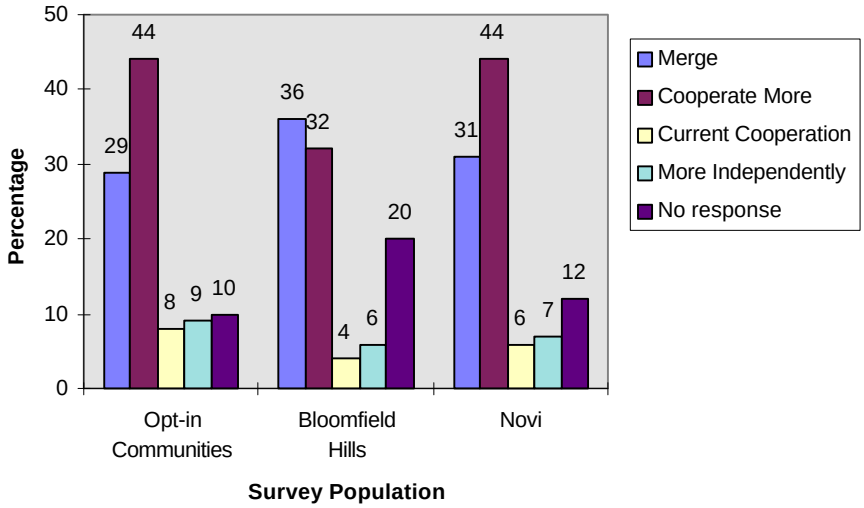
Figure 12. Who Should Operate Community Transit?



9. Level of Cooperation Between SMART and DDOT

In the opt-in communities, Bloomfield Hills, and Novi, the majority of respondents (about 70 percent) indicated a belief that SMART and DDOT (the Detroit Department of Transportation) should cooperate more or merge into a single agency (Figure 13). Of these three populations, Bloomfield Hills had the highest proportion of respondents preferring that SMART and DDOT merge into a single agency (about 38 v. 30 percent). In all three survey areas, fewer than ten percent of respondents expressed a preference for less cooperation.

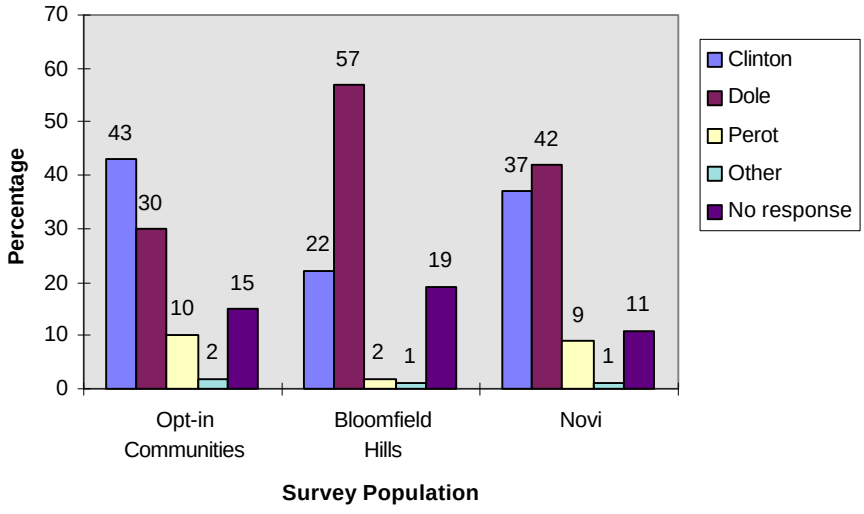
Figure 13. Level of Cooperation between SMART and DDOT.



10. Political Party Affiliation

In the opt-in communities, the largest group of respondents indicated affiliation with the Democratic Party, while about 28 percent expressed affiliation with the Republican Party, and 23 percent identified themselves as Independent (Figure 14). For Bloomfield Hills, the majority (about 52 percent) were Republican, and followed by Independents (about 18 percent) and Democrats (about 12 percent) For Novi, Republicans, again, were the largest group (about 42 percent), Democrats next (about 24 percent) the second, followed by Independents (about 19 percent). About 13 percent of respondents did not answer this question.

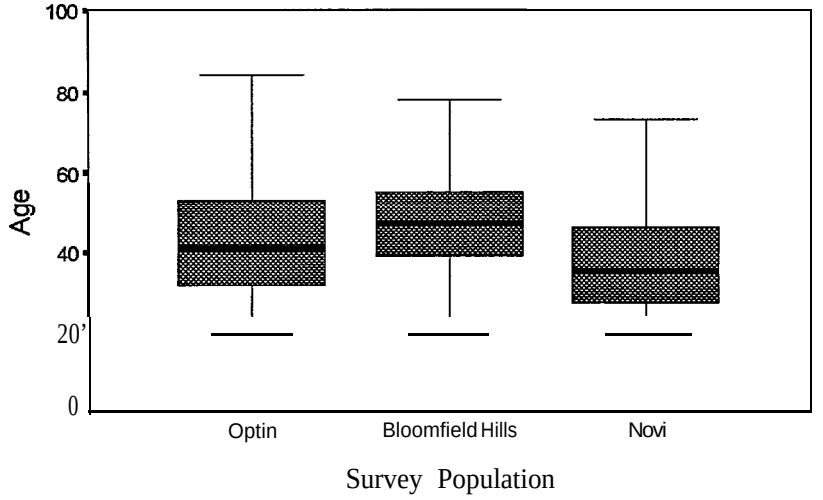
Figure 14. Political Party Affiliation.



11. Age

Novi had the lowest mean respondent age (about 37.5 years), while opt-in communities and Bloomfield Hills had average ages of 43.3 and 47.5 years, respectively (Figure 15). The middle 50 percent of voters for all three communities ranged from about 30 to 55 years of age.

Figure 15. Age.

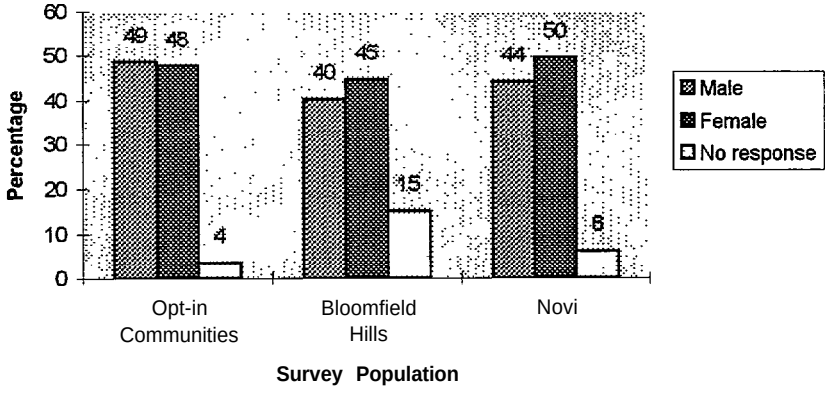


Note: The lower boundary of the box presents the 25th percentile. The upper boundary represents the 75th percentile. The line inside the box represents the median.

12. Sex

For the opt-in communities, the proportions of male and female respondents were about equal (Figure 16). For Bloomfield Hills and Novi, female outnumbered males by about five percent. In addition, 15 percent of respondents from BloomfieldHills did not answer this question.

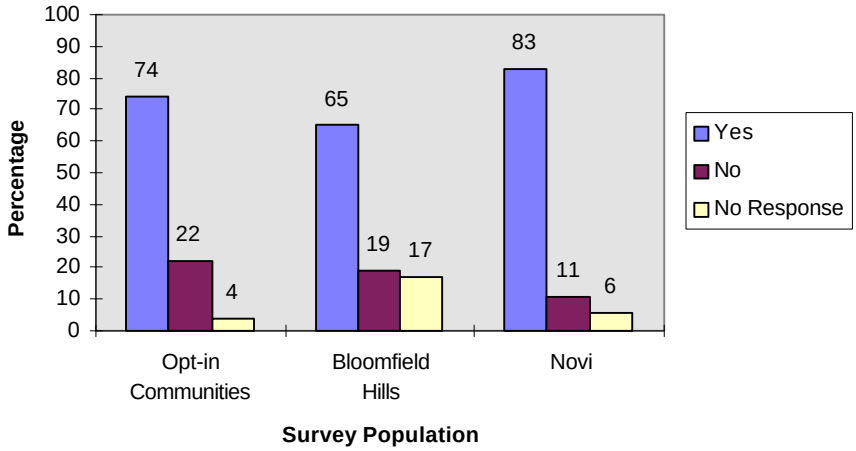
Figure 16. Sex.



13. Employment Status

Of the three survey populations, more Novi respondents reported being employed (about S3 percent) than in the other two (Figure 17). Conversely, more opt-in respondents reported not being employed (about 22 percent) than in the other two. As seen for previous questions, respondents from Bloomfield Hills were least likely to answer.

