ITEM# 5

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS

COMMUTER CONNECTIONS
TRANSPORTATION DEMAND MANAGEMENT
EVALUATION PROJECT

FISCAL YEAR 2006
APPLICANT DATABASE
ANNUAL PLACEMENT SURVEY REPORT
APPLICATIONS RECEIVED DURING JULY-SEPTEMBER 2005
(NOVEMBER, 2005 SURVEY)

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Metropolitan Washington Council of Governments

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LDA CONSULTING

EXECUTIVE SUMMARY

This Survey Report presents results of a survey about commuter transportation assistance services offered by the Commuter Connections program of the Metropolitan Washington Council of Governments (COG) to commuters and employers in the Washington, DC region.

Commuter Connections' services include: carpool and vanpool matchlists, transit route and schedule information, information on Park & Ride lot locations 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 a Commuter Connections information kiosk, 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 2005 through a telephone survey of 701 respondents randomly selected from the applicant database. The surveys collected data for applicants who received information or assistance between July 1 and September 30, 2005.

Commuter Connections Program Activity Summary and Overall Participation, Utilization, and Satisfaction Performance Measures Placement Survey, July-September 2005

• Commuter applicants	7,881	
• Applicant placement rates	44.5%	
- Continued placement rate		26.9%
- Temporary placement rate		15.0%
- Occasional use placement rate		2.6%
• Applicants placed in alternative modes	3,503	
- Continued placements		2,121
- Temporary placements		1,177
- Occasional use placements		205
• Applicants desiring rideshare information (carpool or vanpool)		82%
- Applicants who remembered receiving matchlist		67%
- Applicants who remembered receiving vanpool assistance		19%
- Applicants who remembered receiving Park & Ride info		25%
• Applicants desiring transit information		11%
- Applicants who remembered receiving transit information		28%
• Applicants interested in GRH		63%
- Applicants who remembered receiving GRH information/registration		63%
• Commuters suggesting Commuter Connections improvements		32%

Commuter Connections Program
Program Impact Performance Measures
Placement Survey, July-September 2005

• Daily vehicle trips (VT) reduced	**1,047**	**trips**
- Continued placements	964	trips
- Temporary placements (prorated credit)	83	trips
• Daily VMT reduced	**33,620**	**VMT**
- Continued placements	31,036	VMT
- Temporary placements (prorated credit)	2,584	VMT
• Daily tons of NOx reduced	**0.024**	**tons**
• Daily tons of VOC reduced	**0.011**	**tons**
• Gallons of gasoline saved	**1,413**	**daily gallons of gas**
• Commuter costs reduced (daily)	**$5,514**	**per day**
- Annual cost saving per placement	**$607**	**per year**

* *See Appendix B for calculations*

OTHER KEY SURVEY RESULTS

Demographics

- More than half of the respondents were female (58%).
- The majority (65%) of respondents were white and between 35 and 54 years old (65%). Nearly all (95%) respondents had an annual household income of $40,000 or more and more than two-thirds (65%) had an income of $80,000 or more.

Commute Travel Patterns

- About four in ten (41.4%) respondents carpooled or vanpooled at least one day per week. Carpool and vanpool trips made up 36.9% of the weekly commute trips made by applicants.
- Four in ten (39.4%) respondents said they use transit at least one day per week. Transit trips accounted for 35.4% of applicants' weekly commute trips. About a third (35%) of transit trips were made on Metrorail. Commuter rail accounted for another third (32%) of transit trips

- The average one-way commute distance was 36.3 miles. The average one-way commute time was 67 minutes.

Commute Changes

- Nearly half (44.5%) 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 26.9%. The temporary placement rate (percent of applicants who made a change but returned to their original modes) was 15.0%. An additional 2.6% of respondents said they made a continued change, but were using the new mode only "occasionally," that is, less than one time per week, on average.

- About 38% of respondents who made a mode change shifted from driving alone. The remaining 62% shifted from one alternative mode to another.

Information and Assistance Requested and Received

- The Commuter Connections' applicant database shows that 82% of respondents had requested ride-sharing information when they contacted Commuter Connections for assistance. Two-thirds (63%) of respondents requested Guaranteed Ride Home information or registration and about 11% requested information on transit.

- About two-thirds (67%) of 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.

- One-quarter (27%) of respondents remembered receiving transit information on a matchlist. A third (37%) of these respondents said they used the information provided to contact a transit agency. The majority (83%) of respondents who contacted a transit agency said they used information they received from the transit agency to try transit.

- About 33% 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. Matchlists from Commuter Connections were mentioned by 15% of these respondents. Eight percent mentioned transit information provided by Commuter Connections and seven percent said Commuter Connections' GRH program influenced their decisions.

- More than two-thirds (70%) 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., Metrochek), offered by 56% of employers. Smaller percentages of employers offered cash incentives (7%), vanpool information (5%), or transit schedules (3%).

Commuter Connections Improvements Desired

- About two in five respondents (42%) thought Commuter Connections needed no service improvements and an additional 16% 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 (10%), matches fit respondents' travel patterns better (8%), more match names (6%), GRH changes, and vanpool resources/assistance (2%). Suggestions also were made for more advertising (6%), internet enhancements (4%), more Commuter Connections follow-up (4%), and quicker response (3%).

Guaranteed Ride Home Program

- About 63% of respondents requested and received GRH information. The majority (76%) of these respondents registered for GRH.

- One in five (20%) 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 80% were using an alternative mode as their primary travel method for commuting.

- About one in five (19%) 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 11% 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 (23%) of GRH respondents said they had used the GRH program since they had registered for it. The great majority (85%) of 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 701 commuters who applied to the regional rideshare database, administered by the Commuter Connections Program of the Metropolitan Washington Council of Governments (COG), between July 1 and September 30, 2005.

The primary purpose of conducting this survey was to collect data to document transportation, air quality, energy, and cost impacts of two commuter transportation assistance services offered by Commuter Connections to commuters and employers in the Washington, DC metropolitan region. The first, the Commuter Operations Center (COC), provides basic commute information and assistance, such as regional ridematching and transit and Park & Ride information. The second service, which is administered through the COC, is Integrated Rideshare, a Transportation Emission Reduction Measure (TERM) adopted by Commuter Connections to support regional air quality improvement goals.

The survey described in this report represents an annual survey. A similar annual survey was conducted in 2004 as well as in 2003, with results reported in Fiscal Year 2005 and 2004 Placement Survey Reports (May 2005 and May 2004). Prior to 2003, 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 survey and for the 2003 survey documented in this report. This survey covers applications received between July 1, 2005 and September 30, 2005, and the results will represent the performance for all applications received during FY 2006 (July 1, 2005 through September 30, 2005).

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 2004 applicant survey, with the following very minor changes:

- A statement was added to Q6B to clarify Commuter Connection's role in providing commute services in the region (e.g., CC not responsible for developing transit routes or schedules)
- Driver and Picked up at home options were added to Q2E, Q4C-1, and Q4G to clarify carpool/vanpool formation meeting points.
- List of telework centers was updated in Q9D and Q9L to reflect currently operating centers

Sample Selection

The survey described in this report was conducted with applicants who received assistance from Commuter Connections between July 1 and September 30, 2005. Respondents were chosen randomly from the commuter database. A random sample of 1,333 (23 of these were duplicates or without telephone numbers, allowing for 1,310 remaining sample points) was first chosen from the 7,881 applicants entered during the July 1 through September 30 survey analysis period.

A total of 1,000 sample points were loaded into CIC's CATI computer system. A replacement sample of 112 (from the remaining 310) was drawn at a later date to replace 49 records with the wrong number, 24 records not in service, 35 no longer with the company, and four records with only a fax/modem number.

Alert letter and Interviews

Prior to the start of the survey interviews, COG staff sent an introduction letter on COG letterhead by November 1 to commuters in the selected sample. The letter informed potential respondents of the survey and requested their participation.

Interviewing was initiated on October 31st and completed on November 29, 2005. 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 the requirement of a 70% response rate, interview calls were made until 701 interviews were completed from the list, including replacement of the 112 applicants. An average of 12.4 call attempts was made for each completed interview.

This was an increase from the average of 10.4 call attempts from the 2004 survey, and a further increase from the 9.5 call attempts from the 2003 survey. It is also an increase from the combined average of 9.9 call attempts per completed interview experienced for the five previous surveys, and a substantial increase over the combined average of 7.5 call attempts per completed interview made during the first four-survey series. 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	46.8%	41.2%
Reapply/Follow-up applicant	52.9%	58.6%
<5 Passive Match	0.3%	0.2%

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 701 respondents while the total applicant group contained 7,881 individuals. 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 103 applicants were eligible for inclusion in the non-response survey[1]. These were applicants who refused to participate in the survey when initially called.

CIC attempted to contact 41 applicants. This sample size would have elicited a 90 percent confidence level and 10 percent error rate coupled with the inclusion of a population correction factor. However, 40 (38%) of the 103 eligible applicants refused to complete the survey and six were not working at the time of the survey. A minimum of eight calls and as many as 13 calls were made to the remaining sample points before either completing them or eliminating them from the survey. Almost all of the calls made to numbers eliminated from the survey were answering machines.

CIC was able to complete only 34 surveys from the non-response group of 103 applicants. As a result, this sample size elicits a 90 percent confidence level and 11.5% error rate coupled with the inclusion of a population correction factor. 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 - Miles traveled from home to work, and for number of employees at the worksite.

[1] Refusal rate of 10.3% was calculated as the number of initial refusals plus the number terminated during the interview, divided by the total sample.

SECTION 3 COMMUTER PLACEMENT SURVEY RESULTS

This section presents the results of the November 2005 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)
- Telework/Telecommute services (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 2002, November 2003, and November 2004. 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 (65%) or Maryland (33%). Top home locations included: Prince William County, VA (10%), Fairfax County, VA (14%), Stafford County, VA (13%), Montgomery County, MD (9%), Spotsylvania County, VA (9%), Prince George's County, MD (6%), and Loudoun County, VA (5%).

