2021 Retention Rate Survey
Technical Survey Report

July 20, 2021

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National Capital Region
Transportation Planning Board
COMMUTER CONNECTIONS PROGRAM

2021 Retention Rate Survey
Technical Survey Report

Prepared for:

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ABOUT COMMUTER CONNECTIONS
Commuter Connections, a program of the National Capital Region Transportation Planning Board at the Metropolitan Washington Council of Governments (COG), provides ridematching for carpools and vanpools, incentive programs for alternative commuting, offers the free Guaranteed Ride Home program, and promotes bicycling to work, ridesharing, and other alternatives to drive alone commuting. Commuter Connections is funded by the District of Columbia, Maryland, Virginia, and U.S. Department of Transportation.

CREDITS
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EXECUTIVE SUMMARY

This report presents the results of a "retention rate" survey of 1,316 commuters who participated in Commuter Connections' carpool/vanpool ridematching service, regional Guaranteed Ride Home (GRH) program, a commuter incentive program administered by Commuter Connections, or who requested other commute information or assistance from the Commuter Connections website or mobile application. These services are operated by the Metropolitan Washington Council of Governments (MWCOG) to assist commuters who live and/or work in the metropolitan Washington region to use travel modes other than driving alone to travel to and from work.

Commuter Connections undertook the survey described in this report in February 2021 to estimate the share of past service users who made shifts to alternative modes and who continued to use alternative modes years after receiving the services. In particular, the survey targeted commuters who had received the Commuter Connections services between July 1, 2012 and June 30, 2018.

The report describes how the survey was conducted and the results that were obtained. Additional analysis will be performed on the survey data in the FY 2021-FY 2023 Regional TDM Program Elements evaluation analysis in the spring of 2023 to estimate the travel and air quality impacts generated by commuter applicants' continued use of alternative modes.

Services Received from Commuter Connections

At the start of the survey, respondents were asked to indicate which Commuter Connections services they had used, with specific questions asked for carpool/vanpool support services, services to support use of public transit, bicycling, and telework, and the GRH Program.

- The most common service was GRH; 67% of all respondents said they had participated in this program.
- Half (51%) of all respondents received one or more carpool/vanpool services. Primary services cited included carpool/vanpool matchlist (23%), match map showing home/work locations of potential carpool or vanpool partners (17%), and carpool/vanpool "rider wanted" bulletin board (15%).
- Nearly two-thirds (64%) of respondents had received a Commuter Connections service that supported use of transit, bicycling, or multiple modes. The most common service in this category was information on transit schedules, routes, or fares (48%), Park & Ride lot location information (29%), information on special events, such as Bike-to-Work Day (16%), and bicycling information or a bike map (9%).
- Two in ten (20%) respondents said GRH was the only service they received. These respondents were designated as "GRH Only" for further analysis. Forty-seven percent of respondents said they participated in GRH but also received other non-GRH services. These respondents were classified as "GRH/Non-GRH. One-third (33%) of respondents had never participated in GRH, but had received another Commuter Connections service. These respondents were classified as "Non-GRH Only."

Year of Last Services Received from Commuter Connections

Eligible respondents for this survey included commuters whose most recent Commuter Connections service involvement (last activity date) was between July 2012 and June 2018.

- Of the potential survey respondents in the original population, 36% had a last activity date between 2012 and 2014. The last activity date was 2015 or 2016 for 35% of respondents. The remaining 29% had a last activity date of 2017 or 2018.
- As anticipated, commuters with early activity dates were more difficult to reach than were those with more recent dates, thus the sample of completed interviews contained a higher proportion of recent participants and a lower proportion of participants from earlier years, when compared to the distribution of the total database population. Respondents with a last activity year of 2012-2014 comprised 24% of the survey

interviews, compared with 36% of the total database population. By contrast, respondents with last activity dated in 2017-2018, the most recent time period, accounted for 37% of the survey interviews, compared with 29% of the total database population.

Current and Pre-pandemic Commute Mode

The overriding objective of the Retention Rate Survey was to estimate the share of service users who made shifts to alternative modes after receiving Commuter Connections services and the share of commute trips that these commuters were still making in alternative modes at the time of the survey. To develop these results, respondents were first asked how they were currently commuting "in a typical week" at the time of the survey.

Because the coronavirus pandemic disrupted commute travel, respondents also were asked about their travel to work in February 2020, just before the pandemic stay-at-home directives were issued. Finally, a third question was asked about likely modes the respondent anticipated using when the pandemic ended. With these questions, the analysis defined the most representative "recent/future" commute.

- In February 2021, at the time of the survey, respondents were teleworking/working remotely for 80% of their weekly workdays. Their remaining work trips were made by driving alone (12%), transit (5%), or carpool or vanpool (3%).
- In February 2020, before the pandemic began, respondents eliminated 23% of weekly commute trips by telework and made an additional 47% of weekly commute trips by another alternative mode; 32% by bus or train, 14% by carpool or vanpool, and 1% by walking or bicycling. Respondents drove alone for 30% of weekly commute trips.
- When asked about the commute modes they were likely to use when the pandemic ended, 38% said they expected to telework one or more days per week, but 66% said they were likely to use another alternative mode, such as transit (49%), carpool or vanpool (19%), and/or bike or walk (8%). More than half (53%) said they were likely to drive alone one or more days per week post-pandemic.
- Comparison of the likely post-pandemic commute modes and pre-pandemic modes indicated a high likelihood for respondents who had been using alternative modes in February 2020 to resume use of those modes when the pandemic ended. About nine in ten former transit users (89%) and bike/walk commuters (92%) said they were likely to use these modes again. Carpoolers/vanpoolers were less likely to report likely future carpool or vanpool use than were respondents who used other pre-pandemic modes; 73% said they were likely to carpool or vanpool after the pandemic, but 23% of these respondents reported likely use of transit at least one day per week, so they would resume alternative mode use.
- Overall, 66% of respondents indicated a likelihood to use one or more non-telework alternative modes after the pandemic, a slight increase over the 59% who used these modes pre-pandemic. This overall result, combined with the result that a large majority of pre-pandemic alternative mode users anticipate returning to their previous modes, suggest that the pre-pandemic mode distribution is a reasonable proxy for commute patterns that would have been observed at the time of the survey, had the pandemic stay-at-home orders not disrupted commuting. For this reason, the retention analysis used the pre-pandemic mode use as the "present time" comparison period.
- Somewhat surprisingly, the pre-pandemic use of alternative modes was nearly as high for respondents whose last activity year was in the early years of the evaluation period (2012-2014) and for those with more recent requests for service. About half of respondents whose last activity year was 2017 or 2018 (53%) or 2015-2016 (50%) were using alternative modes pre-pandemic. The rate was 40% for respondents whose last activity date was between 2012 and 2014.
- Differences in alternative mode use were more distinct by the Commuter Connections programs and services the respondent had used. GRH Only respondents made 56% of their weekly commute trips by non-telework alternative modes and GRH/Non-GRH respondents used alternative modes for 50% of weekly trips, compared with 39% for respondents who received only a non-GRH service.

Commute Mode Before Receiving Commuter Connections Services (Pre-service)

All respondents who were using an alternative mode in February 2020 were continued alternative mode users, but if they were using these modes before they requested and received Commuter Connections services, they would not be counted as a Commuter Connections "new placement" in alternative modes. To assess the incidence of mode changes since receiving services, survey respondents were asked how they commuted prior to registering for GRH or prior to requesting and receiving the non-GRH service from Commuter Connections.

- Prior to receiving services, respondents eliminated 6.1% of weekly trips through telework and compressed work schedules and used other non-telework alternative modes for an additional 61.6% of their weekly commute trips. They used a bus or train for 45.4% of the trips, carpooled for 10.2%, rode in a vanpool for 4.4%, and biked or walked for 1.6%. They drove alone for 32.3% of weekly commute trips.

- The overall percentage of non-telework alternative mode weekly commute trips was higher for the "pre-service" time period (62%) than in February 2020 (47%). Transit use fell as a share of weekly work trips from 45% to 32%. Use of carpool, vanpool, and bike/walk remained essentially the same. A notable result was that the share of weekly work trips eliminated by telework and compressed work schedule grew from 6% of weekly trips at the "pre-service" time to 23% of weekly trips in February 2020.

- GRH users were largely responsible for the overall high alternative mode use for the "before requesting and receiving services" time period. GRH Only respondents made 74% of their commute trips by non-telework alternative modes before joining GRH and GRH/Non-GRH respondents used alternative modes for 68% of their weekly commute trips. Prior alternative mode use was much lower among respondents who requested and received only non-GRH services; only 45% had used alternative modes before receiving services.

Retention Rate and Implications for 2023 Commuter Connections TDM Program Element Analysis

The high percentages of continued alternative mode use do not represent the retention rate that is the subject of the survey, because some respondents were using alternative modes before they received services, thus did not reduce new vehicle trips. When both the pre-pandemic commute mode and the pre-service mode are taken into account, a more conservative, but also more realistic view of retention emerges.

Only two combinations of pre-pandemic mode and pre-service mode would be counted as "retained placements" by the definitions used in the Commuter Connections TDM Framework Methodology. These are: 1) commuters who were using alternative modes in February 2020 who previously drove alone to work, and 2) commuters who were using alternative modes in February 2020 that were different from any alternative modes they used before receiving services.

- Across all survey respondents, the overall alternative mode retention rate was 47%. The last activity year appeared to have little impact on retention. The retention rate for respondents with a last activity date of 2017-2018 was 46%. The retention rates were essentially the same for respondents with last activity date of 2015-2016 (47%) and 2012-2014 (48%).

- The alternative mode retention rate also were similar for the three Commuter Connections program categories. The retention rate for GRH Only users was 42%, the rate for GRH/Non-GRH users was 49%, and the rate for Non-GRH Only users was 49%.

Note that the retention rates calculated above likely overestimate the actual rates, however, when all past service users are included. Many commuters in the sample database could not be contacted because they were no longer working, had changed jobs or moved out of the region, had died, or because contact information available was no longer valid. Additionally, many commuters for whom contact information appeared to be valid did not respond to the survey. It is possible they thought the survey did not apply to them because they were no longer participating in Commuter Connections program services or because they were no longer using alternative modes of travel.

Thus, the retention rate factors that are applied in the 2023 TDM analysis will need to take into account that the continued alternative mode use found among surveyed commuters likely was higher than that for commuters who did not participate in the survey. The 2017 and 2020 TDM analyses, which used data from the 2016 Retention Rate

Survey applied an adjustment factor to reflect declining levels of valid contacts for respondents in earlier activity year categories, effectively reducing the base of past GRH and Non-GRH participants included in the calculation. A second adjustment was made to assume a lower retention rate for commuters with valid contact information who did not respond to the survey. Similar adjustments will be made to the 2021 survey data for the 2023 analysis.

Motivations for Driving Alone and for Using Alternative Modes

Commuters use and switch among commute modes for many reasons related to service and personal motivations. To examine these motivations, survey respondents who were driving alone in February 2020 but who had used alternative modes previously were asked why they shifted to driving alone. Respondents who were using alternative modes in February 2020 were asked about the reasons they continued using these modes. Alternative mode users also were asked if any Commuter Connections program services had "assisted or influenced" them to continue using alternative modes.

- The most often-named reason for driving alone, cited by 43% of respondents, was that they changed jobs or work hours or because their work location changed. Thirteen percent gave a related reason, that they moved to a new residence. Thirteen percent said they could save money by driving, 9% said driving alone was faster or easier than the mode they used before, and 2% started teleworking/working from home.
- The most common reason to continue using alternative modes, named by 28% of respondents, was that the mode was the easiest or most convenient mode. Two in ten (19%) respondents said they saved money or reduced wear and tear on a personal vehicle. Thirteen percent said they enjoyed riding the bus/train, riding with others in a carpool or vanpool, or liked walking or bicycling, and 13% said their alternative mode was faster than driving.
- Six in ten (60%) respondents who were using an alternative mode in February 2020 (pre-pandemic) said at least one Commuter Connections service had assisted or influenced their continued use of the modes. In general, about one-third to one-half of respondents who received each service said it had influenced or assisted them. Overall, the most influential/helpful service was GRH, named by 28% of all alternative mode users and more than four in ten of those who had received this service. Transit schedule or route information was cited by 24% of all alternative mode users and by half of those who had received it.

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SECTION 1 INTRODUCTION

This report presents the results of a "retention rate" survey of 1,316 commuters who participated in Commuter Connections' carpool/vanpool ridematching service, regional Guaranteed Ride Home (GRH) program, a commuter incentive program administered by Commuter Connections, or who requested other commute information or assistance from the Commuter Connections website or mobile application. These services are operated by the Metropolitan Washington Council of Governments (MWCOG) to assist commuters who live and/or work in the metropolitan Washington region to use travel modes other than driving alone to travel to and from work.

Commuter Connections undertook the survey described in this report in February 2021 to estimate the share of past service users who made shifts to alternative modes and who continued to use alternative modes years after receiving the services. In particular, the survey targeted commuters who had received the Commuter Connections services between July 1, 2012 and June 30, 2018.

The report describes how the survey was conducted and the results that were obtained. Additional analysis will be performed on the survey data in the FY 2021-FY 2023 Regional TDM Program Elements evaluation analysis in the spring of 2023 to estimate the travel and air quality impacts generated by commuters' continued use of alternative modes.

This report is divided into two sections following this introduction:

- Section 2 – Description of the survey and sampling methodology
- Section 3 – Presentation of the survey results

Following these sections are three appendices, including:

- Appendix A – Disposition of dialing results
- Appendix B – Survey questionnaire
- Appendix C – De-duplication protocol

SECTION 2 – SURVEY AND SAMPLING METHODOLOGY

Survey Goals

The primary goal of the Retention Rate survey was to examine the current and past travel patterns of commuters who participated in Commuter Connections' Guaranteed Ride Home (GRH) Program or who received other Commuter Connections services at some time in the past, but who had stopped their involvement with Commuter Connections. The survey collected data to estimate the percentage of commuters who shifted to alternative modes for commuting after receiving Commuter Connections services and who continued using those modes after their involvement with Commute Connections ended.

Commuter Connections conducts a triennial evaluation of the Transportation Demand Management (TDM) program elements that it administers. In evaluations prior to 2017, mode shifts motivated by TDM program elements were assumed to extend only through the three-year cycle of the evaluation period, so the travel and air quality impacts of the shifts were not carried over to the next evaluation cycle. But numerous surveys that had been conducted for past TDM program analyses suggested that mode shifts extended beyond three years, so additional impacts could be retained from one evaluation cycle to the next. To address this opportunity, Commuter Connections conducted a new "Retention Rate" survey in 2016 to estimate the share of past service users who had continued to use alternative modes into the subsequent evaluation period.

The 2016 survey interviewed Commuter Connections online system users and Guaranteed Ride Home (GRH) program users who last participated in these programs prior to the start of the FY 2015-FY 2017 evaluation period. Users were asked about their current modes, how long they had used these modes, and what Commuter Connections services they had received. Commuters who were still using alternative modes were asked if and how Commuter Connections services influenced their continued alternative mode use.

These survey data were used to develop "retained" placement rates and other factors for past users, which were used in the 2017 and 2020 TDM analyses to calculate "retained" impact credits for GRH and the Commuter Operations Center. In January-February 2021, MWCOG conducted a second Retention Rate survey, to update the placement rate and other calculation factors. The data collected in this survey will be used to estimated retained impacts for the FY 2021-FY 2023 triennial TDM Program Elements evaluation.

Sample Selection Process

Eligible respondents for the 2021 survey included two groups of commuters:

- A commuter who registered or participated in the GRH program after June 30, 2012 and who completed or ended their participation on or before June 30, 2018
- A commuter who received a service other than GRH between July 1, 2012 and June 30, 2018

These specific dates were chosen to be consistent with the six-year duration used for the 2016 Retention Rate survey (July 2008-June 2014). That survey was used to assess alternative mode retention for the 2017 and 2020 Regional TDM Program Element evaluations. Note that the first two years of the look-back participation period for the 2021 survey (July 2012-June 2014) were the same as the last two years of the participation period from the 2016 survey. This does not present any statistical issues for the 2023 TDM Program Element evaluation, because the calculation factors derived from the 2021 survey will be applied only to participation counts for July 2012-June 2018; commuters who participated prior to July 2012 will not be included in the retention calculation. The 2021 survey followed the same data collection methodology as the 2016 survey and will be analyzed in the same way as in 2016, providing a point in time analysis consistent with that used for the 2017 and 2020 TDM analyses.

For the 2021 survey, an initial sample of potential respondents was drawn from Commuter Connections databases, both current (active) and non-active, for commuters who had a Commuter Connections activity between July 2012 and December 2020. Fifteen files containing a total of 1,457,514 non-unique (e.g., potentially duplicate), activity records were received from Commuter Connections. These files included data regarding participant contact and

program activity. The consulting team designed a de-duplication protocol to eliminate multiple records for individual commuters, identify the most recent activity and contact information associated with each commuter, and select only the commuters whose most recent program activity fell within the eligible respondent dates noted above. Documentation containing the deduplication and record selection protocol is provided in Appendix C.

The record selection process also classified respondents by their program type (GRH – last reported activity was GRH registration or re-registration, and Non-GRH – last reported activity was non-GRH related), last year updated, and available method of contact (e.g., email, phone, postal mail). Note that the GRH and non-GRH categories were not exclusive; a commuter designated as GRH could have requested and received non-GRH assistance at an earlier time and a non-GRH commuter could have participated in GRH prior to receiving the non-GRH assistance.

A total of 38,359 unique commuters were identified as eligible respondents at the conclusion of the process. Because the inherent "older" age of the contact information was expected to result in many unreachable commuters, the evaluation team extended survey invitations to all potential respondents who provided an email address and/or telephone number. The 1,382 commuters who provided only a postal mail address for contact were excluded from the survey invitation. The remaining 36,977 participants were contacted either by email or telephone.

Table 1 profiles the original population by most recent program activity and contact method. As reported in the database, about four in ten (40.4%) commuters were designated as having their last activity associated with GRH, while 59.6% most recently were reported to have had a non-GRH activity. About one in ten (9.5%) commuters in the sample frame had provided only a telephone contact; the other 90.5% had provided an email, either alone or with a telephone number.

Table 1
Sample Frame Population by Most Recent Program Activity (Reported in Database) and Contact Method

Sample Frame by Program and Contact Method	Population	Percentage
Telephone Only		
GRH	1,607	4.3%
Non-GRH	1,911	5.2%
Email or Email/Telephone		
GRH	13,350	36.1%
Non-GRH	20,109	54.4%
TOTAL – All Groups	**36,977**	

Table 2 presents the sample distribution by the last activity year reported. Commuter in the sample were divided as follows into the early, middle, and late periods: 36.2% had a last activity date in 2012-2014, 35.2% had a last activity date in 2015 or 2016, and 28.6% had a last activity date of 2017 or 2018 (through June 2018). Note that the durations of the three activity year groupings were not equal; 30 months, 24 months, and 18 months, respectively. This was because the six-year period started and ended in mid-calendar year. In the survey as it was administered, respondents were asked only to state the year of their last activity, thus, for consistency, the sample frame was divided also only by the year of activity, creating unequal durations for the last activity year categories.

Table 2
Sample Frame Population by Last Activity Date (Year)

Sample Frame by Last Activity Year*	Population	Percentage
July 2012 - 2014 (30-month period)	13,398	36.2%
2015 – 2016 (24-month period)	13,014	35.2%
2017 – June 2018 (18-month period)	10,565	28.6%
TOTAL – All Groups	**36,977**	

Questionnaire Design

LDA Consulting, with input from the Commuter Connections TDM Evaluation Group, COG/TPB Commuter Connections staff, and CIC Research, designed the survey questionnaire. Two versions of the questionnaire were designed, one for Internet and a second for telephone administration. All questions were included in each version, but minor wording and format changes were made to the Internet version for visual administration. A copy of the final Internet questionnaire is presented in Appendix B.

The questionnaires collected data on the following major topics, with some topics asked only of respondents who participated in the GRH Program and some asked only of respondents who had used only non-GRH services. The questionnaire substantially followed the format and questions used in the 2016 survey. Because the 2021 survey was administered during the coronavirus pandemic, when many employers had shifted some or all workers to telework/work from home, new questions were added in 2021 in the commute mode section to address this situation.

All respondents

- Commuter Connections services requested, used, or accessed, including registration in GRH
- Approximate year services were first received
- GRH program status (if applicable)
- Current commute patterns (telework, modes on non-telework days)
- Commute patterns in February 2020, prior to the start of the coronavirus pandemic
- Influence of Commuter Connections services on decision to use alternative modes
- Respondent demographics

GRH program participants

- Commute patterns while participation in GRH
- Commute patterns before participating in GRH
- Duration of alternative mode use after ending GRH participation and reasons for switching to drive alone, asked of current drive alone commuters
- Reasons for continuing alternative mode use (current alternative mode users)
- Reasons for not renewing GRH participation

Non-GRH service users

- Shifts to alternative modes after requesting and receiving Commuter Connections services
- Commute mode before requesting and receiving services
- Duration of alternative mode use after requesting and receiving services and reasons for switching to drive alone, asked of current drive alone commuters
- Reasons for continuing alternative mode use (current alternative mode users)

Survey Administration

The survey was administered using Internet or telephone methods. Applicants who provided an email address for contact were initially contacted by email and asked to complete the survey via the Internet. Applicants who had not provided an email contact were contacted by telephone.