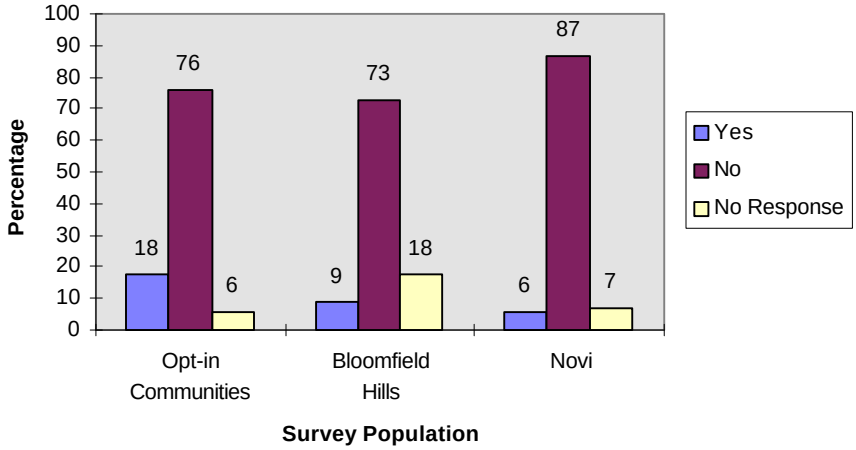
Figure 17. Employment Status.



14. Retirement

The opt-in communities had the highest proportion of retired respondents (about 18 percent), and retirement rates for the other two populations were less than 10 percent (Figure 18). Bloomfield Hills again had the highest proportion who did not answer this question (about 18 percent).

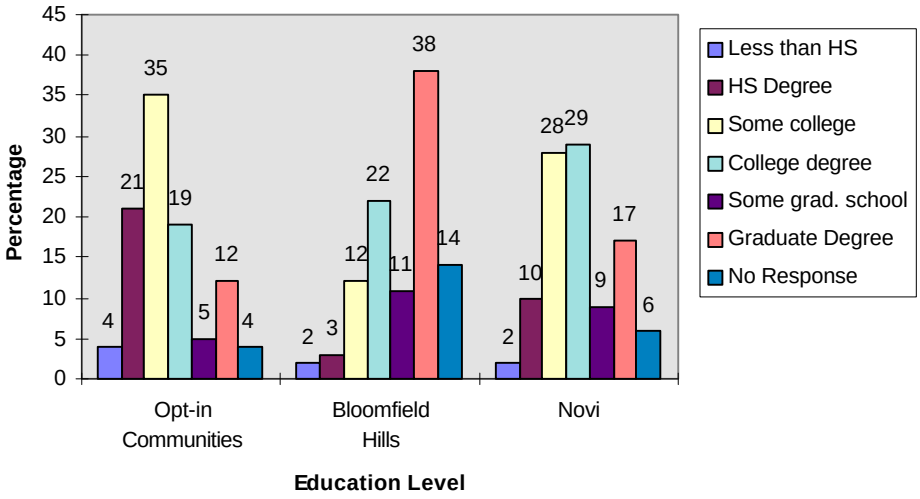
Figure 18. Retirement Status.



15. Education Level

For the opt-in communities, the majority of respondents reported not possessing a college degree (about 60 percent), while the majority of respondents from Bloomfield Hills reported possessing a college degree or more (about 69 percent), as was also true for Novi (about 83 percent) (Figure 19). Despite this difference, less than five percent of respondents in all three areas reported not possessing a high school degree.

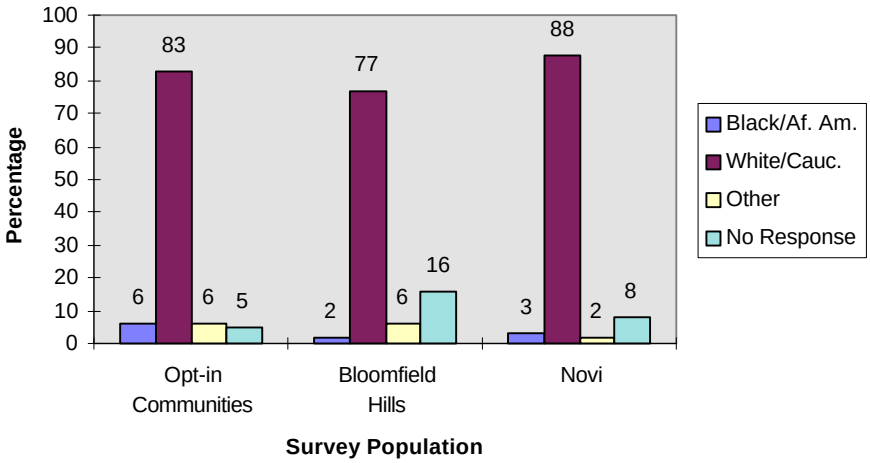
Figure 19. Education Level.



16. Race

For the opt-in communities, Bloomfield Hills, and Novi, the majority of respondents identified themselves as white (about 80 percent) (Figure 20). The percentage of African American respondents was less than seven percent in all three areas, about the same percentage as identifying themselves in other categories (Asian, Arab-American).

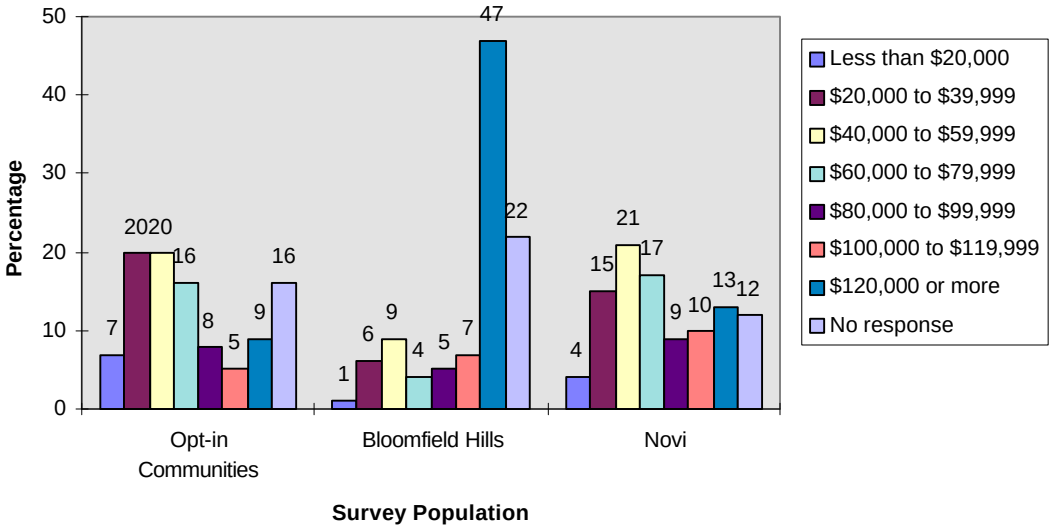
Figure 20. Race.



17. Household Income

For the opt-in communities and Novi, the majority of respondents reported having household incomes less than $80,000 (about 63 and 57 percent, respectively); for Bloomfield Hills, nearly half of the respondents reported household incomes of more than $120,000 (about 47 percent) (Figure 20). Thus, while Novi somewhat resembles the opt-in communities in terms of household income, Bloomfield Hills clearly is home to a wealthier population of voters.

Figure 20. Household Income.



Characteristics of Those Who Support SMART

This section explores the characteristics of those who support SMART. First of all, we will present results for supporters and others. Second, comparative analysis is conducted to explore differences between supporters and voters at large, likely supporters (those supporters inclined to vote in the next millage election), and opposers (those who report opposing the SMART millage). This analysis compares supporters and each of the other three groups by using &-square tests at the $\propto = 0.05$ level of significance. This section examines socio-economic variables first, followed by SMART related variables, and political variables.

Socio-economic Characteristics

The chi-square analysis reveals no statistically significant differences between supporters and the other three groups (Figure 2 1). For all four groups, about half of the members are between 30 and 50 years old. In terms of education, a similar result is found. Again, supporters do not differ significantly from the other groups (Figure 22).

Figure 21. Age: Supporters, Voters as a Whole, Likely Supporters, and Opposers.

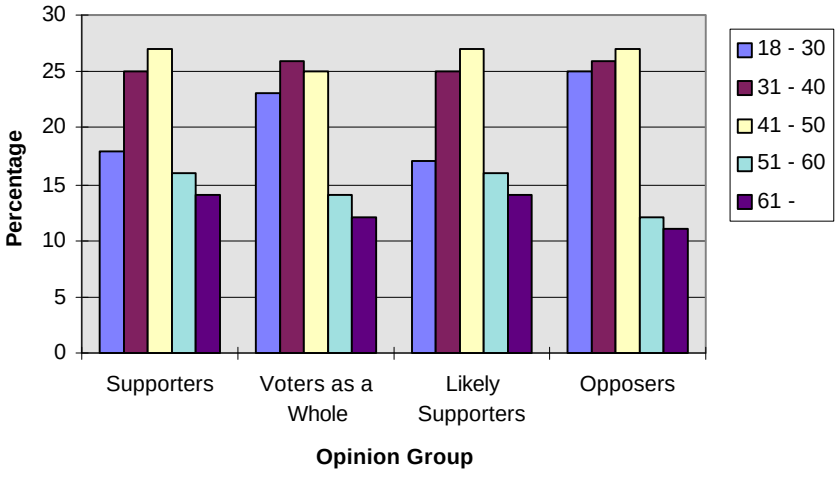
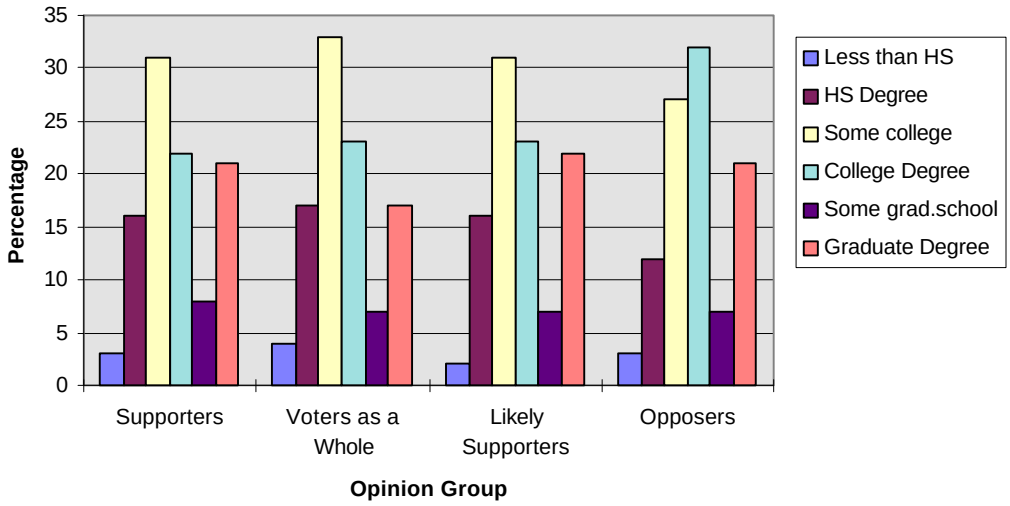


