



*Communities working together to
meet Chittenden County's transportation needs*

CHITTENDEN COUNTY METROPOLITAN PLANNING ORGANIZATION

**CHITTENDEN COUNTY
YEAR 2000
TRANSPORTATION SURVEY
February 2001**

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BACKGROUND AND OBJECTIVES

The Chittenden County Metropolitan Planning Organization (CCMPO) contracted with Resource Systems Group to conduct the Chittenden County Year 2000 Transportation Survey. The primary objectives of the survey were to measure satisfaction with the county's transportation system among those who live and work in the county and to gather public opinion on how future transportation dollars should be spent. By asking respondents their opinion on a wide range of transportation issues including road maintenance, sidewalk quality, public transportation, and bike paths, the CCMPO is better able to understand which areas the general public feels require the most attention. The results of the survey will be used to aid in the formulation of the county's 2025 Metropolitan Transportation Plan.

SURVEY APPROACH

An Internet-based/central site survey was conducted to determine public opinion regarding a number of transportation issues that face the County. Surveys were gathered at a range of pre-determined sites throughout Chittenden County and over the Internet. The survey instrument was a computer-assisted self-interview (CASI) programmed using customized proprietary software developed by *Resource Systems Group* for both laptop and Internet administration.

To ensure the best representation possible of Chittenden County residents, a multi-method sampling approach was used. Intercepts were conducted at attractions, shopping areas, and a variety of activity centers selected to cover a representative sample of the resident population.

Random Sampling of the Study

To ensure that all of the groups of interest were included in the sample, a multi-method sampling approach was used. This study has a strongly representative sample of Chittenden County due to the following reasons:

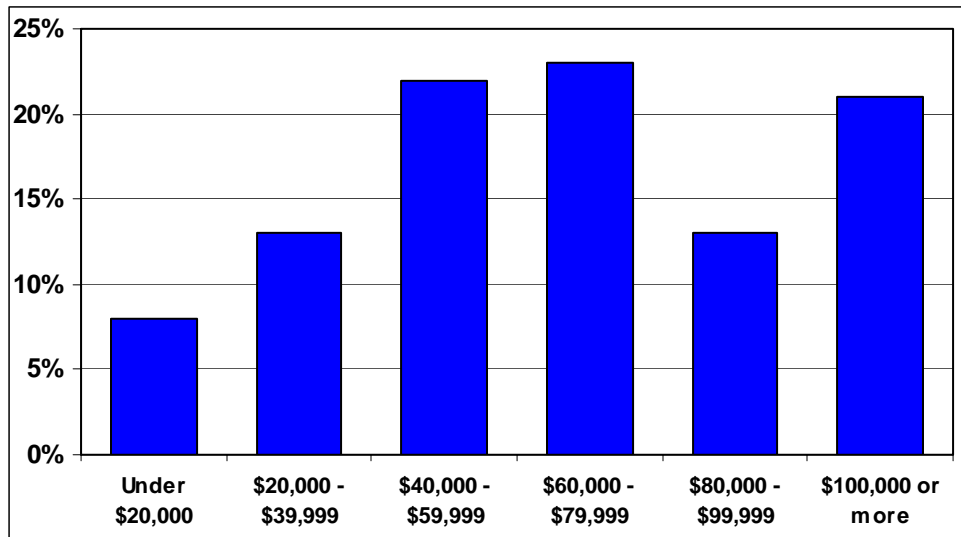
1. Surveys were conducted at geographically diverse data collection sites across the county
2. Survey access through the Internet across a wide range of employers enables a more diverse populace to take the survey

Surveys were conducted all over Chittenden County—in rural areas; including Hinesburg, Shelburne, and Richmond; and urban areas, such as Burlington Square Mall and the Department of Motor Vehicles office in Burlington. Further still, the study used the broad scope of the Internet to reach people at a number of different employers throughout Chittenden County

One of the most important indicators of a representative sample is income. As can be seen from the chart shown below in Figure 1, our study captured strong sample from all income groups, including the higher income categories that are often missed in studies such as this because people of higher income generally do not want to take the time to answer questionnaires.



Figure 1: Income Distribution



People with higher incomes were more willing to participate in the survey because it was available on-line. Therefore, we were able to capture all segments of the population through our multi-dimensional approach to data collection. Table 1 shows the distribution of respondents by income segment and by survey location.

Table 1--Income by Internet and In Field

		Survey Location			
		In field		Internet	
		Count	Col %	Count	Col %
Annual household income	Under \$20,000	20	12.5%	5	3.1%
	\$20,000 - \$39,999	23	14.4%	18	11.3%
	\$40,000 - \$59,999	40	25.0%	29	18.2%
	\$60,000 - \$79,999	39	24.4%	36	22.6%
	\$80,000 - \$99,999	16	10.0%	26	16.4%
	\$100,000 or more	22	13.8%	45	28.3%

SURVEY QUESTIONNAIRE

PERFORMANCE MEASURES

In the first section of the survey, respondents were asked to identify their opinion of a number of transportation related statements by answering on a scale of 1 to 5, with “1” being strongly disagree, “3” as no opinion and “5” being strongly agree. These statements were divided into five sections: Highway/Auto Travel, Public Transportation, Bike/Walk, Behavior/Policy, and Quality of



Life/Environment/Economy. The order in which these sections appeared to the respondents was randomized, and each section contained from four to thirteen statements. All respondents were asked to rate their opinion of all of the statements. Figure 2 below shows an example of one of the performance measures screens.

Figure 2: Example of a Performance Measures Screen

Chittenden County Year 2000 Transportation Survey

For each of the statements below,
please **rate your opinion** from strongly disagree to strongly agree:

strongly disagree
disagree
neutral
agree
strongly agree

The major roads and bridges throughout Chittenden County are in good condition (few potholes, smooth surfaces, stable shoulders, good drainage, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The streets in my neighborhood are in good condition.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic congestion affects the majority of trips I make.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traffic congestion gets noticeably worse each year.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know where to find information on traffic conditions and highway construction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often drive on back roads and residential streets to avoid congested highways.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

next

Within the first section of the survey, respondents were also asked to reveal their opinions of the Metropolitan Planning Organization’s activities and decisions by answering “yes” or “no” to four statements. This screen is shown below in Figure 3.

Figure 3: MPO Activities/Decisions Screen

Chittenden County Year 2000 Transportation Survey

For each of the statements below,
please disagree or agree:

yes
no

I am aware of how transportation improvements are selected.	<input type="radio"/>	<input type="radio"/>
I am aware that the region has a long-range transportation plan.	<input type="radio"/>	<input type="radio"/>
Transportation planning is done well in Chittenden County.	<input type="radio"/>	<input type="radio"/>
I have participated in the planning process in my town or County.	<input type="radio"/>	<input type="radio"/>

next



Also within the first section of the survey, respondents were asked if they had the type of job that could be done at home. Respondents who answered “yes” were then asked if they would work at home full or part-time or offered the opportunity. Tabulations of these results can be found in the survey results section of this report.

PAIRED IMPORTANCE

The paired importance section of the survey forced respondents to trade-off different planning initiatives to discover which planning initiatives are most important to people. Each of these broad initiatives was described to respondents in detail so that they understood clearly what each planning initiative entailed (see survey script in Appendix 1). The goal of this section was to determine public opinion of the relative importance of each issue in order to prioritize transportation funding to the areas viewed most critical. Respondents were first asked to rank the importance of transportation-related statements within seven categories on a scale of 1 to 5, where “1” represented not important, “3” represented no opinion, and “5” was very important. The seven categories included: major road projects, improved and expanded transit service, improved bike/walk facilities, improved ridesharing incentives, preserving the condition of existing structures, improved safety, and minor highway efficiency projects. Examples of two of the seven importance ranking screens are shown below in Figure 4 and Figure 5. Once the respondent ranked the statements within each of these categories, they were then taken through an exercise where they were asked to trade off between a pair of transportation issues that may or may not be important to Chittenden County over the next 25 years. In each case, the respondent was asked to identify which issue they felt was more important. Each respondent saw twenty-one unique pairings in a randomized order. The pairings presented to the respondents are shown below in Table 2. Figure 6 and Figure 7 show examples of paired importance screens.