Survey Pretests

Telephone – Prior to conducting the full survey, a telephone pretest of the survey instrument was conducted with 17 "telephone only" respondents. The pretest indicated only minor changes to the questionnaire were necessary. But the pretest reinforced the expectation that many potential respondents would be difficult to reach, due to the years that had passed since they last received Commuter Connections services. A large proportion of telephone numbers were not-in-service, answering machines, or no answer. Interviewers also noted that numerous potential respondents had retired, no longer worked at the location, or had died.

Internet – The Internet questionnaire was internally tested extensively by project team members. After the telephone pretest was completed, the minor changes made to the telephone questionnaire were also made to the Internet questionnaire and the Computer-Assisted Web Interview (CAWI) system was tested again.

Telephone Interviews

Once the pretest was completed and the questionnaire finalized, telephone interviewing resumed. All interviews were conducted in CIC's telephone survey facilities, using the CATI (computer-assisted telephone interviewing) system and Voxco software. Prior to beginning the full telephone survey effort, interviewer-training sessions were held. Topics discussed in the session included:

- An explanation of the purpose of the study and the group to be sampled
- Overview of COG and its function
- Verbatim reading of the questionnaire
- Review of the definition and instruction sheet to familiarize interviewers with the terminology
- Review of skip patterns to familiarize interviewers with questionnaire flow
- Practice session on CATI systems in demonstration mode

Telephone calls were made between January 26 and February 12, 2021. Calls were first directed to the respondent's work number. If work contact was unsuccessful, the respondent was called at home. Interviewers made weekday calls to work telephone numbers from 12:15 pm to 5:00 pm EDT and to home telephone numbers from 5:00 pm to 8:45 pm EDT. All weekend calls were made to home telephone numbers from 1:00 pm to 7:30 pm EDT. A maximum of four attempts were made to contact a commuter. If the call was answered by an answering machine, at least three more attempts were made to contact the respondent.

Survey supervisors were responsible for overseeing the CATI server, checking quotas, editing call-back appointment times, monitoring interviews, answering questions, and reviewing completed surveys. To ensure data quality, the survey supervisors conducted periodic random monitoring. Additional quality assurance checks were performed after the data were collected.

Following the telephone pretest, all remaining sample for the Telephone Only participant group were activated for the telephone survey. A total of 4,177 participant records were used during the survey fieldwork. Note that over half of telephone numbers were no longer in service, resulting in a very high (84) average number of telephone call attempts for each completed interview. Including the 17 interviews completed during the pretest, a total of 50 telephone interviews were completed for the study that concluded on February 12, 2021. Overall, the telephone group had an interview refusal rate of 3.5 percent.[1] Note that this percentage does not include "soft refusals" made through call screening, in which the respondent never answered the call. A disposition of telephone dialing results can be found in Appendix A.

1 Refusal rates are calculated as the number of initial refusals plus the number terminated during the interview, divided by the total sample. See Appendix A.

Internet Interviews

For the Internet survey, a list containing 33,459 registrants with email addresses was sent to COG. COG/TPB Commuter Connections staff emailed a letter of introduction to each email address, with a unique clickable link to the survey embedded in the email. Commuter Connections staff also sent three reminder letters to prospective respondents who had not yet completed the survey.

A total of 1,316 interviews were completed from Internet or telephone administration. Commuter Connections received "invalid/undeliverable email" notifications for 3,449 sample points, 9.3% of the total original email sample frame.

Weighting of Survey Data

The telephone and Internet interviews were merged together for a total of 1,316 completed interviews. Survey responses then were weighted to align survey results with the distribution of eligible commuters in the Commuter Connections database. The criterion used to weight the survey data was "Year of Participation." This variable denotes when the participant last used Commuter Connections programs or services. For purposes of weighting, three categories were used, 2012-2014, 2015-2016, and 2017-2018.

As anticipated, commuters with early activity dates were more difficult to reach than were those with more recent dates, thus the sample group contained a higher proportion of recent participants and a lower proportion of early-year participants, when compared to the total population. Differences between the population percentages and sample percentages of each group tested as statistically significant, so were weighted to realign survey responses to the population groups.

Year of Participation	Sample Percentage	Total Population
2012 – 2014	24.2%	36.2%
2015 – 2016	38.6%	35.2%
2017 – 2018	37.2%	28.6%

Level of Confidence for Analysis

The overall level of confidence for the study was calculated using the finite population correction factor, an approach used when the sample size is large relative to the total population. Completion of 1,316 interviews from a population of 36,977 resulted in an overall level of confidence of 95% ± 2.6% for the survey (Table 3). But the survey was designed for analysis by activity year and analysis by year differed because sample sizes were different. The level of confidence varied from a low of 95% +/- 5.4% to a high of 95% +/- 4.3% for individual analysis levels.

Table 3
Level of Confidence for Analysis Levels

Year of Last Participation	Number of Completed Interviews	Number of Initial Sample Points	Confidence Level from Sample
July 2012 - 2014 (30 months)	319	13,398	95% +/- 5.4%
2015 – 2016 (24 months)	508	13,014	95% +/- 4.3%
2017 – June 2018 (18 months)	489	10,565	95% +/- 4.3%
TOTAL – All Groups	**1,316**	**36,977**	**95% +/- 2.6%**

SECTION 3 SURVEY RESULTS

Following are key results from each section of the survey. Percentages presented in the tables and figures show them weighted to the total applicant population, but also show the raw number of respondents (e.g., n =__) who answered that question.

- Demographic characteristics of the sample
- Services received from Commuter Connections
- Commute patterns – current and pre-pandemic (February 2020)
- Pre-service commute patterns (before receiving services)
- Alternative mode retention rates
- Motivations for driving alone
- Motivations for using alternative modes
- Desired improvements to Commuter Connections services

Characteristics of the Sample

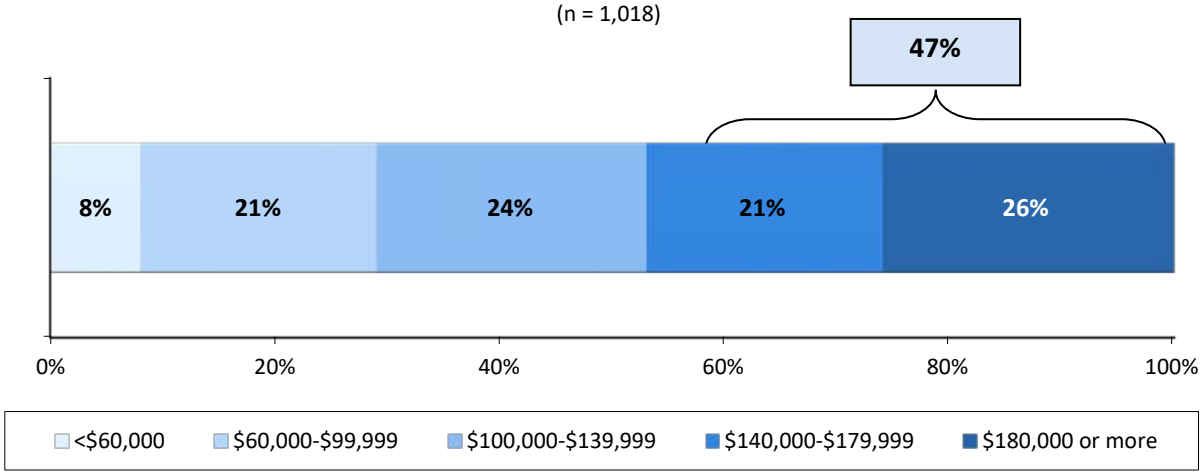
The survey asked respondents four demographic questions: sex, income, age, and race/ethnicity.

Demographics

Gender – Female respondents (62%) outnumbered males (38%) in the survey sample.

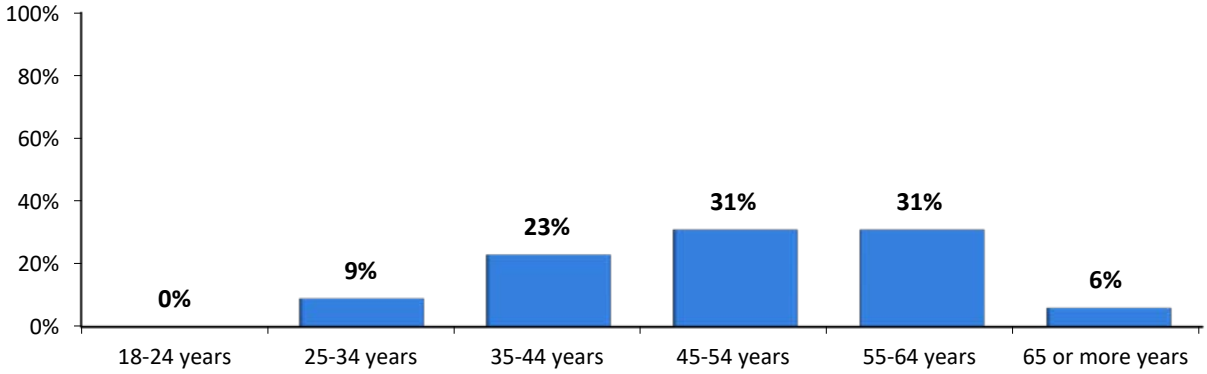
Annual Household Income – Figure 1 presents the distribution of respondents' annual household income. More than seven in ten (71%) respondents had household incomes of $100,000 or more and 47% had incomes of $140,000 or more.

Figure 1
Annual Household Income
(n = 1,018)



Age – Survey participants were clustered in the middle and older age brackets (Figure 2). More than six in ten (62%) were between the ages of 45 and 64 years old. Approximately one-third (32%) were under 45 years old and 6% were 65 years or older.

Figure 2
Respondent Age Distribution
(n = 1,248)



Race/Ethnicity – Non-Hispanic Whites and Non-Hispanic Blacks represented the two largest ethnic group categories of survey respondents, 58% and 22% respectively (Table 4). Asian respondents and Hispanic respondents accounted for about 11% and 7%, respectively.

Table 4
Race / Ethnicity

Race/Ethnicity	Percentage (n = 1,139)
Non-Hispanic White/Caucasian	58%
Non-Hispanic Black/African-American	22%
Asian/Pacific Islander	11%
Hispanic	7%
Other/Mixed	2%

Essential Worker – In response to the coronavirus pandemic, the 2021 survey included a new question, asking if the respondent was considered an "essential worker" who was required to travel to a workplace outside the home for work. Thirty-one percent of respondents said they were considered essential; 20% said they worked in a government service occupation, 5% said they worked in a healthcare job, 2% reported working in a transportation occupation, and 4% worked in another essential occupation.

Demographics by Last Activity Year – Table 5 presents respondent demographic distributions by the last activity year reported in the database. The distributions of sex, income, age, and race/ethnicity were somewhat similar across the three activity year groupings.

Table 5
Demographic Profile by Last Activity Year

Demographic Characteristic	Last Activity Year		
	2012-2014	2015-2016	2017-2018
Sex	(n = 294)	(n = 466)	(n = 445)
- Female	59%	67%	60%
- Male	41%	33%	40%
Income	(n = 249)	(n = 401)	(n = 368)
- Under $100,000	30%	29%	24%
- $100,000 - $159,999	33%	38%	37%
- $160,000 or more	37%	33%	37%
Age	(n = 301)	(n = 483)	(n = 464)
- Under 35 years	10%	8%	9%
- 35 – 44 years	23%	24%	23%
- 45 – 54 years	33%	27%	32%
- 55 years and older	34%	41%	36%
Race/Ethnicity	(n = 275)	(n = 441)	(n = 423)
- Non-Hispanic White	58%	57%	60%
- Non-Hispanic Black	21%	25%	20%
- Asian	14%	10%	10%
- Hispanic	6%	6%	7%
- Mixed/Other	1%	2%	3%

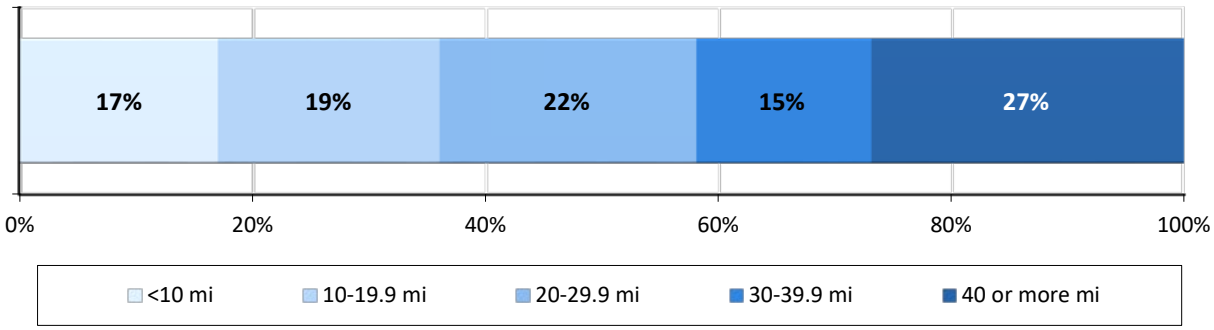
Work Schedule

The overwhelming majority (95%) of respondents worked full-time. But 15% reported working a compressed schedule in which they worked a full-time schedule in fewer than five days; 11% worked a 9/80 compressed schedule, with one weekday off in alternate weeks and 4% worked either a 4/40 schedule, with one weekday off each week or 3/36 schedule, with two weekdays off per week. These respondents were classified as working a five-day week for purposes of commute mode, with one-half, one, and two weekdays off each week, respectively.

Commute Length

Commuters in the survey sample had a wide range of commute distances, from less than one mile to more than 200 miles. Figure 3 shows the distribution of distance for all respondents. More than four in ten (42%) respondents traveled 30 or more miles to work and 27% commuted 40 or more miles to work.

Figure 3
Commute Distance (miles) – All Respondents
(n = 1,154)



The average one-way distance across all respondents was 28.4 miles. Respondents who had participated in GRH traveled farther than did those who had not used GRH:

- GRH users – average of **30.2 miles** one-way
- Non-GRH users – average of **24.7 miles** one-way

Respondents who received services more recently traveled farther than did respondents who received services in earlier years:

- 2012 – 2014 last activity year – average of **27.4 miles** one-way
- 2015 – 2016 last activity year – average of **28.1 miles** one-way
- 2017 – 2018 last activity year – average of **30.11 miles** one-way

Services Received from Commuter Connections

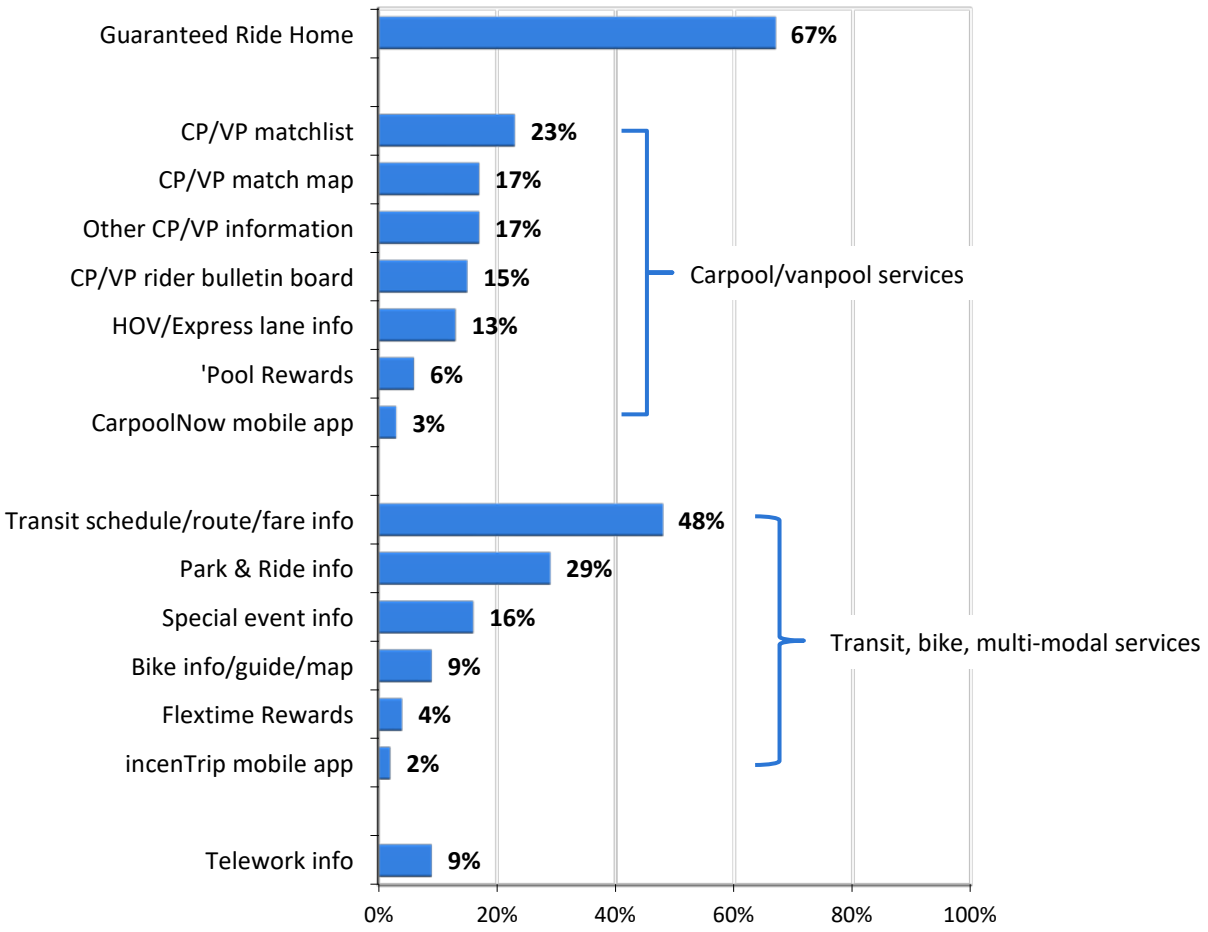
The primary goal of the survey was to determine the share of past service users who were "retained" in (e.g., continued using) alternative modes. Because the retention rate could be affected by the services they received, the survey asked several questions at the start of the survey to define the services.

Respondents were shown two lists of Commuter Connections services, one for carpool/vanpool support services and a second for services to support use of public transit, bicycling, multiple modes, and telework. For each list they were asked to indicate the services they had accessed, received, or requested. Then, all respondents were asked a separate question to determine if they had registered for the GRH Program. Figure 4 shows the percentages of respondents who participated in or received each service.

Guaranteed Ride Home

The most common service named was Guaranteed Ride Home; 67% of all respondents said they had participated in this program at some point in the past.

Figure 4
Individual Services Received from Commuter Connections as Defined by Respondent (during survey interview)
(n = 1,316, multiple responses)



Carpool/Vanpool Services

Half (51%) of all respondents received at least one of the seven carpool/vanpool services listed. Nearly one-quarter (23%) received a "matchlist" with names of commuters they could contact to form a carpool or vanpool. Seventeen percent received a map showing home/work locations of people they could contact to form a carpool or vanpool (match map) and the same share reported "other" carpool/vanpool information. Fifteen percent had accessed the Commuter Connections carpool/vanpool "rider wanted" bulletin board and 13% received information on High Occupancy Vehicle (HOV) lanes or express lanes available to carpoolers and vanpoolers. Six percent participated in the 'Pool Rewards carpool financial incentive program and 3% had used the CarpoolNow mobile app.

Transit/Bike/Multi-modal Services and Telework

Nearly two-thirds (64%) of respondents had received a Commuter Connections service that supported use of transit, bicycling, or multiple modes. The most common service in this category was information on transit schedules, routes, or fares; 48% of respondents noted receiving this service. Three in ten (29%) accessed information on Park & Ride lot locations. Sixteen percent of respondents received information on special events, such as Bike-to-Work Day and 9% obtained bicycling information or a bike map. A few respondents noted one of

two multi-modal incentive programs: Flextime Rewards (4%) and incenTrip mobile app (2%). Nine percent of respondents said they obtained telework information.

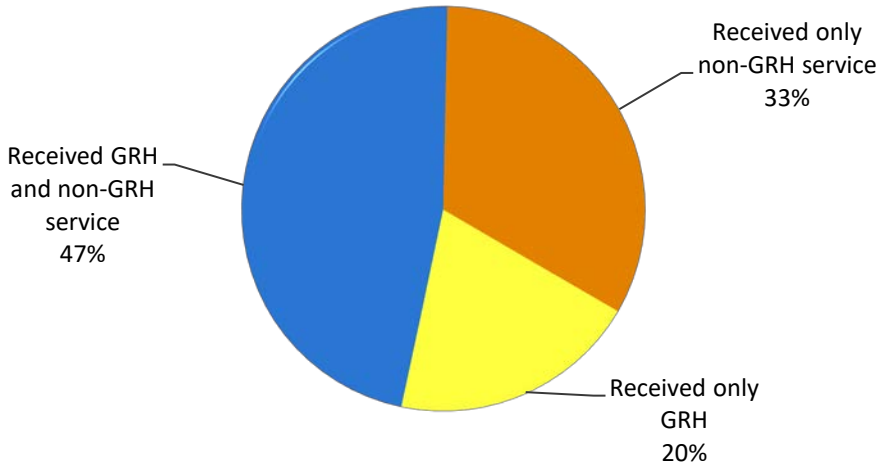
Classification of Respondents by Service Category

By combining the results of the questions about individual services, the analysis classified respondents into one of three categories, based on the combination of services they had received:

- GRH Only – Received only GRH
- Non-GRH Only – Received only a non-GRH service (e.g., carpool, vanpool, transit, bike, telework, or incentive program)
- GRH/Non-GRH – Received both GRH and a non-GRH service

Two in ten (20%) respondents said GRH was the only Commuter Connections service they received (Figure 5). One-third (33%) reported receiving only non-GRH services; they had not participated in GRH at any time. The largest segment, 47% of respondents, said they received both GRH and another Commuter Connections service.