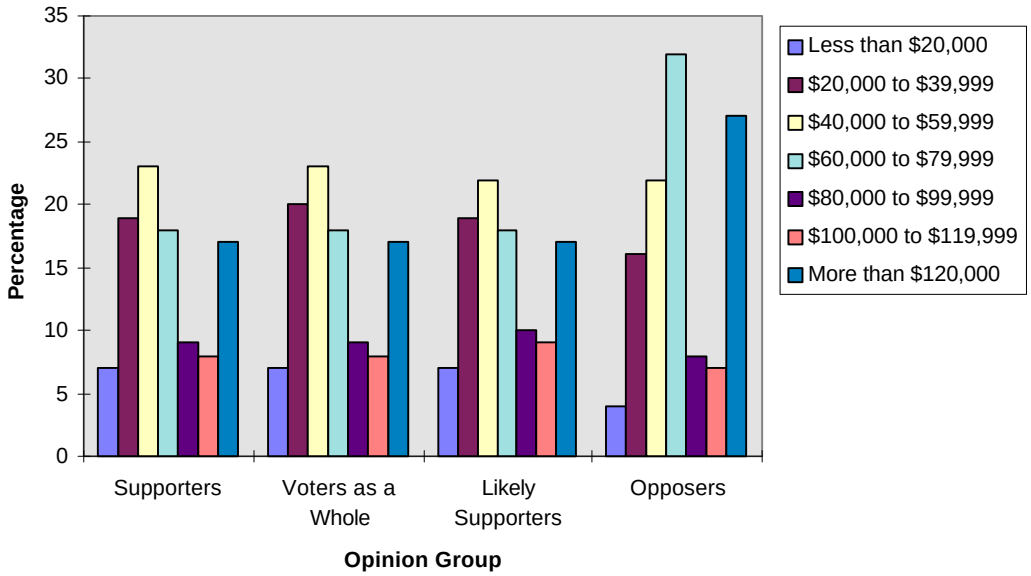
Figure 22. Education Level: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



In similar analyses for other demographic variables, including gender, race, and employment status, the results are the same as in the above two cases -- the distributions are statistically the same for supporters, voters as a whole, likely supporters, and opposers. The characteristics of supporters in terms of these variables are described as follows: about 45 percent are male, about 92 percent are white, and 79 percent are employed.

Regarding income, the majority of supporters have incomes ranging from $20,000-$79,999 (about 59 percent), and those with income above $120,000 is another large group (about 17 percent) (Figure 23). From the A-square test, level of support is not different across groups, but we observe from the chart that the income level of more than $120,000 appears quite opposed. While this highest income level is the fourth largest group (about 16 percent) of supporters, voters as a whole, and likely supporters, but it is the largest group of opposers (about 25 percent). Thus, statistical significance aside, we see some evidence that the highest income group appears more inclined to oppose the SMART millage.

Figure 23. Household Income: Supporters, Voters as a Whole, Likely Supporters, and Opposers



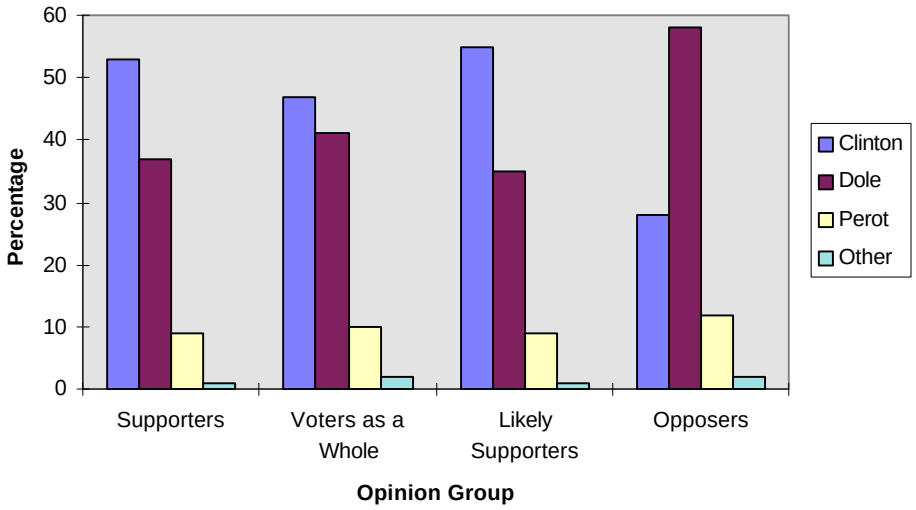
Overall, the above analyses show that there are few socio-economic differences between supporters and the other three groups -- voters at large, likely supporters, and opposers. Thus, we must turn elsewhere to distinguish supporters form the other groups.

Political Characteristics

This section is concerned with two political variables -- the presidential vote and political party affiliation. In the last presidential election, about half of supporters, voters as a whole, and likely supporters reported that they voted for Clinton, about 38 percent for Dole, and about ten percent for Perot (Figure 24). These results differ significantly ($p < 0.001$) from opposers.

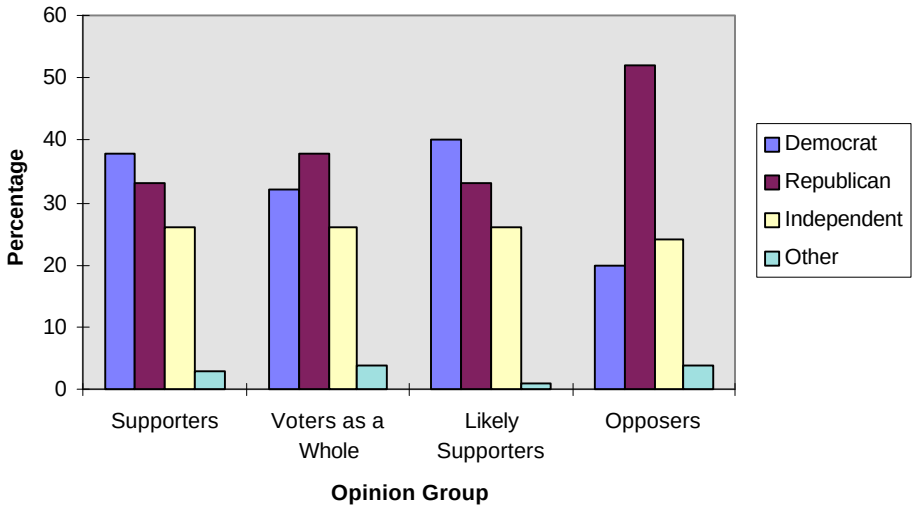
Among opposers, the majority reported voting for Dole (about 58 percent), followed by Clinton (about 27 percent), and Perot (about 13 percent).

Figure 24. Presidential Vote: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



With regard to political party affiliation, among supporters, voters as a whole, and likely voters, the proportions of Democrats and Republicans are about the same (about 35 percent), and about 25 percent are Independents (Figure 25). Mirroring, the results for the presidential vote, these numbers differ from opposers ($p < 0.001$). For opposers, more than half are Republicans, about 23 percent are Independents, and about 20 percent are Democrats. Thus, we see that political factors are associated with support for SMART, with Republicans more inclined to oppose SMART.

Figure 25. Political Party Affiliation: Supporters, Voters as a Whole, Likely Supporters, and Opposers.