Figure 4: Importance Ranking Screen- Example 1

Chittenden County Year 2000 Transportation Survey

Issue: Improved and Expanded Transit Service

Please indicate how important each of these proposed measures is to you, based on the following scale of 1-5:

	not important 1	2	no opinion 3	4	very important 5
Increasing the frequency and number of hours per day the existing buses run	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making the buses more attractive and comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing heated and lighted bus shelters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expanding transit to and between all suburban towns in the County	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing express transit service to rural towns and park-and-ride lots	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Encouraging development that provides housing, employment and services within walking distance of transit stops.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


next 

Figure 5: Importance Ranking Screen – Example 2

Chittenden County Year 2000 Transportation Survey

Issue: Major Road Projects

Please indicate how important each of these proposed measures is to you, based on the following scale of 1-5:

	not important 1	2	no opinion 3	4	very important 5
Adding more travel lanes to congested roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building more freeways (interstate type highways) to serve statewide through traffic, trucks and town-to-town Chittenden County traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building more local arterial roads to provide additional travel route options within and between adjacent townships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Providing new interstate interchanges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


next 



Table 2: Paired Importance Tradeoffs

Improved Road Capacity	or	Improved Transit service on existing routes
Improved Road Capacity	or	Improved bike/walk facilities
Improved Road Capacity	or	Improved Ridesharing incentives
Improved Road Capacity	or	New transit routes
Improved Road Capacity	or	Improved Maintenance on existing roads
Improved Road Capacity	or	Improved Road safety
Improved Transit service on existing routes	or	Improved bike/walk facilities
Improved Transit service on existing routes	or	Improved Ridesharing incentives
Improved Transit service on existing routes	or	New transit routes
Improved Transit service on existing routes	or	Improved Maintenance on existing roads
Improved Transit service on existing routes	or	Improved Road safety
Improved bike/walk facilities	or	Improved Ridesharing incentives
Improved bike/walk facilities	or	New transit routes
Improved bike/walk facilities	or	Improved Maintenance on existing roads
Improved bike/walk facilities	or	Improved Road safety
Improved Ridesharing incentives	or	New transit routes
Improved Ridesharing incentives	or	Improved Maintenance on existing roads
Improved Ridesharing incentives	or	Improved Road safety
New transit routes	or	Improved Maintenance on existing roads
New transit routes	or	Improved Road safety
Improved Maintenance on existing roads	or	Improved Road safety



planning initiative is most important to Chittenden County residents (Table 3). The most important initiative is "preserving the condition of existing roads, bridges, sidewalks, bike paths and transit stops."

Improved ridesharing incentives is the "base" initiative and has the lowest rating, with all other planning initiative coefficients relative to the ridesharing-incentive base. All initiatives have highly significant coefficients (T-Statistics greater than 1.96), indicating that each initiative is statistically significant and that the model is robust.

Table 3--Paired Importance Regression Analysis Coefficients and T-Stats

Planning Initiative	Coefficient	T-Stat
Preserving the condition of existing roads, bridges, sidewalks, bike paths and transit stops	1.632	20.013
Improved safety	1.044	11.874
Improved bike/walk facilities	0.853	10.463
Improved and expanded transit service	0.741	8.438
Minor highway efficiency projects	0.639	6.548
Major Road Projects	0.345	3.53
Improved Ridesharing incentives	0	n/a

DEMOGRAPHICS

The final section of the survey questionnaire collected demographic data, such as household size, number of household vehicles, gender, age, zip code, and income that were used to determine differences in responses among different traveler segments.

At the end of the survey, respondents were given the opportunity to provide written comments regarding transportation in the area. These comments are included in Appendix C.

SURVEY ADMINISTRATION

The Chittenden County Year 2000 Transportation Survey was administered both at selected central-site locations by intercepting respondents at various locations around Chittenden County and over the Internet by inviting employees of large Chittenden County companies to participate and complete the survey on-line.

A team of Resource Systems Group field staff administered the survey in the field using six laptop computers from Thursday, November 2nd through Saturday, November 4th, 2000. In order to obtain responses from a demographically diverse group of residents and employees in Chittenden County, several disparate sites were selected. Table 4 below shows the locations, dates and hours of



administration, and numbers of respondents who completed the survey at those sites, generating a total of 163 respondents from central-site locations.

Table 4: Central-Site Survey Locations

Survey Location	Date	Hours	Respondents
Lantman's IGA - Hinesburg	11/2	9:30am - 4:15pm	27
DMV - Burlington	11/2	9:30am - 4:15pm	45
DMV - Burlington	11/3	8:30am - 4:00pm	39
Bridge St. Café - Richmond	11/3	8:00am - 12:45pm	10
Ben & Jerry's - So. Burlington	11/3	2:00pm - 4:00pm	8
Burlington Square Mall	11/4	11:30am - 5:00pm	15
Shelburne Supermarket	11/4	10:45am - 5:15pm	19
		Total:	163

In addition to gathering central-site surveys, Resource Systems Group also contacted many of the county's largest employers during the month of October in order to gain permission to administer the survey to their employees. Employers who agreed to participate used three methods to make the survey available to their employees.

- ▲ **Method 1:** The most widely used and most successful method was to have the invitation to participate sent by the company itself by e-mail to each employee; interested employees then indicated their willingness to participate by clicking a direct link to RSG; a personal password and direct link to the survey website was immediately returned to the interested employee.
- ▲ **Method 2:** A second electronic method used was to have RSG directly e-mail the survey invitation, personal password, and direct link to the survey website in just one message. However, most employers were reluctant, if not outright unwilling, to give out their employee e-mail address list.
- ▲ **Method 3:** The last method used was to distribute flyers with the invitation and personal password throughout the companies whose employees were not able to receive e-mail at their place of employment.

Table 5 shows participating employers, the method used, and the number of respondents generated, yielding a total of 165 respondents who completed the survey over the Internet.



Table 5: Internet Administration

Employer	Method of Invitation	# Respondents
IDX	1	53
General Dynamics	1	25
Ben & Jerry's	3 and site visit	18
Merrill Lynch	1	13
Dynastar	1	12
Green Mountain Bike Club	1	9
FabTech	3	4
KPMG	1	4
Bombardier Capital	1	2
Hickok Boardman	2	1
Flyers handed out in field	3	24
	Total:	165

SURVEY RESULTS

In total, 328 respondents completed the survey. The median amount of time taken by respondents to complete the survey was slightly less than twenty minutes. The responses are split nearly evenly between those received over the Internet and those gathered at central-sites. The following analysis of the survey results will be divided into three sections following the layout of the survey questionnaire: Performance Measures, Paired Importance Choices, and Demographics.

STATISTICAL PRECISION OF THE ATTITUDE AND IMPORTANCE QUESTIONS

While we did not ultimately obtain the full 400 respondents we hoped to survey for this study, we still have strong statistical precision for each question in the questionnaire based on the 328 respondents we did obtain.

In fact, for the total sample, the 95% confidence level on a typical question's mean has an average error of plus or minus 3.5%. The absolute error on a typical question is 0.11.

For example, the question, "The major roads and bridges throughout Chittenden County are in good condition" has a mean of 3.04 across all respondents. This question's absolute error (derived from its mean, standard deviation, and sample size) is plus or minus .112 at 95% confidence on its scale of 1 to 5. This says we are 95% confident the true mean of this questions lies between 2.92 and 3.15. On a mean of 3.04, this is an error of plus or minus 4%.

Any segmentation of the data set will increase error somewhat. However, the above example has an error of plus or minus 5% even when the data set is segmented into two parts.

A table of all attitude and importance questions in the study and their errors is provided in Appendix D.



