VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

APPLICANT DATABASE
PLACEMENT SURVEY REPORT

SOUTHERN VIRGINIA
COMMUTER ASSISTANCE PROGRAMS

APPLICATIONS RECEIVED BETWEEN APRIL 1, 2011 AND MARCH 31, 2012
(SEPTEMBER-OCTOBER 2012 SURVEY)

Prepared for:

Virginia Department of Rail and Public Transportation

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EXECUTIVE SUMMARY

This report presents results of a survey about commuter transportation assistance services offered by five commuter assistance programs supported by the Virginia Department of Rail and Public Transportation (DRPT) and providing services to commuters living and/or working in the southern portion of Virginia. The survey was performed to measure the effectiveness of services provided by these commuter assistance programs and assess commuters' satisfaction with the services. The five DRPT-assisted commuter assistance programs in Southern Virginia are shown below. DRPT also supports nine commuter assistance programs in Northern Virginia.

Southern Virginia
- Charlottesville & Central Shenandoah Rideshare (Charlottesville)
- TRAFFIX (Hampton Roads)
- Middle Peninsula Rideshare (Middle Peninsula)
- RideFinders (Richmond)
- Roanoke and New River Valley RIDE Solutions (Roanoke)

Northern Virginia
- Local Motion (City of Alexandria)
- Arlington County Commuter Services (Arlington County)
- Fairfax County RideSources (Fairfax County)
- Loudoun County Commuter Services (Loudoun County)
- Northern Neck Rideshare (Northern Neck)
- Northern Shenandoah Valley Commuter Assistance Program / RideSmart (Northern Shenandoah Valley)
- PTRC Omni Match (Prince William County)
- GW Ride Connect (Fredericksburg)
- (Rappahannock-Rapidan Commuter Services (Rappahannock-Rapidan)

All of these programs offer services such as carpool and vanpool matchlists, transit route and schedule information, information on Park & Ride lot locations and HOV facilities, and telework assistance. Commuters obtain services by submitting information and service requests via a program-sponsored website or toll-free telephone number, or through an employer or a transportation management association (TMA). Additionally, some services are available for immediate download from program websites.

We note that the nine Northern Virginia programs are coordinated with and, in some respects, linked to regional commuter services provided by the Metropolitan Washington Council of Governments' Commuter Connections program. The nine local programs in Northern Virginia provide some services directly to commuters, but Commuter Connections performs ridematching, administers the regional Guaranteed Ride Home program, conducts commute-oriented advertising, and provides other travel information and support services throughout the Washington metropolitan region.

For this reason, some assisted commuters would be aware only of the name, "Commuter Connections," rather than the local program name. To account for this likelihood, respondents for the Northern Virginia programs were asked about services they received from the local program or from Commuter Connections. We note that this makes it difficult to separate the local program influences or impacts of the Northern Virginia programs from the impacts of the regional support services offered in these areas.

This report presents the survey results for the five Southern Virginia programs combined. The report also estimates the collective transportation and air quality impacts for the programs for FY2012. Data for the analysis were collected in September-October 2012 through Internet and telephone surveys of 575 respondents who had requested or received information or assistance from one of the five programs between April 1, 2011 and March 31, 2012.

Southern Virginia Programs – FY 2012
Participation, Utilization, and Impact Performance

Participation and Utilization Measures

- Commuter applicants   4,891

- Applicant placement rates
  - Overall (all changes)   59.6%
  - Continued rate   39.7%
  - Occasional rate   6.0%
  - Temporary rate   11.9%
  - One-time rate   2.0%

- Estimated applicants placed in alternative modes   2,816
  - Continued placements   1,941
  - Occasional placements   293
  - Temporary placements   582

Impact Measures

- Daily vehicle trips (VT) reduced   1,818   trips

- Daily VMT reduced   51,343   VMT

- Daily pounds of emissions reduced
  - NOx   40   lb
  - VOC   20   lb

- Annual tons of CO2 / Greenhouse gases reduced   6,525   tons

- Gallons of gasoline saved   2,157   daily gallons of gas

OTHER KEY SURVEY RESULTS

Demographics

- Six in ten (60%) respondents are female.

- Three-quarters (75%) of respondents are White/Caucasian. Half of respondents are between 35 and 54 years old and 28% are 55 or older. Six in ten (62%) respondents have an annual household income of $60,000 or more and 23% have an income of $100,000 or more.

Commute Travel Patterns

- Respondents drive alone for about 46.0% of weekly commute trips.

- Bus is the most common alternative mode, used for 17.5% of work trips. Vanpool and carpool capture 13.9% and 11.7% of work trips, respectively. Bike/walk account for about 4.4% of total weekly work day trips. Compressed work schedule days off and telework eliminate 6.1% of weekly commute trips.

- The average one-way commute distance is 29.5 miles. The average one-way commute time is 42 minutes.

Commute Changes

- Six in ten (59.6%) survey respondents made a commute pattern change or tried another method of transportation after receiving assistance from a SOVA commute assistance program.

- Four in ten (39.7%) applicants made a change to an alternative mode that they continued to use at least one day per week. This 39.7% is the "continued placement rate." The temporary placement rate (percent of applicants who made a change but returned to their original modes) is 11.9%.

- Six percent made a change to a mode they use occasionally, but less than once per week on average (occasional placement rate). Two percent of applicants tried using a new alternative mode a few days (one-time placement rate).

- Two-thirds (65%) of applicants who made a mode change shifted from driving alone. The remaining 35% shifted from one alternative mode to another.

- The primary reasons that applicants made commute changes were to save money (24%), reduce their gas expense (21%), save wear and tear on a car (12%) reduce congestion or pollution (9%), or because parking costs at their worksite are too high (5%).

- About a third (34%) of applicants who made a commute change indicated that information they received from a SOVA commute assistance program influenced or assisted their decision to make the change. The top SOVA program services named were general carpool or vanpool information, named by 8% of applicants who made a change, and matchlist, transit route or schedule information, or Guaranteed / Emergency Ride Home, each mentioned by 6% of applicants who made a change. Four in ten (38%) applicants said a service from their employer or another commute ser-

vice organization influenced or assisted their change. The most commonly noted services were financial incentives, cited by 21% of applicants who made a change,

Contact with SOVA Commute Assistance Program

- Applicants noted three primary sources of making contact with SOVA commute assistance programs: employer/employee surveys and on-site events, which were noted by 35% of respondents, Internet / email, cited by 20%, and word of mouth referrals, mentioned by 15% of respondents.

- Two in ten applicants contacted the program to save money (17%) and a similar percentage mentioned wanting to reduce gas expense (17%). One in ten wanted to try a new commute mode (12%) and 12% specifically said they wanted to find a carpool or vanpool.

Information and Assistance Requested and Received

- About seven in ten (72%) SOVA applicants received or accessed a service to help with carpooling or vanpooling. Half (51%) received a matchlist with names and contact information for potential carpool/vanpool partners, 22% received a map showing home and work locations of potential carpool/vanpool partners, and 29% received general information about carpooling or vanpooling. Two in ten said they had received vanpooling assistance (19%) or NuRide Rewards financial incentive (17%).

- About half (53%) of applicants who received a matchlist or map with potential rideshare partners tried to contact someone named on the list and 89% who tried to make contact reached someone on the list.

- A third (33%) of applicants received some type of information about transit from a SOVA program. A quarter (27%) received information about transit fares or the SmarTrip fare payment system and 17% received transit route/schedule information. Three in ten of these applicants used the information provided to contact a transit agency and 77% who contacted a transit agency said they used information they received from the transit agency to try transit.

- Seven in ten (70%) applicants said their employers offer some commute services at the worksite. The most common employer services are a transit pass discount and telework, each offered by 24% of employers. Several services were mentioned by about two in ten respondents, including: carpool / vanpool information (19%), transit schedules (18%), compressed work schedule (18%), carpool / vanpool preferential parking (17%), and other cash incentive (17%).

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SECTION 1   OVERVIEW

This report presents results of a survey about commuter transportation assistance services offered by five commuter assistance programs supported by the Virginia Department of Rail and Public Transportation (DRPT) and providing services to commuters living and/or working in the southern portion of Virginia. The survey was performed to measure the effectiveness of services provided by these commuter assistance programs and assess commuters' satisfaction with the services. The five DRPT-assisted commuter assistance programs in Southern Virginia are shown below. DRPT also supports nine commuter assistance programs in Northern Virginia.

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ORGANIZATION OF THE REPORT

The report is divided into two sections following this overview section:

- Section 2   Data Collection Methodology
- Section 3   Commuter Placement survey results

Following these sections is one appendix, presenting the survey questionnaire for Southern Virginia commute assistance programs.

SECTION 2   DATA COLLECTION METHODOLOGY

QUESTIONNAIRE

The questionnaire used for Internet portion of this survey is shown in Appendix A. It was based on the questionnaire used for the November 2011 applicant survey conducted by the Metropolitan Washington Council of Governments' Commuter Connections program, the regional ridematching program in Northern Virginia. Several minor changes were made to the response categories to tailor the questionnaire use in Southern Virginia. Additionally, several questions were eliminated to reduce the length of the interview. No new questions were added.

A second version of the Southern Virginia questionnaire was created for administration by telephone. The Internet and telephone versions differed only in the phrasing and format of the questions, with Internet questions designed for visual presentation and telephone questions designed for aural presentation. The telephone version was used to interview both applicants who provided only telephone numbers as contact information and applicants who provided email contact information but who did not respond to the Internet survey.

SAMPLE SELECTION AND ALERT LETTERS

The survey described in this report was conducted with applicants who received assistance from one of five Southern Virginia rideshare programs between April 1, 2011 and March 31, 2012.

Proposed Sample

A target was set for each of the 14 programs for the proposed number of completed interviews, depending on the number of commuters who had requested or accessed information or assistance during the April 2011 through March 2012 evaluation period. For programs with 350 or more applicants, the target was set at 175 completed interviews. As shown in Table 1, three SOVA programs (Hampton Roads, Richmond, and Roanoke) and four NOVA programs (Fairfax, Loudoun, PRTC, and GWRC) were assigned this target.

Programs with fewer than 350 applicants were given a 50% target completion rate. Two SOVA programs (Charlottesville and Middle Peninsula) and five NOVA programs (Alexandria, Arlington, Northern Shenandoah, Rappahannock-Rapidan, and Northern Neck) were assigned a 50% target. The total proposed sample was 636 completed interviews for Southern Virginia and 1,084 interviews for Northern Virginia.

Alert Letters

The initial survey sample was then divided into two groups: applicants who provided an email contact address and those who did not. Prior to the start of the Internet survey interviews, DRPT staff sent introductory letters via email to applicants who provided an email address. The letter informed the applicants of the survey, requested their participation, and provided a clickable link that directed them to the on-line survey. Approximately two to three weeks after the initial email invitation was sent, DRPT sent an email reminder to applicants who had not responded to the Internet survey.

Table 1
Applicant Counts, Proposed Samples, and Completed Interviews

	Starting Apps	Proposed Sample	Internet Complete	Telephone Complete	Total Complete
Southern Virginia Programs					
Charlottesville	173	87	15	11	26
Hampton Roads	567	175	51	25	76
Middle Peninsula	49	25	0	10	10
Richmond *	2,219	175	283	1	284
Roanoke *	2,412	175	97	82	179
Total SOVA	**5,420**	**636**	**446**	**129**	**575**
Northern Virginia Programs					
Alexandria	131	66	12	20	32
Arlington	124	62	11	20	31
Fairfax County *	1,078	175	142	54	196
Loudoun County	377	175	55	55	110
Northern Neck	28	14	0	10	10
Northern Shenandoah Valley	164	82	18	25	43
PRTC *	940	175	104	73	177
GWRC (Fredericksburg) *	2,110	175	231	9	240
Rappahannock-Rapidan	320	160	48	46	94
Total NOVA	**5,212**	**1,084**	**621**	**312**	**933**

* - Met target for completed interviews

Two weeks after the reminder email was sent, telephone calls were initiated to Internet non-respondents who provided a telephone contact number and to applicants who provided telephone contact but not an email address. Telephone interview calls were first directed to the respondent's work number. If this contact was unsuccessful, the respondent was called at home. Up to five attempts were made to call each applicant.

COMPLETED INTERVIEWS AND CONFIDENCE LEVELS

As shown in the last column of Table 1 (Total Complete), the program-level targets were met for five of the programs (2 SOVA and 3 NOVA). The targets for the remaining nine programs were not met, even with an email reminder and five call attempts, due to difficulties reaching applicants A large share of the applicants who received the emailed invitation did not complete the survey, although all were sent a reminder email. Follow-up telephone calls were attempted with respondents who provided a telephone number, but some could not be reached with five attempts and other applicants provided only an email address, thus follow-up telephone contact was not possible for all applicants.

Among the Southern Virginia applicants, 575 interviews were completed, with 446 surveys completed via the Internet and 129 by telephone. Among the Northern Virginia program applicants, 933 interviews were completed, 621 completed via the Internet and 312 by telephone.

During the interview process, some contact information was found to be invalid (e.g., inactive email address, number not in service, applicant no longer at the work or home address, etc). These applicants were removed from the applicant counts to derive a "valid applicant" count for each program. These counts are presented in the first column of Table 2 for SOVA (4,981 valid applicants) and NOVA (4,962).

Table 2
Valid Applications, Interviews Completed, and Confidence Levels

	Valid Apps	Total Complete	Confidence Level
Southern Virginia Programs			
Charlottesville	168	26	95 $\pm$ 17.7%
Hampton Roads	542	76	95 $\pm$ 10.4%
Middle Peninsula	46	10	95 $\pm$ 27.7%
Richmond	1,939	284	95 $\pm$ 5.4%
Roanoke	2,196	179	95 $\pm$ 7.0%
Total SOVA	**4,891**	**575**	**95 $\pm$ 3.8%**
Northern Virginia Programs			
Alexandria	126	32	95 $\pm$ 15.0%
Arlington	119	31	95 $\pm$ 15.2%
Fairfax County	978	196	95 $\pm$ 6.3%
Loudoun County	359	110	95 $\pm$ 7.8%
Northern Neck	27	10	95 $\pm$ 25.1%
Northern Shenandoah Valley	156	43	95 $\pm$ 12.8%
PRTC	888	177	95 $\pm$ 6.6%
GWRC (Fredericksburg)	1,999	240	95 $\pm$ 6.0%
Rappahannock-Rapidan	310	94	95 $\pm$ 8.5%
Total NOVA	**4,962**	**933**	**95 $\pm$ 2.9%**

The last column of Table 2 shows the confidence levels for the 14 individual programs and for the SOVA and NOVA combined samples. The confidence levels were calculated for the total completes on the "valid applicant" base. For Southern Virginia, the total sample of 575 on a base of 4,891 valid applicants produced a confidence level of 95% $\pm$ 3.8%. For Northern Virginia, the total sample of 933 on a base of 4,962 produced a confidence level of 95% $\pm$ 2.9%.

WEIGHTING OF SURVEY DATA

Respondent survey data for Northern Virginia and Southern Virginia were weighted to align survey results with the surveyed population of applicants in each of the individual programs comprising Northern Virginia and Southern Virginia.

SECTION 3 COMMUTER PLACEMENT SURVEY RESULTS

A primary goal of the DRPT-supported rideshare programs is to reduce commute vehicle trips, commute vehicle miles traveled, and emissions from commute travel by:

- Encouraging and assisting drive alone commuters to shift to commute alternative arrangements
- Assisting current commute alternative users to maintain their use of alternative modes or increase the number of days per week they use alternative modes

With these goals in mind, the survey collected data in the following primary topic areas, related to commuters' travel patterns and influences on these patterns:

- Current commute patterns
- Alternative mode characteristics
- Recent commute pattern changes
- Use of information and assistance services received
- Influences of services on change
- Guaranteed Ride Home
- Telework/Telecommute services
- Demographics (age, income, ethnic group, sex, employer type and size)

Following are summaries of key results from each section of the survey. Percentages presented in the results tables show percentages weighted to the total applicant population for the survey quarter, but each table shows the raw number of respondents (e.g., n=__) who answered the question. Where possible, results from the survey are compared for sub-groups of survey respondents and/or compared with corresponding available data for the general public. Appendix B presents comparisons for some questions for the combined results of the five programs in Southern Virginia and the nine programs in Northern Virginia.

The commute pattern data from the survey were used in Section 4 to calculate estimated transportation, air quality, energy, and consumer impacts of the program.

CHARACTERISTICS AND DEMOGRAPHICS OF THE SAMPLE

Demographics

The survey asked respondents four demographic classification questions: sex, age, income, and ethnic group. Respondents are disproportionately female; 60% women and 40% men. The remaining demographic categories are summarized in Figure 1 and Tables 3 through 4.

Age – About nine in ten (92%) applicants are between 25 and 64 years old (Figure 1). Half of respondents are between 35 and 54 years of age and 28% are 55 or older.

Figure 1
Distribution by Age
(n = 536)
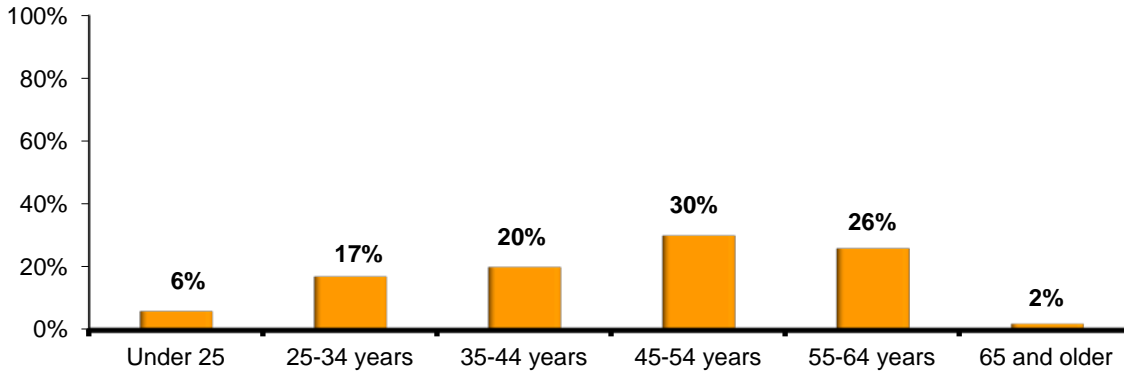
Income – As detailed in Table 3, 62% of respondents have an annual household income of $60,000 or more and 23% have an income of $100,000 or more.

Table 3
Distribution by Annual Household Income
(n = 440)

Income	Percentage	Income	Percentage
Less than $20,000	4%	$80,000 – 99,999	22%
$20,000 – 29,999	7%	$100,000 – 119,999	11%
$30,000 – 39,999	10%	$120,000 – 139,999	5%
$40,000 – 59,999	17%	$140,000 – 159,999	4%
$60,000 – 79,999	17%	$160,000 or more	3%

Ethnic Background – Next, as illustrated in Table 4, White/Caucasians and African-Americans represented the two largest ethnic group categories of survey respondents, 75% and 15% respectively. Asian / Pacific Islanders account for about 5% of the sample and 3% of respondents are Hispanic.

Table 4
Distribution by Ethnic Background
(n = 493)

Ethnic Group	Percentage
Non-Hispanic White	75%
African-American	15%
Asian/Pacific Islander	5%
Hispanic	3%
Other	2%

Employment Characteristics

Respondents were asked about the type of employer for which they worked and the number of employees at their worksite. These results are shown in Figure 2 and Table 5, respectively.

Employer Type – More than half (54%) of respondents work for a state or local government agency (Figure 2). Two in ten (21%) work for a private sector employer and a similar share (20%) are employed by a federal agency. Non-profit organizations employ 5%.

Figure 2
Distribution by Employer Type
(n = 542)
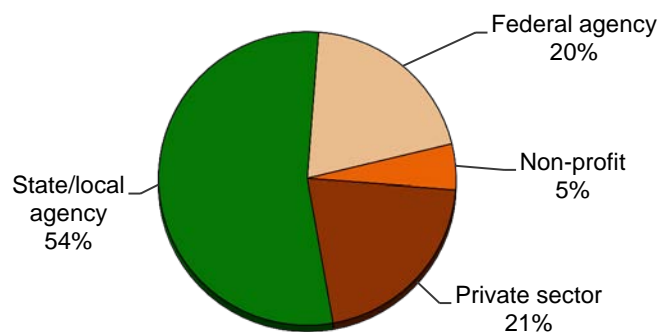
Employer Size – As shown in Table 5, the majority of respondents (70%) work for employers with more than 100 employees. About a third (35%) work for employers with at least 1,000 employees. About 30% of respondents said they work for organizations with 100 or fewer employees.

Table 5
Distribution by Employer Size
(n = 536)

Number of Employees	Percentage	Number of Employees	Percentage
1-25	13%	101-250	12%
26-50	9%	251-999	23%
51-100	8%	1,000+	35%

CURRENT COMMUTE PATTERNS

One section of the survey examined current commute patterns of applicants: commute mode, distance, travel time, and use of telecommute and alternative work schedules. Applicants who used alternative modes were asked additional questions on occupancy and composition of carpools and vanpools and on how carpoolers, vanpoolers, and transit riders access these commute modes.

Current Commute Mode

Percentage of Weekly Trips – Applicants were asked how many days in a typical week did they use each of a variety of transportation modes. These responses were used to calculate mode split as the percentage of weekly work day trips made by each mode, presented in Figure 3 for both Southern Virginia and Northern Virginia programs. This depiction of mode split accounts for part-time and occasional use of modes.

The figure includes six traditional "on the road" mode groups for travel to job locations outside the home: train (subway, light rail, commuter rail), bus, vanpool, carpool, drive alone, and bike/walk. It also accounts for work days for which commute trips are eliminated through use of teleworking and compressed work schedule. While not "commute" modes in the conventional sense, they represent work days and so are included. Percentages in this figure are based on the number of days respondents are assigned to work, including telework and compressed schedule day off. Days not assigned to work (regular days off) are not included in the calculation.

