NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD COMMUTER CONNECTIONS PROGRAM

FISCAL YEAR 2009 APPLICANT DATABASE ANNUAL PLACEMENT SURVEY REPORT

APPLICATIONS RECEIVED DURING JULY-SEPTEMBER 2008 (NOVEMBER 2008 SURVEY)

Prepared for:

Metropolitan Washington Council of Governments
777 North Capitol Street, NE, Suite 300
Washington, DC 20002-4239

Prepared by:

LDA Consulting
Washington, DC

In association with:

CIC Research, Inc.
San Diego, CA

May 19, 2009

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ABSTRACT

TITLE: National Capital Region Transportation Planning Board (TPB) Commuter Connections TDM Analysis Report: Fiscal Year 2009 Placement Survey.

DATE: May 19, 2009

AUTHORS: Nicholas Ramfos, Director, Commuter Connections
Lori Diggins, Principal, LDA Consulting

AGENCY: The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the region, and plays an important role as the regional forum for transportation planning. The TPB prepares plans and programs that the federal government must approve in order for federal-aid transportation funds flow to the Washington region. The TPB became associated with the Metropolitan Washington Council of Governments (COG) in 1966. COG was established in 1957 by local jurisdictions to address regional concerns including growth, air quality, public health, transportation, and housing. Although the TPB is an independent body, its staff is provided by COG's Department of Transportation Planning.

ABSTRACT: This document provides results of an analysis of commuter transportation assistance services offered by the Commuter Connections program of the TPB to commuters and employers in the Washington, DC region. This report estimates transportation and air quality impacts on Commuter Connections' services. Data for this analysis was collected in 2008 through telephone surveys of 703 respondents randomly selected from the Commuter Connections applicant database. The survey collected data for the July 1 through September 30, 2008 quarter.

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EXECUTIVE SUMMARY

This report presents results of a survey about commuter transportation assistance services offered by the Commuter Connections program of the National Capital Region Transportation Planning Board at the Metropolitan Washington Council of Governments (COG) to commuters in the Washington, DC region.

Commuter Connections' services include: carpool and vanpool matchlists, transit route and schedule information, information on Park & Ride lot locations, bicycling and HOV facilities, and employer transportation demand management (TDM) and telework assistance. Commuters obtain services by calling a toll-free telephone number or by submitting a ridematch application on-line via the Commuter Connection's web site, or through an employer, a local partner assistance program, or a transportation management association (TMA).

This report estimates transportation and air quality impacts of Commuter Connections' services. Data for this analysis were collected in November and December 2008 through a telephone survey of 703 respondents randomly selected from the applicant database. The surveys collected data for applicants who received information or assistance between July 1 and September 30, 2008.

Commuter Connections Program Activity Summary and
Overall Participation, Utilization, and Satisfaction Performance Measures
Placement Survey, July-September 2008

• Commuter applicants	3,965	
• Applicant placement rates	37.7%	
- Continued placement rate		25.4%
- Temporary placement rate		12.3%
• Applicants placed in alternative modes	1,493	
- Continued placements		1,006
- Temporary placements		487
• Applicants desiring rideshare information (carpool or vanpool)		68%
- Applicants who remembered receiving matchlist		42%
- Applicants who remembered receiving vanpool assistance		10%
- Applicants who remembered receiving Park & Ride info		13%
• Applicants desiring transit information		3%
- Applicants who remembered receiving transit information		17%
• Applicants interested in GRH		69%
- Applicants who remembered receiving GRH information/registration		69%
• Commuters suggesting Commuter Connections improvements		35%

Commuter Connections Program
Program Impact Performance Measures
Placement Survey, July-September 2008

• Daily vehicle trips (VT) reduced	**391**	**trips**
- Continued placements	375	trips
- Temporary placements (prorated credit)	15	trips
• Daily VMT reduced	**11,460**	**VMT**
- Continued placements	11,017	VMT
- Temporary placements (prorated credit)	443	VMT
• Daily tons of Emissions reduced		
– NOx	**0.005**	**tons**
– VOC	**0.003**	**tons**
– PM 2.5	**0.0001**	**tons**
– PM 2.5 NOx precursors	**0.005**	**tons**
• Annual tons of Emissions reduced		
– CO2 / Greenhouse gas	**1,348**	**tons**
• Gallons of gasoline saved	**482**	**daily gallons of gas**
• Commuter costs reduced		
- Annual cost saving per placement	**$472**	**per year**

* *See Appendix B for calculations*

OTHER KEY SURVEY RESULTS

Demographics

- More than half of the respondents were female (55%).
- The majority (64%) of respondents were white and between 35 and 54 years old (63%). Nearly all (95%) respondents had an annual household income of $40,000 or more and more than two-thirds (68%) had an income of $80,000 or more.

Commute Travel Patterns

- About four in ten (39%) respondents carpooled or vanpooled at least one day per week. Carpool and vanpool trips made up 32.1% of the weekly commute trips made by applicants.

- Four in ten (42.2%) respondents said they use transit at least one day per week. Transit trips accounted for 37.9% of applicants' weekly commute trips. More than four in ten (46%) transit trips were made by bus and three in ten (30%) were made on Metrorail. Commuter rail accounted for a quarter (24%) of transit trips

- The average one-way commute distance was 36.3 miles. The average one-way commute time was 63 minutes.

Commute Changes

- More than a third (37.7%) of survey respondents made a commute pattern change or tried another method of transportation after receiving assistance from Commuter Connections.

- The continued placement rate (percent of applicants who made a continued change to an alternative mode) was 25.4%. The temporary placement rate (percent of applicants who made a change but returned to their original modes) was 12.3%.

- About 37% of respondents who made a mode change shifted from driving alone. The remaining 63% shifted from one alternative mode to another.

Information and Assistance Requested and Received

- The Commuter Connections' applicant database shows that 68% of respondents had requested ridesharing information when they contacted Commuter Connections for assistance. The same percentage (68%) of respondents requested Guaranteed Ride Home information or registration and about three percent requested information on transit.

- Four in ten (42%) respondents said they received a matchlist with names of potential carpool/vanpool partners.

- Over half (56%) of these respondents tried to contact someone named on the list.

- Almost two in ten (17%) respondents remembered receiving transit information on a matchlist. Three in ten (31%) of these respondents said they used the information provided to contact a transit agency. More than a quarter (77%) of respondents who contacted a transit agency said they used information they received from the transit agency to try transit.

- Nearly three-quarters (73%) of respondents said their employers offer some commute services at the worksite. The most common service offered by employers was a free or discounted transit pass (e.g., SmartBenefits/Metrochek), offered by 60% of employers. Smaller percentages of employers offered cash incentives (4%), carpool/vanpool information (4%), or transit schedules (4%).

- About 30% of the respondents who made a commute change indicated that information they received from Commuter Connections, their employers, or commute assistance organizations had influenced their decision to make a commute change. The most frequently mentioned services were matchlists from Commuter Connections or an employer (15%), GRH information from Commuter Connections (11%), discounted or free SmartBenefits/Metrochek transit passes provided by an employer (9%), and transit information (5%).

Commuter Connections Improvements Desired

- About four in ten (38%) respondents thought Commuter Connections needed no service improvements and an additional 27% said they didn't know if improvements were needed.

- Of those who mentioned improvements, most suggested improvements focused on improving the quality or quantity of the information provided: more current information (7%), matches fit respondents' travel patterns better (7%), more match names (7%).

Guaranteed Ride Home Program

- About 69% of respondents requested and received GRH information. The majority (86%) of these respondents registered for GRH.

- Fourteen percent of respondents who registered for GRH said they had been primarily driving alone (3 or more days per week) before they registered for GRH. The remaining 86% were using an alternative mode as their primary travel method for commuting.

- About a quarter (24%) of the GRH respondents who made a commute change said they were unlikely to have made the change if GRH had not been available.

- About 10% of the GRH respondents who were using an alternative when they called Commuter Connections said they were not likely to have continued using the alternative if GRH were not available.

- A quarter (27%) of GRH respondents said they had used the GRH program since they had registered for it. Nearly all (98%) respondents were satisfied with the service they received. Those who were not satisfied said they waited too long for the taxi.

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SECTION 1 OVERVIEW

PURPOSE OF THE REPORT

This report presents results of a commuter placement survey of a randomly selected sample of 703 commuters who applied to the regional rideshare database, administered by the Commuter Connections Program of the National Capital Region Transportation Planning Board at the Metropolitan Washington Council of Governments (COG), between July 1 and September 30, 2008.

The primary purpose of conducting this survey was to collect data to document transportation, air quality, energy, and cost impacts of commuter transportation assistance services offered by Commuter Connections to commuters and employers in the Washington, DC metropolitan region. The Commuter Operations Center (COC), provides basic commute information and assistance, such as regional ridematching and transit, bicycling, teleworking, and Park & Ride lot information.

The survey described in this report represents an annual survey. Similar annual surveys were conducted in 2005, 2004, 2003, and 2002. Results for these surveys are reported in Fiscal Year 2006, 2005, 2004, and 2003 Placement Survey Reports, respectively, dated (May 2006, May 2005, May 2004, and May 2003). Prior to the November 2002 survey, COG conducted a series of eight semi-annual placement surveys between 1997 and 2002. These surveys are documented in two reports. The first report, TDM Analysis Report – Compilation of Four Quarterly Placement Surveys 1997-1998 (January 10, 2000), covers four surveys conducted during 1997 and 1998. The second report, TDM Analysis Report – Compilation of Four Quarterly Placement Surveys 2000-2002 (October 10, 2002), covers surveys conducted during 2000 and 2001.

The results of each of the two four-quarter series were combined to represent two full calendar years. Additionally, the results for individual quarters of the year were examined to identify the quarter most representative of a full calendar year. The third quarter, July through September, was chosen for this purpose for future annual surveys and was used for the 2002, 2003, 2004, and 2005 surveys documented in this report. This survey covers applications received between July 1, 2008 and September 30, 2008, and the results will represent the performance for all applications received during FY 2009 (July 1, 2008 through June 30, 2009).

ORGANIZATION OF THE REPORT

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

- Section 2 Data Collection Methodology
- Section 3 Commuter Placement survey results
- Section 4 Program performance results

Following these sections is one appendix, presenting summaries of the calculations of transportation, air quality, energy, and cost-saving impacts.

SECTION 2 DATA COLLECTION METHODOLOGY

This section briefly describes the survey methodology used for this analysis.

SURVEY OVERVIEW

Questionnaire

The questionnaire used for this survey is shown in Appendix A. It was based on the questionnaire used for the November 2005 applicant survey, with the following very minor changes:

- Added taxi as a possible mode choice for mode questions (Q1D, Q1E, Q1F, Q2E, Q4B)
- Created new Q3C to ask separately about changes to transit (bus/train) and to bike or walk. In the 2005 survey, these modes were combined in one question (Q3D)
- Added "taxi" and "transit" options to Q4C-1, and Q4G regarding modes of access to carpool and vanpool meeting points and transit stops/stations.
- Added new Q5-1 to ask what prompted respondents to contact Commuter Connections
- Updated list of local jurisdiction partner programs in Q5D
- Deleted telework information section (Q9 through Q9S)
- Expanded Q10 (race / ethnicity) to use two-question Census format

Sample Selection and Alert Letters

The survey described in this report was conducted with applicants who received assistance from Commuter Connections between July 1 and September 30, 2008. Respondents were chosen randomly from the commuter database. In 2008 COG moved to a new, electronic system of recording and retaining applicants. Before the transfer to the new system, applicants were contacted to verify a correct address and telephone number and continued interest in the program. As a result of the update, the number of applicants shown in the system in 2008 is much lower than in previous years.

A random sample of 1,368 was first chosen from the 3,965 applicants entered during the July 1 through September 30 survey analysis period. One hundred, four of these records were duplicates or without telephone numbers, allowing for 1,264 remaining sample points. COG sent an introduction letter on COG letterhead by the end of October, 2008 to these commuters. The letter informed potential respondents of the survey and requested their participation.

From the 1,264 valid sample points, a total of 1,000 were loaded into CIC's CATI computer system. A replacement sample of 66 (from the remaining 264) was drawn at a later date to replace: 31 records with problems with both the home and work numbers, 24 records where only the home number was provided, and there were problems with this number, and 11 records where only the work number was provided, and there were problems with this number.

Interviews

Because the telework section of the 2005 survey was deleted in 2008, a pretest was conducted on November 5th and 6th to test the smooth running of the survey on CIC's new Voxco system. Following the successful pretest, interviewing was resumed and was completed on December 2nd, 2008.

Telephone interview calls to selected commuters were first directed to the respondent's work number. If contact was unsuccessful, the respondent was called at home. To fulfill CIC's requirement of a 70% response rate, interview calls were made until 703 interviews were completed from the list, including replacement of the 66 applicants. The level of confidence for analysis of the data with a sample size of 703 and a population of 3,965 is equal to 95% + 3.4 %. Note that some questions were answered by smaller numbers of respondents. The confidence level for these questions will be lower for these questions.

An average of 10.4 call attempts was made for each completed interview. This was a decrease from the average of 12.4 call attempts in the 2005 survey. In 2004 and 2003, the call attempts were at 10.4 and 9.5, respectively. The average call attempts in 2008 reflect a slight increase from the combined average of 9.9 call attempts per completed interview experienced for the five surveys prior to 2003, but a more substantial increase over the combined average of 7.5 call attempts per completed interview made during the earlier series of four-surveys conducted in 200 and 2001. This trend toward increasing call attempts is likely due to higher use by respondents of personal answering machines, caller-ID services, and other technical services that make it possible for respondents to screen telephone calls and avoid answering calls from unknown persons.

WEIGHTING OF SURVEY DATA

Respondent survey data were weighted to align survey results with the surveyed population of applicants. The criterion used to weight the survey data was "type of record," which denotes applicants as either:

1) a new applicant to the Commuter Connections program or
2) a reapply or follow-up applicant, that is, an applicant who was already in the Commuter Connections database and who requested an additional matchlist or other information.

The following table shows the relationship between the sample and the total participation group with respect to the weighting variable – type of record.

Type of Record	Sample Group	Total Applicant Group
New Commuter Connections applicant	61.5%	66.0%
Reapply/Follow-up applicant	38.5%	34.0%

Absolute numerical differences existed between the sample group and total applicant population. However, these differences show no statistical variation between the distributional make-up of the two groups and, when tested, do not result in a significant difference at the 99 percent confidence level. (If there had been a significant difference, the weighting of the sample group would have mitigated the difference between sample and total applicant for type of record.)

STATISTICAL DISTRIBUTION COMPARISON BETWEEN SAMPLE AND TOTAL APPLICANT PARTICIPATION

To assess if distributional differences existed between the sample results and the total applicant group, a series of statistical goodness-of-fit tests were conducted. These tests rely on a Chi-square distribution and measure the distributional differences between two groups. The sample group consisted of 1,368 sample points, while the total applicant group contained 3,965 commuter applicants. Comparisons between the two groups were made for a number of different criteria. These criteria included:

- Type of Record (variable used for weighting the sample data)
- Archive or Active Database
- Carpool/Vanpool Flag
- Rider/Driver/Both Flag
- Interest in Transit Information
- Transportation Mode when Applied for Information
- Home Jurisdiction Code
- Work Jurisdiction Code

Using the Chi-Squared distribution, none of the comparisons showed statistical differences.

NON-RESPONSE SURVEY

While the proportion of non-respondents in the survey was relatively small, a non-response survey, using an abbreviated version of the full questionnaire, was conducted to determine whether or not the non-response group was in some manner systematically different from the survey group. A total of 61 applicants were eligible for inclusion in the non-response survey. These were applicants who refused to participate in the survey when initially called.

CIC attempted to contact all of the 61 applicants. Twenty-five applicants (41%) were reached but refused to complete the survey. A minimum of five calls and as many as 13 calls were made to remaining sample points before completing them, eliminating them from the survey or stopping the survey. Eighteen percent of the calls made to numbers eliminated from the survey were answering machines.

CIC completed 17 surveys from the non-response group of 61 applicants. This sample size elicits a 90% confidence level and $\pm$ 17% error rate coupled with the inclusion of a population correction factor. An abbreviated survey was administered to the 17 applicants. Statistical comparisons were made on the following key variables:

- Number of weekdays working
- Use and type of nonstandard or flexible hours
- How respondent gets to work
- Number of miles to work
- Information/assistance received from Commuter Connections
- Number of employees at worksite
- Age of respondent

Statistical differences between the non-response and full survey groups were evident for - Information/assistance received from Commuter Connections, number of employees at the worksite, and age of respondent.

SECTION 3 COMMUTER PLACEMENT SURVEY RESULTS

This section presents the results of the November 2008 placement survey. This survey was conducted to define travel patterns of commuters who applied to the Commuter Connections program to obtain information and assistance with alternative modes and to collect data needed to estimate transportation and air quality benefits of travel changes made by these commuters.

A primary goal of the Commuter Connections program 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 commuter placement survey collected data in the following primary topic areas, related to commuters' travel patterns and influences on these patterns:

- Current commute patterns (commute mode, distance, time)
- Alternative mode characteristics (carpool and vanpool occupancy, rideshare/transit meeting points, distance to meeting point)
- Recent commute pattern changes (mode/frequency, occupancy)
- Use of information and assistance services received
- Influences of services on change (Commuter Connections services, employer/other services)
- Guaranteed Ride Home (impacts on commute patterns)
- 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. Finally, comparisons are made for some questions with results from surveys conducted in November of 2002, 2003, 2004, and 2005. Appendix B presents more complete results for these comparisons.

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

CHARACTERISTICS AND DEMOGRAPHICS OF THE SAMPLE

Work and Home Locations

Table 1 shows the percentage of respondents by home and work states. The majority of respondents lived in Virginia (60%) or Maryland (35%). Top home locations included: Fairfax County, VA (13%), Stafford County, VA (9%), Prince William County, VA (11%), Montgomery County, MD (8%), and Loudoun County, VA (8%). Other jurisdictions accounted for less than five percent each of applicants.

Table 1
Distribution by Home and Work Locations

State/County	Home Location (n = 703)	Work Location* (n = 369)
District of Columbia	2%	44%
Maryland Counties	35%	22%
Virginia Counties	60%	34%
Other**	3%	0%

* Work location percentages for Maryland and Virginia include only counties and cities located in the COG region (District of Columbia; Maryland jurisdictions of Bowie, College Park, Frederick County, Gaithersburg, Greenbelt, Montgomery County, Prince Georges County, Rockville, and Takoma Park; and Virginia jurisdictions of Alexandria, Arlington County, Fairfax, Fairfax County, Falls Church, Manassas, and Prince William County). Maryland and Virginia locations outside this area are counted as "other."

** Each response in the "Other" category was mentioned by less than two percent of respondents.

Work locations were more evenly divided. More than four in ten (44%) respondents worked in the District of Columbia. One-third (34%) worked in Virginia and two in ten (22%) worked in Maryland. Top work locations outside the District of Columbia included: Arlington County, VA (15%), Montgomery County, MD (15%), and Fairfax County, VA (10%).

Demographics

The survey asked respondents four demographic classification questions: sex, age, income, and ethnic group. Respondents were disproportionately female, 55% female to 45% male. The remaining demographic categories are summarized in Tables 2 through 4.

Age – As shown in Table 2, 82% of the respondents were between 25 and 54 years old.

Table 2
Distribution by Age
(n=689)

Age Group	Percentage	Age Group	Percentage
24 or under	2%	45 – 54	33%
25 – 34	19%	55 – 64	15%
35 – 44	30%	Over 64	1%

Income – As detailed in Table 3, 95% of respondents had an annual household income of $40,000 or more and more than two-thirds (68%) had an income of $80,000 or more.

Table 3
Distribution by Annual Household Income
(n=611)

Income	Percentage	Income	Percentage
Less than $30,000	2%	$80,000 – 99,999	20%
$30,000 – 39,999	3%	$100,000 – 119,999	17%
$40,000 – 59,999	10%	$120,000 – 139,999	9%
$60,000 – 79,999	17%	$140,000 or more	22%

Ethnic Background – Next, as illustrated in Table 4, Caucasians and African-Americans represented the two largest ethnic group categories of survey respondents, 64% and 20% respectively. Asians/Pacific Islanders represented 11% of the sample and Hispanics accounted for about five percent.

Table 4
Distribution by Ethnic Background
(n=666)

Ethnic Group	Percentage
White	64%
African-American	20%
Asian/Pacific Islander	11%
Hispanic	5%

Employment Characteristics

Respondents were asked about the number of employees at their worksite and the type of employer for which they worked. These results are shown in Tables 5 and 6, respectively. Respondents also reported their occupation. These results are presented in Table 7.

Employer Size – As shown in Table 5, the majority of respondents (71%) worked for employers with more than 100 employees. Four in ten (41%) worked for employers with at least 1,000 employees. About three in ten (29%) said they work for organizations with 100 or fewer employees.

Table 5
Distribution by Employer Size
(n=691)

Number of Employees	Percentage	Number of Employees	Percentage
1-25	11%	101-250	12%
26-50	9%	251-999	18%
51-100	9%	1,000+	41%

Employer Type – Half of the respondents (50%) said they worked for a federal agency. Three in ten (31%) worked for a private sector employer. State and local government agencies employed nine percent and 10% worked for a non-profit organization.

