VIRGINIA DEPARTMENT OF RAIL AND PUBLIC TRANSPORTATION

APPLICANT DATABASE
PLACEMENT SURVEY REPORT

NORTHERN 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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LDA CONSULTING

EXECUTIVE SUMMARY

This report presents results of a survey about commuter transportation assistance services offered by nine commuter assistance programs supported by the Virginia Department of Rail and Public Transportation (DRPT) and providing services to commuters living and/or working in northern 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 nine DRPT-assisted commuter assistance programs in Northern Virginia are shown below. DRPT also supports five commuter assistance programs in Southern Virginia.

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 / RideSmar (Northern Shenandoah Valley)
- PTRC Omni Match (Prince William County)
- GW Ride Connect (Fredericksburg)
- (Rappahannock-Rapidan Commuter Services (Rappahannock-Rapidan)

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)

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 nine Northern 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 933 respondents who had requested or received information or assistance from one of the nine programs between April 1, 2011 and March 31, 2012.

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

Participation and Utilization Measures

• Commuter applicants	4,970	
• Applicant placement rates		
– Overall (all changes)		65.7%
– Continued rate		47.8%
– Occasional rate		4.9%
– Temporary rate		7.1%
– One-time rate		5.9%
• Estimated applicants placed in alternative modes	2,973	
– Continued placements	2,376	
– Occasional placements	244	
– Temporary placements	353	

Impact Measures

• Daily vehicle trips (VT) reduced	953	trips
• Daily VMT reduced	35,417	VMT
• Daily pounds of emissions reduced		
– NOx	27	lb
– VOC	13	lb
• Annual tons of CO2 / Greenhouse gases reduced	4,500	tons
• Gallons of gasoline saved	1,488	daily gallons of gas

OTHER KEY SURVEY RESULTS

Demographics

- Slightly over half of the applicants are female (55%) and 68% are white. About four in ten (38%) are between 45 and 54 years of age and 29% are 55 or older. Eight in ten (80%) respondents have an annual household income of $60,000 or more and 35% have an income of $140,000 or more.

Commute Travel Patterns

- Respondents drive alone for about one in five (19.5%) work day commute trips.

- 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 (10.4% commuter rail and 6.0% Metrorail) 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.

- The average one-way commute distance is 39.6 miles. The average one-way commute time is 66 minutes.

Commute Changes

- Nearly two-thirds (65.7%) of survey respondents made a commute pattern change or tried another method of transportation after receiving assistance from a NOVA commute assistance program / Commuter Connections.

- Nearly half (47.8%) of all Northern Virginia respondents made a change to a mode they are still using at least one day per week. This 47.8% is the "continued placement rate." The temporary placement rate (percent of applicants who made a change but returned to their original modes) is 7.1%.

- About 4.9% made a change to a mode they use occasionally, but less than once per week on average (occasional placement rate). Six percent of applicants tried using a new alternative mode a few days (one-time placement rate).

- About 32% of applicants who made a mode change shifted from driving alone. The remaining 68% shifted from one alternative mode to another.

- The primary reasons that applicants made commute changes were to save money (14%) or save time (12%), or because they changed jobs or work hours (15%). About one in ten changed mode because they found a carpool or vanpool partner (12%), but 10% changed mode because their carpool or vanpool didn't work out.

- About three in ten (30%) applicants who made a commute change indicated that information they received from a NOVA commute assistance program / Commuter Connections influenced or assisted their decision to make the change. The top NOVA program / Commuter Connections service named was matchlist showing home and work locations of potential rideshare partners, named by about 8% of applicants who made a change. A quarter (24%) of applicants said a service from their

employer or another commute service organization influenced or assisted their change. The most commonly noted service was a financial incentive, cited by 12% of applicants who made a change.

Contact with NOVA Commute Assistance Program / Commuter Connections

- Applicants noted four primary sources of making contact with NOVA commute assistance programs / Commuter Connections: word of mouth referrals (21%), Internet / email (20%), employer/employee surveys and on-site events (13%), and radio (13%). Small shares of respondents mentioned other contact methods.

- Two in ten (19%) applicants contacted a NOVA program / Commuter Connections to try a new commute mode; 16% specifically said they wanted to find a carpool or vanpool. About one in ten had changed jobs, work hours, or moved to a new residence. Similar percentages wanted to find back-up transportation in case of emergencies (8%) or to save money (8%)

Information and Assistance Requested and Received

- About eight in ten (78%) NOVA applicants received or accessed a service to help with carpooling or vanpooling. Six in ten (58%) received a matchlist with names and contact information for potential carpool/vanpool partners, 29% received a map showing home and work locations of potential carpool/vanpool partners, and 30% received general information about carpooling or vanpooling. Two in ten said they had received vanpooling assistance (21%) and 16% received HOV lane information.

- About half (54%) of applicants who received a matchlist or map with potential rideshare partners tried to contact someone named on the list and 87% who tried to make contact reached someone on the list.

- Half (50%) of applicants received some type of information about transit from a NOVA program. About four in ten (38%) received information about transit fares or the SmarTrip fare payment system and 37% received transit route/schedule information. Four in ten (38%) of these applicants used the information provided to contact a transit agency and 74% who contacted a transit agency said they used information they received from the transit agency to try transit.

- Nearly eight in ten (78%) of applicants said their employers offer some commute services at the worksite. The most common employer service is a transit pass discount, offered by 44% of employers. Telework and compressed work schedule also are widely available, 39% and 31% of respondents, respectively, mentioned these services. Two in ten respondents said their employers offer carpool / vanpool preferential parking (18%) or carpool or vanpool information (17%).

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SECTION 1 OVERVIEW

This report presents results of a survey about commuter transportation assistance services offered by nine commuter assistance programs supported by the Virginia Department of Rail and Public Transportation (DRPT) and providing services to commuters living and/or working in northern 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 nine DRPT-assisted commuter assistance programs in Northern Virginia are shown below. DRPT also supports five commuter assistance programs in Southern 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 Northern 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 Northern 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 nine Northern 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, four NOVA programs (Fairfax, Loudoun, PRTC, and GWRC) and three SOVA programs (Hampton Roads, Richmond, and Roanoke) were assigned this target.

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

* - 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 (3 NOVA and 2 SOVA). 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 Northern Virginia program applicants, 933 interviews were completed, 621 completed via the Internet and 312 by telephone. Among the Southern Virginia applicants, 575 interviews were completed, with 446 surveys completed via the Internet and 129 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 NOVA (4,962 valid applicants) and SOVA (4,891).

Table 2
Valid Applications, Interviews Completed, and Confidence Levels

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

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

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 nine programs in Northern Virginia and the five programs in Southern 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.

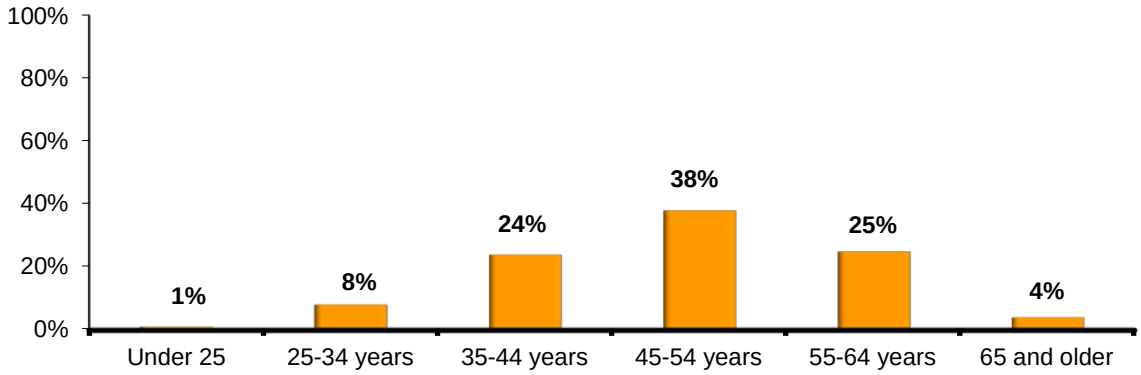
CHARACTERISTICS AND DEMOGRAPHICS OF THE SAMPLE

Demographics

The survey asked respondents four demographic classification questions: sex, age, income, and ethnic group. Respondents are disproportionately female; 55% women and 45% men. The remaining demographic categories are summarized in Figure 1 and Tables 3 through 4.

Age – About nine in ten (87%) applicants are between 35 and 64 years old (Figure 1). Nearly four in ten are between 45 and 54 years of age and 29% are 55 or older.

Figure 1
Distribution by Age
(n = 863)



Income – As detailed in Table 3, 80% of respondents have an annual household income of $60,000 or more and 35% have an income of $140,000 or more.

Table 3
Distribution by Annual Household Income
(n = 687)

Income	Percentage	Income	Percentage
Less than $30,000	1%	$100,000 – 119,999	20%
$30,000 – 39,999	2%	$120,000 – 139,999	11%
$40,000 – 59,999	6%	$140,000 – 159,999	11%
$60,000 – 79,999	11%	$160,000 or more	24%
$80,000 – 99,999	14%		

Ethnic Background – Next, as illustrated in Table 4, White/Caucasians and African-Americans represented the two largest ethnic group categories of survey respondents, 68% and 16% respectively. Asian / Pacific Islanders account for about 8% of the sample and 6% of respondents are Hispanic.