Southern Virginia – Respondents from Southern Virginia rideshare programs drive alone for about 46.0% of weekly commute trips. Bus is the most common alternative mode, used for 17.5% of work trips. Vanpool and carpool capture 13.9% and 11.7% of work trips, respectivelyCompressed work schedule days off and telework eliminate 6.1% of weekly commute trips.

Northern Virginia – Respondents from Northern Virginia rideshare programs drive alone for a much lower share of commute trips (19.5%) than do Southern Virginia respondents. Carpool and vanpool, used for 22.7% and 18.4% of work trips, respectively, are the most popular alternative modes. Train is used for 16.4% of trips and bus accounts for 12.8% of weekly work trips. Bicycling and walking account for just 1.1% of trips. Compressed work schedule days off and telework eliminate 9.1% of weekly commute trips.

If the telework and compressed schedule days off are excluded, to estimate the "on the road" mode share, the percentage use of each of the six travel modes increases. Without telework and CWS, the SOVA program carpool / vanpool share rises to 27.2% of weekly commute trips. The weekly commute trip distribution would be:

	SOVA	**NOVA**
• Drive alone	49.0%	21.5%
• Bus	18.6%	14.1%
• Vanpool	14.8%	20.3%
• Carpool	12.4%	24.9%
• Bike/walk	4.8%	1.2%
• Train	0.4%	18.0%

Figure 3
Weekly Commute Trips by Modes – SOVA and NOVA Programs
(SOVA n = 575, NOVA n = 933)
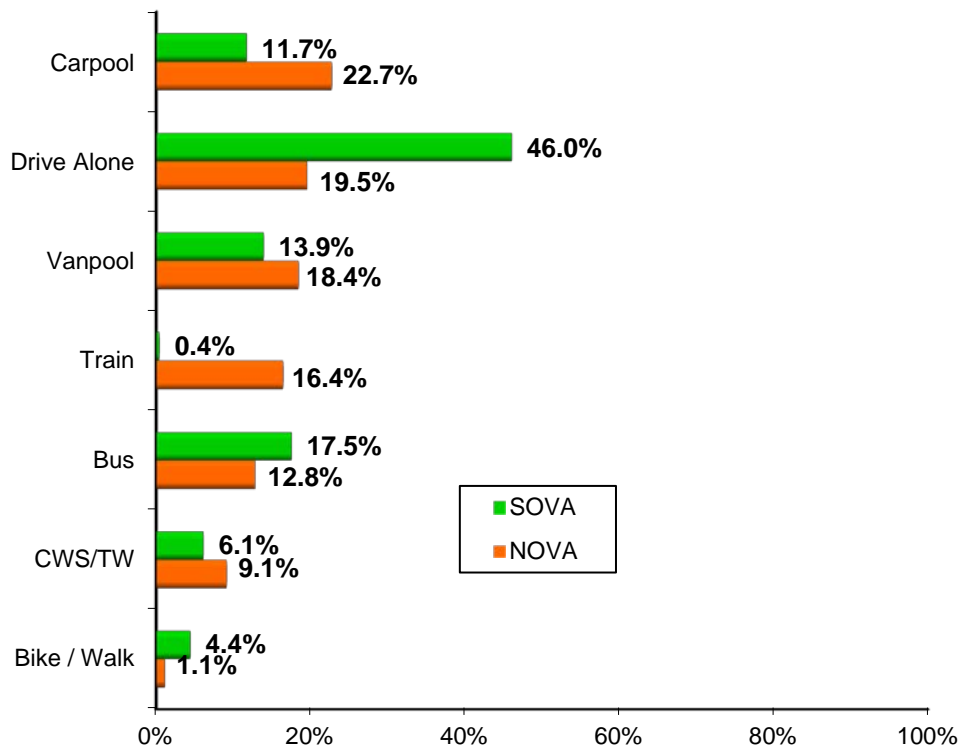
Primary Commute Mode by Demographic Group

Analysis of Southern Virginia survey data showed a few differences in primary commute mode (mode used most days per week) between various demographic groups. Tables 6, 7, 8, and 9 present primary mode by respondents' sex, age, income, and ethnic group categories, respectively

Mode by Gender – As shown in Table 6, men and women are equally likely to drive alone to work and equally to use carpool/vanpool or to use transit. The differences shown are not statistically significant.

Table 6
Current Primary Mode (3+ days) by Sex

Sex	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
Male	205	52%	25%	15%
Female	326	47%	28%	19%

Mode by Age – As shown in Table 7, driving alone is most common among respondents who are younger than 45. Nearly six in ten of these respondents drive alone, compared with about four in ten respondents who are 45 years of age or older. Both carpool/vanpool and transit are used at higher rates by older applicants.

Table 7
Current Primary Mode (3+ days) by Age

Age	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
< 34 years	105	58%	16%	13%
35 – 44	105	59%	26%	7%
45 – 54	167	39%	35%	22%
55 +	158	44%	29%	25%

Carpool/vanpool use increases as age increases; only 40% of respondents who are under 35 years old carpool or vanpool, compared with 50% of respondents who are 55 or older. Transit use also is more common among older respondents than younger respondents.

Mode by Income – Table 8 presents primary mode by income. No clear pattern is evident for solo driving, but carpool/vanpool use increased sharply as income increases and transit use generally decreases as income rises. This is consistent with other research that shows use of bus is greatest among commuters with lower incomes.

Table 8
Current Primary Mode (3+ days) by Income

Income	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
Less than $40,000*	80	47%	17%	19%
$40,000 – $79,999	153	49%	23%	24%
$80,000 – $119,999	152	53%	30%	13%
$120,000 or more	55	42%	44%	9%

Mode by Ethnic Group – The final table in this series, Table 9, shows primary mode by ethnic group. African-American respondents are less likely to drive alone and much more likely to use transit than are respondents in other racial/ethnic groups. White respondents are slightly less likely to use carpool /vanpool than are other respondent groups, but the sample sizes for Hispanic and Asian/Pacific Islander respondents are small.

Table 9
Current Primary Mode (3+ days) by Race/Ethnicity

Race/Ethnicity	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
Hispanic*	14	39%	38%	12%
African-American	87	27%	36%	34%
White	359	54%	24%	14%
Asian/Pacific Islander*	23	46%	31%	17%

* Caution: small sample size

Commute Distance

Southern Virginia applicants have a wide range of commute distances, ranging from two miles to more than 200 miles. The average one-way distance is 29.5 miles. This is considerably shorter than the 39.6 mile average one-way distance of Northern Virginia program respondents.

Figure 4 presents the distribution of applicants by distance categories. Two in ten applicants travel fewer than 10 miles to work and another 43% travel fewer than 20 miles. Three in ten commute 40 or more miles.

Figure 4
Commute Distance (miles)
(n = 557)

Distance by Mode – Commute distances vary by commute mode. Table 10 indicates that vanpoolers travel the farthest, an average of 62.1 miles one-way and applicants who ride a bus travel the shortest distance (17.6 miles). Drive alone commuters travel an average of 28.2 miles and carpoolers commute 23.8 miles one-way.

Table 10
Average Commute Distance (miles) by Travel Mode

Mode	2012 Applicant Survey	
	n =	Average Distance
Vanpool	105	62.1 miles
Drive alone	292	28.2 miles
Carpool	81	23.8 miles
Bus	123	17.6 miles

Commute Travel Time

One-way commute travel time of Southern Virginia applicants ranged from five minutes to more than two hours, with an average of 42 minutes. This was substantially shorter than the average 66 minute commutes of respondents who lived in Northern Virginia.

As illustrated in Figure 5, two in ten (18%) Southern Virginia respondent travel more than an hour and a third (33%) travel more than 45 minutes one-way. But half (45%) travel 30 minutes or less. By comparison, only 10% of Northern Virginia respondents travel 30 minutes or less.

Figure 5
Commute Time (minutes)
(n = 567)

| 25% | 20% | 22% | 15% | 13% | 5% |

Legend: ■ 1-20 min   ■ 21-30 min   ■ 31-45 min   ■ 46-60 min   ■ 61-90 min   ■ > 90 min
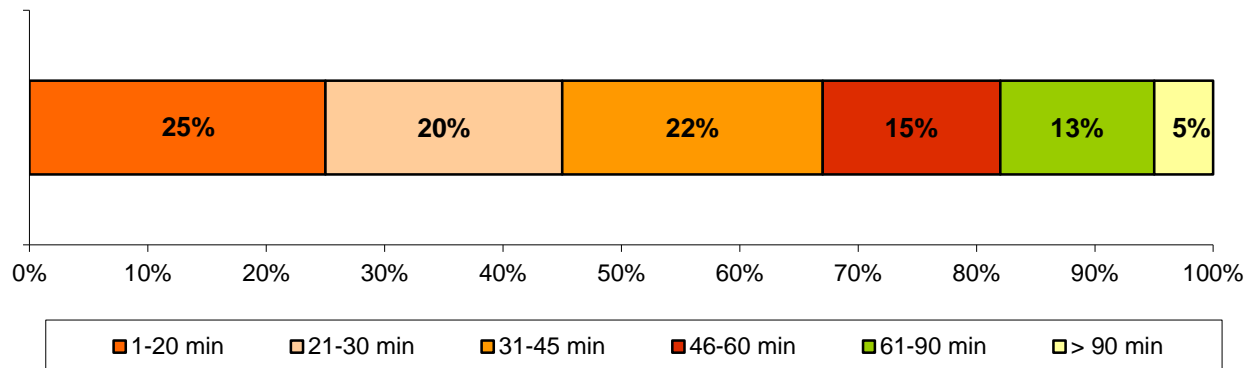
Telework and Compressed Work Schedules

Telework – A quarter (24%) of applicants said they telework, at least occasionally. More than half (62%) of these applicants telework one or more days per week; the remaining 38% telework less often.

- Less than once per month/emergency   10%
- 1 – 3 times per month   28%
- 1 day per week   30%
- 2 days per week   21%
- 3 or more days per week   11%

Compressed Work Schedule – One in ten (9%) applicants reported working a compressed work schedule (CWS), in which they work a full work week in fewer than five days per week. The most common CWS arrangement, used by 6% of all respondents, is a 9/80 schedule, in which employees work nine days for a total of 80 hours over two weeks. Three percent of applicants work a 4/40 arrangement, that is, work four ten-hour days in one week.

Work / Business Travel – Six in ten respondents said they are away from the office on business / work travel at least occasionally. Ten percent said they travel for work regularly, defined as one or more days per week and 50% travel less than one day per week. The remaining 40% of respondents don't ever travel for work. They are at their main work place every day they are assigned to work.

Carpool and Vanpool Size

About a third (32%) of survey respondents said they ride in a carpool or vanpool at least one day per week. Carpools have an average size of 2.4 occupants, including the driver. Vanpool occupancy is on average 10.6, including the driver. Vanpools range in size from six to fifteen occupants, but about half (47%) of vanpools have 12 or more occupants.

Carpool / Vanpool Members

Carpoolers and vanpoolers in the survey sample tend to carpool more with co-workers than with family members. Half (40%) of the applicants who carpool or vanpool travel with one or more co-workers. By contrast, only 26% said they rode with a family or household member. This is not unexpected, as commuters who can carpool with family members are less likely to need commute assistance program help to find a carpool partner. About 3% of carpool/vanpool applicants said they had counted children under the age of 16 as a carpool/vanpool rider.

As shown in Figure 6, six in ten (60%) carpoolers and vanpoolers share driving with their pool partners, for example alternating days or weeks of driving the carpool. About three in ten (29%) said they never drive. This was primarily the response among vanpoolers. The remaining 11% said they always are the driver of the carpool or vanpool.

Figure 6
Driving Frequency of Carpoolers/Vanpoolers
(n =195)
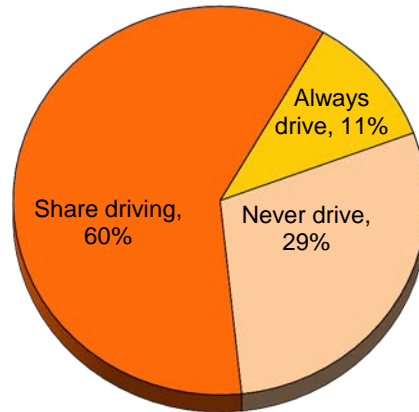
Access to Carpools, Vanpools, and Transit

Figure 7 presents the types of transportation carpoolers, vanpoolers, and transit riders use to travel to where they meet their pool partners or where they start their transit trip.

Figure 7
Access Mode to Alternative Mode Meeting Place
(n = 322)
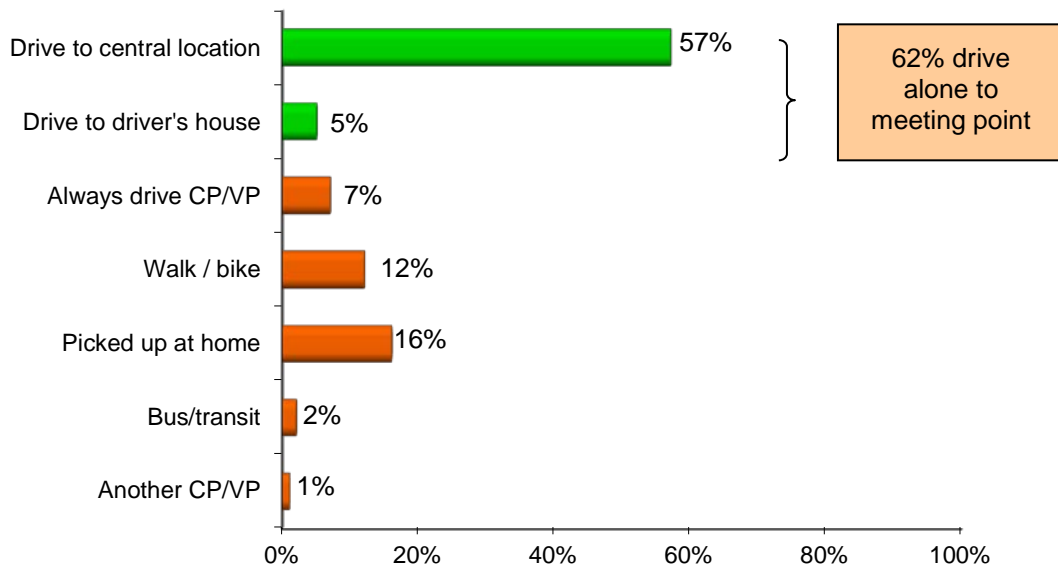
About one in ten (12%) said they walk to the meeting point and 16% are picked up at home or leave from home with a family member carpool partner. But more than six in ten drive to either a central meeting location or to the driver's home, where they leave their cars for the day. This is significant to the calculation of air quality impacts, because a large proportion of auto emissions are produced during the first few miles of a vehicle trip, when the engine is cold. Even though these trips tend to be short, an average of just 7.1 miles, these trips must be accounted for in an air quality analysis.

RECENT COMMUTE PATTERN CHANGES

The third survey section asked applicants about commute pattern <u>changes</u> they made since receiving assistance from a SOVA commute assistance program. Data were collected on types of changes made, "permanence" of change, reasons for changes, and details of commute patterns before the changes oc-curred. To ensure that all shifts were captured, the survey asked applicants a series of questions about various mode changes they might have made:

- Joining or forming a new carpool or vanpool
- Starting to ride a bus, light rail, or a commuter train
- Starting to bicycle or walk
- Starting to telework

Applicants who said they did not make a mode change were asked if they had increased the number of days they use alternative modes they already were using, if they added a person to an existing carpool or vanpool, or if they had tried using any other type of transportation.

Applicants who made any of these changes were considered to have been "placed" in alternative modes. These shifts are measured by the placement rate, defined as the percentage of respondents who made an alternative mode change after they received assistance, divided by the total number of re-spondents surveyed.

Four types of alternative mode changes were measured:

- <u>Continued</u> – applicant made a change and was still using the new mode at the time the survey was conducted

- <u>Occasional</u> – applicant made a change and was still using the new mode, but used the alternative mode less than one time per week

- <u>Temporary</u> – applicant made a change, but stopped using the new mode before the survey was conducted

- <u>One-time</u> – applicant briefly tried an alternative mode, but used it less than one week

Temporary shifts are reported separately from continued shifts, because they cannot be counted toward long-term reduction in vehicle trips, VMT, or emissions. Occasional and one-time shifts also are reported separately because their contribution to vehicle trips, VMT, and emissions is very minor.

Types of Changes Made

Six in ten (59.6%) SOVA applicants reported some type of alternative mode change after receiving com-mute assistance. (Figure 8) Among Northern Virginia applicants, the change percentage is 65.7%.

Figure 8
All Commute Changes Made – SOVA and NOVA Programs
(SOVA n = 575, NOVA n = 933)
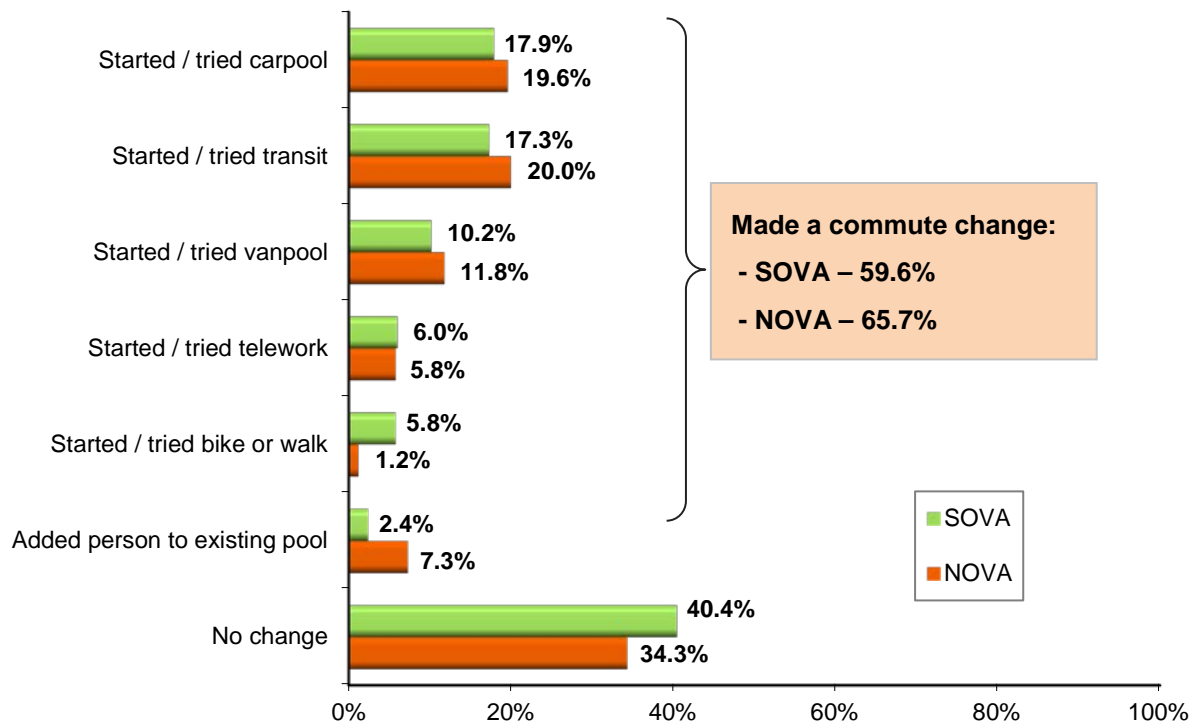
Southern Virginia – Among Southern Virginia respondents who made a change, approximately equal shares started using or tried using carpool (17.9%) or transit (17.3%) for their trip to work. About one in ten (10.2%) joined or created a vanpool and 5.8% started or tried bicycling or walking to work. About 6.0% said they started teleworking and 2.4% said they were carpooling or vanpooling before requesting information, but added another person to their existing pools.

Northern Virginia – Transit and carpooling also were the top new modes among Northern Virginia respondents, with 20.0% and 19.6% of NOVA respondents noting these changes. One in ten (11.8%) NOVA respondents joined or created a vanpool and 1.2% started bicycling or walking. Six percent started or tried teleworking and 7.3% added an additional rider to an existing carpool or vanpool.

Continued, Occasional, Temporary, and One-time Placement Rates

Applicants who made a change to a mode they were using at least once per week at the time of the survey were classified as having made a "continued change." Applicants who said they made a change to a mode they had not reported using during a typical week at the time of the survey were asked if they still used the mode occasionally or if they had stopped using it. Applicants who said they had stopped using the mode were asked how long they had used the new mode after the change. Then, applicants were classified as "occasional," "temporary," or "one-time" by the duration of their change. Table 11 summarizes these results for both Southern Virginia and Northern Virginia.

Southern Virginia – Four in ten (39.7%) Southern Virginia respondents made a change to a mode they are still using at least one day per week; these applicants made continued changes. About 6.0% made a change to a mode they use, but only occasionally, defined as less than once per week. One in ten (11.9%) SOVA applicants made a temporary change, that is, they used the new mode for at least one week, but had already stopped using the new alternative mode by the time of the survey. On average, they had used the new mode for about ten weeks. Finally, 2.0% of SOVA applicants tried a new mode for less than one week. These applicants were classified as one-time changes.

Table 11
Distribution of Continued, Occasional, Temporary, and One-time Changes
Placement Rates – SOVA and NOVA

Type of Change	SOVA (n = 575)	NOVA (n = 933)
Continued	39.7%	47.8%
Occasional	6.0%	4.9%
Temporary	11.9%	7.1%
One-time	2.0%	5.9%
TOTAL – All Changes	**59.6%**	**65.7%**
No change	**40.4%**	**34.3%**

Northern Virginia – Nearly half (47.8%) of the Northern Virginia respondents made a change that they continued and 4.9% made a change to a mode they still use occasionally. About 7.1% of NOVA respondents who made a change said the change was temporary and 5.9% made a one-time or "occasional use" change.