Table 6
Distribution by Employer Type
(n=696)

Employer Type	Percentage
Private sector	31%
Federal agency	50%
State/local agency	9%
Non-profit	10%
Self-employed	<1%

Occupations – Respondents represented many occupations, as shown in Table 7. Nearly seven in ten respondents worked in either professional (37%) or executive/managerial (30%) positions. The other most common occupation was administrative support (16%).

Table 7
Distribution by Occupation
(n=690)

Occupation	Percentage	Occupation	Percentage
Professional	37%	Service	1%
Executive/managerial	30%	Sales	1%
Administrative support	16%	Precision production/crafts	1%
Technicians/support	12%	Other*	1%
Protective service	1%		

* Each response in Other category was mentioned by fewer than 1% of respondents.

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.

Current Commute Mode

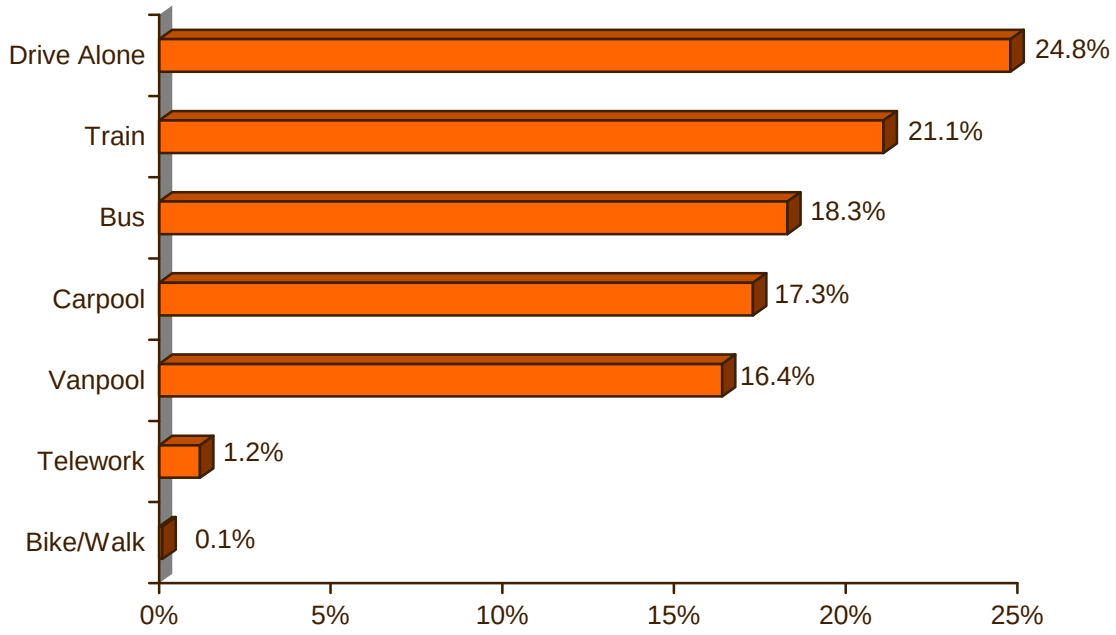
Frequency of Current Mode Use – Respondents were asked what modes they used to travel to work each day (Monday-Friday) during the survey week, or during a "typical week," if the survey week did not represent their typical commuting patterns. Figures 1 and 2 show the percentages of respondents who used each of eight mode groups: drive alone, train, carpool, bus, vanpool, bike/walk, compressed work schedule (CWS), and telework (TW) based on the frequency with which they used the modes.

Mode Used 3+ Days Per Week – Figure 1 shows the percentage of respondents who used a mode three or more times per week; that is, they used one mode "regularly." These percentages also included respondents who used a mode four or five days per week. About one percent of respondents said they did not use any single mode three or more days per week.

Drive alone was the choice of the largest percentage of respondents (24.8%). Train and bus were the most common non-drive alone modes. Train was used by 21.1% of respondents and bus was the regular mode choice of 18.3%. About 17.3% of respondents carpool (including casual carpool "slugs") three or more days per week. Vanpool was the choice of 16.4%. One percent teleworked and a very small number (0.1%) bicycled or walked to work three or more days per week. No respondents had three or more compressed work schedule days off.

Figure 1
Current Commute Modes

Modes Used Three or More Days Per Week (n=703)



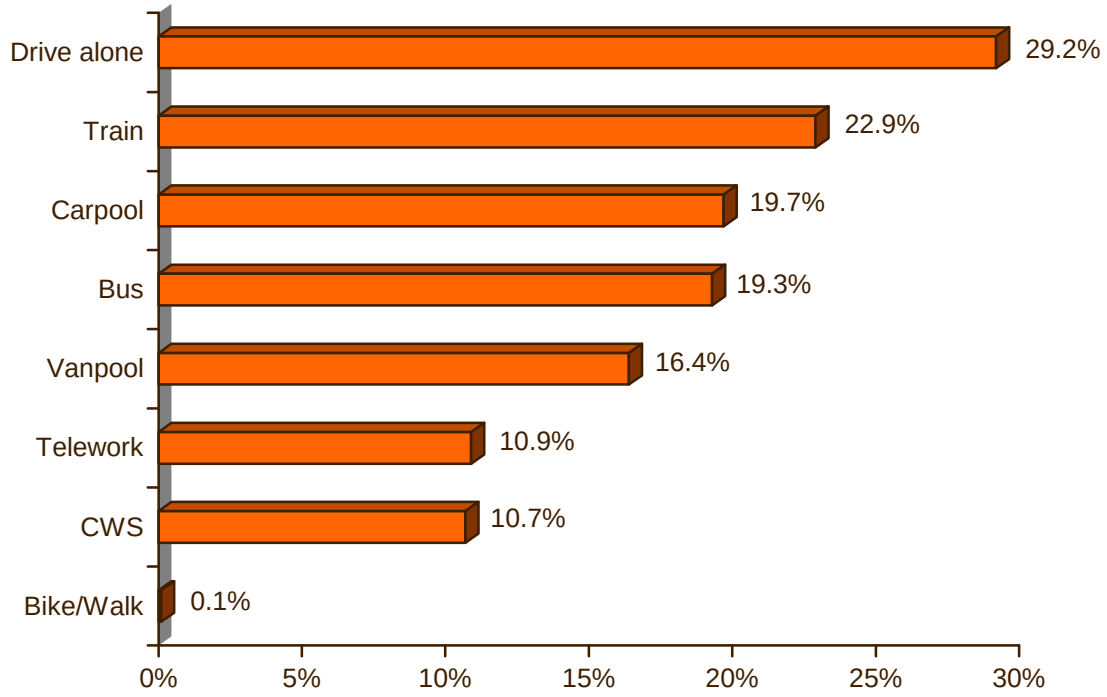
* Mode percentages add to less than 100% because some respondents did not use any mode three or more days per

Mode Used 1+ Day Per Week – Figure 2 shows the percentage of respondents who used the mode at least one day during the survey week. This category also includes respondents who said they used these modes two, three, four, or five times during the week. In this case, the percentages of participants using each mode increased, because some respondents who were counted in the three or more days per week category used a secondary mode in addition to their primary mode. Thus, some respondents were counted in more than one mode category. For this reason, the individual mode percentages add to more than 100%.

Again drive alone was the most popular mode; 29.2% of respondents used this mode either regularly or occasionally. Train was used by 22.9% of respondents at least one day per week and carpool (19.7%) and bus (19.3%) each were used by about two in ten respondents. Vanpool was the fourth most popular mode; 16.4% of respondents said they vanpooled one or more days per week. A small percentage (0.1%) said they bicycled or walked to work either occasionally or regularly. About one in ten respondents also noted that they either teleworked (10.9%) or had a compressed work schedule day off (10.7%) one or more days per week.

Figure 2
Current Commute Modes

Modes Used 1+ Days Per Week (n=703)



* Mode percentages add to more than 100% because some respondents use more than one mode in a week

Table 8 shows use of individual modes within the rideshare and transit mode groups. About half (16.4% of 33.7%) of the respondents who were ridesharing vanpooled and four in ten used a traditional carpool with the same partner(s) all the time. Casual carpools or "slug," carpools, which pick up riders at established meeting points but with different partners each day, made up about one in ten ridesharers.

Transit use was slightly in favor of train (21.2%) compared to bus (18.3%). Metrorail was the most common train option, with the two commuter rail services, VRE, and MARC attracting about a quarter (9.7% of 39.5%) of transit riders.

Table 8 also shows a comparison of commute modes of respondents with those of the general commuting population in the Washington metropolitan region, as determined from the 2007 State of the Commute survey. As seen in the table, the percentage of regional commuters who drove alone three or more days per week (65.3%) was considerably higher than for placement survey respondents (24.8%), because Commuter Connections' applicants were motivated to use an alternative mode. Rideshare use was much higher (33.7%) among Commuter Connections' applicants than in the general population (8.0%). Transit use also was higher among the applicant survey sample (39.5%) than among the general population (19.5%).

Table 8
Commute Modes Used 3 Days per Week*
Comparison of 2008 Applicant Survey to 2007 State of the Commute Survey

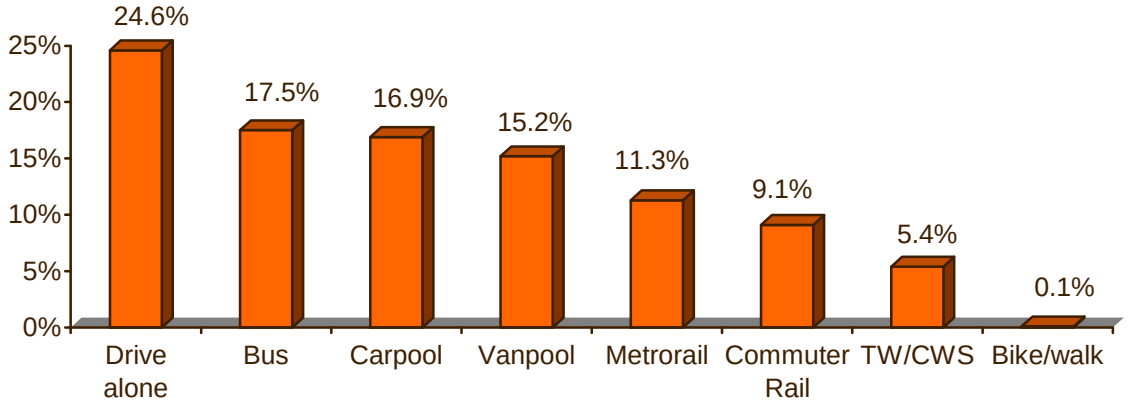
Commute Mode	2008 Applicant Survey (n = 703)	2007 SOC Survey (n = 6,066)
Drive alone	24.8%	65.3%
Rideshare	33.7%	8.0%
Transit	39.5%	19.5%
Bike/walk	0.1%	3.0%
Compressed work schedule	0.0%	0.0%
Telecommute	1.2%	3.8%
Rideshare	**33.7%**	**8.0%**
- Regular carpool	13.3%	7.2%
- Vanpool	16.4%	0.2%
- Casual carpool (slug)	4.0%	0.6%
Transit	**39.5%**	**19.5%**
- Metrorail	11.5%	13.2%
- Ride a bus/shuttle	18.2%	5.3%
- MARC (MD commuter rail)	3.0%	0.4%
- AMTRAK/other train	0.0%	0.1%
- VRE	6.7%	0.4%
- Buspool	0.1%	0.1%

* Percentages add to less than 100% because some respondents did not use a single mode three or more days per week

Mode Split by Percentage of Weekly Trips – Mode split also was calculated in a second way, as the percentage of weekly work day trips made by each mode. This depiction of mode split accounts for part-time and occasional use of modes. It also accounts for commute days for which trips were not made through use of teleworking and compressed work schedule. While not "commute modes" in the conventional sense, they represent work days and so were included. Percentages in this figure are based on the number of days respondents actually worked/teleworked or had a compressed schedule day off.

Figure 3 shows percentages of total weekly work day trips for which respondents used each of eight commute modes or alternatives: drive alone, bus, carpool, vanpool, Metrorail, commuter rail, telework/compressed work schedules, and bike/walk.

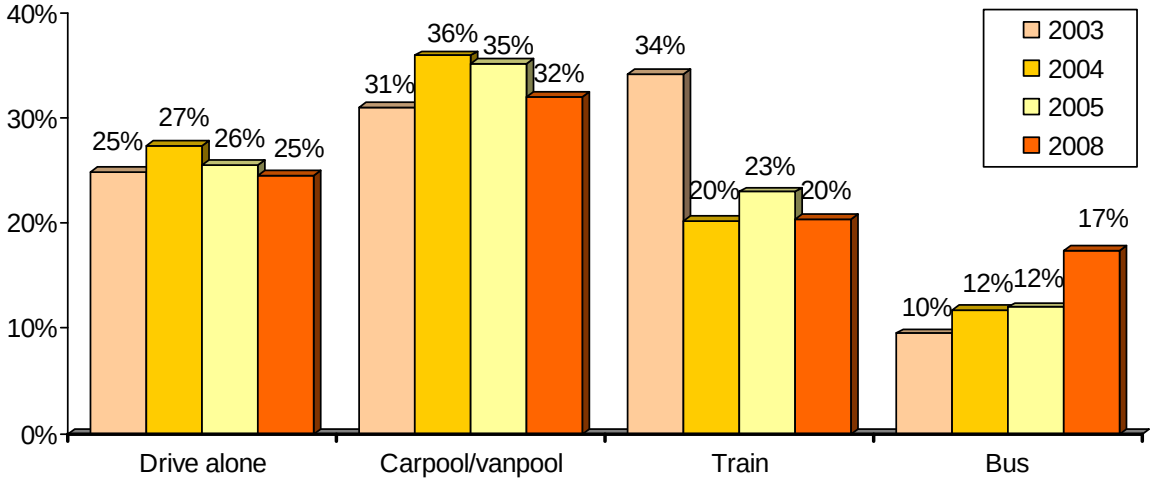
Figure 3
Mode Split – Weekly Work Day Trips
(n=703)



As shown, respondents drove alone for about a quarter (24.6%) of work day commute trips and rode a train (Metrorail or commuter train) for about two in ten (20.4%) trips. Bus was used for 17.5% of weekly work trips. Carpool and vanpool accounted for 16.9% and 15.2% of weekly work day trips, respectively. About 5.4% of trips were replaced by telework or compressed work schedule days off. Bicycling and walking (0.1%) made up a very small percentage of weekly work days.

Mode Split Trends (Weekly Trips) – Figure 4 presents the mode split distribution (percent of weekly trips by mode) for 2008 and for the three preceding surveys.

Figure 4
Mode Split – Weekly Work Day Trips – 2008 Compared to 2003, 2004, and 2005



As shown, mode split has remained relatively constant, with two exceptions. In 2003, train use was much higher than in other years. This 2003 anomaly was attributed to a GRH promotion conducted by VRE

and MARC during the summer of 2003. These promotions attracted a large number of existing train riders to apply to CC for GRH. And in 2008, bus use was higher than in the previous years.

Primary Commute Mode by Demographic Group

Analysis of survey data showed some differences in primary commute mode (mode used three or more days per week) between various demographic groups. Tables 9, 10, 11, and 12 present primary mode by respondents' sex, age, income, and ethnic group categories, respectively.

Mode by Gender – As shown in Table 9, women were slightly more likely to drive alone to work than were men (27% of women compared to 22% of men) and slightly less likely than men to use transit. But these differences were not statistically significant. Carpool/vanpool rates were similar for men and women.

Table 9
Current Primary Mode (3+ days) by Sex

Sex	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
Male	317	22%	34%	43%
Female	386	27%	34%	37%

* Row percentages might not add to 100%, because some respondents do not use a single mode 3+ days per week. Additionally, bike/walk, and telework are not included in the table.

Mode by Age – As shown in Table 10, the percentage of respondents who drove alone generally declined with increasing age, with the exception of very young respondents (under 25 years old). A third (33%) of respondents 25-34 years old drove alone, compared with 23% of respondents 35-44 years old and 25% of respondents 45-54. Respondents who were 55 or older were even less likely to drive alone; only 21% of these respondents chose this mode.

Carpool/vanpool use appeared to increase with increasing age, again with the exception of respondents who were less than 25 years old. We note, however, that the sample of respondents who were less than 25 years old was very small (18 respondents), thus the results for this group could be unreliable. Transit use was similar for all age groups 25 years of age and older.

Table 10
Current Primary Mode (3+ days) by Age

Age	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
< 25 years **	18	18%	7%	75%
25 – 34	132	33%	30%	37%
35 – 44	203	23%	36%	40%
45 – 54	228	25%	35%	39%
55 +	112	21%	37%	39%

* Row percentages might not add to 100%, because some respondents do not use a single mode 3+ days per week. Additionally, bike/walk, and telework are not included in the table.
** Caution: very small sample size

Mode by Income – Table 11 presents primary mode by income. Solo driving appeared to drop as income increased. Carpool/vanpool use generally tended to increase with increasing income and was most common among respondents in the three highest income categories ($100,000 or more). This suggests that a benefit other than cost savings, a typical ridesharing benefit, might be the attraction to ridesharing for this group. Transit use did not show a consistent pattern by income.

Table 11
Current Primary Mode (3+ days) by Income

Income	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
Less than $40K**	29	32%	22%	46%
$40K – 59,999	62	34%	27%	38%
$60K – 79,999	102	35%	33%	29%
$80K – 99,999	121	28%	33%	39%
$100K – 119,999	106	17%	41%	39%
$120K+	191	17%	39%	43%

* Row percentages might not add to 100%, because some respondents do not use a single mode 3+ days per week. Additionally, bike/walk, and telework are not included in the table.
** Caution: very small sample size

Mode by Ethnic Group – The final table in this series, Table 12, shows primary mode by ethnic group. Asian-Pacific Islander respondents were slightly more likely to drive alone than were other respondents and Hispanic and African-American respondents were more likely to use transit than were respondents

who were White or Asian, but the sample sizes of Hispanic and Asian/Pacific Islander respondents were quite small and these differences were not statistically significant. Rates of use for both carpool/vanpool and transit were similar for all ethnic groups.

Table 12
Current Primary Mode (3+ days) by Ethnic Group

Ethnic Group	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
Hispanic**	30	23%	34%	43%
White	445	25%	35%	39%
African-American	138	20%	33%	46%
Asian/Pacific Islander	65	30%	35%	34%

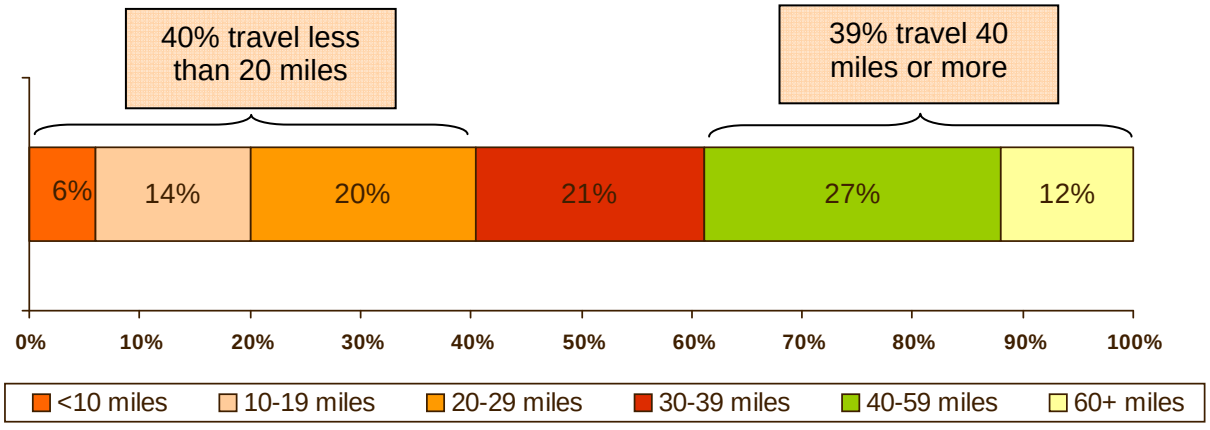
* Row percentages might not add to 100%, because some respondents do not use a single mode 3+ days per week. Additionally, bike/walk, and telework are not included in the table.
** Caution: very small sample size

Commute Distance

Respondents had a wide range of commute distances, ranging from two miles to 126 miles. The average one-way distance was 36.3 miles. This is about the same as the 36.5 mile distance reported in the 2005 survey, but much higher than the 16.3 mile average travel distance of all regional commuters, as estimated in the 2007 State of the Commute survey.

Figure 5 shows the distribution of respondents by distance categories. Six percent of respondents traveled fewer than 10 miles to work. About a third (34%) commuted between 10 and 29 miles. Four in ten (39%) commuted 40 or more miles.

Figure 5
Commute Distance (miles)
(n = 668)



Commute distances also vary by commute mode. Table 13 indicates that vanpoolers travel the farthest, an average of 47.8 miles one-way. Respondents who drove alone traveled the shortest distance (27.4 miles). Carpoolers traveled an average of 37.5 miles one way and transit riders commuted 34.4 miles.