Table 1
Distribution by Home and Work Locations

State/County	Home Location (n=701)	Work Location* (n=701)
District of Columbia	2%	49%
Maryland Counties	33%	17%
Virginia Counties	65%	34%
Other**	<1%	0%

* Work location percentages for Maryland and Virginia include only counties located in the COG 18-jurisdiction region (District of Columbia; Maryland: Bowie, College Park, Frederick County, Gaithersburg, Greenbelt, Montgomery County, Prince Georges County, Rockville, and Takoma Park; Virginia: 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 one percent of respondents.

Work locations were more evenly divided. About half of the respondents (49%) worked in the District of Columbia. One-third (34%) worked in Virginia and two in ten (17%) worked in Maryland. Top work locations outside the District of Columbia included: Arlington County, VA (17%), Montgomery County, MD (11%), and Fairfax County, VA (8%).

Demographics

The survey asked respondents four demographic classification questions: sex, age, income, and ethnic group. Respondents were disproportionately female, 58% female to 42% male. The remaining demographic categories are summarized in Tables 2 through 4.

Age – As shown in Table 2, 83% of the respondents were between 25 and 54 years old.

Table 2
Distribution by Age
(n=691)

Age Group	Percentage	Age Group	Percentage
24 or under	3%	45 – 54	29%
25 – 34	18%	55 – 64	12%
35 – 44	36%	Over 64	2%

Income – As detailed in Table 3, 95% of respondents had an annual household income of $40,000 or more and more than two-thirds (65%) had an income of $80,000 or more.

Table 3
Distribution by Annual Household Income
(n=606)

Income	Percentage	Income	Percentage
Less than $30,000	1%	$80,000 – 99,999	21%
$30,000 – 39,999	4%	$100,000 – 119,999	17%
$40,000 – 59,999	12%	$120,000 – 139,999	11%
$60,000 – 79,999	18%	$140,000 or more	16%

Ethnic Background – Next, as illustrated in Table 4, Caucasians and African-Americans represented the two largest ethnic group categories of survey respondents, 65% and 20% respectively. Hispanics accounted for about five percent and Asians/Pacific Islanders represented eight percent of the sample.

Table 4
Distribution by Ethnic Background
(n=665)

Ethnic Group	Percentage	Ethnic Group	Percentage
Hispanic	5%	Asian/Pacific Islander	8%
White	65%	Other/Mixed	2%
African-American	20%		

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 (76%) worked for employers with more than 100 employees. Almost half (46%) worked for employers with at least 1,000 employees. About a third of respondents (34%) said they work for organizations with 100 or fewer employees.

Table 5
Distribution by Employer Size
(n=690)

Number of Employees	Percentage	Number of Employees	Percentage
1-25	11%	101-250	8%
26-50	7%	251-999	22%
51-100	6%	1,000+	46%

Employer Type – Half of the respondents (54%) said they worked for a federal agency. Three in ten (30%) worked for a private sector employer. State and local government agencies employed 5% and 10% worked for a non-profit organization.

Table 6
Distribution by Employer Type
(n=700)

Employer Type	Percentage
Private sector	30%
Federal agency	54%
State/local agency	5%
Non-profit	10%
Self-employed	<1%

Occupations – Respondents represented many occupations, as shown in Table 7. Nearly six in ten respondents worked in either professional (48%) or executive/managerial (19%) positions. The other most common occupation was administrative support (18%).

Table 7
Distribution by Occupation
(n=695)

Occupation	Percentage	Occupation	Percentage
Professional	48%	Military	2%
Executive/managerial	19%	Service	2%
Administrative support	18%	Sales	1%
Technicians/support	6%	Precision production/crafts	1%
Protective service	2%	Other*	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

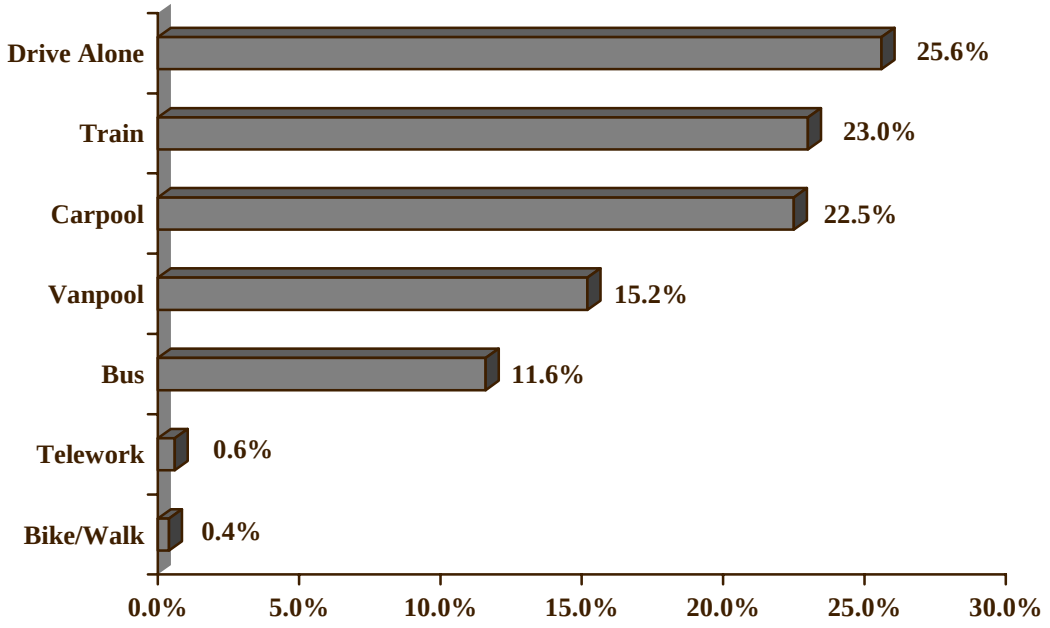
Frequency of Current Mode Use – Respondents were asked what modes they used to travel to work each day (Monday-Friday) during the survey week, or during a "typical week," if the survey week did not represent their typical commuting patterns. Figures 1 and 2 show the percentages of respondents who used 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 (25.6%). Carpool (including casual carpool "slugs") and train were the most common non-drive alone modes. Carpool was used by about one quarter (23.0%) of respondents and train was the regular mode choice of 22.5%. About 15.2% vanpooled three or more days per week. Bus was the choice of about one in ten (11.6%). Less than one percent bicycled or walked to work or teleworked 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=7001)

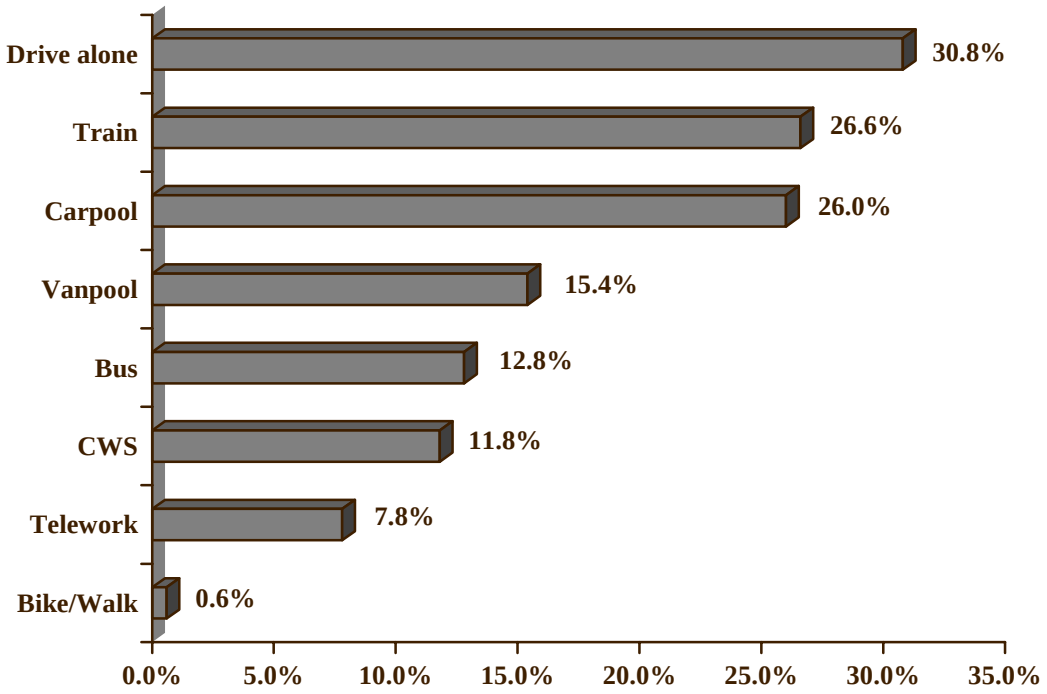


Mode Used 1+ Day Per Week – Figure 2 shows the percentage of respondents who used the mode at least one day during the survey week. This category also includes respondents who said they used these modes two, three, four, or five times during the week. In this case, the percentages of participants using 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; 30.8% of respondents used this mode either regularly or occasionally. Train (26.6%) and carpool (26.0%) each were used by about a quarter of respondents. Vanpool was the third most popular mode; 15.4% of respondents said they vanpooled one or more days per week and 12.8% said they rode a bus at least occasionally. A small percentage (0.6%) said they bicycled or walked to work either occasionally or regularly. Some respondents also noted that they either teleworked (7.8%) or had a compressed work schedule day off (11.8%) one or more days per week.

Figure 2
Current Commute Modes

Modes Used 1+ Days Per Week (n=701)



* Mode percentages add to more than 100% due to multiple responses

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

About two-thirds of respondents who used transit used a train. Metrorail was the most common train option, with the two commuter rail services, VRE, and MARC attracting about three in ten transit riders. Public bus or private buspool accounted for about one-third of transit use.

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 State of the Commute survey conducted in 2004. As seen in the table, the percentage of regional commuters who drove alone three or more days per week (70.5%) was considerably higher than for placement survey respondents (25.6%), because Commuter Connections' applicants were motivated to use an alternative mode. Rideshare use was much higher (37.7%) among Commuter Connections' applicants than in the general population (5.6%). Transit use also was higher among the applicant survey sample (34.6%) than among the general population (16.6%).