The delineation of change duration is important because occasional, temporary, and one-time changes do not produce the ongoing travel and air quality impacts of the continued changes. Impacts from temporary changes are discounted to credit only the time the new mode was used. This discounting is described further in Section 4. Occasional and one-time changes are not included in the impact calculation. The percentages of respondents who made continued, occasional, and temporary changes represent the "placement rates" for Northern Virginia commuter assistance programs.

The placement rates for the Southern Virginia and Northern Virginia programs are shown below:

	SOVA (n=575)	NOVA (n=933)
• Continued placement rate =	39.7%	47.8%
• Occasional use placement rate =	6.0%	4.9%
• Temporary placement rate =	11.9%	7.1%

Change by Demographic and Employment Characteristics

The survey examined demographic and employment characteristics of applicants who made continued or temporary changes and applicants who did not make any changes, to see if the groups were different in fundamental ways. Review of the survey data showed no differences between applicants who made travel changes and those who did not by demographic characteristics or by the size of their employer. The only significant difference was in the type of employer. Only about half of private sector employee applicants (52%) and federal agency employee applicants (53%) made a continued, occasional, or temporary change, compared with 60% of state/local government employee applicants and 74% of nonprofit employee applicants.

The average commute distance of applicants who made a continued change was higher (33.6 miles) than the distance of those who made temporary changes (26.5 miles) and those who made occasional changes (16.7 miles). But the distance of continued change applicants was only moderately higher than the distance of applicants who did not make any changes (27.9 miles).

Previous Mode of Commuter Who Changed Mode

Some applicants who made a mode change shifted from drive alone, but others shifted from one alternative mode to another. Figure 9 indicates the previous and current mode of Southern Virginia applicants who made mode changes. Note that respondents who made occasional or one-time changes were not asked about their previous modes, so this information was not available for these respondents.

Two-thirds (65%) of applicants who made a change shifted from driving alone to an alternative mode. These applicants were divided between shifts to rideshare (carpool or vanpool) and shifts to transit and non-motorized modes (bike and walk) or telework. The remaining 35% of applicants were previously using an alternative mode, but made a change within these alternatives, for example, from carpool to vanpool, from bus to train, or from vanpool to train.

It is important to note the percentage of shifting between alternative modes, because commuters who made these shifts reduced vehicle trips only if they shifted to a higher occupancy mode (carpool to vanpool or vanpool to transit, for example) or increased the number of days they use the alternative. Some of these shifts, such as a shift from transit to rideshare, actually increased the number of vehicle trips the applicant made during the week, reducing the air quality benefit of the shift. This is not to say these were not desirable shifts from the perspective of the commuter, but these shifts must be accounted for in determining the transportation and air quality benefits of the services.

Figure 9
Types of Mode Changes – Previous to Current
(Note: scale extends only to 40% to highlight differences)
(n = 300)
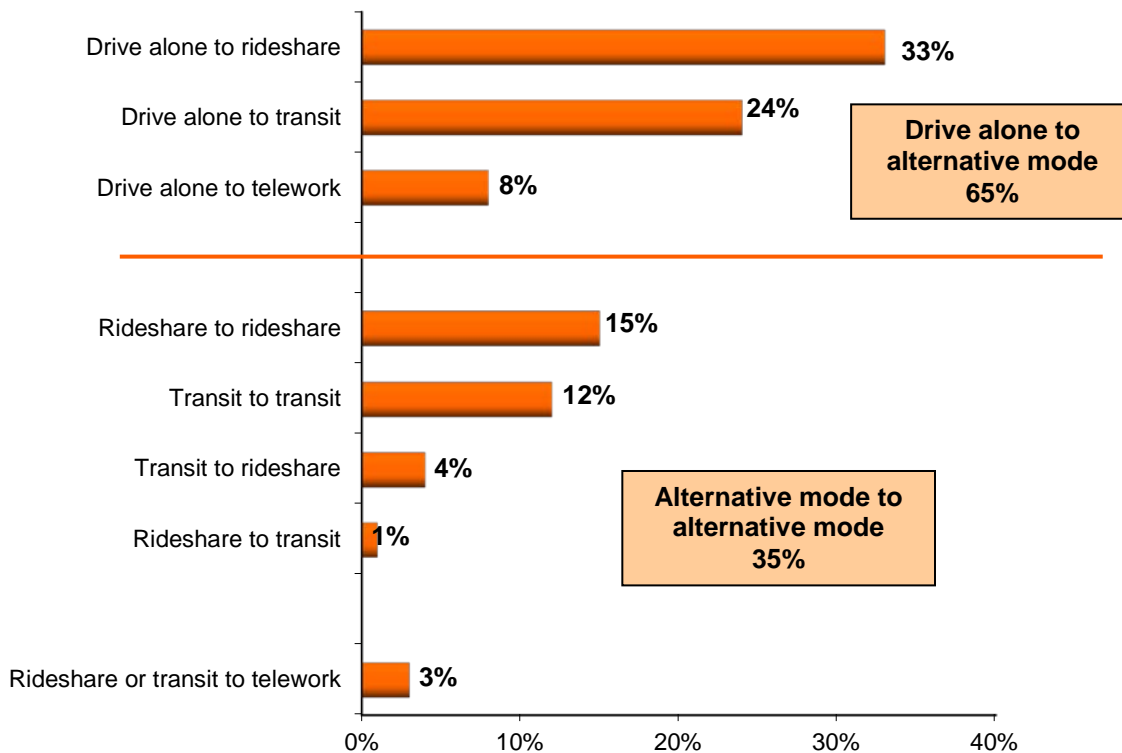
Reasons for Changes

Applicants who said they had made a commute change were asked the reasons for their changes. Table 12 summarizes the responses.

A sizeable share of applicants made the change for commute or parking-related reasons: save money (24%), gas prices too high (21%), save wear and tear on a car (12%), reduce congestion or pollution (9%), or because parking costs at their worksite are too high (5%). Applicants also noted reasons associated with commute assistance services, such as finding a new carpool or vanpool (9%) or a change because a carpool or vanpool didn't work out (4%).

A significant number of applicants mentioned a personal factor, such as a health or injury reason (13%). About one in ten either changed jobs or work hours (6%) or moved to a new residence (5%). These reasons reinforce the potential for commute assistance organizations to market alternative modes through new employee orientations and through direct mail to those moving to new residences. Five percent said they made the change because they found a more convenient / comfortable mode.

Table 12
Reasons for Commute Change
(n = 289, multiple responses permitted)

Commute related reasons	Percentage
Commute / Parking-related reasons	
- Save money	24%
- Gas prices too high	21%
- Save wear and tear on car	12%
- Reduce congestion/pollution	9%
- Parking cost too high	5%
- Save time	4%
- No parking at work	3%
- Transit problems (slow, crowded, discontinued service)	3%
- Traffic congestion / avoid traffic / stressful commute	2%
Commute service reasons	
- Found / change to carpool or vanpool	9%
- Carpool or vanpool broke up/didn't work out	4%
- Got financial incentive	3%
- Employer permitted telework	3%
- New option became available	2%
Personal related reasons	
- Health / injury / personal reasons	13%
- Changed job/work hours	6%
- Moved residence	5%
- Convenience / easier / comfortable	5%
- Tired of driving	3%
- No vehicle available	3%
- Schedule flexibility	2%
- Other *	10%

* Each "other" reason was named by fewer than 2% of respondents

Importance of Commute Services on Decision to Make Change – Applicants who made a change also were asked if their decision to make the change was influenced or assisted by any information or service they received from a SOVA commute assistance program, from another organization, or from their employer. About a third (34%) of applicants who made a change cited a SOVA program service that had influenced or assisted them.

The top SOVA program services named were general carpool or vanpool information, named by 8% of applicants who made a change, and matchlist showing home and work locations of potential rideshare partners, transit route or schedule information, or Guaranteed / Emergency Ride Home, each mentioned by 6% of applicants who made a change.

Four in ten (38%) applicants said a service from their employer or another commute service organization influenced or assisted their change. The most commonly noted services were financial incentives, cited by 21% of applicants who made a change, and matchlist information and compressed work schedule or telework, each noted by 3% of applicants.

Importance of Economic Reasons to Make Change – Applicants who made a change were asked how important economic reasons, such as saving money or reducing gas expense, were in motivating the change. As illustrated in Figure 10, 8% of applicants who made a change said economic reasons were the only reason they made the change and 58% said economic reasons were more important than other reasons. Two in ten (21%) said economic reasons were about the same importance as other motivating influences.

Figure 10
Importance of Economic Reasons in Motivating Travel Changes
(Economic reasons n = 312)

More important, 58%

About the same imporance, 21%

Less important, 13%

Only reason, 8%

64% said economic reasons were either the most important reason or the only reason they made the change
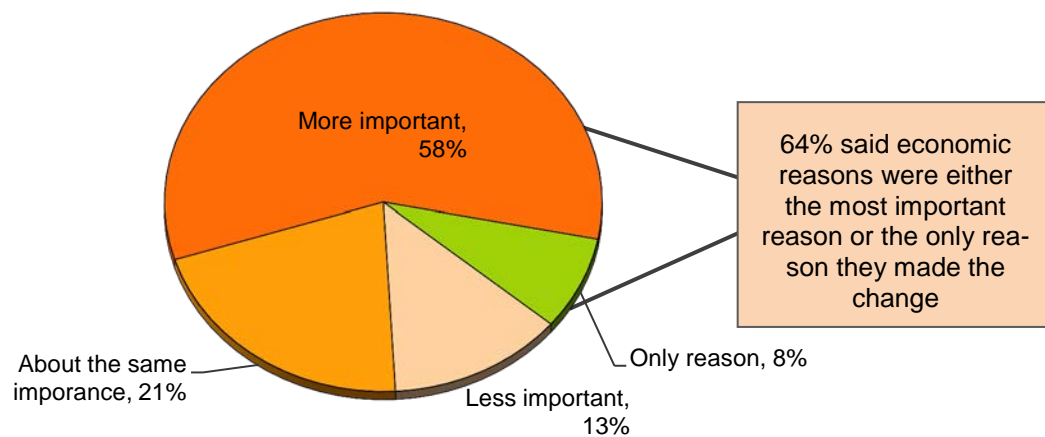
CONTACT WITH SOVA COMMUTE ASSISTANCE PROGRAM AND SERVICES RECEIVED

The survey asked applicants several questions related to the details of their contact with a SOVA commute assistance program and what services they received. The following section of the report presents results to these questions, including the following:

- Sources of information about the program
- Method of accessing the program
- Reason for requesting information or assistance
- Types of information / assistance received from the program
- Commute assistance received from other sources

Sources of Information about SOVA Commute Assistance Programs

Commuters have a variety of sources through which they can learn of Southern Virginia commute assistance programs. Figure 11 presents the primary sources of information cited by SOVA and NOVA survey respondents.

Figure 11
How Applicants Learned of Commute Assistance Programs
(Note: scale extends only to 50% to highlight differences)
(SOVA n = 575, NOVA n = 933)
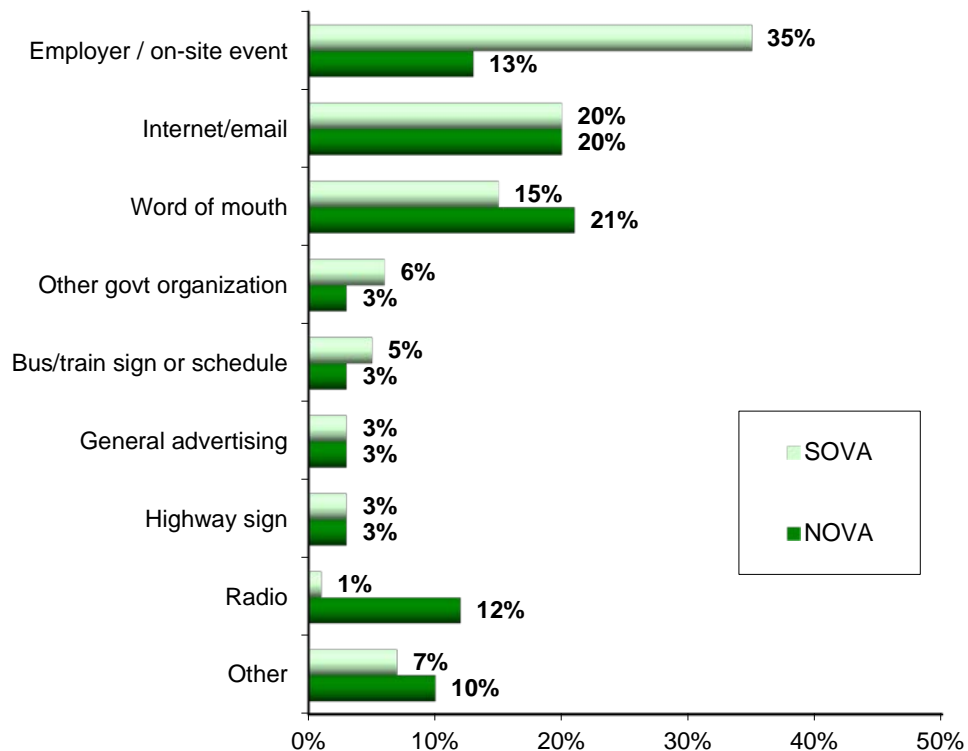
Three sources dominated the SOVA results: employer/employee surveys and on-site events, which were noted by 35% of respondents, Internet / email, cited by 20%, and word of mouth referrals, mentioned by 15% of respondents. Small shares of respondents mentioned other contact methods.

NOVA respondents primarily mentioned four sources: word of mouth referrals (21%), Internet / email (20%), employer/employee surveys and on-site events (13%), and radio (13%).

Methods Used to Contact SOVA Commute Assistance Programs

Commuters can contact SOVA commute assistance programs in a variety of ways. SOVA respondents predominately used a website sponsored by the SOVA program (71%). About two in ten (21%) made the contact through their employer and 13% used a program-sponsored toll-free number (Figure 13).

Nearly two-thirds (65%) of NOVA applicants made their contact through the Commuter Connections website and 31% used a website sponsored by another NOVA commute assistance program. (Figure 12) About 22% of NOVA respondents contact the program via a toll-free program telephone number and 7% made the contact through their employer.

Figure 12
How Applicants Contacted Commute Assistance Program – SOVA and NOVA Program
(SOVA n = 575, NOVA n = 933)
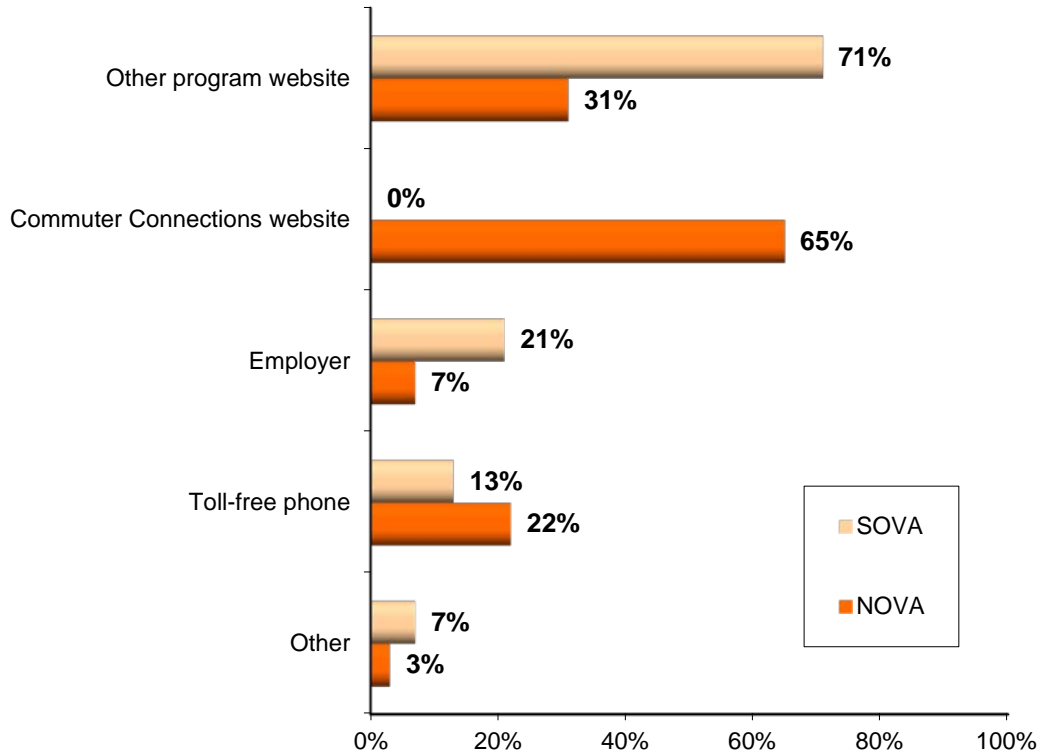
Reasons for Seeking Assistance

Applicants were asked what prompted them to seek information or assistance from the SOVA commute assistance program at that time. Two in ten said they wanted to save money (17%) and a similar percentage mentioned wanting to reduce gas expense (17%) (Table 13). One in ten wanted to try a new commute mode (12%) and 12% specifically said they wanted to find a carpool or vanpool.

Table 13
Reasons for Seeking Information
(n = 575)

Reasons	Percentage
Save money	17%
Reduce gas expense, gas prices too high	17%
Check commute options / try new mode, curiosity	12%
Wanted to carpool or vanpool, get carpool/vanpool information	12%
Avoid traffic / traffic is bad, traffic has gotten worse	5%
Changed jobs/work schedule, moved to new residence	5%
Employer program or service	5%
In case of emergencies / wanted back up transportation	5%
Concerned about the environment	5%
Didn't want to drive, tired of driving	4%
Get bus / train information	4%
Save wear and tear on car	4%
Wanted to use / renew GRH	3%
No vehicle available	3%
Other*	11%

*Other responses were each mentioned by fewer than two percent of respondents

Information Received from SOVA Commute Assistance Programs

When commuters contact a SOVA commute assistance program, they have the option to request or access various types of assistance and information. In the survey, respondents were shown a list of services offered by SOVA commute assistance programs and were asked to check all that they remembered receiving or accessing. Table 14 lists the percentages of applicants who said they received each service, with services grouped into three categories by the types of alternative modes they support: Carpool/Vanpool Services, Transit-Related Services, and Other / Multi-Mode Services.

Table 14
Information Received or Accessed from SOVA Commute Assistance Program
(SOVA n = 575, NOVA n = 933)

Service	SOVA (n = 575)	NOVA (n = 934)
Carpool / Vanpool Services		
Matchlist – names of potential carpool / vanpool partners	51%	58%
Map showing home / work locations of potential pool partners	22%	29%
Other carpool / vanpool information	29%	30%
Vanpooling assistance	19%	21%
NuRide rewards	17%	8%
Vanpool leasing	8%	6%
HOV lane information	6%	16%
Transit-Related Services		
Transit fare information, SmarTrip	27%	38%
Transit schedule / route information	17%	37%
Other / Multi-Mode Services		
Guaranteed Ride Home / Emergency Ride Home	44%	61%
Park & Ride lot information	20%	27%
Information on special events (e.g., Bike to Work Day)	14%	13%
Bicycle to Work Guide, bicycle information	11%	9%
Online bicycle route planning	7%	7%
Telework information	6%	11%

Carpool/Vanpool Services – About seven in ten (72%) SOVA applicants received or accessed one or more Carpool/Vanpool services. Half (51%) received a matchlist with names and contact information for potential carpool/vanpool partners, 22% received a map showing home and work locations of potential carpool/vanpool partners, and 29% received general information about carpooling or vanpooling. Two in ten said they had received vanpooling assistance (19%) or NuRide Rewards financial incentive (17%) .

The percentages of NOVA respondents who received these services was quite similar to that for SOVA, except that a lower share of NOVA respondents received NuRide rewards and a higher share received HOV lane information.

Transit-Related Services – A third (33%) of applicants received some type of information about transit from a SOVA program. A quarter (27%) received information about transit fares or the SmarTrip fare payment system and 17% received transit route/schedule information. Many of the respondents who received transit information got both fare and route / schedule information. Transit information was used by a much larger share of NOVA respondents (50%).

Other / Multi-Mode Services – Another popular service was Guaranteed Ride Home; 44% of SOVA respondents received this service, which is open to any commuter who uses an alternative mode to commute. Two in ten (20%) SOVA respondents obtained information on Park & Ride lots they could use to meet a carpool, vanpool, or transit service. About 14% received information on special events such as Bike to Work Day or Car Free Day. These services often are organized regionally, but the SOVA programs offer information about the events. One in ten received telework information (11%) or a Bike to Work Guide or other bicycle information (9%).

The percentages of NOVA respondents who obtained these services was quite similar to the SOVA results for all services except GRH/ERH; a much higher share (61%) of NOVA respondents said they had received or used this service.

Comparison of Services Received by Mode Before Seeking Services – Figure 13 presents the percentages of applicants who received various services from a SOVA program by the type of mode they used <u>at the time they were seeking</u> the services: drive alone, carpool/vanpool, or transit. These results show different service user patterns.

Applicants who were driving alone to work at the time they received information showed a strong interest in ridematch information and GRH and moderate interest in transit, Park & Ride, and vanpool information. But interestingly, applicants who used carpool/vanpool or transit at the time they requested services showed equal or even greater interest in some services than did drive alone commuters.

Only three statistically significant differences are noted among the services shown. Applicants who were driving alone or using a carpool/vanpool before they requested assistance received / accessed ridematch information at much higher rates than did transit riders. The high demand for matching information among existing ridesharers indicates the role this service plays in helping carpools and vanpools find replacement riders. Applicants who were carpooling or vanpooling at the time they sought information also were much more likely to have sought vanpool information.