Figure 5
Services Received from Commuter Connections as Defined by Respondent (during survey interview)
(n = 1,316)

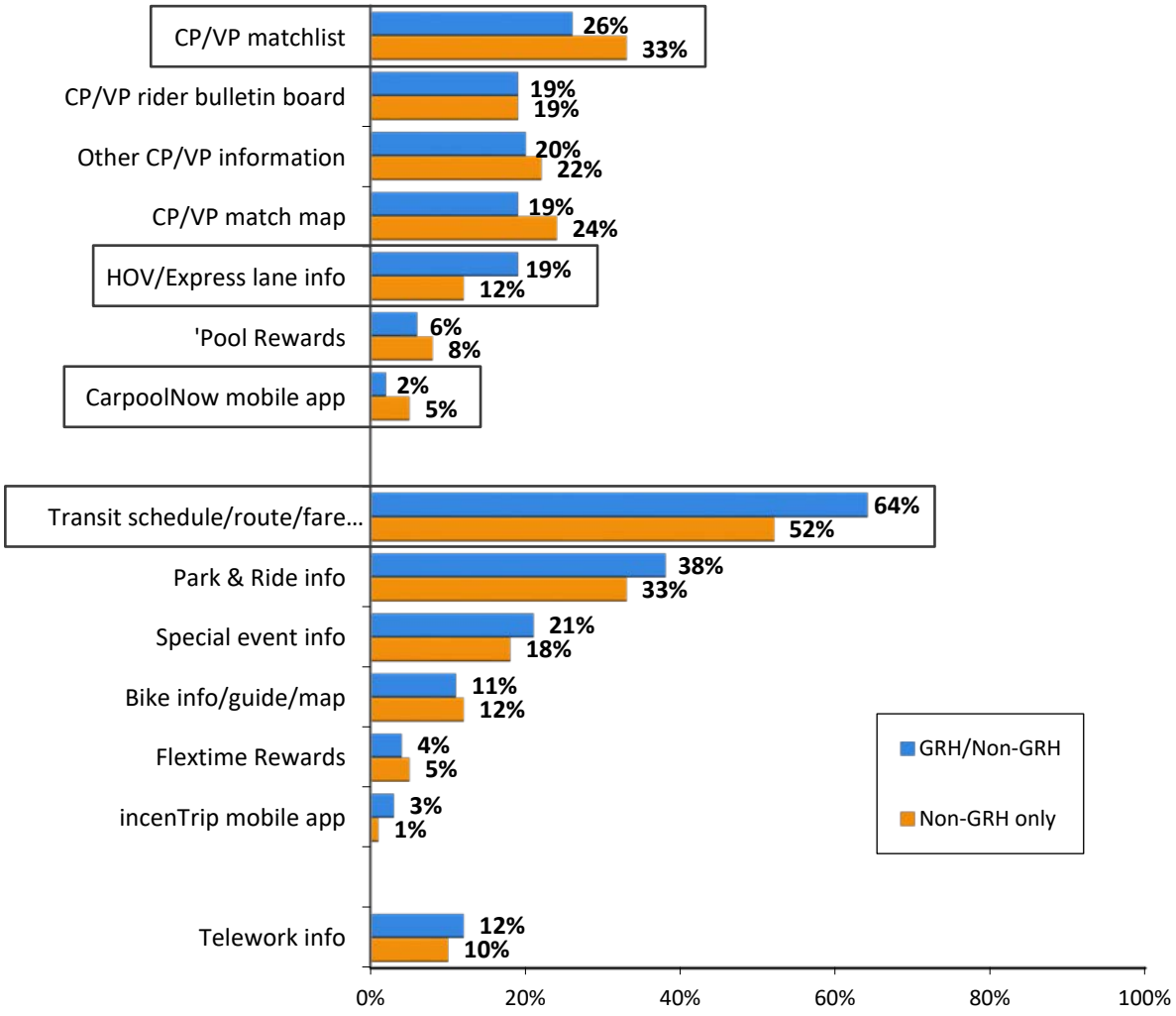


These percentages will not match the distributions of GRH and non-GRH in the sample counts described in Section 2. As previously noted, the sample designation was based on the last activity reported in the Commuter Connections database. However, it was possible that some respondents who were classified as GRH for sample purposes had received a non-GRH service at an earlier time or that a respondent who was designated as non-GRH in the sample had participated in the GRH program prior to receiving the non-GRH service. For this reason, the classification shown in Figure 5 above was used for analysis of retention rates by program and these classifications are used in other tables and figures presented later in this section.

Non-GRH Services Received by Program Classification

GRH users who also received non-GRH services reported generally similar use of non-GRH services as did respondents who received only non-GRH services (Figure 6). But respondents who had used both GRH and non-GRH services reported higher use of transit services; nearly two-thirds (64%) of GRH/Non-GRH users had received transit information, compared with 52% of Non-GRH Only users. A statistical difference in use also was noted for HOV/Express lane information; 19% of GRH/Non-GRH respondents used this service, compared with 12% of respondents who had used only non-GRH services.

Figure 6
Non-GRH Services Received from Commuter Connections – GRH/Non-GRH Users and Non-GRH Only Users
(GRH/Non-GRH n = 622, Non-GRH Only n = 419)



Conversely, Non-GRH Only respondents indicated higher use of carpool/vanpool matchlists (33%) than did the respondents who also participated in GRH (26%). They also reported higher use of the CarpoolNow mobile app, neither group had used this service at a high level (GRH/Non-GRH 5%; Non-GRH only 2%). Use of other services was similar between the two respondent groups.

"Current" GRH Registration Status

As noted in the Introduction section, the survey was administered only to commuters who were not currently participating in any Commuter Connections services and who had not participated in any Commuter Connections service since June 2018. However, 17% of all respondents said they were "currently registered" for the GRH Program and another 26% said they were not sure if they were still registered. (Table 6). These respondents represented two-thirds of all respondents who said they had participated in GRH (43% of total 67% who had used GRH).

Table 6
GRH Registration Status as Defined by Respondent (during survey interview)

GRH Registration Status	Percentage (n = 1,316)
GRH registrant	67%
- Past registrant	24%
- Current registrants	17%
- Unsure if still registered	26%
Not GRH registrant	33%
- Never registered	20%
- Unsure if ever registered	13%

Past GRH surveys conductd by Commuter Connections have shown similar confusion regarding GRH status. It is possible these respondents did not realize they needed to re-register each year, so assumed they were still eligible for the program. GRH respondents whose last activity date was in 2017 or 2018 were more likely to self-identify as current registrants (21%) than were respondents whose last Commuter Connections activity was in 2015-2016 (15%) or in 2012-2014 (15%).

The GRH registration status actually was past/expired for all GRH respondents. But because the survey asked respondents who had participated in GRH questions relating to the times “before” and “while” participating in GRH, respondents’ who thought they were currently registered were asked a slightly different form of the questions to ensure the questions would make sense to them.

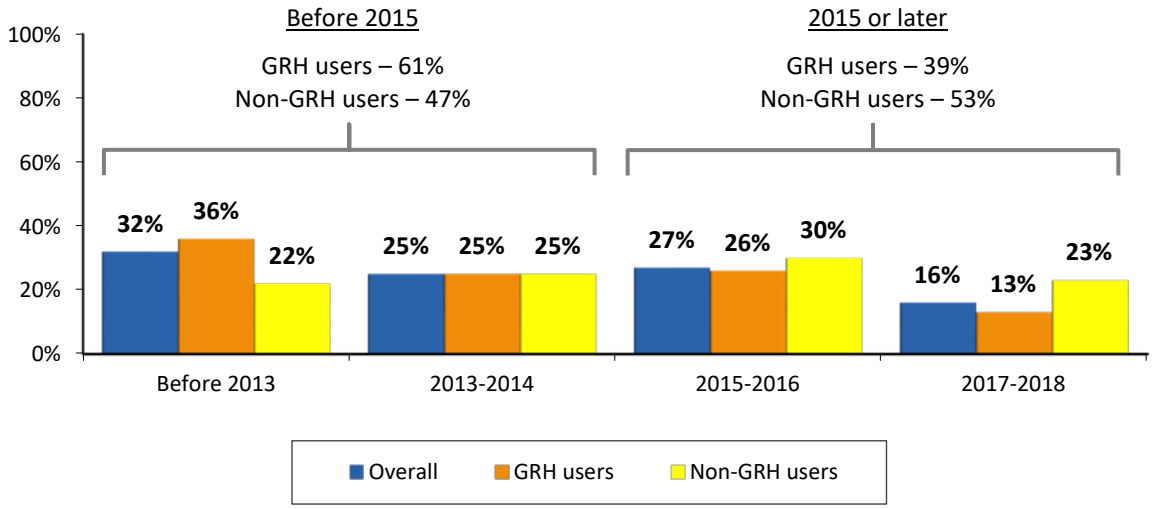
Thirteen percent of respondents said they were not sure if they had ever registered for GRH. Because they would not have been able to answer questions about GRH, they were classified as Non-GRH Only for the purpose of defining their path through the survey questions.

First Year of Participation in Commuter Connections Services

All respondents were asked when they first received Commuter Connections services. Respondents who were GRH Only or GRH/Non-GRH were asked when they first registered for GRH. Respondents who had received only non-GRH services were asked when they first accessed or received services from the Commuter Connections website. Across all respondents, 32% said their first participation year was before 2013, 25% first participated in 2013 or 2014, and 27% first participated in 2015 or 2016 (Figure 7). Sixteen percent first participated in 2017 or 2018.

As also shown in Figure 7, non-GRH users were more likely to have reported a recent participation date than were GRH users. More than half (53%) of non-GRH users reported first receiving services in 2015 or later, while 61% of GRH users first registered for GRH before 2015.

Figure 7
First Participation Year as Defined by Respondent (during survey interview)
All Respondents, GRH Users, Non-GRH Users
(All Respondents n = 1,314, GRH users n = 896, Non-GRH users n = 418)



Commute Patterns – Current, Pre-pandemic, and Anticipated Post-pandemic

The primary objective of the Retention Rate Survey is to estimate the share of service users who made shifts to alternative modes after receiving Commuter Connections services and the percentage of those who started using a new alternative mode who were still using the new modes. In the 2016 Retention Rate Survey, this was assessed by first asking respondents about their commute "in a typical week" at the time of the survey (current). They then were asked about their typical commute during the time they participated in or received Commuter Connections services, and for the time before they registered for GRH or before they received other non-GRH services. From these questions and targeted follow-up questions, the analysis defined both initial changes in mode after receiving a Commuter Connections service and the extent of continued use of, or "retention" in, alternative modes.

This straightforward approach was complicated in 2021 when the coronavirus pandemic stay-at-home directives were implemented in spring 2020, disrupting typical commutes. Employee surveys conducted during 2020 by various researchers showed that many employees began working remotely all or most of their workdays, some employees became unemployed or changed jobs, and some who continued commuting to an outside work location changed their commute mode.

These workplace and commuting adjustments were anticipated to be temporary, for the duration of the pandemic. Thus, the commuting patterns at the time the 2021 Retention Rate Survey was conducted were not thought to be representative of the alternative mode retention patterns that would have been in effect had the pandemic not occurred. For this reason, new questions were added to the 2021 survey questionnaire to examine how commutes had changed during the pandemic, and what commute patterns might be expected in the future. Three commute periods were defined:

- Current commute – modes/frequency of use at the time of the survey (February 2021)
- Pre-pandemic commute – modes/frequency of use in February 2020, prior to the start of the pandemic
- Post-pandemic commute – modes/frequency anticipated to be used when the pandemic is over

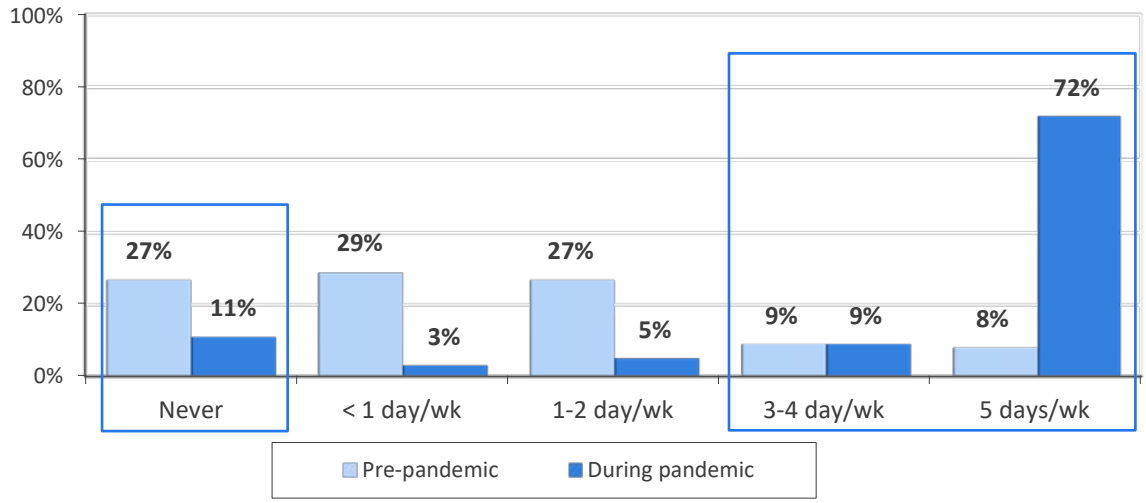
The survey also asked about commute modes that the respondent used before receiving Commuter Connections services. This pre-service commute pattern was used in the analysis as has been done in 2016, as the "before" condition in the test for initial alternative mode shift. The three time periods noted above were analyzed together to define the modes that best represented the "after" mode for purposes of determining alternative mode retention.

Current and Pre-pandemic Telework

Because it was anticipated that many respondents would be working remotely, in response to the coronavirus pandemic, the survey first asked how often respondents teleworked at the time of the survey and how often they teleworked in February 2020, before the pandemic began. As illustrated in Figure 8, 81% of respondents were teleworking three or more days per week at the time of the survey and more than seven in ten (72%) were teleworking full-time. Only 11% were not teleworking at all.

Figure 8 also shows the telework distribution in February 2020, before the pandemic began. While many respondents were teleworking at least some workdays before the pandemic, frequent telework was far less common. Seventeen percent of respondents teleworked three or more days per week; 8% teleworked full-time. One-quarter (27%) of respondents did not telework at all before the pandemic.

Figure 8
Telework During the Coronavirus Pandemic and Pre-pandemic
(During pandemic n = 1,312, Pre-pandemic n = 1,312)

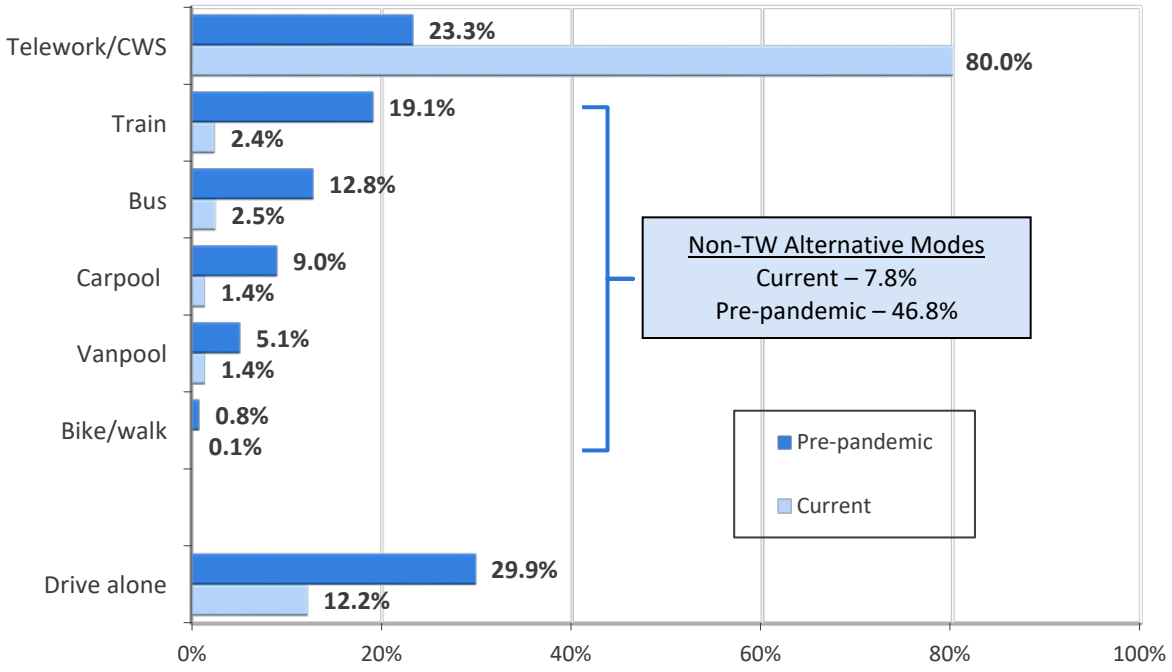


Respondents who teleworked at least some workdays before the pandemic reported higher telework use during the pandemic; among respondents who teleworked in February 2020, 90% were teleworking at least 3 days per week at the time of the survey. But respondents who did not telework at all in February also reported telework use during the pandemic; 69% were teleworking at least one day per week and 54% were teleworking three or more days per week.

Current and Pre-pandemic Commute Modes

Current Commute – Respondents were asked how many days in a typical week they currently used each of a variety of transportation modes. Figure 9 represents commute mode shares as a percentage of weekly commute trips. The figure includes six traditional "on the road" mode groups for travel to job locations outside the home: train (Metrorail/commuter rail), bus, vanpool, carpool, bike/walk, and drive alone (including taxi and ridehail-Uber/Lyft).

Figure 9
Current and Pre-pandemic Commute Modes – Percentage of Weekly Commute Days
(n = 1,316)



The figure also includes the mode share for telework and compressed work schedule (CWS). These are not actually travel modes, but this figure includes them to show the percentage of weekly work trips that were eliminated through use of these work schedule options.

As is clear from Figure 9, the most prominent current mode was telework/CWS. Eight in ten weekly commute days/trips were eliminated by these options. Telework accounted for nearly all (79%) of the TW/CWS group; compressed schedules accounted for 1% of trips reduced. Fifteen percent of respondents said they currently worked a compressed schedule, but nearly all worked a 9/80 schedule, with one CWS day off every two weeks, so CWS eliminated only a small number of weekly trips.

Driving alone/taxi/ridehail accounted for about one in ten (12.2%) weekly trips. The remaining commute trips were divided among the non-telework alternative modes: 2.4% train, 2.5% bus, 1.4% carpool, 1.4% vanpool, and 0.1% bike or walk. These alternative modes accounted for a total of 7.8% of weekly work commute trips.

Current Commute the Same or Different as Pre-pandemic Commute – Respondents were next asked how their current commute compared with their commute in February 2020, just prior to the start of the coronavirus stay-at-home directive.

> "Is your current travel to work as you just described it, about the same as your commute last year in February 2020, before the coronavirus pandemic began, or is it substantially different than before the pandemic?"

Two in ten (19%) respondents said their commute was about the same as before the pandemic, but 81% said it was substantially different. Most who had a different commute said they had shifted to full-time telework (63% of all respondents), so were not commuting at all. Two in ten (18%) said they were still traveling to an outside work location at least some of their work days, but were using different modes than before the pandemic or were using a combination of telework and commuting to an outside location.

Pre-pandemic Commute – Respondents who reported a substantially different commute since the pandemic began were asked how they commuted in a typical week in February 2020. Figure 9, which presented the distribution of weekly commute trips at the time of the survey, also shows the February 2020 "pre-pandemic" distribution.

The pre-pandemic distribution of weekly commute trips was very different from the current commute distribution. In February 2020, telework/compressed schedules accounted for a much smaller share of weekly commute trips. In 2020, 23.3% of trips were eliminated by telework/compressed schedule, with 22.5% eliminated by telework and 0.8% eliminated by use of compressed schedules.

The other significant difference was in the share of trips made by alternative modes and by driving alone. In February 2020, respondents made nearly half (46.8%) of their weekly commute trips by a non-telework alternative mode. Public transit accounted for about one-third of trips; 19.1% train and 12.8% bus. Carpool/vanpool also was commonly used; 9.0% carpool and 5.1% vanpool. About 0.8% of weekly trips were made by bike or walk.

The remaining three in ten (29.9%) weekly commute trips were made by driving alone/taxi/ridehail in February 2020. This was a much higher share than the 12.2% of current weekly commute trips. But this is explained in large part by the shift to telework, which occurred for both respondents who previously drove alone and for those who previously used an alternative mode.