Table 8
Commute Modes Used 3 Days per Week*
Comparison of 2005 Applicant Survey and 2004 State of the Commute Survey

Commute Mode	2005 Applicant Survey (n=701)	2004 SOC Survey (n=7,200)
Drive alone	25.6%	70.5%
Rideshare	37.7%	5.6%
Transit	34.6%	16.6%
Bike/walk	0.4%	2.1%
Compressed work schedule	0.0%	0.0%
Telecommute	0.6%	2.1%
Rideshare	**37.7%**	**5.6%**
- Regular carpool	15.7%	4.6%
- Vanpool	15.2%	0.3%
- Casual carpool (slug)	6.8%	0.7%
Transit	**34.5%**	**16.6%**
- Metrorail	12.0%	11.3%
- Ride a bus/shuttle	10.5%	4.0%
- MARC (MD commuter rail)	3.8%	0.3%
- AMTRAK/other train	0.1%	0.2%
- VRE	7.0%	0.4%
- Buspool	1.1%	0.4%

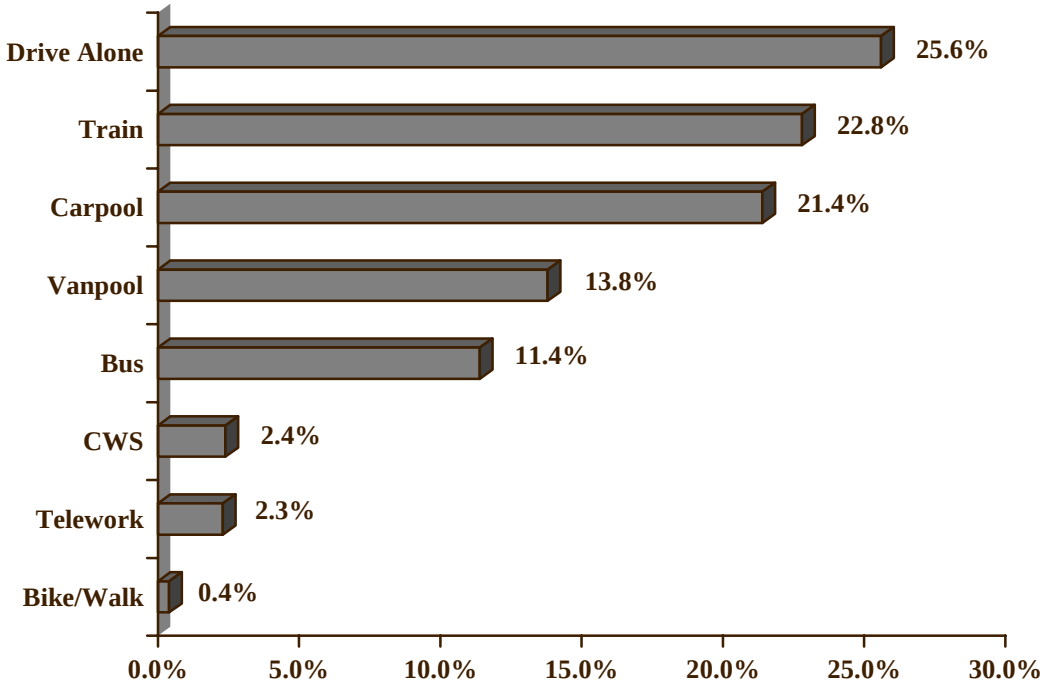
* Percentages add to less than 100% because some respondents did not use a single mode three or more days per week

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. Days not assigned to work and days not worked due to illness or vacation are not included in the figure.

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

Figure 3
Mode Split – Weekly Work Day Trips

(n=701)



As shown, respondents drove alone for about a quarter (25.6%) of work day commute trips and rode a train for about a quarter (22.8%). The third most popular mode, used for 21.4% of weekly work trips, was carpool. About 13.8% of work day trips were made by vanpool and 11.4% of trips were by bus. Compressed work schedule days off (2.4%), teleworking (2.3%), and bicycling/walking (0.4%) made up small percentages of weekly work days.

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 (28% of women compared to 23% of men) and slightly less likely than men to carpool/vanpool or to use transit. But these differences were not statistically significant.

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

Sex	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
Male	302	23%	40%	36%
Female	399	28%	37%	34%

* Percentages do not add to 100%, because some respondents do not use a single mode 3+ days per week.

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). Four in ten (40%) of respondents 25-34 years old drove alone, compared with 21% 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 18% of these respondents chose this mode. Carpool/vanpool use appeared to increase with increasing age. 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 **	21	28%	47%	16%
25 – 34	126	40%	27%	32%
35 – 44	248	21%	42%	36%
45 – 54	202	25%	37%	35%
55 +	94	18%	44%	39%

* Percentages do not add to 100%, because some respondents do not use a single mode 3+ days per week.
** 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 ($80,000 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**	33	51%	31%	24%
$40K – 59,999	75	37%	29%	33%
$60K – 79,999	111	26%	38%	32%
$80K – 99,999	129	19%	41%	39%
$100K – 119,999	100	23%	45%	31%
$120K+	158	22%	41%	36%

* Percentages do not add to 100%, because some respondents do not use a single mode 3+ days per week.
** Caution: very small sample size

Mode by Ethnic Group – The final table in this series, Table 12, shows primary mode by ethnic group. Hispanic and African-American respondents were more likely to drive alone than were respondents who were White or Asian. Rates of use for both carpool/vanpool and transit were similar for all ethnic groups. Note, that the sample sizes of Hispanic and Asian/Pacific Islander respondents were quite small and these numbers should be viewed cautiously.

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

Ethnic Group	(n=___)	Primary Commute Mode*		
		DA	CP/VP	Transit
Hispanic**	31	31%	35%	34%
White	434	25%	39%	34%
African-American	130	30%	37%	33%
Asian/Pacific Islander	55	20%	41%	39%

* Percentages do not add to 100%, because some respondents do not use a single mode 3+ days per week.
** Caution: very small sample size

Commute Distance

Commuters in the survey had a wide range of commute distances, ranging from less than one mile to 150 miles. The average one-way distance was 36.3 miles. This was higher than the 16.5 mile average one-way travel distance of all regional commuters, as estimated in the 2004 State of the Commute survey.

Table 13 presents the distribution of respondents in various distance categories. As shown, a small percentage (7%) of respondents traveled fewer than 10 miles to work. Another third (34%) commuted between 10 and 29.9 miles. The remaining 59% commuted 30 or more miles one-way.

Table 13
Commute Distance (miles)
(n=671)

Number of Miles	Percentage	Cumulative Percentage
Fewer than 10 miles	7%	7%
10 to 19.9 miles	13%	20%
20 to 29.9 miles	21%	41%
30 to 39.9 miles	15%	56%
40 to 49.9 miles	16%	72%
50 or more miles	28%	100%
Average distance	36.3 miles	

As expected, commute distances also vary by commute mode. Table 14 indicates that vanpoolers travel the farthest, an average of 52.2 miles one-way. Respondents who drove alone traveled the shortest distance (27.2 miles). Carpoolers traveled an average of 36.6 miles one way and transit riders commuted 32.0 miles.

Table 14
Commute Distance (miles) by Primary Mode (3+ days per week)
(n=671)

Mode	Average Distance
Drive alone	27.2
Carpool	36.6
Vanpool	52.2
Transit	32.0

Commute Travel Time

One-way commute travel time of respondents ranged from less than 5 minutes to three hours, with an average of 67 minutes. Two-thirds of respondents (67%) traveled more than 45 minutes one-way, as can be seen in Table 15.

Commute time for survey respondents was longer than that for the general public. The average commute time for all commuters in the region was 34 minutes, as reported in the 2004 State of the Commute survey. Only about one in five commuters (21%) traveled 45 or more minutes.

Table 15
Commute Length (minutes)
(n=700)

Number of Minutes	Percentage	Cumulative Percentage
20 minutes or less	5%	5%
21 to 30 minutes	6%	11%
31 to 45 minutes	19%	30%
46 to 60 minutes	26%	56%
61 to 80 minutes	16%	72%
More than 80 minutes	28%	100%
Average time	67 minutes	

Alternative Work Schedules

A third of respondents (35%) reported that they worked a non-standard schedule. About 17% said they work "flexible work hours" schedules that allow employees to change their arrival and departure times from a worksite standard. About 18% 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 was a 9/80 schedule, in which employees work nine days for a total of 80 hours over two weeks. A small percentage (2%) 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

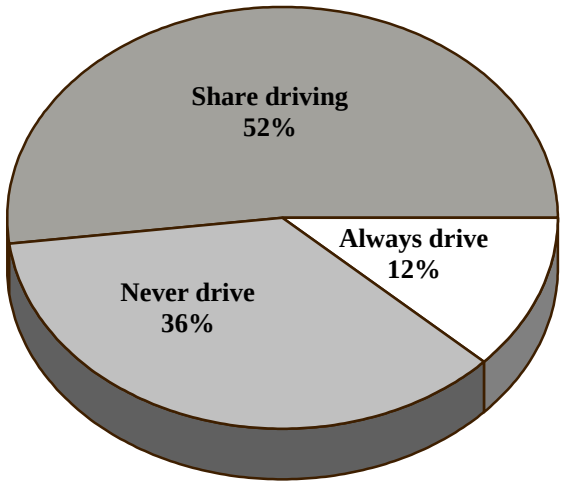
Approximately four in ten (41.4%) survey respondents said they rideshare (carpool or vanpool) at least one day per week. Carpools had an average size of 3.1 occupants, including the driver. Vanpool occupancy was on average 11.0, including the driver. Vanpools ranged in size from six to fifteen occupants, but about half (49%) of the vanpools had 12 or more occupants.

Carpool Members

Ridesharers in the survey sample tended to carpool more with co-workers than with family members. About one-third (34%) of ridesharing respondents said they carpooled with one or more co-workers. By contrast, only 14% 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 four percent of carpool/vanpool respondents said they had counted children under the age of 16 as a carpool/vanpool rider.

As shown in Figure 4, half of carpoolers and vanpoolers shared driving with their rideshare partners (52%), 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 12% of ridesharers said they always driver.

Figure 4
Driving Frequency of Carpoolers/Vanpoolers
(n=276)



Access to Carpools, Vanpools, Buspools, and Transit

Table 16 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.