Drive alone applicants also were as likely to receive or access GRH/ERH information as were existing carpoolers/vanpoolers and much more likely to receive this information than were transit riders. Applicants must be using an alternative mode at the time they register for GRH/ERH, so the high interest among drive alone commuters suggests this could be a motivating service for applicants who were driving alone. The lower rate among transit riders could reflect their perception that transit options existed for their travel throughout the day, so they would be less likely to need emergency transportation than would applicants who commute by carpool or vanpool.

By contrast, transit riders were much more likely than were either drive alone or ridesharing applicants to request bicycle information. In SOVA regions, transit is primarily concentrated in the urban areas, which are more likely to have bicycle facilities available. Transit applicants also travel a much shorter average distance to work than do either carpool/vanpool or drive alone applicants. These two factors suggest bicycling would be a more feasible option for the applicants who primarily use transit than for other applicants.

Figure 13
Information Received or Accessed from SOVA Commute Assistance Program by Mode
(Drive alone n = 216, Carpool / vanpool n = 65, Transit n = 34, multiple responses permitted)
(Significant differences noted)
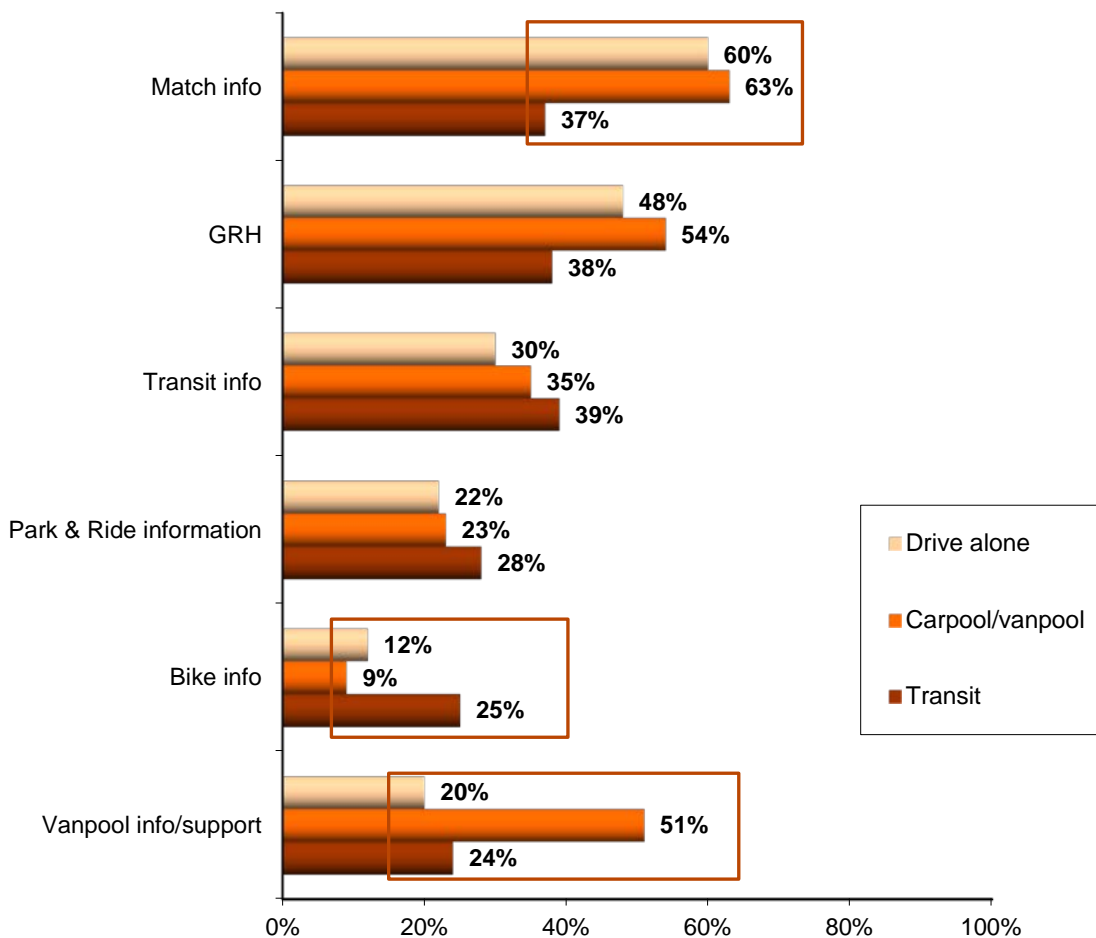
Assistance Offered by Employers

Applicants also were asked if their employers offered commute assistance services and if these services had influenced their commute decisions. Seven in ten (70%) applicants said their employers do offer some services. Figure 14 lists individual services noted by applicants.

The most common employer services are a transit pass discount and telework, each offered by 24% of employers. Several services were mentioned by about two in ten respondents, including: carpool / vanpool information (19%), transit schedules (18%), compressed work schedule (18%), carpool / vanpool preferential parking (17%), and other cash incentive (17%).

Figure 14
Commuter Assistance Services Offered by Employers
(n = 534, multiple responses permitted)

Service	Percentage
Transit pass discount	24%
Telework	24%
Carpool/vanpool info	19%
Transit schedule	18%
Compressed schedule	18%
CP/VP preferential parking	17%
Other cash incentive	17%
GRH/ERH	15%
Matchlist	12%
CP/VP discount parking	10%
Federal tax benefit / "Commuter Choice"	8%
Shuttle to transit	5%
Other	0%
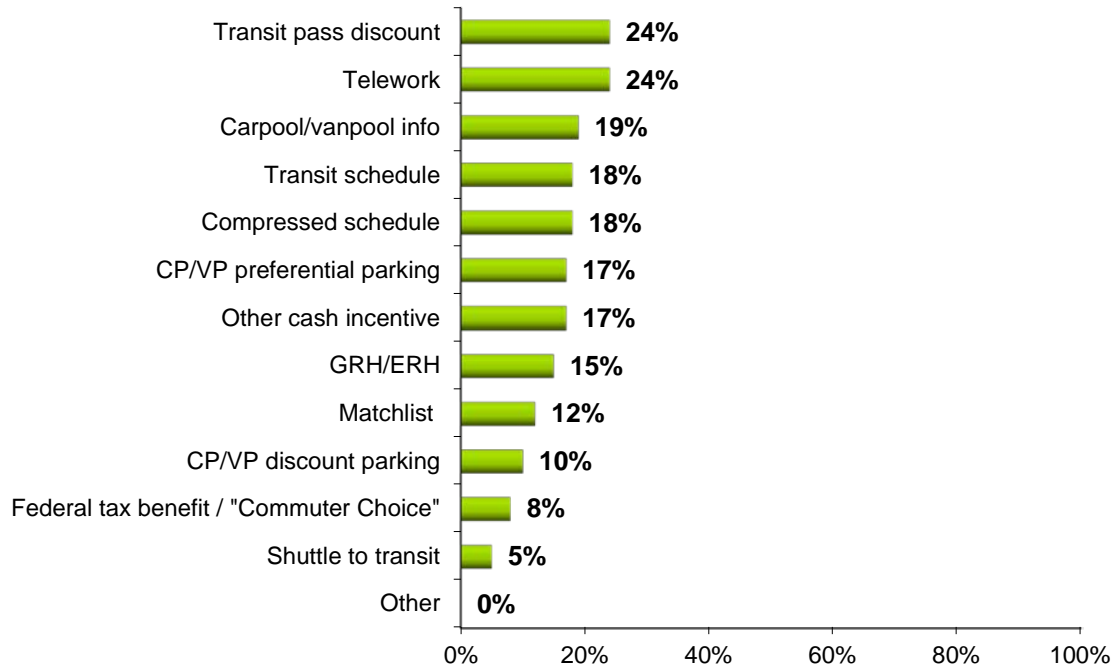
USE OF SOVA COMMUTE ASSISTANCE SERVICES

Applicants who received any of the following services were asked additional questions related to how they used information:

- Matchlist
- Carpool rider bulletin board
- Transit information
- Park & Ride information
- Bicycle / walking information
- Telework information
- Guaranteed Ride Home

Use of Match Information

More than half (56%) of SOVA applicants said they received a matchlist of potential rideshare partners or a map with home and work locations of potential carpool/vanpool partners. These respondents were asked about their use of match information. The responses are displayed in Figure 15.

Figure 15
Actions Taken by Applicants who Received Matchnames
(Received match info n = 575, Called name n = 294, Reached name n = 162, Name interested n = 142)
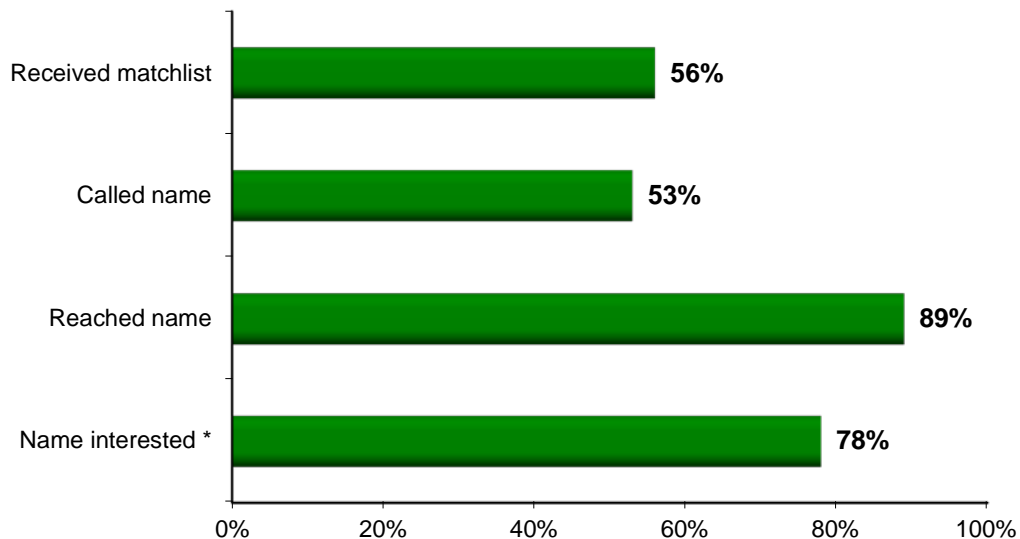
Tried to Make Contact – More than half (53%) of the applicants who received match information tried to contact one or more of the people named.

The remaining 47% of applicants did not try to make contact. The primary reason for not trying to reach people on the list was that people named were not considered compatible partners; they either had "work hours not compatible with mine" or work or home location not compatible with mine."

A summary of top reasons why respondents didn't try to make contact included:

- Work hours not compatible with mine   35%
- Work / home locations not compatible with mine   23%
- Already found rideshare arrangement   19%
- Decided I didn't want to carpool/vanpool   9%
- My schedule is erratic   6%

Success in Reaching Someone Named on the Match Information – A large majority (89%) of applicants who did try to make contact were successful in reaching someone named on this list. This suggests that the match information is generally current and accurate.

Interest in Ridesharing – More than three-quarters (78%) of applicants who reached someone said that person was interested in ridesharing. But about half of these respondents said the interested people they reached had schedules or destinations that were not compatible. Two in ten (22%) applicants said the people they reached were not interested in carpooling.

To some extent, compatibility is an individual standard. One applicant might be willing to drive out of his way or arrive at work 30 minutes earlier than scheduled to take advantage of carpooling benefits, while another applicant would feel these accommodations were too inconvenient. But this result suggests the software might not match applicants with as much precision as some commuters would like.

Northern Virginia Comparison – As shown in Table 15, SOVA and NOVA respondents used match information at nearly identical rates on all three use categories: called names, reached people on list, applicants were interested in ridesharing.

Table 15
Actions Taken by Respondents who Received Match Information
SOVA and NOVA

Action Taken	SOVA		NOVA	
	(n=__)	**Percentage**	(n=__)	**Percentage**
Received match information	575	51%	933	58%
Called names	294	53%	547	54%
Able to reach people named on list	162	88%	306	87%
People called interested in ridesharing	142	78%	267	78%

Transit Information

A third (33%) of SOVA applicants said they received transit information from a SOVA commute assistance program (Figure 16). Three in ten (31%) of the applicants who received transit information used the information to contact a transit agency and 77% of those who contacted a transit agency said they used information they received to try transit.

Figure 16 also shows the results for these questions for NOVA commute assistance programs. A larger share of NOVA respondents said they received transit information, compared with the SOVA results. NOVA respondents also were slightly more likely to use the information to contact a transit agency than were SOVA respondents. But if they did contact the transit agency, they were equally likely to use the information they received to try transit.

<div align="center">

Figure 16
Actions Taken by Applicants who Received Transit Information
Southern Virginia and Northern Virginia
(Received transit info: SOVA n = 575, NOVA n = 933
Contacted transit agency: SOVA n = 175, NOVA n = 444
Used info to try transit: SOVA n = 58, NOVA n = 170)

</div>
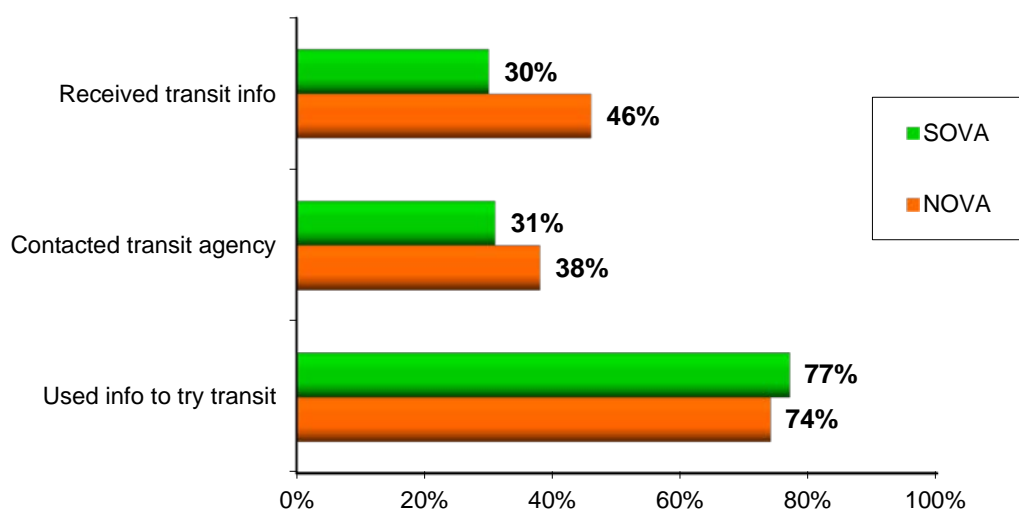
Reasons for Not Contacting Transit Agency – Seven in ten (69%) applicants who received transit information said they did not contact a transit agency. Their reasons for not calling for transit schedule or route information are listed in Table 16.

Two in ten (19%) said they got information from another source and 12% said they didn't need more information. This response could have several meanings, however, such as the applicant was not interested in using transit. It also could mean that the applicant already had as much transit information as needed. Eight percent said they preferred using a mode other than transit and another 8% said they were not interested in transit.

Table 16
Reasons Applicants Did Not Contact Transit Agency
(n = 71, multiple responses permitted)

Reasons	Percentage
Got information from another source	19%
Didn't need more information	12%
Prefer current mode/other modes	8%
Wasn't interested, didn't ask for transit info	8%
Transit is too expensive, schedule / route not feasible	6%
Too far from home / work	2%

Park & Ride Information

Virginia commute assistance organizations also provide Park & Ride lot location information. About 20% of SOVA applicants remembered receiving or accessing Park & Ride information (Figure 17).

Figure 17
Actions Taken by Applicants who Received Park & Ride Lot Information
(Received Park &Ride info: SOVA n = 575, NOVA n = 933; Used P&R info: SOVA n = 115, NOVA n = 256;
Aware of P&R before: SOVA n = 70, NOVA n = 166)
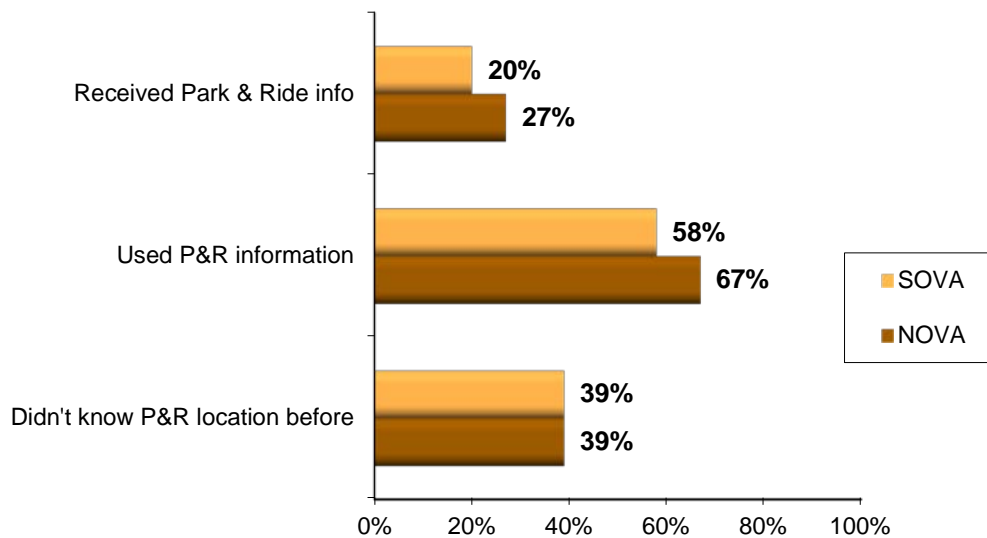
About six in ten (58%) SOVA applicants who received Park & Ride information used the information. Four in ten (39%) of these applicants were not aware of the location of the Park & Ride lots before they received the information. More than eight in ten (85%) applicants who used a Park & Ride lot listed on the information they received said that using the lot was a factor in their decision to try using a new type of transportation. NOVA applicants were slightly more likely than were SOVA applicants to use P&R information, but their previous awareness of the lots was about the same as for SOVA applicants.

Applicants who received but did not use the Park & Ride lot information were asked why they had not done so. Two in ten said the lot was not in a convenient location (22%) or that they didn't need a Park & Ride lot (20%).

Bicycle Information

Twelve percent of applicants reported that they had received bicycle information. Nearly half (48%) of these applicants made a bicycle travel change and 81% who made a bicycle change said the information from the SOVA program was a factor in their decision to make the change. Twenty percent started bicycling to work and 27% bicycle to work more often (Table 17). Twenty-two percent said they started riding for non-work trips and 26% ride a bicycle more often for non-work trips.

Table 17
Actions Taken After Receiving Bicycle Information
(n = 55, multiple responses permitted)

Bicycle Actions	Percentage
Work Travel	
- Started bicycling to work	20%
- Bicycle to work more often	27%
Non-work Travel	
- Started bicycling for non-work trips	22%
- Bicycle more often for non-work trips	26%
Did not take any bicycle action	45%
Don't remember	7%

Telework Information

Six percent of applicants said they had received information from a SOVA program about telework. Seventeen percent of the applicants said they used the information to start teleworking and 15% started to telework more often. Two in ten (20%) of the applicants used the information to talk to their employers about telework. The remaining respondents took no action with the information.

Guaranteed / Emergency Ride Home

Finally, the survey included questions about applicants' use of the Guaranteed/Emergency Ride Home (GRH/ERH) program. Four in ten (44%) applicants received or accessed information on GRH/ERH from a SOVA commute assistance program. About seven in ten (72%) of these applicants subsequently registered for the service.

As illustrated in Table 18, about 42% of applicants who received GRH/ERH information were driving alone to work at the time they requested the information. The remaining 58% were using an alternative mode; 21% were riding transit, 22% vanpooled, and 12% carpooled.

Table 18
Modes Used When Requesting GRH Information
(n = 251, multiple responses permitted)

Modes Used	Percentage
Drive alone	**42%**
Alternative modes	**58%**
- Transit (bus / train)	21%
- Vanpool	22%
- Carpool	12%
- Bike / walk	3%

SECTION 4   PROGRESS ON PERFORMANCE MEASURES AND GOALS

PERFORMANCE INDICATORS

One purpose of the evaluation is to document transportation and air quality impacts of the Southern Virginia commute assistance programs. This report also documents progress on several participation and utilization performance measures.

Participation and utilization measures can include, for example, the number of commuter assistance requests and number of matchlists provided. These measures are important primarily for tracking purposes, but also are used to assess **program impact measures**, the ultimate measures of results or benefits, such as transportation, air quality, and energy benefits. Program impact measures include, for example, the number of vehicle trips reduced.

Southern Virginia commute assistance programs' basic services include: carpool and vanpool matchlists, information on transit routes and schedules, information on Park & Ride lot locations, bicycling, telework, and information on HOV lanes and other HOV facilities. Commuters obtain services by submitting information and service requests via a program website or toll-free telephone number, or through an employer or a transportation management association (TMA). Additionally, some services are available for immediate download from program websites.

PARTICIPATION, UTILIZATION, AND SATISFACTION

The results of six participation and utilization measures are presented in Table 19 below for the Southern Virginia programs overall.

<div align="center">

Table 19
Southern Virginia Commute Assistance Programs
Applicants Served Between April 1, 2011 and March 31, 2012

</div>

- Commuter applicants   **4,891**

- Applicant placement rates
   - Overall (all changes)   **59.6%**
      - Continued rate   39.7%
      - Occasional rate   6.0%
      - Temporary rate   11.9%
      - One-time rate   2.0%

- Estimated applicants placed in alternative modes   **2,816**
   - Continued placements   1,941
   - Occasional placements   293
   - Temporary placements   582

PROGRAM IMPACT MEASURES

The survey analysis also estimated results for Southern Virginia commuter assistance programs for four program impacts performance measures:

- Vehicle trips (VT) reduced
- Vehicle miles traveled (VMT) reduced
- Emissions reduced
- Gallons of gasoline saved

The results for these measures, calculated from the survey data and other data provided by DRPT for individual commuter assistance programs are shown in Table 20. Calculations of these impacts are briefly described following the table.