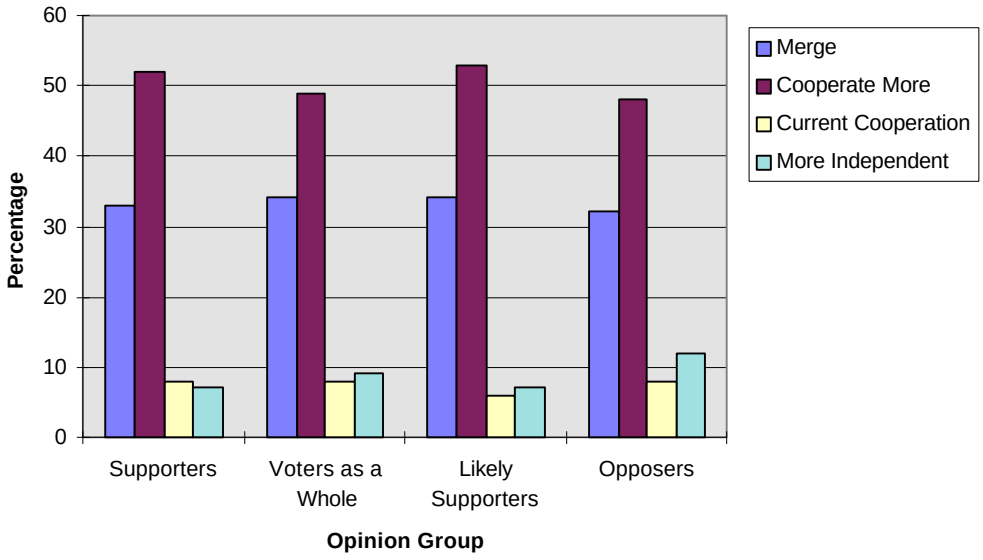


SMART Related Characteristics

SMART and DDOT are both public transportation agencies providing bus service in the tri-county area of southeastern Michigan. SMART provides bus service in the opt-in communities of Macomb, Wayne, and Oakland counties, while DDOT provides bus service primarily in city of Detroit, which is located in Wayne county (Detroit is an opt-out community for SMART purposes).

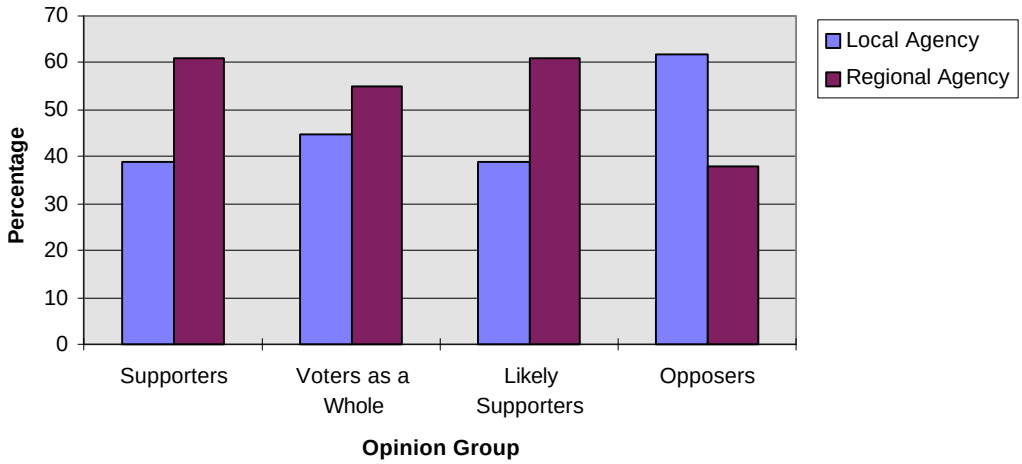
Regarding attitudes toward cooperation between these two agencies, among supporters about 34 percent believe that they should merge, about 54 percent believe that they should cooperate more, about 7 percent prefer the current level of cooperation, and about 6 percent prefer that the two agencies become more independent (Figure 26). These numbers are statistically the same as the attitudes of voters as a whole, likely supporters, and opposers.

Figure 26. Preference Regarding Cooperation between SMART and DDOT: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



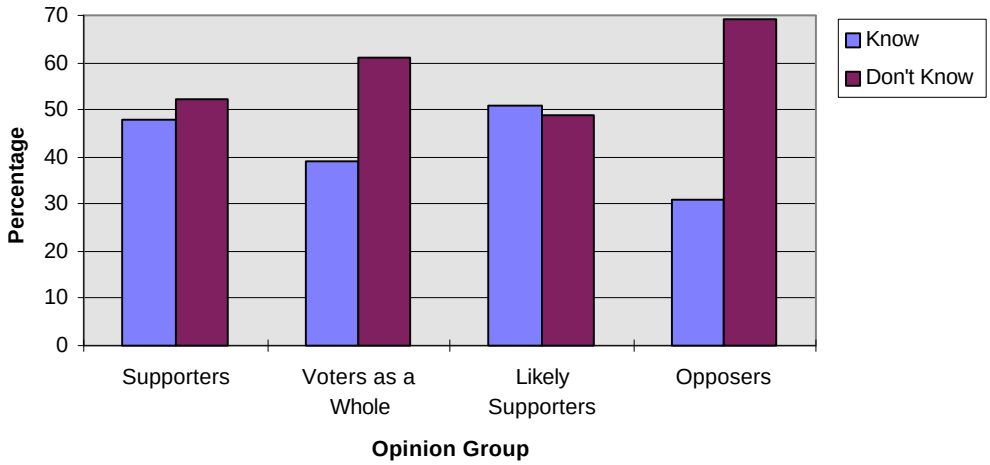
Regarding provision of Community Transit, about 6 1 percent of supporters prefer a regional agency, and about 39 percent prefer a local agency (Figure 27). These results are not statistically different from those for voters as a whole or likely supporters, but do differ from opposers ($p < 0.001$). For opposers, about 62 percent prefer Community Transit to be provided by local agencies.

Figure 27. Community Transit Provision: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



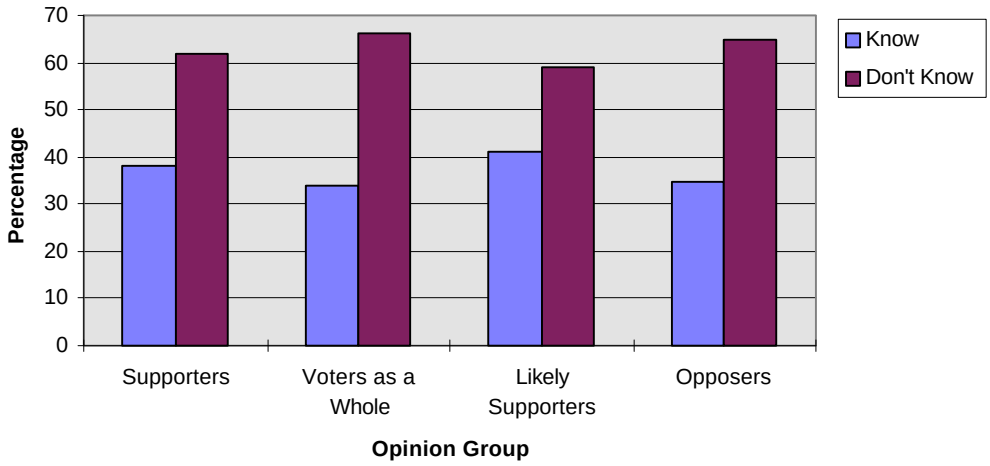
In the past few years, SMART has been working on improving its transit service through the use of advanced computer and communication technologies. About half of supporters are aware of these advanced technologies (Figure 28). These results are not statistically different from those for voters as a whole or likely supporters, but do differ from opposers ($j = 0.04$). Among opposers, about 68 percent are not aware of these advanced technologies.

Figure 28. Awareness of SMART' s Advanced Technologies: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



In November 1994 SMART implemented Job-Express service in an attempt to improve access to suburban employment sites. About 38 percent of supporters are aware of SMART' s Job-Express service (Figure 29). These results are not significantly different from those of voters as a whole, likely supporters, and opposers.

Figure 29. Awareness of SMART' s Job-Express Service: Supporters, Voters as a Whole, Likely Supporters, and Opposers.



Hypothesis Testing

This section begins by identifying the variables that affect voters' decisions on support for bus transit. This analysis is based on bivariate logistic regression analysis, i.e., a one-on-one logistic regression analysis on the probability of supporting bus transit (dependent variable) given each of the characteristic variables, i.e., the independent, or predictor variables mentioned in the hypothesis section. In this bivariate logistic regression analysis, the significance of the independent variables is tested at the $\propto = 0.05$ level, and the relationships between dependent and independent variables depend on the coefficients. A positive coefficient means that when the value of independent variables increases, the probability of support for SMART also increases, and vice versa. This analysis plays the role of selecting variables for building the predictive model based on the guideline that if the bivariate relationship is significant, then the dependent variable is chosen for the multivariate regression model (Hosmer and Lemeshow, 1994).

Then based on the above analyses, the predictions of each of the four hypotheses are tested to investigate the correctness of each hypothesis. The criterion for evaluating which hypothesis best coincides with the observed data will be the higher the percentage of predictions supported by the data, then the better the hypothesis fits the data.

In addition to the complexity of evaluating the hypotheses from a theoretical perspective, several other considerations make this job more complicated and difficult for this study:

1 each hypothesis gives rise to several predictions,
2 incomplete data are collected for all four hypotheses, and
3 one variable may be important to the predictions of more than one hypothesis.

For hypothesis 1 -- voters support bus transit because they may need it -- the bivariate logistic regression finds the following trends: the older adults and the poor are more likely to vote for SMART in the millage election; however, the prediction that "the unemployed are more likely to support transit" is not supported by the data, as employment status does not significantly influence respondents' reported voting intentions (Table 2). For this hypothesis, two out of three predictions are supported by the data, which lends some support to this hypothesis. Lack of

support for the prediction regarding employment status may be because many employed people rely on bus transit, too.

For hypothesis 2 -- voters support bus transit to "get others off the roads" -- the regressions support the prediction that those living in high population density areas are more likely to support SMART. High-income voters, however, do not appear to support transit more, contrary to the prediction. Hence, hypothesis 1 is more correct than hypothesis 2 along the income dimension. The prediction that "voters living in areas with high per capita income support bus transit more" also is not supported by the data. Therefore, only one out of three predictions arising from hypothesis 2 is supported, casting doubting on its validity.