Table 16

Access Mode to Alternative Mode Meeting Place

(n=498)

Access Mode to Alternative Mode	Percentage
Drive to central location	62%
Drive to driver's home	13%
Walk	11%
Picked up at home	9%
Bus/transit	2%
Another carpool/vanpool	2%
Always drive CP/VP	1%

About one in ten (11%) said they walked to the meeting point, but three-fourths (75%) 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 2002 – June 2005" (March 16, 2004). Even though these trips tend to be short, an average of just 6.8 miles, these trips must be accounted for in an air quality analysis.

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. Table 17 summarizes the changes made.

Table 17
Commute Changes Made
(n=701)

Type of Commute Change	Percentage
Started using transit/bike/walk or tried transit/bike/walk	15.6%
Joined or created a new carpool or tried carpooling	14.0%
Joined or created a new vanpool or tried vanpooling	7.4%
Started teleworking/compressed work schedule	4.4%
Added another person to existing carpool or vanpool	3.1%
Total respondents with change	**44.5%**

Nearly half (44.5%) of respondents said they had made a change to an alternative mode after receiving information or assistance from Commuter Connections. The largest segment, 15.6%, started using or tried using transit, bicycle or walk. Fourteen percent said they joined or created a new carpool and 7.4% joined or created a new vanpool. A small percentage (4.4%) started teleworking or using a compressed work schedule. And 3.1% 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 18 presents the results to this question.

Table 18
Distribution of Continued, Temporary, and Occasional Use Changes
(n=306)

Type of Change	Percentage
Continued – regular use	26.9%
Temporary – regular use	15.0%
Total – Regular use changes	**41.9%**
Occasional use	2.6%
TOTAL – All Changes	**44.5%**

The majority (26.9% of total 44.5%) 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 (15.0% of 44.5%) 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 6.5 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. Finally, a small percentage of changers said they were still using the new alternative mode, but only "occasionally," that is, less than one time per week, on average.

Placement Rates

The percentages of respondents who made continued, temporary, and occasional changes represent the overall, "region-wide" placement rates for these types of changes:

	Region-Wide (n=701)	Within MSA (n=480)	Outside MSA (n=221)
• Continued placement rate =	26.9%	25.0%	31.1%
• Temporary placement rate =	15.0%	15.7%	13.2%
• Occasional use placement rate =	2.6%	2.5%	2.8%

But as shown in the second and third columns of the chart above, 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' 12-jurisdiction region. The second sub-group included respondents who work within the MSA but live outside it. Approximately 31% 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.

As shown, respondents who lived outside the MSA had a higher continued placement rate (31.1%) than did respondents who lived within the MSA (25.0%). Conversely, the temporary rate for the Outside MSA respondents (13.2%) was slightly less than for those who lived in the MSA (15.7%).

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. Several results can be cited:

- The average commute distance of respondents who made a change was higher (39.2 miles) than the distance of those who did not make a change (34.0 miles).

- The likelihood to make a change did not seem to be related to demographic differences. Women and men were about equally likely to make a change. About 46% of men made changes, compared with 43% of women.

- Placement rates appeared to increase slightly with increasing age, but any differences were within the range of statistical variability. Rates of changes also varied by income group (range from 35% to 56%), but no clear pattern was noted in relating placement by income. White respondents were more likely to have made a change (47%) than were respondents of other ethnic groups. But again, the differences were not statistically significant.

Change by Employer Type – Respondents who worked for federal agencies and non-profit organizations were most likely to have made a change; about half of respondents in each of these groups (50% of federal workers and 48% of non-profit organization employees) shifted to an alternative mode. By comparison the placement rate for respondents who worked for state or local governments was 29% and the rate for employees of private employers only 37%.

Change by Employer Size – Table 19 shows the percentage of respondents who made a change by the size of their employer. Placement rates were highest for respondents who worked for large employers (251 – 999 employees) and very large employers (1,000+ employees). Nearly half of respondents (48-49%) in these two employer size groups made a change, compared with about 42% for respondents who worked for employers with 50 or fewer employees and 31% of respondents who worked for employers with 51 to 250 employees.

Table 19
Change by Employer Size

Employer Size	(n=___)	Percentage who Changed
1-50 employees	119	42%
51-250 employees	100	31%
251-999 employees	147	49%
1,000 or more employees	324	48%

Previous Mode of Commuter Who Changed Mode

Some respondents who made a mode change shifted from drive alone, but other shifted from one alternative mode to another. Table 20 indicates the previous and current mode of these respondents.

Table 20
Types of Mode Changes (Continued or Temporary)
(n=300)

Type of Mode Change	Percentage
Drive Alone to Alternative Mode	**38%**
- Drive alone to transit/non-motorized*	16%
- Drive alone to rideshare	20%
- Drive alone to telework/CWS	2%
Alternative Mode to Alternative Mode	**62%**
- Rideshare to rideshare	20%
- Rideshare to transit/non-motorized*	14%
- Rideshare to telework/CWS	5%
- Transit/non-motorized to transit/non-motorized*	5%
- Transit/non-motorized* to rideshare	15%
- Transit/non-motorized* to telework/CWS	3%

*The category "Transit/non-motorized" includes bus, train, bike and walk. These modes are combined because all produce zero vehicle trips.

About four in ten (38%) 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 telecommute. The remaining 62% 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.

Reasons for Changes

Respondents who said they had made a commute change were asked the reasons for their changes. Table 21 summarizes the responses.

Table 21
Reasons for Commute Change
(n=300)

Reasons	Percentage*	Reason	Percentage *
Commute related reasons		**Commute service reasons**	
- Save money	26%	- Use HOV lane	2%
- Save time	23%	- Parking cost too high	2%
- Tired of driving	9%	- Financial incentive/Metrochek	1%
- Carpool broke up/didn't work	9%	- Special program at work	1%
- Reduce congestion/pollution	6%		
Personal related reasons			
- Changed job/work hours	16%		
- No vehicle available	11%		
- Moved to new residence	6%		
- Others doing it (e.g., friends)	4%		

* Multiple responses permitted.

Many respondents made the change for commute-related reasons: save money (26%), save time (23%), because they were tired of driving (9%), or because they wanted to reduce congestion or pollution (6%). About nine percent of respondents said they changed because their carpool or vanpool broke up. Commuter program strategies or facilities, such as HOV lanes (2%) or high parking charges (2%) influenced smaller number of respondents to make the change.

A significant number of respondents mentioned an outside factor, such as changing jobs (16%), unavailability of a vehicle (11%), or moving residence (6%) 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 orientation and through direct mail to new residence. About four percent of respondents said they tried or started a new alternative mode because other were doing it (e.g., friends, family, co-workers).

Reasons for Not Continuing Changes

Respondents who said their changes were temporary were asked why they had not continued with the changes. Nearly four in ten (38%) 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 was "in-

convenient" (21%), mode "took too much time" (12%), mode "cost too much" (12%), or "car-pool/vanpool fell apart or didn't like pool partners" (8%), or "car became available" (5%).

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 22 presents the primary sources of information used to learn of Commuter Connections.

Table 22
How Respondents Learned of Commuter Connections
(n=701)

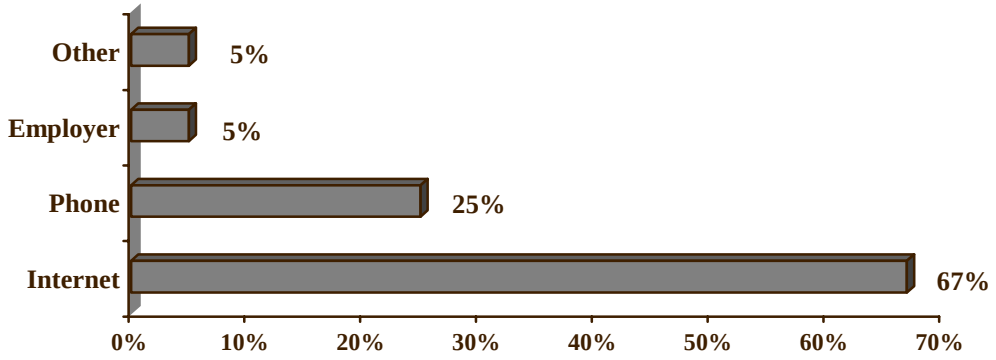
Information Source	Percentage
Word of mouth – referral	26%
Internet	25%
Employer/employee survey	12%
Radio	10%
Bus/train sign or schedule	6%
Highway sign	5%
Brochure/promo materials	2%
Other rideshare organization	2%
On-site transportation event	2%
Direct mail/postcard from CC	2%
Newspaper	2%
Television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

About half of the respondents mentioned one of two sources of information: word of mouth referrals (26%) or internet (25%). About two in ten mentioned either employer/employee survey (12%) or radio (10%) as the way they heard about Commuter Connections. Smaller percentages of respondents said they learned of Commuter Connections through a bus or train sign or schedule (6%), highway sign (5%), or another source.

Methods Used to Contact Commuter Connections

Commuters can contact Commuter Connections in a variety of ways, as shown in Figure 5.

Figure 5
How Respondents Contacted Commuter Connections
(n=701)



Two-thirds (67%) of respondents said they made this contact through the Commuter Connections web-page or another website on the internet. This was slightly higher than the percentage who used the internet for their contact in 2004 and 2003, but considerably higher than the 52% of respondents who said in the 2002 survey that they used this method to contact Commuter Connections.

In 2004, a quarter (25%) said they contacted Commuter Connections directly by phone and five percent said they made the contact through their employer or through work. In both cases, these percentages were about the same as in 2004 and 2003.

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 23, an examination of the Commuter Connections records shows that respondents were much more interested in receiving ridesharing information than transit information. In 2004, a large majority (82%) said they were interested in receiving either carpool or vanpool information or information about both of these ridesharing modes.

Table 23
Information Requested From Commuter Connections *
(n=701)

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

* Multiple responses permitted

Nearly two-thirds of applicants (63%) 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.

About 11% 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 23 also shows the percentages of applicants who asked for these services during the 2002, 2003 and 2004 survey periods. The percentage of respondents who requested ridematching in 2005 (82%) was quite similar to the percentage who requested this services in 2002 (86%) and 2004 (82%). Interestingly, a much lower percentage of applicants asked for rideshare information in 2003 (59%). Also notable, the percentage of respondents requesting GRH information jumped dramatically in 2003 (68%) compared to the previous year's requests (47%).