Table 20

Southern Virginia Commute Assistance Programs
Program Impact Performance
Applicants Served Between April 1, 2011 and March 31, 2012

• Daily vehicle trips (VT) reduced	1,818	trips
• Daily VMT reduced	51,343	VMT
• Daily pounds of emissions reduced		
– NOx	40	lb
– VOC	20	lb
• Annual tons of CO2 / Greenhouse gases reduced	6,525	tons
• Gallons of gasoline saved	2,157	daily gallons of gas

Commuter Placements

The placement rates derived from the survey can be used to estimate the total number of SOVA program applicants who started using alternative modes. This is done by multiplying the placement rates by the total number of commuters who received assistance from the program.

Between April 1, 2011 and March 31, 2012, SOVA programs received applications from 4,891 commuters. Based on the survey results, it would be expected that approximately 2,816 of these commuters had started using a new alternative mode or increased their use of alternative modes:

- 1,941 continued shifts (39.7% x 4,891)
- 582 temporary shifts (11.9% x 4,891)
- 293 occasional use shifts (6.0% x 4,891)

  Total of 2,816 placements (commute shifts)

Vehicle Trips Reduced

Vehicle Trips Reduced (VTR) measures the number of vehicle trips no longer made as a result of commuters starting or increasing use of higher occupancy modes. The calculation also accounts for alternative modes shifts that do not reduce, and indeed may increase, vehicle trips, such as a shift from transit to carpool (lower occupancy mode than transit).

To simplify measuring the impacts of various shifts, "VTR factors" were estimated from the survey data. The factors combine the impacts of all respondents' changes into a single number equal to the average number of vehicle trips reduced by commuters who switch modes. VTR factors can range between 0.0 and 2.0 vehicle trips reduced per day. A VTR of 2.0 indicates that all of the commuters whose travel shifts are averaged were previously driving alone and are now using a combination of "zero-vehicle" modes (transit, bike, walk, or telework) five days per week. Because a more typical situation is a combination of shifts to carpool and vanpool, as well as to zero-vehicle modes, and some shifting among alternative modes (e.g. transit to carpool), VTR factors are typically lower than 2.0.

VTR factors for Southern Virginia programs were derived from detailed examination of the types of changes reported by survey respondents. Factors were developed for both continued change and temporary change.

- Continued VTR =   0.89 trips reduced per placement

- Temporary VTR =   0.75 trips reduced per placement

These factors can be multiplied by the number of commuters who made continued and temporary changes, respectively, to estimate the vehicle trip reduction of all commuters placed in alternative modes. We note, however, that temporary changes must be discounted for their short duration. SOVA respondents who made a temporary change used their new modes an average of 10.3 weeks or 21% of a year (10.3 / 50 work weeks). This discount is factored into the calculation of trips reduced. These calculations produce an estimate of 1,818 daily trips reduced:

Continued trips reduced =   1,941 commuters x 0.89 trips reduced   = 1,728 daily trips reduced
Temporary trips reduced =   582 commuters x 0.75 trips reduced x 21%   =   90 daily trips reduced

    Total trips reduced =   1,818 daily trips reduced

Vehicle Miles Traveled (VMT) Reduced

The reduction in vehicle miles traveled, or VMT, is calculated by multiplying the number of vehicle trips reduced by the average one-way commute distance for respondents who made a commute change. The one-way trip distance was 33.6 miles for respondents with continued changes and 26.5 miles for respondents with temporary changes. But 67% of continued change respondents and 42% of temporary change respondents drive alone a few miles to the location where they start their carpool, vanpool, or transit trip. These "drive alone" miles are subtracted from the calculation of VMT reduced.

The VMT calculation thus is as follows, resulting in 20,758 VMT reduced daily:

Continued VMT reduced =   1,728 trips reduced x 67% x (33.6 miles – 7.5 drive alone miles) +
                            1,728 trips reduced x 33% x 33.6 miles = **49,378 VMT reduced**

Temporary VMT reduced =   90 trips reduced x 42% x (26.5 miles – 11.1 drive alone miles) +
                            90 trips reduced x 58% x 26.5 miles = **1,965 VMT reduced**

Total trips reduced =   **51,343 daily trips reduced**

Emissions Reduced

The calculation of emissions benefits, defined as tons of pollutants reduced, applies one regional emission factor to the number of vehicle trips or "trip ends" and another factor to VMT to determine the pollutants reduced as a result of the program. This analysis calculates emission reduction for three pollutants: Oxides of Nitrogen (NOx), Volatile Organic Compounds (VOC), and Carbon Dioxide (CO_2, greenhouse gas).

For 2011, the most recent year for which data are available, the emission factors are:

NOx:

Trip end (cold start)   =   0.5182 grams per one-way vehicle trip reduced
VMT (running)   =   0.3444 grams per vehicle mile reduced

VOC:

Trip end (cold start + hot soak)   =   1.4592 grams per one-way vehicle trip reduced
VMT (running)   =   0.1558 grams per vehicle mile reduced

CO_2 (Greenhouse gas):

Trip end (cold start + hot soak)   =   None
VMT (running)   =   461.7 grams per vehicle mile reduced

The first emission factor, estimating emissions from starting a cold-engine vehicle and the emissions from evaporation as a hot engine is cooling down, is multiplied by the estimated vehicle trips reduced, adjusted to remove commuters who make a drive alone trip to a rideshare or transit meeting point. The second factor, which estimates emissions from running a warm-engine vehicle, is multiplied by the vehicle miles reduced, adjusted to account for the length of drive alone trips to rideshare and transit meeting points. The sum of the products of these two calculations determines daily emission reductions.

The emission reduction calculation is shown below. The emissions reduced by all placements equal about **40 pounds of NOx per day and 20 pounds of VOC per day. CO2 emissions were calculated on an annual basis and totaled 6,527 tons.**

NOx	11 Emis. Trips	Factor	11 Emis. VMT	Factor	Tot gm	Pounds
• Cold start	622	0.5182			322	0.7
• Running (40 mph)			51,343	0.3444	17,683	39.0
Total NOx reduced (pounds)						**39.7**

VOC	11 Emis. Trips	Factor	11 Emis. VMT	Factor	Tot gm	Pounds
• Cold start	622	1.4592			908	2.0
• Running (40 mph)			51,343	0.1558	7,999	17.6
Total VOC reduced (pounds)						**19.6**

CO2	Trips	Factor	VMT	Factor	Tot gm	Tot ton
• Cold start	622	0.0			0	0
• Running (40 mph)			51,343	461.7	23,705,063	52,214
Total CO2 reduced (pounds per day)						52,214
Total CO2 reduced (tons per year)						**6,527**

Gallons of Gasoline Saved

The fourth performance measure assesses the number of gallons of gasoline saved by increased use of alternative modes. This performance measure is calculated by dividing the number of daily VMT reduced by an average miles per gallon fuel efficiency of the mix of vehicles in the region (23.8 mpg). As shown below, **2,157 gallons of gasoline are saved daily** from increased use of alternative modes by SOVA applicants.

Gallons fuel saved =   51,343 VMT reduced / 23.8 miles per gallon   = **2,157 gallons reduced**

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LIST OF APPENDICES

Appendix A – Questionnaire for September-October 2012 Applicant Survey

Appendix A
Questionnaire for September-October 2012 Applicant Survey
Southern Virginia Internet Version – Final- 8-2-12

INTRODUCTION

The Virginia Department of Rail and Public Transportation and [LONG NAME] are conducting this online survey of people who have received commute information or assistance from [PROGRAM NAME] or who have used the [PROGRAM NAME] website. Your answers will be confidential. It will take about 10 minutes. Please complete the survey and click on the "SUBMIT" button at the end. If you need to stop before you have finished the survey, your answers will be saved and you may come back and complete the remaining questions at a later time. Thank you for your participation.

SCREENING FOR SERVICES USED

S1   Which of the following carpool and vanpool services have you received, accessed, or requested from [LONG NAME]? You could have received or requested them from the website or through a letter, email, or phone call. Please check all that apply.

ACCEPT MULTIPLES FOR 1-9, DO NOT ALLOW MULTIPLES WITH 90 OR 98

Carpool / Vanpool Services	Received or Accessed	Requested, but did NOT Receive or Access
1 Names and contact information for people you could contact to form a carpool or vanpool (also called a matchlist)		
2 Map showing home and work locations of people you could contact to form a carpool or vanpool		
3 Carpool / Vanpool rider wanted bulletin board		
4 Other carpool / vanpool information		
5 Vanpooling assistance		
6 HOV lane information		
7 Pool Rewards carpool financial incentive		
8 NuRide rewards		
9 Vanpool leasing		
90 Did not receive any of these services from [PROGRAM NAME]		
98 Don't know		
99 Question left blank (internet only)		

S2   [PROGRAM NAME] also offer information on telework, transit, and bicycling to get around the {REGION NAME} region. Which of the following services have you received, accessed, or requested from [PROGRAM NAME]? Please check all that apply.

ACCEPT MULTIPLES FOR 1-8, DO NOT ALLOW MULTIPLES WITH 90

Telework / Transit / Bicycling Services	Received or Accessed	Requested, but did NOT Receive or Access
1 Transit schedule or route informaiton		
2 Transit fare information, SmarTrip		
3 Park & Ride lot information		
4 Telework information, telework center information		
5 Bicycle to Work Guide, bicycling information		
6 Online bicycle route planning		
7 Guaranteed / Emergency Ride Home information or trip		
8 Special events information (e.g., Bike to Work day, Car Free Day)		
90 Did not receive any of these services from PROGRAM NAME]		
98 Don't know		
99 Question left blank (internet only)		

S3   **SERVICES RECEIVED / REQUESTED – AUTOCODE FROM Q_S1, Q_S2**
       ACCEPT MULTIPLES FOR 1-17, DO NOT ALLOW MULTIPLES WITH 90
          IF Q_S1 = 1, CODE Q_S3 = 1
          IF Q_S1 = 2, CODE Q_S3 = 2
          IF Q_S1 = 3, CODE Q_S3 = 3
          IF Q_S1 = 4, CODE Q_S3 = 4
          IF Q_S1 = 5, CODE Q_S3 = 5
          IF Q_S1 = 6, CODE Q_S3 = 6
          IF Q_S1 = 7, CODE Q_S3 = 7
          IF Q_S1 = 8, CODE Q_S3 = 16
          IF Q_S1 = 9, CODE Q_S3 = 17

          IF Q_S2 = 1, CODE Q_S3 = 8
          IF Q_S2 = 2, CODE Q_S3 = 9
          IF Q_S2 = 3, CODE Q_S3 = 10
          IF Q_S2 = 4, CODE Q_S3 = 11
          IF Q_S2 = 5, CODE Q_S3 = 12
          IF Q_S2 = 6, CODE Q_S3 = 13
          IF Q_S2 = 7, CODE Q_S3 = 14
          IF Q_S2 = 8, CODE Q_S3 = 15

          IF Q_S1 = 90 OR 98 AND Q_S2 = 90 OR 98, CODE Q_S3 = 90

     QS3 continues on following page

QS3 - Continued

1   Names and contact information for people you could contact to form a carpool or vanpool (matchlist)
2   Map showing home and work locations of people you could contact to form a carpool or vanpool
3   Carpool / vanpool rider bulletin board
4   Other carpool / vanpool information
5   Vanpooling assistance
6   HOV lane information
7   Pool Rewards carpool financial incentive
8   Transit schedule or route information
9   Transit fare information, SmarTrip
10 Park & Ride lot information
11 Telework information, telework center information
12 Bicycle to Work Guide, bicycling information
13 Online bicycle route planning
14 Guaranteed /Emergency Ride Home information or trip
15 Special events information (e.g., Bike to Work Day, Car Free Day)
16 NuRide rewards
17 Vanpool leasing
90 Did not request or seek any of these services
99 Question left blank (internet only)

DEFINE USER – FOR LATER BRANCHING
   CLASSIFY IN THE FOLLOWING ORDER:
     IF Q_S1 = ANY RESPONSE 1, 2, OR 4 – 9, USER = 1 (RECEIVED)
     IF Q_S2 = ANY RESPONSE 1 – 9, USER = 1 (RECEIVED)

     IF Q_S1 = 90 OR 99 AND Q_S2 = 90 OR 99 AND Q_S3 = ANY RESPONSE 1, 2 OR 4 – 17, USER = 2 (REQUESTED)

     IF Q_S1 = ONLY 3 AND Q_S2 = 90 OR 99 AND Q_S3 = 90 OR 99, USER = 3 (BB ONLY)
     IF Q_S1 = 90 OR 99 AND Q_S2 = 90 OR 99 AND Q_S3 = ONLY 3, USER = 3 (BB ONLY)

     IF Q_S1 = 90 OR 99 AND Q_S2 = 90 OR 99 AND Q_S3 = 90 OR 99, USER = 4 (UNKNOWN)

IF USER = 1, 2, OR 3, CONTINUE TO Q1
IF USER = 4, THANK AND TERMINATE

HOW THEY GET TO WORK

1   Next, please answer a few questions about your travel to and from work. In a TYPICAL week, how many <u>weekdays</u> (Monday-Friday) are you assigned to work? **(DO NOT READ RESPONSES)**

      1   1 day per week
      2   2 days per week
      3   3 days per week
      4   4 days per week
      5   5 days per week
      _____ Not currently working (**THANK AND TERMINATE**)

2   Which of the following best represents your work schedule?

       1   Part-time schedule (less than 35 hours per week)
       2   Full-time, five or more days per week, 35 or more hours per week
       3   4/40 compressed schedule (4 10-hour days per week, 40 hours)
       4   9/80 compressed schedule (9 days every 2 weeks, 80 hours)
       5   3/36 compressed schedule (3 12-hour days per week, 36 hours)
       6   Some other (**SPECIFY**) _____
       9   Don't know, prefer not to answer, Question left blank (internet only)

3   Do you telecommute or telework? For purposes of this survey, "telecommuters" are defined as "wage and salary employees who at least occasionally work at home or at a telework or satellite center during an entire work day, instead of traveling to their regular work place." Based on this definition, are you a telecommuter?

       1.   yes
       2.   no (**SKIP TO Q4a)**
       8   Don't know **(SKIP TO Q4a)**
       9   Question left blank (internet only)

4   How often do you usually telecommute? **(DO NOT READ RESPONSES)**

       1   Less than 1 time per month / only in emergencies (e.g., sick child, snowstorm)
       2   1 to 3 times a month
       3   1 day a week
       4   2 days a week
       5   3 days a week
       6   4 days a week
       7   5 days a week
       8   other (SPECIFY) _____
       9   Don't know, prefer not to answer, Question left blank (internet only)

4a   How often are you away from your usual work location **for an entire day** for business or work travel (e.g., meetings / visits to clients or customers)? **(DO NOT READ RESPONSES)**

       1   Never, I don't ever travel for work
       2   Occasionally, but less than 1 day per week
       3   Regularly, 1 or more days per week
       9   Don't know, prefer not to answer, Question left blank (internet only)

Current Travel Grid (Typical week)

5   Thinking about a TYPICAL week, <u>Monday through Friday</u>, how do you get to work? In the table below, enter the number of days you typically use each of the listed types of transportation. If you use <u>more than one type on a single day</u>, for example you walk to the bus stop, then ride the bus, count only the type you use for the **longest distance part** of your trip.

IF Q4a = 3, ALSO SHOW: "For days that you are on business or work travel, please report the type of transportation you would use to get to work if you worked at your usual work location."

Indicate also how many weekdays you do NOT typically travel to your usual work location and the reasons for not travel- ing to work (e.g., regular day off, telework, compressed schedule day off).

IF Q2 = 3, 4, OR 5 (CWS) AND RESPONDENT DOES NOT CHECK "CWS day off" (RESPONSE 1), SHOW MESSAGE: "You said you typically work a compressed schedule. How many compressed schedule days do you typically have off in a week?" **(ACCEPT 0 AS A RESPONSE)**

IF Q4 = 3, 4, 5, 6, OR 7 (TELEWORK 1+ DAYS PER WEEK) AND RESPONDENT DOES NOT CHECK "Telecommute" (RESPONSE 2), SHOW MESSAGE: "You said you typically telework. How many days do you telework in a typical week? **(ACCEPT 0 AS A RESPONSE)**

CHECK SUM OF DAYS. IF TOTAL OF Q5 DAYS 1-18 IS LESS THAN Q1, SHOW MESSAGE "Please report for all days Mon- day – Friday, including telework days, compressed schedule days, and days you do not work." **IF TOTAL OF 1-18 IS GREATER THAN Q1, SHOW MESSAGE:** "You've reported more than five days. Please report only for Monday – Friday and one type of transportation for each day."

Type of Transportation	Number of Days Use (0 to 5)
Days you travel to your usual work location	
3 Drive alone in a car, truck, van, or SUV, Motorcycle, Ride in a taxi	
4 *N/A – don't use*	
5 Carpool, including carpool w/family member, dropped off (ride or drive with others in a car, truck, van, or SUV)	
6 Casual carpool (slugging)	
7 Vanpool	
8 N/A – don't use	
9 Ride a bus (public bus, shuttle, buspool, express bus)	
10 Ride Metrorail- *N/A in SOVA – RESERVE FOR NOVA*	
11 Ride commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail	
13 N/A – don't use	
14 Bicycle (entire trip or longest distance part of trip from home to work)	
15 Walk (entire trip or longest distance part of trip from home to work)	
16 N/A – don't use	

Days you do not travel to your usual work location	
1 Have a compressed work schedule day off	
2 Telecommute / telework all day	
17 Have a regular day off	
18 Other (describe)_____	
Total Days (DO NOT SHOW THIS LINE ON SCREEN)	Sum of 1-18

DEFINE Q5 MODES USED (ALLOW MULTIPLE MODES) – AUTOCODE ONLY:
   CWDAYS = SUM OF Q5, RESPONSE 1
   TWDAYS = SUM OF Q5, RESPONSE 2
   DADAYS = SUM OF Q5, RESPONSE 3
   CPDAYS = SUM OF Q5, RESPONSE 5, 6
   VPDAYS = SUM OF Q5, RESPONSE 7
   BUDAYS = SUM OF Q5, RESPONSE 9
   MRDAYS = SUM OF Q5, RESPONSE 10 – NOT USED IN SOVA, RESERVE FOR NOVA
   CRDAYS = SUM OF Q5, RESPONSE 11
   BKDAYS = SUM OF Q5, RESPONSE 14
   WKDAYS = SUM OF Q5, RESPONSE 15
   LRDAYS = SUM OF Q5, RESPONSE 12

   IF CWDAYS > 0, Q5 MODE = 1 COMPRESSED SCHEDULE
   IF TWDAYS > 0, Q5 MODE = 2 TELEWORK
   IF DADAYS > 0, Q5 MODE = 3 DRIVE ALONE
   IF CPDAYS > 0, Q5 MODE = 4 CARPOOL
   IF VPDAYS > 0, Q5 MODE = 5 VANPOOL
   IF BUDAYS > 0, Q5 MODE = 6 BUS
   IF MRDAYS > 0, Q5 MODE = 7 METRORAIL – NOT USED IN SOVA, RESERVE FOR NOVA
   IF CRDAYS > 0, Q5 MODE = 8 COMMUTER TRAIN
   IF BKDAYS > 0, Q5 MODE = 9 BICYCLE
   IF WKDAYS > 0, Q5 MODE = 10 WALKING
   IF LRDAYS > 0, Q5 MODE = 11 LIGHT RAIL TRAIN

DEFINE PRIMARY MODE
   SET PR_MODE = Q5 MODE WITH HIGHEST NUMBER OF DAYS. IF TIE FOR HIGHEST NUMBER, CHOOSE PRIMARY MODE IN THIS PRIORITY ORDER: 5 (VANPOOL), 4 (CARPOOL), 7 (METRORAIL), 11 (LIGHT RAIL), 6 (BUS), 8 (COMMUTER TRAIN), 9 (BICYCLE), 10 (WALKING), 2 (TELEWORK), 3 (DRIVE ALONE). DO NOT SELECT COMPRESSED SCHEDULE (1) AS PRIMARY MODE

DEFINE CALTDAYS = TOTAL Q5 DAYS USING MODES 5, 6, 7, 9, 10, 11, 12, 14, 15

8   About how many miles do you usually travel from home to work one way?

       _____ miles one way
      *999 Don't know, prefer not to answer, Question left blank (**internet only**)*

9   And about how many minutes does it take you to get to work?

       _____ minutes
      *999 Don't know, prefer not to answer, Question left blank (**internet only**)*

POOL MAKE-UP
   IF CPDAYS = 0 AND VPDAYS = 0, SKIP TO INSTRUCTIONS BEFORE Q15
   IF CPDAYS > VPDAYS, ASK Q10-Q14, INSERT "carpool" AS Q5 MODE
   IF VPDAYS > CPDAYS, ASK Q10-Q14, INSERT "vanpool" AS Q5 MODE
   IF CPDAYS = VPDAYS, ASK Q10-Q14, INSERT "vanpool" AS Q5 MODE

10   Including yourself, how many people usually ride in your [Q5 MODE, carpool, vanpool]?

       _____ total people in pool
      *999 Don't know, prefer not to answer, Question left blank (**internet only**) (SKIP TO Q14)*

11   How many of the other people in your [Q5 MODE, carpool, vanpool], excluding yourself, are members of your family or members of your household?