Table 4
Distribution by Ethnic Background
(n = 791)

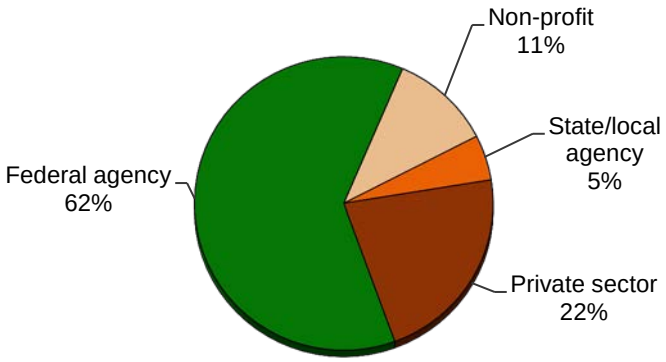
Ethnic Group	Percentage
Non-Hispanic White	68%
African-American	16%
Asian/Pacific Islander	8%
Hispanic	6%
Other	2%

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 – Six in ten (62%) respondents work for a federal agency (Figure 2). Two in ten (22%) work for a private sector employer. Non-profit organizations employ 5% and 11% work for a state or local government agency.

Figure 2
Distribution by Employer Type
(n = 886)



Employer Size – As shown in Table 5, the majority of respondents (80%) work for employers with more than 100 employees. Almost half (45%) work for employers with at least 1,000 employees. About 20% of respondents said they work for organizations with 100 or fewer employees.

Table 5
Distribution by Employer Size
(n = 854)

Number of Employees	Percentage	Number of Employees	Percentage
1-25	7%	101-250	11%
26-50	7%	251-999	24%
51-100	6%	1,000+	45%

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 Northern Virginia and Southern 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.

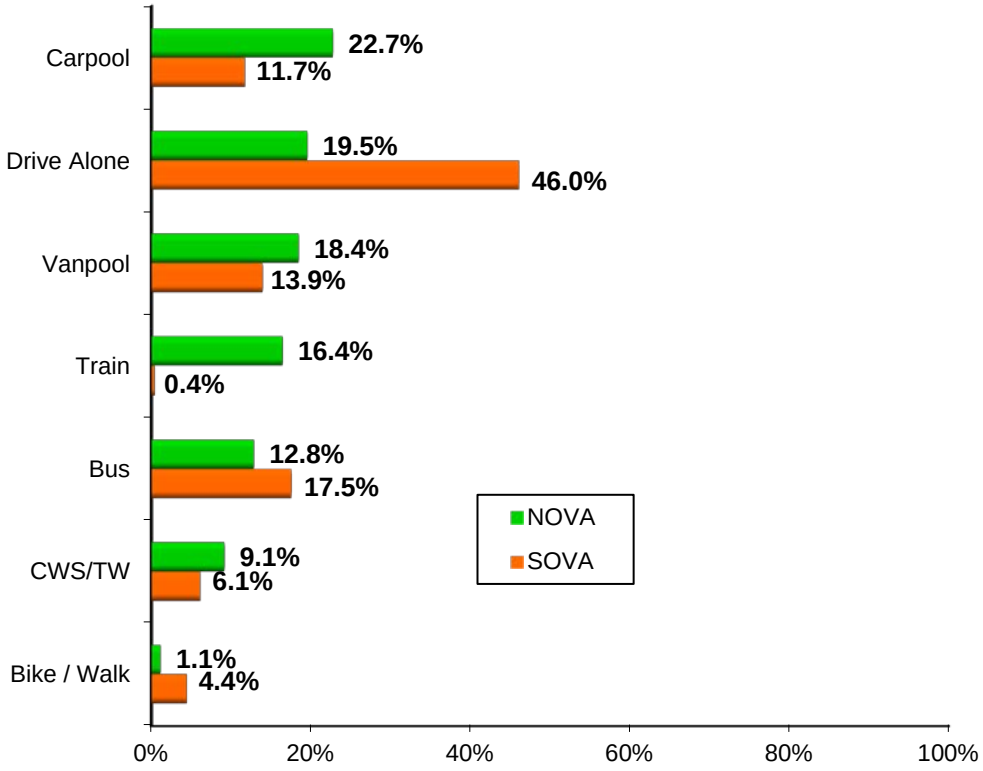
Northern Virginia – Respondents from Northern Virginia rideshare programs drive alone for about one in five (19.5%) work day commute trips. Carpool and vanpool, used for 22.7% and 18.4% of work trips, respectively, are the most popular alternative modes. Train is used for 16.4% of trips (10.4% commuter rail and 6.0% Metrorail) 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.

Southern Virginia – Respondents from Southern Virginia rideshare programs drive alone for a greater share of work day commute trips (46.0%) than do Northern Virginia respondents. 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.

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 NOVA program carpool / vanpool share rises to 45.2% of weekly commute trips. The weekly commute trip distribution would be:

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

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



Primary Commute Mode by Demographic Group

Analysis of Northern 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, women and men are equally likely to drive alone to work and to use carpool/vanpool or to use transit. The small 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	386	21%	45%	31%
Female	481	19%	46%	31%

Mode by Age – As shown in Table 7, driving alone is most common among respondents who are younger than 35. Three in ten of these respondents drive alone, compared with only two in ten respondents who are between 35 and 44 years of age, and an even smaller percentage of respondents who are 45 or older.

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

Age	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
< 34 years	81	31%	40%	23%
35 – 44	213	22%	46%	28%
45 – 54	322	18%	45%	33%
55 +	247	16%	50%	29%

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 generally increases with increasing age.

Mode by Income – Table 8 presents primary mode by income. Solo driving appears to drop as income increases. Carpool/vanpool use is approximately equal for all respondents with incomes of $40,000 or more. Transit use increases slightly as income increases. More than half of transit trips are made on Metrorail or commuter rail, rather than bus. Profiles of train riders generally show higher incomes compared to incomes of bus riders.

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

Income	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
Less than $40,000*	24	25%	35%	33%
$40,000 – $79,999	127	32%	41%	24%
$80,000 – $119,999	230	20%	46%	29%
$120,000 – $159,999	147	18%	52%	26%
$160,000 or more	159	16%	44%	32%

* Caution: small sample size

Mode by Race / Ethnicity – The final table in this series, Table 9, shows primary mode by ethnic group. Hispanic and African-American respondents are less likely to drive alone than are White or Asian respondents and more likely than other groups to carpool or vanpool. Transit rates are not statistically different for the four groups. Note, that the sample sizes for Hispanic and Asian/Pacific Islander respondents are small.

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

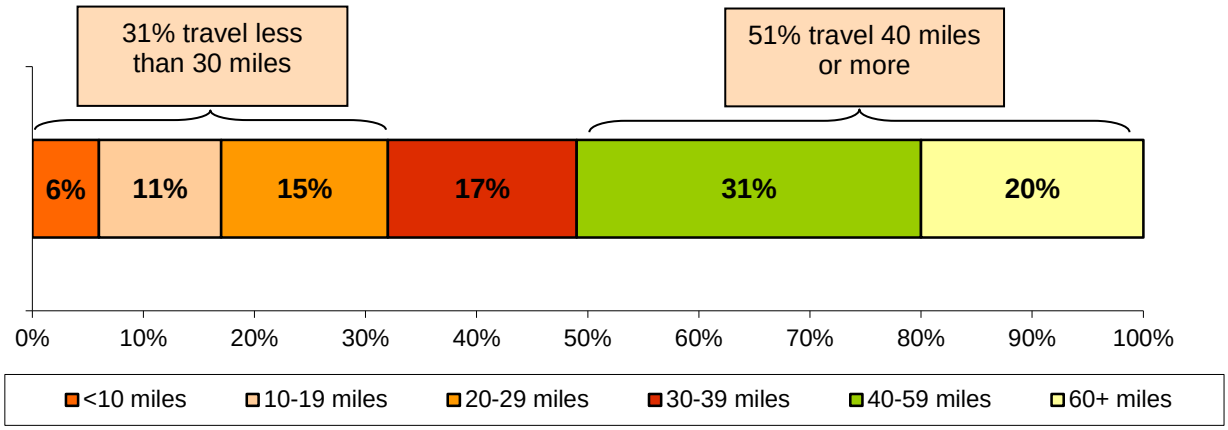
Race / Ethnicity	(n=___)	Primary Commute Mode		
		DA	CP/VP	Transit
Hispanic	51	18%	52%	29%
African-American	114	13%	55%	30%
White	545	21%	45%	29%
Asian/Pacific Islander	65	25%	37%	34%

Commute Distance

Northern Virginia applicants have a wide range of commute distances, ranging from one mile to 130 miles. The average one-way distance is 39.6 miles, considerably farther than the 29.5 mile average one-way distance of Southern Virginia program respondents and more than twice as far as the 16.3 mile average travel distance of all regional commuters, as estimated in the 2010 State of the Commute survey.

Figure 4 presents the distribution of applicants by distance categories. About 17% of applicants travel fewer than 20 miles to work and 31% travel fewer than 30 miles. Just over half commute 40 miles or more.