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.

In 2004 and 2005, the percentage of applicants who requested rideshare information was much higher than in 2003 and much closer to the 2002 level, suggesting the 2003 results were an anomaly. 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 and continuing to the present time.

Information Received from Commuter Connections

In the survey, respondents were asked what information and assistance they remembered receiving from Commuter Connections. Table 24 shows the percentages of respondents who said they received each of several types of information.

Table 24
Information Respondents Remember Receiving From Commuter Connections
(n=701)

Information Received	Percentage*	Information Received	Percentage*
Matchlist	67%	Vanpool assistance	19%
GRH info/registration	63%	Telecommute/telework	9%
Transit route/schedule	28%	HOV information	7%
Park & Ride information	25%	Other	<2%

* Multiple responses permitted

Matchlists and GRH information/registration were the most prevalent types of assistance, received by more than 67% and 63% of respondents respectively. The percentages of respondents who said they received matchlists (67%) was lower than the percentage who requested information (82%), as noted in Table 23. 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.

About a quarter of respondents said they received transit route/schedule information (28%) or park & ride lot information (25%), and two in five (19%) said they received vanpool assistance. Smaller percentages of respondents said they remembered receiving information on telework/telecommute (9%) or HOV facilities (7%).

Use of Matchlist Information

Match Names – Two-thirds of respondents (67%) said they received one or more names of potential rideshare partners on a matchlist prepared by Commuter Connections or by another organization, approximately the same percentage as received matchnames in 2004 (66%). These respondents were asked about their use of matchlist information. Their responses are shown in Table 25.

Table 25
Actions Taken by Respondents who Received Matchnames

Action Taken	(n=__)	Yes	No
Received matchlist	701	67%	33%
Called names	461	56%	44%
Able to reach people named on matchlist	256	88%	12%
People called were interested in ridesharing	224	49%	16%*

* An additional 35% 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 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" (28%) or work or home location not compatible with mine" (26%).

Other reasons why respondents didn't try to make contact were that they decided they didn't want to carpool or vanpool (17%) or that they had already found a rideshare partner (12%) by the time they received the list. One in ten (11%) said they "haven't gotten around to it." Small percentages of respondents said they either "changed jobs" (3%) or "changed residences" (2%) after they requested information.

Success in Reaching Someone Named on the Matchlist – The great majority (88%) of the respondents who did try to make contact were successful in reaching someone named on this list. This suggests that the information provided on the matchlists was generally current and accurate. The respondents who were not able to reach someone on the list said they encountered the following problems: left message but no call back (17 respondents), phone number not correct or disconnected (12 respondents), the commuter was no longer at that job or had moved (5 respondents), or other reason (5 respondents).

Interest in Ridesharing – About half (49%) of the respondents who were able to reach someone said that person was interested in ridesharing. About 16% of the respondents who reached a person on the matchlist said the people were not interested in ridesharing. The remaining 35% 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 – As part of the Integrated Rideshare Transportation Emission Reduction Measure (TERM), 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 ride-

match recipients, even if they did not request information. As noted earlier, about 11% of applicants requested transit information. But more than a quarter of respondents (27%) said they remembered receiving transit information. This was about the same percentage of respondents who said in 2002 (27%), and 2003 (33%), and 2004 (28%), that they remembered receiving transit information.

About a third (37%) of the respondents who remembered receiving transit information said they used the information to contact a transit agency. This was about the same percentage (38%) as used the information in 2004. But more than three-fourths (83%) of those who contacted a transit agency said they used information they received to try transit. This was considerably higher than the 60% of respondents who said in the 2004 survey that they tried transit after receiving information.

Reasons for Not Trying Transit – Those who contacted a transit agency but did not try transit were asked why the information did not encourage them try transit. The reasons mentioned are listed in Table 26.

Table 26
Reasons Respondents Did Not Try Transit
(n=34)

Reasons	Frequency*
Already using transit	8
Commute too long	7
Prefer current mode/other modes	5
Wouldn't work with my schedule	5
Too far from home/work	4
Too expensive	3
Other/don't know	6

* Frequency counts are provided rather than percentages, due to the small sample size

The primary reason, mentioned by 8 of the 34 respondents was that they already were using transit. Seven respondents said their commute was too long to make transit a feasible choice and five said they preferred using their current mode or another mode. Five said the transit schedule was not compatible with their work schedule. Four respondents said the transit stop was too far from either their home or work location. Three respondents and transit would be too expensive.

Reasons for Not Contacting Transit Agency – About two-thirds (67%) of respondents who said they remembered receiving transit information said they did not contact the transit agency. These respondents were asked why they had not called for transit schedule or route information. The reasons mentioned are listed in Table 27.

Table 27
Reasons Respondents Did Not Contact Transit Agency
(n=125)

Reasons	Percentage*
Wasn't interested, didn't ask for transit info	30%
Prefer current mode/other modes	25%
Didn't need info/already had transit info	17%
Never got around to it	11%
Too far from home/work	5%
Already using transit	4%
Don't like transit, wouldn't ever use transit	2%

*Multiple responses permitted

About a third (30%) said they weren't interested or hadn't asked for transit information. About a quarter (25%) said they liked using their current mode or another mode other than transit. Seventeen percent said they didn't need the information, either because they already had transit information or weren't considering making a change to transit. About 11% 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. Table 28 shows sources of information.

Nearly half (47%) said they "always knew it was there," and 25% said they received information from a personal referral source, such as a friend, relative, or co-worker. One 12% said they learned about transit through the internet. Other sources of information included: "employer" (6%), "advertisements" (4%), "Commuter Connections" (2%), or "called transit agency directly (2%). About six percent said they "always used transit."

Table 28
Other sources of Transit Information
(n=248)

Other sources of information	Percentage*
Always knew it was there	47%
Personal referral – friend, relative, co-worker	25%
Internet	12%
Have always used transit	6%
Employer	6%
Advertisement – newspaper, radio, TV	4%
Commuter Connections	2%
Called transit agency directly	2%
Other	1%

*Multiple responses permitted

Park & Ride Information – Under the Integrated Rideshare Transportation Emission Reduction Measure, Commuter Connections also provides transit Park & Ride lot location information on the matchlist. About one in four (25%) respondents remembered receiving Park & Ride information on a matchlist.

More than half (54%) of these respondents said they used the information provided. Most of these respondents (67%) said they were aware of the location of the Park & Ride lots before they received the information, but nearly half (47%) said they had not used the Park & Ride lots before they received information. Two-thirds (67%) 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 eight 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 29. About a quarter (14 respondents) said they "didn't need a Park & Ride lot." Eleven of the respondents said they "never got around to it" and 10 said the lot was not "convenient to transit." Other respondents said they "weren't interested/didn't ask for it," or that there was "no time saving from their previous commute."

Table 29
Reasons Respondents Did Not Use P&R Lot
(n=61)

Reasons	Frequency
Didn't need Park & Ride lot	14
Never got around to it	11
Not convenient to transit	10
Wasn't interested, didn't ask for it	8
No time saving from my previous commute	7
Other	10

*Multiple responses permitted

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 (70%) respondents said their employers do offer some services. This percentage is consistent with the percentage found in the 2004 survey (70%).

Table 30 shows that the most common employer service was transit passes, offered by 56% of employers. Smaller percentages of employers offered other cash incentives (7%), carpool/vanpool information (5%), Federal tax benefit/Commuter Choice (3%), transit schedules (3%), carpool/vanpool parking discounts (2%), compressed work schedules or telework (2%), or preferential parking for carpools/vanpools (2%).

Table 30
Commuter Assistance Services Offered by Employers
(n=701)

Service Offered	Percentage*	Service Offered	Percentage *
Transit pass discount	56%	Parking discount for CP/VP	2%
Other cash incentive	7%	Compressed schedule/telework	2%
CP/VP info/matchlist	5%	Preferential parking for CP/VP	2%
Federal tax benefit	3%	Smart Tag Subsidy	1%
Transit schedules	3%	Other **	3%

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

As shown in Table 31, the drive alone percentage was considerably lower for respondents whose employers offered commuter services (19%) than for respondents without services (42%). Respondents with access to commuter services at work were more likely to use both transit (39% compared to 25%) and carpool/vanpool (41% compared to 31%) than were respondents who did not have these services at the worksite.

Table 31
Current Primary Commute Mode (3+ days per week)
by Commuter Services/Benefits Offered

Commute Services Offered	(n=___)	Current Commute Mode		
		DA	CP/VP	Transit
Yes	493	19%	41%	39%
No	208	42%	31%	25%

Not surprisingly, transit use was particularly high for respondents whose employers offered transit subsidies. Four in ten (41%) of these respondents used transit, compared to 26% 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 2004 showed that employers in the District of Columbia had the lowest drive alone rates and were more likely to offer commute services.

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 seven 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 a third of respondents (33%) who made a change indicated that assistance or information received from Commuter Connections, the employer, or another organization had influenced their decision. Table 32 shows services that respondents cited as influential.

Table 32
Information or Assistance that Influenced Decision to Change
(n=311)

Service/Assistance	Percentage*
Matchlist from Commuter Connections/employer	15%
Transit information (from CC/other source)	8%
Free/discount transit pass/Metrochek (from employer)	8%
GRH information (from CC)	7%
Vanpool assistance (from CC)	4%
Park & Ride information (from CC)	3%
Other **	4%

* Multiple responses permitted
** 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%), discounted or free transit passes/Metrochek provided by an employer (8%), transit information (8%), and GRH information from Commuter Connections (7%). 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. Four in ten respondents (42%) said no improvements were needed and an additional 16% said they didn't know if improvements were needed. The remaining 32% of respondents mentioned one or more improvements they would like to see. Table 33 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.