PERFORMANCE MEASURES

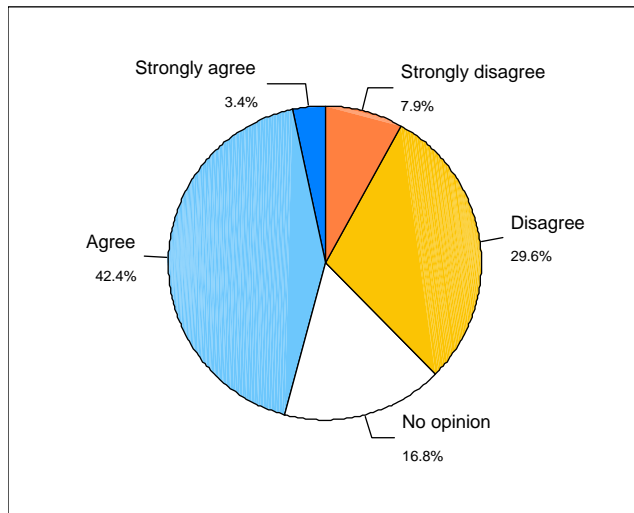
As described above, in this section of the survey respondents were asked to indicate their opinion of each of the statements shown to them. Tables of the results from each of the five sections of statements (Highway/Auto Travel, Public Transportation, Bike/Walk, Behavior/Policy, and Quality of Life/Environment/Economy) are shown below. Each table includes a column of mean scores for each statement. Table 6 shows the opinion ratings for Highway/Auto Travel. Interestingly, the data show a wide range of opinion among respondents regarding the condition of the major roads and bridges throughout the County as shown in Figure 8. Responses to this statement include 38% that either disagree or strongly disagree and 45% that agree or strongly agree.

Table 6: Opinion Rating – Highway/Auto Travel

	Strongly disagree (1)	Disagree (2)	No opinion (3)	Agree (4)	Strongly agree (5)	Total	Mean
The major roads and bridges throughout Chittenden County are in good condition.	8%	30%	17%	42%	3%	100%	3.0
The streets in my neighborhood are in good condition.	4%	16%	16%	56%	8%	100%	3.5
Traffic congestion affects the majority of trips I make.	6%	23%	16%	38%	17%	100%	3.4
Traffic congestion gets noticeably worse every year.	2%	6%	14%	42%	36%	100%	4.0
I know where to find information on traffic condition and highway construction.	13%	41%	13%	29%	4%	100%	2.7
I often drive on back roads and residential streets to avoid congested highways.	3%	16%	10%	40%	31%	100%	3.8
I am often delayed by road construction, accidents or special event traffic.	4%	35%	17%	34%	10%	100%	3.1
Traveling by car is safe in Chittenden County.	2%	10%	20%	58%	10%	100%	3.7
Driving in Chittenden County becomes more dangerous each year.	2%	22%	33%	35%	8%	100%	3.2
It is difficult to find a convenient parking spot in the older, downtown commercial areas.	4%	18%	13%	39%	26%	100%	3.6
There are enough park and ride lots in Chittenden County.	8%	29%	48%	13%	2%	100%	2.7
There are enough rideshare and carpool opportunities in Chittenden County.	5%	23%	57%	14%	1%	100%	2.8
Overall, driving is a pleasant experience in Chittenden County.	5%	22%	30%	39%	4%	100%	3.1



Figure 8: "The major roads and bridges throughout Chittenden County are in good condition."



The second section of performance measures included statements regarding public transportation. Data for these statements is shown in Table 7. Respondents indicated they had "no opinion" regarding public transportation statements more often than indicated for other performance measures. On average, 44% of respondents indicated "no opinion" regarding the public transportation statements showing that most respondents presumably have never, or do not regularly, use the County's public transportation. Although the public transportation statements show the highest incidence of "no opinion" ratings, this section of performance measures did not receive the lowest average mean rating.



Table 7: Opinion Rating – Public Transportation

	Strongly disagree (1)	Disagree (2)	No opinion (3)	Agree (4)	Strongly agree (5)	Total	Mean
It's easy for me to get bus route and schedule information.	5%	18%	35%	35%	7%	100%	3.2
The bus system offers routes and schedules that are convenient for me.	27%	25%	33%	13%	2%	100%	2.4
The bus stops are conveniently located.	12%	16%	42%	27%	3%	100%	2.9
The bus stop shelters are comfortable, clean and safe.	10%	20%	55%	13%	2%	100%	2.8
The buses are always clean, comfortable, and have seats available.	3%	7%	70%	17%	3%	100%	3.1
I am not afraid to ride the bus.	2%	6%	17%	51%	24%	100%	3.9
The bus operators are always courteous towards the passengers and knowledgeable of the route.	0%	3%	59%	28%	10%	100%	3.4
If necessary, I could take the bus to where I want to go.	20%	25%	30%	22%	3%	100%	2.6
Overall, I am very satisfied with the bus system.	7%	16%	58%	16%	3%	100%	2.9

The statement within the public transportation section receiving the lowest rating was concerning the convenience of bus routes and schedules. Figure 9 illustrates that 52% of respondents indicated their displeasure with bus service. Males were more likely than females to indicate that they were not afraid to ride the bus as shown in Figure 10. In 84% of the cases, males indicated they agreed or strongly agreed with this statement as compared with only 63% of females.



Figure 9: "The bus system offers routes and schedules that are convenient for me."

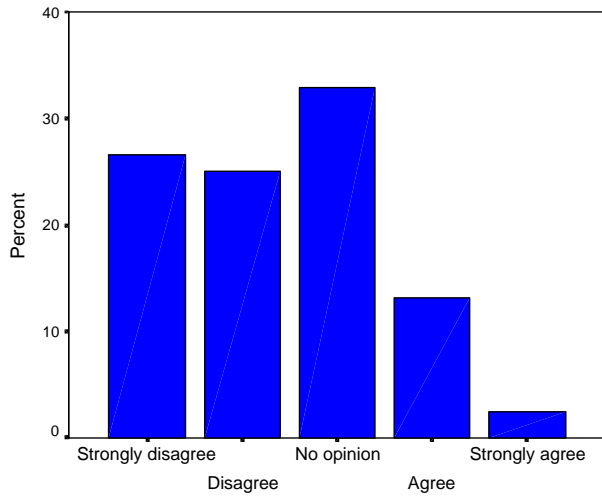
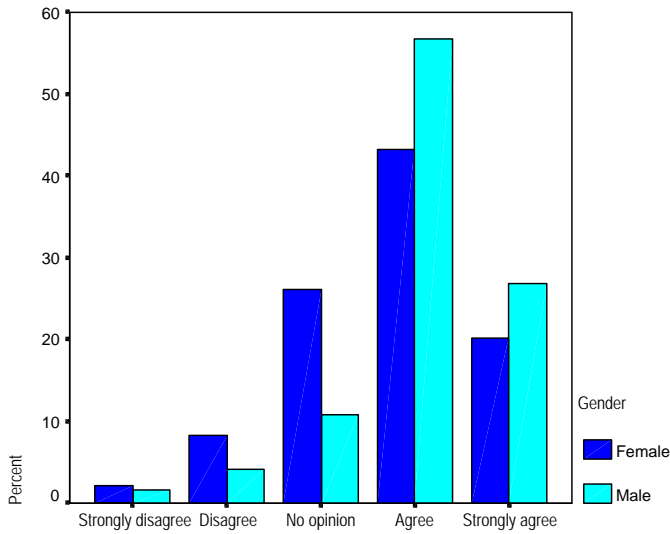


Figure 10: "I am not afraid to ride the bus"



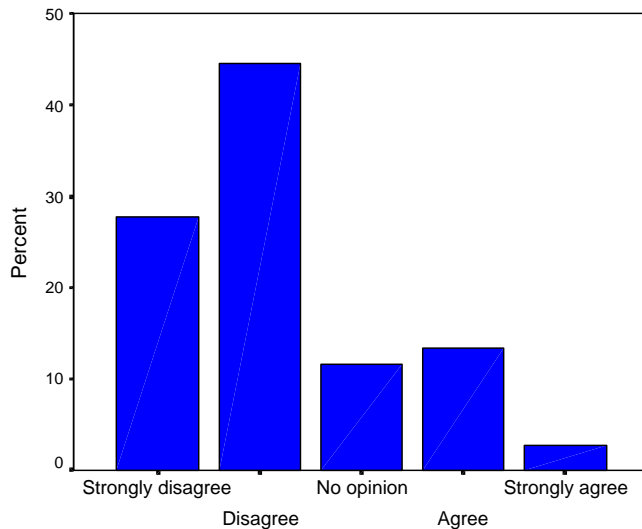
Statements regarding biking and walking facilities in the County comprised the third section of performance measures. The Bike/Walk category as a whole received the lowest overall mean opinion ratings (2.8). Ratings for each statement within this category are shown in Table 8. Within this category, respondents showed their dissatisfaction most strongly in regard to the lack of bike paths and the danger associated with children biking in their communities.