Figure 4
Commute Distance (miles)
(n = 894)



Distance by Mode – Commute distances vary by commute mode. Table 10 indicates that vanpoolers travel the farthest, an average of 53.3 miles one-way. Applicants who ride Metrorail travel the shortest distance (23.9 miles), but other transit riders have longer distances; commuter rail riders travel 43.4 miles one-way and bus riders travel 41.5 miles. The long distance for bus riders likely reflects a high share of commute express bus in the bus group. Carpoolers travel an average of 36.6 miles and drive alone commuters travel 34.4 miles.

Table 10 also presents the average commute distances by mode as measured in the 2010 regional State of the Commute survey. For all modes, the SOC average one-way distance is much shorter than the applicant survey average, indicating that even within individual modes, commuters who travel longer distances are more interested in NOVA program / Commuter Connection' services.

Table 10
Average Commute Distance (miles) by Travel Mode

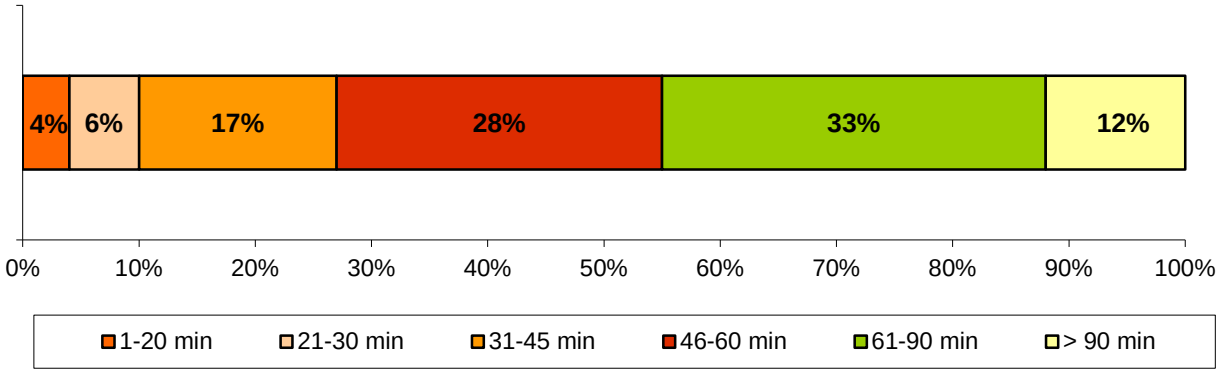
Mode	2012 Applicant Survey		2010 SOC	
	(n=__)	Average	(n=__)	Average
Vanpool	165	53.3 mi		N/A
Commuter rail	103	43.4 mi	51	29.3 mi
Bus	144	41.5 mi	258	16.5 mi
Carpool	262	36.6 mi	454	19.0 mi
Drive alone	271	34.4 mi	4,026	16.3 mi
Metrorail	80	23.9 mi	524	15.8 mi

Commute Travel Time

One-way commute travel time of Northern Virginia applicants ranged from five minutes to more than two hours, with an average of 66 minutes. This was dramatically longer than the average 42 minute commutes of respondents who lived in Southern Virginia and longer than the 36 minute average of all Washington region commuters, as reported in the 2010 State of the Commute survey.

As illustrated in Figure 5, nearly half (45%) travel more than an hour and almost three-quarters (73%) travel more than 45 minutes one-way. By comparison, only 33% of Southern Virginia respondents and 21% of all Washington region commuters travel 45 or more minutes.

Figure 5
Commute Time (minutes)
(n = 923)



Telework and Compressed Work Schedules

Telework – About four in ten (43%) applicants said they telework, at least occasionally. More than half (57%) of these applicants telework one or more days per week; the remaining 43% telework less often.

- Less than once per month/emergency 17%
- 1 – 3 times per month 26%
- 1 day per week 33%
- 2 days per week 17%
- 3 or more days per week 7%

Compressed Work Schedule – About two in ten (22%) 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 19% 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 48% travel less than one day per week. The remaining 42% 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

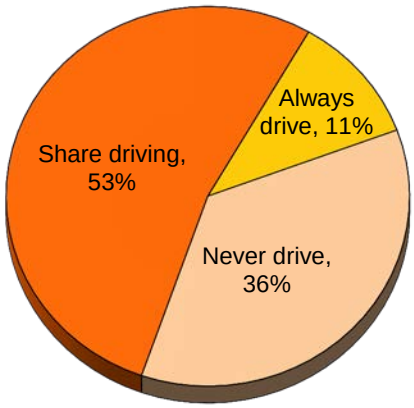
Almost half (49%) of survey respondents said they ride in a carpool or vanpool at least one day per week. Carpools have an average size of 3.0 occupants, including the driver. Vanpool occupancy is on average 10.0, including the driver. Vanpools range in size from six to sixteen occupants, but about three in ten (29%) vanpools have 12 or more occupants.

Carpool Members

Carpoolers and vanpoolers in the survey sample tend to carpool more with co-workers than with family members. Four in ten (42%) applicants who carpool or vanpool travel with one or more co-workers. By contrast, only 7% 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 1% of carpool/vanpool applicants said they had counted children under the age of 16 as a carpool/vanpool rider.

As shown in Figure 6, about half (53%) of carpoolers and vanpoolers share driving with their pool partners, for example alternating days or weeks of driving the carpool. About a third (36%) said they never drive. This was primarily the response among vanpoolers and casual carpoolers. The remaining 11% said they always are the driver of the carpool or vanpool.

Figure 6
Driving Frequency of Carpoolers/Vanpoolers
(n = 434)

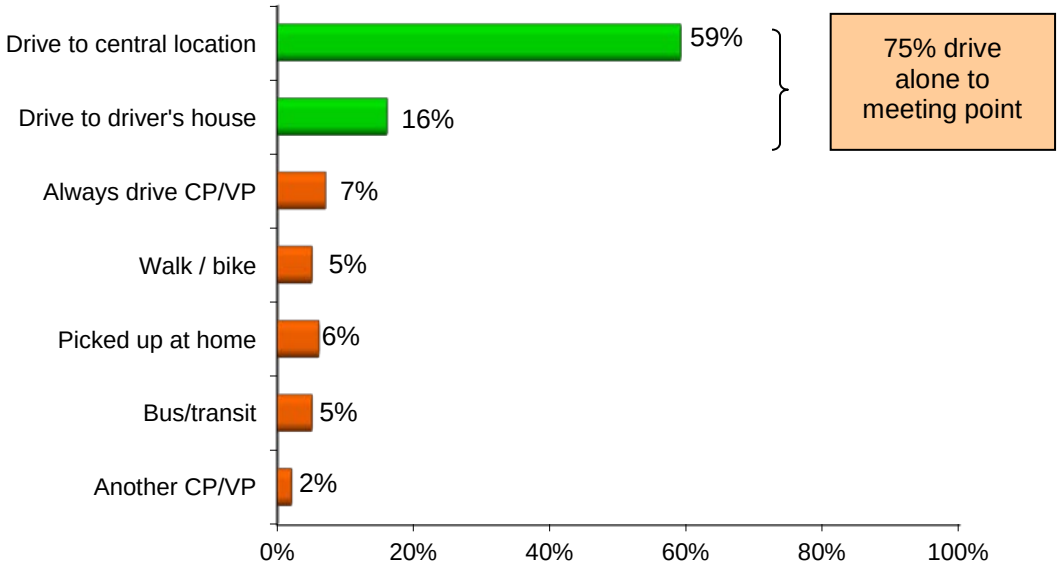


Access to Carpools, Vanpools, and Transit

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.

About one in ten said they either walk (5%) or ride a bus (5%) to the meeting point and 6% are picked up at home or leave from home with a family member carpool partner. But three-quarters 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 6.8 miles, these trips must be accounted for in an air quality analysis.

Figure 7
Access Mode to Alternative Mode Meeting Place
(n = 728)



RECENT COMMUTE PATTERN CHANGES

The third survey section asked applicants about commute pattern changes they made since receiving assistance from a NOVA commute assistance program / Commuter Connections. Data were collected on types of changes made, "permanence" of change, reasons for changes, and details of commute patterns before the changes occurred. 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, Metrorail, 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 respondents surveyed.