For hypothesis 3 -- voters support transit because transit is a needed social service -- respondents who support public education, crime prevention, and spending on highways and roads also tend to support SMART more. Furthermore, the analysis shows that women support transit more than do men; also, African Americans support transit more than do whites, but other races support transit less than do whites. With regard to party orientation, Democrats tend to support transit most, Republicans the least, and others in between. Contrary to the prediction, highly educated respondents do not support transit more. This may be explained in part by high education's correlation with high income. Also, the prediction that those who live in areas with lower income per capita will not support transit more is not supported by the data.

For hypothesis 4 -- the better the transit service, the more support that it gains -- respondents who know that SMART is working on improving its transit service through the use of advanced computer and communication technologies support SMART more. Voters living within the SMART service boundary also support the millage more than do those living outside the SMART service area. Respondents who prefer more cooperation with DDOT support the millage more than do those who prefer SMART and DDOT to merge into a single agency, followed by those who prefer keeping the current level of cooperation, and those who prefer the two agencies to act more independently being least supportive. With regard to the provision of Community Transit, respondents who prefer a regional transit agency support SMART more than do those who prefer local provision. Finally, knowledge of Job Express service does not appear to influence support significantly. For this hypothesis, four out of the tie predictions are supported, with the prediction concerning Job Express the exception. Further research needs to be conducted to establish why awareness of Job-Express does not lead to higher support.

In conclusion, for none of the four proposed hypotheses are all of the predictions supported or opposed by the data. If we apply the criterion that the higher the percentage of the supported predictions then the better that the data fits the hypothesis, then hypothesis 4 -- the better the transit service, the more support it gains -- is the best hypothesis. Hypothesis 1 -- voters support bus transit because they may need it sometime -- is the second most supported hypothesis, followed by hypothesis 3 -- voters support transit because transit is a needed social service. Hypothesis 2 -- voters support bus transit to "get others off the roads" --is the least supported hypothesis. Clearly, a combination of hypotheses 4 and 1 also is quite compelling--voters support transit more the better the service because they may need it sometime.

Table 2. Evaluation Results of the Predictions Developed From the Four Hypotheses.

Hypothesis	**Prediction**	**P-Value**	**Supported*[1]**	**Not Supported*[2]**
Hypothesis 1:	Voters support bus transit because they may need it.			
	1. The older adults are more likely to support transit.	0.00	X	
	2. The unemployed are more likely to support transit.	0.36		X
	3. Low-income people are more likely **to** support transit.	0.00	X	
Hypothesis 2:	Voters support bus transit to "get others off the roads."			
	1. High-income people support transit more.	0.00*[3]		X
	2. Those who live in areas with higher income per capita support transit more since car ownership is higher there.	0.15		X
	3. Those who live in areas with higher population density support transit more.	0.00	X	
Hypothesis 3:	Voters support transit because transit is a needed social service.			
	1. More educated people support transit more.	0.07		X
	2. Those who support other public policies more, such as crime prevention, roads and highways, and public education, support bus transit more.	0.00	X	
	3. Those who live in areas with lower income per capita support transit more.	0.15		X
	4. People of different genders, races, and party affiliations support bus transit differently.	0.00 (Sex) 0.01 (Race) 0.00 (Party)	X	

Hypothesis	Prediction	P-Value	Supported*1	Not Supported*2
Hypothesis 4:	The better the transit service, the more support that it gains.			
	1. Those who are aware of Job-Express service support SMART more.	0.40		X
	2. Those who are aware of the use of advanced computer and communications technologies support SMART more.	0.00	X	
	3. Those who live in areas with bus transit support SMART more than those with no bus transit.	0.00	X	
	4. Those who favor more cooperation or merger will support the SMART millage more.	0.01	X	
	5. Those who prefer regional paratransit will support SMART more than those who prefer local provision of paratransit.	0.00	X	

* 1 Those predictions that are supported by survey data mean that the coefficients of their prediction variables are significant at the 0.05 level in the bivariate logistic regression (i.e., p-values are less than 0.05).

*2 Those predictions which are not supported mean that their prediction variables are not significant at the 0.05 level.

*3 Though the income variable is significant at the 0.05 level, its coefficient (-0.05) shows thathigh-income voters will support the SMART millage less.

Predictive Model

The final section aims to develop a predictive model of the probability that a voter will vote for SMART in a millage renewal election. The statistical technique used here is multivariate logistic regression, which is appropriate when the dependent variable is binary or dichotomous (Hosmer and Lemeshow, 1994). In this case, the dependent variable is voting for or against SMART; the independent (predictor or explanatory) variables are those selected based on examination of the four hypotheses, and refined based on the bivariate logistic regressions discussed in the previous section. Not only can this model predict the probability that a voter will vote for SMART, but it can also identify the relative importance of each of de predictor variables in the model.

The logistic regression model in this study can be represented by the following function:

$$\text{Probability (Vote for SMART)} = \frac{e^{F(Xl, X2, \ldots Xn)}}{1 + e^{F(X1, X2, \ldots Xn)}}$$

Where $F(X1, X2, \ldots Xn) = B_0 + B_1X_1 + \ldots . + B_nX_n$

and $X1, X2, \ldots Xn$ are predictor variables.

The data for this analysis derive from the exit poll and the 1990 U.S. Census. A stepwise logistic regression procedure was applied in order to explore the importance level of each of the independent variables. The importance of a variable is defined in terms of a measure of the statistical significance of the coefficient for the variable (Hosmer and Lemeshow, 1994). In each step of the stepwise logistic regression, the most important variable will be the one that produces the greatest change in the log-likelihood relative to a model not containing the variable (i.e., the one that would result in the largest likelihood ratio statistic). The results show that six independent variables are selected as important predictors, because their p-values are significant at the $\propto = 0.05$ level. In the order of their importance, they are:

- to what degree voters support spending on public education (public education[1]),
- who should operate Community Transit, local or regional agencies (Community Transit),
- to what degree should SMART cooperate with DDOT (DDOT),
- awareness that SMART is using advanced computer and communication techniques to improve its service (APTS Knowledge),
- the population density of their home community (population density), and
- for whom did they vote for President in the 1996 general election (President).

The coefficients for all variables in this original model are presented in Table 3. Among these six independent variables, hypothesis 4 contributes three variables, and each of the remaining three hypotheses contributes one.[1]

[1] The phrase in the parentheses stands for the abbreviation of the variable used in Table 3.

Table 3. The Coefficients of the Four Multivariate Logistic Regression Models.

		Original Model	*Pessimistic Model*	*Optimistic Model*	*Likely Voter Model*
Variable	**Category**	**Coefficient**	**Coefficient**	**Coefficient**	**Coefficient**
Constant		1.8114	0.3240	2.9331	3.0419
Public Education*1		-0.6790	-0.3347	-0.5490	-1.0415
Community Transit*2	Local Agency	0	0	0	0
	Regional Agency	0.8748	0.6172	0.7872	0.7208
DDOT*2	Merge Into Single Agency	0	0	0	0
	Cooperate More	0.8164	0.5005	0.6660	0.8099
	Keep The Current Level	-0.5529	-0.1127	-0.6181	-0.9980
	Be More Independent	-0.2840	-0.3069	-0.4617	-0.1881
APTS Knowledge *2	Yes	0	0	0	0
	No	-0.8551	-0.8983	-0.6058	-0.7405
Population Density*1		0.0002	--	--	--
President*2	Bill Clinton	0	0	0	--
	Bob Dole	-0.6608	-0.3881	-0.5736	--
	Ross Perot	-0.8577	-0.4181	-0.7623	--
	Other	-0.5881	-0.7920	0.0934	--
Age*1		--	0.0191	_	--
Crime Prevention*'		_	-_	-0.4061	_
Income*'		--	_	-0.0481	-0.0858
SMART Service*2	Yes	--	_	0.6802	0.6037
	No	--	--	0	0

* 1 Quantitative variables
*2 Nominal variables
*3 All the variables in this table are significant at the 0.05 level.

This original model predicts about 79 percent of the observed data correctly, but it predicts better for those who intend to vote for SMART (about 94 percent) than for those who intend to vote against SMART (about 33 percent) (Table 4).

This original model does not consider those who have not decided if they will vote for or against SMART in the next millage election. In reality, the undecided tend to play an important role in election results, hence there is great risk of ignoring them in building the predictive model. In the pessimistic model (Table 3) we assume that all of the undecided will vote against SMART. This model, of course, results in the lowest probability of voting for SMART. On the other hand, the optimistic model assumes that all of the undecided will vote for SMART (Table 3). This model indicates the highest probability of voting for SMART. The true probability of voting for SMART should lie within the gap between the conservative and optimistic models. With regard to prediction capability, the optimistic model predicts about 84 percent of the observed data correctly (treating undecided as in support), compared to about 69 percent for the pessimistic model (Table 4).

Besides these three, different models can be created for different purposes. For example, if the population of interest for prediction is just those likely to vote in the millage renewal election, a likely voter model can be developed (Table 3). This model correctly predicts about 84 percent of the observed data (Table 4).

Table 4. Fitness of Predictive Models: Original Model, Pessimistic Model, Optimistic Model, and Likely Voter Model.