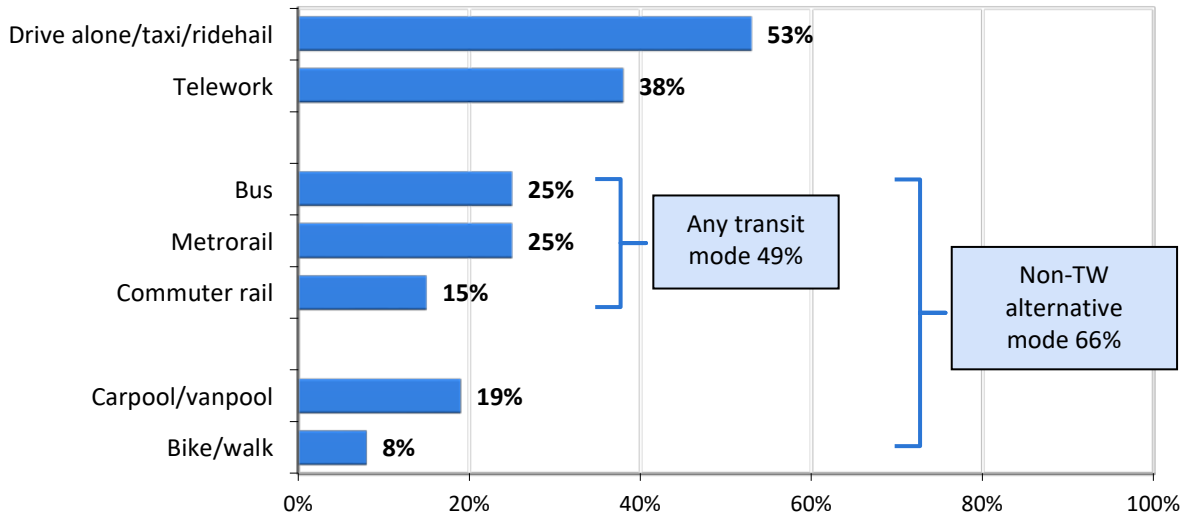
Anticipated Commute After Pandemic Ends

The retention analysis compares commuting patterns for a current/recent time period with commuting for previous time periods. As was shown in Figure 9, the current and pre-pandemic commute patterns were clearly very different. This raises the question of what pattern best represents how commuters would have been traveling to work in early 2021 had the pandemic not occurred. Alternatively, we can ask how respondents anticipate commuting when the pandemic is over to determine if they are likely to return to the modes they used in February 2020. To assess likely future commuting patterns, the survey asked all respondents the following question:

> *"When the pandemic is over, which of following types of transportation do you expect you will use at least once per week for your trip to work?"*

The results of this question are presented in Figure 10. Respondents were permitted to choose multiple mode options, so the individual percentages will total to more than 100%.

Figure 10
Likely Commute Modes After Pandemic Ends – Anticipated Use One or More Days Per Week
(n = 1,194; multiple responses permitted)



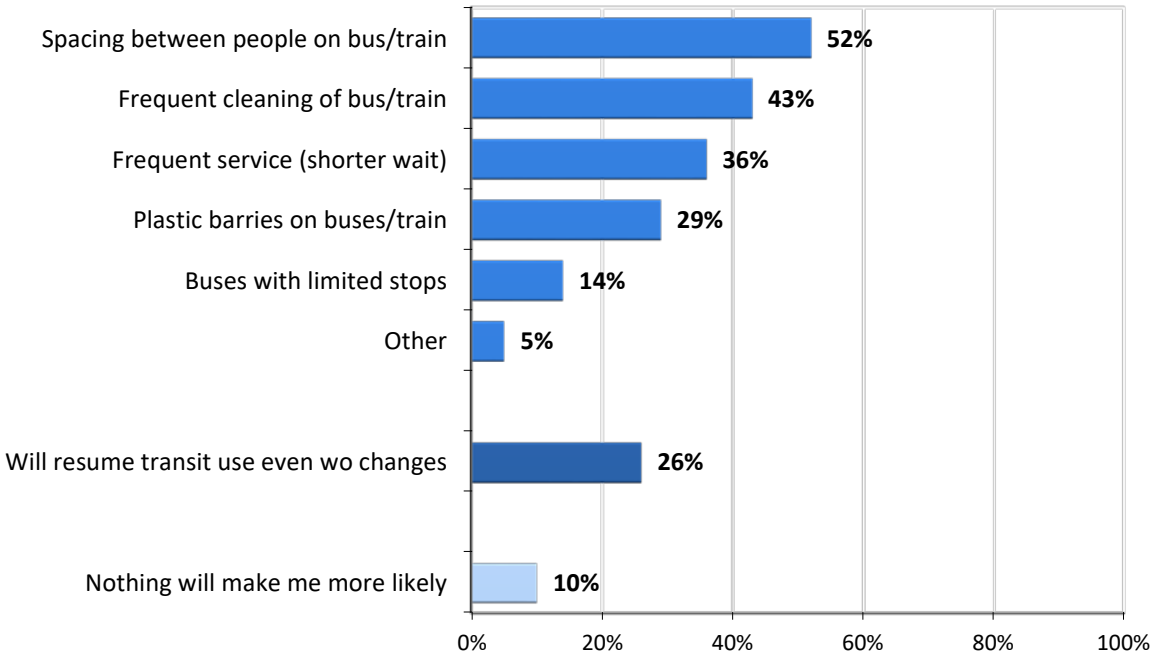
One in ten respondents (9%) said they were not sure of their future modes. Of those who reported likely mode use, about half (53%) said they were likely to drive alone to work one or more days per week after the pandemic ends. Four in ten (38%) expected to telework at least one day per week.

Two-thirds (66%) of respondents said it was likely they would use a non-telework alternative mode at least one day per week to get to work after the pandemic. Half (49%) anticipated using some form of transit; 25% said it was likely they would ride a bus, 25% were likely to use Metrorail, and 15% reported a likely use of commuter train. Some respondents reported more than one transit mode, so these individual percentages add to more than the 49% total transit use. Two in ten (19%) respondents said it was likely they would carpool or vanpool to work and 8% reported likely use of bike or walk for commuting.

Transit Safety Changes to Encourage Transit Use Post-pandemic – Respondents who had been using transit to commute in February 2020 and who had either reduced their transit use or stopped using transit entirely were asked if any of five transit changes would make them more likely to resume their previous transit use when the pandemic ended. About 10% of respondents said nothing would make them more likely to ride a bus or train after the pandemic (Figure 11). One quarter (26%) said they planned to resume their previous transit use even if none of the listed changes were made.

The remaining respondents mentioned one of more of the changes. Half (52%) said greater spacing between people on buses and trains would encourage them to ride more. Four in ten (43%) cited frequent cleanings of buses and trains and 29% said they would be more likely to ride if the buses and trains had plastic barriers to limit their exposure to the coronavirus. More than one-third (36%) mentioned more frequent transit service, leading to shorter wait times and 14% would be more likely to ride transit if buses had limited stops.

Figure 11
Transit Changes that Would Make Respondents More Likely to Use Transit After Pandemic Ends
(n = 480; multiple responses permitted)


Spacing between people on bus/train
52%
Frequent cleaning of bus/train
43%
Frequent service (shorter wait)
36%
Plastic barries on buses/train
29%
Buses with limited stops
14%
Other
5%
Will resume transit use even wo changes
26%
Nothing will make me more likely
10%
0%
20%
40%
60%
80%
100%

Anticipated Post-pandemic Commute Modes Compared with Pre-Pandemic Modes - Nearly nine in ten (88%) respondents who were using an alternative mode in February 2020, before the pandemic began, said they were likely to use alternative mode for commuting when the pandemic ends, suggesting a high likelihood of resuming their pre-pandemic commute patterns. Interestingly, more than one-quarter (28%) of respondents who were not using alternative modes at all in February 2020 said they were likely to do so when the pandemic ended. This could mean that some other component of their commute situation had changed, such as a new job or home location, or another commute characteristic that would make alternative modes more feasible or attractive than before the pandemic.

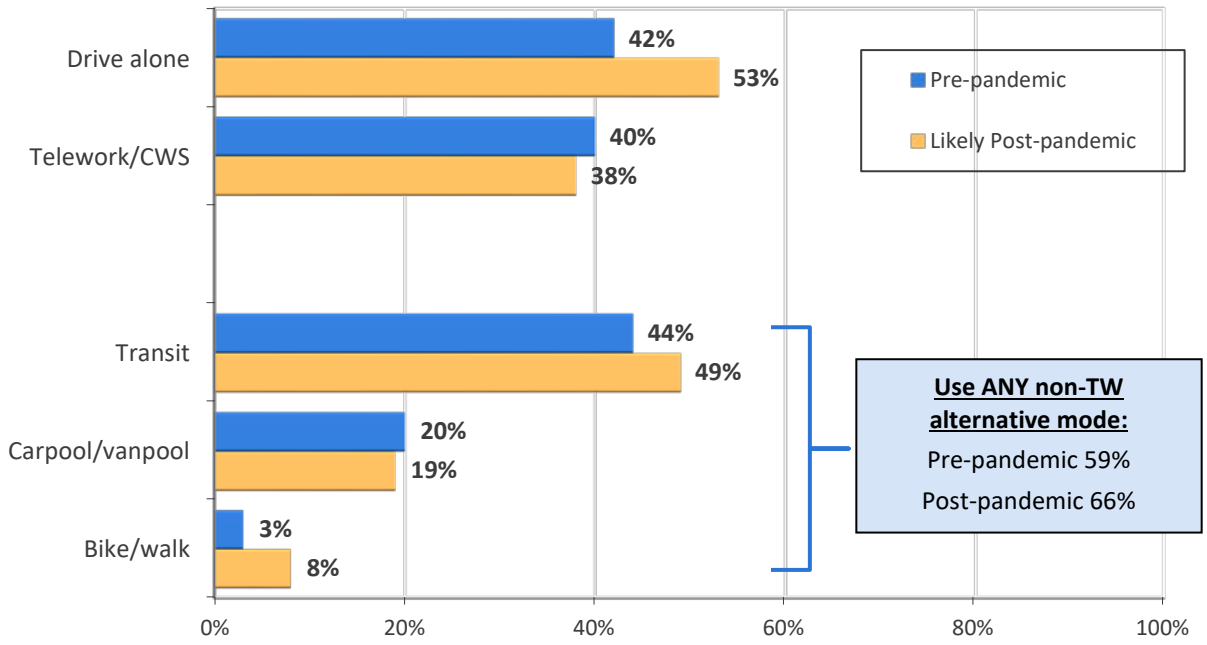
The modes respondents said they were likely to use when the pandemic ended largely reflected the modes they used before the pandemic (Table 7). About nine in ten respondents who previously drove alone (88%), rode transit (89%), or biked/walked to work (92%) said they were likely to use those same modes after the pandemic ended. Carpoolers/vanpoolers were less likely to report likely future carpool/vanpool use than were respondents who used other pre-pandemic modes; 73% said they were likely to carpool or vanpool after the pandemic. But 23% of these respondents reported likely use of transit at least one day per week and their likely drive alone use post-pandemic (38%) was not substantially higher than that for respondents who reported pre-pandemic transit use (30%) or bike/walk use (35%).

Table 7
Percentage of Respondents Likely to Use Mode Post-pandemic by Modes Used Pre-Pandemic
(Multiple responses permitted for both pre-pandemic and post-pandemic modes)

Pre-pandemic Modes Used	Likely Modes Post-pandemic (one or more days per week)				
	Drive alone	Carpool/ Vanpool	Transit	Bike/Walk	Telework
All respondents (n = 1,194)	53%	19%	49%	8%	38%
Drive alone (n = 488)	**88%**	11%	24%	9%	40%
Carpool/vanpool (n = 254)	38%	**73%**	23%	2%	36%
Transit (n = 552)	30%	5%	**89%**	8%	39%
Bike/walk (n = 17)	35%	8%	39%	**92%**	27%
Telework (n = 566)	53%	19%	49%	8%	38%

Finally, Figure 12 presents overall anticipated use of modes/mode groups for all respondents for the pre-pandemic and post-pandemic time periods. This figure shows the percentage of respondents reporting each mode; some respondents reported more than one mode, so both the pre-pandemic total percentage and post-pandemic total percentage will add to more than 100%.

Figure 12
Pre-Pandemic and Likely Post-pandemic Commute Modes
(Percentage of Respondents Using Mode One or More Days per Week)
(n = 1,194; multiple responses permitted)



The figure indicates that the percentage of respondents who likely will drive alone when the pandemic is over will be higher than before the pandemic began. More than half (53%) of all respondents expect to drive alone one or more days per week post-pandemic, compared with 42% who reported driving alone one or more days before the pandemic. Telework will be used one or more days per week by about the same share of respondents post-pandemic (38%) as pre-pandemic (40%).

Even with an increase in the number of respondents driving alone, however, the overall share of respondents who expect to use an alternative mode also will increase, from 59% pre-pandemic to 66% post-pandemic. A larger share of respondents expected to use transit post-pandemic (49%) than reported transit use before the pandemic (44%). Bike/walk use also is expected to rise, from 3% of respondents using one of these modes, to 8%. The percentage of likely carpoolers/vanpoolers will be about the same post-pandemic (19%) as pre-pandemic (20%).

These percentages define percentages of respondents who expect to use the modes, not percentages of weekly trips they will make by each mode. Alternative mode use could be higher or lower overall, depending on how many days per week each mode is used post-pandemic. However, these overall results, combined with the finding that a large majority of pre-pandemic alternative mode users anticipated returning to their previous modes, suggested that the pre-pandemic mode distribution was a reasonable proxy for commute patterns that would have been observed at the time of the survey, had the pandemic stay-at-home orders not disrupted commuting. For this reason, the retention analysis used the pre-pandemic mode use as the "present time" comparison period.

Pandemic-related Purchase of Transportation Vehicle or Service – Some of the anticipated post-pandemic increase in transit and bike/walk travel could be related to purchases respondents made during the pandemic. Respondents were asked if they bought or planned to buy any of five vehicles or transportation services as a result of the pandemic. Sixteen percent indicated buying/planning to buy at least one of the options. Six percent bought or planned to buy a transit pass, 4% bought or planned to buy a bicycle or e-bike, and 1% obtained a bikeshare or

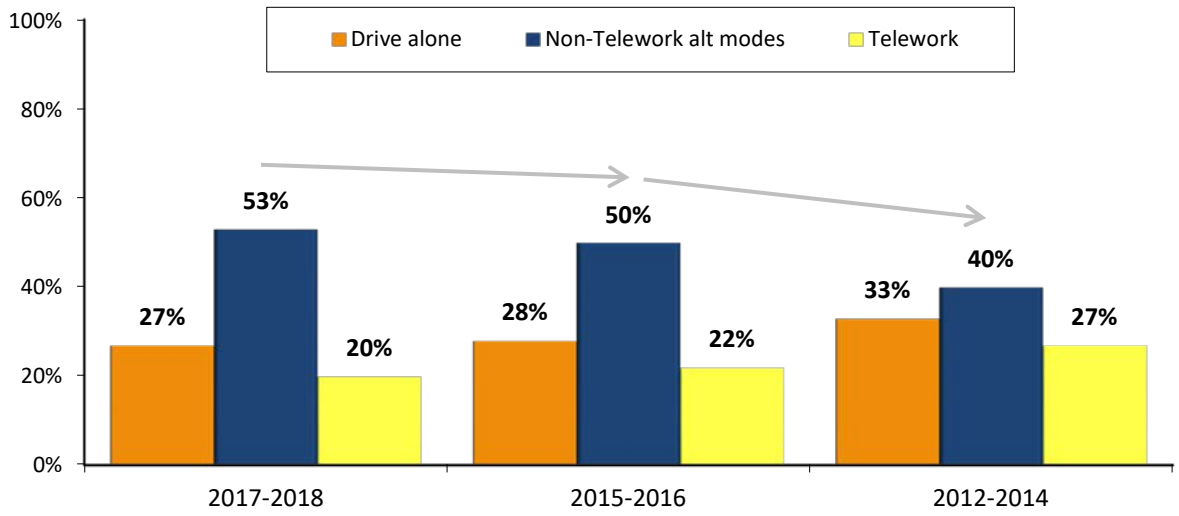
scooter/e-scooter membership. Six percent said they bought or planned to buy a personal vehicle and 1% bought or planned to buy a carshare service membership.

Pre-pandemic Alternative Mode Use by Respondent Sub-groups

Alternative Mode Use by Last Activity Date – Somewhat surprisingly, the share of commute trips made in alternative modes in February 2020, prior to the start of the pandemic, was not dramatically lower for respondents who had participated in Commuter Connections programs in the early years of the evaluation period than for more recent service users. Respondents whose last activity date was 2017 or 2018 were using non-telework alternative modes for 53% of their weekly commute trips and those with a last activity date of 2015-2016 made 50% of their commute trips in an alternative mode (Figure 13). Use of alternative modes was notably lower among respondents whose last activity date was 2012-2014, but even for this much earlier time frame, respondents made 40% of their commute trips in alternative modes. Telework use was similar in the three activity year categories.

This initially suggests that the year of last activity is of limited importance in determining retention rate over the time periods covered by the survey. However, as described in the introduction section, a sizeable share of commuters in the sample database could not be contacted because the email and/or telephone numbers were no longer in service, or because the commuters had retired, changed jobs, left the region, or died. It is likely that some, if not many, of these respondents would have stopped using alternative modes. Because a disproportionate share of these commuters were in early last activity year groups, the survey results likely overestimate the pre-pandemic alternative mode use of respondents in those groups.

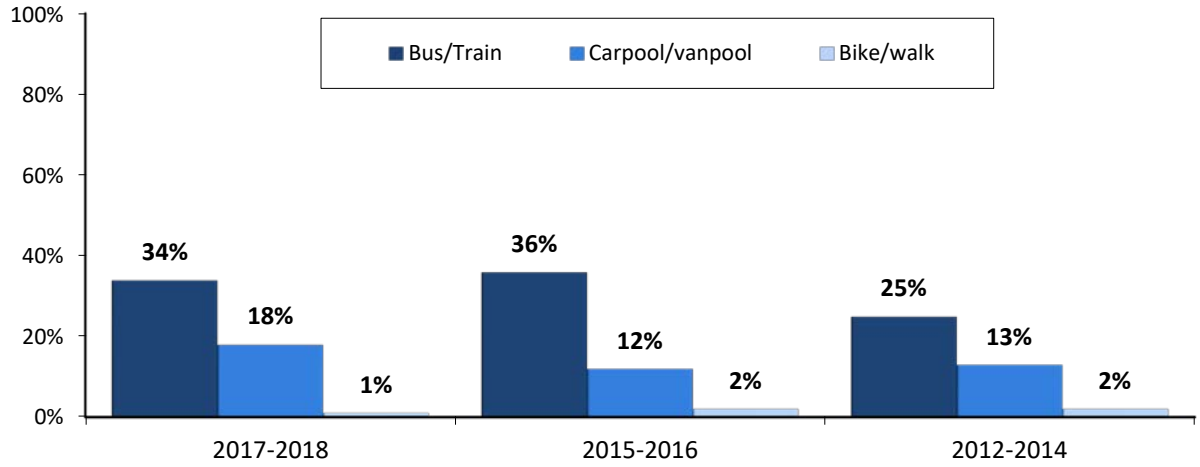
Figure 13
Pre-pandemic Commute Modes – Percentage of Weekly Commute Days by Last Activity Date
(2017-2018 n = 489, 2015-2016 n = 508, 2012-2014 n = 319)



Last Activity Date = Increasing time since service was requested/received

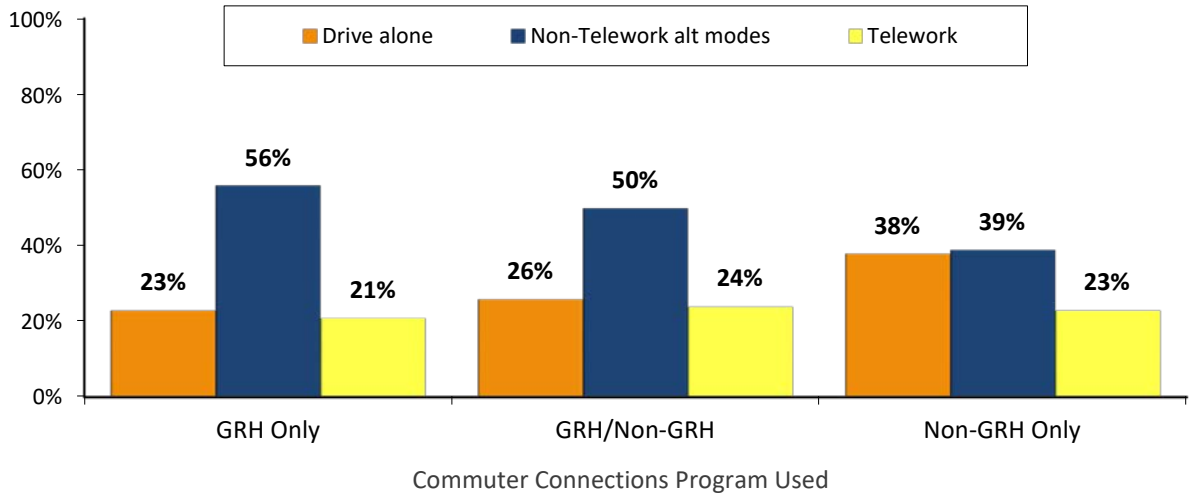
Within the broad category of non-telework alternative modes, the specific modes used varied somewhat by the last activity year (Figure 14). Transit use was higher for early-year respondents; transit trips accounted for about one-third of trips made by 2017-2018 (34%) and 2015-2016 (36%) respondents, compared with 25% of weekly trips for those who last participated in 2012-2014. Carpool/vanpool use was slightly higher among recent respondents; 2017-2018 respondents made 18% of their weekly trips by carpool/vanpool, compared with 12% for 2015-2016 respondents and 13% for respondents with a last activity date between 2012 and 2014.