Table 8: Opinion Rating: Sidewalks, Bike Paths, Safety

	Strongly disagree (1)	Disagree (2)	No opinion (3)	Agree (4)	Strongly agree (5)	Total	Mean
The sidewalks and bike paths in my neighborhood, town or city are in good condition.	10%	23%	19%	42%	6%	100%	3.1
There are enough sidewalks in my city or town.	16%	32%	16%	30%	6%	100%	2.8
There are enough separated bike paths and/or bike lanes along roads in my city or town.	28%	45%	11%	13%	3%	100%	2.2
I live close enough to walk to work, schools, shopping, services or recreational/entertainment opportunities.	31%	33%	10%	16%	10%	100%	2.4
I feel safe when crossing a road on foot.	9%	22%	17%	41%	11%	100%	3.2
Travelling by bicycle is safe for teenagers and adults.	14%	33%	15%	33%	5%	100%	2.8
Travelling by bicycle is safe for children.	28%	42%	14%	14%	2%	100%	2.2
Overall, walking is a pleasant experience in Chittenden County.	4%	12%	22%	54%	8%	100%	3.5
Overall, travelling by bicycle is a pleasant experience in Chittenden County.	8%	25%	25%	34%	8%	100%	3.1

Figure 11: "There are enough separated bike paths and/or bike lanes along roads in my city or town."



Respondents were asked if they felt there are ample sidewalks in their city or town. Interestingly, the older the respondent, the more strongly they feel that their community lacks a sufficient number of sidewalks. Among the youngest group of respondents, aged 18 to 24 years old, only 25% felt there were not enough sidewalks in their community as compared with 58% of 55 to 64 year olds and 62% of those over 65%.



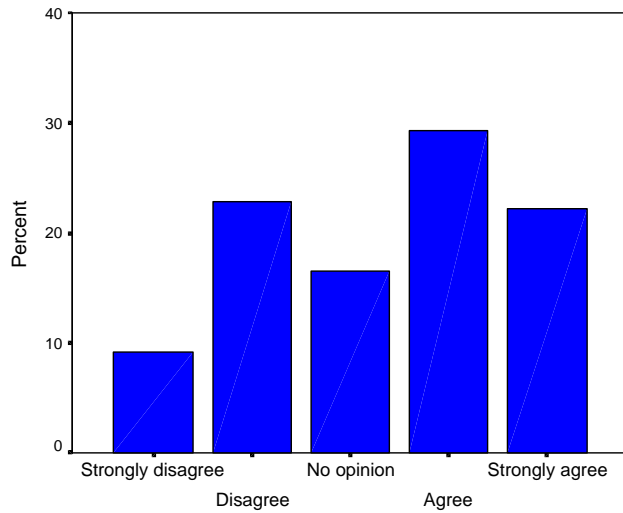
The section of statements within performance measures receiving the highest overall mean opinion ratings was Behavior Patterns and Attitudes (3.3). The two statements receiving the highest marks within this category involve stated intentions of respondents given future scenarios. Although the interest respondents shown for walking more regularly and working at home if possible, it is important to note that there will be some (unknown) difference between the respondents stated intentions and their actual future behavior.

Table 9: Opinion Rating: Behavior Patterns and Attitudes

	Strongly disagree (1)	Disagree (2)	No opinion (3)	Agree (4)	Strongly agree (5)	Total	Mean
If it cost more to drive my car, I would make fewer trips.	10%	34%	15%	32%	9%	100%	3.0
Nothing will replace my car as my main mode of transportation.	9%	23%	17%	29%	22%	100%	3.3
I support increasing gas taxes to help pay only for highway projects.	27%	29%	14%	24%	6%	100%	2.5
I support increasing gas taxes to pay for non highway projects such as transit, sidewalks, and bike paths.	26%	17%	9%	28%	20%	100%	3.0
I would take the bus if the routes and schedule were convenient for me.	8%	21%	13%	39%	19%	100%	3.4
I would walk to work, school, shopping or other activities if they were close enough.	1%	6%	6%	49%	38%	100%	4.2
I would walk more often if safe sidewalks were provided.	3%	14%	27%	33%	23%	100%	3.6
I would walk more often if the environment along the street was improved with landscaping, attractive lighting, benches, and other amenities.	6%	14%	28%	33%	19%	100%	3.4
I have reduced the number of trips I make by using the internet for shopping, to pay bills, to take courses or for work.	17%	30%	16%	28%	9%	100%	2.8
I would work at home some or all of the time if given the opportunity (rated by those who have type of job that could be done at home).	2%	8%	6%	39%	45%	100%	4.2



Figure 12: "Nothing will replace my car as my main mode of transportation."



The statement, "I would take the bus if the routes and schedule were convenient for me", asked respondents to indicate their intentions based on a future scenario. Although actual future behavior is difficult to predict, these data indicate that if bus service were improved, ridership would presumably increase.

Figure 13: "I would take the bus if the routes and schedule were convenient for me."

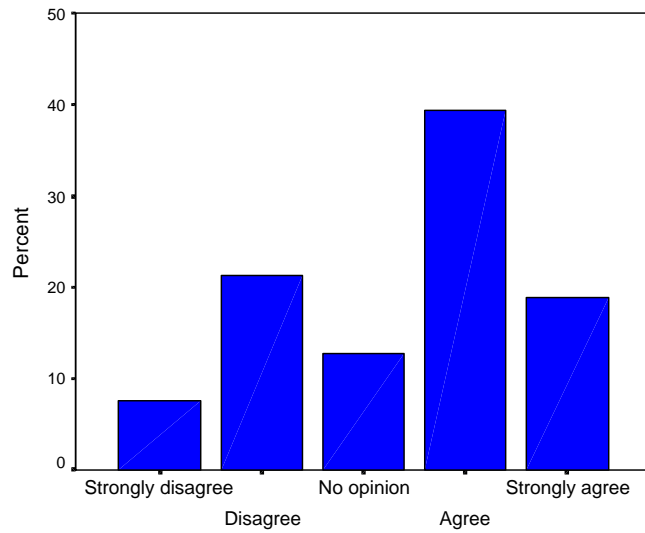
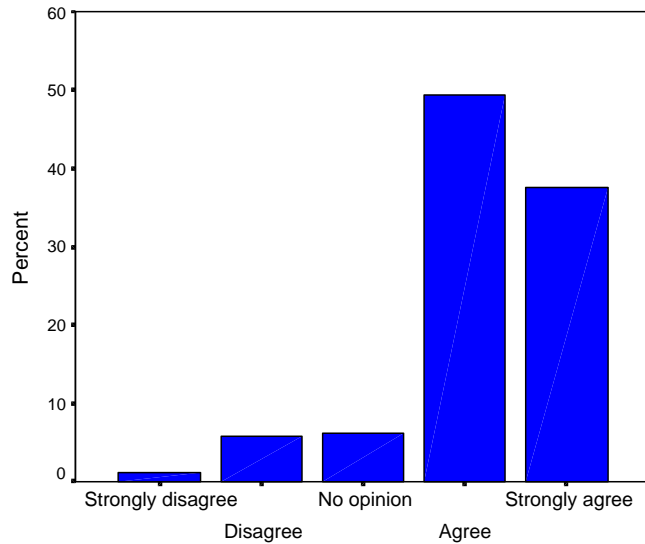
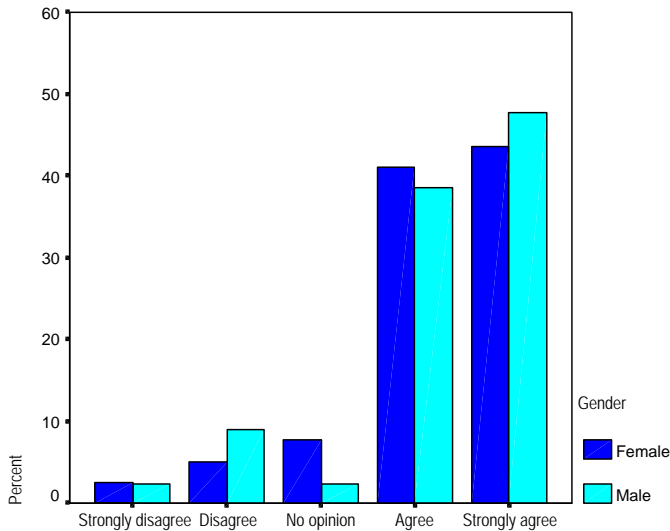


Figure 14: "I would walk to work, school, shopping, or other activities if they were close enough."