Four types of alternative mode changes were measured:

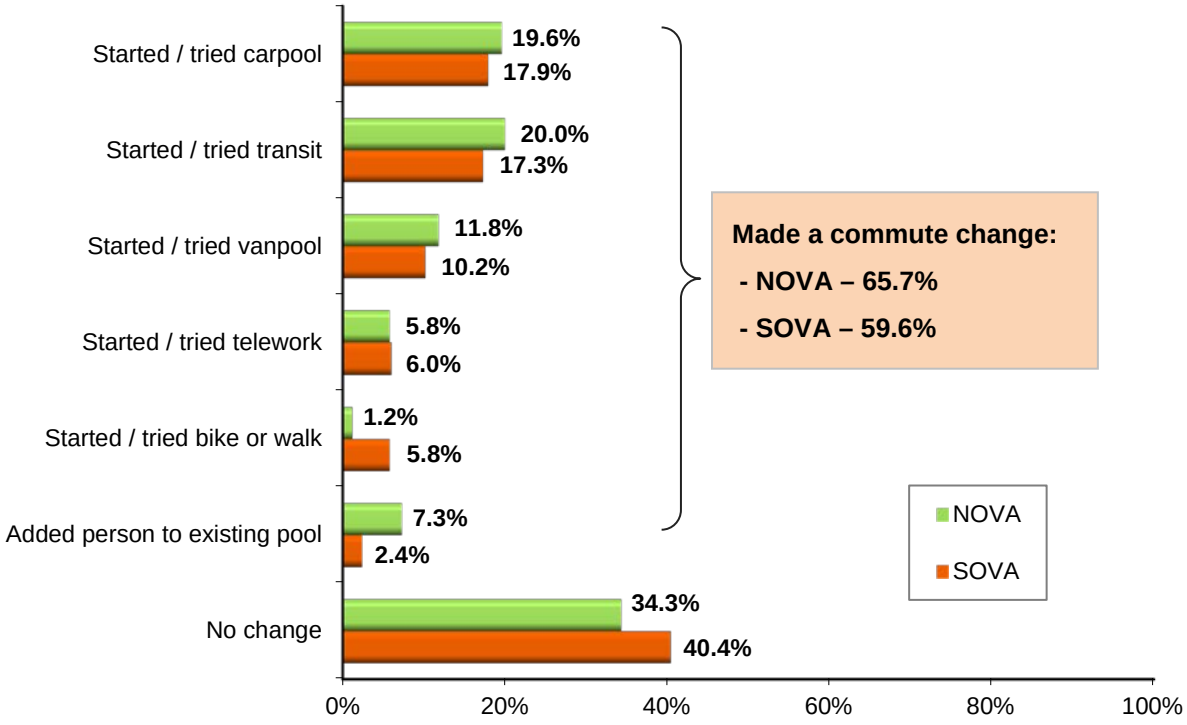
- Continued – applicant made a change and was still using the new mode at the time the survey was conducted
- Occasional – applicant made a change and was still using the new mode, but used the alternative mode less than one time per week
- Temporary – applicant made a change, but stopped using the new mode before the survey was conducted
- One-time – 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

Nearly two-thirds (65.7%) of the NOVA applicants reported some type of alternative mode change after receiving commute assistance. (Figure 8) Among Southern Virginia applicants, the change percentage is 59.6%.

Figure 8
All Commute Changes Made – NOVA and SOVA Programs
(NOVA n = 933, SOVA n = 575)



Northern Virginia – Among Northern Virginia respondents who made a change, approximately equal shares started using or tried using transit (20.0%) or carpool (19.6%) for their trip to work. One in ten (11.8%) joined or created a vanpool and 1.2% started or tried bicycling or walking to work. About 5.8% said they started teleworking. And 7.3% said they were carpooling or vanpooling before requesting information, but added another person to their existing pools.

Southern Virginia – Carpooling and transit also were the top new modes among Southern Virginia respondents, with 17.9% and 17.3% of SOVA respondents noting these changes. One in ten (10.2%) SOVA respondents joined or created a vanpool and 5.8% started bicycling or walking. Six percent started or tried teleworking and 2.4% 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 Northern Virginia and Southern Virginia.

Northern Virginia – Nearly half (47.8%) of all Northern Virginia respondents made a change to a mode they are still using at least one day per week; these applicants made continued changes. About 4.9% made a change to a mode they still use occasionally, but less than once per week. And 7.1% 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 seven weeks. Finally, 5.9% of 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 – NOVA and SOVA

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

Southern Virginia – Four in ten (39.7%) Southern Virginia respondents made a change that they continued and 6.0% made a change to a mode they still use occasionally. One in ten (11.9%) SOVA respondents who made a change said the change was temporary and 2.0% 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 Northern Virginia and Southern Virginia programs are shown below:

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

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 average commute distance of applicants who made a continued change was higher (42.7 miles) than the distance of those who made temporary changes (35.5 miles) and those who made occasional changes (37.2 miles). But the distance of continued change applicants was only moderately higher than the distance of applicants who did not make any changes (35.9 miles).

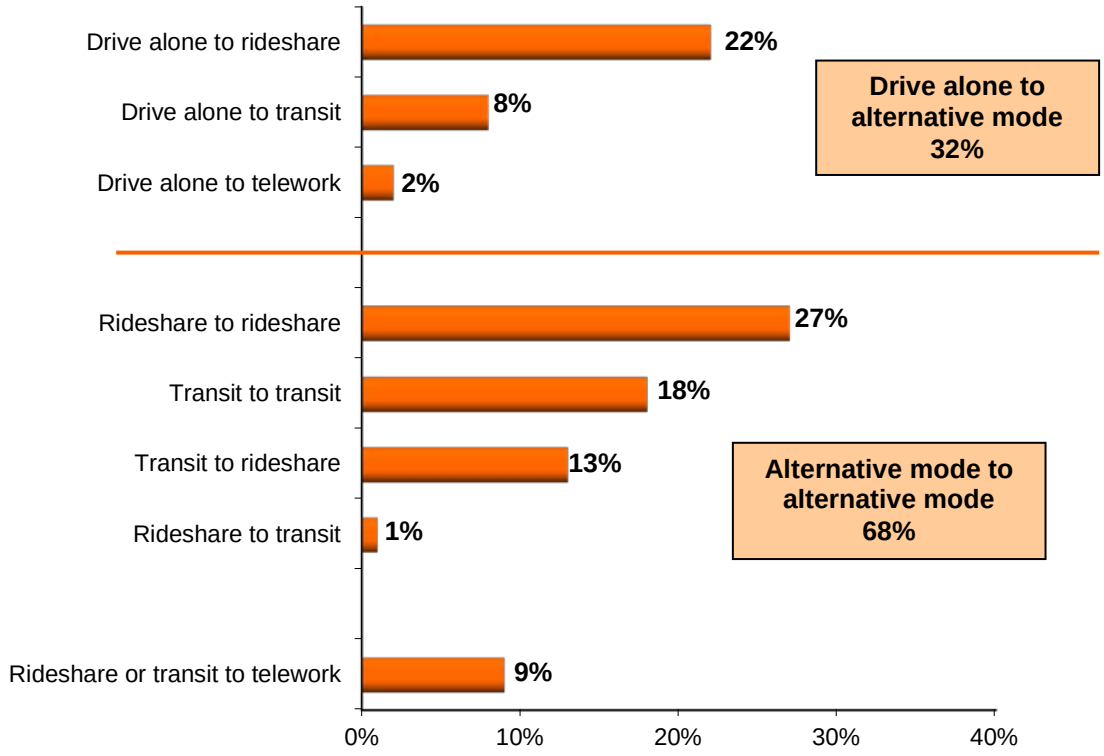
Previous Mode of Commuter Who Changed Mode

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 Northern Virginia applicants who made continued or temporary 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.

Almost a third (32%) of applicants who made a change shifted from driving alone to an alternative mode. Most of these applicants shifted to rideshare modes (carpool or vanpool), but some made shifts to transit or non-motorized modes (bike and walk) or telework. The remaining 68% 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 = 509)



Reasons for Changes

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

Some applicants made the change for commute or parking-related reasons: save money (14%), save time (12%), gas prices too high (6%), or a desire to avoid traffic congestion (5%). Applicants also noted reasons associated with commute assistance services, such as finding a new carpool or vanpool (12%) or a change because a carpool or vanpool didn't work out (10%).

A significant number of applicants mentioned a personal factor, such as changing jobs or work hours (15%) or moving to a new residence. 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 = 513, multiple responses permitted)

Commute related reasons	Percentage
Commute / Parking-related reasons	
- Save money	14%
- Save time	12%
- Gas prices too high	6%
- Traffic congestion / avoid traffic / stressful commute	5%
- Transit problems (slow, crowded, discontinued service)	4%
- No parking at work	3%
- Save wear and tear on car	2%
Commute service reasons	
- Found / change to carpool or vanpool	12%
- Carpool or vanpool broke up/didn't work out	10%
- Employer permitted telework	3%
- New option became available	2%
- Got financial incentive	2%
Personal related reasons	
- Changed job/work hours	15%
- Convenience / easier / comfortable	5%
- Moved residence	4%
- Health / injury / personal reasons	4%
- Tired of driving	3%
- Other *	11%

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

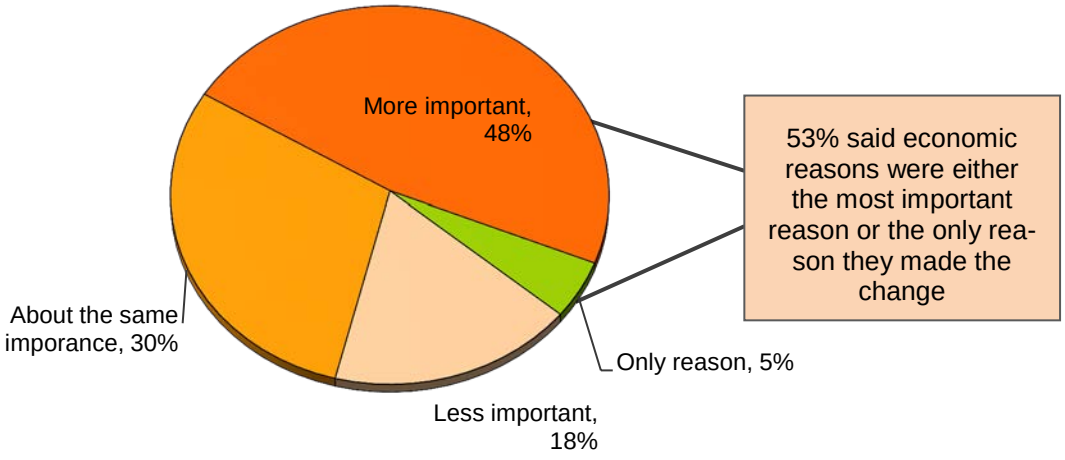
Importance of Commute Services on Decision to Make Change – Applicants who made a change also were asked if their decision to make the change was influenced or assisted by any information or service they received from a NOVA commute assistance program or from Commuter Connections, from another organization, or from their employer. About three in ten (30%) of applicants who made a change cited a NOVA program / Commuter Connections service that had influenced or assisted them.