       _____ people are family/household members
      *999 Don't know, prefer not to answer, Question left blank (**internet only**)*

12   How many are children under age 16?

                         children under age 16
        *999 Don't know, prefer not to answer, Question left blank (**internet only**)*

13   How many are co-workers?

               co-workers
        *999 Don't know, prefer not to answer, Question left blank (**internet only**)*

14   How often are you the driver of your carpool or vanpool? Do you…? **(READ RESPONSES 1-3)**

        1   Always drive **(AUTOCODE Q15 = 9, THEN SKIP TO Q20)**
        2   Sometimes drive or share driving, such as driving on alternate days or weeks
        3   Never drive

INSTRUCTIONS BEFORE Q15
    IF Q5 MODE = 5 (VANPOOL), 4 (CARPOOL), 8 (COMMUTER TRAIN), 7 (METRORAIL TRAIN), 11 (LIGHT RAIL), OR 6 (BUS), ASK Q15-Q16, OTHERWISE, SKIP TO Q20.

    IF MORE THAN ONE OF THESE Q5 MODES, SELECT MODE WITH GREATEST NUMBER OF DAYS FOR Q15-Q16. IF TIE, SELECT MODE IN THIS PRIORITY ORDER: 5 (VANPOOL), 4 (CARPOOL), 8 (COMMUTER TRAIN), 7 (METRORAIL), 11 (LIGHT RAIL), 6 (BUS). (NOTE, DO NOT SELECT DRIVE ALONE, TELEWORK, COMPRESSED SCHEDULE, BICYCLE, OR WALKING FOR Q15-Q16).

    IF Q14 = 2, ASK BEFORE Q15, "On days you are not the driver of the carpool or vanpool, …"

15   How do you get from home to where you meet your [Q5 MODE: <u>vanpool, carpool, bus, Metrorail train, commuter train, light rail train</u>]?

        1   picked up at home by car/vanpool **(SKIP TO Q20)**
        2   drive alone to driver's home or drive alone to passenger's home
        3   drive to a central location, like park & ride
        4   another carpool or vanpool, including dropped off by HH members
        5   bicycle
        6   walk
        7   bus/transit
        8   taxi
        9   I am always the driver of carpool/vanpool (**THEN SKIP TO Q20)**
        19   other (SPECIFY) _____

16   How many miles is it one way from your home to where you meet your [Q5 MODE: <u>vanpool, carpool, commuter train, Metrorail train, bus, light rail train</u>]?

                       miles **(ALLOW ONE DECIMAL)**
        999 Don't know, prefer not to answer, Question left blank (internet only)

CHANGES

[PROGRAMMER NOTE: Tests for travel changes applicants might have made. Changes are examined hierarchically (mode changes first, frequency changes next, then occupancy changes)]

20   The next few questions ask about changes you might have made in your travel to work since you requested or obtained commute information or assistance. Since that time, did you make any of the following changes in how you travel <u>to or from work</u>, even if the change was only temporary? **ALLOW MULTIPLES FOR 1-10, DON'T ALLOW MULTIPLES WITH 90)**

         1   Start carpooling, joined or created a new carpool, started slugging
         2   Start vanpooling, joined or created a new vanpool
         3   Start riding a bus
         4   Start riding Metrorail – N/A in NOVA, RESERVE FOR SOVA
         5   Start riding a commuter train – MARC, VRE, or Amtrak
         6   Start bicycling to work (entire trip or longest distance part of trip)
         7   Start walking to work (entire trip or longest distance part of trip)
         8   Start teleworking at least one day per week
         9   Start working a compressed work schedule
     10   Start riding a light rail train
     90   Did not make any of these changes

21   Since you requested or obtained assistance, did you **<u>increase</u>** the number of days per week that you used any of the following types of transportation for your trip to work, again, even if only temporarily? **(ALLOW MULTIPLES FOR 1-9, DON'T ALLOW MULTIPLES WITH 90)**

         1   Carpool, slug / casual carpool
         2   Vanpool
         3   Bus
         4   Metrorail – N/A in NOVA, RESERVE FOR SOVA
         5   Commuter train (MARC, VRE, or Amtrak)
         6   Bicycle (entire trip or longest distance part of trip)
         7   Walking (entire trip or longest distance part of trip)
         8   Telework days
         9   Light rail train
     90   No, didn't increase days using these types of transportation

22   Did you try any other type of transportation to get to work, even if only once, since you requested or obtained assistance? Did you try? **(ALLOW MULTIPLES FOR 1-10, DON'T ALLOW MULTIPLES WITH 90)**

         1   Carpooling, slugging / casual carpooling
         2   Vanpooling
         3   Bus
         4   Metrorail – N/A in NOVA, RESERVE FOR SOVA
         5   Commuter train (MARC, VRE, AMTRAK)
         6   Bicycling (to work)
         7   Walking (to work)
         8   Teleworking
         9   Driving alone, start driving alone
     10   Light rail train
     90   No, did not make any of these changes

Q23 - <u>DEFINE INITIAL MODE CHANGES – AUTOCODE ONLY</u>
   REVIEW Q20, Q21, Q22, CODE ALL CHANGES AS FOLLOWS (ALLOW MULTIPLE RESPONSES WITH 1-20, DO NOT ALLOW MULTIPLES WITH 90):

   IF Q20 = 90 OR 99 AND Q21 = 90 OR 99 AND Q22 = 9, 90 OR 99, AUTOCODE Q23 = 90

   IF Q20 = 1 OR Q21 = 1 OR Q22 = 1 AND CPDAYS > 0, Q23 = 1 (Continued carpool)
   IF Q20 = 2 OR Q21 = 2 OR Q22 = 2 AND VPDAYS > 0, Q23 = 2 (Continued vanpool)
   IF Q20 = 3 OR Q21 = 3 OR Q22 = 3 AND BUDAYS > 0, Q23 = 3 (Continued bus)
   IF Q20 = 4 OR Q21 = 4 OR Q22 = 4 AND MRDAYS > 0, Q23 = 4 (Continued Metrorail) – N/A in SOVA, reserve for NOVA

   IF Q20 = 5 OR Q21 = 5 OR Q22 = 5 AND CRDAYS > 0, Q23 = 5 (Continued commuter train)
   IF Q20 = 6 OR Q21 = 6 OR Q22 = 6 AND BKDAYS > 0, Q23 = 6 (Continued bicycle)
   IF Q20 = 7 OR Q21 = 7 OR Q22 = 7 AND WKDAYS > 0, Q23 = 7 (Continued walking)
   IF Q20 = 8 OR Q21 = 8 OR Q22 = 8 AND TWDAYS > 0, Q23 = 8 (Continued telework)
   IF Q20 = 10 OR Q21 = 9 OR Q22 = 10 AND LRDAYS > 0, Q23 = 9 (Continued light rail)

   IF Q20 = 1 OR Q21 = 1 OR Q22 = 1 AND CPDAYS = 0, Q23 = 11 (Temporary carpool)
   IF Q20 = 2 OR Q21 = 2 OR Q22 = 2 AND VPDAYS = 0, Q23 = 12 (Temporary vanpool)
   IF Q20 = 3 OR Q21 = 3 OR Q22 = 3 AND BUDAYS = 0, Q23 = 13 (Temporary bus)
   IF Q20 = 4 OR Q21 = 4 OR Q22 = 4 AND MRDAYS = 0, Q23 = 14 (Temporary Metrorail) – N/A in SOVA, reserve for NOVA
   IF Q20 = 5 OR Q21 = 5 OR Q22 = 5 AND CRDAYS = 0, Q23 = 15 (Temporary commuter train)
   IF Q20 = 6 OR Q21 = 6 OR Q22 = 6 AND BKDAYS = 0, Q23 = 16 (Temporary bicycle)
   IF Q20 = 7 OR Q21 = 7 OR Q22 = 7 AND WKDAYS = 0, Q23 = 17 (Temporary walking)
   IF Q20 = 8 OR Q21 = 8 OR Q22 = 8 AND TWDAYS = 0, Q23 = 18 (Temporary telework)
   IF Q20 = 10 OR Q21 = 9 OR Q22 = 10 AND LRDAYS = 0, Q23 = 19 (Temporary light rail)

   1   Continued carpool
   2   Continued vanpool
   3   Continued bus
   4   Continued Metrorail – N/A in SOVA
   5   Continued commuter train
   6   Continued bicycle
   7   Continued walking
   8   Continued telework
   9   Continued light rail

   11   Temporary carpool
   12   Temporary vanpool
   13   Temporary bus
   14   Temporary Metrorail – N/A in SOVA
   15   Temporary commuter train
   16   Temporary bicycle
   17   Temporary walking
   18   Temporary telework
   19   Temporary light rail

   90   No mode change

<u>BRANCHING INSTRUCTIONS</u>
   IF Q23 = 90 (NO MODE CHANGE), SKIP TO Q26
   IF Q23 = ONLY RESPONSES 1-9 (continued mode change), SKIP TO Q26

   IF Q23 = ANY OF 11-19 (temporary mode change), CONTINUE WITH Q24. ASK Q24 FOR EACH TEMPORARY MODES 11-19 CODED IN Q23.

24   You indicated you made a change to a new type of transportation but you reported that you don't typically use it now to get to work. Was this a temporary change or do you still use it for your commute now, even if only occasionally?

LIST UNDERLINE ALL TEMPORARY MODES (11-19) CHECKED/CODED IN Q23 – DO NOT INCLUDE ANY CONTINUED MODE CHECKED IN Q23 (responses 1-9)

	(1) Temporary Change	(2) Still use - less than 1 day per week	(3) Still use - 1 or more days per week
1 Carpool	_____	_____	_____
2 Vanpool	_____	_____	_____
3 Bus	_____	_____	_____
4 Metrorail – *N/A in SOVA*	_____	_____	_____
5 Commuter train (MARC, VRE, Amtrak)	_____	_____	_____
6 Bicycle	_____	_____	_____
7 Walking	_____	_____	_____
8 Telework	_____	_____	_____
9 *Light rail train*	_____	_____	_____

IF Q24 = RESPONSE 1 (temporary change) FOR ANY MODE, ASK Q25. REPEAT Q25 FOR EACH TEMPORARY MODE
IF Q24 = ONLY RESPONSES 2 OR 3 FOR ANY/ALL MODES, SKIP TO Q26

25   How long did this temporary change to [**Q24 MODE**: *carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, telework, light rail*] last?

    1   Less than one week
    2   1 to 3 weeks
    3   4 to 7 weeks
    4   8 to 11 weeks
    5   12 weeks or more (3 or more months)
    9   Don't recall

26   Finally, did you add another person or replace a person in an existing carpool or vanpool?

    1   Yes, added or replaced person in a carpool
    2   Yes, added or replaced person in a vanpool
    90   No
    99 Question left blank (internet only)

Q27   CHECK FOR OCCUPANCY CHANGES FROM Q26 – AUTOCODE ONLY

    IF Q26 = 1 AND CPDAYS > 0, Q27 = 1 (Continued carpool)
    IF Q26 = 2 AND VPDAYS > 0, Q27 = 2 (Continued vanpool)

    IF Q26 = 1 AND CPDAYS = 0, Q27 = 3 (Temporary carpool)
    IF Q26 = 2 AND VPDAYS = 0, Q27 = 4 (Temporary vanpool)

    IF Q26 = 90 OR 99, Q27 = 9 (No occupancy change)

    1   Continued carpool occupancy
    2   Continued vanpool occupancy
    3   Temporary carpool occupancy
    4   Temporary vanpool occupancy
    9   No occupancy change

28   ALL CHANGES – AUTOCODE ONLY

REVIEW Q23, Q24, Q25, Q27, CODE ALL CHANGES AS FOLLOWS (ALLOW MULTIPLE RESPONSES FOR RESPONSES 1-40. DO NOT ALLOW MULTIPLES WITH 90:

IF Q23 = 90 OR 99 AND Q27 = 90 OR 99, AUTOCODE Q28= 90

IF Q23 = 1, Q28 = 1 (Continued carpool)
IF Q23 = 2, Q28 = 2 (Continued vanpool)
IF Q23 = 3, Q28 = 3 (Continued bus)
IF Q23 = 4, Q28 = 4 (Continued Metrorail) – N/A in SOVA, RESERVE FOR NOVA
IF Q23 = 5, Q28 = 5 (Continued commuter train)
IF Q23 = 6, Q28 = 6 (Continued bicycle)
IF Q23 = 7, Q28 = 7 (Continued walking)
IF Q23 = 8, Q28 = 8 (Continued telework)
IF Q23 = 9, Q28 = 9 (Continued light rail)

IF Q24 = 1 FOR carpool AND Q25 = 2-5 OR 9 FOR carpool, Q28 = 11 (Temporary carpool)
IF Q24 = 1 FOR vanpool AND Q25 = 2-5 OR 9 FOR vanpool, Q28 = 12 (Temporary vanpool)
IF Q24 = 1 FOR bus AND Q25 = 2-5 OR 9 FOR bus, Q28 = 13 (Temporary bus)
IF Q24 = 1 FOR Metrorail AND Q25 = 2-5 OR 9 FOR Metrorail, Q28 = 14 (Temporary Metrorail) – N/A in SOVA, RESERVE FOR NOVA
IF Q24 = 1 FOR commuter rail AND Q25 = 2-5 OR 9 FOR commuter rail, Q28 = 15 (Temporary commuter train)
IF Q24 = 1 FOR bicycle AND Q25 = 2-5 OR 9 FOR bicycle, Q28 = 16 (Temporary bicycle)
IF Q24 = 1 FOR walking AND Q25 = 2-5 OR 9 FOR walking, Q28 = 17 (Temporary walking)
IF Q24 = 1 FOR telework AND Q25 = 2-5 OR 9 FOR telework, Q28 = 18 (Temporary telework)
IF Q24 = 1 FOR light rail AND Q25 = 2-5 OR 9 FOR light rail, Q28 = 19 (Temporary light rail)

IF Q24 = 2 or 3 FOR carpool, Q28 = 21 (Occasional carpool)
IF Q24 = 2 or 3 FOR vanpool, Q28 = 22 (Occasional vanpool)
IF Q24 = 2 or 3 FOR bus, Q28 = 23 (Occasional bus)
IF Q24 = 2 or 3 FOR Metrorail, Q28 = 24 (Occasional Metrorail) – N/A in SOVA, RESERVE FOR NOVA
IF Q24 = 2 or 3 FOR commuter rail, Q28 = 25 (Occasional commuter train)
IF Q24 = 2 or 3 FOR bicycle, Q28 = 26 (Occasional bicycle)
IF Q24 = 2 or 3 FOR walking, Q28 = 27 (Occasional walking)
IF Q24 = 2 or 3 FOR telework, Q28 = 28 (Occasional telework)
IF Q24 = 2 or 3 FOR light rail, Q28 = 29 (Occasional light rail)

IF Q24 = 1 FOR carpool AND Q25 = 1 OR 99 FOR carpool, Q28 = 31 (One-time carpool)
IF Q24 = 1 FOR vanpool AND Q25 = 1 OR 99 FOR vanpool, Q28 = 32 (One-time vanpool)
IF Q24 = 1 FOR bus AND Q25 = 1 OR 99 FOR bus, Q28 = 33 (One-time bus)
IF Q24 = 1 FOR Metrorail AND Q25 = 1 OR 99 FOR Metrorail, Q28 = 34 (One-time Metrorail) – N/A in SOVA, RESERVE FOR NOVA
IF Q24 = 1 FOR commuter rail AND Q25 = 1 OR 99 FOR commuter rail, Q28 = 35 (One-time commuter train)
IF Q24 = 1 FOR bicycle AND Q25 = 1 OR 99 FOR bicycle, Q28 = 36 (One-time bicycle)
IF Q24 = 1 FOR walking AND Q25 = 1 OR 99 FOR walking, Q28 = 37 (One-time walking)
IF Q24 = 1 FOR telework AND Q25 = 1 OR 99 FOR telework, Q28 = 38 (One-time telework)
IF Q24 = 1 FOR light rail AND Q25 = 1 OR 99 FOR light rail, Q28 = 39 (One-time light rail)

IF Q27 = 1 OR 2, Q28 = 10 (Continued occupancy)
IF Q27 = 3 OR 4, Q28 = 20 (Temporary occupancy)

Q28 continues on following page

Q28 - Continued

1   Continued carpool
2   Continued vanpool
3   Continued bus
4   Continued Metrorail – N/A in SOVA
5   Continued commuter train
6   Continued bicycle
7   Continued walking
8   Continued telework
9   Continued light rail
10 Continued occupancy

11 Temporary carpool
12 Temporary vanpool
13 Temporary bus
14 Temporary Metrorail – N/A in SOVA
15 Temporary commuter train
16 Temporary bicycle
17 Temporary walking
18 Temporary telework
19 Temporary light rail
20 Temporary occupancy

21 Occasional carpool
22 Occasional vanpool
23 Occasional bus
24 Occasional Metrorail – N/A in SOVA
25 Occasional commuter train
26 Occasional bicycle
27 Occasional walking
28 Occasional telework
29 Occasional light rail

31 One-time carpool
32 One-time vanpool
33 One-time bus
34 One-time Metrorail – N/A in SOVA
35 One-time commuter train
36 One-time bicycle
37 One-time walking
38 One-time telework
39 One-time light rail

90 No change

Q30   DEFINE FINAL CHANGE – AUTOCODE ONLY
    SELECT <u>ONE CHANGE</u> FROM Q28 LIST AS FINAL CHANGE: SET WITH THIS PRIORITY

Continued Mode Change
IF Q28 = ANY OF 1-9 (Continued mode change), SET Q30 = Q28 CHANGE 1-9 WITH MOST Q5 DAYS. IF TIE FOR MOST DAYS, SELECT CHANGE USING THE FOLLOWING HIERARCHY: 2 (Continued vanpool), 1 (Continued carpool), 4 (Continued Metrorail), 9 (Continued light rail), 3 (Continued bus), 5 (Continued commuter rail), 6 (Continued bicycle), 7 (Continued walking), 8 (Continued telework)

Continued Occupancy Change
IF Q28 NE ANY OF 1-9, BUT Q28 = 10 (Continued occupancy), SET Q30 = 10

Temporary Change
IF Q28 NE ANY OF 1-10, BUT Q28 = ANY OF 11-19 (Temporary mode change), SET Q30 = Q28 CHANGE 11-19 WITH LONGEST Q25 DURATION. IF TIE FOR LONGEST DURATION, SELECT CHANGE USING THE FOLLOWING HIERARCHY: 12 (Temporary vanpool), 11 (Temporary carpool), 14 (Temporary Metrorail), 19 (Temporary light rail), 13 (Temporary bus), 15 (Temporary commuter rail), 16 (Temporary bicycle), 17 (Temporary walking), 18 (Temporary telework)

Temporary Occupancy Change
IF Q28 NE ANY OF 1-19, BUT Q28 = 20 (Temp occupancy), SET Q30 = 20

Occasional Change
IF Q28 NE ANY OF 1-20 BUT Q28 = ANY OF 21-29, SET Q30 = Q28 CHANGE 21-29 USING THE FOLLOWING HIERARCHY: 22 (Occasional vanpool), 21 (Occasional carpool), 24 (Occasional Metrorail), 29 (Occasional light rail), 23 (Occasional bus), 25 (Occasional commuter rail), 26 (Occasional bicycle), 27 (Occasional walking), 28 (Occasional telework).

One-time Change
IF Q28 NE ANY OF 1-29 BUT Q28 = ANY OF 31-39, SET Q30 = Q28 CHANGE 31-39 USING THE FOLLOWING HIERARCHY: 32 (OT vanpool), 31 (OT carpool), 34 (OT Metrorail), 39 (OT light rail), 33 (OT bus), 35 (OT commuter rail), 36 (OT bicycle), 37 (OT walking), 38 (OT telework).

IF Q28 = 90, SET Q30 = 90

1	Continued carpool
2	Continued vanpool
3	Continued bus
4	Continued Metrorail – N/A in SOVA
5	Continued commuter train
6	Continued bicycle
7	Continued walking
8	Continued telework
9	Continued light rail
10	Continued occupancy
11	Temporary carpool
12	Temporary vanpool
13	Temporary bus
14	Temporary Metrorail – N/A in SOVA
15	Temporary commuter train
16	Temporary bicycle
17	Temporary walking
18	Temporary telework
19	Temporary light rail
20	Temporary occupancy

List continues on following page

Q30 - Continued

21   Occasional carpool
22   Occasional vanpool
23   Occasional bus
24   Occasional Metrorail – N/A in SOVA
25   Occasional commuter train
26   Occasional bicycle
27   Occasional walking
28   Occasional telework
29   Occasional light rail

31   One-time carpool
32   One-time vanpool
33   One-time bus
34   One-time Metrorail – N/A in SOVA
35   One-time commuter train
36   One-time bicycle
37   One-time walking
38   One-time telework
39   One-time light rail

90   No change

Q30 MODE   DEFINE MODE TO INSERT IN NEXT SECTION – AUTOCODE ONLY
SELECT ONE MODE FROM Q30 LIST: SET WITH THIS PRIORITY

IF Q30 = 1, 11, 21, OR 31, Q30 MODE = 1 carpool
IF Q30 = 2, 12, 22, OR 32, Q30 MODE = 2 vanpool
IF Q30 = 3, 13, 23, OR 33, Q30 MODE = 3 bus
IF Q30 = 4, 14, 24, OR 34, Q30 MODE = 4 Metrorail– N/A in SOVA, RESERVE FOR NOVA
IF Q30 = 5, 15, 25, OR 35, Q30 MODE = 5 commuter train
IF Q30 = 6, 16, 26, OR 36, Q30 MODE = 6 bicycle
IF Q30 = 7, 17, 27, OR 37, Q30 MODE = 7 walking
IF Q30 = 8, 18, 28, OR 38, Q30 MODE = 8 telework
IF Q30 = 9, 19, 29, OR 39, Q30 MODE = 9 light rail train

IF Q30 = 10 OR 20, AND Q27 = 1 OR 3, Q30 MODE = 1 carpool
IF Q30 = 10 OR 20, AND Q27 = 2 OR 4, Q30 MODE = 2 vanpool

IF Q30 = 90, Q30 MODE = 10 None

1   Carpool
2   Vanpool
3   Bus
4   Metrorail – **N/A in SOVA, RESERVE FOR NOVA**
5   Commuter train
6   Bicycle
7   Walking
8   Telework
9   Light rail train
10   None

Q31   CHANGE TYPE – AUTOCODE ONLY – SELECT ONLY ONE

    IF Q30 = ANY OF 1 - 10, Q31 = 1 (Continued change)
    IF Q30 = ANY OF 11 - 20, Q31 = 2 (Temporary change)
    IF Q30 = ANY OF 21 - 29, Q31 = 3 (Occasional change)
    IF Q30 = ANY OF 31 - 39, Q31 = 4 (One-time change)
    IF Q30 = 90, Q31 = 9 (No change)

       1   Continued change
       2   Temporary change
       3   Occasional change
       4   One-time change
       9   No change

BRANCHING INSTRUCTIONS
    IF Q31 = 9 (no change), SKIP TO Q60
    IF Q31 = 1 (continued change), SKIP TO INSTRUCTIONS BEFORE Q50
    IF Q31 = 3 (occasional change), SKIP TO INSTRUCTIONS BEFORE Q50
    IF Q31 = 4 (one-time change), SKIP TO Q60

    Autofill temporary travel grid for temporary changers who did not change mode or frequency
    IF Q30 = 20 [occupancy change with no mode change), AUTOFILL Q41 = Q1, AUTOFILL Q43 = Q5, THEN SKIP TO INSTRUCTIONS BEFORE Q46.