All respondents were asked if they have the type of job that could be done at home. One quarter of respondents answered "yes" to this question. Among these respondents who answered that they have the type of job that could be done at home, 86% answered that they would work at home full or part-time if presented with the opportunity. Figure 15 shows that there is no significant difference between male and female responses to this statement.

Figure 15: "I would work at home some or all of the time given the opportunity (rated by those who have the type of job that could be done at home)."



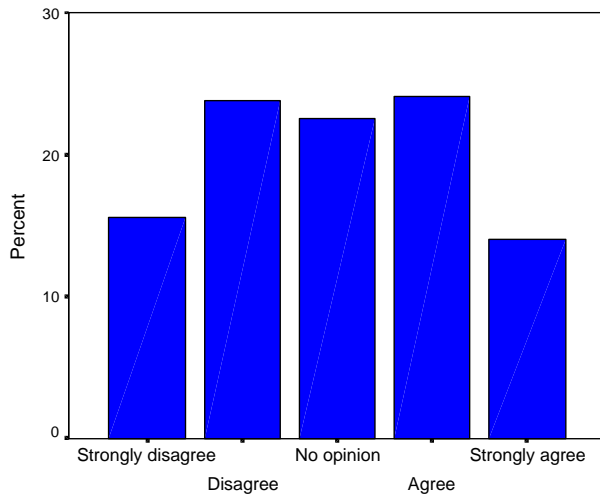
The final performance measures section included statements regarding transportation and quality of life. The opinion ratings for this section are shown below in Table 10.

Table 10: Opinion Ratings: Transportation and Quality of Life

	Strongly disagree (1)	Disagree (2)	No opinion (3)	Agree (4)	Strongly agree (5)	Total	Mean
The noise and emissions from cars, buses, and trucks travelling along the roads seem to be getting worse each year.	2%	9%	20%	44%	25%	100%	3.8
There is a significant amount of cut through traffic in my neighborhood.	16%	24%	22%	24%	14%	100%	3.0
Completed highway projects, including new roads and reconstruction of existing roads, have been constructed in a way that enhanced the areas in which they pass.	6%	18%	34%	37%	5%	100%	3.2
The transportation system would be considered an asset to a business wishing to expand or locate in Chittenden County.	7%	25%	32%	27%	9%	100%	3.0
The streets in my neighborhood are safe and pleasant.	2%	14%	16%	52%	16%	100%	3.6
Overall, Chittenden County's transportation system enhances the quality of my life by allowing me to travel to work and other daily activities in a safe and efficient manner.	5%	23%	33%	36%	3%	100%	3.1
When deciding how to make a typical daily trip, my car is the only safe, convenient and affordable mode available to me.	8%	16%	10%	40%	26%	100%	3.6
Enough is being done to address the transportation needs of the young, elderly, disabled and low-income populations.	19%	37%	31%	11%	2%	100%	2.4

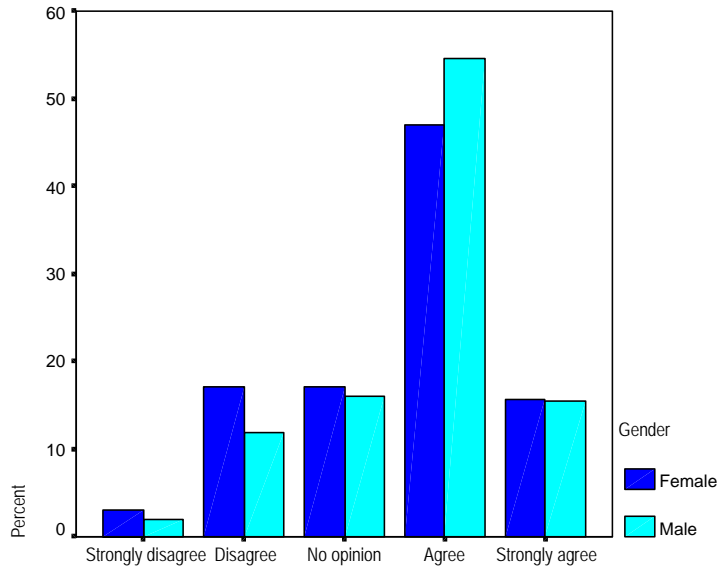
The issue of cut-through traffic is one that interestingly drew a wide range of opinion. Figure 16 illustrates that opinion is quite evenly split on this issue.

Figure 16: "There is a significant amount of cut through traffic in my neighborhood."



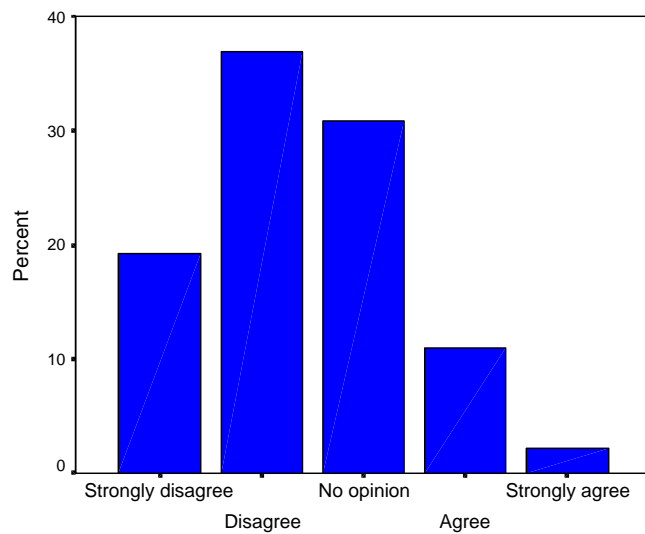
Males are only slightly more in the opinion than females that the streets in their communities are “safe and pleasant” as shown below by Figure 17.

Figure 17: “The streets in my neighborhood are safe and pleasant.”



In general, respondents believe that not enough is being done to address the transportation needs of all members of their community (see Figure 18).

Figure 18: “Enough is being done to address the transportation needs of the young, elderly, disabled and low-income populations.”



The performance measures section also included four statements related to the MPO’s decisions and activities. Results from this section are tabulated below in Table 11.

Table 11: Awareness, Attitude, and Participation in Transportation Planning

	Yes	No	Total
I am aware of how transportation improvements are selected.	21%	79%	100%
I am aware that the region has a long range transportation plan.	55%	44%	100%
Transportation planning is done well in Chittenden County.	33%	67%	100%
I have participated in the planning process in my town or for the County.	12%	88%	100%

Males and females responded very similarly when asked if they felt “transportation planning is done well in Chittenden County” and when asked if they had participated in transportation planning in their area as shown below in Figure 19 and Figure 20.