The top two NOVA program / Commuter Connections services named were matchlist showing home and work locations of potential rideshare partners, named by about 8% of applicants who made a change, other carpool or vanpool information, noted by 6% of applicants, transit route or schedule information (5%), and Guaranteed Ride Home, named by about 4% of applicants who made a change.

A quarter (24%) of 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 12% of applicants who made a change, and matchlist information and compressed work schedule or telework, each noted by 2% 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, 5% of applicants who made a change said economic reasons were the only reason they made the change and 48% said economic reasons were more important than other reasons. Three in ten (30%) 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 = 536)



CONTACT WITH NOVA COMMUTE ASSISTANCE PROGRAM / COMMUTER CONNECTIONS AND SERVICES RECEIVED

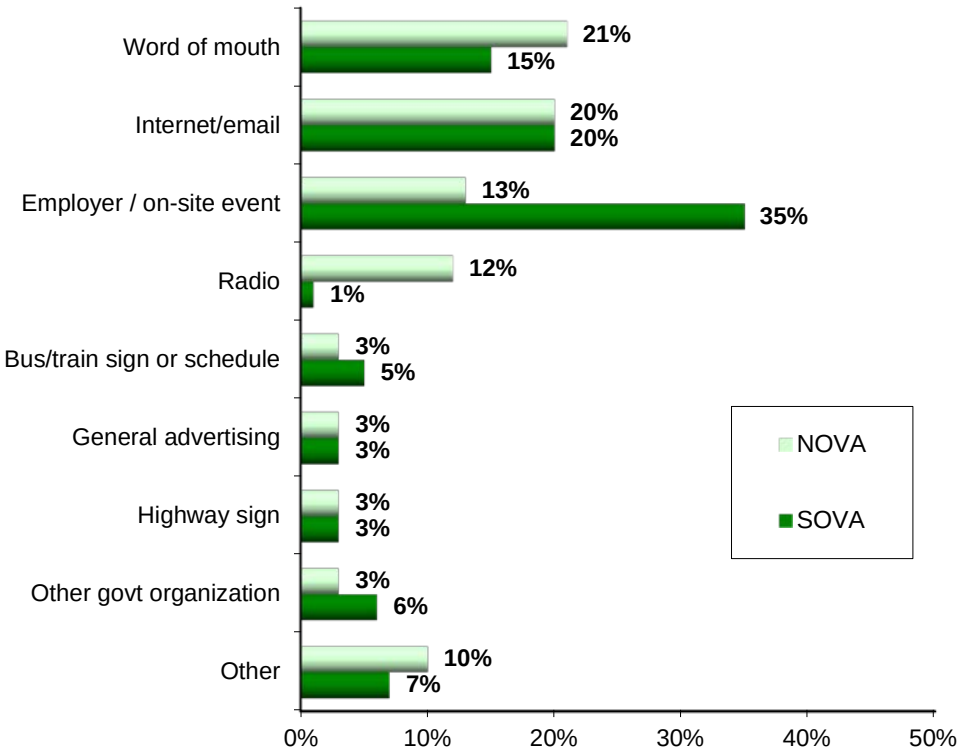
The survey asked applicants several questions related to the details of their contact with a NOVA commute assistance program / Commuter Connections and what services they received. The following section of the report presents results to these questions, including the following:

- 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 NOVA Commute Assistance Program / Commuter Connections

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

Figure 11
How Applicants Learned of Commute Assistance Programs
(Note: scale extends only to 50% to highlight differences)
(NOVA n = 933, SOVA n = 575)



Four sources dominated the NOVA results: word of mouth referrals (21%), Internet / email (20%), employer/employee surveys and on-site events (13%), and radio (13%). Small shares of respondents mentioned other contact methods.

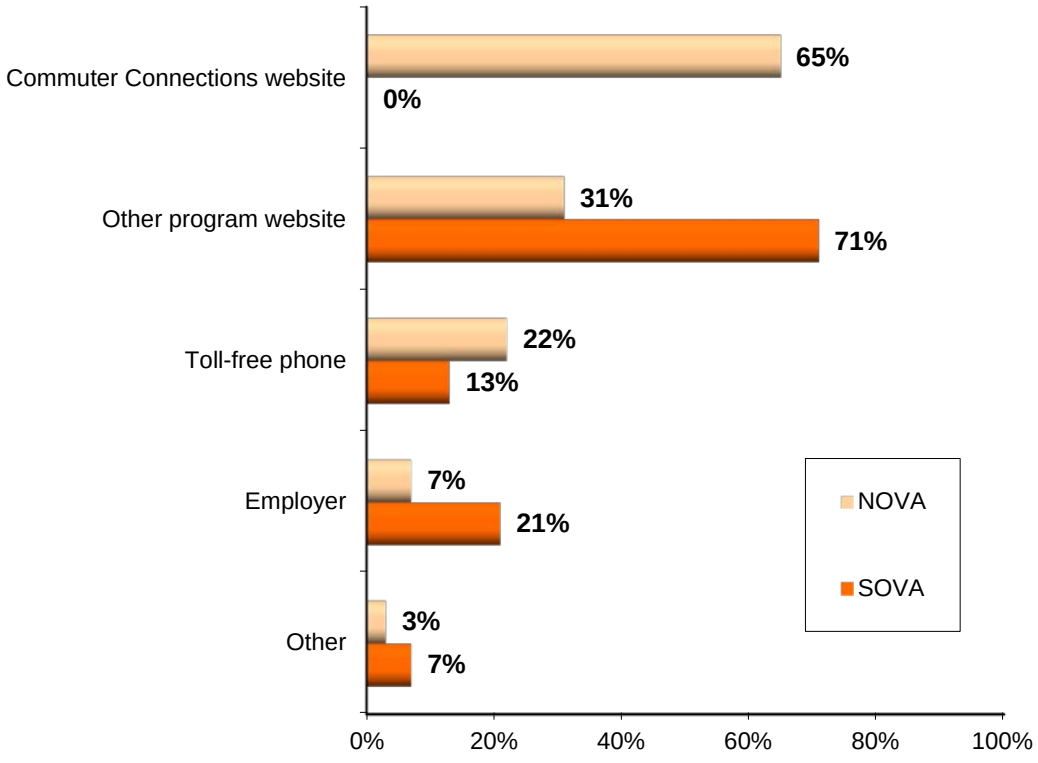
SOVA respondents primarily mentioned three sources: employer/employee surveys and on-site events, which were noted by 35% of respondents, Internet / email, cited by 20%, and word of mouth referrals, mentioned by 15% of respondents.

Methods Used to Contact NOVA Program / Commuter Connections

Commuters can contact NOVA commute assistance programs / Commuter Connections in a variety of ways. Nearly two-thirds (65%) of NOVA applicants made this 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.

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 telephone number.

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



Reasons for Seeking Assistance

Applicants were asked what prompted them to seek information or assistance from the NOVA commute assistance program or Commuter Connections at that time. Two in ten (19%) said they wanted to try a new commute mode and 16% specifically said they wanted to find a carpool or vanpool (Table 13). About one in ten had changed jobs, work hours, or moved to a new residence. Similar percentages wanted to find back-up transportation in case of emergencies (8%) or to save money (8%)

Table 13
Reasons for Seeking Information
(n = 934)

Reasons	Percentage
Check commute options / try new mode, curiosity	19%
Wanted to carpool or vanpool, get carpool/vanpool information	16%
Changed jobs/work schedule, moved to new residence	9%
In case of emergencies / wanted back up transportation	8%
Wanted to use / renew GRH	8%
Save money	8%
Save time	6%
Reduce gas expense, gas prices too high	5%
Avoid traffic / traffic is bad, traffic has gotten worse	5%
Didn't want to drive, tired of driving	4%
Referral from family / co-worker / friend, word of mouth	3%
Get bus / train information	2%
Other*	12%

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

Information Received from NOVA Program / Commuter Connections

When commuters contact a NOVA commute assistance program or Commuter Connections, 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 a NOVA commute assistance program / Commuter Connections 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 NOVA Commute Assistance Program / Commuter Connections
(NOVA n = 933, SOVA n = 575)

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

Carpool/Vanpool Services – About eight in ten (78%) NOVA applicants received or accessed one or more Carpool/Vanpool services. Most had received some type of carpool/vanpool matching assistance; 58% received a matchlist with names and contact information for potential carpool/vanpool partners, 29% received a map showing home and work locations of potential partners, 22% had used the Commuter Connections carpool rider bulletin board, and 30% received general information about carpooling or vanpooling. Two in ten said they had received vanpooling assistance (21%), 16% received HOV lane information, and one in ten obtained either the 'Pool Rewards or NuRide Rewards financial incentive.