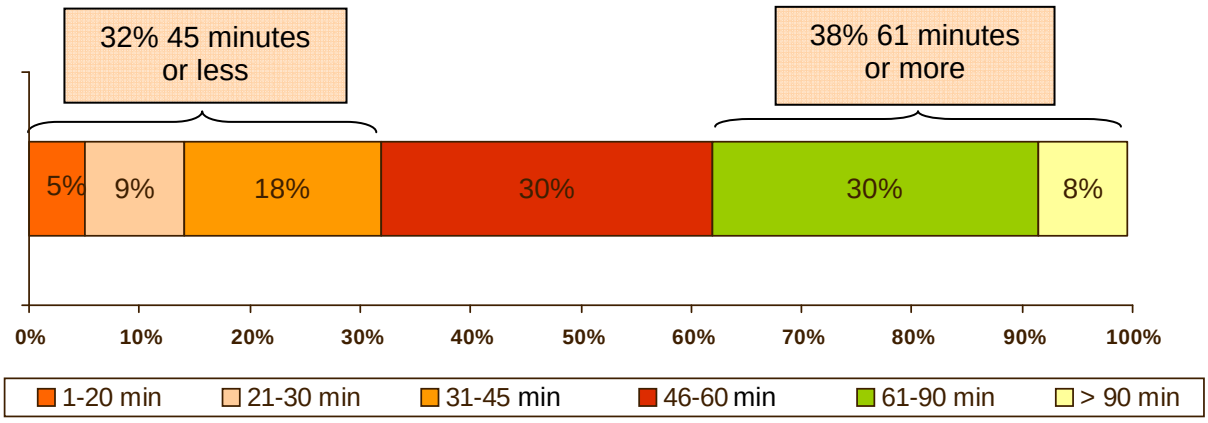
Table 13
Commute Distance (miles) by Primary Mode (3+ days per week)

Mode	**Average Distance** (miles)
Drive alone (n = 178)	27.4
Carpool (n = 132)	37.5
Vanpool (n = 107)	47.8
Transit (n = 243)	34.4

Commute Travel Time

One-way commute travel time of respondents ranged from five minutes to more than two hours, with an average of 63 minutes, about the same time as observed in the 2004 survey (67 minutes). As illustrated in Figure 6, 38% traveled more than an hour and seven in ten respondents (68%) traveled more than 45 minutes one-way.

Figure 6
Commute Distance (miles)
(n = 699)



Commute time for survey respondents was longer than that for the general public. The average commute time for all commuters in the region was 35 minutes, as reported in the 2007 State of the Commute survey. From that survey, only 22% of commuters (21%) in the region traveled more than 45 minutes.

Alternative Work Schedules

Forty-five percent of respondents reported that they worked a non-standard schedule. About 23% said they work "flexible work hours" schedules that allow employees to change their arrival and departure times from a worksite standard. A similar share (22%) of respondents reported working a compressed work schedule (CWS), in which they work a full work week (35-40 hours) in fewer than five days per week. The most common CWS arrangement (19%) was a 9/80 schedule, in which employees work nine days for a total of 80 hours over two weeks. A small percentage (4%) of respondents said they worked a 4/40 arrangement, that is, worked four ten-hour days in one week.

CURRENT POOL CHARACTERISTICS

The second part of the survey collected data on occupancy and composition of carpools and vanpools and explored how ridesharers and transit riders access these commute modes.

Carpool and Vanpool Size

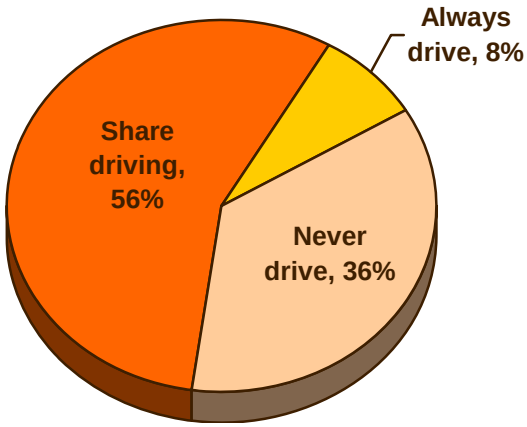
About a third (35%) of survey respondents said they ride in a carpool or vanpool at least one day per week. Carpools had an average size of 2.9 occupants, including the driver. Vanpool occupancy was on average 10.3, including the driver. Vanpools ranged in size from six to fifteen occupants, but about a third (35%) of vanpools had 12 or more occupants.

Carpool Members

Ridesharers in the survey sample tended to carpool more with co-workers than with family members. Four in ten (40%) ridesharing respondents said they carpooled with one or more co-workers. By contrast, only 12% 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 Commuter Connections to find a carpool partner. About one percent of carpool/vanpool respondents said they had counted children under the age of 16 as a carpool/vanpool rider.

As shown in Figure 7, slightly more than half (56%) of carpoolers and vanpoolers shared driving with their rideshare 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. About eight percent said they always drove.

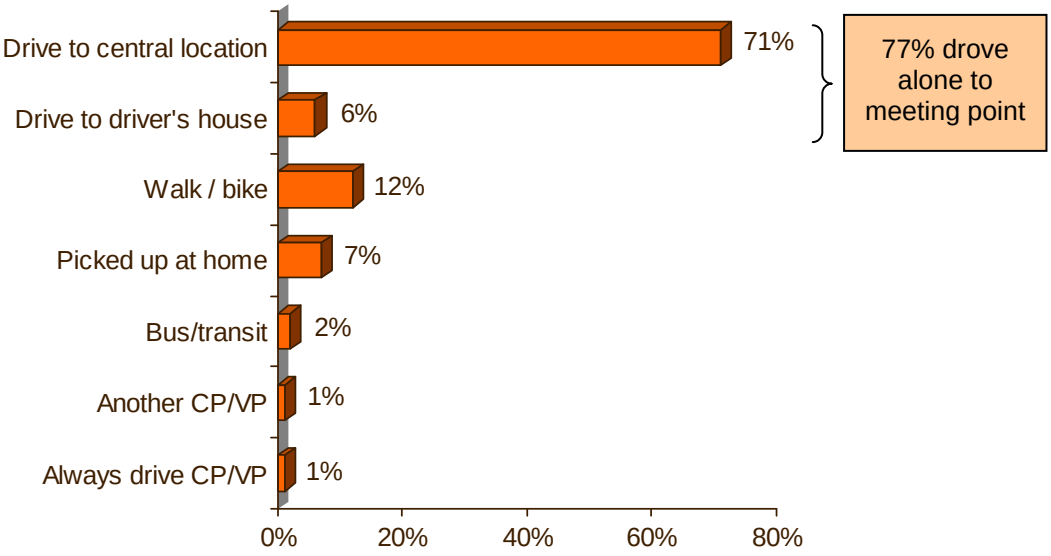
Figure 7
Driving Frequency of Carpoolers/Vanpoolers
(n=276)



Access to Carpools, Vanpools, Buspools, and Transit

Figure 8 presents the types of transportation carpoolers, vanpoolers, and transit riders used to travel to where they meet their rideshare partners or where they started their transit trip.

Figure 8
Access Mode to Alternative Mode Meeting Place
(n = 508)



About one in ten (12%) said they walked to the meeting point, but three-fourths (77%) drove to either a central meeting location or to the driver's home (where they left 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. (For details on calculating emissions reductions, refer to "Transportation Emission Reduction Measures (TERMs) Revised Evaluation Framework – July 2005 – June 2008" (May 15, 2007). Even though these trips tend to be short, an average of just 6.5 miles, these trips must be accounted for in an air quality analysis.

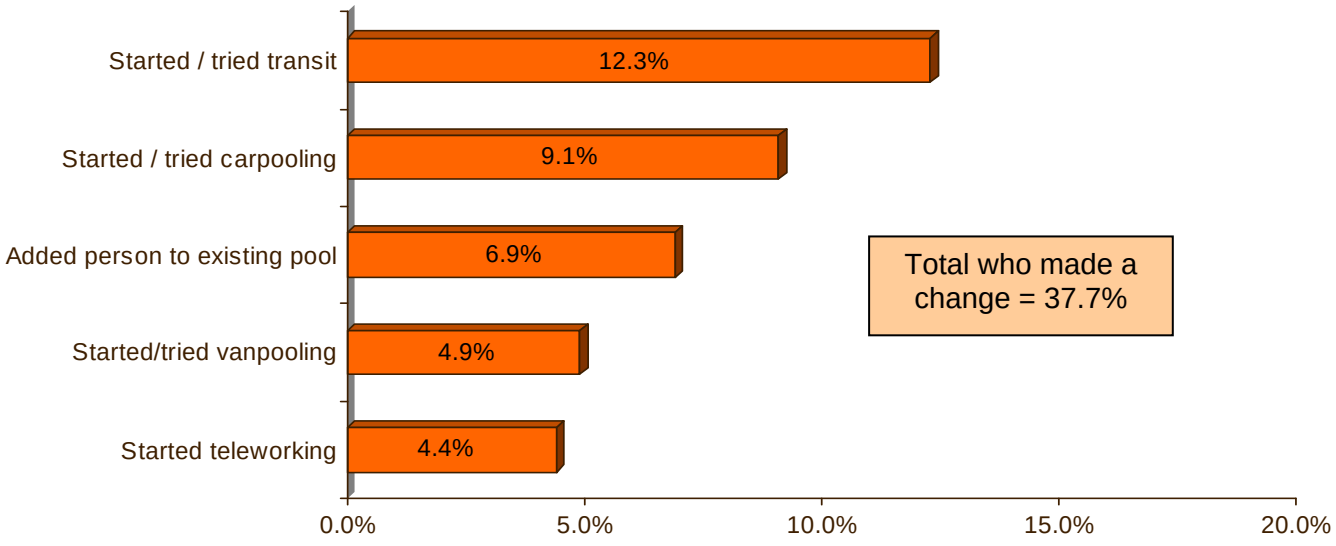
RECENT COMMUTE PATTERN CHANGES

The third survey section asked respondents about commute patterns changes they made since receiving assistance from 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.

Types of Changes Made

The survey asked respondents if they had made any of the following commute changes since receiving information from Commuter Connections: joining or forming a new carpool or vanpool; adding a new rider to a carpool or vanpool; starting to use transit, bicycle, or walking; starting to telework or work a compressed work schedule; increasing the number of days using alternative modes; or adding another rider to an existing carpool or vanpool. Respondents who said they had not made any of these specific changes were asked if they had made any other type of change. Figure 9 summarizes the changes made.

Figure 9
Commute Changes Made
(n=703)



More than a third (37.7%) of respondents said they had made a change to an alternative mode after receiving information or assistance from Commuter Connections. The largest segment, 12.3%, started using or tried using transit, bicycle or walk. Nine percent said they joined or created a new carpool and

4.9% joined or created a new vanpool. A small percentage (4.4%) started teleworking or using a compressed work schedule. And 6.9% said they were carpooling or vanpooling before requesting information from Commuter Connections, but added another person to their existing pools.

Continued vs Temporary Change

Respondents who made a change were asked if the change was "continued," that is they had continued with the new alternative mode until the time of the survey, or if it was "temporary," meaning they had returned to their previous commute mode before being interviewed for the survey. Table 14 presents the results to this question.

Table 14
Distribution of Continued, Temporary, and Occasional Use Changes
(n = 703)

Type of Change	Percentage
Continued	25.4%
Temporary	12.3%
TOTAL – All Changes	**37.7%**

The majority (25.4% of total 37.7%) of the respondents who said they made a change said they had continued the change and were still using the new alternative mode at least one day per week. About a third (12.3% of 37.7%) of respondents who made a change said the change was temporary, that is, they had already stopped using the new alternative mode by the time of the survey. On average, they had used the new mode for three weeks.

This delineation between temporary and continued is important because the temporary changes do not produce the ongoing travel and air quality impacts of the continued changes. Thus, temporary change impacts would need to be reduced to credit only the time the new mode was used. This discounting is described further in Section 4.

Placement Rates

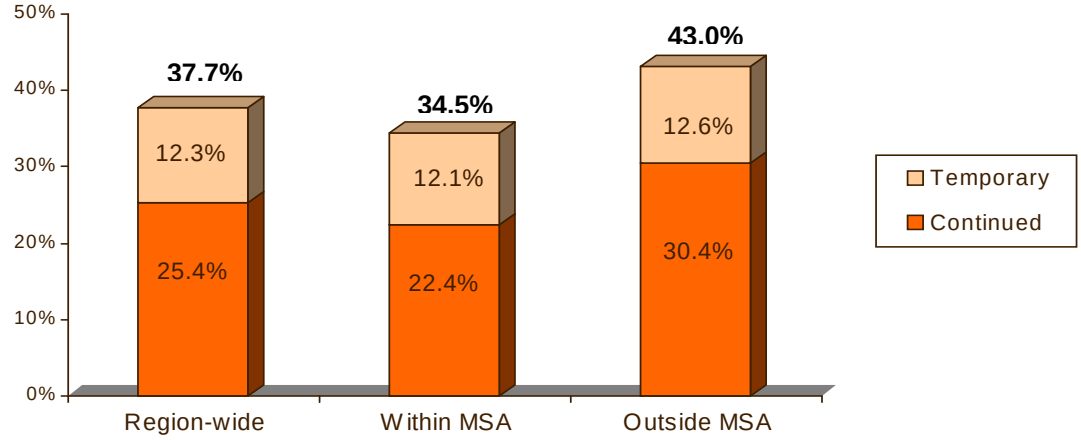
The percentages of respondents who made continued and temporary changes represent the overall, "region-wide" placement rates for these types of changes. The continued placement rate for the total applicant population is 25.4% and the temporary placement rate is 12.3%

But placement rates were estimated also for two sub-groups of respondents. The first sub-group included respondents who live within the Washington, DC Metropolitan Statistical Area (MSA), the Metropolitan Washington Council of Governments' 11-jurisdiction region. The second sub-group included respondents who work within the MSA but live outside it. Approximately 38% of the total participants lived outside the MSA.

This distinction was made because applicants who live outside the MSA traveled a portion of their VMT outside the MSA. During the evaluation, it was decided that the VMT for these "out of MSA" applicants should be discounted to credit VMT reduction only for the portion that occurred within the MSA.

Figure 10 presents the continued and temporary placement rates for the three groups of respondents: all respondents, respondents who lived within the MSA, and respondents who lived outside the MSA. As shown, respondents who lived outside the MSA had a higher continued placement rate (30.4%) than did respondents who lived within the MSA (22.4). The temporary rates for these two groups were essentially the same: Outside MSA respondents (12.6%) and Within MSA (12.1%).

Figure 10
Placement Rates – Region-Wide, Within MSA, and Outside MSA
(Region-wide n = 703, Within MSA n = 441, Outside MSA n = 262)



Change by Demographic and Employment Characteristics

Review of the survey data showed few differences between respondents who made travel changes and those who did not change.

Change by Demographic Characteristics – The survey examined demographic characteristics of respondents who had made continued or temporary changes and respondents who did not make any changes, to see if the groups were different in fundamental ways. A few results can be noted.

The average commute distance of respondents who made a continued change was higher (38.3 miles) than the distance of those who made temporary changes (34.0 miles) and those who did not make a change (34.4 miles). And about 41% of men made changes, compared with 34% of women. No significant differences were noted for age, income, or ethnicity.

Change by Employer Type – Respondents who worked for government agencies and non-profit organizations were most likely to have made a change; about four in ten of respondents in each of these groups (40% of federal workers, 41% of state/local workers, and 42% of non-profit organization employees)

shifted to an alternative mode. By comparison the placement rate for respondents who worked for private employers only 31%.

Change by Employer Size – Table 15 shows the percentage of respondents who made a change by the size of their employer. Placement rates increased with employer size. More than four in ten (42%) of respondents who worked for very large employers (1,000+ employees), compared with 36-37% of respondents who worked for employers with 51 to 250 employees and 251 to 999 employees. The placement rate was lowest for respondents who worked for very small organizations (1 to 50 employees). Only 30% of these respondents made a change.

Table 15
Change by Employer Size

Employer Size	(n=___)	Percentage who Changed	Percentage with no Change
1-50 employees	131	30%	70%
51-250 employees	142	37%	63%
251-999 employees	127	36%	64%
1,000 or more employees	285	42%	58%

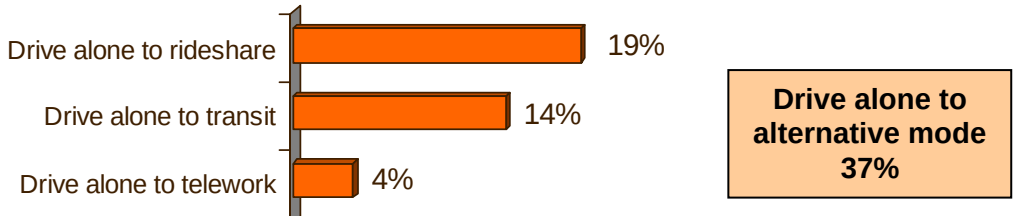
Previous Mode of Commuter Who Changed Mode

Some respondents who made a mode change shifted from drive alone, but others shifted from one alternative mode to another. Figure 11 indicates the previous and current mode of these respondents.

About four in ten (37%) respondents who made a change shifted from driving alone to an alternative mode. These respondents were divided between shifts to rideshare (carpool or vanpool) and shifts to transit and non-motorized modes (bike and walk) or telework. The remaining 63% of respondents 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 respondent 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 11
Types of Mode Changes – Previous to Current
(n=269)



Reasons for Changes

Respondents who said they had made a commute change were asked the reasons for their changes. Table 16 summarizes the responses.

Many respondents made the change for commute-related reasons: gas prices too high (18%), save money (14%), save time (12%), because they were tired of driving (9%), or because they wanted to reduce congestion or pollution (3%). Ten percent said they found a new vanpool or carpool rider, but about five percent said they changed because their carpool or vanpool broke up.

A significant number of respondents mentioned an outside factor, such as changing jobs or work hours (24%), moving residence (8%), or unavailability of a vehicle (4%) as influencing the decision to make a change. This emphasizes the potential for Commuter Connections, its regional partners, and its employer clients to market alternative modes through new employee orientations and through direct mail to those moving to new residences.

Table 16
Reasons for Commute Change
(n=276, multiple responses permitted)

Commute related reasons	Percentage*		Personal related reasons	Percentage *
- Gas prices too high	18%		- Changed job/work hours	23%
- Save money	14%		- Tired of driving, can't drive	9%
- Save time	12%		- Moved residence	8%
- Found new VP/CP rider	10%		- No vehicle available	4%
- Carpool broke up/didn't work	5%		- Reduce wear and tear on car	3%
- Reduce congestion/pollution	3%		- Others doing it (e.g., friends)	2%
- Parking cost too high	1%			

Reasons for Not Continuing Changes

Respondents who said their changes were temporary were asked why they had not continued with the changes. Three in ten (30%) said they stopped using the new alternative mode because they made a job change or changed their work location or schedule. Other reasons cited included: the mode "took too much time" (21%), mode was "inconvenient" (17%), mode "cost too much" (6%), "carpool/vanpool fell apart or didn't like pool partners" (11%), or "car became available" (8%).

SERVICES RECEIVED AND INFLUENCE OF SERVICES ON COMMUTE CHANGES

The survey also identified the types of services, information, and assistance that respondents received from Commuter Connections, and services and programs offered by respondents' employers and other sources. The survey also asked respondents about the influence of these services on commute changes and solicited feedback from respondents on how Commuter Connections could improve its services.

Sources of Information about Commuter Connections

Commuters have a variety of sources through which they can learn of Commuter Connections. Table 17 presents the primary sources of information used to learn of Commuter Connections.

Table 17
How Respondents Learned of Commuter Connections
(n=703)

Information Source	2008 Survey	2005 Survey
Word of mouth – referral	28%	26%
Internet	22%	25%
Radio	17%	10%
Employer/employee survey	15%	12%
Brochure/promo materials	4%	2%
Bus/train sign or schedule	4%	6%
Highway sign	3%	5%
Direct mail/postcard from CC	2%	2%
Newspaper	2%	2%
Television	2%	1%
Other rideshare organization	1%	2%
On-site transportation event	1%	2%
Other	2%	2%

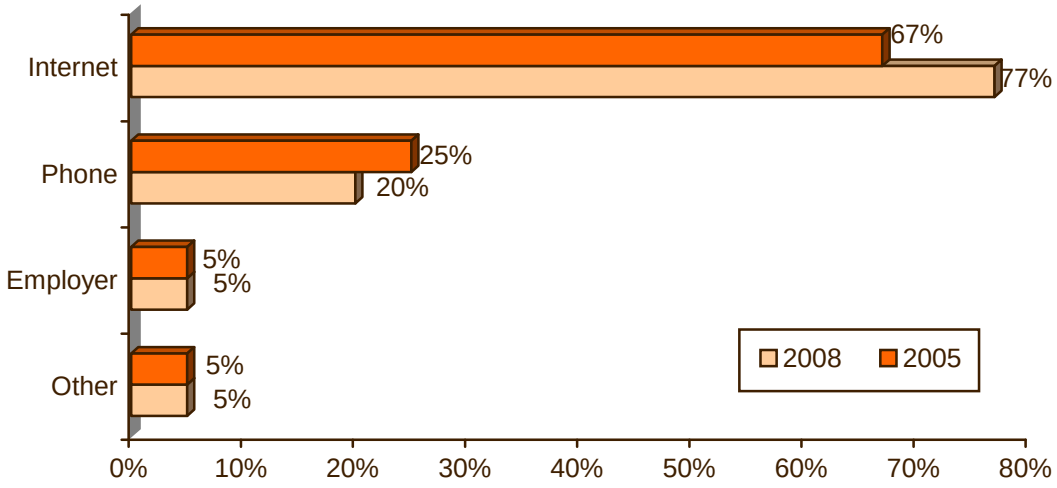
* Each response in Other category was mentioned by fewer than one percent of respondents.