Figure 19: Opinion of Transportation Planning

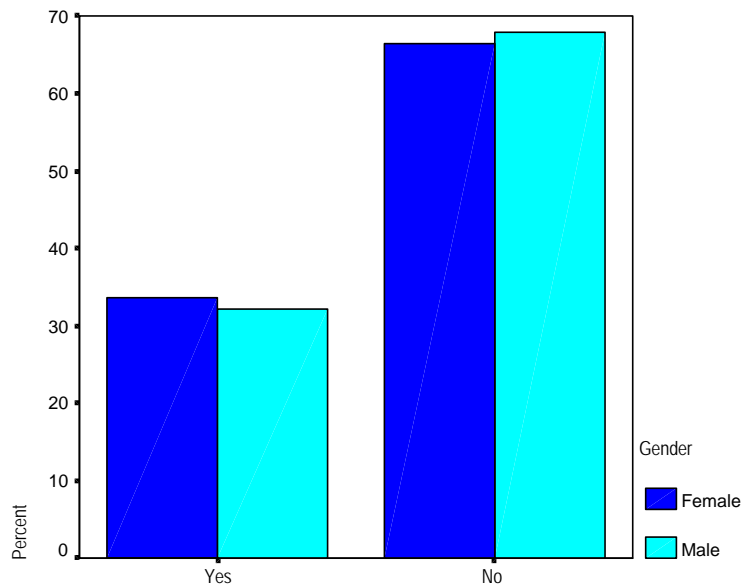
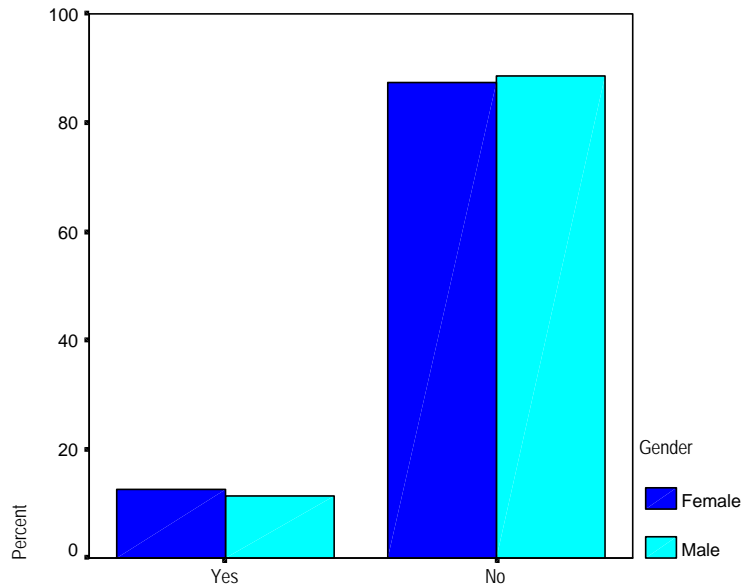


Figure 20: Participation in Local Transportation Planning



PAIRED IMPORTANCE RESULTS

Following the performance measures section of the survey questionnaire, respondents were asked to rate the importance of a number of statements within seven categories: major road projects, improved and expanded transit service, improved bike/walk facilities, improved ridesharing incentives, preserving the condition of existing structures, improved safety, and minor highway efficiency projects. These categories were then matched up against each other to determine the respondent’s opinion of the categories relative to each other. The importance ratings from the first category, Major Road Projects, are shown in Table 12.

Table 12: Importance of Issue: Major Road Projects

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Adding more travel lanes to congested roads	12%	11%	8%	43%	26%	100%	3.6
Building more freeways (interstate type highways) to serve statewide through traffic, trucks and town-to-town Chittenden County traffic	19%	22%	10%	28%	20%	100%	3.1
Building more local arterial roads to provide additional travel route options within and between adjacent townships	16%	15%	18%	36%	16%	100%	3.2
Providing new interstate interchanges	20%	17%	18%	27%	18%	100%	3.1



Among major road projects, respondents felt that adding more travel lanes to existing roads was the most important issue. As shown in Figure 21, 69% of respondents answered that adding travel lanes was either important or very important.

Figure 21: Importance Rating of Adding More Travel Lanes to Congested Roads

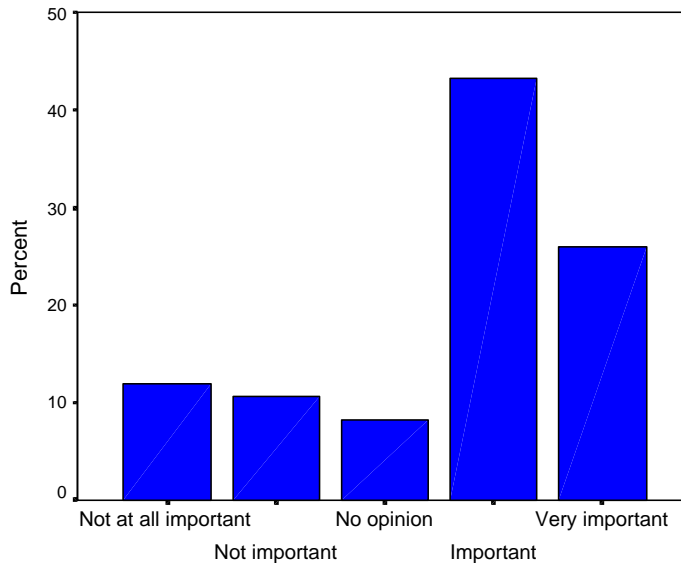


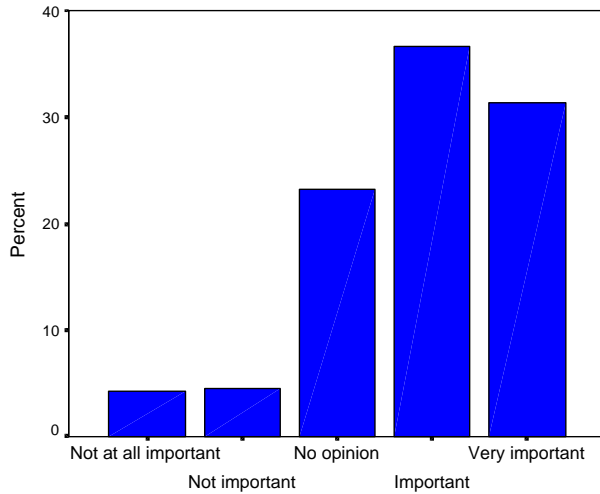
Table 13 below shows the importance ratings for the statements within the category of Improved and Expand Transit Service. Respondents feel that “Expanding transit to and between all suburban towns in the County” is the area of highest importance within this category.

Table 13: Importance of Issue: Improved and Expanded Transit Service

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Increasing the frequency and number of hours per day the existing buses run.	9%	6%	44%	23%	19%	100%	3.4
Making the buses more attractive and comfortable.	11%	9%	50%	21%	9%	100%	3.1
Providing heated and lighted bus shelters.	9%	6%	36%	31%	19%	100%	3.4
Expanding transit to and between all suburban towns in the County.	4%	5%	23%	37%	31%	100%	3.9
Providing express transit service to rural towns and park-and-ride lots.	5%	5%	25%	37%	29%	100%	3.8



Figure 22: "Expanding transit to and between all suburban towns in the County."



The paired importance category receiving the highest overall mean rating was Improved Bike/Walk Facilities with an overall mean rating of 4.0 (see Table 14). Among the performance measures, the bike/walk category received ratings indicating that respondents were most dissatisfied with this area of the County’s transportation. Therefore, while respondents are unhappy with bike/walk facilities such as bike lanes and sidewalks, they feel that this area is the one in most need of improvement.

Table 14: Importance of Issue: Improved Bike/Walk Facilities

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Providing separated bike paths.	4%	6%	11%	38%	40%	100%	4.1
Providing bike lanes along existing roads.	4%	5%	12%	38%	41%	100%	4.1
Providing bicycle amenities such as bike racks, bike shelters and lockers.	7%	10%	23%	34%	26%	100%	3.6
Fixing existing sidewalks that are in poor condition.	0%	2%	10%	51%	37%	100%	4.2
Providing new sidewalks.	1%	7%	16%	43%	33%	100%	4
Encouraging development that locates jobs, housing, schools, services and recreation within walking distance of each other.	3%	4%	18%	38%	36%	100%	4
Provide amenities such as green strips, benches, trees and other landscaping to improve the pedestrian environment.	3%	7%	17%	40%	32%	100%	3.9

Figure 23 illustrates that the overwhelming majority of respondents (88%) feel that repairing sidewalks is important.



Figure 23: Importance of Repairing Existing Sidewalks that are in Poor Condition.