The percentages of SOVA respondents who received these services was quite similar to that for NOVA, except that a large share of SOVA respondents received NuRide rewards and a smaller share had received information on HOV lanes.

Transit-Related Services – Half (50%) of applicants received some type of information about transit from a NOVA program. About four in ten (38%) received information about transit fares or the SmarTrip fare payment system and 37% 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 smaller share of SOVA respondents (33%).

Other / Multi-Mode Services – Another popular service was Guaranteed Ride Home; 61% of NOVA respondents received this service, which is open to any commuter who uses an alternative mode to commute. A quarter (27%) of NOVA respondents obtained information on Park & Ride lots they could use to meet a carpool, vanpool, or transit service. About 13% received information on special events such as Bike to Work Day or Car Free Day. These services often are organized regionally, but both Commuter Connections and the NOVA programs offer information about the events. One in ten received a Bike to Work Guide or other bicycle information (9%).

The percentages of SOVA respondents who obtained these services was quite similar to the NOVA results for all services except GRH/ERH; a lower share (44%) of SOVA 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 NOVA program / Commuter Connections by the type of mode they used at the time they were seeking the services: drive alone, carpool/vanpool, or transit. These results show different service user patterns.

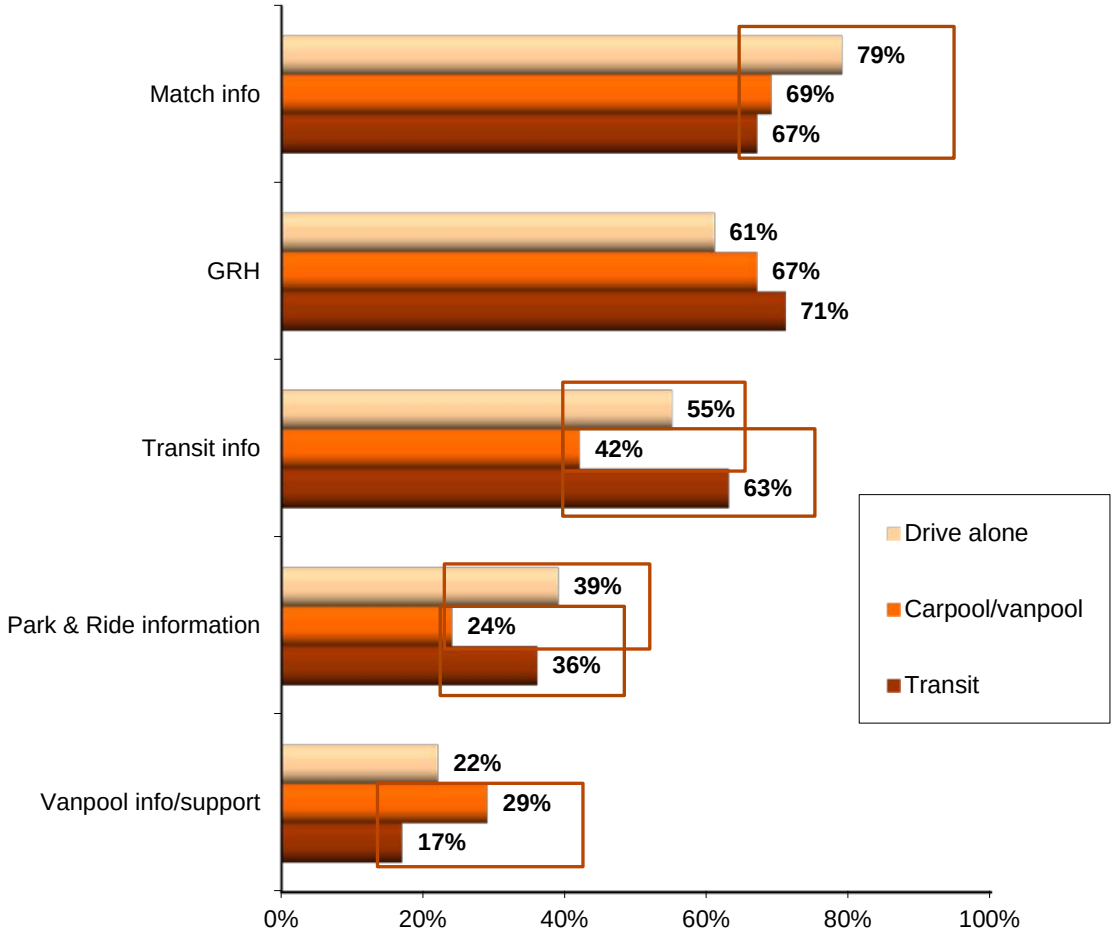
Applicants who were driving alone to work at the time they received information showed a strong interest in each of the services listed and in general, they had stronger interest in most services than did applicants who were carpooling or vanpooling at the time they sought information. They were particularly more likely to request transit and P&R information than were carpoolers/vanpoolers, indicating a willingness to consider various non-solo driving options for their commute.

Interestingly, transit riders were nearly as interested as were drive alone applicants in most types of information. Their desire for transit and Park & Ride information suggests they wanted to find a different transit option or route than they had been using. But two-thirds of transit riders sought ridematch information, indicating they would consider other options.

A very high share of applicants who were carpooling or vanpooling at the time they sought information received or accessed matching information. This 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 more likely to have sought vanpool information.

Drive alone applicants were nearly as likely to receive or access GRH/ERH information as were existing carpoolers/vanpoolers and 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.

Figure 13
Information Received or Accessed from NOVA Program by Mode Before Requesting Assistance
(Drive alone n = 193, Carpool / vanpool n = 221, Transit n = 138, multiple responses permitted)
(Significant differences noted)

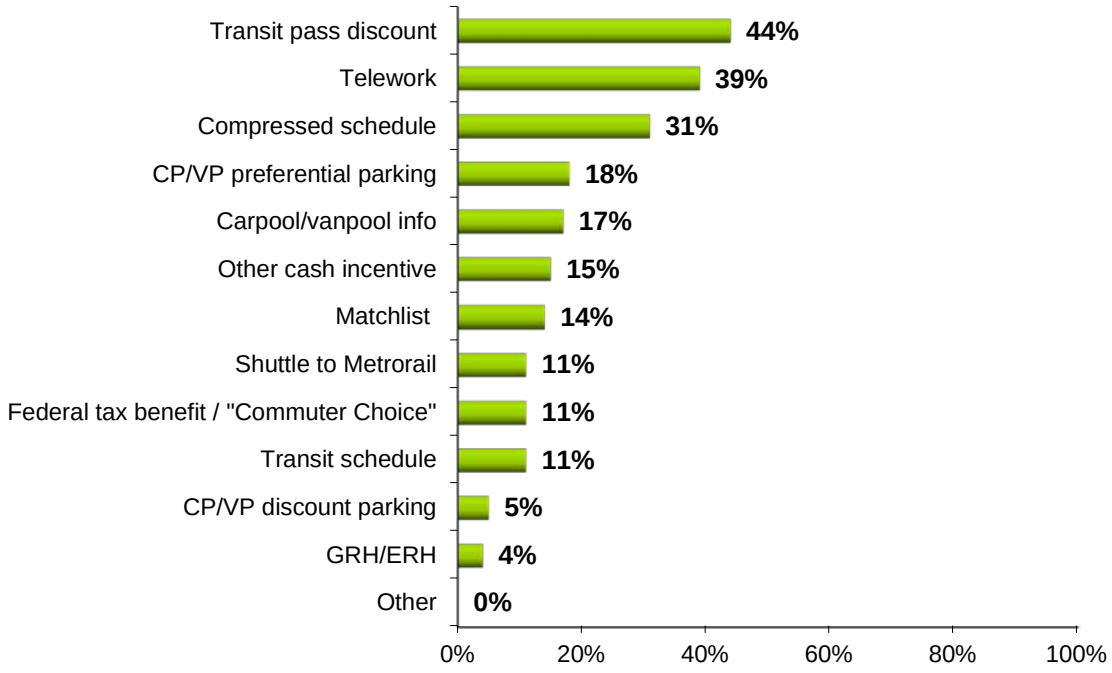


Assistance Offered by Employers

Applicants also were asked if their employers offered commute assistance services and if these services had influenced their commute decisions. Nearly eight in ten (78%) applicants said their employers do offer some services. Figure 14 lists individual services noted by applicants.

The most common employer service is a transit pass discount, offered by 44% of employers. Telework and compressed work schedule also are widely available, 39% and 31% of respondents, respectively, mentioned these services. Two in ten respondents said their employers offer carpool / vanpool preferential parking (18%) or carpool or vanpool information (17%).