    IF Q30 = 11, CONTINUE WITH Q41, INSERT 'carpool' AS Q30 MODE
    IF Q30 = 12, CONTINUE WITH Q41, INSERT 'vanpool' AS Q30 MODE
    IF Q30 = 13, CONTINUE WITH Q41, INSERT 'bus' AS Q30 MODE
    IF Q30 = 14, CONTINUE WITH Q41, INSERT 'Metrorail' AS Q30 MODE
    IF Q30 = 15, CONTINUE WITH Q41, INSERT 'commuter train' AS Q30 MODE
    IF Q30 = 16, CONTINUE WITH Q41, INSERT 'bicycle' AS Q30 MODE
    IF Q30 = 17, CONTINUE WITH Q41, INSERT 'walking' AS Q30 MODE
    IF Q30 = 18, CONTINUE WITH Q41, INSERT 'telework' AS Q30 MODE
    IF Q30 = 19, CONTINUE WITH Q41, INSERT 'light rail train' AS Q30 MODE

TRAVEL DURING TEMPORARY CHANGE

41   During the time of this temporary change to [**Q30 MODE:** *carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, telework, light rail train*], how many weekdays, Monday through Friday, were you assigned to work in a typical week?

       1   1 day per week **(SKIP TO Q43)**
       2   2 days per week **(SKIP TO Q43)**
       3   3 days per week
       4   4 days per week
       5   5 days per week **(SKIP TO Q43)**
       9   Did not work then **(SKIP TO Q60)**

42   At that time, did you work a compressed work schedule, for example, four-ten hour days per week, or work a part-time schedule?

       1   worked compressed work schedule
       2   worked part-time
       3   Other (specify) _____
       9   *Left blank (internet only)*

43   During the time of your temporary change to [Q30 MODE: carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, telework, light rail train], how did you get to work? Enter the number of days you typically used each of the listed types of transportation. If you used <u>more than one type on a single day</u> (e.g., walked to the bus stop, then rode the bus), count only the type you used for the **longest distance part** of your trip.

(PROGRAMMER NOTE: IF Q4a = 3, ALSO SHOW): "For days that you were on business or work travel, please report the type of transportation you would have used to get to work if you worked at your usual work location."

Indicate also how many weekdays you did NOT travel to your usual work location and the reasons (e.g., regular day off, telework, compressed work schedule day off) for not traveling to work.

PROGRAMMER NOTES:
IF Q42 = 1 (CWS) AND RESPONDENT DOES NOT REPORT "CWS day off" (RESPONSE 1), SHOW MESSAGE: "You said you typically worked a compressed work schedule. How many compressed schedule days did you typically have off during the time of this temporary change." **PERMIT "0" AS THE RESPONSE**

IF Q4 = 3, 4, 5, 6, OR 7 (TELEWORK 1+ DAYS PER WEEK) AND RESPONDENT DOES NOT CHECK "Telecommute" (RESPONSE 2), SHOW MESSAGE: "You said you typically telework. How many days did you telework during the time of this temporary change?" **ACCEPT '"0" AS RESPONSE**

CHECK SUM OF DAYS. IF TOTAL OF Q43 DAYS 1-18 IS LESS THAN Q41, SHOW MESSAGE "And how do you commute on other days you are assigned to work?" **IF TOTAL OF 1-18 IS GREATER THAN Q41, SHOW MESSAGE:** "You've reported more than five days. Please report only for Monday – Friday and one type of transportation for each day."

Type of Transportation	Number of Days Used (0 to 5)
Days you traveled to your usual work location	
3 Drive alone in a car, truck, van, or SUV, Motorcycle, Ride in a taxi	
4 N/A – don't use	
5 Carpool, including carpool w/family member, dropped off (ride or drive with others in a car, truck, van, or SUV)	
6 Casual carpool (slugging)	
7 Vanpool	
8 N/A – don't use	
9 Ride a bus (public bus, shuttle, buspool, express bus)	
10 Ride Metrorail - *N/A in SOVA – RESERVE FOR NOVA*	
11 Ride a commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail train	
13 N/A – don't use	
14 Bicycle (entire trip or longest distance part of trip from home to work)	
15 Walk (entire trip or longest distance part of trip from home to work)	
16 N/A – don't use	

Days you did not travel to your usual work location	
1 Compressed work schedule day off	
2 Telecommute / telework all day	
17 Have a regular day off	
18 Other (describe)_____	

Total Days (**DO NOT SHOW THIS LINE ON SCREEN**)	Sum of 1-18

DEFINE Q43 MODES USED (ALLOW MULTIPLE MODES):
   D_CWDAYS = SUM OF Q43, RESPONSE 1
   D_TWDAYS = SUM OF Q43, RESPONSE 2
   D_DADAYS = SUM OF Q43, RESPONSE 3
   D_CPDAYS = SUM OF Q43, RESPONSE 5, 6
   D_VPDAYS = SUM OF Q43, RESPONSE 7
   D_BUDAYS = SUM OF Q43, RESPONSE 9
   D_MRDAYS = SUM OF Q43, RESPONSE 10 – NOT USED IN SOVA, RESERVE FOR NOVA
   D_CRDAYS = SUM OF Q43, RESPONSE 11
   D_BKDAYS = SUM OF Q43, RESPONSE 14
   D_WKDAYS = SUM OF Q43, RESPONSE 15
   D_LRDAYS = SUM OF Q43, RESPONSE 12

   IF D_CWDAYS > 0, Q43 MODE = COMPRESSED SCHEDULE
   IF D_TWDAYS > 0, Q43 MODE = TELEWORK
   IF D_DADAYS > 0, Q43 MODE = DRIVE ALONE
   IF D_CPDAYS > 0, Q43 MODE = CARPOOL
   IF D_VPDAYS > 0, Q43 MODE = VANPOOL
   IF D_BUDAYS > 0, Q43 MODE = BUS
   IF D_MRDAYS > 0, Q43 MODE = METRORAIL – NOT USED IN SOVA, RESERVE FOR NOVA
   IF D_CRDAYS > 0, Q43 MODE = COMMUTER TRAIN
   IF D_BKDAYS > 0, Q43 MODE = BICYCLE
   IF D_WKDAYS > 0, Q43 MODE = WALKING
   IF D_LRDAYS > 0, Q43 MODE = 11 LIGHT RAIL

DEFINE DALTDAYS = TOTAL Q43 DAYS USING MODES 5, 6, 7, 9, 10, 11, 12, 14, 15

CHECK FOR TEMPORARY USE OF MODES IN TEMPORARY CHANGES
   IF Q30 = 11 AND D_CPDAYS = 0, ASK Q44, INSERTING "CARPOOL" AS Q43 MODE
   IF Q30 = 12 AND D_VPDAYS = 0, ASK Q44, INSERTING "VANPOOL" AS Q43 MODE
   IF Q30 = 13 AND D_BUDAYS = 0, ASK Q44, INSERTING "BUS" AS Q43 MODE
   IF Q30 = 14 AND D_MRDAYS = 0, ASK Q44, INSERTING "METRORAIL" AS Q43 MODE
   IF Q30 = 15 AND D_CRDAYS = 0, ASK Q44, INSERTING "COMMUTER TRAIN" AS Q43 MODE
   IF Q30 = 16 AND D_BKDAYS = 0, ASK Q44, INSERTING "BICYCLE" AS Q43 MODE
   IF Q30 = 17 AND D_WKDAYS = 0, ASK Q44, INSERTING "WALKING" AS Q43 MODE
   IF Q30 = 18 AND D_TWDAYS = 0, ASK Q44, INSERTING "TELEWORK" AS Q43MODE
   IF Q30 = 19 AND D_LRDAYS = 0, ASK Q44, INSERTING "LIGHT RAIL TRAIN" AS Q43MODE – NOT USED IN NOVA, RESERVE
   FOR SOVA

   OTHERWISE, SKIP TO INSTRUCTIONS BEFORE Q46

45   Earlier you said you made a temporary change to (**Q43 MODE**: *carpool, vanpool, bus, Metrorail, commuter train, bicy-cle, walking, telework, light rail train*), but you haven't mentioned using this type of transportation for your commute during that time. About how many days per week did you typically use (**Q43 MODE**: *carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, telework, light rail train*) then to commute? **(DO NOT READ RESPONSES)**

        0   0
        1   1
        2   2
        3   3
        4   4
        5   5
        8   Only used occasionally, used less than one time per week

IF Q45 = 0, SKIP TO Q60

INSTRUCTIONS BEFORE Q46
  IF D_CPDAYS = 0 AND D_VPDAYS = 0, SKIP TO INSTRUCTIONS BEFORE Q50

  IF Q30 = 20 AND Q27 = 3, ASK Q46, INSERT "carpool" AS Q43 MODE
  IF Q30 = 20 AND Q27 = 4, ASK Q46, INSERT "vanpool" AS Q43 MODE

  IF Q30 NE 20 AND D_CPDAYS > D_VPDAYS, ASK Q46, INSERT "carpool" AS Q43 MODE
  IF Q30 NE 20 AND D_VPDAYS > D_CPDAYS, ASK Q46, INSERT "vanpool" AS Q43 MODE
  IF Q30 NE 20 AND D_CPDAYS = D_VPDAYS, ASK Q46, INSERT "vanpool" AS Q43 MODE

46   How many people were in your [**Q43 MODE**, *carpool, vanpool*] during that time?

          _____ people

TRAVEL BEFORE MAKING CHANGE

INSTRUCTIONS BEFORE Q50
  IF Q30 = 10 OR 20 *[*occupancy change with no mode change), AUTOFILL Q50 = Q1, AUTOFILL Q52 = Q5, THEN SKIP TO INSTRUCTIONS BEFORE Q53

  IF Q30 = 1, 11, OR 21, CONTINUE WITH Q50, INSERT 'carpool' AS Q30 MODE
  IF Q30 = 2, 12, OR 22, CONTINUE WITH Q50, INSERT 'vanpool' AS Q30 MODE
  IF Q30 = 3, 13, OR 23, CONTINUE WITH Q50, INSERT 'bus' AS Q30 MODE
  IF Q30 = 4, 14, OR 24, CONTINUE WITH Q50, INSERT 'Metrorail' AS Q30 MODE
  IF Q30 = 5, 15, OR 25, CONTINUE WITH Q50, INSERT 'commuter train' AS Q30 MODE
  IF Q30 = 6, 16, OR 26, CONTINUE WITH Q50, INSERT 'bicycle' AS Q30 MODE
  IF Q30 = 7, 17, OR 27, CONTINUE WITH Q50, INSERT 'walking' AS Q30 MODE
  IF Q30 = 8, 18, OR 28, CONTINUE WITH Q50, INSERT 'telework' AS Q30 MODE
  IF Q30 = 9, 19, OR 29, CONTINUE WITH Q50, INSERT 'light rail train' AS Q30 MODE – NOT USED IN NOVA, RESERVE FOR SOVA

50   Think back to the time <u>before you made this change</u> to [**Q30 MODE**: *carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, telework, light rail train*]. At that time, how many weekdays, Monday through Friday, were you as-signed to work in a typical week? **(DO NOT READ RESPONSES)**

        1   1 day per week **(SKIP TO Q52)**
        2   2 days per week **(SKIP TO Q52)**
        3   3 days per week
        4   4 days per week
        5   5 days per week **(SKIP TO Q52)**
        _____ Did not work then **(SKIP TO Q60)**

51   At that time, did you work a compressed work schedule, for example, four-ten hour days per week, or did you work a part-time schedule?

        1   Worked compressed work schedule
        2   Worked part-time
        3   Other
        9   Don't know, Left blank (internet only)

52   Before you made the change to [Q30 MODE, carpool, vanpool, bus, Metrorail, commuter train, bicycle, walking, tele-
        work, light rail train], how did you get to work? Enter the number of weekdays, Monday-Friday, that you typically used
        each of the listed types of transportation. If you used <u>more than one type on a single day</u> (e.g., walked to the bus stop,
        then rode the bus), count only the type you used for the **longest distance part** of your trip.

        (PROGRAMMER NOTE: IF Q4a = 3, ALSO SHOW): "For days that you were on business or work travel, please report the
        type of transportation you would have used to get to work if you worked at your usual work location."

        Indicate also how many weekdays you did NOT travel to your usual work location and the reasons (e.g., regular day off,
        telework, compressed work schedule day off) for not traveling to work.

        PROGRAMMER NOTES:
        IF Q51 = 1 (CWS) AND RESPONDENT DOES NOT REPORT "CWS day off" (RESPONSE 1), SHOW MESSAGE: "You said you
        typically worked a compressed work schedule. How many compressed schedule days did you typically have off during
        the time of this temporary change." **PERMIT "0" AS THE RESPONSE**

        **IF Q4 = 3, 4, 5, 6, OR 7 (TELEWORK 1+ DAYS PER WEEK) AND RESPONDENT DOES NOT CHECK "Telecommute"
        (RESPONSE 2), SHOW MESSAGE**: "You said you typically telework. How many days did you telework during the time of
        this temporary change?" **ACCEPT '"0" AS RESPONSE**

        CHECK SUM OF DAYS. IF TOTAL OF Q52 DAYS 1-18 IS LESS THAN Q50, SHOW MESSAGE "Please report for all days
        Monday – Friday, including days you did not work." **IF TOTAL OF 1-18 IS GREATER THAN Q50, SHOW MESSAGE:**
        "You've reported more than five days. Please report only for Monday – Friday and one type of transportation for each
        day."

Type of Transportation	Number of Days Used (0 to 5)
Days you traveled to your usual work location	
3 Drive alone in a car, truck, van, or SUV, Motorcycle, Ride in a taxi	
4 N/A – don't use	
5 Carpool, including carpool w/family member, dropped off (ride or drive with others in a car, truck, van, or SUV)	
6 Casual carpool (slugging)	
7 Vanpool	
8 N/A – don't use	
9 Ride a bus (public bus, shuttle, buspool, express bus)	
10 Ride Metrorail - *N/A in SOVA – RESERVE FOR NOVA*	
11 Ride a commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail train	
13 N/A – don't use	
14 Bicycle (entire trip or longest distance part of trip from home to work)	
15 Walk (entire trip or longest distance part of trip from home to work)	
16 N/A – don't use	

Days you did not travel to your usual work location	
1 Compressed work schedule day off	
2 Telecommute / telework all day	
17 Have a regular day off	
18 Other (describe)_____	

Total Days (**DO NOT SHOW THIS LINE ON SCREEN**)	Sum of 1-18

DEFINE Q52 MODES USED (ALLOW MULTIPLE MODES):
   P_CWDAYS = SUM OF Q52, RESPONSE 1
   P_TWDAYS = SUM OF Q52, RESPONSE 2
   P_DADAYS = SUM OF Q52, RESPONSE 3
   P_CPDAYS = SUM OF Q52, RESPONSE 5, 6
   P_VPDAYS = SUM OF Q52, RESPONSE 7
   P_BUDAYS = SUM OF Q52, RESPONSE 9
   P_MRDAYS = SUM OF Q52, RESPONSE 10
   P_CRDAYS = SUM OF Q52, RESPONSE 11
   P_BKDAYS = SUM OF Q52, RESPONSE 14
   P_WKDAYS = SUM OF Q52, RESPONSE 15
   P_LRDAYS = SUM OF Q52, RESPONSE 12

   IF P_CWDAYS > 0, Q52 MODE = COMPRESSED SCHEDULE
   IF P_TWDAYS > 0, Q52 MODE = TELEWORK
   IF P_DADAYS > 0, Q52 MODE = DRIVE ALONE
   IF P_CPDAYS > 0, Q52 MODE = CARPOOL
   IF P_VPDAYS > 0, Q52 MODE = VANPOOL
   IF P_BUDAYS > 0, Q52 MODE = BUS
   IF P_MRDAYS > 0, Q52 MODE = METRORAIL
   IF P_CRDAYS > 0, Q52 MODE = COMMUTER TRAIN
   IF P_BKDAYS > 0, Q52 MODE = BICYCLE
   IF P_WKDAYS > 0, Q52 MODE = WALKING
   IF P_LRDAYS > 0, Q52 MODE = LIGHT RAIL TRAIN

DEFINE PALTDAYS = SUM OF Q52 DAYS USING MODES 5, 6, 7, 9, 10, 11, 12, 14, 15

INSTRUCTIONS BEFORE Q53
   IF P_CPDAYS = 0 AND P_VPDAYS = 0, SKIP TO Q54

   IF Q30 = 10 AND Q27 = 1, ASK Q53, INSERT "carpool" AS Q52 MODE
   IF Q30 = 10 AND Q27 = 2, ASK Q53, INSERT "vanpool" AS Q52 MODE

   IF Q30 = 20 AND Q27 = 3, ASK Q53, INSERT "carpool" AS Q52 MODE
   IF Q30 = 20 AND Q27 = 4, ASK Q53, INSERT "vanpool" AS Q52 MODE

   IF Q30 NE 10 OR 20 AND P_CPDAYS > P_VPDAYS, ASK Q53, INSERT "carpool" AS Q52 MODE
   IF Q30 NE 10 OR 20 AND P_VPDAYS > P_CPDAYS, ASK Q53, INSERT "vanpool" AS Q52 MODE
   IF Q30 NE 10 OR 20 AND P_CPDAYS = P_VPDAYS, ASK Q53, INSERT "vanpool" AS Q52 MODE

53   How many people were in your [**Q52 MODE**, *carpool, vanpool*] before you made that change?

   _____ people
   999 Don't know, Question left blank (internet only)

54   What were the reasons that you made that change?

        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSES ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
        <u>Personal changes or preferences</u>
        1   changed job, work hours, work location
        2   save money
        3   parking costs were too high
        4   gas prices too high, save money on gas
        5   no parking available at work
        6   save time
        7   moved to a different residence
        8   reduce congestion/pollution
        9   safety
        10   no vehicle available, vehcle became unavailable
        11   tired of driving
        12   others doing it (friends, coworkers, other people, etc.)
        13   carpool/vanpool didn't work out
        14   avoid construction area

        <u>Commute program or services</u>
        15   SmarTrip, or other transit/vanpool discount
        16   financial incentives
        17   a new option became available
        18   advertising
        19   special program at work
        20   pressure or encouragement from employer
        21   use HOV lane
        22   employer permitted telework

        <u>Commuter Connections information or services</u>
        23   Names and contact information for people you could contact to form a carpool or vanpool (matchlist)
        24   Map showing home and work locations of people you could contact to form a carpool or vanpool
        25   Carpool / vanpool rider bulletin board
        26   Other carpool / vanpool information
        27   Vanpooling assistance
        28   HOV lane information
        29   Pool Rewards carpool financial incentive
        30   Transit schedule or route information
        31   Transit fare information, SmarTrip
        32   Park & Ride lot information
        33   Telework information, telework center information
        34   Bicycle to Work Guide, bicycling information
        35   Online bicycle route planning
        36   Guaranteed / Emergency Ride Home information or trip
        37   Special events information (e.g., Bike to Work Day, Car Free Day)
        38   Other (specify)

IF USER = 2 (REQUESTED), AUTOCODE Q55 = 90, THEN SKIP TO Q56

55   Did any of the information or assistance from [PROGRAM NAME] influence you or assist you to make the change?

        90   Did not receive any services from [PROGRAM NAME]
        91   No, services did not influence or assist
        99   Don't know, Question left blank (internet only)

        *   Yes (please specify)
        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSES ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES

        1   Names and contact information for people you could contact to form a carpool or vanpool (matchlist)
        2   Map showing home and work locations of people you could contact to form a carpool or vanpool
        3   Carpool / vanpool rider bulletin board
        4   Other carpool / vanpool information
        5   Vanpooling assistance
        6   Transit schedule or route information
        7   Transit fare information, SmarTrip
        8   Park & Ride information
        9   Guaranteed / Emergency Ride Home information or trip
        10   Telework information, telework center information
        11   Bicycle to Work Guide, bicycling information
        12   Online bicycle route planning
        13   HOV lane information
        14   Pool Rewards financial incentive
        15   Special events information (e.g., Bike to Work Day, Car Free Day)
        16   NuRide rewards
        17   Vanpool leasing
        18   Other (specify)

56   Did any commute information, assistance, or benefits from your employer or another organization influence or assist you?