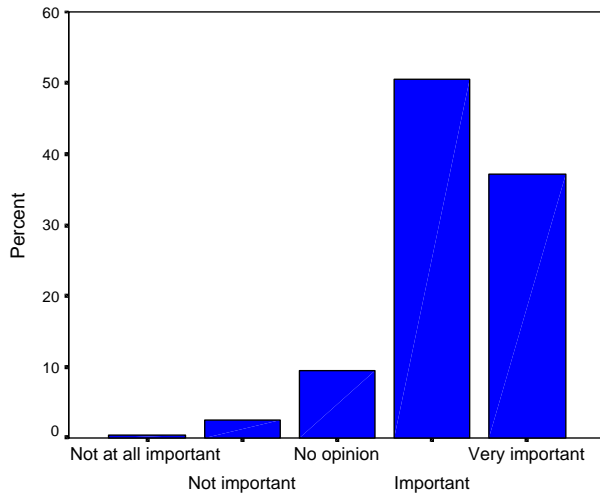


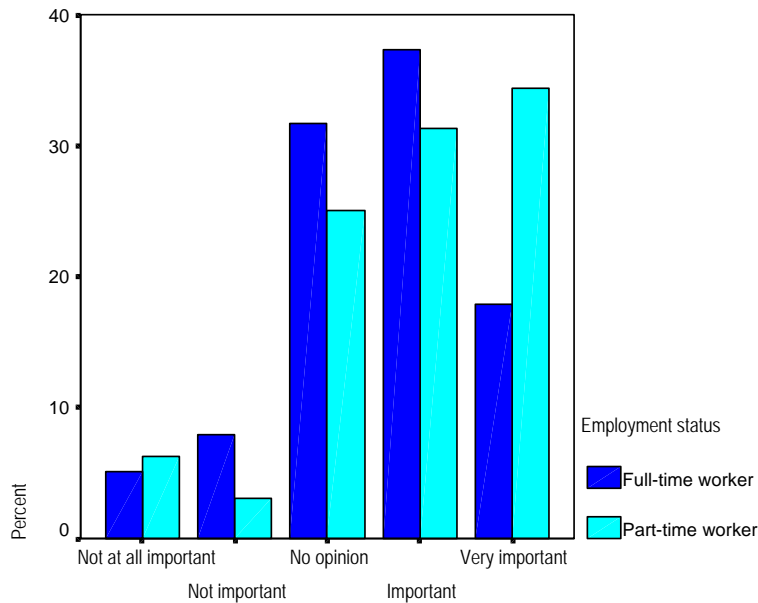
Table 15: Importance of Issue: Improved Ridesharing

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Improving carpool ride-matching services.	5%	7%	40%	31%	17%	100%	3.5
Encouraging employers to pay employees subsidies to carpool or vanpool.	10%	7%	26%	35%	22%	100%	3.5
Encouraging employers to subsidize employee bus passes.	9%	6%	24%	37%	24%	100%	3.6
Providing guaranteed ride home programs for carpools who have to work late or leave work early.	6%	8%	27%	34%	25%	100%	3.6
Providing vanpool transportation through your employer.	11%	9%	31%	32%	17%	100%	3.4
Providing preferential parking spaces at work for those who carpool.	13%	11%	24%	33%	18%	100%	3.3
Providing more park-and-ride lots for carpooling.	6%	8%	32%	35%	20%	100%	3.6

Respondents who work part-time more strongly support increased park-and-ride lots for carpooling than full-time workers (Figure 24). A total of 63% of part-time workers favor these lots as compared with only 48% of respondents who work full-time.



Figure 24: Importance of Providing More Park-and-Ride Lots for Carpooling



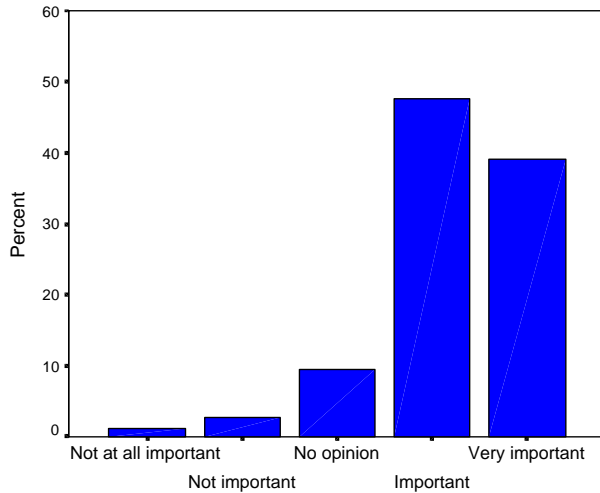
Within the paired importance category of preserving existing structures, it is not surprising that respondents answered that repairing old bridges should be of top priority followed by three areas which received equal support: repaving roads, upgrading sidewalks and repainting road lines. Table 16 shows that respondents feel that it is important to maintain the condition of the County’s entire transportation infrastructure. While maintenance of bus stops received the lowest marks, the data show that respondents feel this area is still important.

Table 16: Importance of Issue: Preserving the Condition of Existing Structures

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Repaving existing roads	2%	8%	15%	49%	26%	100%	3.9
Upgrading existing sidewalks	2%	6%	17%	50%	25%	100%	3.9
Upgrading existing bike paths	3%	10%	19%	41%	27%	100%	3.8
Fixing poor bridges	1%	3%	10%	48%	39%	100%	4.2
Repainting road lines	2%	9%	15%	46%	29%	100%	3.9
Clean and repair bus stops	5%	9%	34%	37%	15%	100%	3.5



Figure 25: Importance of Repairing Poor Bridges



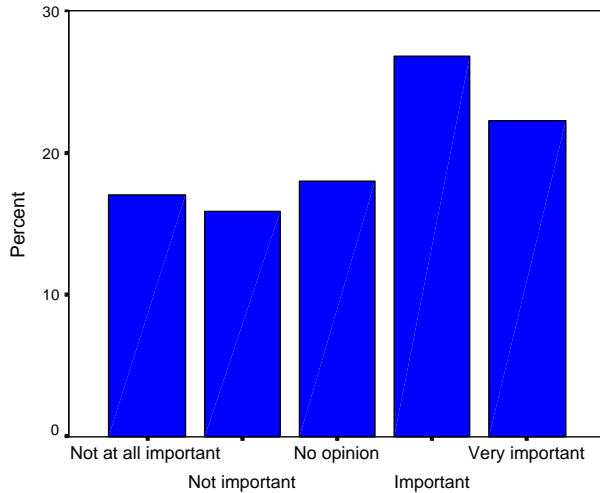
The statement within the “Improved Safety” paired importance category receiving the lowest marks was related to the importance of slowing traffic (see Table 17). While the majority of respondents were in favor of such calming devices as speed humps, bump outs, or narrower streets, as shown below in Figure 26, they did not rank this statement as highly as the other safety-related statements.

Table 17: Importance of Issue: Improved Safety

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Providing sidewalks and bike paths	2%	4%	9%	41%	45%	100%	4.2
Slowing traffic using calming devices such as speed humps, bump outs or narrow streets with green belts and trees	17%	16%	18%	27%	22%	100%	3.2
Improving road signage	5%	12%	26%	35%	22%	100%	3.6
Fixing dangerous intersections by installing stop signs, traffic signals, roundabouts, pedestrian signals or by reconstructing lanes	2%	4%	10%	44%	41%	100%	4.2
Reducing sharp corners and blind spots on highways	3%	6%	18%	40%	33%	100%	3.9
Improving crosswalks	1%	8%	18%	44%	28%	100%	3.9
Installing medians that prevent left turns along arterial highways	9%	12%	28%	31%	20%	100%	3.4



Figure 26: Importance of Slowing Traffic Using Calming Devices (Speed Humps, Bump Outs, Narrow Streets)



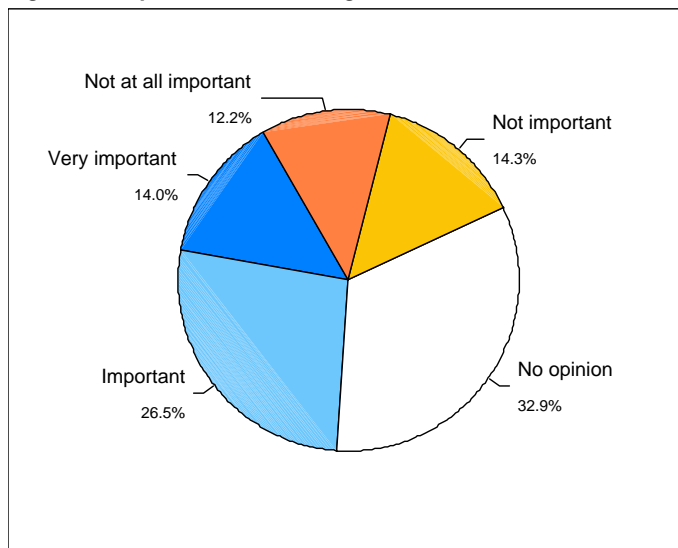
The final paired importance category included statements related to Minor Highway Efficiency Projects. Table 18 shows tabulations of the importance rankings for these statements. It is worth noting that among these importance variables, the statement receiving the highest importance rating was related to improving traffic signal timing and coordination. The data for this variable show that while only 3% of respondents felt traffic signal coordination was not important, 89% indicated that they felt this area was either important or very important.