Figure 14
Commuter Assistance Services Offered by Employers
(n = 924, multiple responses permitted)



USE OF NOVA COMMUTE ASSISTANCE / COMMUTER CONNECTIONS SERVICES

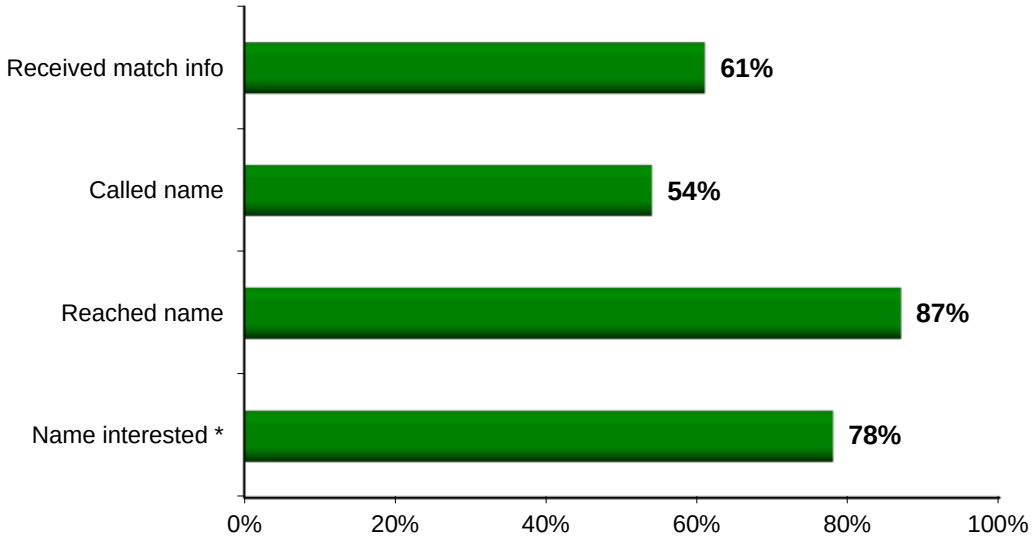
Applicants who received any of the following services were asked additional questions related to how they used information:

- Matchlist
- Transit information
- Park & Ride information
- Bicycle / walking information
- Telework information
- Guaranteed Ride Home

Use of Match Information

Six in ten (61%) of NOVA 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 = 933, Called name n = 547, Reached name n = 306, Name interested n = 267)



Tried to Make Contact – More than half (54%) of the applicants who received match information tried to contact one or more of the people named.

The remaining 46% 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 31%
- Already found rideshare arrangement 24%
- Work / home locations not compatible with mine 20%
- Decided I didn't want to carpool/vanpool 14%

Success in Reaching Someone Named on the Match Information – A large majority (87%) 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.

Southern Virginia Comparison – As shown in Table 15, NOVA and SOVA 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
NOVA Programs and SOVA Programs

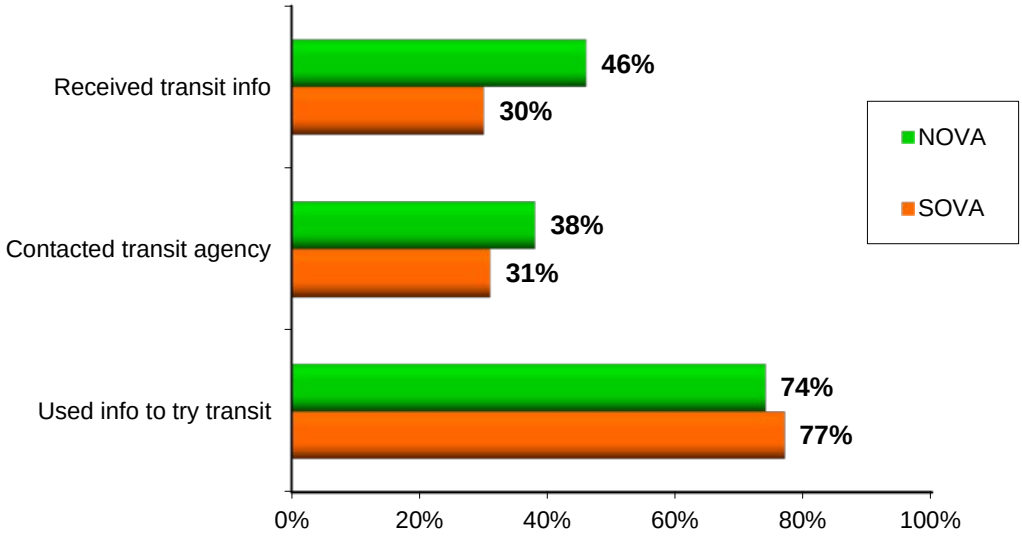
Action Taken	NOVA		SOVA	
	(n=__)	Percentage	(n=__)	Percentage
Received match information	933	61%	575	56%
Called names	547	54%	294	53%
Able to reach people named on list	306	87%	162	88%
People called interested in ridesharing	267	78%	142	78%

Transit Information

Nearly half (46%) of the NOVA applicants said they received transit information from either Commuter Connections or from the NOVA commute assistance program (Figure 16). Almost four in ten (38%) NOVA applicants who received transit information used the information to contact a transit agency and 74% 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 SOVA commute assistance programs. A smaller share of SOVA respondents said they received transit information, compared with the NOVA results. SOVA respondents also were slightly less likely to use the information to contact a transit agency than were NOVA respondents. But if they did contact the transit agency, they were equally likely to use the information they received to try transit.

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



Reasons for Not Contacting Transit Agency – Six in ten (62%) 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 (21%) said they got information from another source and 6% 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. Six percent said they preferred using a mode other than transit and another 5% said they were not interested in transit.

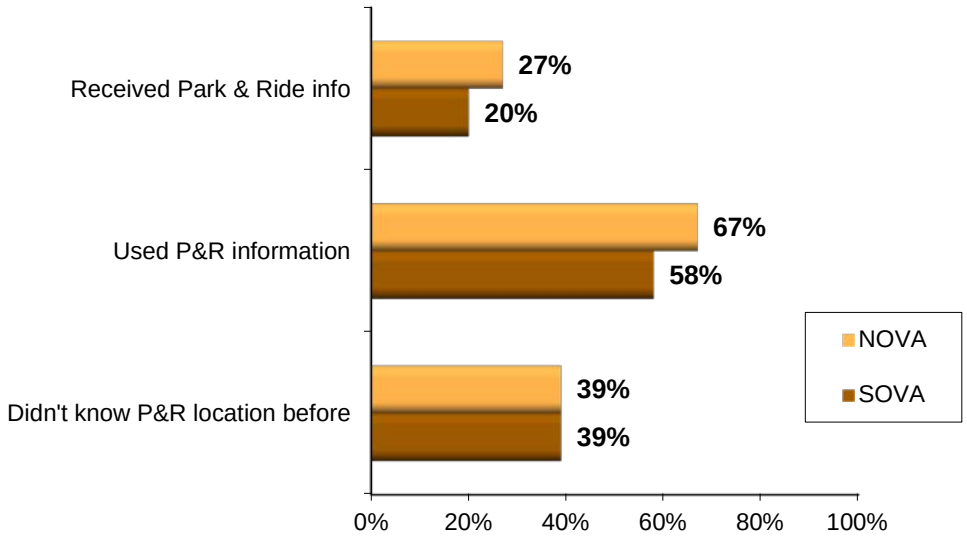
Table 16
Reasons Applicants Did Not Contact Transit Agency
(n = 183, multiple responses permitted)

Reasons	Percentage
Got information from another source	21%
Didn't need more information	6%
Prefer current mode/other modes	6%
Wasn't interested, didn't ask for transit info	5%
Transit is too expensive, schedule / route not feasible	3%
Too far from home / work	3%

Park & Ride Information

Virginia commute assistance organizations also provide Park & Ride lot location information. About 27% of NOVA 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: NOVA n = 933, SOVA n = 575; Used P&R info: NOVA n = 256, SOVA n = 115;
Aware of P&R before: NOVA n = 166, SOVA n = 70)



About two-thirds (67%) of NOVA 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. Three-quarters (73%) of 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. SOVA applicants were slightly less likely than were NOVA applicants to use P&R information, but their previous awareness of the lots was about the same as for NOVA applicants.

Applicants who received but did not use the Park & Ride lot information were asked why they had not done so. Two in ten (22%) said they didn't need a Park & Ride lot and 16% said the lot was not in a convenient location.

Bicycle Information

Ten percent of applicants reported that they had received bicycle information. Two in ten (22%) of these applicants made a bicycle travel change and 81% who made a bicycle change said the information from the NOVA program was a factor in their decision to make the change. Six percent started bicycling to work and 7% bicycle to work more often (Table 17). Eight percent said they started riding for non-work trips and 13% ride a bicycle more often for non-work trips.

Table 17
Actions Taken After Receiving Bicycle Information
(n = 96, multiple responses permitted)

Bicycle Actions	Percentage
Work Travel	
- Started bicycling to work	6%
- Bicycle to work more often	7%
Non-work Travel	
- Started bicycling for non-work trips	8%
- Bicycle more often for non-work trips	13%
Did not take any bicycle action	63%
Don't remember	15%

Telework Information

Eleven percent of applicants said they had received information from a NOVA program or Commuter Connections about telework. Fifteen percent of the applicants said they used the information to start teleworking and 10% started to telework more often. A third (34%) 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 Ride Home (GRH) program. Six in ten (61%) applicants received or accessed information on GRH from Commuter Connections or a NOVA commute assistance program. More than eight in ten (85%) of these applicants subsequently registered for the service.

As illustrated in Table 18, about 13% of applicants who received GRH information were driving alone to work at the time they requested the information. The remaining 87% were using an alternative mode; 41% were riding transit, 23% vanpooled, and 22% carpooled.

Table 18
Modes Used When Requesting GRH Information
(n = 545, multiple responses permitted)

Modes Used	Percentage
Drive alone	**13%**
Alternative modes	**87%**
- Transit (bus / train)	41%
- Vanpool	23%
- Carpool	22%
- Bike / walk	1%

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 Northern 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.