Table 33
Commuter Connections Improvements Desired
(n=701)

Improvement	Percentage*	Improvement	Percentage *
More current information	10%	Matches interested in RS	3%
Matches fit travel better	8%	GRH suggestions	3%
More match names	6%	Separate rider/driver info	3%
More advertising	6%	Quicker response	3%
Transit improvements	4%	Vanpool resources/assistance	2%
More follow-up assistance	4%	Better transit information	2%
Internet suggestions	4%	Other **	7%

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

A few respondents felt improvements in Commuter Connection's operations were needed. The primary improvements, all noted by six or fewer percent of respondents, included: more advertising (6%), more follow-up assistance (4%), internet suggestions (4%), GRH suggestions (3%), separate rider and drive information on matchlists (3%), quicker response (3%), and better transit information (2%).

Number of Match Names Received – The 40 respondents who said they wanted more matches were asked how many they had received. Overall, these respondents received an average of 5.8 matches, but a quarter (10 respondents) said they did not receive any matchnames. An additional 10 respondents said they had received one, two, or three names. Nine respondents received between four and eight match names. The remaining 11 respondents received nine or more names.

Matches Fit Travel – The 58 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" (51%), "work location" (46%), or "work hours" (42%). About 16% said they would like a "broader match area." Four 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.

Response Time – A small percentage of respondents wanted a quicker response. In a subsequent question it was found that 49% of these respondents received the information they requested within one week of the request, 40% waited between one and two weeks and 11% said they waited three or more weeks. These results were consistent with the results from the 2004 survey.

GUARANTEED RIDE HOME

The survey included questions to identify the impacts of Guaranteed Ride Home (GRH) on commuters' travel. Approximately 63% 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

Three-quarters (76%) of the respondents who received GRH information subsequently registered for GRH. Those that did not register gave various reasons for not registering, as indicated in Table 34.

Table 34
Reasons for Not Registering for GRH
(n=99)

Service Received	Percentage
Haven't gotten around to it	30%
Couldn't use alternative 2+ days/week	29%
Don't need it	26%
Program doesn't cover home or work area	4%
Too much effort to use the service	3%
Didn't want to pre-register	3%
Didn't know you had to pre-register	2%
Other	6%

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

The largest group of respondents (30%) said they "haven't gotten around to it" at the time of the survey, suggesting they might register at a later time. About the same percentage (29%) said they couldn't use an alternative two or more days per week, as required by the program. About one in four (26%) said they "didn't need the program," perhaps because the service was available to them from their employer or from another source. Small percentages of respondents said the program "doesn't cover their home or work area" (3%), it was "too much effort to use the service" (3%), they "didn't want to pre-register to use the program" (3%), or "didn't know you had to pre-register" (2%).

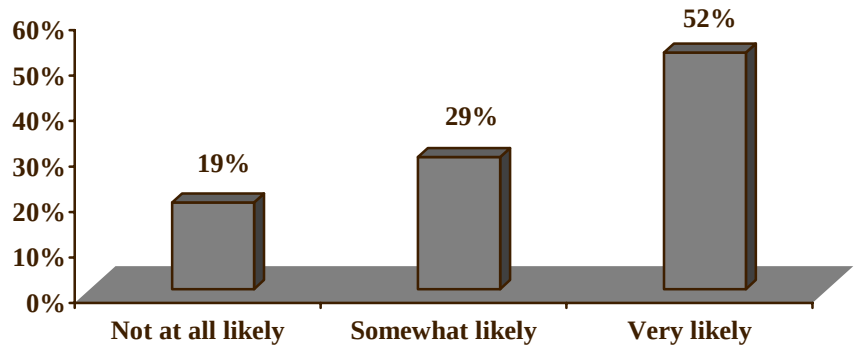
Influence of GRH on Commute Decisions

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. About one in five (20%) said they were primarily driv-

ing alone to work. The remaining respondents were regularly using an alternative: carpool (22%), vanpool (14%), or bus/rail transit (45%).

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 6 shows, one in five (19%) respondents said they were "not at all likely" to have made the change if GRH had not been available. About three in ten (29%) said they were "somewhat likely" to have made the change without GRH and the remaining 52% said they were "very likely" to have made the change without GRH.

Figure 6
Likelihood to Start Using Alternative Mode if GRH Were Not Available
(n=170)



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 35, about half (43%) of respondents said GRH was the most important assistance or was very important in the decision.

Table 35
Importance of GRH in Influencing Decisions to Start Using Alternative Mode
(n=166)

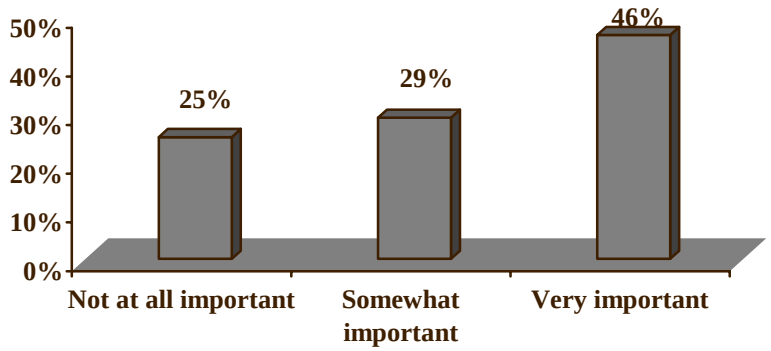
Importance	Percentage
Most important assistance/very important	43%
Same importance as other assistance	21%
More important than some, less than other	8%
Less important or not at all important	27%
GRH was only assistance received	2%

About one in five (21%) said GRH was of equal importance to other information or assistance received and eight percent said GRH was more important than some and less important than other assistance. About a quarter (27%) said GRH was of less importance than other information received or was not at all important in the decision to make a change. For two percent of the respondents, GRH was the only information or assistance received.

Fifty-six respondents who made a travel change said that other services were more influential than GRH in their decision to make the change. The largest number (19 respondents) cited an employer discount transit pass as more influential. Other respondents noted services provided by Commuter Connections: matchlist (14 respondents), transit information (6 respondents), and vanpool information (3 respondents).

Decision to Continue Using Alternative Mode – The 146 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 7 summarizes the responses to this question.

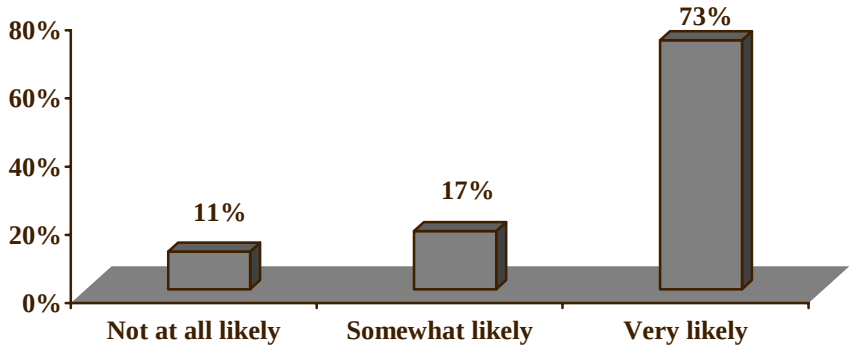
Figure 7
Importance of GRH to Decision to Continue Using Alternative Mode
(n=146)



Nearly half (46%) of the GRH respondents said GRH was "very important" to the decision to continue using an alternative mode and 29% said it was "somewhat important" to the decision. The remaining quarter (25%) 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 8, a large majority (73%) said they were "very likely" to have continued using the alternative if GRH were not available. An additional 17% said they were "somewhat likely" to have continued. Only 11% of respondents said they were "not at all likely" to have continued using the alternative if GRH had not been available.

Figure 8
Likelihood to Continue Using Alternative Mode if GRH Were Not Available
(n=146)



Use of and Satisfaction with GRH

A quarter (23%) of respondents who had registered for GRH said they had taken a GRH trip. Table 36 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 (31%), or that of a family member or rideshare partner (40%). Another 21% used GRH for unscheduled overtime and 7% said it was for another personal emergency.

The large majority (85%) of the respondents who had used the program said the service had been satisfactory. Those who found it unsatisfactory said it was hard to get approval for the trip (1 respondent) or that they waited too long for the taxi (6 respondents).

Table 36
Reasons for Using GRH Trip
(n=76)

Likelihood	Percentage
Illness - family member/RS partner	40%
Illness (self)	31%
Unscheduled overtime	21%
Other personal emergency	7%

TELECOMMUTE ASSISTANCE

One in ten (9%) respondents said they had received information on telecommuting from Commuter Connections. These respondents were asked additional questions about their use of the information and their use of telecommuting before and after receiving the information. The majority (76%) of these respondents said they had received "general telecommute information." Three in ten (29%) received information on telework centers.

One in ten (10%) respondents who received information said they used the information to talk to their employers or a federal telecommute coordinator about telecommuting. The majority (83%) of respondents who received information said they had not yet used it. This high percentage could be related to the timing of the survey; the survey was conducted about six weeks after the end of the three-month period during which requests were fulfilled. It is possible some of these respondents have used the information subsequently.

About 13% of the respondents who requested telecommute information were telecommuting at the time they requested information and an additional 20% started telecommuting after receiving telecommute information. Of the remaining respondents, about half (45%) said they were still interested in telecommuting.

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 and Integrated Rideshare TERM. 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, 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 an InfoExpress kiosk, 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 and the Integrated Rideshare TERM. Impacts for other Commuter Connections TERMs, including: GRH, Telework Resource Center, Employer Outreach, Employer Outreach for Bicycling, and Mass Marketing are calculated primarily using data collected through other means. The results of these other impact analyses were reported in June 2005, as part of the 2003-2005 TERM analysis.

PARTICIPATION, UTILIZATION, AND SATISFACTION

The results of six participation, utilization, and satisfaction measures are presented in Table 37 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 37
Commuter Connections Program Activity Summary and
Overall Participation, Utilization, and Satisfaction Performance Measures
Placement Survey, July-September 2005

• Commuter applicants	7,881	
• Applicant placement rates	44.5%	
- Continued placement rate		26.9%
- Temporary placement rate		15.0%
- Occasional use placement rate		2.6%
• Applicants placed in alternative modes	3,503	
- Continued placements		2,121
- Temporary placements		1,177
- Occasional use placements		205
• Applicants desiring rideshare information (carpool or vanpool)		82%
- Applicants who remembered receiving matchlist		67%
- Applicants who remembered receiving vanpool assistance		19%
- Applicants who remembered receiving Park & Ride info		25%
• Applicants desiring transit information		11%
- Applicants who remembered receiving transit information		28%
• Applicants interested in GRH		63%
- Applicants who remembered receiving GRH information/registration		63%
• Commuters suggesting Commuter Connections improvements		32%

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
- 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 38.