    90   Did not receive any services
    91   No, services did not influence or assist
    99   *Don't know, Question left blank (internet only)*

    *   Yes (please specify)
    OPEN ENDED _____

    (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
    1   Matchlist, contact info for potential carpool / vanpool partners
    2   Map showing home and work locations of potential carpool / vanpool partners
    3   Transit schedule or route information
    4   Park & Ride information
    5   Vanpooling assistance
    6   Guaranteed Ride Home information or registration
    7   GRH trip
    8   Telecommuting information, telework center information
    9   Bicycling map, bicycle route planning, bicycling information
    10   HOV lane information
    11   Discount / free transit pass / Smart Trip Card
    12   Other cash incentive
    13   Compressed work week/telecommute
    14   Carpool/vanpool preferential parking
    15   Parking fees
    16   Carpool/vanpool discount parking fee
    17   Smart Tag / E-Z Pass subsidy
    18   HOV lane info
    19   Shuttle bus
    20   Federal Tax Benefit / Commuter Choice Program
    21   Referral to Commuter Connections/[PROGRAM NAME]
    22   Telecommuting info
    23   NuRide-carpool incentive
    24   Other (specify)

57   How important were economic reasons, such as saving money or reducing your gas expense, in motivating you to make the change, as compared with other reasons you mentioned?

    1   Economic reasons were more important
    2   Economic reasons were less important
    3   Economic reasons were about the same importance
    4   Economic reasons were my only influence
    9   Don't know/refuse

IF Q31 = 1 OR 3, SKIP TO Q60
IF Q31 = 2, ASK Q58

58   What were the reasons you did not continue this change?

        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
        1   too inconvenient
        2   cost too much
        3   took too much time
        4   safety concerns
        5   job changes - job, work site,
        6   need vehicle during or after work
        7   vehicle became unavailable/unreliable
        8   moved home location
        9   didn't like pool partners
        10   new/changes in employer program
        11   bus or rail schedule or route change or schedule
        12   car became available
        13   Other (Specify)
        99 Don't know, Question left blank (internet only)

AWARENESS

60   How did you learn about [PROGRAM NAME] and its programs and services?

        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES

        1   Brochure/promo materials
        2   Bus/train schedule
        3   Bus/train sign
        4   Direct mail/postcard from COG/CC
        5   Employer/employer survey
        6   Fair/on-site event
        7   Government office
        8   Highway sign
        9   Internet
        10   Newsletter
        11   Newspaper (regional or local)
        12   Other rideshare/transit organization
        13   Radio
        14   TV
        15   Was/Is applicant
        16   Word of mouth
        17   Info Kiosk
        18   Yellow Pages (One Book or Verizon)
        19   Billboard
        29   Other
        99 Don't know, Question left blank (internet only)

61   Which of the following sources did you use to contact [PROGRAM NAME] for assistance? **(SHOW RESPONSES 1-6 AND 9) ACCEPT MULTIPLES)**

      1   Employer
      2   Commuter Connections website on the Internet - RESERVE FOR NOVA
      3   [PROGRAM NAME] website
      4   Commuter Connections telephone number (1-800-745-RIDE) - RESERVE FOR NOVA
      5   Commute assistance program operated by county or city
      6   Transportation Management Association (TMA)
      7   [PROGRAM NAME] telephone number (_____)
      9   Other (please describe) _____

62   What prompted you to seek commute information or assistance from [PROGRAM NAME] at that time?

      OPEN ENDED _____

      (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
      1   save gas, gas prices too high, wanted to reduce gas expense
      2   didn't want to drive anymore/tired of driving
      3   traffic is bad, has gotten worse
      4   changed jobs, moved to a new work location
      5   moved to a new residence
      6   wanted to save money
      7   wanted to save time
      8   didn't have/don't have a place to park
      9   concerned about the environment
      10   no vehicle available
      11   construction along my route to work
      12   avoid stress
      13   in case of emergencies, wanted back-up transportation
      14   could receive financial incentive for transit, vanpool
      15   advertising, newspaper, billboard, flyer
      16   employer program or service
      17   referral from family, friend, co-worker, word of mouth
      18   save wear and tear, reduce mileage on car
      29   Other (SPECIFY) _____
      99   Don't know, Question left blank (internet only)

63   **[PROGRAM NAME] SERVICES ACCESSED – AUTOCODE ONLY**

        IF Q_S1 = 1, AUTOCODE Q63 = 1
        IF Q_S1 = 2, AUTOCODE Q63 = 2
        IF Q_S1 = 3, AUTOCODE Q63 = 3
        IF Q_S1 = 4, AUTOCODE Q63 = 4
        IF Q_S1 = 5, AUTOCODE Q63 = 5
        IF Q_S1 = 6, AUTOCODE Q63 = 6
        IF Q_S1 = 7, AUTOCODE Q63 = 7
        IF Q_S1 = 8, AUTOCODE Q63 = 16
        IF Q_S1 = 9, AUTOCODE Q63 = 17

        IF Q_S2 = 1, AUTOCODE Q63 = 8
        IF Q_S2 = 2, AUTOCODE Q63 = 9
        IF Q_S2 = 3, AUTOCODE Q63 = 10
        IF Q_S2 = 4, AUTOCODE Q63 = 11
        IF Q_S2 = 5, AUTOCODE Q63 = 12
        IF Q_S2 = 6, AUTOCODE Q63 = 13
        IF Q_S2 = 7, AUTOCODE Q63 = 14
        IF Q_S2 = 8, AUTOCODE Q63 = 15

        IF QS_1 = 90 OR 98 AND Q_S2 = 90 OR 98, AUTOCODE Q63 = 90

1   Names and contact information for people you could contact to form a carpool or vanpool (matchlist)
2   Map showing home and work locations of people you could contact to form a carpool or vanpool
3   Carpool / vanpool rider bulletin board
4   Other carpool / vanpool information
5   Vanpooling assistance
6   HOV lane information
7   Pool Rewards carpool financial incentive
8   Transit schedule or route information
9   Transit fare information, SmarTrip
10   Park & Ride lot information
11   Telework information, telework center information
12   Bicycle to Work Guide, bicycling information
13   Online bicycle route planning
14   Guaranteed / Emergency Ride Home information or trip
15   Special events information (e.g., Bike to Work Day, Car Free Day)
16   NuRide rewards
17   Vanpool leasing
90   Did not receive any services from [PROGRAM NAME]

64   Does <u>your employer</u> offer any of the following commuter information, assistance, or transportation benefits? **(SHOW RESPONSES 1-17 AND 90, ACCEPT MULTIPLES FOR RESPONSES 1-17.)**

        1   Names and contact information for people you could contact to form a carpool or vanpool (matchlist)
        2   Carpool or vanpool information
        3   Transit route or schedule information
        4   Discounted or free transit pass, SmartBenefits
        5   Financial incentive for employees who vanpool to work
        6   Financial incentive for employees who carpool to work
        7   Other cash incentive for commute cost
        8   Guaranteed / Emergency Ride Home in case of emergencies or unscheduled overtime
        9   Compressed work schedule
        10   Telework
        11   Preferential or special parking spaces for carpools or vanpools
        12   Free onsite parking
        13   Discounted parking fee for carpools and vanpools
        14   Smart Tag / E-Z Pass subsidy
        15   Shuttle bus to Metrorail or bus stop
        16   Federal Tax Benefit/ "Commuter Choice" program
        17   Zipcar carshare service account
        18   Other (SPECIFY)
        90   No, employer doesn't offer any services

Q66   RESPONDENT RECEIVED MATCHING INFO – AUTOCODE ONLY

        IF Q63 = 1, SET Q66 = 1 (Commuter Connections / [PROGRAM NAME] matchlist)
        IF Q64 = 1, SET Q66 = 2 (other matchlist)
        IF Q63 = 2, SET Q66 = 3 (map)
        IF Q63 = 3, SET Q66 = 4 (bulletin board)
        IF Q63 NE 1, 2, OR 3 AND Q64 NE 1 AND Q65 NE 1 OR 2, SET Q66 = 9

        1   Commuter Connections [PROGRAM NAME] matchlist
        2   Other matchlist
        3   Map
        4   Bulletin board
        9   No matching info

INSTRUCTIONS BEFORE Q70
IF Q66 = 1 OR 2, ASK Q70, OTHERWISE, SKIP TO INSTRUCTIONS BEFORE Q80

70   You said you obtained names of people you could contact to form a carpool or vanpool. How many names did you receive?

        _____
        99   Don't remember

IF Q70 = 0, SKIP TO INSTRUCTIONS BEFORE Q80

71   Did you try to contact any of these people?

        1   Yes   **(CONTINUE WITH Q72)**
        2   No **(SKIP TO Q74)**
        9   Can't remember/Don't know (SKIP TO INSTRUCTIONS BEFORE Q80)

72   Were you able to reach any of the people named?

       1   Yes
       2   No
       9   Don't remember/don't know

IF Q72 = 2 OR 9, AUTOCODE Q73 = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q80

73   Were any of the people you reached interested in forming a carpool or vanpool, if your travel destination and schedule were compatible? **(ALLOW ONE RESPONSE ONLY)**

       1   Was not able to reach any of the people
       2   At least one person was interested
       3   At least one person was interested but schedules or destinations were not compatible
       4   People were not interested
       9   Don't remember/don't know

SKIP TO INSTRUCTIONS BEFORE Q80

74   Why did you decide not to contact any of the people?

       1   Haven't gotten around to it
       2   Decided I didn't want to carpool/vanpool
       3   Moved to a new residence
       4   Changed jobs
       5   Work hours were not compatible with mine
       6   Work or home locations were not compatible with mine
       7   Already found rideshare arrangement (carpool, vanpool, transit, bike, walk)
       8   other (Specify) _____

INSTRUCTIONS BEFORE Q80 – TRANSIT INFO
   IF Q63 = 8 OR 9, RECEIVED TRANSIT INFO FROM COMMUTER CONNECTIONS/[PROGRAM NAME], CONTINUE.
   IF Q63 NE 8 OR 9, SKIP TO INSTRUCTIONS BEFORE Q84

80   You said that you received information about transit from [PROGRAM NAME]. Did you contact a transit agency listed in the information you received?

       1   Yes
       2   No   **(SKIP TO Q83)**
       9   Don't remember, don't know **(SKIP TO INSTRUCTIONS BEFORE Q84)**

81   Did you use the information from the transit agency to try transit?

       1   Yes **(SKIP TO INSTRUCTIONS BEFORE Q84)**
       2   No   **(ASK Q82)**
       9   Don't remember, don't know **(SKIP TO INSTRUCTIONS BEFORE Q84)**

82   Why did you decide not to try transit?

OPEN ENDED _____

(DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
1   Never got around to it
2   Wouldn't work with my schedule
3   Too far from home/work
4   Service not available
5   Commute too long
6   Too expensive
7   Prefer other mode
8   other (SPECIFY)
98   Don't know
99   Left blank (internet only)

SKIP TO INSTRUCTIONS BEFORE Q84

83   Why did you decide not to contact the transit agency?

OPEN ENDED _____

(DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLE RESPONSES
1   Never got around to it
2   Don't like transit – wouldn't ever use
3   Too far from home/work
4   Prefer other mode or current mode
5   Wasn't interested, didn't ask for it
6   other (SPECIFY)
98   Don't know
99   Left blank (internet only)

INSTRUCTIONS BEFORE Q84 – PARK & RIDE
 IF Q63 NE 10 (P&R INFO), SKIP TO INSTRUCTIONS BEFORE Q90
 IF Q63 = 10, CONTINUE WITH Q84

84   You said that you received park & ride information.. Have you used the park & ride lot listed on the information you received?

1   Yes **(CONTINUE)**
2   No **(SKIP TO Q88)**
 9   Don't remember, don't know **(SKIP TO INSTRUCTIONS BEFORE Q90)**
 99   Left blank (internet only) **(SKIP TO INSTRUCTIONS BEFORE Q90)**

85   Were you aware of the lot before you received the information?

1   Yes
2   No **(SKIP TO Q87)**
8   Don't know **(SKIP TO Q87)**
9   Left blank (internet only)

86   Had you used the lot before you received the information?

      1   Yes
      2   No
      8   Don't know
      9   Left blank (internet only)

IF Q30 = 90 OR 99, SKIP TO INSTRUCTIONS BEFORE Q90
IF Q30 = 6, 7, 8, 10, 16, 17, 18, 20, SKIP TO INSTRUCTIONS BEFORE Q90
IF Q30 = ANY OF 31-39, SKIP TO INSTRUCTIONS BEFORE Q90

IF Q30 = 1, 11, OR 21, ASK Q87, INSERT "carpool" as Q30 MODE
IF Q30 = 2, 12, OR 22, ASK Q87, INSERT "vanpool" as Q30 MODE
IF Q30 = 3, 13, OR 23, ASK Q87, INSERT "bus" as Q30 MODE
IF Q30 = 4, 14, OR 24, ASK Q87, INSERT "Metrorail" as Q30 MODE
IF Q30 = 5, 15, OR 25, ASK Q87, INSERT "commuter train" as Q30 MODE
IF Q30 = 9, 19, OR 29, ASK Q87, INSERT "light rail train" as Q30 MODE

87   Was using the park & ride lot a factor in your decision to try using (**Q5 MODE:** *carpool, vanpool, bus, Metrorail, commuter train, light rail train*) for your trip to work?

      1   Yes
      2   No
      9   Don't know

SKIP TO Q90

88   Why did you decide not to use the park & ride lot after getting the information?

      OPEN ENDED _____

      (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLE RESPONSES
      1   Never got around to it
      2   Didn't want to leave my car
      3   Not convenient to transit
      4   Didn't need a park & ride
      5   Not convenient to HOV
      6   No slug lines
      7   No time savings from my previous commute
      8   Other (SPECIFY)
      99   Left blank (internet only)

INSTRUCTIONS BEFORE Q90 – BICYCLE INFO
  IF Q63 NE 12 OR 13 (bicycle info), SKIP TO INSTRUCTIONS BEFORE Q95
  IF Q63 = 12 OR 13, CONTINUE WITH Q90

90   You said that you received bicycle information from [PROGRAM NAME]. Since you received the information, have you taken any of the following actions? **(PERMIT MULTIPLES FOR 1-5, DO NOT PERMIT MULTIPLES FOR 5 OR 9)**

      1   Started bicycling to work
      2   Bicycle to work more often
      3   Started bicycling for non-work trips
      4   Bicycle more often for non-work trips
      5   Didn't make any bicycle changes9 Don't remember, don't know
      99   Left blank (internet only)

IF Q90 = 1 – 4, ASK Q91
IF Q90 = 5, 9 OR 99 (BLANK), SKIP TO INSTRUCTIONS BEFORE Q95

91   Was receiving this information a factor in your decision to start bicycling or bicycle more often?

         1   Yes
         2   No
         9   Don't know

INSTRUCTIONS BEFORE Q95 – TELEWORK INFO
     IF Q63 NE 11 (telework info), SKIP TO INSTRUCTIONS BEFORE Q100
     IF Q63 = 11, CONTINUE WITH Q95

95   You said you received telework information from [PROGRAM NAME].   Since you received the information, have you taken any of the following actions? **(PERMIT MULTIPLES FOR 1-5, DO NOT PERMIT MULTIPLES FOR 6 OR 9)**

         1   Talked to employer about telework
         2   Called federal employee telework coordinator (GSA)
         3   Started teleworking
         4   Started teleworking more often
         5   Started working at a telework center
         6   Did not take any actions
         8   Don't remember

IF Q95 NE 3 OR 4, SKIP TO INSTRUCTIONS BEFORE Q100

IF Q95 = 3 OR 4, ASK Q96

96   Was receiving this information a factor in your decision to start teleworking or telework more often?

         1   Yes
         2   No
         9   Don't know

INSTRUCTIONS BEFORE Q100 – GRH
     IF Q63 = 14, ASK Q100
     IF Q63 NE 14, SKIP TO Q103

100   You said you received information on the Guaranteed / Emergency Ride Home program. At the time you requested GRH information, what type of transportation were you using regularly (2 or more days per week) for your commute?
        (PERMIT UP TO TWO RESPONSES)

         1   Drive alone
         2   Carpool
         3   Vanpool
         4   Bus, Metrorail, or commuter rail
         5   Bicycle / walk
         *   other (SPECIFY)

101   Did you register for the GRH program?

         1   Yes **(SKIP TO Q103)**
         2   No **(ASK Q102)**
         3   Tried to register, but did not meet eligibilty requirements **(SKIP to Q103)**
         99   *Left blank (internet only)* **(SKIP TO INSTRUCTIONS BEFORE Q103)**

102   What were the reasons you did not register?

        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLE RESPONSES
        1   Couldn't use carpool, vanpool, or train 2 or more days per week (didn't meet eligibility requirements)
        2   Program doesn't cover home or work area
        3   Program doesn't cover work hours
        4   Employer has a GRH program
        5   Didn't want to pre-register
        6   Too much effort to use the service
        7   Don't need it
        8   Haven't gotten around to it
        9   other (SPECIFY)
        99   Left blank- internet only

PROGRAM IMPROVEMENTS

103   In what ways could [PROGRAM NAME] improve their services? **(DO NOT READ RESPONSES, ALLOW UP TO TWO RESPONSES)**
        OPEN ENDED _____

        (DO NOT SHOW THESE RESPONSE ON SCREEN) CODE OPEN-ENDED RESPONSES INTO THE FOLLOWING CATEGORIES IN POST PROCESSING – ACCEPT MULTIPLES
        1   quicker response
        2   more helpful staff
        3   more follow-up assistance
        4   more match names
        5   matches fit travel better
        6   matches are more interested in carpoo/vanpool
        7   better transit information
        8   more advertising
        9   more current information
        10   use Internet
        11   transit improvements
        12   VP resources & assistance
        13   GRH suggestion
        14   separate driver & rider lists
        88   no improvement needed
        99   Prefer not to answer - Left blank(internet)

DEMOGRAPHICS

(NOTE TO PROGRAMMER: ALLOW RESPONDENTS TO SKIP ANY OR ALL DEMOGRAPHIC QUESTIONS. DO NOT MAKE THEM MANDATORY)

The last few questions are for classification purposes only.

105   About how many employees work at your worksite?

    1   1-25
    2   26-50
    3   51-100
    4   101-250
    5   251-999
    6   1,000+
    99   Prefer not to answer - Left blank(internet)

106   What is your occupation?

    _____

    99   Prefer not to answer - Left blank(internet)

107   What type of employer do you work for?

    1   federal agency
    2   state or local government agency
    3   non-profit organization or association
    4   private sector employer
    5   self-employed
    *   other (SPECIFY) _____
    99   Prefer not to answer - Left blank(internet)

108   Which of the following groups includes your age?

    1   under 18
    2   18 - 24
    3   25 - 34
    4   35 - 44
    5   45 - 54
    6   55 - 64
    7   65+
    99   Prefer not to answer - Left blank(internet)

109   Do you consider yourself to be Latino, Hispanic, or Spanish?

    1   Yes
    2   No
    99   Prefer not to answer - Left blank(internet)

110   Which of the following best describes your ethnic background? **(READ RESPONSES 1 – 6, ACCEPT ONLY ONE RESPONSE)**

    1   White
    2   Black or African-American
    3   American Indian or Alaska native
    4   Asian
    5   Native Hawaiian or other Pacific Islander
    6   Other (SPECIFY) _____
    99   Prefer not to answer - Left blank(internet)

111   Finally, please indicate the category that best represents your household's total annual income.

         1   less than $20,000
         2      $20,000 - $29,999
         3      $30,000 - $39,999
         4      $40,000 - $59,999
         5      $60,000 - $79,999
         6      $80,000 - $99,999
         7      $100,000 - $119,999
         8      $120,000 - $139,999
         9      $140,000 - $159,999
         10     $160,000 or more
         99   *Prefer not to answer - Left blank(internet)*

112   Are you male or female?

         1   Male
         2   Female
         99   *Prefer not to answer - Left blank(internet)*

Thank you very much for your time and cooperation!

Customizations for Program Name

Area	LONG NAME	PROGRAM NAME	NUMBER
SOVA programs			
Charlottesville & Central Shenandoah / Harrisonburg	Charlottesville & Central Shenandoah Rideshare	Rideshare	888-974-5500 or 434-295-6165
Hampton Roads	Hampton Roads TRAFFIX	TRAFFIX	800-700-7433
Middle Peninsula	Middle Peninsula (MidPen) Rideshare	MidPen Rideshare	877-451-1555 or 804-758-4847
Richmond	Richmond RideFinders (GRTC)	RideFinders	804-643-7433 (RIDE)
Roanoke, New River Valley	Roanoke and New River Valley RIDE Solutions	RIDE Solutions	866-424-3334 or 540-342-9393 or 540-639-9313
NOVA programs			
Alexandria	City of Alexandria Local Motion	Local Motion	800-745-7433
Arlington	Arlington County Commuter Services	Arlington County Commuter Services	800-745-7433
Fairfax	Fairfax County RideSources	Fairfax County RideSources	800-745-7433
Loudoun	Loudoun County Commuter Services	Loudoun County Commuter Services	800-745-7433
Northern Neck	Northern Neck Rideshare	Northern Neck Rideshare	800-745-7433
Northern Shenandoah Valley	Northern Shenandoah Valley Commuter Assistance Program or RideSmart	Valley Commuter Assistance or RideSmart	800-745-7433
PRTC	PRTC OmniMatch	PRTC OmniMatch	800-745-7433
Fredericksburg	GW Ride Connect	GW Ride Connect	800-745-7433
Rappahannock-Rapidan	Rappahannock-Rapidan Commuter Services	Rappahannock-Rapidan Commuter Services	800-745-7433