About half of the respondents mentioned one of two sources of information: word of mouth referrals (28%) or internet (22%). Seventeen percent mentioned radio and 15% noted employer/employee survey as the way they heard about Commuter Connections. Smaller percentages of respondents said they learned of Commuter Connections through a brochure (4%), bus or train sign or schedule (4%), highway sign (3%), or another source. As shown in the table, these sources were quite similar to those noted in the 2005 survey.

Methods Used to Contact Commuter Connections

Commuters can contact Commuter Connections in a variety of ways, as shown in Figure 12. Nearly eight in ten (77%) respondents said they made this contact through the Commuter Connections webpage or another website on the internet. This was slightly higher than the 67% who used the internet for their contact in 2005. This source has grown steadily since 2002, when only 54% of respondents who said in that survey that they used this method to contact Commuter Connections.

Figure 12
How Respondents Contacted Commuter Connections – 2008 and 2005
(2008 n = 703, 2005 n = 701)



In 2008, two in ten (20%) respondents said they contacted Commuter Connections directly by phone, slightly less than the 25% result from 2005. In both 2008 and 2005, five percent said they made the contact through their employer or through work.

Information Desired by Applicants

When commuters contact Commuter Connections, the staff member asks if they are interested in receiving various types of assistance and information. As shown in Table 18, an examination of the Commuter Connections records shows that respondents were much more interested in receiving ridesharing information than transit information. In 2008, about two-thirds (68%) of respondents said they were interested in receiving either carpool or vanpool information or information about both of these ridesharing modes.

The same percentage (68%) asked for information about the Guaranteed Ride Home program. Some of these GRH applicants might have called Commuter Connections to re-register for GRH; this is required annually of each registrant who wishes to continue to have access to GRH.

Only three percent of applicants were interested in receiving transit information. This relatively low percentage, compared to the percentage who wanted rideshare information, likely reflects Commuter Connections' role as primarily offering ridematching services. It also may reflect commuters' high awareness of the transit services available to them and their awareness of sources other than Commuter Connections for transit information. For example, the Washington Metropolitan Area Transit Authority offers information through a telephone service and a website and local community bus operators also support telephone and internet information services.

Table 18
Information Requested From Commuter Connections
(n=703, multiple responses permitted)

Information Requested	2008 Survey	2005 Survey	2004 Survey	2003 Survey	2002 Survey
n =	703	701	700	700	700
Rideshare	68%	82%	82%	59%	86%
-- Carpool only	15%	12%	13%	6%	11%
-- Vanpool only	6%	13%	11%	4%	6%
-- Carpool and vanpool	47%	57%	58%	49%	69%
Transit	3%	11%	11%	12%	7%
Guaranteed Ride Home	68%	63%	70%	68%	47%

Comparison of 2008 Requests to Requests for Previous Years – Table 18 also shows the percentages of applicants who asked for these services during the 2005, 2004, 2003, and 2002 survey periods. The percentage of respondents who requested ridematching in 2008 was lower than the percentages who requested this service in 2002 (86%), 2004 (82%), and 2005 (82%). It was much closer to the requests for rideshare information observed in 2003 (59%). In that year, the GRH requests also jumped dramatically, from 47% in 2002 to 68% in 2003.

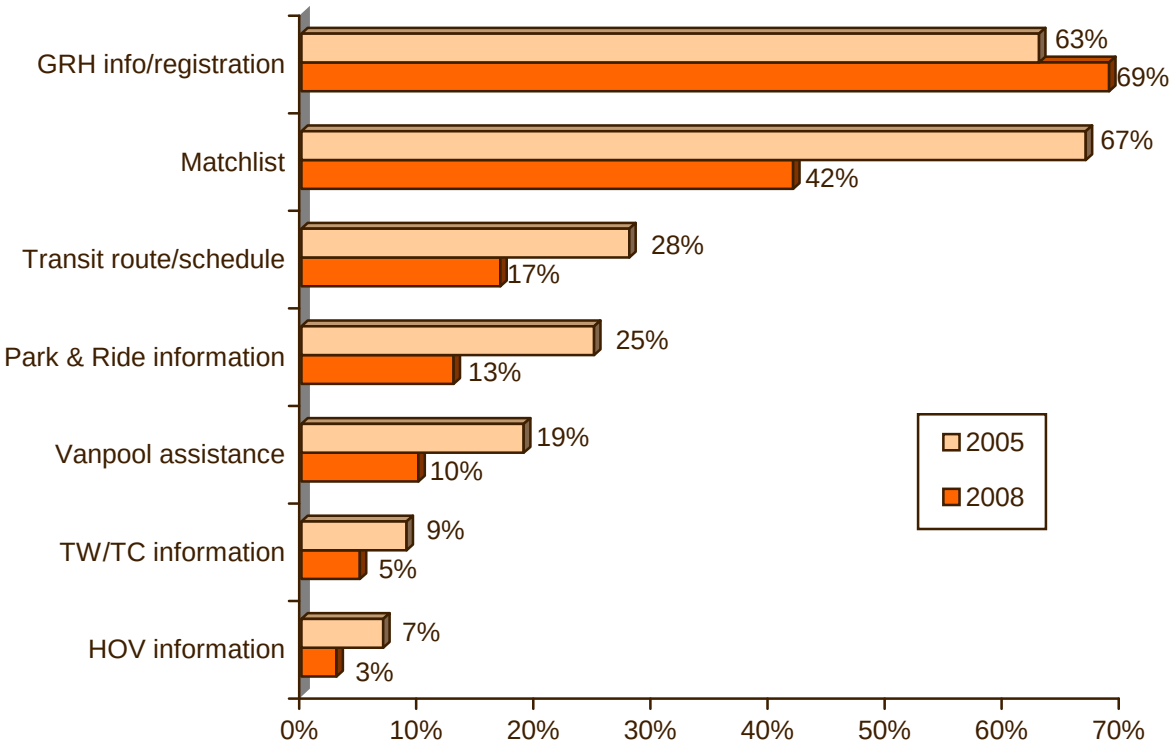
Both the low rideshare information requests and high GRH requests in 2003 compared to 2002 and to 2004, and 2005 are likely related in part to GRH promotions that VRE and MARC commuter rail operators directed to their riders in the months prior to the survey. The survey sample includes applicants who enter the database only for only GRH information as well as applicants who request rideshare and/or transit information. It appears that the 2003 survey period included a substantial number of applicants who were "GRH-only" requestors. This also might have been the case for the 2008 survey respondents. As noted earlier in this report, carpool/vanpool use dropped and bus use rose from the 2005 survey to the 2008 survey.

However, the percentage of applicants who requested GRH information has remained high since 2003. This was perhaps a result of the continuing promotions conducted by Commuter Connections specifically for GRH and as part of the Mass Marketing TERM implemented in July 2003.

Information Received from Commuter Connections

In the survey, respondents were asked what information and assistance they remembered receiving from Commuter Connections. Figure 13 shows the percentages of respondents who said they received each of several types of information in 2008 and 2005.

Figure 13
Information Respondents Remember Receiving From Commuter Connections – 2008 and 2005
(2008 n = 703, 2005 n = 701, multiple responses permitted)



In 2008 GRH information/registration was the most prevalent type of assistance, received by more than two thirds (69%) of respondents, about the same percentage who named this service in the 2005 survey. The percentages of respondents who said they received matchlists (42%) was lower than the percentage who requested information (68%), as noted in Table 18. But not all applicants who want rideshare information will receive a matchlist, because some commuters have work schedules or work/home locations that are incompatible with those of other applicants. This was also much lower than the 67% of respondents who said they received a matchlist in 2005.

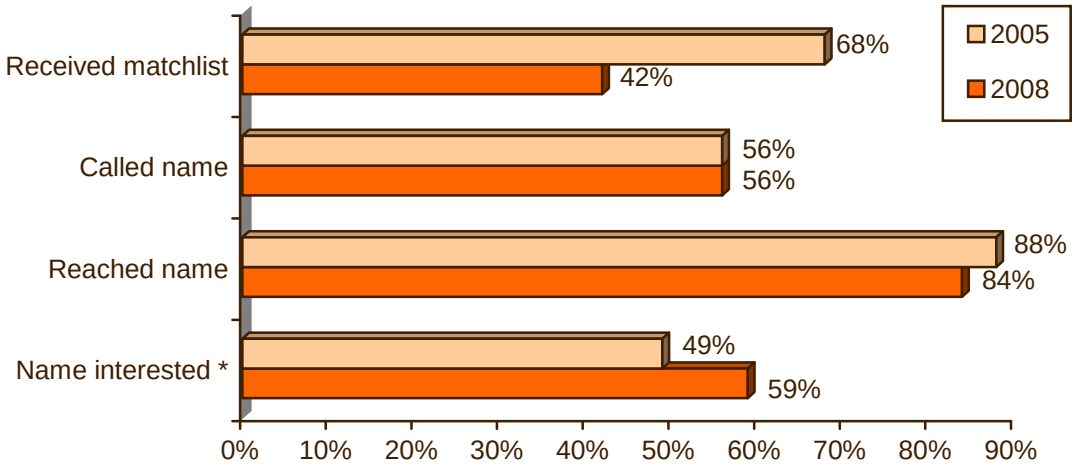
About two in ten respondents said they received transit route/schedule information (17%) and one in ten (13%) mentioned receiving park & ride lot information. Both of these services were mentioned by larger percentages of respondents in the 2005 survey: transit – 28% and park & ride – 25%. The percentage of respondents who said they recalled receiving transit information also had been higher in the surveys conducted in 2004 (28%), 2003 (33%), and 2002 (27%).

Ten percent said they received vanpool assistance and small percentages of respondents said they remembered receiving information on telework/telecommute (5%) or HOV facilities (3%).

Use of Matchlist Information

Match Names – Respondents who said they received one or more names of potential rideshare partners on a matchlist from Commuter Connections or another organization were asked about their use of matchlist information. Their responses are displayed in Figure 14 While the share of respondents who received matchnames dropped substantially between 2005 (68%) and 2008 (42%), respondents who received a matchlist in 2008 were equally likely to use the list as were respondents surveyed in 2005

Figure 14
Actions Taken by Respondents who Received Matchnames



* An additional 21% of respondents said people were not interested because schedules/destinations weren't compatible"

Trying to Make Contact – More than half (56%) of the respondents who received a matchlist said they tried to call one or more of the people named, the same share as tried to call in 2005. The remaining 44% of respondents did not try to make contact. The primary reason for not trying to reach people on the list was that people named on the matchlist were not considered compatible partners; they either had "work hours not compatible with mine" (25%) or work or home location not compatible with mine" (25%).

Other reasons why respondents didn't try to make contact were that had already found a rideshare partner (19%) by the time they received the list or that they decided they didn't want to carpool or vanpool (16%). Eight percent said they "haven't gotten around to it."

Success in Reaching Someone Named on the Matchlist – The great majority (84%) of the respondents who did try to make contact were successful in reaching someone named on this list, again about the same percentage as in 2005. This suggests that the information provided on the matchlists was generally current and accurate. The 29 respondents who were not able to reach someone on the list said they encountered the following problems: left message but no call back (15 respondents), the commuter was no longer at that job or had moved (5 respondents), did not receive a response to an email (3 respondents), or other reason (10 respondents).

Interest in Ridesharing – Six in ten (59%) of respondents who were able to reach someone said that person was interested in ridesharing. This was higher than was observed in 2005 (49%), possibly due to the mo-

tivation of higher gas prices. Two in ten respondents in the 2008 survey said the people they reached were not interested in ridesharing. The remaining 21% said the people they reached were not interested, but it was because the schedules or destinations were not compatible.

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.

Transit Information – Commuter Connections includes on the matchlist information on transit organizations that offer transit service that might meet the travel needs of the recipients. This information is provided to all ridematch recipients, even if they did not request information. As noted earlier, about three percent of applicants requested transit information. But 17% of respondents said they remembered receiving transit information.

About a third (31%) of the respondents who remembered receiving transit information said they used the information to contact a transit agency. This was slightly lower than the percentages who had used the information in 2005 (37%) and 2004 (38%). But more than three-fourths (77%) of those who contacted a transit agency said they used information they received to try transit. This was a slight drop from the 83% result form 2005, but still considerably higher than the 60% of respondents who said in the 2004 survey that they tried transit after receiving information.

Reasons for Not Contacting Transit Agency – About two-thirds (69%) of respondents who remembered receiving transit information said they did not contact a transit agency. Their reasons for not calling for a transit schedule or route information are listed in Table 19.

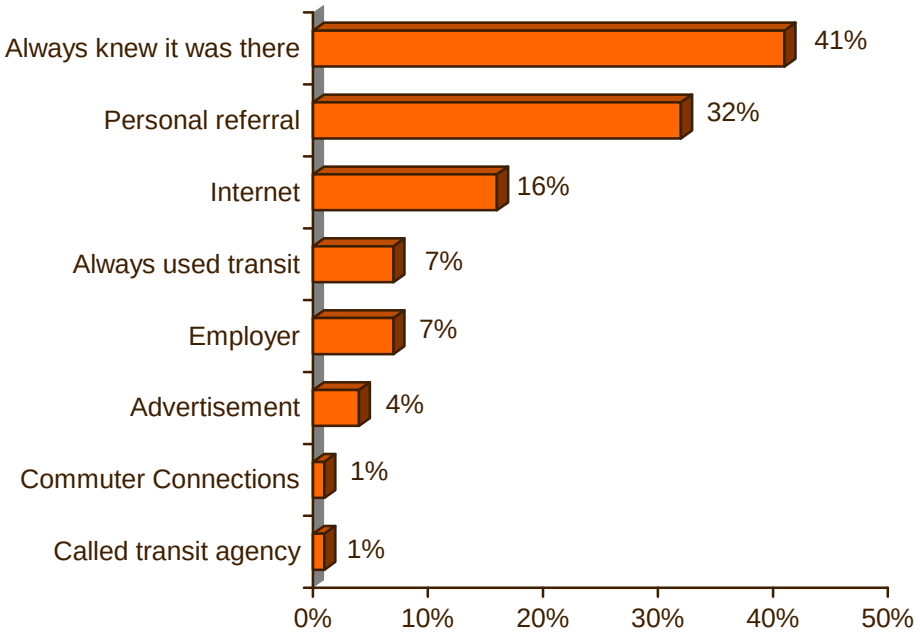
Table 19
Reasons Respondents Did Not Contact Transit Agency
(n = 81, multiple responses permitted)

Reasons	Percentage
Don't like transit, would never use it	27%
Wasn't interested, didn't ask for transit info	23%
Prefer current mode/other modes	20%
Too far from home/work	17%
Never got around to it	6%

About a quarter (27%) said they didn't like transit and would never use it. Another 23% said they weren't interested or hadn't asked for transit information. Two in ten (20%) said they liked using their current mode or another mode other than transit. Seventeen percent said transit was too far away from either their home or work location and six percent said they "hadn't gotten around to it yet."

Other Sources of Transit Information – Respondents who used transit at the time of the survey were asked how they heard about the service. Figure15 shows sources of information.

Figure 15
Other Sources of Transit Information
(n=276, multiple responses permitted)



Four in ten (41%) said they "always knew it was there," and a third (32%) said they received information from a personal referral source, such as a friend, relative, or co-worker. Sixteen percent said they learned about transit through the internet. Other sources of information included: "employer" (7%), "advertisements" (4%), "Commuter Connections" (1%), or "called transit agency directly" (1%). About seven percent said they "always used transit."

Park & Ride Information – Commuter Connections also provides transit Park & Ride lot location information on the Commuter's matchlist. About 13% of respondents remembered receiving Park & Ride information on a matchlist.

Four in ten (42%) of respondents said they used the information provided. Most of these respondents (73%) said they were aware of the location of the Park & Ride lots before they received the information, but more than half (52%) said they had not used the Park & Ride lots before they received information. Two-thirds (66%) of the respondents who used a Park & Ride lot listed on the matchlist said that using the lot was a factor in their decision to try transit. These respondents represented about four percent of the total applicants interviewed.
Those who did not use the Park & Ride lots were asked why they had not done so. The reasons mentioned are listed in Table 20. About half (17 respondents) said they "didn't need a Park & Ride lot." Nine said the lot was not "convenient to transit." Other respondents said they "never got around to it" or that they "weren't interested/didn't ask for it."

Table 20
Reasons Respondents Did Not Use P&R Lot
(n=35, multiple responses permitted)

Reasons	Frequency *
Didn't need Park & Ride lot	17
Not convenient to transit	9
Never got around to it	2
Wasn't interested, didn't ask for it	2
No time saving from my previous commute	1
Other	6

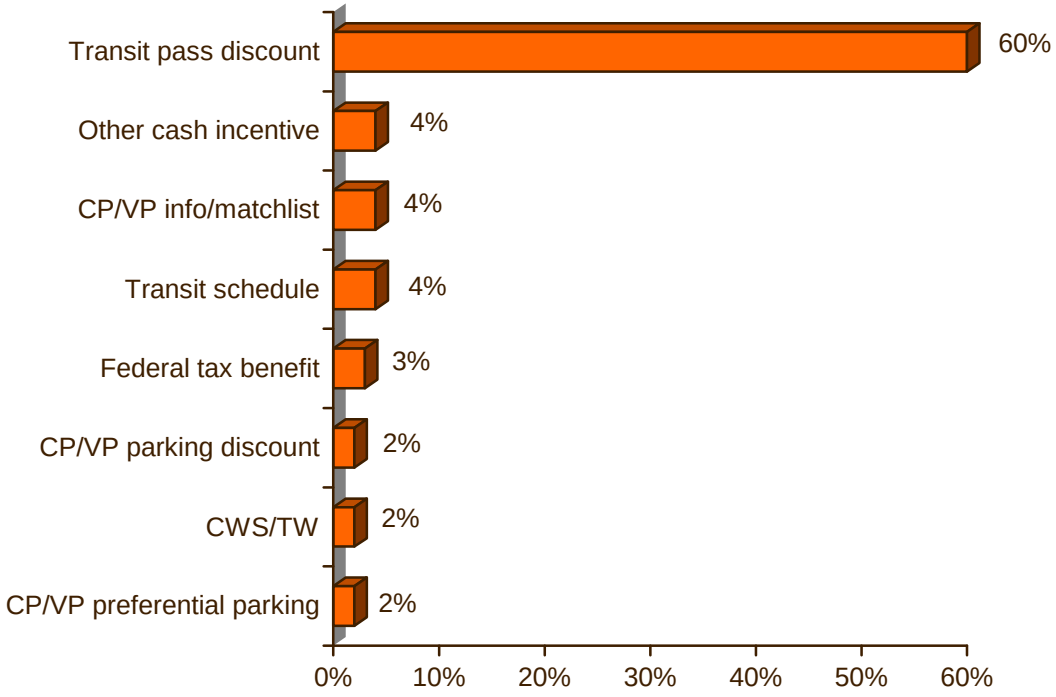
*Note: frequencies are presented due to small sample size

Assistance Offered by Employers

Respondents also were asked if their employers offered commute assistance services and if these services had influenced their commute decisions. Seven in ten (73%) respondents said their employers do offer some services. This percentage is consistent with the percentages found in the 2005 survey (70%) and 2004 survey (70%).

Figure 16 shows that the most common employer service was transit passes, offered by 60% of employers. Smaller percentages of employers offered other cash incentives (4%), carpool/vanpool information (4%), transit schedules (4%), Federal tax benefit/Commuter Choice (3%), carpool/vanpool parking discounts (2%), compressed work schedules or telework (2%), or preferential parking for carpools/vanpools (2%). Seven percent of respondents said that at least one employer service was started within the past year.

Figure 16
Commuter Assistance Services Offered by Employers
(n = 703, multiple responses permitted)



Commute Mode by Employer Assistance – As shown in Table 21, the drive alone percentage was considerably lower for respondents whose employers offered commuter services (18%) than for respondents without services (43%). Respondents with access to commuter services at work were more likely to use both transit (44% compared to 27%) and carpool/vanpool (36% compared to 30%) than were respondents who did not have these services at the worksite.

Not surprisingly, transit use was particularly high for respondents whose employers offered transit subsidies. As shown in the bottom half of Table 21, nearly half (47%) of respondents whose employers offered a transit subsidy used transit, compared to 31% of respondents whose employers did not offer this benefit.