Northern 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 Northern Virginia programs overall.

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

• Commuter applicants	**4,970**	
• Applicant placement rates		
– Overall (all changes)		**65.7%**
– Continued rate		47.8%
– Occasional rate		4.9%
– Temporary rate		7.1%
– One-time rate		5.9%
• Estimated applicants placed in alternative modes	**2,973**	
– Continued placements	2,376	
– Occasional placements	244	
– Temporary placements	353	

PROGRAM IMPACT MEASURES

The survey analysis also estimated results for Northern 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

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

• Daily vehicle trips (VT) reduced	953	trips
• Daily VMT reduced	35,417	VMT
• Daily pounds of emissions reduced		
– NOx	27	lb
– VOC	13	lb
• Annual tons of CO2 / Greenhouse gases reduced	4,500	tons
• Gallons of gasoline saved	1,488	daily gallons of gas

Commuter Placements

The placement rates derived from the survey can be used to estimate the total number of NOVA 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, NOVA programs received applications from 4,790 commuters. Based on the survey results, it would be expected that approximately 2,973 of these commuters had started using a new alternative mode or increased their use of alternative modes:

- 2,376 continued shifts (47,8% x 4,790)
- 353 temporary shifts (7.1% x 4,790)
- 244 occasional use shifts (3.7% x 4,790)

Total of 2,973 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 were derived from detailed examination of the types of changes reported by survey respondents. Factors were developed for both continued change and temporary change. The VTR factors for NOVA programs are shown below.

- Continued VTR = 0.39 trips reduced per placement
- Temporary VTR = 0.53 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. NOVA respondents who made a temporary change used their new modes an average of 7.0 weeks or 14% of a year (7.0 / 50 work weeks). This discount is factored into the calculation of trips reduced. These calculations produce an estimate of 953 daily trips reduced:

Continued trips reduced = 2,376 commuters x 0.39 trips reduced = 927 daily trips reduced
Temporary trips reduced = 353 commuters x 0.53 trips reduced x 14% = 26 daily trips reduced

Total trips reduced = 953 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 42.7 miles for respondents with continued changes and 35.5 miles for respondents with temporary changes. But 74% of continued change respondents and 82% 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 35,417 VMT reduced daily:

Continued VMT reduced = 927 trips reduced x 74% x (42.7 miles – 7.2 drive alone miles) +
927 trips reduced x 26% x 42.7 miles = **34,643 VMT reduced**

Temporary VMT reduced = 26 trips reduced x 82% x (35.5 miles – 7.0 drive alone miles) +
26 trips reduced x 18% x 35.5 miles = **774 VMT reduced**

Total trips reduced = **35,417 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 (CO2, 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

CO2 (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 **27 pounds of NOx per day and 13 pounds of VOC per day. CO2 emissions are calculated on an annual basis and totaled 4,502 tons.**

NOx	Trips	11 Emis. Factor	VMT	11 Emis. Factor	Tot gm	Pounds
• Cold start	246	0.5182			127	0.3
• Running (40 mph)			35,417	0.3444	12,198	26.8
Total NOx reduced (pounds)						**27.1**

VOC	Trips	11 Emis. Factor	VMT	11 Emis. Factor	Tot gm	Pounds
• Cold start	246	1.4592			358	0.8
• Running (40 mph)			35,417	0.1558	5,518	12.1
Total VOC reduced (pounds)						**12.9**

CO2	Trips	Factor	VMT	Factor	Tot gm	Tot ton
• Cold start	246	0.0			0	0
• Running (40 mph)			35,417	461.7	16,352,029	36,018
Total CO2 reduced (pounds per day)						36,018
Total CO2 reduced (tons per year)						**4,502**

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, **1,488 gallons of gasoline are saved daily** from increased use of alternative modes by NOVA applicants.

Gallons fuel saved = 35,417 VMT reduced / 23.8 miles per gallon = **1,488 gallons reduced**

LIST OF APPENDICES

Appendix A
Questionnaire for September-October 2012 Applicant Survey

Northern Virginia Internet Version – Final- 8-2-12

INTRODUCTION

The Virginia Department of Rail and Public Transportation, Commuter Connections, and [LONG NAME] are conducting this online survey of people who have received commute information or assistance from the Commuter Connections program or [PROGRAM NAME] or who have used the Commuter Connections or [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 Commuter Connections or [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 Commuter Connections or [PROGRAM NAME]		
98 Don't know		
99 Question left blank (internet only)		

S2 Commuter Connections and [PROGRAM NAME] also offer information on telework, transit, and bicycling to get around the Washington metropolitan region. Which of the following services have you received, accessed, or requested from Commuter Connections or [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 Commuter Connections or [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 weekdays (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, Monday through Friday, 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 more than one type on a single day, 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.

(PROGRAMMER NOTE: 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 traveling to work (e.g., regular day off, telework, compressed schedule day off).

PROGRAMMER NOTES:
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 Monday – 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 Used (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	
11 Ride commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail - N/A in NOVA – RESERVE FOR SOVA	
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
CRDAYS = SUM OF Q5, RESPONSE 11
BKDAYS = SUM OF Q5, RESPONSE 14
WKDAYS = SUM OF Q5, RESPONSE 15
LRDAYS = SUM OF Q5, RESPONSE 12 – NOT USED IN NOVA RESERVE FOR SOVA

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
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 – NOT USED IN NOVA, RESERVE FOR SOVA

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: vanpool, carpool, bus, Metrorail train, commuter train, light rail train]?

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: vanpool, carpool, commuter train, Metrorail train, bus, light rail train]?

_____ 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 to or from work, 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
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 – N/A in NOVA, RESERVE FOR SOVA
90 Did not make any of these changes

21 Since you requested or obtained assistance, did you **increase** 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
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 – N/A in NOVA, RESERVE FOR SOVA
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
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 - N/A in NOVA, RESERVE FOR SOVA
90 No, did not make any of these changes

Q23 DEFINE INITIAL MODE CHANGES – AUTOCODE ONLY

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)
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) – N/A in NOVA, reserve for SOVA

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)
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) – N/A in NOVA, reserve for SOVA

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

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

90 No mode change

BRANCHING INSTRUCTIONS

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 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	_____	_____	_____
5	Commuter train (MARC, VRE, Amtrak)	_____	_____	_____
6	Bicycle	_____	_____	_____
7	Walking	_____	_____	_____
8	Telework	_____	_____	_____
9	*Light rail train – N/A in NOVA*	_____	_____	_____

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

Q28 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)
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) – N/A in NOVA, RESERVE FOR SOVA

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)
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) –N/A in NOVA, RESERVE FOR SOVA

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)
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) –N/A in NOVA, RESERVE FOR SOVA

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)
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
5 Continued commuter train
6 Continued bicycle
7 Continued walking
8 Continued telework
9 Continued light rail – N/A in NOVA
10 Continued occupancy

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

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

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

90 No change

Q30 DEFINE FINAL CHANGE – AUTOCODE ONLY

SELECT ONE CHANGE 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
5 Continued commuter train
6 Continued bicycle
7 Continued walking
8 Continued telework
9 Continued light rail – N/A in NOVA
10 Continued occupancy

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

List continues on following page

Q30 - Continued

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

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

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
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 – N/A in NOVA, RESERVE FOR SOVA

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
5 Commuter train
6 Bicycle
7 Walking
8 Telework
9 Light rail train **– N/A in NOVA, RESERVE FOR SOVA**
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 more than one type on a single day (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	
11 Ride a commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail train - N/A in NOVA – RESERVE FOR SOVA	
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
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 – NOT USED IN NOVA, RESERVE FOR SOVA

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
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 – NOT USED IN NOVA, RESERVE FOR SOVA

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, bicycle, 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?

_____ number of 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 before you made this change 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 assigned 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, telework, 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 more than one type on a single day (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	
11 Ride a commuter train (MARC, VRE, Amtrak, other train)	
12 Ride a light rail train - N/A in NOVA – RESERVE FOR SOVA	
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?

_____ number of 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

Personal changes or preferences

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

Commute program or services

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

Commuter Connections information or services

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 Commuter Connections or [PROGRAM NAME] influence you or assist you to make the change?

90 Did not receive any services from Commuter Connections/[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 Commuter Connections or [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 Commuter Connections or [PROGRAM NAME] for assistance? **(SHOW RESPONSES 1-6 AND 9) ACCEPT MULTIPLES)**

1 Employer
2 Commuter Connections website on the Internet
3 [PROGRAM NAME] website
4 Commuter Connections telephone number (1-800-745-RIDE)
5 Commute assistance program operated by county or city
6 Transportation Management Association (TMA)
7 *N/A – don't use / don't show on screen – RESERVE FOR SOVA*
9 Other (please describe) _____

62 What prompted you to seek commute information or assistance from Commuter Connections or [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 COMMUTER CONNECTIONS / [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 Commuter Connections/[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

66 <u>RESPONDENT RECEIVED MATCHING INFO – AUTOCODE ONLY</u>

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

<u>INSTRUCTIONS BEFORE Q70</u>
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 Commuter Connections or [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 Commuter Connections or [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 changes
9 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 Commuter Connections or [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

COMMUTER CONNECTIONS / PROGRAM IMPROVEMENTS

103 In what ways could Commuter Connections and [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
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
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