Table 18: Importance of Issue: Minor Highway Efficiency Projects

	Not at all important (1)	Not important (2)	No opinion (3)	Important (4)	Very important (5)	Total	Mean
Adding turning lanes at intersections.	3%	4%	14%	48%	32%	100%	4
Improving traffic signal timing and better coordination of traffic signals in close proximity to each other.	1%	2%	8%	38%	51%	100%	4.4
Installing roundabouts.	12%	14%	33%	27%	14%	100%	3.2
Providing traveler information.	6%	12%	39%	32%	11%	100%	3.3
Consolidating commercial driveways.	2%	7%	34%	37%	20%	100%	3.6

Figure 27 shows that respondents were generally in favor of installing roundabouts. Data for this variable show that 41% of men and 40% of women surveyed feel that roundabouts are either “important” or “very important”.



Figure 27: Importance of Installing Roundabouts

PAIRED IMPORTANCE CONCLUSIONS

As seen in Table 3, Chittenden County residents, on the whole, want their current transportation infrastructure maintained in good working condition as their first priority. Maintaining and fixing bridges, roads, and sidewalks are the specific projects CCMPO should focus on.

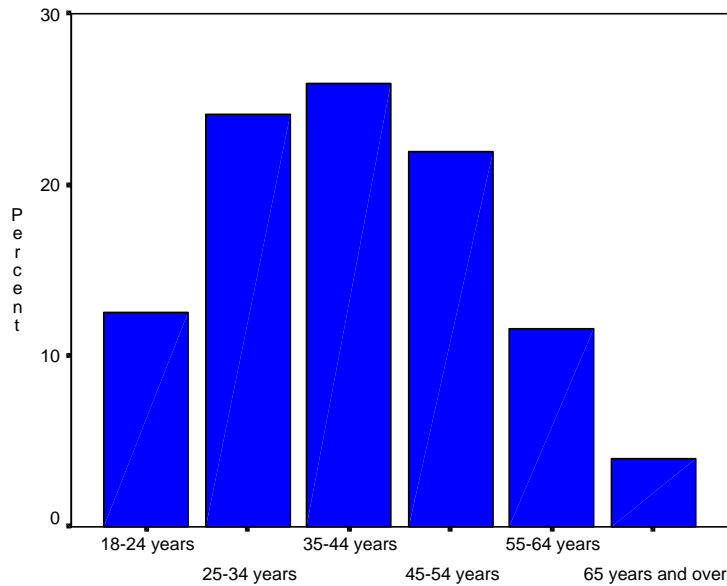
Safety is the second-most important concern of residents. Pedestrian/bike safety should be enhanced by providing sidewalks and bike paths where none currently exist. Fixing dangerous intersections is the next most critical need for residents.

It should be noted that ridesharing initiatives are viewed as the least effective planning initiative that CCMPO should undertake. CCMPO should focus most of its energies on the planning initiatives higher on the scale shown in Table 3.

DEMOGRAPHICS

Of the 328 respondents, 41% were women and 59% were men. The respondent group represents all age categories with respondents most commonly reporting that they are between the ages of 25 and 54 years old. See Figure 28 below for the age distribution among respondents.



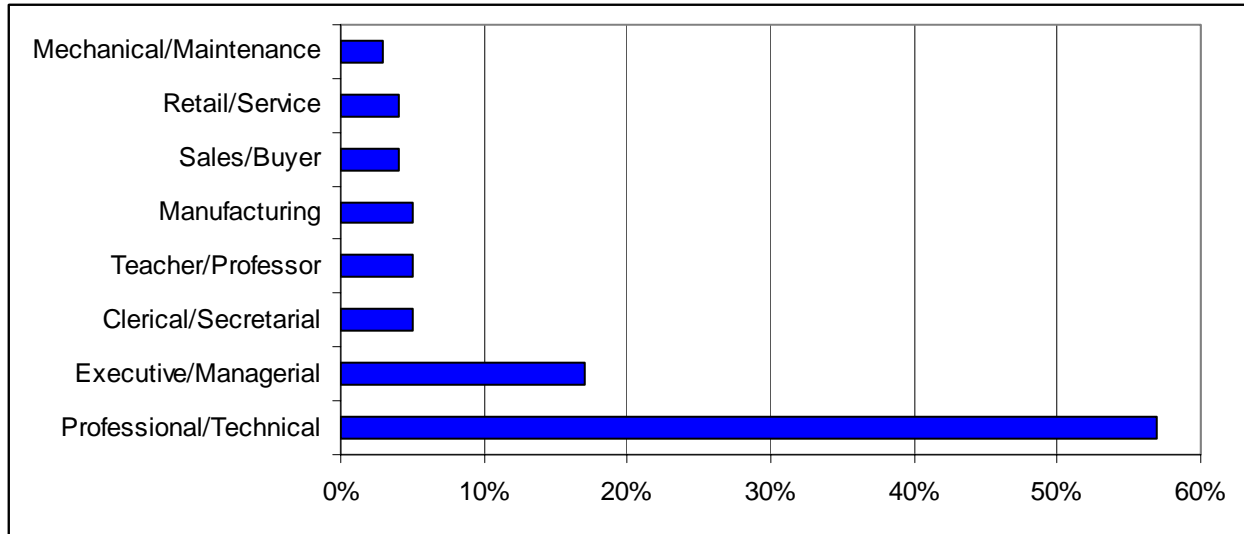
Figure 28: Age category

The number of adults in each household was most commonly reported as two (67%) and 59% of respondents have no children in their household followed by 18% with two children. Over three-quarters of respondents have two or more motor vehicles belonging to their household, and more than three-quarters are employed full-time. Part-time workers made up 10% of the sample followed by student (5%) and retirees (4%).

Respondents who answered that they worked full or part-time were asked to identify their employment position. As illustrated in Figure 29, the majority of respondents work within the “Professional/Technical” field (57%) followed by 17% in the “Executive/Managerial” field, and the remaining respondents quite evenly divided among the rest of the fields.



Figure 29: Employment Position



As shown in Table 19, the 328 respondents represent 38 towns within Chittenden County. There were five respondents who entered an invalid home zip code and three respondents who did not provide their zip code.

Table 19: Hometowns

Town	Count	Town	Count
Burlington	73	Underhill	2
Shelburne	31	Essex	1
Hinesburg	29	Fairfax	1
Essex Jct.	26	Fairfield	1
S. Burlington	26	Ferrisburg	1
Colchester	20	Grand Isle	1
Williston	19	Hardwick	1
Milton	15	Highgate Ctr.	1
Jericho	14	Isle La Motte	1
Richmond	10	Jeffersonville	1
Charlotte	9	Middlebury	1
Winooski	6	N. Ferrisburg	1
Bristol	4	S. Hero	1
St. Albans	4	Sheldon	1
Burlington	3	Starksboro	1
Swanton	3	Stowe	1
Waterbury	3	Vergennes	1
Burlington	2	Wolcott	1
Huntington	2	Unknown	5
N. Hero	2	Did not answer	3
		Total:	328



The final question on the survey asked respondents to identify their annual household income. Of the 328 respondents, all but 9 were willing to provide this information. Figure 30 illustrates how the respondent group was distributed over the six income brackets.

Figure 30: Annual Household Income