Original Model

		Predicted Results		*Correct* (%)
		No, against millage	Yes, for millage	
Observed Results	No, against millage		*117*	*33*
	Yes, for millage	*31*	*510*	*94*
				79

Pessimistic Model

		Predicted Results		*Correct* (%)
		No, against millage	Yes, for millage	
Observed Results	No, against millage	*193*	*188*	*51*
	Yes, for millage	*99*	*442*	*82*
				69

Optimistic Model

		Predicted Results		*Correct* (%)
		No, against millage	Yes, for millage	
Observed Results	No, against millage	*41*	*133*	*24*
	Yes, for millage	*19*	*729*	*97*
				84

Likely Voter Model

		Predicted Results		*Correct* (%)
		No, against millage	Yes, for millage	
Observed Results	No, against millage	*37*	*77*	*32*
	Yes, for millage	*13*	*424*	*97*
				84

CONCLUSION

The major limitation of this analysis is that not all possible predictions were included due to budget and time constraints. This limitation gives rise to at least two problems. First, the hypothesis testing is not complete. This problem may have distorted the relative importance of the four hypotheses. Second, the predictive model may not contain all the important independent variables, Further research is needed to make this analysis more complete. Another direction for

further research is to find out why some of the predictions were not supported by the observed data.

In the SMART millage renewal election to be held in August 1998, we can expect that four factors will influence voters' decisions. The most important factor is SMART service itself SMART will gain more support if better service is provided. The second most important factor is use of SMART as a travel mode. Voters will support SMART if they need it sometime. Of lesser importance, a third factor is that some people regard SMART as a needed social service. And the least important factor is that voters support SMART to "get others off the roads." These factors imply that both users and non-users support bus transit, but for different reasons. This helps explain why public transit continues to enjoy a fair amount of public support, although relatively few people use service.

The order of importance of the four factors in the original prediction model indicates that the performance of SMART service is more important than voters' physical or mental needs from SMART. Three SMART service related variables are contained in this model, while the other factors contribute only one factor each. In fact, the interaction between SMART service and the other three factors may make needs more important for voters' attitudes. For example, quality performance of transit service can consolidate its perception as a needed social service. On the other hand, if the service quality is not high, its value as a needed social service can be weakened to a certain degree. Hence, SMART service quality is the key factor for gaining support from non-users, who compose the major part of the voters. Besides, through better service SMART can attract more users and users are most likely to vote for SMART.

REFERENCES

Babbie, E. 1992. The Practice of Social Research. Wadsworth, Belmont, CA.

Berla, M. J. 1974. Initial Response to a Demand-Responsive Public Transportation System. University of Michigan, Arm Arbor, ML

Bishop, J. F. and Fisher B. S. 1995. 'Secret Ballots' and Self-Reports in an Exit-Poll Experiment. ***Public Opinion Quarterly 59(4),*** pp. 568-58, New York.

Downs, A. 1992. Stuck in Traffic : Coping With Peak-Hour Traffic Congestion. Brookings Institution, Washington, DC.

Fielding, G. J. 1992. Transit Performance Evaluation in the USA. ***Tasnsp. Res. A,*** Vol. 26 A, No 6, pp. 483-491,1992, Great Britain.

Hosmer, D. Jr. and Lemeshow S. 1994. Applied Logistic Regression. Wiley-interscience, New York.

Traugott, M. W. 1995. Presidential Polls And The News Media. Westview Press, Boulder, CO.

Traugott, M. W. 1996. The Voter's Guide To Election Polls. Chatham House Publishers, Chatham, NJ.

Underwood, S. E., et al. 1995. SMART APTS Operational Field Test Evaluation Plan. Reported prepared for Suburban Mobility Authority for Regional Authority. University of Michigan Intelligent Transportation Systems Laboratory, Ann Arbor, MI.

APPENDICES

APPENDIX A – Voter Survey Questionnaires

Al: For Opt-in Communities
A2: For Bloomfield Hills and Novi

APPENDIX Al -- Questionnaire for Opt-in Communities

The University of Michigan

TU R

ANONYMOUS QUESTIONNAIRE

Thank you for your voluntary participation in this survey, which is being conducted by researchers from the Jniversity of Michigan. If you come to a question that you cannot answer or do not want to answer, please just skip that question and go on to the next one. When you're done, please fold and drop the questionnaire in the box provided.

. Should public spending on the following services be increased, decreased, or kept about the same? (For each item, fill in the box that best describes your opinion.)

	INCREASED	KEPT THE SAME	DECREASED
(A) PUBLIC EDUCATION IN SOUTHEAST MICHIGAN	⬭	⬭	⬭
(B) ROADS AND HIGHWAYS IN SOUTHEAST MICHIGAN	⬭	O	O
(C) PUBLIC TRANSIT (BUSES OR TRAINS) IN SOUTHEAST MICHIGAN	⬭	⬭	⬭
(D) CRIME PREVENTION IN SOUTHEAST MICHIGAN	⬭	O	O

. In Spring 1995, an election was held on a proposed millage to support the Suburban Mobility Authority for Regional Transportation (SMART-the regional transit agency). Did you vote in this millage election?

O YES

0 NO

0 I DON'T REMEMBER

If you voted in this election, did you vote yes or no?

0 YES. I VOTED TO SUPPORT THE MILLAGE FOR SMART

0 NO. I VOTED TO OPPOSE THE MILLAGE FOR SMART

0 I DON'T REMEMBER.

3. In 1995, SMART's millage request was approved by the voters. In 1998, an election is scheduled to vote on renewal of the SMART millage. Do you plan to vote in this millage renewal election?

0 YES. I PLAN TO VOTE IN THAT ELECTION

0 NO, I DON'T PLAN TO VOTE IN THAT ELECTION

0 UNDECIDED

4. If the SMART millage renewal election had been held today, how would you have voted? (The level of assessment for the renewal is 0.33 of a mill, equalling $16.50 per year on a house with a market value of $100,000.)

0 IN FAVOR OF RENEWING THE SMART MILLAGE

0 AGAINST RENEWING THE SMART MILLAGE

0 UNDECIDED

5. Have you ridden a SMART or Community Transit bus during the last year?

OYES

O NO

0 DON'T REMEMBER

6. Before today, were you aware that SMART is working on improving its transit service through the use of advanced computer and communication technologies?

OYES

O NO

7. Before today, were you aware that SMART operates a service called Job Express aimed at providing transit users greater access to area employment centers?

O YES

O NO

Please continue on the back side of this page.

APPENDIX A2 -- Questionnaire for Bloomfield Hills and Novi

ANONYMOUS QUESTIONNAIRE

Thank you for your voluntary participation in this survey, which is being conducted by researchers from the Jniversity of Michigan. If you come to a question that you cannot answer or do not want to answer, please just skip that question and go on to the next one. When you're done, please fold and drop the questionnaire in the box provided.

---

1. Should public spending on the following services be increased, decreased, or kept about the same? (For each item, fill in the box that best describes your opinion.)

	INCREASED	KEPT THE SAME	DECREASED
(A) PUBLIC EDUCATION IN SOUTHEAST MICHIGAN	0	⬭	0
(B) ROADS AND HIGHWAYS IN SOUTHEAST MICHIGAN	⬭	⬭	⬭
(C) PUBLIC TRANSIT (BUSES) OR TRAINS) IN SOUTHEAST MICHIGAN	⬭	⬭	⬭
(D) CRIME PREVENTION IN SOUTHEAST MICHIGAN	⬭	⬭	⬭

2. In Spring 1995, an election was held in some communities on a proposed millage to support the Suburban Mobility Authority for Regional Transportation (SMART-the regional transit agency). If your town (Bloomfield Hills or Novi) had participated, how would you have voted in this election? (The level of assessment was 0.33 of a mill, equalling $16.50 per year on a house with a market value of $100,000.)

0 I WOULD HAVE VOTED YES (IN SUPPORT OF THE MILLAGE FOR SMART)

0 I WOULD HAVE VOTED NO (AGAINST THE MILLAGE FOR SMART)

0 I WOULD NOT HAVE VOTED IN THE MILLAGE ELECTION

3. In 1995, SMART's millage request was approved by the voters in participating communities. In 1997 or 1998, a similar millage election for SMART may be held in your community. Do you plan to vote in this millage election?

0 YES, I PLAN TO VOTE IN THAT ELECTION

0 NO. I DON'T PLAN TO VOTE IN THAT ELECTION

0 UNDECIDED

4. If the SMART millage election had been held today in your town, how would you have voted? (The level of assessment would be 0.33 of a mill, equalling $16.50 per year on a house with a market value of $100,000.)

0 IN FAVOR OF THE SMART MILLAGE

0 AGAINST THE SMART MILLAGE

0 UNDECIDED

5. Before today, were you aware that SMART is working on improving its transit service through the use of advanced computer and communication technologies?

O YES

ONO

6. Before today, were you aware that SMART operates a service called Job Express aimed at providing transit users greater access to area employment centers?

O YES

ONO`

Please continue on the back side of this page.