Figure 14
Pre-pandemic Overall and Individual Alternative Mode Percentages by Last Activity Date
(2017-2018 n = 489, 2015-2016 n = 508, 2012-2014 n = 319)



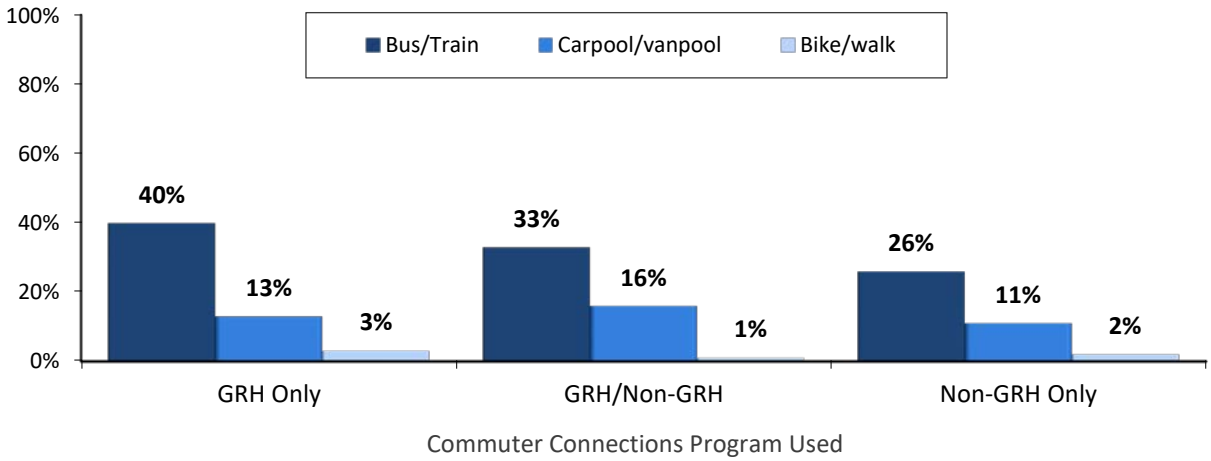
Alternative Mode Use by Program Used – Figure 15 presents the distribution of pre-pandemic commute trips made by driving alone, by non-telework alternative modes, and by telework for respondents in the three program groupings: GRH Only (GRH was the only service received), GRH/Non-GRH (participated in GRH and received a non-GRH service), and Non-GRH Only (received only a non-GRH service). Respondents who participated in GRH, either as GRH Only or GRH/Non-GRH, used alternative modes for larger shares of their trips than did Non-GRH Only users. GRH Only respondents made 56% of their weekly commute trips by alternative modes and GRH/Non-GRH commuters used alternative modes for 50% of weekly trips, compared with 39% for respondents who received only non-GRH services. Telework rates were about the same for the three program groups.

Figure 15
Pre-pandemic Commute Modes – Percentage of Weekly Commute Days by Program Used
(GRH Only n = 275, GRH/Non-GRH n = 622, Non-GRH Only n = 419)



Respondents who had used GRH, whether alone or in combination with a non-GRH service, showed higher use of bus/train than did Non-GRH respondents (Figure 16). GRH users also had slightly higher use of carpool than did those who received only non-GRH services. As previously noted, GRH/Non-GRH users received transit information at a higher rate than did Non-GRH Only respondents. And Non-GRH Only respondents used some carpool/vanpool services at higher rates than did GRH/Non-GRH respondents. Thus, their pre-pandemic mode use was consistent with the Commuter Connections services that they had received.

Figure 16
Pre-pandemic Overall and Individual Alternative Mode Percentages by Program Used
(GRH Only n = 275, GRH/Non-GRH n = 622, Non-GRH Only n = 419)



Alternative Mode Use by Year and Program – Table 8 presents the percentages of respondents who used any non-telework alternative modes pre-pandemic for combinations of last activity date and program classification. Alternative mode use was higher among GRH Only and GRH/Non-GRH users than for the Non-GRH Only respondents for each year grouping. Alternative mode use for respondents in the 2012-2014 activity year category was lower than for the 2017-2018 and 2015-2015 activity year categories in each of the three program classifications, while rates for the two more recent year categories were statically the same.

Table 8
Percentage of Respondents Using Alternative Modes Pre-pandemic by Program Used and Last Activity Date
(GRH Only – 2017-2018 n = 107, 2015-2016 n = 115, 2012-2014 n = 53)
(GRH/Non-GRH – 2017-2018 n = 252, 2015-2016 n = 232, 2012-2014 n = 138)
(Non-GRH Only –2017-2018 n = 130, 2015-2016 n = 161, 2012-2014 n = 128)

Program Classification *	Last Activity Date *		
	2017-2018	2015-2016	2012-2014
GRH Only	73%	70%	60%
GRH/Non-GRH	70%	66%	55%
Non-GRH Only	53%	51%	43%

* Percentages in table are percentages of respondents who used alternative modes, not percentages of weekly trips, thus could be higher or lower than were reported in Figure 13 - Figure 16.

Alternative Mode Use by Demographic Characteristics – Finally, the analysis explored whether alternative mode use varied by respondent demographics (Table 9). Respondents with household incomes of $100,000 or more were more likely than were those with lower incomes to have used alternative modes before the pandemic began. Pre-pandemic alternative mode use was statistically the same across all other demographic categories; given the sample sizes indicated, the percentage differences shown are within the statistical margin of error.

Table 9
Pre-pandemic Alternative Mode Use by Demographic Characteristic

	Percentage of Respondents Reporting Alternative Mode Use
Sex	
- Male (n = 448)	59%
- Female (n = 755)	58%
Income	
- Under $100,000 (n = 290)	48%
- $100,000 - $159,999 (n = 367)	63%
- $160,000 or more (n = 361)	59%
Age	
- Under 35 years (n = 116)	52%
- 35 – 44 years (n = 290)	57%
- 45 – 54 years (n = 379)	61%
- 55 years and older (n = 463)	60%
Race/Ethnicity	
- Hispanic (n = 74)	66%
- Asian (n = 122)	64%
- Non-Hispanic Black (n = 254)	58%
- Non-Hispanic White (n = 667)	57%

Commute Patterns – Pre-service (Before Commuter Connections Services)

The second element needed to estimate retention rates was the modes respondents used before they registered for GRH or before they received non-GRH commute services. All respondents who were using an alternative mode in February 2020 (pre-pandemic) were classified as continued alternative mode users, but if they were using these same modes before they received commute services, they would not be counted as a Commuter Connections "new alternative mode placement." In other words, while the service might have helped them continue to use alternative modes, it did not reduce any new vehicle trips when compared to their commute before they received the service.

To assess the incidence of mode changes, survey respondents, both those in alternative modes and those who were driving alone in February 2020, before the start of the pandemic, were asked how they commuted prior to registering for GRH or prior to first receiving non-GRH services from Commuter Connections.

Before receiving services, respondents eliminated 6.1% of weekly trips through telework and compressed work schedules and used other non-telework alternative modes for an additional 61.6% of their weekly commute trips (Figure 17). They used a bus or train for 45.4% of the trips, carpooled for 10.2%, rode in a vanpool for 4.4%, and biked or walked for 1.6%. They drove alone for 32.3% of weekly commute trips.

Figure 17
Commute Modes Before Receiving Commuter Connections Services, Compared with Pre-pandemic Commute
(Percentage of Weekly Commute Days)
(n = 1,255)

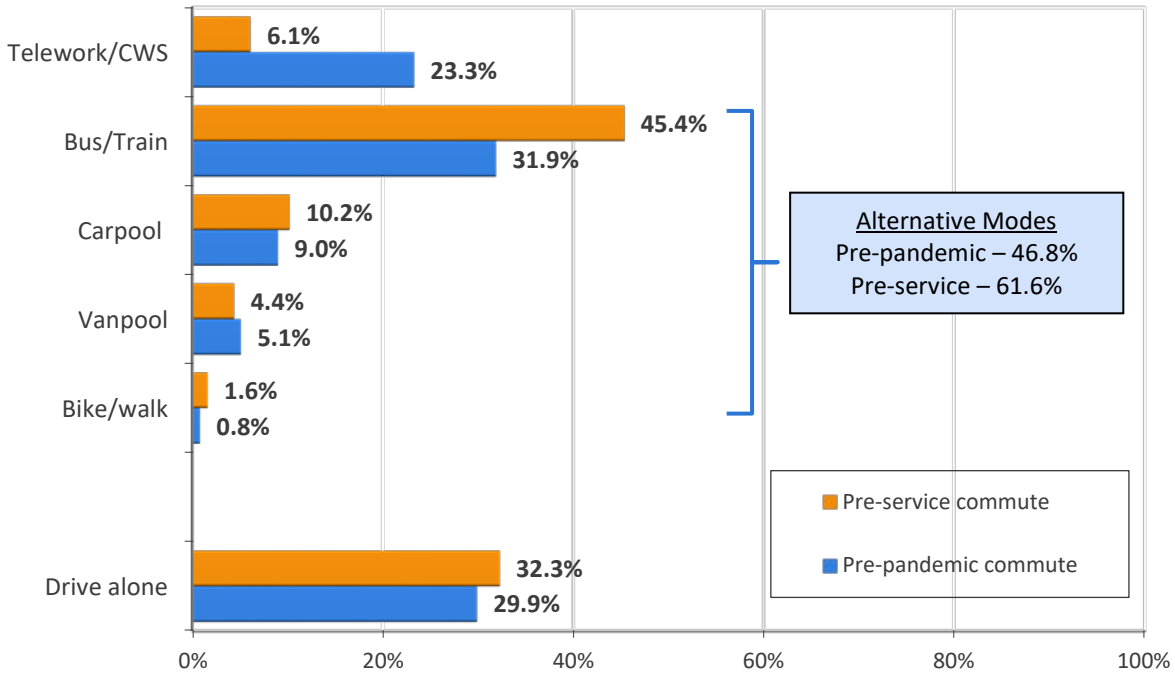


Figure 17 also repeats the weekly commute trip mode shares for the pre-pandemic commute, previously presented in Figure 9. The overall percentage of non-telework alternative mode weekly commute trips was higher for the "pre-service" time period (61.6%) than in February 2020 (46.8%). Transit use fell as a share of weekly work trips from 45.4% to 31.9%. Use of carpool, vanpool, and bike/walk remained essentially the same.

A notable result was that the share of weekly work trips eliminated by telework and compressed work schedule grew from 6.1% of weekly trips at the "pre-service" time to 23.3% of weekly trips in February 2020. It is likely that some of the commute trips replaced by telework/CWS would have been made in alternative modes. Thus, the decline in alternative mode use from the pre-service commute to the pre-pandemic commute does not necessarily mean an increase in driving alone or an increase in vehicle trips.

Note that the "pre-service" commute did not represent the same calendar year for all respondents or result in the same elapsed time between the service year, the last year they were involved with Commuter Connections, and February 2020, when the pre-pandemic commute was reported. For these reasons, the pre-service commute is not

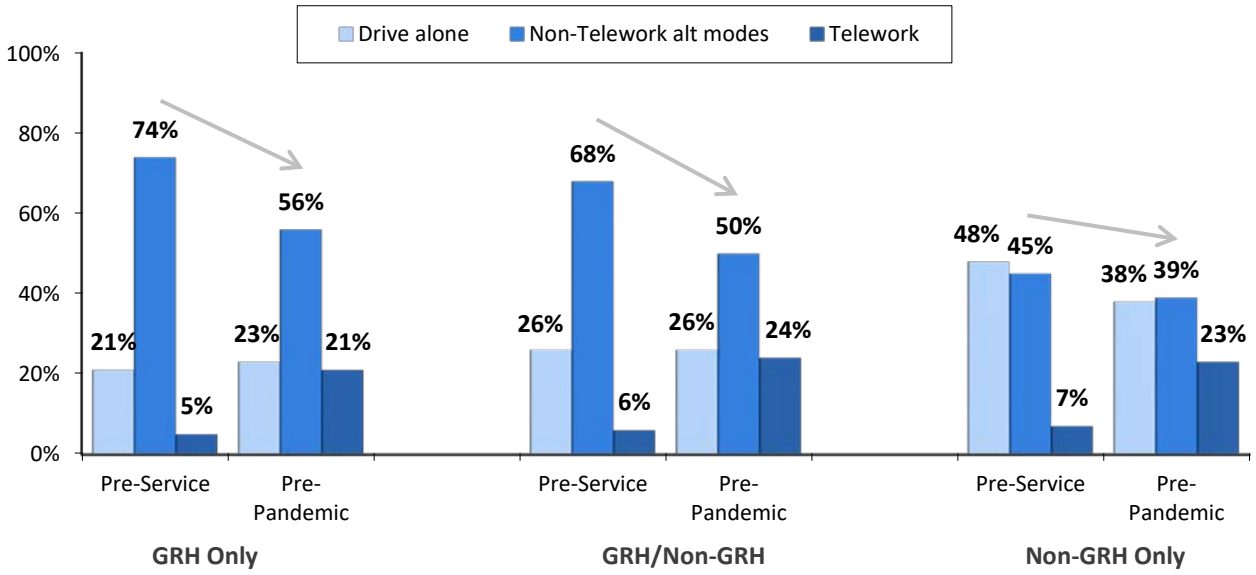
associated with a fixed point in time and the total time between the pre-service year and the February 2020 pre-pandemic time will vary from one respondent to another.

Pre-service Alternative Mode Use by Program Classification

GRH users were largely responsible for the overall high alternative mode use for the "pre-service" time period. GRH Only respondents made 74% of their commute trips by alternative modes before joining GRH and GRH/Non-GRH respondents used alternative modes for 68% of their weekly commute trips (Figure 18). This result is reasonable considering commuters must be using an alternative mode to register for GRH. Prior alternative mode use was much lower, 45%, among respondents who received only Non-GRH services.

While the data initially might suggest a higher retention rate for GRH users, the retained impact, as measured by the difference between the pre-pandemic alternative mode use percentage and the percentage of pre-service alternative mode use, actually was as great for the Non-GRH Only respondents. Non-GRH Only respondents showed a modest decline in alternative mode use from their pre-service commute (45%) to their pre-pandemic commute (39%). By contrast, alternative mode use fell 18 percentage points for both GRH Only respondents (from 74% to 56%) and GRH/Non-GRH respondents (from 68% to 50%) from the time before they registered for GRH.

Figure 18
Alternative Mode Use – Pre-pandemic and Pre-service, by Program Used
(Percentage of Weekly Commute Trips)
(GRH Only n = 249, GRH/Non-GRH n = 548, Non-GRH Only n = 375)



Another interesting finding in Figure 18 is the large increase in telework trips for all three program cases; telework trips accounted for between 21% and 24% of trips in the pre-pandemic time period (February 2020), compared with only 5% to 7% in the pre-service period. This telework growth offset the drop in alternative modes, to the point that the shares of weekly trips made by driving alone were essentially the same for the two GRH cases pre-service and pre-pandemic. For the Non-GRH Only case, driving alone actually fell as a percentage of weekly trips.

Alternative Mode Retention Rates

Retention Rate, Accounting for Both Pre-service and Pre-pandemic Commute Mode

When both the pre-pandemic commute and the pre-service commute are taken into account, a more conservative, but also more realistic view of retention rate emerges. Five cases of pre-service to pre-pandemic mode combinations are possible:

Pre-pandemic new alternative mode
- Pre-service drive alone **(change to new alternative mode)**
- Pre-service different alternative mode **(change to new alternative mode)**

Pre-pandemic drive alone
- Pre-service alternative mode (change to drive alone)
- Pre-service drive alone (no change)

Pre-pandemic alternative mode, same pre-service alternative mode (no change)

- New Alternative Mode Use – The first two cases represent commuters who made commute changes to new alternative modes after receiving Commuter Connections services. These include commuters who were using alternative modes before receiving services who shifted to a different alternative mode and commuters who were previously driving alone. These two cases comprise the "retained" commuters.

- Pre-pandemic Drive Alone – The third and fourth groups were driving alone in February 2020 (pre-pandemic). Some of these commuters also drove alone before receiving services and some previously used alternative modes but were no longer using them at the time of the survey.

- Continued Alternative Mode Use with No Change – The final case includes commuters who used alternative modes before receiving services and were using the same modes in February 2020 (pre-pandemic). These commuters continued using alternative modes, but they did not make any initial mode changes; that is, while they were continued alternative mode users, they did not represent a new alternative mode placement, the first requirement in being counted for purposes of the retention rate.

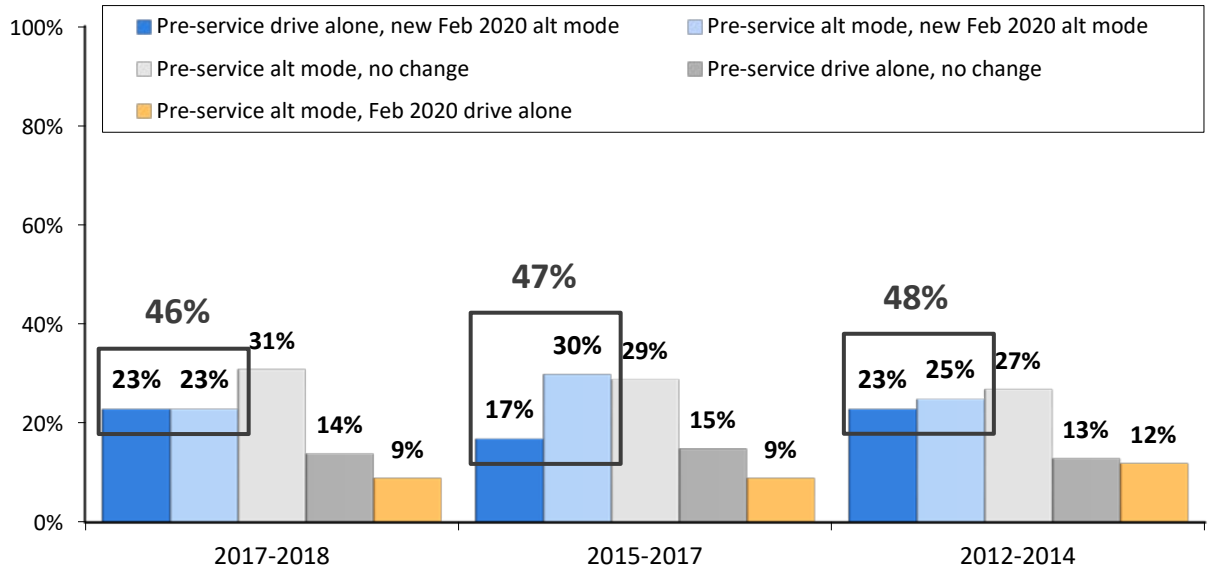
Definition of "Alternative Modes" for Purposes of Calculating Retention Rates – Previous sections of this survey report presented mode distribution results with telework separated from the other alternative modes: transit (bus/train), carpool/vanpool, and bike/walk. This was done largely because, while Commuter Connections offers telework information to commuters, a decision to telework is not solely an employee's choice; it typically requires permission of the employer. Additionally, the largest component of Commuter Connections' assistance to commuters is for support in using the more traditional non-SOV travel modes. The presentation of transit, carpool/vanpool, and bike/walk as "non-telework alternative modes" was to ensure that their use was highlighted in the report.

However, telework is considered an alternative mode for purposes of the retention rate calculation and the retention rates as described in the next section include telework, as well as transit, carpool/vanpool, and bike/walk modes as alternative modes.

New Alternative Mode Retention Rates by Last Activity Year

Across all survey respondents, the overall alternative mode retention rate was 47%. As illustrated in Figure 19, the last activity date appeared to have little impact on retention. The retention rate for respondents with a last activity date of 2017-2018 was 46%; 23% of these respondents drove alone before receiving the services but started using an alternative mode and 23% used alternative modes before receiving services but changed to a different alternative mode. The overall retention rates were essentially the same for respondents with last activity date of 2015-2016 (47%; 17% previous drive alone, 30% previous alternative mode) and 2012-2014 (48%; 23% previous drive alone, 25% previous alternative mode).