It should be noted that many factors, in addition to commute services, influence choice of commute mode and it is not possible to say that the availability of these services was the only reason, or even the primary reason, for the differences in mode use. For example, the State of the Commute survey conducted in the Washington metropolitan area in 2007 showed that employers in the District of Columbia had the lowest drive alone rates and were more likely to offer commute services.

Table 21
Current Primary Commute Mode (3+ days per week)
by Commuter Services/Benefits Offered

Commute Services Offered	(n=___)	Current Commute Mode		
		DA	CP/VP	Transit
Any Service				
- Yes	510	18%	36%	44%
- No	193	43%	30%	27%
Transit Subsidy				
- Yes	420	15%	36%	47%
- No	283	40%	41%	31%

* Row percentages might not add to 100%, because some respondents do not use a single mode 3+ days per week. Additionally, bike/walk, and telework are not included in the table.

But respondents who work in the District would be faced with greater impediments to driving alone, such as congestion, longer commute distances, and parking charges, and greater availability of commute options, such as transit, than would be experienced by workers outside the District. Any of these factors might also have influenced respondents' commute mode choices.

Assistance Offered by Other Commute Assistance Groups

Respondents are not relying substantially on other organizations for commuter information or assistance; only four percent of respondents indicated they received information from another organization. Information received from these organizations included: matchlists, transit route/schedule information, discount/free transit passes, and vanpool assistance. It is possible that some of these respondents actually received information provided by Commuter Connections through the other commute assistance group, but were not aware of this. For example, some local jurisdiction commute assistance groups forward matchlist requests to Commuter Connections for processing, but then send the matchlist prepared by Commuter Connections to the commuter.

Influence of Assistance or Information

Respondents who had made a commute change were asked if the information they had received from Commuter Connections had influenced their decisions to make the change. About three in ten (30%) respondents who made a change indicated that assistance or information received from Commuter Connections, the employer, or another organization had influenced their decision. Table 22 shows services that respondents cited as influential.

Table 22
Information or Assistance that Influenced Decision to Change
(n = 285, multiple responses permitted)

Service/Assistance	Percentage
Matchlist from Commuter Connections/employer	15%
GRH information (from CC)	11%
Free/discount transit pass/Metrochek (from employer)	9%
Transit information (from CC/other source)	5%
Vanpool assistance (from CC)	3%
Park & Ride information (from CC)	2%
Other **	2%

* Each response in the "Other" category was mentioned by less than one percent of respondents.

The most frequently mentioned services were matchlists from Commuter Connections or an employer (15%), GRH information from Commuter Connections (11%), discounted or free SmartBenefits/Metrochek transit passes provided by an employer (9%), and transit information (5%). Other Commuter Connections services mentioned included vanpool assistance and Park & Ride information.

Commuter Connections Improvements

Survey respondents also were asked how Commuter Connections could improve its services to commuters. About four in ten respondents (38%) said no improvements were needed and an additional 27% said they didn't know if improvements were needed. The remaining 35% of respondents mentioned one or more improvements they would like to see. Table 23 highlights responses for this question.

Most of the desired improvements focused on the quantity or quality of information: more current information, matches fit travel better (closer fit to the respondent's travel constraints), and more match names. These responses reflect a balance between the need to periodically purge the database of commuters who are no longer interested and a desire to provide many potential matches on a matchlist. But even these "highest priority" items were noted by a small percentage of respondents.

A few respondents felt improvements in Commuter Connection's operations were needed. The primary improvements, all noted by fewer than five percent of respondents, included: more advertising (4%), more follow-up assistance (4%), internet suggestions (4%), GRH suggestions (4%), and better transit information (2%).

Tale 23
Commuter Connections Improvements Desired
(n = 703, multiple responses permitted)

Improvement	Percentage*	Improvement	Percentage *
More current information	7%	GRH suggestions	4%
Matches fit travel better	7%	More follow-up assistance	4%
More match names	7%	Matches interested in RS	3%
More advertising	4%	Vanpool resources/assistance	2%
Transit improvements	3%	Better transit information	2%
Internet suggestions	4%	Other **	6%

* Each response in the "Other" category was mentioned by less than one percent of respondents.

Response Time – Respondents were asked how long they waited to receive the information they requested. More than half (56%) received the information they requested within one week of the request, 32% waited between one and two weeks and 11% said they waited three or more weeks.

Number of Match Names Received – The 44 respondents who said they wanted more matches were asked how many they had received. Overall, these respondents received an average of 2.1 matches, but 38% said they did not receive any matchnames. An additional 29% of respondents said they received one or two names.

Matches Fit Travel – The 51 respondents who said the matches they received did not fit their travel well were asked what match characteristics needed to be more compatible. The most often mentioned characteristics were: "home location" (38%), "work location" (39%), or "work hours" (20%). About 6% said they would like a "broader match area." Two percent of respondents said they would like a closer match in the number of days matches wanted to carpool or vanpool or in personal preferences of potential ride-match partners.

GUARANTEED RIDE HOME

The survey included questions to identify the impacts of Guaranteed Ride Home (GRH) on commuters' travel. Approximately 68 of respondents said they received information on GRH. These respondents were asked additional questions about their interest in and use of GRH information and services.

Registration for GRH

Nearly nine in ten (86%) of respondents who received GRH information subsequently registered for GRH. Those that did not register gave various reasons for not registering, as indicated in Table 24.

Table 24
Reasons for Not Registering for GRH
(n = 61, multiple responses permitted)

Service Received	Percentage
Couldn't use alternative 2+ days/week	30%
Don't need it	28%
Haven't gotten around to it	21%
Program doesn't cover home or work area	5%
Program doesn't cover work hours	5%
Didn't want to pre-register	5%
Didn't understand it, didn't think it would work	5%
Other *	4%

* Each response in the "Other" category was mentioned by less than two percent of respondents.

The largest group of respondents (30%) said they couldn't use an alternative two or more days per week, as required by the program. A similar percentage (28%) said they "didn't need the program," perhaps because the service was available to them from their employer or from another source. Two in ten (21%) said they "haven't gotten around to it" at the time of the survey, suggesting they might register at a later time. Small percentages of respondents said the program "doesn't cover their home or work area" (5%) or "doesn't cover work hours" (5%), that they "didn't want to pre-register to use the program" (5%), or "didn't understand it or didn't think it would work" (5%).

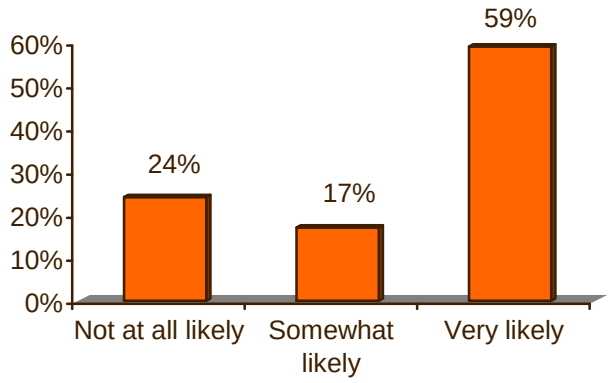
Influence of GRH on Commute Decisions

Mode Used When GRH Information Requested – Respondents who requested GRH information were asked what type of transportation they were using "regularly" (2 or more days per week) for their commute at the time they requested the information. Fourteen percent said they were primarily driving alone to work. The remaining respondents were regularly using an alternative: bus/rail transit (50%), carpool (19%), or vanpool (17%).

Decision to Start Using Alternative Mode – GRH respondents who made a commute change were asked if they would have made the change if GRH had not been available. As Figure 17 shows, one quarter (24%) respondents said they were "not at all likely" to have made the change if GRH had not been available.

Seventeen percent said they were "somewhat likely" to have made the change without GRH and the remaining 59% said they were "very likely" to have made the change without GRH.

Figure 17
Likelihood to Start Using Alternative Mode if GRH Were Not Available
(n = 59)



These respondents also were asked how important GRH was, relative to other information or assistance, in influencing their decisions to start using the alternative mode. As presented in Table 25, 58% of respondents said GRH was the most important assistance or was very important in the decision.

Table 25
Importance of GRH in Influencing Decisions to Start Using Alternative Mode
(n = 58)

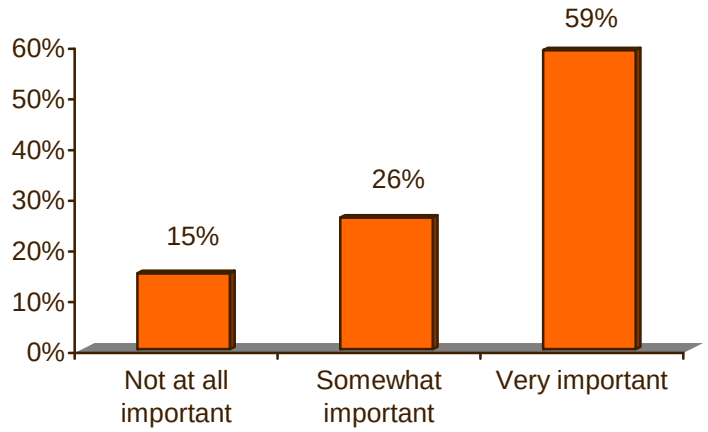
Importance	Percentage
Most important assistance/very important	58%
Same importance as other assistance	16%
More important than some, less than other	12%
Less important or not at all important	14%

About 16% said GRH was of equal importance to other information or assistance received and 12% said GRH was more important than some and less important than other assistance. The remaining 14% said GRH was of less importance than other information received or was not at all important in the decision to make a change.

Nine respondents who made a travel change said that other services were more influential than GRH in their decision to make the change. Three cited an employer discount transit pass as more influential. Other respondents noted services provided by Commuter Connections: matchlist (4 respondents), Park & Ride information (1 respondent), and vanpool information (1 respondent).

Decision to Continue Using Alternative Mode – The GRH respondents who were using alternative modes at the time they requested GRH information were asked about the importance of GRH in their decision to continue using an alternative mode. Figure 18 summarizes the responses to this question.

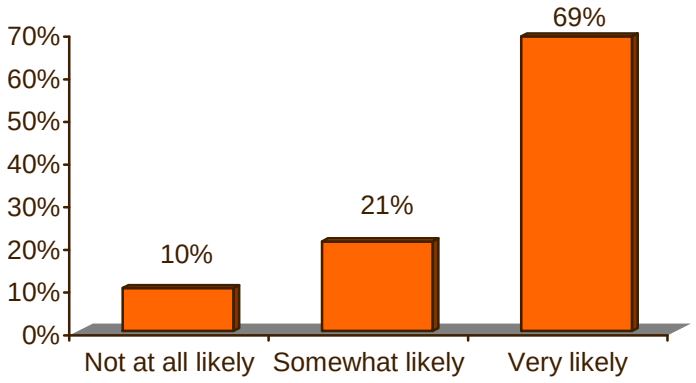
Figure 18
Importance of GRH to Decision to Continue Using Alternative Mode
(n = 109)



Nearly six in ten (59%) of the GRH respondents said GRH was "very important" to the decision to continue using an alternative mode and 26% said it was "somewhat important" to the decision. The remaining 15%) said GRH was "not at all important" to the decision to continue using an alternative mode.

Despite this stated importance of GRH, current alternative mode users overwhelmingly said they were unlikely to have stopped using the alternative. As shown in Figure 19, more than two-thirds (69%) said they were "very likely" to have continued using the alternative if GRH were not available. An additional 21% said they were "somewhat likely" to have continued. Only 10% of respondents said they were "not at all likely" to have continued using the alternative if GRH had not been available.

Figure 19
Likelihood to Continue Using Alternative Mode if GRH Were Not Available
(n = 109)



Use of and Satisfaction with GRH

A quarter (27%) of respondents who had registered for GRH said they had taken a GRH trip. Table 26 lists the reasons for which employees used the service. The majority who had taken a GRH trip had done so because of illness, either their own (33%), or that of a family member or rideshare partner (35%). Another 17% used GRH for unscheduled overtime and 13% said it was for another personal emergency. The large majority (98%) of the respondents who had used the program said the service had been satisfactory.

Table 26
Reasons for Using GRH Trip
(n = 112)

Likelihood	Percentage
Illness - family member/RS partner	35%
Illness (self)	33%
Unscheduled overtime	17%
Other personal emergency	13%

SECTION 4 PROGRESS ON PERFORMANCE MEASURES AND GOALS

PERFORMANCE INDICATORS

One purpose of the evaluation was to document transportation and air quality impacts of the Commuter Operations Center. This report also documents Commuter Connections' progress on participation, utilization, and satisfaction performance measures.

Participation, utilization, and satisfaction measures can include, for example, the number of commuter assistance requests, number of matchlists provided, and users' satisfaction with the assistance. 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.

The Commuter Operations Center's 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 these services by calling the Commuter Connections toll-free telephone number, by submitting an application through the Commuter Connections website, or by sending a paper copy of the ridematch application obtained from their employers, a local jurisdiction commuter assistance program, a TMA, or another source.

The placement survey documented in this report collects data to calculate transportation and air quality impacts for Commuter Connections' services provided to commuters through the Commuter Operations Center. Impacts for other Commuter Connections TERMs, including: GRH, Telework, Employer Outreach, and Marketing are calculated primarily using data collected through other means. The results of these other impact analyses will be reported in June 2011, as part of the 2008-2011 TERM analysis.

PARTICIPATION, UTILIZATION, AND SATISFACTION

The results of six participation, utilization, and satisfaction measures are presented in Table 28 below for the Commuter Connections Program overall. These data were drawn from the Commuter Connections database and from the commuter placement survey conducted for this project.

Table 28
Commuter Connections Program Activity Summary and
Overall Participation, Utilization, and Satisfaction Performance Measures
Placement Survey, July-September 2008

• Commuter applicants	3,965	
• Applicant placement rates	37.7%	
- Continued placement rate		25.4%
- Temporary placement rate		12.3%
• Applicants placed in alternative modes	1,493	
- Continued placements		1,006
- Temporary placements		487
• Applicants desiring rideshare information (carpool or vanpool)		68%
- Applicants who remembered receiving matchlist		42%
- Applicants who remembered receiving vanpool assistance		10%
- Applicants who remembered receiving Park & Ride info		13%
• Applicants desiring transit information		3%
- Applicants who remembered receiving transit information		17%
• Applicants interested in GRH		69%
- Applicants who remembered receiving GRH information/registration		69%
• Commuters suggesting Commuter Connections improvements		35%

PROGRAM IMPACT MEASURES

COG also established five program impact performance measures to assess the impacts of Commuter Connections' commuter assistance services. These measures are:

- Vehicle trips (VT) reduced
- Vehicle miles traveled (VMT) reduced
- Emissions reduced
  - Tons of Nitrogen Oxides - NOx
  - Tons of Volatile Organic Compounds – VOC
  - Tons of Particulate Matter (2.5 microns) - PM 2.5
  - Tons of PM 2.5 NOx precursors
  - Tons of Carbon Dioxide (CO2, Greenhouse gas)
- Gallons of gasoline saved
- Commuter travel costs reduced

The results for these measures, calculated from the survey data and other data provided by Commuter Connections are shown in Table 29.

Table 29

Commuter Connections Program
Program Impact Performance Measures
Placement Survey, July-September 2008

• Daily vehicle trips (VT) reduced	**391**	**trips**
- Continued placements	375	trips
- Temporary placements (prorated credit)	15	trips
• Daily VMT reduced	**11,460**	**VMT**
- Continued placements	11,017	VMT
- Temporary placements (prorated credit)	443	VMT
• Daily tons of Emissions reduced		
– NOx	**0.005**	**tons**
– VOC	**0.003**	**tons**
– PM 2.5	**0.0001**	**tons**
– PM 2.5 NOx precursors	**0.005**	**tons**
• Annual tons of Emissions reduced		
– CO2 / Greenhouse gas	**1,348**	**tons**
• Gallons of gasoline saved	**482**	**daily gallons of gas**
• Commuter costs reduced		
- Annual cost saving per placement	**$472**	**per year**

* *See Appendix B for calculations*

Calculations of these impacts are briefly described below. Appendix C in this report provides a summary worksheet of the impact calculations. For further detail on the methodology used to calculate impacts, refer to the "Transportation Emission Reduction Measures (TERMs) Revised Evaluation Framework – July 2005 – June 2008" (May 15, 2007). The report is available from Commuter Connections.

Vehicle Trips Reduced

Vehicle trip reduction (VTR) measures the number of vehicle trips no longer made as a result of commuters increasing their use of high occupancy modes. Vehicle trip reduction can occur from shifts from driving alone to an alternative mode, shifts within alternative modes to HIGHER occupancy alternatives, and increases in the number of days per week commuters use alternatives. The calculation of trip reduction must also account, however, for shifts that do not reduce, and indeed may increase, vehicle trips. These shifts include shifts within alternative modes to LOWER occupancy alternatives, and decreases in the number of days per week commuters use alternatives.

To simplify measuring the impacts of these various shifts, a "VTR factor" is used, combining the impacts of various changes into one number and equal to the average number of vehicle trips reduced by a new commuter "placement." This factor is multiplied by the number of placements to estimate the vehicle trip reduction of all commuters placed in alternative modes.

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. Additionally, as was done for placement rates, the VTR multipliers were estimated for respondents who lived within the Washington, DC Metropolitan Statistical Area (MSA) and those who lived outside it.

	Within MSA	Outside MSA
• Continued VTR =	0.37	0.38
• Temporary VTR =	0.66	0.45

Continued Change – The calculation of vehicle trip reduction for continued change was performed by multiplying the within MSA continued VTR factor by the number of within MSA continued placements, multiplying the outside MSA continued VTR factor by the outside MSA continued placements, and adding these products together. The resulting reduction was **375 daily one-way vehicle trips reduced**.

Temporary Change – The calculation of vehicle trip reduction for temporary placements was handled similarly by multiplying the temporary VTR factors for within MSA and outside MSA by their respective placement counts. But an additional calculation was needed to discount these trip reductions, because these placements lasted only 2.8 weeks on average for within MSA placements and 3.0 weeks for outside MSA placements. Thus only about five percent of the temporary trip reduction was allocated to the placements, representing the portion of a year (2.8 / 52 weeks and 3.0 / 52 weeks) when the mode was used. This resulted in **15 daily trips were reduced by temporary changes**.

All Placements VT Reduction – The total vehicle trip reductions from continued and temporary commute changes of all applicants were then added to obtain a total trip reduction for all applicants. This sum, 375 + 15, equaled **391 daily vehicle trips reduced**.

Vehicle Miles Traveled (VMT) Reduced

The reduction in vehicle miles traveled, or VMT, is the second travel impact measures. It was calculated by multiplying the number of vehicle trips reduced by the average commute distance for respondents who made a commute change. The one-way trip distance for the within MSA was 29.4 miles for respondents with continued changes and 28.6 miles for respondents with temporary changes.

The actual one-way distance for the outside-MSA respondents was considerably higher; 49.0 miles for continued changes and 43.2 miles for temporary changes. But many of these miles would have occurred outside the MSA. Thus, to better represent the miles reduced for their travel within the MSA, one-way travel distances for outside-MSA respondents was set equal to those of the distances for the within-MSA respondents. This resulted in a loss of 19.6 one-way miles per trip for outside-MSA respondents who made continued changes and 14.6 miles per trip for outside-MSA respondents who made a temporary change. The VMT calculation thus was as follows, resulting in 11,460 VMT reduced daily:

(375 continued trips reduced x 29.4 miles) + (15 temporary trips reduced x 28.6 miles)

= **11,460 VMT reduced**

Emissions Reduced

The calculation of emissions benefits, defined as tons of pollutants reduced, applied 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 calculated emission reduction for five pollutants: Oxides of Nitrogen (NOx), Volatile Organic Compounds (VOC), Particulate Matter, 2.5 Microns (PM 2.5), PM 2.5 NOx precursors, and Carbon Dioxide (CO2, greenhouse gas).

For 2008, the emission factors are:

NOx:

Trip end (cold start)	=	0.6292 grams per one-way vehicle trip reduced
VMT (running)	=	0.4288 grams per vehicle mile reduced

VOC:

Trip end (cold start + hot soak)	=	1.7343 grams per one-way vehicle trip reduced
VMT (running)	=	0.1836 grams per vehicle mile reduced

PM 2.5:

Trip end (cold start + hot soak)	=	None
VMT (running)	=	0.0115 grams per vehicle mile reduced

PM 2.5, NOx precursor:

Trip end (cold start + hot soak)	=	0.6652 grams per one-way vehicle trip reduced
VMT (running)	=	0.4038 grams per vehicle mile reduced

CO2 (Greenhouse gas):

Trip end (cold start + hot soak)	=	None
VMT (running)	=	455.7 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 in Appendix C. The emissions reduced by all placements equaled **0.005 tons of NOx per day, 0.003 tons of VOC per day, 0.0001 tons of PM 2.5, and 0.005**

tons of PM 2.5 NOx precursors. CO2 emissions were calculated on an annual basis and totaled 1,348 tons.

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. The calculation for this measure is shown in Appendix C. As shown, **482 gallons of gasoline were saved daily** from increased use of alternative modes by Commuter Connections applicants.