Table 38
Commuter Connections Program
Program Impact Performance Measures
Placement Survey, July-September 2005

• Daily vehicle trips (VT) reduced	**1,047**	**trips**
- Continued placements	964	trips
- Temporary placements (prorated credit)	83	trips
• Daily VMT reduced	**33,620**	**VMT**
- Continued placements	31,036	VMT
- Temporary placements (prorated credit)	2,584	VMT
• Daily tons of NOx reduced	**0.024**	**tons**
• Daily tons of VOC reduced	**0.011**	**tons**
• Gallons of gasoline saved	**1,413**	**daily gallons of gas**
• Commuter costs reduced (daily)	**$5,514**	**per day**
- Annual cost saving per placement	**$608**	**per year**

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 2002 – June 2005" (March 2004). 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 =	0.44	0.48
• Temporary VTR =	0.61	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 **964 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 6.6 weeks on average for within MSA placements and 6.1 weeks for outside MSA placements. Thus only 11-12% of the temporary trip reduction was allocated to the placements, representing the portion of a year (6.6/52 weeks and 6.1/52 weeks) when the mode was used. This resulted in **83 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, 964 + 83, equaled **1,047 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 32.2 miles for respondents with continued changes and 31.1 miles for respondents with temporary changes.

The actual one-way distance for the outside-MSA respondents was considerably higher; 57.9 miles for continued changes and 47.1 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 25.7 one-way miles per trip for outside-MSA respondents who made continued changes and 16.0 miles per trip for outside-MSA respondents who made a temporary change. The VMT calculation thus was as follows, resulting in 33,620 VMT reduced daily:

(964 continued trips reduced x 32.2 miles) + (83 temporary trips reduced x 31.1 miles)

= **33,620 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 two pollutants: Oxides of Nitrogen (NOx) and Volatile Organic Compounds (VOC).

For 2005, the NOx emission factors are:

Trip end (cold start)	=	0.9905 grams per one-way vehicle trip reduced
VMT (running)	=	0.6995 grams per vehicle mile reduced

The emission factors for 2005 for VOC are:

Trip end (cold start + hot soak)	=	2.3454 grams per one-way vehicle trip reduced
VMT (running)	=	0.2717 grams per vehicle mile reduced

The first emission factor, estimating emissions from starting a cold-engine vehicle and for VOC, 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 NOx reductions.

The emission reduction calculation is shown in Appendix C. The emissions reduced by all placements equaled **0.024 tons of NOx per day and 0.011 tons of VOC per day**.

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, **1,413 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 saved a total of $5,514 daily** by beginning or increasing their use of alternative modes, or a total of $1,378,500 annually ($5,514 per day x 250 commute days per year). Dividing the annual overall saving by the number of commuter placements (continued plus prorated temporary placements), this equals a saving of **$608 per commuter per year**.

LIST OF APPENDICES

Appendix A – Questionnaire for November 2005 Applicant Survey

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

Appendix C – Commuter Connections Impact Calculations, All Placements – July-September 2003

Appendix A
Questionnaire for November 2005 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?
2.

_____ 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 1-15 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" (RESPONSE 16) FOR ANY DAY, CODE RESPONSE 16, THEN ASK "If you had worked that day, how would you likely have traveled to work?" AND CODE ADDITIONAL MODE RESPONSE FOR THAT DAY. 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	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. sick, vacation, etc. (prompt for travel on non-sick, vacation days)	16	16	16	16	16
17. regular day off (non-CWS)	17	17	17	17	17
18. don't know	18	18	18	18	18

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 1-15 IN Q1E BEFORE ALL WEEKDAYS ARE COUNTED, DISCONTINUE READING MODES. CATI WILL AUTOFILL REMAINING DAYS WITH CODE 17; OTHERWISE CONTINUE)

Mode/Day typically used per week	Go to Work – no. of days 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	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. sick, vacation, etc. (prompt for…)	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 19) BELOW)
2 no (ASK:) How do you usually get home? (RECORD ANSWER BELOW)

1. N/A
2. N/A
3. drive alone in your car
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. N/A
17. N/A
18. don't know
19. 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
* 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)

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

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, or 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 Q3D = 1 AND Q1D/Q1E NE 8, 9, 10, 11, 12, 13, 14, OR 15, ASK Q3K, INSERTING "TRANSIT, 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

3K 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 <u>AND</u> 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 <u>AND</u> 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 Q5)

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 "REGULAR DAY OFF.")

(IF RESPONDENT MENTIONS "SICK, VACATION, HOLIDAY" (RESPONSE 16) FOR ANY DAY, CODE RESPONSE 16, THEN ASK "If you had worked that day, how would you likely have traveled to work?" AND CODE ADDITIONAL 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	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. sick, vacation, etc. (PROMPT)	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 Q3D = 1 AND Q4B NE 8, 9, 10, 11, 12, 13, 14, OR 15, ASK Q4B-1, INSERTING "TRANSIT, 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 used 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_ pool driver
_*_ 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 Q5)

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 15 ("have a compressed work schedule day off") FIRST)
(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 16) FOR ANY DAY, CODE RESPONSE 16, THEN ASK "If you had worked that day, how would you likely have traveled to work?" AND CODE ADDITIONAL 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. compressed work schedule day off	1	2	3	4	5
2. telecommute	1	2	3	4	5
3. drive alone in your car	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. sick, vacation, etc. (PROMPT)	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 pool driver
* 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)

1 changed job/work hours
2 save money
3 parking costs were too high
4 save time
5 Metrochek or other transit discount
6 financial incentives
7 a new option became available (SPECIFY)
8 advertising (SPECIFY)
9 special program at work (SPECIFY)
10 moved to a different residence
11 reduce congestion/pollution
12 pressure or encouragement from employer
13 safety
14 circumstantial (e.g., no vehicle available)
15 tired of driving
16 others doing it (friends, coworkers, other people, etc.)
17 Commuter Connections assistance
18 avoid construction area
19 use HOV lane
20 carpool/vanpool didn't work out
* 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, or schedule
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
12 circumstantial (e.g., 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)

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 or GRH information
6 GRH registration
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 / Smart Trip 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) 9 DK

1 Metro/WMATA
2 VRE
3 Montgomery Co.
4 Prince William County
5 RADCO
6 Fairfax Co.
7 VPSI
8 Loudoun Co.
9 PRTC
10 MTA
11 MARC Commuter Rail
12 Commuter Solutions of Howard Co.
13 Transit Services of Frederick Co.
* 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 CC
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)

CC – matchlist
CC – transit info
CC – P&R info
CC – vanpool assistance
CC – GRH information
CC – GRH registration
CC – GRH trip
CC – telecommuting information
CC – HOV lane specs
E – car/vanpool info/match
E – transit info
E – discount/free transit pass/Metrochek / Smart Trip Card
E – other cash incentive
E – employer GRH
E – compressed work week/telecommute
E – carpool/vanpool preferential parking
E – parking fees
E – carpool/vanpool discount parking fee
E – Smart Tag / E-Z Pass subsidy
E – HOV lane info
E – shuttle bus
E – Federal Tax Benefit / Commuter Choice Program
E – referred to CC
OP – matchlist
OP – GRH
OP – transit info
OP – discount/free transit pass/Metrochek / Smart Trip Card
OP – other cash incentives
OP – telecommuting info
OP – HOV info
OP – P&R info
OP – vanpool assitance
OP – Smart Tag / E-Z Pass info
OP – referred to CC
OP – NuRide-carpool incentive
services did not influence
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)

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
15 no improvement needed
* 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 (ASK 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) _____

(NOW 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 Q9)

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 Q9)
3 tried to register, but did not meet eligibilty requirements (SKIP to Q9)

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)

(IF Q3 AND Q3B AND Q3F-1 AND Q3F-2 AND Q3D AND Q3E AND Q3F AND Q3G = NO,
AND RESPONSE TO Q8 = 2, 3, 4, OR 5, ASK Q8C AND Q8D, THEN 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

(IF Q3 AND Q3B AND Q3F-1 AND Q3F-2 AND Q3D AND Q3E AND Q3F AND Q3G = NO, 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 _____
2 service 2 _____
3 service 3 _____
4 service 4 _____
5 service 5 _____
6 service 6 _____
7 service 7 _____
8 service 8 _____

1. CC – matchlist
2. CC – transit info
3. CC – P&R info
4. CC – vanpool assistance
5. CC – GRH information
6. CC – GRH registration
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
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 subsidy
20. E – HOV lane info
21. E – shuttle bus
22. E – Federal Tax Benefit / Commuter Choice Program
23. E – referred to CC
24. OP – matchlist
25. OP – GRH
26. OP – transit info
27. OP – discount/free transit pass/Metrochek
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 info
34. OP – referred to CC
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 Q9)

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 Q9)
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) _____

TELEWORK/TELECOMMUTE

(IF Q5A NE 8, SKIP TO Q10)

9. You said you received information or assistance from Commuter Connections on telecommuting. What type of assistance do you recall receiving?

1 general telecommute info
2 info on telework centers
3 info on telework seminars
4 referral to GSA (federal coordinator)
* other (SPECIFY) _____

9A. How have you used the telecommute information you received?

1 used information to talk to employer about telecommuting
2 called federal employee telecommute coordinator (GSA)
3 started telecommuting (SKIP TO Q9J)
4 registed for telecomute seminar
5 did not receive information
6 have not used information
* other (SPECIFY) _____

9B. Were you telecommuting at the time you requested telecommute information?

1 yes 2 no (SKIP TO Q9I)

9C. How many days per week, on average, were you telecommuting then?

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.

9D. Did you telecommute from your home or from another location?