Figure 19
Commute Mode Changes from Pre-Service to Pre-Pandemic (February 2020) by Last Activity Date
(2017-2018 n = 427, 2015-2016 n = 433, 2012-2014 n = 279)



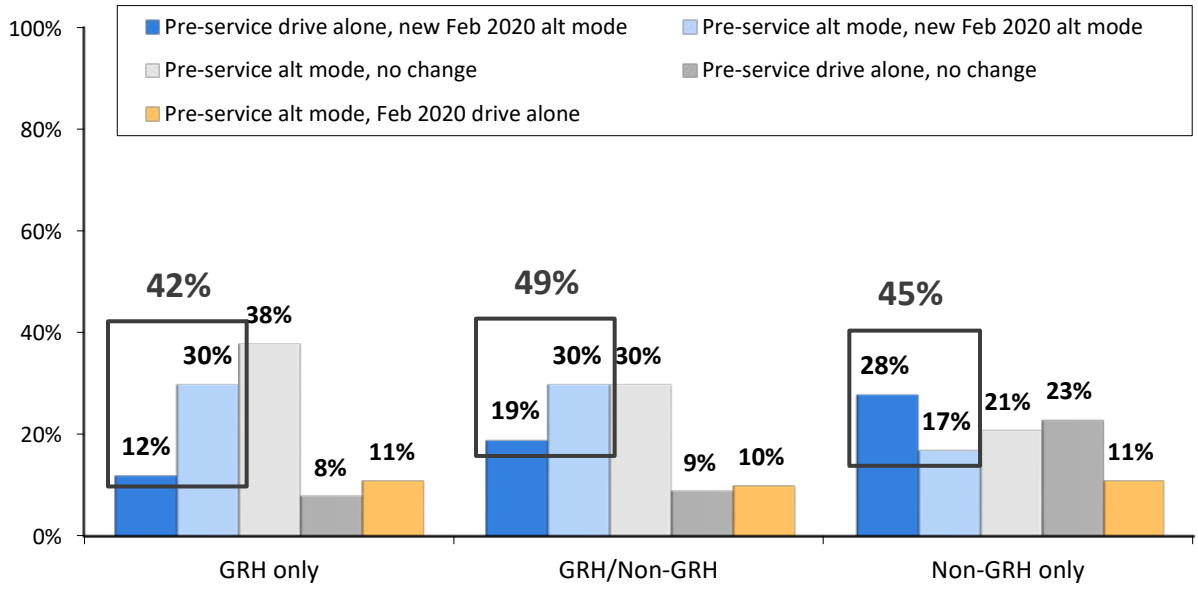
New Alternative Mode Retention Rates by Program Classification – Figure 20 presents the retention rate by Commuter Connections program used. The retention rate for respondents who had used only GRH was 42%; 12% of these respondents drove alone before registering for GRH but started using an alternative mode and 30% used alternative modes before registering for GRH but changed to a different alternative mode. The combined GRH/Non-GRH group had a higher retention rate of 49%; this was comprised of 19% of previous drive alone commuters and 30% of previous alternative mode users who started a new alternative mode.

The third program group, the Non-GRH Only users had a retention rate of 45%, mid-way between the rates for the two GRH groups. However, this rate was comprised of a much larger component of respondents who previous drove alone than was the case for the GRH respondents. Twenty-eight percent of the Non-GRH Only group made an alternative mode shift from driving alone; only 17% were previous alternative mode users who switched to a new alternative mode.

Use of Retention Rates in the 2023 TDM Analysis – The retention rates calculated from this survey will be used in the FY 2021-FY 2023 TDM impact evaluation, which will be conducted in spring 2023. The rates calculated above likely overestimate the actual rates, however, when all past service users are included. As mentioned previously, many commuters in the sample database could not be contacted because they were no longer working, had changed jobs, or had died. Additionally, many commuters for whom contact information appeared to be valid did not respond to the survey. It is possible they thought the survey did not apply to them because they were no longer participating in Commuter Connection services or because they were no longer using alternative modes.

Thus, the retention rate factors that are applied in the 2023 TDM analysis will need to take into account that the continued alternative mode use found among surveyed commuters likely was higher than that for commuters who did not participate in the survey. The 2017 and 2020 TDM analyses, which used data from the 2016 Retention Rate Survey applied an adjustment factor to reflect declining levels of valid contacts for respondents in earlier activity year categories, effectively reducing the base of past GRH and Non-GRH participants included in the calculation. A second adjustment was made to assume a lower retention rate for commuters with valid contact information who did not respond to the survey. Similar adjustments will be made to the 2021 survey data for the 2023 analysis.

Figure 20
Commute Mode Changes from Pre-service to Pre-pandemic (February 2020) by Program Used
(GRH only n = 240, GRH/Non-GRH n = 528, Non-GRH Only n = 371)



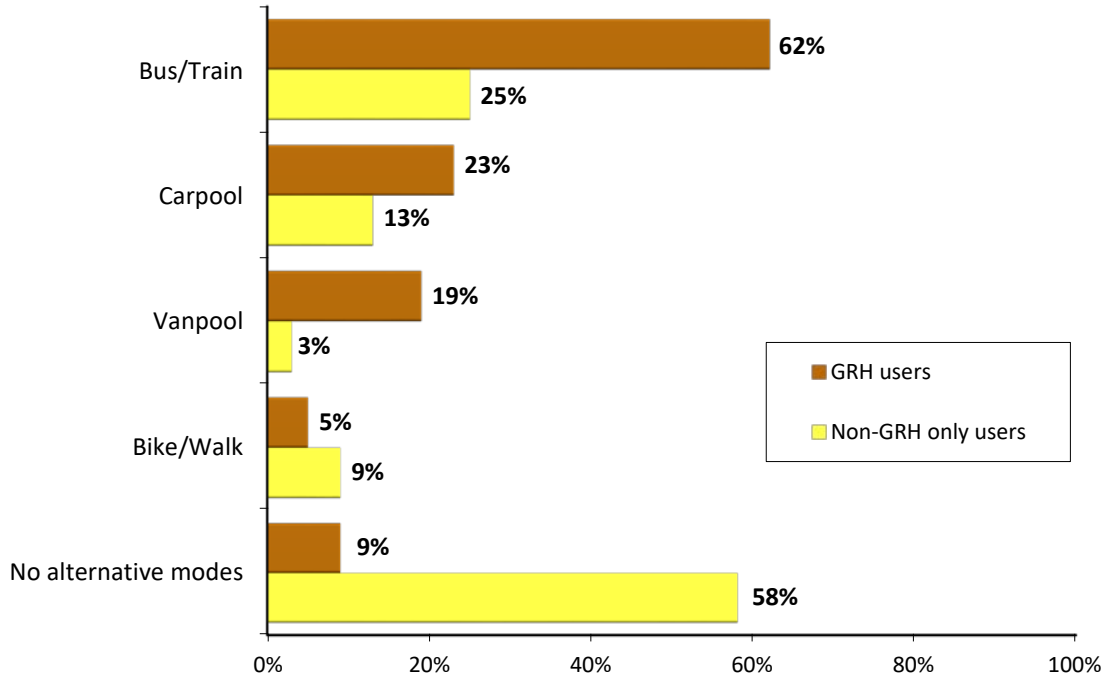
Commute Mode "During" Commuter Connections Service Use

The survey primarily was concerned with comparing current commute mode use with mode used prior to receiving services. But other Commuter Connections surveys found that some respondents who were driving alone at the time of the survey had used alternative modes after receiving services, but for a temporary period of time. GRH respondents, in particular, would have been required to use alternative modes at least two days per week to participate in the program.

Thus, GRH users and GRH/Non-GRH users who were driving alone in February 2020 (pre-pandemic) were asked about their commute modes "while they were registered" for GRH. Non-GRH Only respondents were asked if they had used or tried alternative modes for commuting since receiving services from Commuter Connections. Because these respondents no longer used alternative modes, they were not considered "retained" users, but the consulting team added these questions to the survey to explore when respondents dropped out of alternative modes.

Figure 21 presents the alternative modes that drive-alone GRH respondents and Non-GRH Only respondents reported using at a previous time. As expected considering the GRH program rules, 91% of GRH users who were driving alone at the time of the survey said they had used alternative modes while they were registered for GRH. About six in ten (62%) used public transit, 23% rode in a carpool and 19% vanpooled. On average they used some combination of these modes about 4.7 days per week. The 9% of GRH users who did not report alternative mode use during GRH represent about 2% of all GRH users.

Figure 21
Alternative Modes Used During GRH (GRH Users) or After Receiving Non-GRH Services (Non-GRH Only Users)
Respondents who Drove Alone at the Time of the Survey
(GRH users n = 214; Non-GRH Only n = 123; multiple responses permitted for mode use)



Non-GRH Only users who were driving alone at the time of the survey were less likely to have used an alternative mode in the past. Four in ten (42%) reported using one or more of the alternative modes listed, the remaining 58% said they had not used any of the alternative modes in the past. These results are consistent with findings from other surveys of Commuter Connections' website users, which have found that some drive alone commuters who seek commute assistance services continue to drive alone after receiving the services. One-quarter (25%) rode public transit, 13% carpooled, and 9% biked or walked to work.

Duration of Temporary Alternative Mode Use - Non-GRH Only respondents who were driving alone at the time of the survey, but who previously used alternative modes were asked how long they used them for their commute; in essence, what was the duration of their temporary shift to alternative modes. Three in ten (30%) of these respondents said they used the alternative mode for one month or less and more than half (56%) used it for six months or less (Table 10). But two in ten used the mode for more than two years.

Table 10
Duration of Alternative Mode Use After Receiving Services
(Non-GRH Only Users Who Drove Alone)

Duration of Alternative Mode Use	Percentage (n = 52)
1 month or less	30%
2 – 6 months	26%
7 – 12 months	14%
13 – 24 months	10%
25 – 36 months	6%
More than 3 years	14%

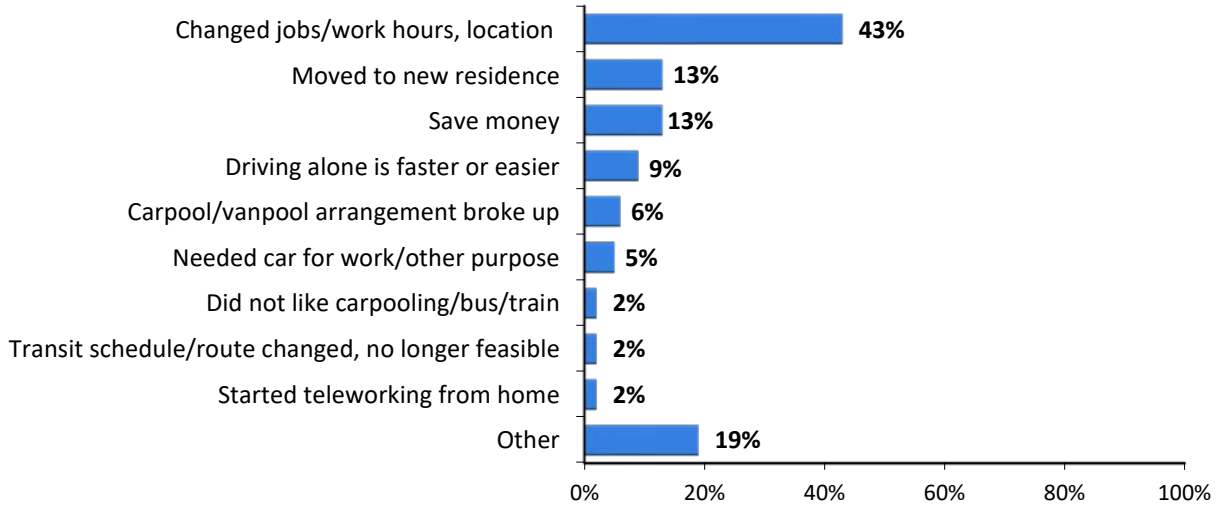
Motivations for Driving Alone and for Using Alternative Modes

Commuters use and switch among commute modes for many reasons related to service and personal motivations. To examine these motivations, survey respondents who were driving alone in February 2020 but who had used alternative modes previously were asked why they shifted to driving alone. Respondents who were using alternative modes in February 2020 were asked about the reasons they continued using these modes.

Reasons to Shift to Driving Alone

The most-named reason that respondents gave for shifting from alternative modes to driving alone, cited by 43% of respondents, was that they changed jobs or work hours or because their work location changed (Figure 22). Thirteen percent gave a related reason, that they moved to a new residence. These have been common motivations for change in other Commuter Connections service user surveys.

Figure 22
Reasons to Switch to Driving Alone (Respondents Who Previously Used Alternative Modes)
(n = 194; multiple responses permitted)



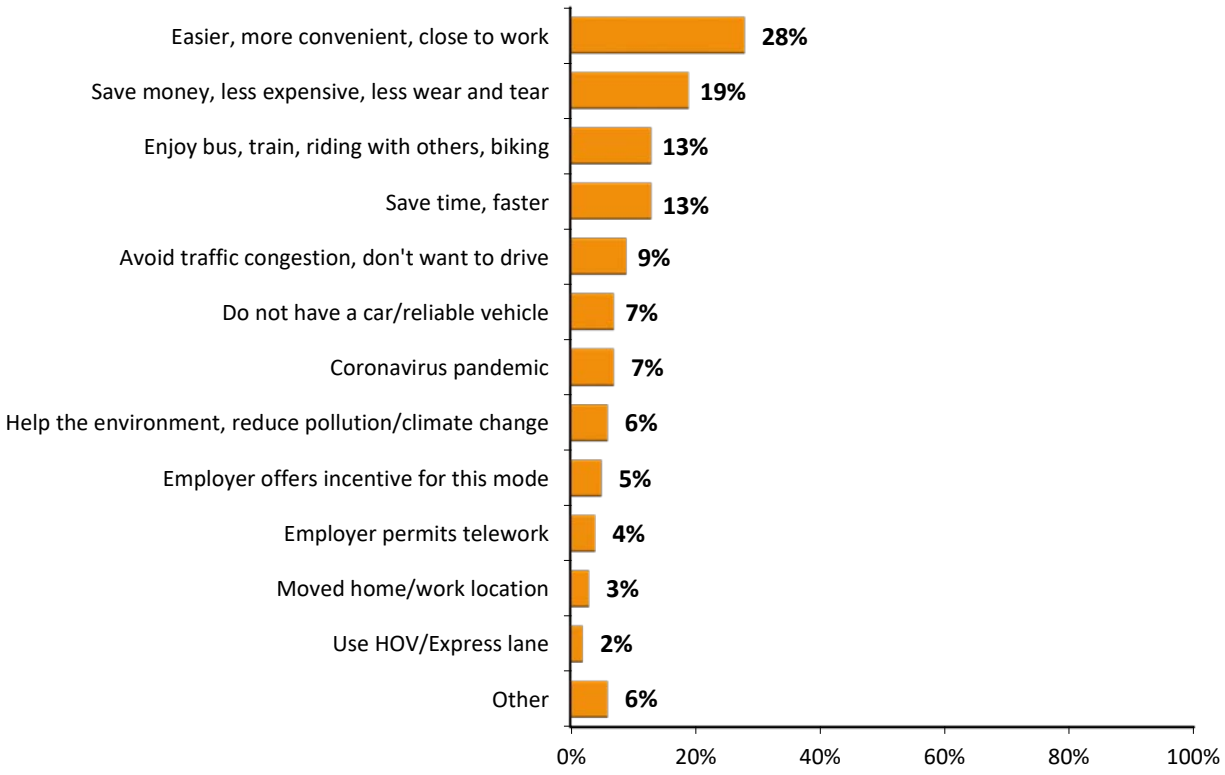
Some respondents mentioned reasons related to benefits they received by making the mode shift. Thirteen percent said they could save money by driving, 9% said driving alone was faster or easier than the mode they used before and 2% said they started teleworking/working from home.

Small shares of respondents cited reasons related to change in their transit or rideshare arrangements; carpool/vanpool arrangement broke up (6%), needed a car for work or other purposes (5%), did not like carpooling/vanpooling/bus/train (2%), or transit schedule/route changed so that transit was no longer a feasible option (2%).

Reasons to Continue Using Alternative Modes

The most common reason to continue using an alternative mode for commuting was that the mode respondents were using was the easier or most convenient mode; 28% of alternative mode users named this reason (Figure 23). Two in ten (19%) respondents said they saved money or reduced wear and tear on a personal vehicle. Thirteen percent said they enjoyed riding the bus/train, riding with others in a carpool/vanpool, or liked walking/bicycling and 13% said their alternative mode was faster than driving. About one in ten cited avoiding traffic or congestion (9%), not having a reliable personal vehicle (7%), or the coronavirus pandemic (7%), wanting to help the environment (6%), or to receive an incentive from their employer (5%) as their reason for using alternative modes.

Figure 23
Reasons to Continue Using Alternative Modes
Respondents who Used Alternative Modes Pre-pandemic
(n = 408; multiple responses permitted)



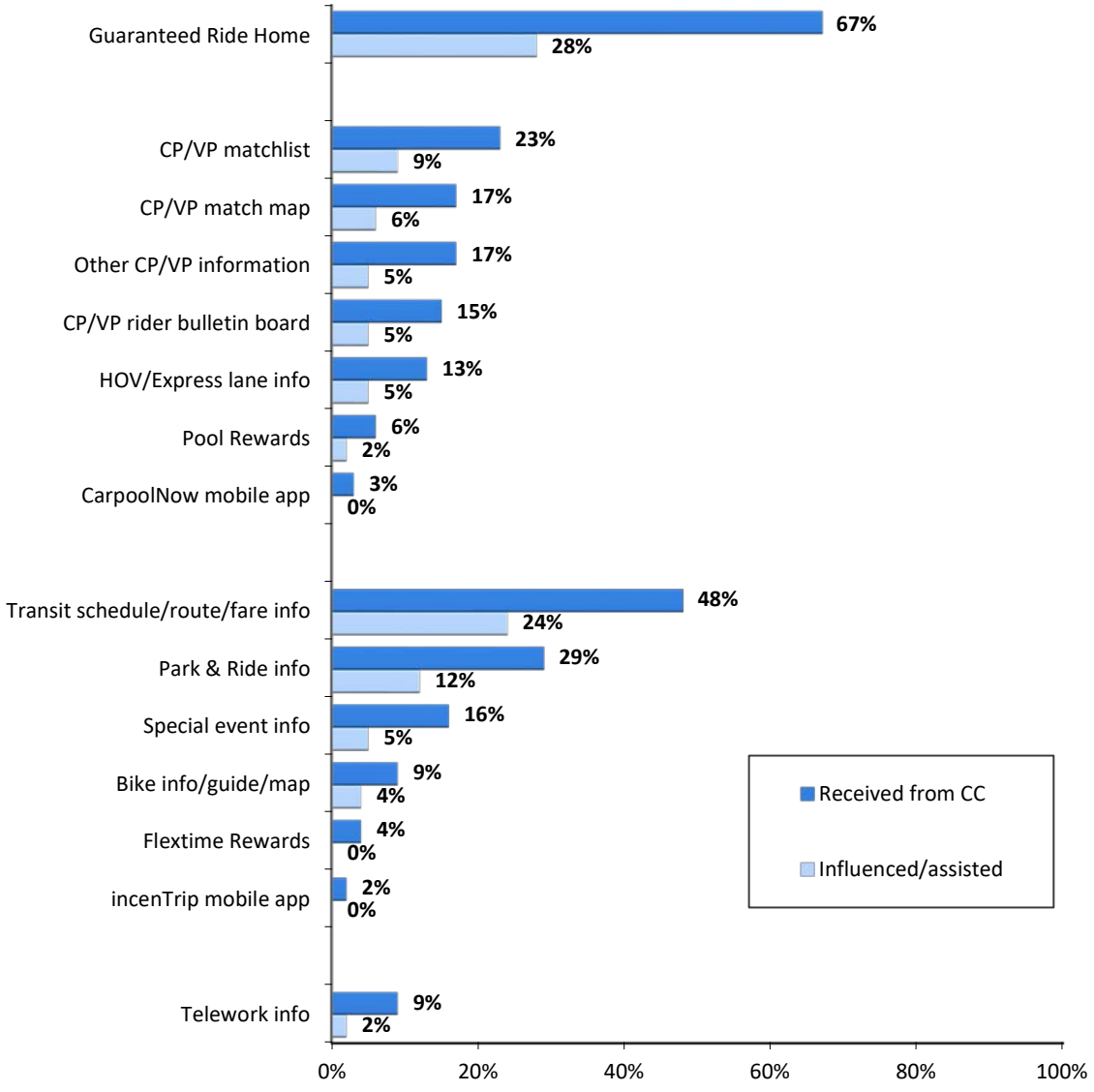
Role of Commuter Connections Services in Assisting Continued Use of Alternative Modes

Respondents who were using an alternative mode also were asked if any of the services they received from Commuter Connections had "influenced or assisted" them to continue using these modes. Six in ten (60%) respondents who were using an alternative mode in February 2020 (pre-pandemic) said at least one Commuter Connections service had assisted or influenced their continued use of the modes. Figure 24 indicates the percentages who reported individual services. The figure also shows the overall percentages of respondents who reported receiving each service from Commuter Connections.

In general, about one-third to one-half of respondents who received each service said it had influenced or assisted them. Overall, the most influential/helpful service was GRH, named by 28% of all alternative mode users and four in ten of those who had received this service. Transit schedule/route information was cited by 24% of all alternative mode users and by half of those who had received it.