Commuter Travel Costs Reduced

The fifth program impact performance measure is commuter travel costs reduced. This performance measure, which assesses benefits to commuters, was calculated by multiplying the number of daily VMT reduced by an average travel cost per mile for the mix of types of vehicles in the region.

This calculation, also presented in Appendix C indicates that new Commuter Connections **placements would saved a total of $487,000 annually** by beginning or increasing their use of alternative modes. Dividing the annual overall saving by the number of commuter placements (continued plus prorated temporary placements), this equals a saving of **$472 per commuter per year**.

LIST OF APPENDICES

Appendix A – Questionnaire for November 2008 Applicant Survey

Appendix B – Comparison of November 2008 Survey Results with Results for November 2005, November 2004, November 2003, and November 2002 Surveys

Appendix C – Commuter Connections Impact Calculations, All Placements – July-September 2008

Appendix A
Questionnaire for November 2008 Applicant Survey

Hello. My name is _____. I'm calling from CIC Research on behalf of Commuter Connections. We're surveying people who have received commute information or assistance from the Commuter Connections program. It takes less than 10 minutes. Is now a good time?

HOW THEY GET TO WORK

1. I'd like to begin by asking you about your commute. By commute I mean your travel to and from work. First, in a TYPICAL week, how many weekdays (Monday-Friday) are you assigned to work?

   _____ days
   _____ Not currently working (terminate)

1A. Some employers have non-standard or flexible work hours or days (e.g., full-time work week in fewer than five days or flexible start time). In a typical week, do you use nonstandard or flexible hours?

   1 yes (CONTINUE)
   2 no (SKIP TO Q1B-1)

1B. What type of schedule do you use? (READ LIST)

   1 4/40 (4 10-hour days per week, 40 hours)
   2 9/80 (9 days every 2 weeks, 80 hours)
   3 3/36 (3 12-hour days per week, 36 hours)
   4 flex-hour (core hours with flexible start & stop)
   * other (SPECIFY)

1B-1 Now I want to ask you about telecommuting, also called teleworking. 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 Q1C)
   9. DK/Ref (SKIP TO Q1C)

1B-2 How often do you usually telecommute? (DO NOT READ)

   1. occasionally for special projects
   2. Less than one time per month/only in emergencies (e.g., sick child, snowstorm)
   3. 1-3 times a month
   4. one day a week
   5. two days a week
   6. 3 days a week
   7. 4 days a week
   8. 5 days a week
   * other (SPECIFY) _____
   19. DK/Ref.

1C. Would you consider last week to be a typical commuting week?
   1 yes (ASK Q1D, THEN SKIP TO Q1F)
   2 no (SKIP TO Q1E)

Current Travel Grid (Last week or typical week)

1D. Now thinking just about LAST week, how did you get to work each day. Let's start with Monday? . . . How about Tuesday? . . . Wednesday? . . . Thursday? . . . Friday?

(IF Q1B = 1, 2, OR 3 *[USES CWS]* AND RESPONDENT DOES NOT MENTION "CWS day off" (RESPONSE 1), ASK:) "You said you typically work a compressed work schedule. Did you have a compressed work schedule day off last week?"

(IF Q1B - 2 = 4, 5, 6, 7, OR 8 AND RESPONDENT DOES NOT MENTION "Telecommute" (RESPONSE 2), ASK: "You said you typically telecommute one or more days per week. Did you telecommute last week?"

(IF ALL DAYS IN Q1 ARE ACCOUNTED FOR BY MODES 1-16 IN Q1D BEFORE ALL WEEKDAYS ARE COUNTED, ASK: You said you typically work only (number of days reported in Q1) per week. Were the weekdays I haven't asked you about regular days off for you last week? IF RESPONSE IS YES, CATI WILL AUTOFILL REMAINING DAYS WITH CODE 17; OTHERWISE CONTINUE AND RECORD MODES USED FOR THOSE DAYS)

(IF RESPONDENT SAYS TRAVEL TO WORK IN A CAR, TRUCK, OR VAN, SAY, Were you alone in the vehicle? IF YES, REPORT RESPONSE 3. IF NO, SAY, INCLUDING yourself, how many people were in the vehicle? IF 2-4, RECORD RESPONSE 5, IF 5, PROBE TO ASK ABOUT VANPOOL, THEN CODE RESPONSE 5 OR 7 AS APPROPRIATE, IF 6 OR MORE, RECORD AS RESPONSE 7)

(IF RESPONDENT MENTIONS "SICK, VACATION, HOLIDAY" FOR ANY DAY, ASK "If you had worked that day, how would you likely have traveled to work?" and record that response IF RESPONDENT SAYS, "I don't know," RECORD RESPONSE 18 ("DON'T KNOW").

		Go to Work				
Mode/Day of Week		Mon	Tues	Wed	Thur	Fri
1	compressed work schedule day off	1	1	1	1	1
2	telecommute	2	2	2	2	2
3	drive alone in your car, truck, van, or SUV	3	3	3	3	3
4	motorcycle	4	4	4	4	4
5	carpool, including carpool with family	5	5	5	5	5
6	casual carpool (slugging)	6	6	6	6	6
7	vanpool	7	7	7	7	7
8	buspool	8	8	8	8	8
9	rode a bus	9	9	9	9	9
10	Metrorail	10	10	10	10	10
11	MARC (MD Commuter Rail)	11	11	11	11	11
12	VRE	12	12	12	12	12
13	AMTRAK/other train	13	13	13	13	13
14	bicycle	14	14	14	14	14
15	walk	15	15	15	15	15
16	taxi	16	16	16	16	16
17	regular day off (non-CWS)	18	18	18	18	18
18	don't know	19	19	19	19	19

1E. Now thinking about a TYPICAL week, how many days during the week do you . .?

(IF Q1B = 1, 2, OR 3 *[USES CWS]* ASK RESPONSE 1, OTHERWISE, SKIP TO RESPONSE 2)

(IF Q1B-1 = 1 (USES TW), ASK RESPONSE 2, OTHERWISE, START LIST WITH RESPONSE 3)

(READ LIST – WHEN ALL DAYS IN Q1 ARE ACCOUNTED FOR BY MODES 1-16 IN Q1E BEFORE ALL WEEKDAYS ARE COUNTED, DISCONTINUE READING MODES. CATI WILL AUTOFILL REMAINING DAYS WITH CODE 18; OTHERWISE CONTINUE)

(IF RESPONDENT MENTIONS "BUSINESS TRIP OUT OF THE AREA" FOR ANY DAY, ASK "If you had worked that day, how would you likely have traveled to work?" and record that response IF RESPONDENT SAYS, "I don't know," RECORD RESPONSE 18 ("DON'T KNOW").

		Go to Work – no. of days				
Mode/Day typically used per week		1	2	3	4	5
1	have a compressed work schedule day off	1	2	3	4	5
2	telecommute	1	2	3	4	5
3	drive alone in your car, truck, van, or SUV	1	2	3	4	5
4	motorcycle	1	2	3	4	5
5	carpool, including carpool with family	1	2	3	4	5
6	casual carpool (slugging)	1	2	3	4	5
7	vanpool	1	2	3	4	5
8	buspool	1	2	3	4	5
9	rode a bus	1	2	3	4	5
10	Metrorail	1	2	3	4	5
11	MARC (MD Commuter Rail)	1	2	3	4	5
12	VRE	1	2	3	4	5
13	AMTRAK/other train	1	2	3	4	5
14	bicycle	1	2	3	4	5
15	walk	1	2	3	4	5
16	taxi	1	2	3	4	5
17	regular day off (non-CWS)	1	2	3	4	5
18	don't know	1	2	3	4	5

1F. Do you usually use the same type of transportation to go home as you use to go to work?

1 yes (CIRCLE "SAME" (RESPONSE 20) BELOW)
2 no (ASK:) How do you usually get home? (RECORD ANSWER BELOW)

3 drive alone in your car, truck, van, or SUV
4 motorcycle
5 carpool, including carpool with family
6 casual carpool (slugging)
7 vanpool
8 buspool
9 rode a bus
10 Metrorail
11 MARC (MD Commuter Rail)
12 VRE
13 AMTRAK/other train
14 bicycle
15 walk
16 taxi
19 don't know
20 same

1G. About how many miles do you usually travel from home to work one way?
_____ miles one way

1H. And about how many minutes does it take you to get to work? _____ minutes

POOL MAKE-UP

(ASK Q2 – Q2D OF RESPONDENTS ANSWERING CODE, 5, 6 OR 7 IN Q1D OR Q1E
[RESPONDENT USES CP, VP, OR SLUGGING])

2. Now I'd like to ask you about your car/van pool (FROM Q1D or Q1E). Including yourself, how many people usually ride in your carpool, vanpool? (If more than 1 answer in Q1D or Q1E, select 1 using this priority: van-pool, carpool, casual carpooling.)

_____ total people in pool

2A. Of the other people in your carpool or vanpool, excluding yourself, how many of them are members of your family or members of your household?

_____ people are family/household members

2B. How many are children under age 16? _____ children under age 16

2C. How many are co-workers? _____ co-workers

2D. How often are you the driver of your carpool or vanpool? Do you always drive, sometimes drive, or never drive?

1 always drive (SKIP TO Q3)
2 sometimes drive (including people who drive alternate days or weeks)
3 never drive

(ASK Q2E-Q2F OF RESPONDENTS ANSWERING CODE 5-13 IN Q1D or Q1E *[RESPONDENT USES CP, VP, BUS OR RAIL]*) IF Q2D = 2, ASK BEFORE Q2E, "On days you are not the driver of the carpool or vanpool, …"

2E. How do you get from home to where you meet your carpool, vanpool, buspool, or public transit (FROM Q1D or Q1E)? (IF MORE THAN ONE ANSWER IN Q1D OR Q1E, SELECT IN THIS PRIORITY: BUSPOOL, VANPOOL, CARPOOL, CASUAL CARPOOL, PUBLIC TRANSIT.)

1 picked up at home by car/vanpool (or leave from my home) (SKIP TO Q3)
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 car/van pool, including dropped off by HH members
5 bicycle
6 motorcycle
7 walk
8 driver of carpool/vanpool
9 bus/transit
10 taxi
* other (SPECIFY) _____

2F. How many miles is it one way from your home to where you meet your carpool, vanpool, buspool or transit?
_____ miles (no decimals)

CHANGES

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

3 Next I'd like to ask about changes you might have made in your commute, that is your travel to or from work since the time you requested assistance or information from Commuter Connections. I'd like to know if you made any of the following changes, even if the change was only temporary.

Did you join or create a new carpool, even if only temporarily?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3B Did you join or create a new vanpool?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3C Did you start using transit (bus, Metrorail, MARC, VRE, AMTRAK) for your commute, even if only temporarily?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3D Did you start biking or walking to work?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3E Did you start telecommuting or working a compressed work schedule, even if only temporarily?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3F Did you increase the number of days per week that you carpool, vanpool, use transit, bike, walk or telecommute/telework?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3F1 Did you add another person or replace a person in an existing carpool?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3F2 Did you add another person or replace a person in an existing vanpool?

1 Yes (SKIP TO Q3I)
2 No (CONTINUE)

3G Did you make any other type of commute change or try any other type of transportation to travel between home and work, even if only once, since you received assistance from Commuter Connections?

1 Yes (ASK Q3H)
2 No (SKIP TO Q4K)

3H What was that change? (ALLOW MULTIPLE RESPONSES)

1 Tried carpooling
2 Tried vanpooling
3 Tried transit (bus, Metrorail, MARC, VRE, AMTRAK)
4 Tried walking, started walking to work
5 Tried bicycling, started bicycling to work
6 Tried telecommuting/started telecommuting
7 Changed carpool, vanpool/transit pick-up or meeting location or how you got to the location (ASK Q3I, THEN SKIP TO Q4K)
8 Tried driving alone, started driving alone (ASK Q3I, THEN SKIP TO Q4K)
* other (specify) (ASK Q3I, THEN SKIP TO Q4K)

3I Was this change temporary or have you continued the change?

1 Temporary
2 Continued

CHECK FOR CURRENT USE OF MODES IN CONTINUED CHANGES

IF Q3I = 2 AND (Q3 = 1 OR Q3F1 = 1 OR Q3H = 1) AND Q1D/Q1E NE 5 OR 6, ASK Q3K, INSERTING “CARPOOL” AS (MODE)
IF Q3I = 2 AND (Q3B = 1 OR Q3F2 = 1 OR Q3H = 2) AND Q1D/Q1E NE 7, ASK Q3K, INSERTING “VANPOOL” AS (MODE)
IF Q3I = 2 AND Q3C = 1 AND Q1D/Q1E NE 8, 9, 10, 11, 12, OR 13, ASK Q3K, INSERTING “TRANSIT” AS (MODE)
IF Q3I = 2 AND Q3D = 1 AND Q1D/Q1E NE 14 OR 15, ASK Q3K, INSERTING “BIKE OR WALK” AS (MODE)
IF Q3I = 2 AND Q3E = 1 AND Q1D/Q1E NE 1 OR 2, ASK Q3K, INSERTING “COMPRESSED SCHEDULE OR TELEWORKING” AS (MODE)
IF Q3I = 2 AND Q3H = 3 AND Q1D/Q1E NE 8, 9, 10, 11, 12, OR 13, ASK Q3K, INSERTING “TRANSIT” AS (MODE)
IF Q3I = 2 AND Q3H = 4 AND Q1D/Q1E NE 14, ASK Q3K, INSERTING “BIKE” AS (MODE)
IF Q3I = 2 AND Q3H = 5 AND Q1D/Q1E NE 15, ASK Q3K, INSERTING “WALK” AS (MODE)
IF Q3I = 2 AND Q3H = 6 AND Q1D/Q1E NE 2, ASK Q3K, INSERTING “TELEWORKING” AS (MODE)

OTHERWISE, SKIP TO INSTRUCTIONS BEFORE Q4

Q3K You said you made a change to (MODE), but earlier you said you don’t typically use (MODE) now. Was this a temporary change?”

1 Yes (RECODE Q3I = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q4)
2 No (ASK Q3L)
3 Don’t know/don’t remember (VOLUNTEERED) (RECODE Q3I = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q4)

3L Then do you typically use (MODE) for your commute now, even if only occasionally?

1 Yes (ASK Q3M)
2 No (RECODE Q3I = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q4)
3 Don’t know/don’t remember (VOLUNTEERED) (RECODE Q3I = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q4)

3M About how many days per week do you typically use (MODE) to commute?

1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 Only use occasionally, use less than one time per week

INSTRUCTIONS BEFORE Q4
Autofill temporary travel grid for temporary changers who did not change mode or frequency

- IF Q3I = 1 AND Q3F1 = YES AND Q3F = NO *[ADDED OR REPLACED PERSON IN EXISTING CP AND DID NOT INCREASE # OF DAYS CP/VP/TRANSIT/BIKE/WALK/TW]*, ASK Q4, AUTOFILL Q4A AND Q4B, ASK Q4C, THEN SKIP TO Q4I.
- IF Q3I = 1 AND Q3F2 = YES AND Q3F = NO *[ADDED OR REPLACED PERSON IN EXISTING VP AND DID NOT INCREASE # OF DAYS CP/VP/TRANSIT/BIKE/WALK/TW]*, ASK Q4, AUTOFILL Q4A AND Q4B, ASK Q4C, THEN SKIP TO Q4I.
- OTHERWISE, IF Q3I = 1, CONTINUE WITH Q4

Autofill previous travel grid for continued changers who did not change mode or frequency

- IF Q3I = 2 AND Q3F1 = YES AND Q3F = NO *[ADDED OR REPLACED PERSON IN EXISTING CP AND DID NOT INCREASE # OF DAYS CP/VP/TRANSIT/BIKE/WALK/TW]*, AUTOFILL Q4D, Q4D-1, AND Q4E, THEN SKIP TO Q4F.
- IF Q3I = 2 AND Q3F2 = YES AND Q3F = NO *[ADDED OR REPLACED PERSON IN EXISTING VP AND DID NOT INCREASE # OF DAYS CP/VP/TRANSIT/BIKE/WALK/TW]*, AUTOFILL Q4D, Q4D-1, AND Q4E, THEN SKIP TO Q4F.
- OTHERWISE, IF Q3I = 2, SKIP TO Q4D

TRAVEL DURING TEMPORARY CHANGE

4. How long did this temporary change last?

1 Less than one week
2 1-3 weeks
3 1 month
4 2 months
5 3 or more months

4A Now I'd like to ask you about your commute during the time of this temporary change. During that time, how many days were you assigned to work in a TYPICAL WEEK?

____ days
_____ Did not work then (SKIP TO Q4K)

4A-1. (IF RESPONDENT REPORTS WORKING THREE OR FOUR DAYS PER WEEK IN Q4A, ASK
"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

4B. During the time of this change, how did you travel to work? How many days during a TYPICAL week did you …?

(IF Q4A-1 = 1, ASK RESPONSE 1 ("have a compressed work schedule day off"), OTHERWISE, SKIP TO RESPONSE 2

(READ LIST – WHEN NUMBER OF DAYS REPORTED IN Q4B = NUMBER OF DAYS REPORTED IN Q4A, DISCONTINUE LISTING MODES. REMAINING DAYS WILL BE RECORDED AS 18 "REGULAR DAY OFF.")

(IF RESPONDENT MENTIONS "SICK, VACATION, HOLIDAY" (RESPONSE 17) FOR ANY DAY, ASK "If you had worked that day, how would you likely have traveled to work?" CODE THAT MODE RESPONSE FOR THAT DAY. IF RESPONDENT SAYS, "I don't know," RECORD RESPONSE 18 ("DON'T KNOW").

		Go to Work – no. of days				
Mode/Day typically used per week		1	2	3	4	5
1	have a compressed work schedule day off	1	2	3	4	5
2	telecommute	1	2	3	4	5
3	drive alone in your car, truck, van, or SUV	1	2	3	4	5
4	motorcycle	1	2	3	4	5
5	carpool, including carpool with family	1	2	3	4	5
6	casual carpool (slugging)	1	2	3	4	5
7	vanpool	1	2	3	4	5
8	buspool	1	2	3	4	5
9	rode a bus	1	2	3	4	5
10	Metrorail	1	2	3	4	5
11	MARC (MD Commuter Rail)	1	2	3	4	5
12	VRE	1	2	3	4	5
13	AMTRAK/other train	1	2	3	4	5
14	bicycle	1	2	3	4	5
15	walk	1	2	3	4	5
16	taxi	1	2	3	4	5
17	regular day off (non-CWS)	1	2	3	4	5
18	don't know	1	2	3	4	5

CHECK FOR TEMPORARY USE OF MODES IN TEMPORARY CHANGES

IF Q3 = 1 OR Q3F1 = 1 OR Q3H = 1 AND Q4B NE 5 OR 6, ASK Q4B-1, INSERTING "CARPOOL" AS (MODE)
IF Q3B = 1 OR Q3F2 = 1 OR Q3H = 2 AND Q4B NE 7, ASK Q4B-1, INSERTING "VANPOOL" AS (MODE)
IF Q3C = 1 AND Q4B NE 8, 9, 10, 11, 12 OR 13, ASK Q4B-1, INSERTING "TRANSIT" AS (MODE)
IF Q3D = 1 AND Q4B NE 14 OR 15, ASK Q4B-1, INSERTING "BIKE OR WALK" AS (MODE)
IF Q3H = 3 AND Q4B NE 8, 9, 10, 11, 12, OR 13, ASK Q4B-1, INSERTING "TRANSIT" AS (MODE)
IF Q3H = 4 AND Q4B NE 14, ASK Q4B-1, INSERTING "BIKE" AS (MODE)
IF Q3H = 5 AND Q4B NE 15, ASK Q4B-1, INSERTING "WALK" AS (MODE)
IF Q3E = 1 AND Q4B NE 1 OR 2, ASK Q4B-1, INSERTING "COMPRESSED SCHEDULE OR TELEWORKING" AS (MODE)
IF Q3H = 6 AND Q4B NE 2, ASK Q4B-1, INSERTING "TELEWORKING" AS (MODE)

OTHERWISE, SKIP TO INSTRUCTIONS BEFORE Q4C

4B-1 Earlier you said you made a temporary change to (MODE), but you haven't mentioned using (MODE) for your commute during that time. Did you use (MODE) then?"

1 Yes (SKIP TO Q4B-2)
2 No (SKIP TO Q4K)
3 Don't know/don't remember (VOLUNTEERED) (SKIP TO Q4K)

4B-2 About how many days per week did you typically use (MODE) then to commute?

1 1
2 2
3 3
4 4
5 5
6 6
7 7
8 Only use occasionally, use less than one time per week

(IF Q4B = 5, 6, OR 7, OR IF Q3F1 = 1 or Q3F2 = 1, ASK Q4C)

4C. How many people were in your (from Q4B or Q1D or Q1E if Q4B is blank)/pool during that time? _____

ASK Q4C-1 OF RESPONDENTS ANSWERING CODES 5-13 IN Q4B, OTHERWISE, SKIP TO Q4I

4C-1. How did you get from home to where you met your carpool, vanpool, buspool or transit?