APPENDIX B – Voter Survey Results

Bl: Opt-in Communities
B2: Bloomfield Hills
B3: Novi

APPENDIX Bl

Voter Survey Results –
Opt-in Communities (Current Millage Area)

Question l(A). Public spending on public education:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	667	65.3	67.5	67.5
Kept the Same	2	264	25.8	26.7	94.2
Decreased	3	57	5.6	5.8	100.0
		34	3.3	Missing	
	Total	1022	100.0	100.0	

Valid cases 988 Missing cases 34

Question l(B). Public spending on roads and highways:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	720	70.5	74.5	74.5
Kept the same	2	222	21.7	23.0	97.5
Decreased	3	24	2.3	2.5	100.0
		56	5.5	Missing	
	Total	1022	100.0	100.0	

Valid cases 966 Missing cases 56

Question l(C). Public spending on public transit:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	454	44.4	47.5	47.5
Kept the same	2	426	41.7	44.6	92.1
Decreased	3	75	7.3	7.9	100.0
		67	6.6	Missing	
	Total	1022	100.0	100.0	

Valid cases 955 Missing cases 67

Question l(D). Public spending on crime prevention:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	762	74.6	78.6	78.6
Kept the same	2	181	17.7	18.7	97.3
Decreased	3	26	2.5	2.7	100.0
		53	5.2	Missing	
	Total'	1022	100.0	100.0	

Valid cases 969 Missing cases 53

Question 2 (part 1). Did you vote in 1995 SMART millage election?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	357	34.9	35.2	35.2
No	2	477	46.7	47.1	82.3
Don't remember	3	179	17.5	17.7	100.0
		9	.9	Missing	
	Total	1022	100.0	100.0	

Valid cases 1013 Missing cases 9

Question 2 (part 2). How did you vote iu 1995 SMART millage?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	255	71.4	76.1	76.1
No, against millage	2	51	14.3	15.2	91.3
Don't remember	3	29	8.1	8.7	100.0
		22	6.2	Missing	
	Total	357	100.0	100.0	

Valid cases 357 Missing cases 22

Question 3. Do you plan to vote in millage renewal?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	647	63.3	65.2	65.2
No	2	99	9.7	10.0	75.2
Undecided	3	246	24.1	24.8	100.0
		30	2.9	Missing	
	Total	1022	100.0	100.0	

Valid cases 992 Missing cases 30

Question 4. How would have voted today on millage renewal?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	567	55.5	56.9	56.9
No, against millage	2	143	14.0	14.4	71.3
Undecided	3	286	28.0	28.7	100.0
		26	2.5	Missing	
	Total	1022	100.0	100.0	

Valid cases 996 Missing cases 26

Question 5. Have you ridden SMART in last year?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	118	11.5	11.6	11.6
No	2	884	86.5	86.9	98.5
Don't remember	3	14	1.4	1.4	99.9
	5	1	.l	.1	100.0
		5'	.5	Missing	
	Total	1022	100.0	100.0	

Valid cases 1017 Missing cases 5

Question 6: Aware of SMART's advanced technology?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	384	37.6	38.2	38.2
No	2	621	60.8	61.8	100.0
		17	1.7	Missing	
	Total	1022	100.0	100.0	

Valid cases 1005 Missing cases 17

Question 7. Aware of SMART's Job Express?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	344	33.7	34.5	34.5
No	2	654	64.0	65.5	100.0
		24	2.3	Missing	
	Total	1022	100.0	100.0	

Valid cases 998 Missing cases 24

Question 8. Who should operate Community Transit?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
A (Local Communities)	1	359	35.1	45.5	45.5
B (Regional Agency)	2	430	42.1	54.5	100.0
		233	22.8	Missing	
	Total	1022	100.0	100.0	

Valid cases 789 Missing cases 233

Question 9. Level of cooperation with DDOT:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Merge	1	299	29.3	32.2	32.2
Cooperate more	2	453	44.3	48.8	81.0
current cooperation	3	86	8.4	9.3	90.3
more independently	4	90	8.8	9.7	100.0
		94	9.2	Missing	
	Total	1022	100.0	100.0	

Valid cases 928 Missing cases 94

Question 10. Presidential vote:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Clinton	1	438	42.9	50.3	50.3
Dole	2	307	30.0	35.3	85.6
Perot	3	100	9.8	11.5	97.1
Other	4	25	2.4	2.9	100.0
		152	14.9	Missing	
	Total	1022	100.0	100.0	

Valid cases 870 Missing cases 152

Question 11. Political Party affiliation:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Democrat	1	354	34.6	39.0	39.0
Republican	2	287	28.1	31.6	70.6
Independent	3	237	23.2	26.1	96.7
Other	4	30	2.9	3.3	100.0
		114	11.2	Missing	
	Total	1022	100.0	100.0	

Valid cases 908 Missing cases 114

Question 12. Age:

Mean	43.26		
Std Dev	14.80		
Minimum	18		
Maximum	96		
Valid cases	948	Missing cases	74

Question 13. Sex:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1	497	48.6	50.4	50.4
Female	2	489	47.8	49.6	100.0
		36	3.5	Missing	
	Total	1022	100.0	100.0	

Valid cases 986 Missing cases 36

Question 14. Are you employed?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	752	73.6	77.0	77.0
No	2	225	22.0	23.0	100.0
		45	4.4	Missing	
	Total	1022	100.0	100.0	

Valid cases 977 Missing cases 45

Question 15. Are you retired?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	181	17.7	18.9	18.9
No	2	776	75.9	81.0	99.9
	4	1	.1	.1	100.0
		64	6.3	Missing	
	Total	1022	100.0	100.0	

Valid cases 958 Missing cases 64

Question 16. Education level:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than HS	1	41	4.0	4.2	4.2
HS degree	2	216	21.1	22.1	26.3
Some college	3	355	34.7	36.3	62.5
College degree	4	190	18.6	19.4	81.9
Some grad. school	5	51	5.0	5.2	87.1
Graduate degree	6	126	12.3	12.9	100.0
		43	4.2	Missing	
	Total	1022	100.0	100.0	

Valid cases 979 Missing cases 43

Question 17. Race:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Black/Af.-Am.	1	56	5.5	5.8	5.8
White/Cauc.	2	852	83.4	87.9	93.7
Hisp./Lat.	3	17	1.7	1.8	95.5
Asian-Am.	4	15	1.5	1.5	97.0
Arab-Am.	5	7	.7	.7	97.7
Other	6	22	2.2	2.3	100.0
		53	5.2	Missing	
	Total	1022	100.0	100.0	

Valid cases 969 Missing cases 53

Question 18. Household income:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than $20,000	1	70	6.8	8.1	8.1
$20,000 to $39,999	2	200	19.6	23.2	31.3
$40,000 to $59,999	3	208	20.4	24.1	55.4
$60,000 to $79,999	4	166	16.2	19.2	74.6
$80,000 to $99,999	5	79	7.7	9.2	83.8
$100,000 to $119,999	6	52	5.1	6.0	89.8
$120,000 or more	7	88	8.6	10.2	100.0
		159	15.6	Missing	
	Total	1022	100.0	100.0	

Valid cases 863 Missing cases 159

APPENDIX B2

Voter Survey Results -- Bloomfield Hills

Question l(A). Public spending on public education:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	107	55.0	56.7	56.7
Kept the Same	2	72	36.9	38.1	94.7
Decreased	3	10	5.1	5.3	100.0
		6	3.0	Missing	
	Total	194	100.0	100.0	

Valid cases 188 Missing cases 6

Question l(B). Public spending on roads and highways:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	124	64.2	65.8	65.8
Kept the same	2	62	32.0	32.8	98.7
Decreased	3	3	1.3	1.3	100.0
		5	2.5	Missing	
	Total	194	100.0	100.0	

Valid cases 189 Missing cases 5

Question l(C). Public spending on public transit:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	113	58.2	59.5	59.5
Kept the same	2	61	31.6	32.3	91.7
Decreased	3	16	8.1	8.3	100.0
		4	2.1	Missing	
	Total	194	100.0	100.0	

Valid cases 190 Missing cases 4

Question l(D). Public spending on crime prevention:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	134	69.3	71.4	71.4
Kept the same	2	51	26.1	26.9	98.3
Decreased	3	3	1.7	1.7	100.0
		6	3.0	Missing	
	Total.	194	100.0	100.0	

Valid cases 188 Missing cases 6

Question 2. How would you have voted in 1995 millage (if held in BH)?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	110	56.8	59.2	59.2
No, against millage	2	60	30.8	32.1	91.4
would not have voted	3	16	8.3	8.6	100.0
		8	4.2	Missing	
	Total	194	100.0	100.0	

Valid cases 186 Missing cases 8

Question 3. Do you plan to vote in upcoming millage election?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	**1**	126	65.2	67.2	67.2
No	2	18	9.1	9.4	76.6
Undecided	3	44	22.7	23.4	100.0
		6	3.1	Missing	
	Total	194	100.0	100.0	

Valid cases 188 Missing cases 6

Question 4. How would have voted today on millage?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	110	56.5	59.2	59.2
No, against millage	2	57	29.2	30.6	89.7
Undecided	3	19	9.8	10.3	100.0
		9	4.4	Missing	
	Total	194	100.0	100.0	

Valid cases 185 Missing cases 9

Question 5: Aware of SMART's advanced technology?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	85	43.6	46.2	46.2
No	2	99	50.8	53.8	100.0
		11	5.6	Missing	
	Total	194	100.0	100.0	

Valid cases 183 Missing cases 11

Question 6. Aware of SMART's Job Express?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	56	29.0	30.2	30.2
No	2	130	67.1	69.0	100.0
		8	3.9	Missing	
	Total	194	100.0	100.0	

Valid cases 186 Missing cases 8

Question 7. Who should operate Community Transit?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
A (communities)	1	65	33.7	47.7	47.7
B (regional agency)	2	72	36.9	52.3	100.0
		57	29.3	Missing	
	Total	194	100.0	100.0	

Valid cases 137 Missing cases 57

Question 8. Level of cooperation with DDOT:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Merge	1	73	37.8	47.5	47.5
Cooperate more	2	62	31.8	39.9	87.4
Current cooperation	3	7	3.7	4.6	92.0
More independently	4	12	6.4	8.0	100.0
		39	20.3	Missing	
	Total	194	100.0	100.0	