Figure 24
Services Received from Commuter Connections and Services that Influenced/Assisted Continued Use of Alternative Modes

(n = 1,316, Services Influenced (alternative mode users) n = 777)



Commuter Connections Satisfaction

Desired Improvements to Commuter Connections Services

Respondents were asked if they had any suggestions for ways Commuter Connections could improve its services. Two in ten respondents provided suggestions as detailed in Table 11. Comments generally fell into three categories: GRH suggestions, Non-GRH service suggestions, and customer service suggestions. But within each of these categories, no single suggestion was named by more than 4% of all respondents. Thus, while respondents cited possible improvements, there did not appear to be significant programmatic or customer service issues that need particular attention.

Table 11
Suggested Improvements to Commuter Connections Services
(n = 1,316, multiple responses permitted)

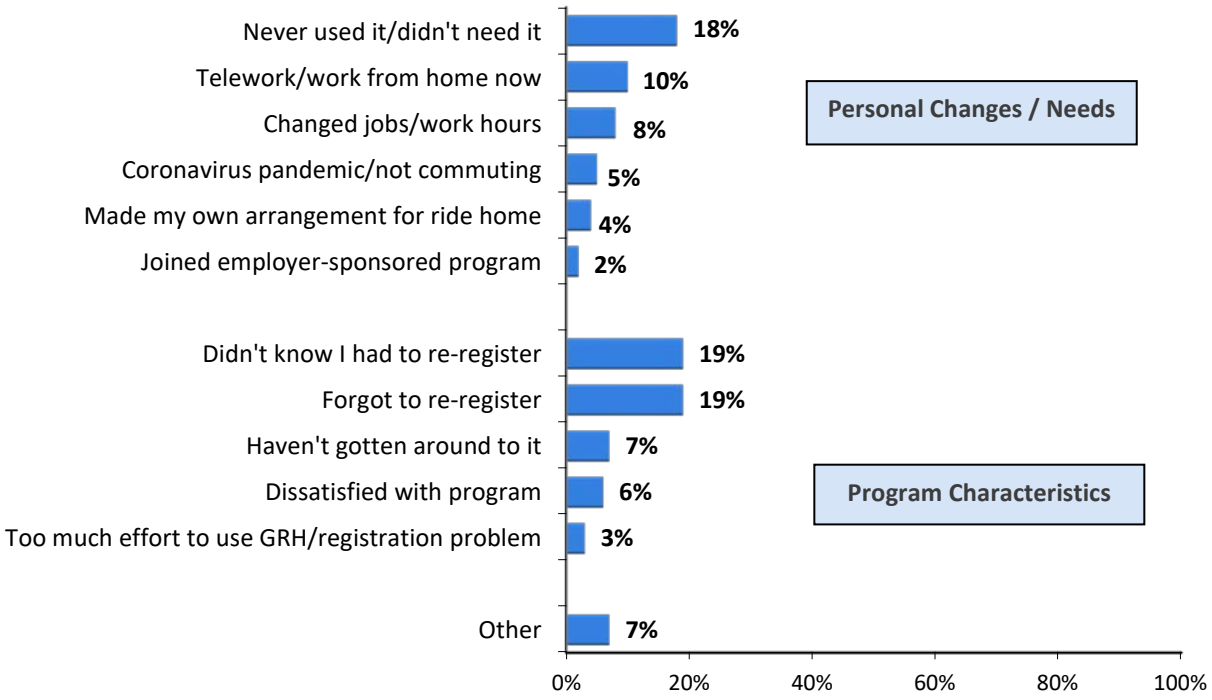
Desired Improvement	Percentage*
GRH Suggestions	
Easier/faster GRH approval	2%
Make GRH renewal/registration less complicated	1%
Send reminder when GRH is to be renewed	1%
Expand coverage area	1%
Non-GRH Service Suggestions	
Better/updated transit information	4%
Ridematch suggestions (more match names, matches fit travel better)	3%
More mobile app features/access current info and purchase tickets	2%
COVID sanitation/safety suggestions	1%
Customer Service Suggestions	
More advertising/more program information	2%
Other *	8%

* Each other response was mentioned by fewer than 1% of respondents

Reasons for Not Re-registering for GRH

Finally, GRH respondents who were using alternative modes in February 2020 were asked a related question. By using alternative modes, these commuters were still eligible to participate in GRH, but had not renewed their registration at the end of the most recent year. The survey asked these respondents why they had not continued their registration. Figure 25 presents common reasons for not re-registering, divided into two categories: reasons associated with personal circumstances of the registrant and reasons associated with characteristics of the GRH program.

Figure 25
Reasons GRH Users Who Used Alternative Modes Did Not Re-Register for GRH
(n = 356, multiple responses permitted)



The most common personal reason for not re-registering, mentioned by 18% of respondents, is that they had never used the program, thus did not see a need for it. Ten percent were working from home/teleworkng, 8% had changed jobs or work hours, presumably making GRH either unnecessary or infeasible. Five percent of commuters specifically cited the coronavirus pandemic, saying they were not commuting. Four percent made their own arrangement for a ride home and 2% had joined an employer-sponsored GRH program.

Respondents also mentioned reasons related to characteristics of the program; 19% said they did not know they had to re-register and 19% forgot to re-register. Seven percent said they had not gotten around to it, 6% reported a general dissatisfaction with the program, and 3% said it was too much effort to use the program.

APPENDICES

APPENDIX A – DISPOSITION OF FINAL DIALING RESULTS

APPENDIX B – SURVEY QUESTIONNAIRE

APPENDIX C – DE-DUPLICATION PROTOCOL

APPENDIX A

DISPOSITION OF FINAL DIALING RESULTS – Telephone Survey

LIVES	Count	%
No answer	1,040	24.9%
Answering machine	1,827	43.7%
Busy number	203	4.9%
Callback	263	6.3%
DEADS	**Count**	**%**
Number not in service	478	11.4%
Fax/Modem	11	0.3%
Other language	25	0.6%
Refused	146	3.5%
Blocked #	2	0.1%
Wrong #	103	2.5%
Completed Online Survey	1	0.0%
Respondent Never Available	6	0.1%
Terminated Interview	1	0.0%
Terminated – No Services Used	1	0.0%
Does not live in D.C., MD, or VA	7	0.2%
Retired / Not currently working	13	0.3%
COMPLETED SURVEYS	**Count**	**%**
	50	1.2%
TOTAL	**4,177**	**100.0%**

Total Number of Dialings: **4,846**

Average Number of Dialings Per Completed Interview: **84**

APPENDIX B - SURVEY QUESTIONNAIRE

Retention Rate Survey (Internet Version) 2-8-21 - FINAL

INTRODUCTION – SHOW ONLY ON THE FIRST PAGE OF THE SURVEY

Commuter Connections is conducting this online survey of people who have participated in the Commuter Connections' programs, or who used the Commuter Connections website or mobile application at some time in the past. Your answers will be confidential. It will take about 7 to 10 minutes.

Commuter Connections is offering a drawing for three $100 Amazon gift cards for commuters who complete the survey. If you would like to participate the drawing, please provide your name and email address at the end of the survey.

Please click on the "NEXT" button below to begin the survey. If you need to stop before you have finished the survey, your answers will be saved and you may come back and complete the remaining questions at a later time. Thank you for your participation.

SCREENING FOR SERVICES USED

1 Which of the following carpool and vanpool services have you accessed, received, or requested from Commuter Connections? You could have accessed or requested them from the Commuter Connections website or mobile application, or through an email, phone call, or letter. (Please check all that apply.)

ACCEPT MULTIPLES FOR 1-7, DO NOT ALLOW MULTIPLES WITH 90

1 Names of people you could contact to form a carpool or vanpool (matchlist)
2 Map showing home/work locations of people you could contact to form a carpool or vanpool
3 Carpool / vanpool rider wanted bulletin board
4 Other carpool / vanpool information or assistance
5 HOV lane information
6 'Pool Rewards carpool / vanpool financial incentive
7 CarpoolNow mobile application (real-time ridematching)
90 Did not access, receive, or request any of these services from Commuter Connections (**PROGRAMMER: GREY OUT THIS BOX IF ANY OTHER RESPONSE IS CHECKED**)
99 Question left blank

2 Which of the following telework, transit, Park & Ride, and bicycling information and commuter incentive programs have you accessed, received, or requested from Commuter Connections? (Please check all that apply.)

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

1 Transit schedule or route information, transit fare information, SmarTrip
2 Park & Ride lot information
3 Telework information, telework center information
4 Bicycling information, Bicycle to Work Guide, online bicycle route planning
5 Special events information (e.g., Bike to Work Day, Car Free Day)
6 incenTrip mobile application (trip tracking/points application)
7 Flextime Rewards incentive program
90 Did not access, receive, or request any of these services from Commuter Connections (**PROGRAMMER: GREY OUT THIS BOX IF ANY OTHER RESPONSE IS CHECKED**)
99 Question left blank

3 Have you ever registered for Commuter Connections' Regional Guaranteed Ride Home (GRH) Program?

1 Yes
2 No
9 Not sure
99 Question left blank

IF Q3 = 1 (yes), CONTINUE TO Q4
IF (Q3 = 2, 9, OR 99) AND ((Q1 = ANY OF 1-7) OR (Q2 = ANY OF 1 – 7)), SKIP TO DEFUSER
IF (Q3 = 2, 9, OR 99) AND (Q1 = 90 OR 99) AND (Q2 = 90 OR 99), SKIP TO Q6

4 To the best of your memory, in what year did you <u>first</u> register for GRH? If you're not sure, please provide your best estimate.

1 Before 2013
2 2013 - 2014
3 2015 - 2016
4 2017 – 2018
5 2019 – 2020
99 Question left blank

5 Are you currently registered for Commuter Connections' GRH Program?

1 Yes
2 No
9 Not sure

SKIP TO DEFUSER

6 Do you recall requesting or receiving any other services from Commuter Connections or from the Commuter Connections website or its mobile apps?

1 Yes (please specify service) _____
2 No
9 Not sure
99 Question left blank

<u>DEFUSER - DEFINE USER – FOR LATER BRANCHING</u>
Codes: 1 – GRH, 2 – GRH/Non-GRH, 3 – Non-GRH, 4 – No services, 9 – Current GRH

IF Q5 = 1, DEFUSER = 9 (Current GRH)
IF (Q3 = 2, 9, OR 99) AND (Q1 = 90 OR 99) AND (Q2 = 90 OR 99) AND (Q6 = 2, 9, OR 99), DEFUSER = 4 (No services)

IF Q3 = 1 AND (Q5 = 2 OR 9) AND (Q1 = 90 OR 99) AND (Q2 = 90 OR 99), DEFUSER = 1 (GRH)
IF Q3 = 1 AND (Q5 = 2 OR 9) AND ((Q1 = ANY OF 1 - 7) OR (Q2 = ANY OF 1 – 7)), DEFUSER = 2 (GRH/Non-GRH)
IF (Q3 = 2 OR 9 OR 99) AND ((Q1 = ANY OF 1 - 7) OR (Q2 = ANY OF 1 – 7) OR (Q6 = 1)), DEFUSER = 3 (Non-GRH)

<u>BRANCHING INSTRUCTIONS</u>
IF DEFUSER = 4 (no services requested/received), THANK AND TERMINATE – SHOW MESSAGE "That is all the questions we have. Thank you for participating in the Commuter Connections survey."

IF DEFUSER = 1 (GRH) OR 2 (GRH/Non-GRH) OR 9 (Current GRH), SKIP TO Q10
IF DEFUSER = 3 (Non-GRH), CONTINUE WITH Q7

7 To the best of your memory, in what year did you first access, receive, or request services from Commuter Connections or from the Commuter Connections website or mobile app? If you're not sure, please provide your best estimate.

1 Before 2013
2 2013 - 2014
3 2015 - 2016
4 2017 – 2018
5 2019 – 2020
99 Question left blank

8 Including this first request, about how many times have you accessed, received, or requested services from Commuter Connections or from the Commuter Connections website or mobile app?

1 1 time (first request was the only time)
2 2 or 3 times
3 4 or more times
9 Not sure
99 Question left blank

HOW THEY GET TO WORK

10 Next, please answer a few questions about your travel to and from work. First, which of the following best represents your work schedule? **(SHOW RESPONSES 1-7 ON SCREEN)**

1 Part-time schedule
2 Full-time, 5 or more days per week
3 4/40 compressed schedule (four 10-hour days per week, 40 hours)
4 9/80 compressed schedule (9 days every 2 weeks, 80 hours)
5 3/36 compressed schedule (three 12-hour days per week, 36 hours)
6 Not currently working **(THANK AND TERMINATE)**
7 Other (**SPECIFY**) _____
9 Question left blank

11 In a TYPICAL week, how many weekdays (Monday-Friday) are you assigned to work?

1 1 day
2 2 days
3 3 days
4 4 days
5 5 days (all weekdays Monday-Friday)
8 0 weekdays (I work only on weekends)

IF Q11 = 8, ASK Q11a
IF Q11 = 1, 2, 3, 4, OR 5, SKIP TO Q12

11a Just to confirm, you never work Monday through Friday. You always work all your workdays on weekends, is that correct?

1 Yes **(THANK AND TERMINATE)**
2 No **(ASK Q11b)**
8 Not sure **(THANK AND TERMINATE)**
*9 Question left blank **(THANK AND TERMINATE)***

11b So in a TYPICAL week, how many weekdays (Monday-Friday) are you assigned to work?

1 1 day
2 2 days
3 3 days
4 4 days
5 5 days (all weekdays Monday-Friday)

12 The coronavirus pandemic has disrupted work schedules and workplaces, with many people now telecommuting or working remotely. For purposes of this survey, "telecommuters" are defined as "wage and salary employees who at least occasionally work at home or at a telework, satellite, or co-working center during **an entire workday**, instead of traveling to their regular workplace." Based on this definition, do you telecommute some or all of your workdays at the PRESENT TIME?

1 Yes, telecommute/work remotely **all** of my workdays
2 Yes, telecommute/work remotely **some** of my workdays
3 No, do not telecommute any workdays now
8 Not sure
9 Question left blank

IF Q12 = 1, AUTOCODE Q13 = 6 (all workdays), THEN SKIP TO Q13a
IF Q12 = 3, AUTOCODE Q13 = 7 (no current TW), THEN SKIP TO Q13a
IF Q12 = 8, OR 9, SKIP TO Q13a
IF Q12 = 2, ASK Q13

13 How often do you usually telecommute or work remotely now? **(SHOW RESPONSES 1-6 AND 8; DO NOT SHOW RESPONSES 7 OR 9)**

1 Less than 1 time per month / only in emergencies (e.g., sick child, snowstorm)
2 1 to 3 times per month
3 1 day per week
4 2 days per week
5 3 or 4 days per week
6 All of my workdays (or 5 or more days per week)
7 AUTOCODE - Never, no current telework
8 Other (SPECIFY) _____
9 Question left blank

13a How often did you usually telecommute or work remotely in February 2020, before the coronavirus pandemic started?

1 Less than 1 time per month / only in emergencies (e.g., sick child, snowstorm)
2 1 to 3 times a month
3 1 day a week
4 2 days a week
5 3 or 4 days a week
6 All of my workdays (or 5 or more days a week)
7 Never, I did not telecommute/work remotely before the coronavirus pandemic
9 Other (SPECIFY) _____
99 Question left blank

IF Q13 = 6 (all workdays at home now), SKIP TO INSTRUCTIONS BEFORE Q15

14 In a typical week, how often are you away from your usual work location **for an entire day** for business or work travel (e.g., meetings / visits to clients or customers)?

1 Never, I do not currently travel for work at all
2 Occasionally, but less than 1 day per week
3 Regularly, 1 or more days per week
9 Question left blank

INSTRUCTIONS BEFORE Q15
IF Q13 = 6 (All workdays are TW), AUTOCODE Q15, RESPONSE 2 (telework) = Q11/Q11b number of days worked. IF Q11/Q11b < 5, AUTOCODE REMAINING WORKDAYS (5 – Q11/Q11b) AS Q15, RESPONSE 19 (regular days off), THEN SKIP TO DEFINE Q15 MODES
IF QUESTION IS AUTOCODED, DO NOT SHOW ON THE SCREEN

Current Travel Grid (Typical week)

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

IF Q14 = 3, ALSO SHOW: "For days that you are on business / work travel, please report the type of transportation you would use to get to work if you worked at your usual work location."

SHOW TO ALL RESPONDENTS: Indicate also how many weekdays (if any) you telecommute or have a regular day off or compressed work schedule day off.

PROGRAMMER NOTES:

CHECK SUM OF DAYS. IF TOTAL OF 2-19 IS LESS THAN 5, SHOW MESSAGE: "You've reported fewer than 5 days. Please report for all days Monday – Friday, including any telecommute days and any weekdays you do not work (regular days off/compressed schedule days off)."

IF TOTAL OF 2-19 IS GREATER THAN 5, SHOW MESSAGE: "You've reported more than five days. Please report only for Monday – Friday."

Type of Transportation	Number of Weekdays Used (0 to 5)
3 Drive alone (car, truck, van, SUV, or motorcycle)	
4 Carpool or casual carpool (slug), including dropped off by family member, ride in UberPool or Waze Carpool with other passengers	
5 Vanpool	
6 Bus	
10 Train (Metrorail or commuter train – MARC, VRE, Amtrak)	
7 Walk or bicycle/scooter (entire trip or longest distance part of trip)	
9 Ride alone in a taxi, Uber, or Lyft, with only the driver	
8 Other (describe)_____	
2 Telecommute / telework / work remotely all day	
19 Regular day off or compressed schedule day off	
Total Days	Sum of 1-19

DEFINE Q15 MODES USED (ALLOW MULTIPLE MODES)
AUTOCODE ONLY: do not show any messages or codes on the screen

TWDAYS = SUM OF Q15, RESPONSE 2
DADAYS = SUM OF Q15, RESPONSE 3
CPDAYS = SUM OF Q15, RESPONSE 4
VPDAYS = SUM OF Q15, RESPONSE 5
TRDAYS = SUM OF Q15, RESPONSES 6, 10
BWDAYS = SUM OF Q15, RESPONSE 7
OTDAYS = SUM OF Q15, RESPONSE 8
TXDAYS = SUM OF Q15, RESPONSE 9

IF TWDAYS > 0, Q15 MODE = 2 TELEWORK
IF DADAYS > 0, Q15 MODE = 3 DRIVE ALONE
IF CPDAYS > 0, Q15 MODE = 4 CARPOOL
IF VPDAYS > 0, Q15 MODE = 5 VANPOOL
IF TRDAYS > 0, Q15 MODE = 6 BUS OR TRAIN
IF BKDAYS > 0, Q15 MODE = 7 WALK OR BICYCLE/SCOOTER
IF OTDAYS > 0, Q15 MODE = 8 OTHER
IF TXDAYS > 0, Q15 MODE = 9 TAXI, UBER, LYFT

DEFINE PRIMARY MODE (mode currently used most days of week)
SET Q15PRIM = Q15 MODE WITH MOST DAYS. IF TIE FOR HIGHEST NUMBER, CHOOSE PRIMARY MODE IN THIS PRIORITY ORDER: 5 (VANPOOL), 4 (CARPOOL), 6 (BUS OR TRAIN), 7 (WALK OR BICYCLE/SCOOTER), 3 (DRIVE ALONE), 9 (TAXI/UBER/LYFT)
ALLOW TELEWORK (2) AND OTHER (8) TO BE Q15PRIM ONLY IF ALL OTHER MODES ARE MISSING. THEN, IF TIE BETWEEN TELEWORK AND OTHER, CHOOSE OTHER

DEFINE CALTDAYS (days currently using alternative modes)
CALTDAYS = TOTAL Q15 DAYS USING MODES 4, 5, 6, 7 (= CPDAYS + VPDAYS + TRDAYS+ BWDAYS)

IF Q13 = 6 (Current FT TW) AND Q13a = 6 (Pre-pandemic FT TW), AUTOCODE Q15a = 1, THEN SKIP TO INSTRUCTIONS BEFORE Q16
IF Q13 = 6 (Current FT TW) AND Q13a = 1, 2, 3, 4, 5, 7, 9, 999, AUTOCODE Q15a = 2, THEN SKIP TO INSTRUCTIONS BEFORE Q16
IF Q13 = 1, 2, 3, 4, 5, 7, 9, 999 (Q15 not autocoded), ASK Q15a

15a Is your current travel to work as you just described it about the same as your commute last year in February 2020, before the coronavirus pandemic began, or is it substantially different than before the pandemic? (**SHOW RESPONSES 3, 4, 8 ON SCREEN; DO NOT SHOW 1, 2, 9)**

1 AUTOCODE - full-time telework now, full-time TW pre-pandemic
2 AUTOCODE - full-time telework now, NOT full-time TW pre-pandemic
3 Current commute is about the same now as before the pandemic
4 Current commute is substantially different than before the pandemic
8 Not sure
9 Question left blank

DEFINE COMMUTE STATUS (COMMSTAT) (Current commute vs pre-pandemic)
IF Q15a = 3, COMMSTAT = 1, Same, current = pre-pandemic
IF Q15a = 2, COMMSTAT = 2, Different-TW (current NE pre-pandemic)
IF Q15a = 4, 8, 9, COMMSTAT = 3, Different-Oth, current NE pre-pandemic
IF Q15a = 1, COMMSTAT = 4, FTTW, no change

Travel Grid Before Coronavirus (Typical week)

INSTRUCTIONS BEFORE Q16
IF COMMSTAT = 1 (same), AUTOCODE Q16 = Q15, THEN SKIP TO DEFINE Q16 MODES
IF COMMSTAT = 4 (FTTW, no change), AUTOCODE Q16 = Q15, THEN SKIP TO Q50
IF COMMSTAT = 2 OR 3 (different), ASK Q16

IF COMMSTAT = 3, USE "SHORT FORM" OF Q16 QUESTION
IF COMMSTAT = 2 (Q15 was not asked; autocoded as FTTW), USE LONG FORM OF Q16 QUESTION

16 **SHORT FORM** – How did you get to work before the coronavirus pandemic began? In the table below, enter the number of days you typically used each of the listed types of transportation. If you used more than one type on a single day, count only the type you used for the **longest distance part** of your trip to work. Indicate also how many weekdays (if any) you telecommuted or had a regular day off or compressed work schedule day off.