1 picked up at home by car/van pool or driver (SKIP TO Q4I)
2 drove alone to driver's home
3 drove to a central location (like Park & Ride)
4 another car/van pool, including dropped off by HH members
5 bicycle
6 motorcycle
7 walk
8 driver of carpool/vanpool
9 bus/transit
10 taxi
* other (SPECIFY)

4C-2 How many miles was it one way from your home to where you met your carpool, vanpool, buspool or transit?
_____ miles one way

(SKIP TO Q4I)

TRAVEL BEFORE MAKING CONTINUED CHANGE

4D Now I'd like to ask you about your commute BEFORE you made this change. During that time, how many days were you assigned to work in a typical week?

____ days
☐ Did not work then (SKIP TO Q4K)

4D-1. (IF RESPONDENT REPORTS WORKING THREE OR FOUR DAYS PER WEEK IN Q4D, ASK "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

4E. Before you made this change, how did you travel to work? How many days during a TYPICAL week did you …?

(IF Q4D-1 = 1, ASK RESPONSE 1 ("have a compressed work schedule day off"), OTHERWISE, SKIP TO RESPONSE 2

(READ LIST – WHEN NUMBER OF DAYS REPORTED IN Q4E = NUMBER OF DAYS REPORTED IN Q4D, DISCONTINUE LISTING MODES) (REMAINING DAYS WILL BE RECORDED AS "REGULAR DAY OFF.")

(IF RESPONDENT MENTIONS "SICK, VACATION, HOLIDAY" (RESPONSE 17) FOR ANY DAY, ASK "If you had worked that day, how would you likely have traveled to work?" AND CODE THAT MODE RESPONSE FOR THAT DAY. IF RESPONDENT SAYS, "I don't know," RECORD RESPONSE 18 ("DON'T KNOW").

		Go to Work – no. of days				
Mode/Day typically used per week		1	2	3	4	5
1	have a compressed work schedule day off	1	2	3	4	5
2	telecommute	1	2	3	4	5
3	drive alone in your car, truck, van, or SUV	1	2	3	4	5
4	motorcycle	1	2	3	4	5
5	carpool, including carpool with family	1	2	3	4	5
6	casual carpool (slugging)	1	2	3	4	5
7	vanpool	1	2	3	4	5
8	buspool	1	2	3	4	5
9	rode a bus	1	2	3	4	5
10	Metrorail	1	2	3	4	5
11	MARC (MD Commuter Rail)	1	2	3	4	5
12	VRE	1	2	3	4	5
13	AMTRAK/other train	1	2	3	4	5
14	bicycle	1	2	3	4	5
15	walk	1	2	3	4	5
16	taxi	1	2	3	4	5
17	regular day off (non-CWS)	1	2	3	4	5
18	don't know	1	2	3	4	5

ASK Q4F OF RESPONDENTS ANSWERING CODES 5, 6, OR 7 IN Q4E

4F. How many people were in your (from Q4E or 1D or 1E if 4E is blank)/pool at that time? _____

ASK Q4G OF RESPONDENTS ANSWERING CODES 5-13 IN Q4E, OTHERWISE, SKIP TO Q4I

4G. How did you get from home to where you met your carpool, vanpool, buspool or transit?

1 picked up at home by car/van pool or driver (SKIP TO Q4I)
2 drove alone to driver's home
3 drove to a central location (like Park & Ride)
4 another car/van pool, including dropped off by HH members
5 bicycle
6 motorcycle
7 walk
8 driver of carpool/vanpool
9 bus/transit
10 taxi
* other (SPECIFY)

4H. How many miles was it one way from your home to where you met your carpool, vanpool, buspool or transit?
_____ miles one way

4I. What were the reasons that you made that change? (CHECK ALL THAT APPLY)

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
31 Metrochek, SmarTrip, or other transit/vanpool discount
32 financial incentives
33 a new option became available (SPECIFY)
34 advertising (SPECIFY)
35 special program at work (SPECIFY)
36 pressure or encouragement from employer
37 Commuter Connections assistance
38 use HOV lane
* other (SPECIFY)

(ASK Q4J OF RESPONDENTS ANSWERING CODE 1 in Q3I)

4J. What were the reasons you did not continue (CHECK ALL THAT APPLY)?
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
* other (Specify)

INFLUENCE AND AWARENESS

4K How did you learn about Commuter Connections and its programs and services?

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)
* other (specify)

5. How did you contact Commuter Connections for assistance? Did you make the contact through . . . (READ ITEMS, CHECK ALL THAT APPLY)

1 your employer?
2 the Commuter Connections Web Page on the Internet?
3 another Internet site?
4 Commuter Connections directly by phone by calling 1-800-745-RIDE?
5 a rideshare program operated by your employer, county or city?
6 a Transportation Management Association (TMA)
* other (specify)

5-1 What prompted you to seek commute information or assistance from Commuter Connections at that time? (DO NOT READ, ACCEPT MULTIPLE RESPONSES)

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
* other (SPECIFY) _____
* don't know

5A. Now I'd like to ask you about commuter assistance services or benefits you might have received. What information or assistance did you receive from Commuter Connections? Did you receive… (READ RESPONSES 1 - 9; CHECK ALL THAT APPLY). THEN ASK, "Did you receive any other information or assistance from Commuter Connections?" (IF "NO," CODE RESPONSE 10. IF YES, RECORD ANY ADDITIONAL RESPONSES AS "other.")

1 a matchlist or a list of people you could contact to form a carpool or vanpool
2 transit schedule or route information (ASK Q7)
3 Park & Ride information (ASK Q7D)
4 vanpooling assistance
5 Guaranteed Ride Home information or registration
6 N/A
7 GRH trip
8 Telecommuting information
9 HOV lane informationrmation
10 none
* other (SPECIFY)

5B. Does your employer offer commuter information, assistance, or transportation benefits? If yes, what information, assistance, or benefit? (DO NOT READ, CHECK ALL THAT APPLY)

1 car/vanpool info/match
2 transit info
3 discount/free transit pass/ Metrochek / SmarTrip Card
4 other cash incentive
5 employer GRH
6 compressed work week/telecommute
7 carpool/Vanpool preferential parking
8 parking fees
9 carpool/vanpool discount parking fee
10 Smart Tag / E-Z Pass subsidy
11 HOV lane info
12 shuttle bus
13 Federal Tax Benefit/ "Commuter Choice" program
14 referred to Commuter Connections (CC)
15 no, employer doesn't offer
* other (SPECIFY)

(IF Q5B = 14 OR 15 ONLY, SKIP TO Q5D)

5C. Are any of these services from your employer new within the past year?

1 yes
2 no
9 DK

5D. Did you receive information, assistance, or transportation benefits from any other program or organization? IF YES, ASK, "What was the program or organization?"

1 yes (SPECIFY BELOW, DO NOT READ)
2 no (SKIP TO INTRO BEFOE Q5F)

1 Metro/WMATA
2 VRE
3 Montgomery Co. Commuter Services, RideOn
4 PRTC, Omni Ride, Prince William County
5 GW Ride Connect, GWRC
6 Fairfax Co., RideSources, Fairfax Connector
7 VPSI
8 Loudoun Co. Commuter Services
9 ABS Vans
10 MTA
11 MARC Commuter Rail
12 Commuter Solutions of Howard Co.
13 Transit Services of Frederick Co., TransIT
14 Prince Georges Co. Ride Smart Commuter Solutions, The Bus
15 Alexandria City, Local Motion
16 Arlington County, Arlington County Commuter Services, Commuter Store
17 ARTMA, Anne Arundel County
* other (SPECIFY)_____

5E. What was the information, assistance, or benefit? (DO NOT READ, CHECK ALL THAT APPLY)

1 Matchlist
2 GRH
3 transit info
4 discount/free transit pass/Metrochek / Smart Trip Card
5 other cash incentives
6 telecommuting information
7 HOV information
8 Park & Ride information
9 vanpool assistance
10 Smart Tag / E-Z Pass info
11 Referred to Commuter Connections
12 NuRide (carpool incentive) * other (SPECIFY) _____

(IF Q5A NE 1 AND Q5E NE 1, SKIP TO Q6)

5F. You said you received a matchlist with names of people you could contact to form a carpool or vanpool. Did you try to call any of the people named on the matchlist?

1 yes
2 no (SKIP TO Q5J)

5G Were you able to reach any of the people named?

1 Yes (SKIP TO Q5I)
2 No (CONTINUE)
3 Don't remember/don't know (SKIP TO Q6)

5H What difficulties did you encounter in reaching the people on the list? (CHECK ALL THAT APPLY)

1 Phone number was not correct or had been disconnected
2 Commuter could be reached at that number only for emergencies (common number for many employees)
3 Commuter was no longer at that job
4 Commuter had moved to a different residential area
5 Left message and didn't receive a call back
6 email address was not correct
* other (Specify) _____

SKIP TO Q6

5I Were the people you reached interested in forming a carpool or vanpool, if your travel destination and schedule were compatible?

1 Yes
2 No (SKIP TO Q6)
3 No, schedule or destination were not compatible (SKIP TO Q6)
4 Don't remember/don't know (SKIP TO Q6)

SKIP TO Q6

5J 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)
* other (Specify) _____

IF Q3 AND Q3B AND Q3F1 AND Q3F2 AND Q3D AND Q3E AND Q3F AND Q3G = NO, SKIP TO Q6B
IF Q3G = YES AND Q3H NE 1, 2, 3, 4, 5, 6, OR 7, SKIP TO Q6B

6. Did any of the information, assistance, or benefits you received influence or assist you to change the way you get to or from work or to try another type of transportation, even if the change was only temporary?

1 yes (CONTINUE)
2 no (SKIP TO Q6B)

If yes, what information or assistance influenced or assisted you? (READ ALL SERVICES MENTIONED BY RESPONDENT IN Q5A, Q5B, and Q5E; DON'T READ "OTHERS," CHECK ALL THAT APPLY)

1 service 1 _____ 5 service 5 _____
2 service 2 _____ 6 service 6 _____
3 service 3 _____ 7 service 7 _____
4 service 4 _____ 8 service 8 _____
9 services did not influence or assist (SKIP TO Q6B)

1 CC – matchlist
2 CC – transit info
3 CC – P&R info
4 CC – vanpool assistance
5 CC – GRH information or registration
6 N/A
7 CC – GRH trip
8 CC – telecommuting information
9 CC – HOV lane specs
10 E – car/vanpool info/match
11 E – transit info
12 E – discount/free transit pass/Metrochek / Smart Trip Card
13 E – other cash incentive
14 E – employer GRH
15 E – compressed work week/telecommute
16 E – carpool/vanpool preferential parking
17 E – parking fees
18 E – carpool/vanpool discount parking fee
19 E – Smart Tag / E-Z Pass subsidy
20 E – HOV lane info
21 E – shuttle bus
22 E – Federal Tax Benefit / Commuter Choice Program
23 E – referred to Commuter Connections
24 OP – matchlist
25 OP – GRH
26 OP – transit info
27 OP – discount/free transit pass/Metrochek / Smart Trip Card
28 OP – other cash incentives
29 OP – telecommuting info
30 OP – HOV info
31 OP – P&R info
32 OP – vanpool assitance
33 OP – Smart Tag / E-Z Pass info
34 OP – referred to Commuter Connections
35 OP – NuRide-carpool incentive
36 services did not influence
37 no change made

(IF ONLY ONE SERVICE MENTIONED IN Q6, RECORD IT IN Q6A & SKIP TO Q6B)

6A. Of the services you have mentioned, no matter what the source, which was the most important in influencing your decision to make a commute change?

(SPECIFY) _____

6B. In what ways could Commuter Connections improve its services? (CHECK ALL THAT APPLY)

88 no improvement needed
1 quicker response
2 more helpful staff (ASK Q6D)
3 more follow-up assistance
4 more match names (ASK Q6E)
5 matches fit travel better (ASK Q6F)
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
* other (SPECIFY)

6C. How long from the time you contacted Commuter Connections did you receive the assistance you requested?

1 Less than one week
2 1-2 weeks
3 3 or more weeks

IF Q6B=2, ASK Q6D

6D. In what ways could staff be more helpful? _____

IF Q6B=4, ASK Q6E

6E. About how many match names did you receive? _____ + none

IF Q6B=5, ASK Q6F

6F. In what ways could the matches fit your travel better?

1 Closer match in work hours
2 Closer match in home location
3 Closer match in work location
4 Closer match in personal preferences
5 Closer match in number of days pooling
6 broader match area
* other (SPECIFY)

INTEGRATED RIDESHARE

(IF Q5A = 2, RECEIVED TRANSIT INFO FROM COMMUTER CONNECTIONS, CONTINUE.
IF Q5A NE 2, SKIP TO INSTRUCTIONS BEFORE Q7D)

7. You said that you received information about transit from Commuter Connections. Did you contact a transit agency listed in the information you received?

1 yes (ASK Q7A)
2 no (SKIP TO Q7C)

IF Q3D AND Q3F = NO, AND Q3H NE 3, SKIP TO 7B

7A. Did you use the information from the transit agency to try transit?

1 yes (SKIP to INSTRUCTIONS BEFORE Q7D)
2 no (ASK Q7B)

7B. Why did you decide not to try transit? (CHECK ALL THAT APPLY)

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

* other (SPECIFY)

SKIP TO Q7D

7C. Why did you decide not to contact the transit agency?

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
* other (SPECIFY)

IF Q5A=3, RECEIVED PARK & RIDE INFO FROM COMMUTER CONNECTIONS
AND Q1D OR Q1E = 5-13 OR Q4B = 5-13, CONTINUE

7D. You said that you received park & ride information from Commuter Connections. Have you used the park & ride lot listed on the information you received?

1 yes (ASK Q7E, Q7F AND Q7G)
2 no (ASK Q7H)

7E. Were you aware of the park & ride lot before you received the information?

1 yes
2 no

7F. Had you used the park & ride lot before you received the information?

1 yes
2 no

7G. Was using the park & ride lot a factor in your decision to try (mode from Q1D or 1E)?

1 yes
2 no

7H. Why did you decide not to use the park & ride lot after getting the information? (CHECK ALL THAT APPLY)

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
* other (SPECIFY)

IF Q1D OR Q1E = 8-13 OR Q3D = YES OR Q3H = 3 OR Q4B OR Q4E = 8-13) AND Q5A NOT = 2, CONTINUE, OTHERWISE SKIP TO Q8

7I. You previously mentioned that you tried a transit service or are currently using transit. How did you hear about the service? (CHECK ALL THAT APPLY)

1 personal reference – friend, relative, co-worker
2 employer
3 direct mail
4 advertisement – newspaper, radio, TV, on bus, at bus stop or rail station
5 Commuter Connections
6 called transit agency directly
7 The Internet
8 kiosk
9 The Commuter Store
10 SMARTRAVELER (phone service)
11 have always used transit
12 always knew it was there
* other (SPECIFY)

GUARANTEED RIDE HOME

(IF Q5A = 5, 6, OR 7, ASK Q8, OTHERWISE SKIP TO Q10)

8. You said that you received information from Commuter Connections on the Guaranteed Ride Home program. At the time you requested information about GRH, what type of transportation were you using regularly (2 or more days per week) for your commute?

1 drive alone
2 carpool
3 vanpool
4 bus or rail transit, or buspool
5 bike/walk
* other (SPECIFY)

8A. Did you register for the GRH program?

1 yes (SKIP TO Q8C)
2 no (ASK Q8B THEN SKIP TO Q10)
3 tried to register, but did not meet eligibilty requirements (SKIP to Q10)

8B. What were the reasons you did not register?

1 couldn't use CP/VP/TR 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
* other (SPECIFY)

Test for GRH Influence

No change and previous alt mode use
IF Q3 AND Q3B AND Q3F-1 AND Q3F-2 AND Q3C AND Q3D AND Q3F AND Q3G = NO,
AND RESPONSE TO Q8 = 2, 3, 4, OR 5, ASK Q8C AND Q8D, THEN SKIP TO Q8H

Change, with or without previous alt mode use
IF (Q3 OR Q3B OR Q3F-1 OR Q3F-2 OR Q3C OR Q3D OR Q3F) = YES OR Q3H = 1-5, SKIP TO Q8E

Other cases – (e.g., no change and previous DA, unknown change)
ALL OTHER CASES, SKIP TO Q8H

8C. How important was the availability of the GRH program to your decision to continue carpooling, vanpooling, using transit, biking, or walking (FROM Q8)? Was it … (READ CHOICES)

1 very important
2 somewhat important
3 not at all important

8D. If the GRH service were not available, how likely would you have been to continue carpooling, vanpooling, using transit, biking, or walking (FROM Q8)? Would you have been … (READ CHOICES)

1 very likely
2 somewhat likely
3 not at all likely
4 don't know

SKIP TO Q8H

8E. You said that you had made a change in the way you get to work or had tried another type of transportation. How important was the availability of the GRH program, relative to other information, assistance, or benefits you received, in influencing this decision?

1 most important, somewhat more important, or very important
2 same importance
3 more important than some and less important than others (ASK Q8F)
4 less important, not very important, or not at all important (ASK Q8F)
5 GRH was only assistance received

8F. What other information, assistance, or benefit was more important to your decision than GRH? (READ ALL SERVICES MENTIONED BY RESPONDENT IN Q5A, Q5B, and Q5E, CHECK ALL THAT APPLY)

1 service 1 _____	5 service 5 _____
2 service 2 _____	6 service 6 _____
3 service 3 _____	7 service 7 _____
4 service 4 _____	8 service 8 _____

1. CC – matchlist
2. CC – transit info
3. CC – P&R info
4. CC – vanpool assistance
5. CC – GRH information or registration
6. N/A
7. CC – GRH trip
8. CC – telecommuting information
9. CC – HOV lane specs
10. E – car/vanpool info/match
11. E – transit info
12. E – discount/free transit pass/Metrochek / Smart Trip Card
13. E – other cash incentive
14. E – employer GRH
15. E – compressed work week/telecommute
16. E – carpool/vanpool preferential parking
17. E – parking fees
18. E – carpool/vanpool discount parking fee
19. E – Smart Tag / E-Z Pass subsidy
20. E – HOV lane info
21. E – shuttle bus
22. E – Federal Tax Benefit / Commuter Choice Program
23. E – referred to Commuter Connections
24. OP – matchlist
25. OP – GRH
26. OP – transit info
27. OP – discount/free transit pass/Metrochek / Smart Trip Card
28. OP – other cash incentives
29. OP – telecommuting info
30. OP – HOV info
31. OP – P&R info
32. OP – vanpool assitance
33. OP – Smart Tag / E-Z Pass info
34. OP – referred to Commuter Connections
35. OP – NuRide-carpool incentive
36. services did not influence
37. no change made

8G. If the GRH service were not available, how likely would you have been to make this change in your commute? Would you have been … (READ CHOICES)

1 very likely
2 somewhat likely
3 not at all likely
4 don't know

8H. Have you used the GRH service since you signed up?

1 yes
2 no (SKIP TO Q10)

8I. For what reason did you use it?

1 illness (self)
2 illness of family member
3 other personal emergency
4 illness of carpool partner
5 unscheduled overtime
* other (SPECIFY)

8J. Was the service satisfactory?

1 yes (SKIP TO Q10)
2 no

8K. What about the service was not satisfactory?

1 waited too long
2 hard to get approval
3 didn't like taxi/driver
* other (SPECIFY)

DEMOGRAPHICS

10. Now I have a few last questions for classification purposes. First, about how many employees work at your worksite? Is it . . . (READ CHOICES)

1 1-25
2 26-50
3 51-100
4 101-250
5 251-999
6 1,000+
9 DK/Refused

10A. What is your occupation?

_____
9 DK/Refused

10B. What type of employer do you work for? Is your employer a federal agency, a state or local government agency, a non-profit organization or association, a private employer, or are you self-employed?

1 federal agency
2 state, or local government agency
3 non-profit organization or association
4 private sector employer
5 self-employed
* other (SPECIFY) _____
9 DK / Ref

10C. Which of the following groups includes your age? (READ CHOICES)

1 under 18
2 18 - 24
3 25 - 34
4 35 - 44
5 45 - 54
6 55 - 64
7 65+
9 DK/Ref.

10D1. Do you consider yourself to be Latino, Hispanic, or Spanish?

1 Yes
2 No
9 DK/Ref.

10D2. Which of the following best describes your ethnic background. Is it . . . (READ CHOICES)

1 White
2 Black or African-American
3 American Indian or Alaska native
4 Asian
5 Native Hawaiian or other Pacific Islander
* or something else (SPECIFY) _____
9 DK/Ref.

10E. Finally, please stop me when I reach the category that best represents your household's total annual income. Is it . . . (READ CHOICES)

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 or more
19 DK / Ref

Thank you very much for your time and cooperation!