Valid cases 155 Missing cases 39

Question 9. Presidential vote:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Clinton	1	42	21.5	26.5	26.5
Dole	2	110	56.5	69.8	96.3
Perot	3	5	2.4	2.9	99.2
Other	4	1	.6	.8	100.0
		37	19.1	Missing	
	Total	194	100.0	100.0	

Valid cases 157 Missing cases 37

Question 10. Political Party affiliation:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Democrat	1	23	12.1	14.4	14.4
Republican	2	101	52.2	62.1	76.5
Independent	3	35	18.0	21.4	97.8
Other	4	4	1.8	2.2	100.0
		31	15.8	Missing	
	Total.	194	100.0	100.0	

Valid cases 163 Missing cases 31

Question 11. Age:

Mean	47.00
Std Dev	13.13
Minimum	18
Maximum	82

Valid observations - 156 Missing observations - 38

Question 12. Sex:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1	78	40.3	47.4	47.4
Female	2	87	44.6	52.6	100.0
		29	15.1	Missing	
	Total	194	100.0	100.0	

Valid cases 165 Missing cases 29

Question 13. Are you employed?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	126	64.9	77.8	77.8
No	2	36	18.5	22.2	100.0
		32	16.6	Missing	
	Total	194	100.0	100.0	

Valid cases 162 Missing cases 32

Question 14. Are you retired?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	18	9.1	11.1	11.1
No	2	141	72.6	88.9	100.0
		36	18.3	Missing	
	Total.	194	100.0	100.0	

Valid cases 158 Missing cases 36

Question 15. Education level:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than HS	1	3	1.6	1.9	1.9
HS degree	2	6	3.3	3.8	5.8
Some college	3	23	12.1	14.1	19.9
College degree	4	43	22.2	25.9	45.8
Some grad. school	5	21	10.7	12.4	58.2
Graduate degree	6	69	35.7	41.8	100.0
		28	14.4	Missing	
	Total	194	100.0	100.0	

Valid cases 166 Missing cases 28

Question 16. Race:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Black/Af.-Am.	1	4	2.2	2.6	2.6
White/Cauc.	2	149	76.6	90.7	93.2
Hisp./Lat.	3	2	1.0	1.2	94.5
Asian-Am.	4	5	2.3	2.8	97.2
Arab-Am.	5	4	2.1	2.5	99.7
Oher	6	1	.3	.3	100.0
		30	15.5	Missing	
	Total	194	100.0	100.0	

Valid cases 164 Missing cases 30

Question 17. Household income:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than $20,000	1	1	.8	1.0	1.0
$20,000 to $39,999	2	12	6.1	7.8	8.8
$40,000 to $59,999	3	17	8.6	11.0	19.8
$60,000 to $79,999	4	7	3.7	4.7	24.5
$80,000 to $99,999	5	10	5.1	6.5	31.0
$100,000 to $119,999	6	13	6.7	8.6	39.5
$120,000 or more	7	92	47.3	60.5	100.0
		42	21.7	Missing	
	Total	194	100.0	100.0	

Valid cases 152 Missing cases 42

APPENDIX B3

Voter Survey Results -- Novi

Question l(A). Public spending on public education:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	292	69.0	69.7	69.7
Kept the Same	2	104	24.6	24.8	94.5
Decreased	3	23	5.4	5.5	100.0
		4	.9	Missing	
	Total	423	100.0	100.0	

Valid cases 419 Missing cases 4

Question l(B). Public spending on roads and highways:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	304	71.9	72.9	72.9
Kept the same	2	102	24.1	24.5	97.4
Decreased	3	11	2.6	2.6	100.0
		6	1.4	Missing	
	Total	423	100.0	100.0	

Valid cases 417 Missing cases 6

Question l(C). Public spending on public transit:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	195	46.1	47.3	47.3
Kept the same	2	186	44.0	45.1	92.5
Decreased	3	31	7.3	7.5	100.0
		11	2.6	Missing	
	Total	423	100.0	100.0	

Valid cases 412 Missing cases 11

Question l(D). Public spending on crime prevention:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Increased	1	315	74.5	75.4	75.4
Kept the same	2	91	21.5	21.8	97.1
Decreased	3	12	2.8	2.9	100.0
		5	1.2	Missing	
	Total	423	100.0	100.0	

Valid cases 418 Missing cases 5

Question 2. How would you have voted in 1995 millage (if held in Novi)?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	217	51.3	53.2	53.2
No, against millage	2	135	31.9	33.1	86.3
Would not have voted	3	56	13.2	13.7	100.0
		15	3.5	Missing	
	Total	423	100.0	100.0	

Valid cases 408 Missing cases 15

Question 3. Do you plan to vote in upcoming millage election?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	270	63.8	65.2	65.2
No	2	46	10.9	11.1	76.3
Undecided	3	98	23.2	23.7	100.0
		9	2.1	Missing	
	Total	423	100.0	100.0	

Valid cases 414 Missing cases 9

Question 4. How would have voted today on millage?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes, for millage	1	214	50.6	51.4	51.4
No, against millage	2	115	27.2	27.6	79.1
Undecided	3	87	20.6	20.9	100.0
		7	1.7	Missing	
	Total	423	100.0	100.0	

Valid cases 416 Missing cases 7

Question 5: Aware of SMART's advanced technology?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	151	35.7	36.5	36.5
No	2	263	62.2	63.5	100.0
		9	2.1	Missing	
	Total	423	100.0	100.0	

Valid cases 414 Missing cases 9

Question 6. Aware of SMART's Job Express?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	140	33.1	33.7	33.7
No	2	275	65.0	66.3	100.0
		8	1.9	Missing	
	Total	423	100.0	100.0	

Valid cases 415 Missing cases 8

Question 7. Who should operate Community Transit?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
A (Local Communities)	1	145	34.3	44.2	44.2
B (Regional Agency)	2	183	43.3	55.8	100.0
		95	22.5	Missing	
	Total	423	100.0	100.0	

Valid cases 328 Missing cases 95

Question 8. Level of cooperation with DDOT:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Merge	1	130	30.7	34.8	34.8
Cooperate more	2	188	44.4	50.3	85.0
Current cooperation	3	26	6.1	7.0	92.0
More independently	4	30	7.1	8.0	100.0
		49	11.6	Missing	
	Total	423	100.0	100.0	

Valid cases 374 Missing cases 49

Question 9. Presidential vote:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Clinton	1	157	37.1	41.9	41.9
Dole	2	179	42.3	47.7	89.6
Perot	3	37	8.7	9.9	99.5
Other	4	2	.5	.5	100.0
		48	11.3	Missing	
	Total	423	100.0	100.0	

Valid cases 375 Missing cases 48

Question 10. Political Party affiliation:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Democrat	1	102	24.1	26.8	26.8
Republican	2	176	41.6	46.3	73.2
Independent	3	81	19.1	21.3	94.5
Other	4	21	5.0	5.5	100.0
		43	10.2	Missing	
	Total	423	100.0	100.0	

Valid cases 380 Missing cases 43

Question 11. Age:

Mean	37.79
Std Dev	12.81
Minimum	18
Maximum	83

Valid cases 381 Missing cases 42

Question 12. Sex:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1	187	44.2	47.1	47.1
Female	2	210	49.6	52.9	100.0
		26	6.1	Missing	
	Total	423	100.0	100.0	

Valid cases 397 Missing cases 26

Question 13. Are you employed?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	349	82.5	87.7	87.7
No	2	48	11.3	12.1	99.7
	35	1	.2	.3	100.0
		25	5.9	Missing	
	Total	423	100.0	100.0	

Valid cases 398 Missing cases 25

Question 14. Are you retired?

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Yes	1	26	6.1	6.6	6.6
No	2	367	86.8	93.4	100.0
		30	7.1	Missing	
	Tctal	423	100.0	100.0	

Valid cases 393 Missing cases 30

Question 15. Education level:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than HS	1	7	1.7	1.8	1.8
HS degree	2	40	9.5	10.1	11.8
Some college	3	120	28.4	30.2	42.0
College degree	4	122	28.8	30.7	72.6
Some grad. school	5	37	8.7	9.3	81.9
Graduate degree	6	72	17.0	18.1	100.0
		25	5.9	Missing	
	Total	423	100.0	100.0	

Valid cases **398** Missing cases 25

Question 16. Race:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Black/Af.-Am.	1	11	2.6	2.8	2.8
White/Cauc.	2	370	87.5	94.6	97.4
Hisp./Lat.	3	3	.7	.8	98.2
Asian-Am.	4	3	.7	.8	99.0
Arab-Am.	5	1	.2	.3	99.2
Other	6	3	.7	.8	100.0
		32	7.6	Missing	
	Total	423	100.0	100.0	

Valid cases 391 Missing cases 32

Question 17. Household income:

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less than $20,000	1	16	3.8	4.3	4.3
$20,000 to $39,999	2	63	14.9	16.8	21.1
$40,000 to $59,999	3	88	20.8	23.5	44.7
$60,000 to $79,999	4	72	17.0	19.3	63.9
$80,000 to $99,999	5	37	8.7	9.9	73.8
$100,000 to $119,999	6.	42	9.9	11.2	85.0
$120,000 or more	7	56	13.2	15.0	100.0
		49	11.6	Missing	
	Total	423	100.0	100.0	

Valid cases 374 Missing cases 49