1 home (SKIP TO Q9H)
2 telework center (ENTER NUMBER FROM LIST) _____
3 both home and telework center (ENTER NUMBER FROM LIST) _____
4 other location (ENTER NUMBER FROM LIST) _____

Maryland
1. Bowie State University Telecommuting Center
2. Frederick Telework Center
3. Hagerstown Telework Center
4. Laurel Lakes Telework Center
5. Prince Frederick Telework Center (Calvert County)
6. Waldorf Telework Center (Charles County)

Virginia
7. George Mason University Fairfax Telework and Training Center
8. George Mason University Herndon Telework Center
9. George Mason University Manassas Telework Center
10. Fredericksburg Regional Telework Center North (Stafford County)
11. Fredericksburg Regional Telework Center (Fredericksburg/Spotsylvania County)

12. Woodbridge Telework Center
13. NetTech Center of Winchester

Washington, D.C.
14. Farragut Square (Preferred Office Club, Executive Office Club)

West Virginia
15. Jefferson County TeleCenter (BIZTECH – The Telecenter at the Business and Technology Community Center of Jefferson County)

* other (SPECIFY)

9E. How many days per week, on average did you telecommute from the telework center, this location (FROM Q9D)?

_____ days per week

9F. How many miles was it one way from your home to the telework center, this location (FROM Q9D)?

miles (no decimals)

9G. How did you get from home to the telework center, this location (FROM Q9D)?

1 drive alone
2 carpool
3 vanpool
4 transit
5 bike/walk
* other (SPECIFY) _____

9H. Have you changed your telecommute schedule or location since receiving information from Commuter Connection?
1 yes (SKIP TO Q9K) 2 no (SKIP TO Q9P)

IF Q9B = 2 AND Q1B-1 = 1, CODE Q9I = 1 AND DO NOT READ Q9I

9I. Have you started telecommuting since you received telecommute information from Commuter Connections?

1 yes 2 no (SKIP TO Q9S)

IF Q9B = 2 AND Q1B-1 = 1, SAY, "You said you are telecommuting now." THEN ASK Q9J

9J. How important was the telecommute assistance you received to your decision to start telecommuting? Was it … (READ CHOICES)

1 very important
2 somewhat important
3 not very important or not at all important

IF Q9B = 2 AND Q1B-1 = 1, CODE Q9K = Q1B-2, DO NOT READ Q9K

9K. How many days per week, on average, do you now telecommute?

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.

9L. Do you telecommute from your home or from another location?

1 home (SKIP TO Q9P)
2 telework center (ENTER NUMBER FROM LIST) _____
3 both home and telework center (ENTER NUMBER FROM LIST) _____
* other location (SPECIFY) _____

Maryland
1. Bowie State University Telecommuting Center
2. Frederick Telework Center
3. Hagerstown Telework Center
4. Laurel Lakes Telework Center
5. Prince Frederick Telework Center (Calvert County)
6. Waldorf Telework Center (Charles County)

Virginia
7. George Mason University Fairfax Telework and Training Center
8. George Mason University Herndon Telework Center
9. George Mason University Manassas Telework Center
10. Fredericksburg Regional Telework Center North (Stafford County)
11. Fredericksburg Regional Telework Center (Fredericksburg/Spotsylvania County)

12. Woodbridge Telework Center
13. NetTech Center of Winchester

Washington, D.C.
14. Farragut Square (Preferred Office Club, Executive Office Club)

West Virginia
15. Jefferson County TeleCenter (BIZTECH – The Telecenter at the Business and Technology Community Center of Jefferson County)

* other (SPECIFY) _____

9M. How many days per week, on average do you telecommute from the telework center, this location (FROM Q9L)?

_____ days per week

9N. How many miles is it one way from your home to the telework center, this location (FROM Q9L)?

_____ miles (no decimals)

9O. How do you get from home to the telework center, this location (FROM Q9L)?

1 drive alone
2 carpool
3 vanpool
4 transit
5 bike/walk
* other (SPECIFY) _____

9P. On the days you do not telecommute, what type of transportation do you typically use to get from home to work?

1 drive alone
2 carpool
3 vanpool
4 transit
5 bike/walk
* other (SPECIFY) _____

9Q. Did you use this same type (these same types) of transportation to commute before you started telecommuting?

1 yes (SKIP TO Q10)
2 no

9R. How did you typically get from home to work before you started telecommuting?

1 drive alone
2 carpool
3 vanpool
4 transit
5 bike/walk
* other (SPECIFY) _____

(IF Q9B=2 AND Q9I=2, ASK Q9S, OTHERWISE SKIP TO Q10)

9S. Are you still interested in telecommuting?

1 yes 2 no

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

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

1 Hispanic
2 White
3 African-American
4 Asian/Pacific Islander
5 American Indian
6 mixed
* other (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 $20,00 - $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 2005 Survey Results with Results for 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=700)

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

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

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

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

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

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

Table B-5
Carpool/Vanpool Occupancy

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

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

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

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

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

Travel Changes

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

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

Table B-9
Reasons for Making Change*

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

* Multiple responses permitted

Table B-10
Was Change Temporary or Continued?

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

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

	2005	2004	2003	2002
Continued placement rate	26.9%	27.4%	20.4%	28.0%
Temporary placement rate	15.0%	13.2%	12.1%	17.7%
Occasional use placement rate	2.6%	N/A	N/A	N/A
Continued VTR	-0.45	-0.37	-0.44	-0.40
Temporary VTR	-0.57	-0.31	-0.42	-0.57
Average duration of temporary change	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)

	2005	2004	2003	2002
CC page on Internet	62%	56%	64%	52%
Called CC directly	25%	26%	24%	26%
Employer/turned in form at work	5%	5%	8%	12%
Another internet site	5%	8%	2%	2%
Local jurisdiction program	2%	<1%	1%	3%

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

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

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

	2005	2004	2003	2002
Matchlist	67%	66%	48%	64%
GRH info	60%	70%	61%	49%
GRH registration	36%	52%	52%	31%
Transit info	28%	28%	33%	27%
P&R info	25%	26%	21%	20%
Vanpool assistance	19%	27%	22%	18%
GRH trip	9%	18%	14%	6%
Telecommute	9%	11%	9%	8%
HOV lane info	7%	12%	8%	7%

* Multiple responses permitted

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

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

* Multiple responses permitted

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

	2005	2004	2003	2002
Yes, received info from other org	7%	6%	5%	5%
No, no info from other org	93%	94%	95%	95%

Table B-17

Improvements Desired of Commuter Connections *
(n=700)

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

* Multiple responses permitted

Use/Influence of Information Received

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

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

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

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

Table B-20

Able to Reach People on List?

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

Table B-21
Commuters Reached Interested in Ridesharing?

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

Table B-22
Reasons for Not trying to Reach Commuters

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Table B-31
Register for GRH?

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

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

	2005	2004	2003	2002
(n=____)	170	151	135	113
Very likely to start	525	47%	52%	51%
Somewhat likely to start	29%	28%	23%	26%
Not at all likely to start	19%	25%	25%	23%

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

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

Table B-34

Likely to Continue Using Alternative Mode Without GRH

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

Table B-35
Respondent Used GRH Trip?

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

APPENDIX C
CALCULATIONS OF IMPACTS - ALL PLACEMENTS, JULY – SEPT. 2005

Populations of Interest – Commuter Connections Rideshare Applicants

Total assisted commuters		**7,881**		
Within MSA (69%)		5,420		
Outside MSA (31%)		2,461		
COC Placement Rates		**In MSA**	**Out MSA**	
• Continued rate		25.0%	31.1%	
• Temporary rate		15.7%	13.2%	
Placements				
• Continued		1,356	765	(Apps x continued rate)
• Temporary		851	326	(Apps x temporary rate)
• **Total placements**	**3,298**			
Daily Vehicle Trips Reduced				
VTR Factors				
• Continued		0.44	0.48	
• Temporary		0.61	0.45	
• Temporary discount		12.7%	11.7%	
• Continued trips reduced		597	367	(Placements x cont. VTR factor)
• Temporary trips reduced		661	17	(Placements x temp. VTR factor)
Total VT reduced	**1,047**			
Daily VMT Reduced				
Ave one-way trip distance (mi)				
• Continued		32.2	32.2	(Actual outside-MSA dist. 57.9 miles)
• Temporary		31.1	31.1	(Actual outside-MSA dist. 47.1 miles)
• Continued VT reduced		19,212	11,824	(Vehicle trips x ave distance)
• Temporary VT reduced		2,049	535	
Total VMT Reduced	**33,620**			

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 %	67%	0%	
• Temporary SOV access %	61%	0%	
• Continued SOV access dist (mi)	6.6	0.0	
• Temporary SOV access dist (mi)	8.0	0.0	

VT Reduction

• No SOV access (cont)	200	367	(VT x (1-SOV access %))
• No SOV access (temp)	26	17	(VT x (1-SOV access %))
Total VT for AQ analysis	**610**		

VMT Reduction

• No SOV access (cont)	6,436	11,824	(VT x SOV % x (dist – access dist))
• No SOV access (temp)	807	535	(VT x SOV % x (dist – access dist))
• SOV access (cont)	10,157	0	
• SOV access (temp)	922	0	
Total VMT for AQ analysis	**30,682**		

Daily Emissions Reduced

NOx reduced	**Trips**	**05 Emis. Factor**	**VMT**	**05 Emis. Factor**	**Tot gm**	**Tot ton**
• Cold start	610	0.9905			604	0.0007
• Running (40 mph)			30,682	0.6995	21,462	0.0237
Total NOx reduced (tons)						**0.0244**

VOC reduced	**Trips**	**05 Emis. Factor**	**VMT**	**05 Emis. Factor**	**Tot gm**	**Tot ton**
• Cold start	610	2.3454			1,431	0.0016
• Running (40 mph)			30,682	0.2717	8,336	0.0092
Total VOC reduced (tons)						**0.0108**

* 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 Energy Saving

Daily Energy Savings (total daily VMT reduced / 23.8 miles/gallons) (33,620 / 23.8)	**1,413 gal/day**

Daily Commuter Cost Savings Saving **

Daily Commuter Cost Savings (VMT reduced x $0.164/mi.) (33,620 x 0.164)	**$5,514 / day**
Annual Cost Saving (daily cost saving x 250 days) ($5,514 x 250)	**$1,378,411 / year**
Cost Saving per commuter (cost saving / number of placements)** ($1,378,411 / 2,267)	**$608 / year**

** 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 = 2,121 continued placements + 146 discounted temporary placements (12.4% * 1,177).