(RECORD SEX:)
1 male
2 female

Appendix B
Comparison of November 2008 Survey Results with Results for November 2005, November 2004, November 2003, and November 2002 Surveys

Current Travel Information

Table B-1
Current Mode Split – Weekly Trips
All Modes (including compressed work schedule and telework days)
(n=703)

	2008	2005	2004	2003	2002
CWS	**2.2%**	**2.4%**	**2.5%**	**2.8%**	**2.6%**
Telework	**3.2%**	**2.3%**	**1.9%**	**1.2%**	**1.2%**
DA/Motorcycle	**24.6%**	**25.6%**	**27.4%**	**24.9%**	**30.0%**
CP	**16.9%**	**21.4%**	**24.4%**	**17.9%**	**23.0%**
Regular CP	13.0%	14.8%	17.3%	13.4%	17.4%
Slug	3.9%	6.6%	7.1%	4.5%	5.6%
VP	**15.2%**	**13.8%**	**11.6%**	**9.1%**	**12.7%**
Bus	**17.5%**	**11.4%**	**11.8%**	**9.5%**	**10.1%**
Buspool	0.1%	1.0%	0.2%	0.9%	0.4%
Bus	17.4%	10.4%	11.6%	8.6%	9.7%
Train	**20.4%**	**22.8%**	**20.3%**	**34.2%**	**20.0%**
Metrorail	11.3%	12.4%	11.4%	12.8%	12.4%
MARC	2.9%	3.6%	3.6%	9.5%	2.6%
VRE	6.2%	6.7%	5.3%	11.9%	4.8%
AMTRAK	0.0%	0.1%	0.0%	0.0%	0.2%
B/W	**0.1%**	**0.4%**	**0.3%**	**0.2%**	**0.3%**
Bicycle	0.1%	0.1%	0.1%	0.1%	0.2%
Walk	0.0%	0.3%	0.2%	0.1%	0.2%

Table B-2
Current mode split – Percent of Weekly Trips
Mode Groups (excluding CWS and TW days)
(n=700)

	2008	2005	2004	2003	2002
DA/Motorcycle	26.0%	26.8%	28.6%	26.0%	31.1%
CP	17.8%	22.4%	25.5%	18.7%	23.9%
VP	16.1%	14.5%	12.1%	9.5%	13.2%
Bus	18.5%	11.9%	12.3%	9.9%	10.5%
Train	21.5%	24.0%	21.2%	35.7%	20.8%
B/W	0.1%	0.4%	0.3%	0.2%	0.5%

Table B-3
Work Non-standard/Flexible Work Schedules
(n=700)

	2008	2005	2004	2003	2002
No	**55%**	**65%**	**70%**	69%	63%
Yes	**45%**	**35%**	**30%**	31%	37%
4/40	4%	2%	1%	2%	2%
9/80	19%	16%	17%	13%	15%
Flextime	23%	17%	13%	16%	20%

Table B-4
Average Length of Commute (Distance and Time)
(n=700)

	2008	2005	2004	2003	2002
Distance	36.3 mi	36.5 mi	34.9 mi	35.6 mi	31.6.mi
Time	63 min	67 min	62 min	66 min	57 min

Table B-5
Carpool/Vanpool Occupancy

	2008	2005	2004	2003	2002
Carpool/slug	2.9	3.1	2.9	2.9	2.9
Vanpool	10.3	11.0	10.5	10.5	11.4

Table B-6
Frequency of Driving Among Carpool/Vanpool Respondents

	2008	2005	2004	2003	2002
(n=____)	276	276	279	211	282
Always drive	8%	12%	11%	9%	12%
Sometimes drive	55%	52%	48%	43%	45%
Never drive	36%	36%	41%	48%	43%

Table B-7
Access Mode and Distance to Rideshare or Transit Meeting Points

	2008	2005	2004	2003	2002
(n=____)	508	498	489	511	463
Picked-up at home	7%	9%	8%	7%	8%
Drive to driver's home	6%	13%	10%	2%	4%
Drive to central location	71%	62%	69%	74%	72%
Another pool/drop off	1%	2%	2%	3%	2%
Walk	12%	11%	7%	11%	10%
Drive CP/VP	1%	1%	<1%	1%	1%
Bus/transit	2%	2%	3%	3%	3%
Ave access distance	6.5 mi	6.8 mi	6.0 mi	6.2 mi	5.6 mi

Travel Changes

Table B-8
Made Travel Change Since Receiving Information/Assistance

	2008	2005	2004	2003	2002
(n=____)	703	701	700	700	700
Started CP/tried CP	9.1%	14.0%	15.4%	10.2%	14.3%
Started VP/tried VP	4.9%	7.4%	5.8%	5.1%	4.6%
Started transit / B/W	12.3%	15.6%	11.1%	15.0%	18.3%
Started telework/CWS	4.4%	4.4%	3.4%	2.2%	4.1%
Inc days using alt modes	0.0%	0.0%	1.8%	0.0%	1.9%
Added person to CP/VP	6.9%	3.1%	3.0%	0.0%	2.5%
TOTAL	**37.7%**	**44.5%**	**40.5%**	**32.5%**	**45.7%**

Table B-9
Reasons for Making Change*

	2008	2005	2004	2003	2002
(n=____)	276	300	256	223	332
Gas prices too high	18%	N/A	N/A	N/A	N/A
Save money	14%	26%	18%	19%	12%
Save time	12%	23%	18%	22%	17%
Changed jobs	23%	16%	14%	14%	22%
Circumstances (no vehicle)	4%	11%	8%	14%	13%
Tired of driving	9%	9%	12%	10%	7%
Moved residence	8%	6%	6%	11%	8%
Reduce congestion/pollution	3%	6%	3%	5%	4%
Others doing it (e.g., family)	2%	4%	<1%	<1%	<1%
Use HOV lane	<1%	2%	5%	2%	2%
Parking cost too high	1%	2%	1%	<1%	2%
Special program at work	<1%	1%	3%	N/A	N/A
Metrochek/financial incentive	<1%	1%	2%	3%	2%
New option available	<1%	<1%	3%	N/A	N/A
Found new CP/VP rider	10%	<1%	5%	2%	9%
Save wear and tear on car	3%	<1%	4%	2%	2%
Just to try it	<1%	<1%	1%	2%	2%
Safety	<1%	<1%	<1%	2%	1%
Too stressful/traffic	<1%	<1%	<1%	1%	3%

* Multiple responses permitted

Table B-10
Was Change Temporary or Continued?

	2008	2005	2004	2003	2002
(n=____)	285	306	271	224	332
Continued change	67%	60%	67%	63%	61%
Temporary change	33%	34%	33%	37%	39%
Occasional use change	N/A	6%	N/A	N/A	N/A

Table B-11
Continued and Temporary Placement Rates and VTR Factors

	2008	2005	2004	2003	2002
Continued placement rate	25.4%	26.9%	27.4%	20.4%	28.0%
Temporary placement rate	12.3%	15.0%	13.2%	12.1%	17.7%
Occasional use placement rate	N/A	2.6%	N/A	N/A	N/A
Continued VTR	-0.37	-0.45	-0.37	-0.44	-0.40
Temporary VTR	-0.66	-0.57	-0.31	-0.42	-0.57
Average duration of temporary change	5.5 weeks	6.5 weeks	5.9 weeks	4.3 weeks	4.2 weeks

Information Received

Table B-12
How Contact Was Made with Commuter Connections
(n=700)

	2008	2005	2004	2003	2002
CC page on Internet	73%	62%	56%	64%	52%
Called CC directly	20%	25%	26%	24%	26%
Employer/through work	5%	5%	5%	8%	12%
Another internet site	4%	5%	8%	2%	2%
Local jurisdiction program	N/A	2%	<1%	1%	3%

Table B-13
Information Requested From Commuter Connections
(n=700)

	2008	2005	2004	2003	2002
Rideshare	68%	82%	82%	59%	86%
- Carpool only	15%	12%	13%	6%	11%
- Vanpool only	6%	13%	11%	4%	6%
- Carpool and vanpool	47%	57%	58%	49%	69%
Transit	3%	11%	11%	12%	7%
Guaranteed Ride Home	68%	63%	70%	66%	47%

Table B-14
Types of Information Received from Commuter Connections
(n=700)

	2008	2005	2004	2003	2002
Matchlist	42%	67%	66%	48%	64%
GRH info / registration	69%	60%	70%	61%	49%
GRH registration	N/A	36%	52%	52%	31%
Transit info	17%	28%	28%	33%	27%
P&R info	13%	25%	26%	21%	20%
Vanpool assistance	10%	19%	27%	22%	18%
GRH trip	115	9%	18%	14%	6%
Telecommute	5%	9%	11%	9%	8%
HOV lane info	3%	7%	12%	8%	7%

* Multiple responses permitted

Table B-15
Types of Information Received from Employer *
(n=700)

	2008	2005	2004	2003	2002
Discount/free transit pass	60%	56%	55%	58%	47%
Other cash incentive	4%	7%	4%	3%	4%
CP/VP information / matchlist	4%	5%	8%	9%	5%
Transit information / schedule	4%	3%	2%	4%	2%
Federal tax benefit	3%	3%	2%	3%	3%
CP/VP parking discount	2%	2%	3%	3%	2%
Preferential parking	2%	2%	2%	3%	2%
CWS / telework	2%	2%	<1%	<1%	<1%
None	27%	30%	30%	30%	37%

* Multiple responses permitted

Table B-16
Received Information from Other Organization
(n=700)

	2008	2005	2004	2003	2002
Yes	4%	7%	6%	5%	5%
No info from other org	96%	93%	94%	95%	95%

Table B-17
Improvements Desired of Commuter Connections *
(n=700)

	2008	2005	2004	2003	2002
None needed	38%	42%	32%	40%	37%
More current info	7%	10%	7%	6%	12%
Better fit in matches	7%	8%	8%	6%	10%
More match name	7%	6%	5%	6%	8%
More advertising	4%	6%	4%	5%	5%
More follow-up assistance	4%	4%	5%	1%	3%
Transit improvements	3%	4%	6%	7%	8%
Use internet/website	4%	4%	2%	3%	4%
Matches more interested in RS	3%	3%	3%	2%	2%
GRH suggestions	4%	3%	3%	4%	3%
Quicker response	<1%	3%	2%	3%	5%
More info on match names	<1%	3%	2%	N/A	N/A
Vanpool resources/assistance	2%	2%	2%	2%	4%
Better transit info	2%	2%	2%	1%	2%

* Multiple responses permitted

Use/Influence of Information Received

Table B-18
Received Match Names?
(n=700)

	2008	2005	2004	2003	2002
Yes, received match names	42%	67%	66%	48%	64%
No, didn't receive match names	58%	33%	34%	52%	36%

Table B-19
Try to reach People Named on the List?

	2008	2005	2004	2003	2002
(n=____)	310	461	448	332	459
Yes, tried to reach people	56%	56%	52%	49%	53%
No, didn't try to reach people	44%	44%	48%	51%	47%

Table B-20
Able to Reach People on List?

	2008	2005	2004	2003	2002
(n=____)	176	256	231	161	242
Yes, reached people on list	84%	88%	88%	89%	89%
No, didn't reach people on list	16%	12%	12%	11%	11%

Table B-21
Commuters Reached Interested in Ridesharing?

	2008	2005	2004	2003	2002
(n=____)	146	224	204	141	216
Yes, interested in RS	59%	49%	45%	45%	44%
No, not interested in RS	20%	16%	26%	21%	21%
Schedule/locations not compatible	21%	35%	29%	34%	35%

Table B-22
Reasons for Not trying to Reach Commuters

	2008	2005	2004	2003	2002
(n=____)	136	207	114	171	220
Work hours not compatible	25%	28%	29%	25%	24%
Locations not compatible	25%	26%	16%	23%	23%
Didn't want to RS	16%	17%	12%	17%	12%
Already found RS arrangement	19%	12%	23%	15%	25%
Haven't gotten to it	8%	11%	11%	10%	10%
Changed jobs	<1%	3%	4%	2%	2%
Changed residence	2%	2%	4%	2%	<1%
Looking for driver	2%	N/A	NA	NA	N/A

Table B-23
Did Respondent Contact Transit Agency?
(Asked of Respondents Who Said They Received Transit Information)

	2008	2005	2004	2003	2002
(n=____)	117	189	187	229	184
Yes, contacted agency	31%	37%	38%	32%	30%
No, didn't contact agency	69%	63%	62%	68%	70%

Table B-24
Did Respondent Use Information to Try Transit?

	2008	2005	2004	2003	2002
(n=____)	34	42	36	41	35
Yes, used info to try transit	7%	83%	60%	88%	77%
No, didn't use info to try transit	23%	17%	40%	12%	23%

Table B-25
Why Did Respondent Decide Not to Contact Transit Agency? *

	2008	2005	2004	2003	2002
(n=____)	81	125	121	160	129
Wasn't interested	23%	30%	21%	34%	15%
Prefer other modes/current mode	20%	25%	24%	18%	28%
Already had info	<1%	17%	20%	16%	13%
Never got around to it	6%	11%	15%	7%	10%
Too far from home/work	17%	5%	11%	12%	12%
Already using transit	<1%	4%	0%	4%	4%
Routes/times not convenient	<1%	<1%	0%	4%	4%
Would never use transit	27%	2%	2%	2%	3%

* Multiple responses permitted

Table B-26
Did Respondent Use Park & Ride Information?
(Asked of Respondents Who Said They Received P&R Information)

	2008	2005	2004	2003	2002
(n=____)	62	134	140	96	91
Yes, used P&R info	42%	54%	57%	47%	44%
No, did not use P&R info	58%	46%	43%	53%	56%

Table B-27
Used Park & Ride Lot Before Receiving Information?

	2008	2005	2004	2003	2002
(n=____)	26	73	78	45	40
Yes, used P&R lot before	48%	53%	40%	50%	43%
No, didn't use P&R before	52%	47%	60%	50%	57%

Table B-28
Aware of Park & Ride Lot Before Receiving Information?

	2008	2005	2004	2003	2002
(n=____)	26	73	78	45	40
Yes, knew of P&R before	73%	67%	63%	69%	65%
No, didn't know of P&R before	27%	33%	37%	31%	35%

Table B-29
Did Information Respondent Received Influence Decision to Make Travel Change?

	2008	2005	2004	2003	2002
(n=____)	285	311	268	264	343
Yes, influenced decision	30%	33%	35%	32%	27%
No, didn't influence decision	70%	67%	65%	68%	73%

2008 Influences

Matchlist (15%), transit info (5%), Metrochek/transit discount (9%), GRH (11%), VP assistance (3%), P&R info (2%)

2005 Influences

Matchlist (15%), transit info (8%), Metrochek/transit discount (8%), GRH (7%), VP assistance (4%), P&R info (3%)

2004 Influences

Matchlist (18%), transit info (10%), Metrochek/transit discount (8%), GRH (8%), VP assistance (5%), P&R info (4%), HOV lane info (2%)

2003 Influences

Matchlist (11%), transit info (10%), Metrochek/transit discount (7%), VP assistance (3%), P&R info (3%), GRH (5%)

2002 Influences

Matchlist (14%), transit info (6%), Metrochek/transit discount (4%), VP assistance (2%), P&R info (2%), GRH (3%)

Guaranteed Ride Home (GRH)

Table B-30
Mode Used When Requesting GRH Information

	2008	2005	2004	2003	2002
(n=____)	487	442	492	464	352
DA/Motorcycle	14%	20%	24%	21%	28%
CP	19%	22%	22%	15%	20%
VP	17%	14%	14%	11%	14%
Bus/train	50%	45%	42%	52%	38%

Table B-31
Register for GRH?

	2008	2005	2004	2003	2002
(n=____)	478	441	492	464	352
Yes, registered for GRH	86%	76%	73%	74%	63%
No, didn't register for GRH	14%	24%	27%	26%	37%

Table B-32
Likely to Start Using Alternative Mode Without GRH

	2008	2005	2004	2003	2002
(n=____)	59	170	151	135	113
Very likely to start	59%	52%	47%	52%	51%
Somewhat likely to start	17%	29%	28%	23%	26%
Not at all likely to start	24%	19%	25%	25%	23%

Table B-33
Importance of GRH to Decision to Continue Using Alternative Mode

	2008	2005	2004	2003	2002
(n=____)	110	146	177	194	91
Very important to decision	59%	46%	43%	35%	43%
Somewhat important to decision	26%	29%	33%	39%	25%
Not at all important to decision	15%	25%	24%	27%	32%

Table B-34
Likely to Continue Using Alternative Mode Without GRH

	2008	2005	2004	2003	2002
(n=____)	109	146	179	194	91
Very likely to continue	69%	73%	78%	73%	79%
Somewhat likely to continue	21%	17%	17%	22%	14%
Not at all likely to continue	10%	11%	6%	5%	7%

Table B-35
Respondent Used GRH Trip?

	2008	2005	2004	2003	2002
(n=____)	410	364	365	350	219
Yes, used GRH trip	27%	23%	18%	14%	19%
No, didn't use GRH trip	73%	77%	82%	86%	81%

APPENDIX C
CALCULATIONS OF IMPACTS - ALL PLACEMENTS, JULY – SEPT. 2008

Populations of Interest – Commuter Connections Rideshare Applicants

Total assisted commuters		**3,965**		
Within MSA (69%)		2,475		
Outside MSA (31%)		1,490		
COC Placement Rates		**In MSA**	**Out MSA**	
• Continued rate		22.4%	30.4%	
• Temporary rate		12.1%	12.6%	
Placements				
• Continued		554	452	(Apps x continued rate)
• Temporary		300	188	(Apps x temporary rate)
• **Total placements**	**1,493**			
Daily Vehicle Trips Reduced				
VTR Factors				
• Continued		0.37	0.38	
• Temporary		0.66	0.45	
• Temporary discount		5.3%	5.8%	
• Continued trips reduced		205	170	(Placements x cont. VTR factor)
• Temporary trips reduced		11	5	(Placements x temp. VTR factor)
Total VT reduced	**391**			
Daily VMT Reduced				
Ave one-way trip distance (mi)				
• Continued		29.4	29.4	(Actual outside-MSA dist. 49.0 miles)
• Temporary		28.6	28.6	(Actual outside-MSA dist. 43.2 miles)
• Continued VT reduced		6,024	4,993	(Vehicle trips x ave distance)
• Temporary VT reduced		303	140	
Total VMT Reduced	**11,460**			

Appendix C (continued)

Trip and VMT Adjustment for SOV Access to HOV Modes (reduce VT and VMT for AQ analysis)

	In MSA	Out MSA*
• Continued SOV access %	62%	0%
• Temporary SOV access %	31%	0%
• Continued SOV access dist (mi)	5.5	0.0
• Temporary SOV access dist (mi)	5.3	0.0

VT Reduction

• No SOV access (cont)	78	170	(VT x (1-SOV access %))
• No SOV access (temp)	7	5	(VT x (1-SOV access %))
Total VT for AQ analysis	**260**		

VMT Reduction

• No SOV access (cont)	2,280	4,993	(VT x SOV % x (dist – access dist))
• No SOV access (temp)	208	140	(VT x SOV % x (dist – access dist))
• SOV access (cont)	3,037	0	
• SOV access (temp)	77	0	
Total VMT for AQ analysis	**10,735**		

Daily Emissions Reduced

NOx	**Trips**	**08 Emis. Factor**	**VMT**	**08 Emis. Factor**	**Tot gm**	**Tot ton**
• Cold start	260	0.6292			163	0.0002
• Running (40 mph)			10,736	0.4288	4,604	0.0051
Total NOx reduced (tons)						**0.0053**

VOC	**Trips**	**08 Emis. Factor**	**VMT**	**08 Emis. Factor**	**Tot gm**	**Tot ton**
• Cold start	260	1,7343			451	0.0005
• Running (40 mph)			10,736	0.1836	1,971	0.0022
Total VOC reduced (tons)						**0.0027**

* Respondents who lived outside the MSA also used DA to access rideshare modes, but these DA trips and VMT were not counted, because they occurred outside the MSA. Thus, any air quality impact of the DA trips would also have occurred outside the MSA.

Appendix C (continued)

Daily Emissions Reduced (cont)

PM 2.5	Trips	08 Emis. Factor	VMT	08 Emis. Factor	Tot gm	Tot ton
• Cold start	260	0.0			0	0.0000
• Running (40 mph)			10,736	0.0115	1,971	0.0001
Total PM 2.5 reduced (tons)						**0.0001**

PM 2.5 NOx precursor	Trips	08 Emis. Factor	VMT	08 Emis. Factor	Tot gm	Tot ton
• Cold start	260	0.6652			173	0.0002
• Running (40 mph)			10,736	0.4038	4,335	0.0048
Total VOC reduced (tons)						**0.0050**

Annual Emissions Reduced

CO2	Trips	08 Emis. Factor	VMT	08 Emis. Factor	Tot gm	Tot ton
• Cold start	260	0.0			0	0.000
• Running (40 mph)			10,736	455.7	4,892,303	5.393
Total CO2 reduced (tons per day)						5.393
Total CO2 reduced (tons per year)						**1,348.0**

Daily Energy Saving

Daily Energy Savings **482 gal/day**
(total daily VMT reduced / 23.8 miles/gallons)
(11,460 / 23.8

Annual Commuter Cost Savings Saving **

Annual Commuter Cost Savings **$487,050 / year**
(VMT reduced x $0.170/mi. x 250 days)
(11,460 x 0.17 x 250)

Cost Saving per commuter **$472 / year**
(cost saving / number of placements)**
($487,050 / 1,032)

** Respondents with temporary changes were included in this calculation, but they would receive cost savings for only the percentage of a year that represented the duration of their change. Total placements counted = 1,006 continued placements + 26 discounted temporary placements (5.4% * 487).