LONG FORM – Now please think back to February 2020, before the coronavirus pandemic began. In a typical week then, how did you get to work? In the table below, enter the number of days you typically used each of the listed types of transportation. If you used more than one type on a single day (e.g., walk to the bus stop, then ride the bus), count only the type you used for the **longest distance part** of your trip to work.

If you typically were away on business or work travel one or more days per week, please report the type of transportation you would have used to get to work if you worked at your usual work location.

Indicate also how many weekdays (if any) you telecommuted or had a regular day off or compressed work schedule day off.

PROGRAMMER NOTES:

CHECK SUM OF DAYS. IF TOTAL OF 2-19 IS LESS THAN 5, SHOW MESSAGE: "You've reported fewer than 5 days. Please report for all days Monday – Friday, including any telecommute days and any weekdays you do not work (regular days off/compressed schedule days off)."

IF TOTAL OF 2-19 IS GREATER THAN 5, SHOW MESSAGE: "You've reported more than five days. Please report only for Monday – Friday."

Type of Transportation	Number of Weekdays Used (0 to 5)
3 Drive alone (car, truck, van, SUV, or motorcycle)	
4 Carpool or casual carpool (slug), including dropped off by family member, ride in UberPool or Waze Carpool with other passengers	
5 Vanpool	
6 Bus	
10 Train (Metrorail or commuter train – MARC, VRE, Amtrak)	
7 Walk or bicycle/scooter (entire trip or longest distance part of trip)	
9 Ride alone in a taxi, Uber, or Lyft, with only the driver	
8 Other (describe)_____	
2 Telecommute / telework / work remotely all day	
19 Regular day off or compressed schedule day off	
Total Days	Sum of 1-19

DEFINE Q16 MODES USED PRE-PANDEMIC (ALLOW MULTIPLE MODES)

AUTOCODE ONLY: do not show any messages or codes on the screen

PRETWDAYS = SUM OF Q16, RESPONSE 2
PREDADAYS = SUM OF Q16, RESPONSE 3
PRECPDAYS = SUM OF Q16, RESPONSE 4
PREVPDAYS = SUM OF Q16, RESPONSE 5
PRETRDAYS = SUM OF Q16, RESPONSES 6, 10
PREBWDAYS = SUM OF Q16, RESPONSE 7
PREOTDAYS = SUM OF Q16, RESPONSE 8
PRETXDAYS = SUM OF Q16, RESPONSE 9

IF PRETWDAYS > 0, Q16 MODE = 2 TELEWORK
IF PREDADAYS > 0, Q16 MODE = 3 DRIVE ALONE
IF PRECPDAYS > 0, Q16 MODE = 4 CARPOOL
IF PREVPDAYS > 0, Q16 MODE = 5 VANPOOL
IF PRETRDAYS > 0, Q16 MODE = 6 BUS OR TRAIN
IF PREBKDAYS > 0, Q16 MODE = 7 WALK OR BICYCLE/SCOOTER
IF PREOTDAYS > 0, Q16 MODE = 8 OTHER
IF PRETXDAYS > 0, Q16 MODE = 9 TAXI, UBER, LYFT

DEFINE PRE-PRIMARY MODE (mode used most days of week pre-pandemic)

SET Q16PRIM = Q16 MODE WITH MOST DAYS. IF TIE FOR HIGHEST NUMBER, CHOOSE PRIMARY MODE IN THIS PRIORITY ORDER: 5 (VANPOOL), 4 (CARPOOL), 6 (BUS OR TRAIN), 7 (WALK OR BICYCLE/SCOOTER), 3 (DRIVE ALONE), 9 (TAXI/UBER/LYFT)
ALLOW TELEWORK (2) AND OTHER (8) TO BE Q16PRIM ONLY IF ALL OTHER MODES ARE MISSING. THEN, IF TIE BETWEEN TELEWORK AND OTHER, CHOOSE OTHER

DEFINE PREALTDAYS (days currently using alternative modes)

PREALTDAYS = TOTAL Q16 DAYS USING MODES 4, 5, 6, 7 (= CPDAYS + VPDAYS + TRDAYS + BWDAYS)

17a When the pandemic is over, which of the following types of transportation do you expect you will use regularly (at least once per week) for your trip to work? (Select all that apply.)

1 Drive alone in a person vehicle (car, truck, van, SUV, motorcycle)
2 Carpool or vanpool
3 Bus
4 Metrorail
5 Commuter rail (MARC, VRE, Amtrak)
6 Taxi, Uber, or Lyft
7 Bicycle/scooter, including e-bikes and e-scooters
8 Walking (entire trip from home to work)
9 Telecommute/telework/remote work
10 Other (please specify _____)
19 Not sure
99 Question left blank

INSTRUCTIONS BEFORE Q18 (respondents stopped/reduced use of transit since pandemic)
IF TRDAYS >= PRETRDAYS, SKIP TO INITIAL BRANCHING INSTRUCTIONS
IF TRDAYS < PRETRDAYS, ASK Q18

18 You indicated that you rode a bus or train to work before the pandemic, but you use transit less often now for your commute. Which, if any, of the following transit changes would make you more likely to resume your previous transit use for commuting after the pandemic is over? Select all that apply.

1 More spacing between people on buses or train cars
2 More frequent cleaning of buses or train cars
3 More frequent bus/train service (shorter wait time between buses/trains)
4 Buses with limited number of stops
5 Protective plastic barriers on buses/trains to reduce the spread of covid-19
6 Other (please specify _____)
18 Nothing will make me more likely to ride a bus or train to work after the pandemic
7 I expect to resume my previous transit use after the pandemic, even without any transit changes
19 Not sure
99 Question left blank

FOLLOW-UP QUESTIONS ON MODE BEFORE/DURING SERVICE USE

GRH users (Q20 – Q27)
- Current GRH – Q25 - Q27
- No pre-pandemic alt mode use (PREALTDAYS = 0) – Q20 – Q24
- Pre-pandemic alt mode use (PREALTDAYS > 0) – Q25 - Q27

Non-GRH only Users - All are asked Q30 to define previous mode – then branch:

- No pre-pandemic alt mode use (PREALTDAYS = 0), no previous alt mode use – Q31 – Q35
- No pre-pandemic alt mode use (PREALTDAYS = 0), some previous alt mode use – Q38-Q39

- Pre-pandemic alt mode use (PREALTDAYS > 0), no previous alt mode use – Q40 – Q41
- Pre-pandemic alt mode use (PREALTDAYS > 0), some previous alt mode use – Q44

INITIAL BRANCHING INSTRUCTION – GRH OR NON-GRH ONLY
IF DEFUSER = 3 (Non-GRH), SKIP TO INSTRUCTIONS BEFORE Q30
IF DEFUSER = 1 (GRH) OR 2 (GRH/Non-GRH) OR 9 (Current GRH), CONTINUE WITH INSTRUCTIONS BEFORE Q20

GRH USERS

INSTRUCTIONS BEFORE Q20 – GRH REGISTRANTS; CHECK FOR PRE-PANDEMIC ALT MODE USE
Current GRH: IF DEFUSER = 9 (Current GRH), SKIP TO INSTRUCTIONS BEFORE Q25
Pre-pandemic alt mode use: IF PREALTDAYS > 0, SKIP TO INSTRUCTIONS BEFORE Q25
No pre-pandemic alt mode use: IF PREALTDAYS = 0, CONTINUE WITH Q20 INTRO, THEN ASK Q20 – Q24, SHOW GRH Intro and Q20 ON THE SAME PAGE

Q20 INTRO – (GRH, no alt mode)
Next, we have a few questions about your travel to work while you were registered for the Guaranteed Ride Home Program and before you registered for GRH. We understand this was some time ago, but please answer these questions to the best of your memory.

IF COMMSTAT = 1 (same commute), ENTER "you typically get to work most days" IN Q20
IF COMMSTAT = 2 OR 3 (different commute), ENTER "that before the pandemic, you typically got to work most days" IN Q20

20 You said [you typically get to work most days; that before the pandemic, you typically got to work most days] by driving alone, taxi, or Uber/Lyft, but you would have commuted by carpool, vanpool, bus or train, walking, bicycle, or scooter at least some days while you were registered for GRH. Which types of transportation did you use while you were registered for GRH? **(ALLOW MULTIPLES FOR 1-4)**

1 Carpool or casual carpool (slug), including dropped off by family member, or UberPool or Waze Carpool
2 Vanpool
3 Bus, Metrorail, or commuter train
4 Walk or bicycle, or scooter (entire trip or longest part of trip to work)
9 Did not use any of these types of transportation while in GRH
99 Left blank

IF Q20 = 9 OR 99, SKIP TO Q24

IN Q21, INSERT FORM OF Q20 MODE SHOWN, IF MORE THAN ONE Q20 MODE, NAME ALL APPLICABLE MODES. INSERT COMMAS OR "and/or" AS APPROPRIATE

21 How many days per week did you typically get to work by [Q20MODE: carpool, vanpool, bus or train, walking, bicycle, or scooter] during the time you were registered for GRH?

1 1 or 2 days per week
2 3 days per week
3 4 or more days per week
99 Left blank

22 When did you switch to primarily driving alone/taxi/Uber or Lyft for your trip to work?

1 Within the past 6 months
2 7 – 12 months ago (1 year)
3 13 – 24 months ago (2 years)
4 25 – 36 months ago (3 years)
5 More than 3 years ago
99 Left blank

23 For what reason or reasons did you switch to driving alone/taxi/Uber or Lyft at that time?

OPEN ENDED _____

IN Q24, INSERT YEAR AS FOLLOWS:
IF Q4 = 1, INSERT, "before 2013" AS YEAR
IF Q4 = 2, INSERT, "in 2013 or 2014" AS YEAR
IF Q4 = 3, INSERT, "in 2015 or 2017" AS YEAR
IF Q4 = 4, INSERT, "in 2017 or 2018" AS YEAR
IF Q4 = 5, INSERT, "in 2019 or 2020" AS YEAR
IF Q4 = 99 (left blank), DO NOT SHOW YEAR SENTENCE.

24 Now, think back to the time BEFORE you registered for GRH. You said you registered [*YEAR: before 2013, in 2013 or 2014, in 2015 or 2016, in 2017 or 2018, 2019 or 2020*]. We understand that this was some time ago, but please answer to the best of your memory.

Before you registered, how many weekdays (Monday-Friday) did you use each of the listed types of transportation to get to work? Indicate also how many weekdays (if any) you telecommuted or had a regular day off or compressed work schedule day off.

If you were not working then or not working in the Washington metropolitan region then, please enter 5 in the box for "Not working / not working in Washington region then."

PROGRAMMER NOTES:

CHECK SUM OF DAYS. IF TOTAL OF 2-19 IS LESS THAN 5, SHOW MESSAGE: "You've reported fewer than 5 days. Please report for all days Monday – Friday, including any telecommute days and any weekdays you do not work (regular days off/compressed schedule days off)."

IF TOTAL OF 2-19 IS GREATER THAN 5, SHOW MESSAGE: "You've reported more than five days. Please report only for Monday – Friday."

BEFORE Registering for GRH Type of Transportation Used for Longest Distance Part of Trip	**Number of Days Used (0 to 5)**
3 Drive alone (car, truck, van, SUV, or motorcycle)	
4 Carpool or casual carpool (slug), including dropped off by family member, ride in UberPool or Waze Carpool with other passengers	
5 Vanpool	
6 Bus	
10 Train (Metrorail or commuter train - MARC, VRE, Amtrak)	
7 Walk or bicycle/scooter (entire trip or longest distance part of trip)	
9 Ride alone in a taxi, Uber, or Lyft, with only the driver	
8 Other (describe)_____	

2 Telecommute / telework / work remotely all day	
19 Regular day off or compressed schedule day off	
89 Not working then / not working in Washington region then	

Total Days (**DO NOT SHOW THIS LINE ON SCREEN**)	Sum of 1-19

SKIP TO Q50

GRH, Pre-pandemic alt mode users
INSTRUCTIONS BEFORE Q25
IN Q25 INTRO, INSERT YEAR AS FOLLOWS:
IF Q4 = 1, INSERT, "before 2013" AS YEAR
IF Q4 = 2, INSERT, "in 2013 or 2014" AS YEAR
IF Q4 = 3, INSERT, "in 2015 or 2016" AS YEAR
IF Q4 = 4, INSERT, "in 2017 or 2018" AS YEAR
IF Q4 = 5, INSERT, "in 2019 or 2020" AS YEAR
IF Q4 = 99 (left blank), DO NOT SHOW YEAR SENTENCE.

Q25 INTRO – GRH, pre-pandemic alt mode
Now, think back to the time BEFORE you registered for GRH. You said you registered [*YEAR: before 2013, in 2013 or 2014, in 2015 or 2016, in 2017 or 2018, in 2019 or 2020*]. We understand that this was some time ago, but please answer to the best of your memory.

25 Before you registered for GRH, how many weekdays (Monday – Friday) did you use each of the listed types of transportation to get to work? Indicate also how many weekdays (if any) you telecommuted or had a regular day off or compressed work schedule day off.

If you were not working then or not working in the Washington metropolitan region then, please enter 5 in the box for "Not working / not working in Washington region then."

PROGRAMMER NOTES:

CHECK SUM OF DAYS. IF TOTAL OF 2-19 IS LESS THAN 5, SHOW MESSAGE: "You've reported fewer than 5 days. Please report for all days Monday – Friday, including any telecommute days and any weekdays you do not work (regular days off/compressed schedule days off)."

IF TOTAL OF 2-19 IS GREATER THAN 5, SHOW MESSAGE: "You've reported more than five days. Please report only for Monday – Friday."

Type of Transportation BEFORE Registering for GRH	**Number of Weekdays Used (0 to 5)**
3 Drive alone (car, truck, van, SUV, or motorcycle)	
4 Carpool or casual carpool (slug), including dropped off by family member, ride in UberPool or Waze Carpool with other passengers	
5 Vanpool	
6 Bus	
10 Train (Metrorail or commuter train - MARC, VRE, Amtrak)	
7 Walk or bicycle/scooter (entire trip or longest distance part of trip)	
9 Ride alone in a taxi, Uber, or Lyft, with only the driver	
8 Other (describe)_____	
2 Telecommute / telework / work remotely all day	
19 Regular day off or compressed schedule day off	
89 Not working then / not working in Washington region then	
Total Days (**DO NOT SHOW THIS LINE ON SCREEN**)	Sum of 1-19

IF DEFUSER = 9 (Current GRH), SKIP TO Q50

IF SUM OF (PRECPDAYS + PREVPDAYS + PRETRDAYS + PREBWDAYS) = 0 OR 1, SKIP TO Q50
IF SUM OF (PRECPDAYS + PREVPDAYS + PRETRDAYS + PREBWDAYS) >1, ASK Q26

IN Q26, INSERT Q16 MODE AS FOLLOWS:
IF PRECPDAYS > 0, INSERT, "carpool" AS Q16 MODE
IF PREVPDAYS > 0, INSERT, "vanpool" AS Q16 MODE
IF PRETRDAYS > 0, INSERT, "bus or train" AS Q16 MODE
IF PREBWDAYS > 0, INSERT, "walking, bicycle, or scooter" AS Q16 MODE

IF MORE THAN ONE Q16 MODE, NAME ALL APPLICABLE MODES. INSERT COMMAS OR "and/or" AS APPROPRIATE

IF COMMSTAT = 1 (same commute), ENTER "you currently get to work by " AND "makes" IN Q20
IF COMMSTAT = 2 OR 3 (different commute), ENTER "that before the pandemic you got to work by" AND "made" IN Q20

26 You said you [currently Q16 ALTMODE: carpool, vanpool, ride a bus or train, walk or ride a bicycle or scooter to work; Q16 ALTMODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycle or scooter to work before the pandemic] at least some of your work days. This [makes, made] you eligible for the GRH Program, but you are no longer registered. Why did you not continue your registration?

OPEN ENDED _____

27 For what reason or reasons do you continue using this type(s) of transportation for your commute?

OPEN ENDED _____

(OPEN-ENDED, DO NOT SHOW RESPONSES. CODE RESPONSES DURING POST-PROCESSING INTO THE FOLLOWING CATEGORIES)

1 Save money, less expensive
2 Save time, faster
3 Avoid traffic, congestion
4 Enjoy carpooling, vanpooling, riding a bus, riding a train, walking, biking
5 Help the environment, reduce pollution, global warming, climate change
6 More convenient to commute this way
7 Employer offers incentives for this mode
8 No longer have a car/parking available to me
9 Moved home or work location, work schedule changed
10 Employer now permits me to telework
11 Use HOV/express lanes
12 Coronavirus pandemic
97 Other (SPECIFY_____)
99 Don't know/refused

SKIP TO Q50

NON-GRH USERS (DEFUSER = 3)
IF DEFUSER = 3, CONTINUE WITH Q30 INTRO, THEN Q30

IN Q30 INTRO – current alt mode, INSERT YEAR AS FOLLOWS:
IF Q7 = 1, INSERT, "before 2013" AS YEAR
IF Q7 = 2, INSERT, "in 2013 or 2014" AS YEAR
IF Q7 = 3, INSERT, "in 2015 or 2016" AS YEAR
IF Q7 = 4, INSERT, "in 2017 or 2018" AS YEAR
IF Q7 = 5, INSERT, "in 2019 or 2020" AS YEAR
IF Q7 = 99 (left blank), DO NOT SHOW YEAR SENTENCE.

Q30 INTRO – (Non-GRH)
Next, we have a few questions about your travel to work before you sought, requested, or received commute information from Commuter Connections or the Commuter Connections website or mobile application. You said you first got information [YEAR: before 2013*, in 2013 or 2014, in 2015 or 2016, in 2017 or 2018, in 2019 or 2020*]. We understand this was some time ago, but please answer these questions to the best of your memory.

30 BEFORE you first got commute information from Commuter Connections, how many weekdays (Monday-Friday) did you use each of the listed types of transportation to get to work? Indicate also how many weekdays (if any) you telecommuted or had a regular day off or compressed work schedule day off.

If you were not working then or not working in the Washington metropolitan region then, please enter 5 in the box for "Not working / not working in Washington region then."

PROGRAMMER NOTES:

CHECK SUM OF DAYS. IF TOTAL OF 2-19 IS LESS THAN 5, SHOW MESSAGE: "You've reported fewer than 5 days. Please report for all days Monday – Friday, including any telecommute days and any weekdays you do not work (regular days off/compressed schedule days off)."

IF TOTAL OF 2-19 IS GREATER THAN 5, SHOW MESSAGE: "You've reported more than five days. Please report only for Monday – Friday."

BEFORE Requesting/Receiving Commute Information Type of Transportation Used for Longest Distance Part of Trip	**Number of Weekdays Used (0 to 5)**
3 Drive alone (car, truck, van, SUV, or motorcycle)	
4 Carpool or casual carpool (slug), including dropped off by family member, ride in UberPool or Waze Carpool with other passengers	
5 Vanpool	
6 Bus	
10 Train (Metrorail or commuter train - MARC, VRE, Amtrak)	
7 Walk or bicycle/scooter (entire trip or longest distance part of trip)	
9 Ride alone in a taxi, Uber, or Lyft, with only the driver	
8 Other (describe)_____	

2 Telecommute / telework / work remotely all day	
19 Regular day off or compressed schedule day off	
89 Not working then / not working in Washington region then	

Total Days (**DO NOT SHOW THIS LINE ON SCREEN**)	Sum of 1-19

DEFINE Q30 MODES USED (ALLOW MULTIPLE MODES)
AUTOCODE ONLY: do not show any messages or codes on the screen

PTWDAYS = SUM OF Q30, RESPONSE 2
PDADAYS = SUM OF Q30, RESPONSE 3
PCPDAYS = SUM OF Q30, RESPONSE 4
PVPDAYS = SUM OF Q30, RESPONSE 5
PTRDAYS = SUM OF Q30, RESPONSES 6, 10
PBWDAYS = SUM OF Q30, RESPONSE 7
POTDAYS = SUM OF Q30, RESPONSE 8
PTXDAYS = SUM OF Q30, RESPONSE 9

IF PTWDAYS > 0, Q30 MODE = 2 TELEWORK
IF PDADAYS > 0, Q30 MODE = 3 DRIVE ALONE
IF PCPDAYS > 0, Q30 MODE = 4 CARPOOL
IF PVPDAYS > 0, Q30 MODE = 5 VANPOOL
IF PTRDAYS > 0, Q30 MODE = 6 BUS OR TRAIN
IF PBKDAYS > 0, Q30 MODE = 7 WALK OR BICYCLE/SCOOTER
IF POTDAYS > 0, Q30 MODE = 8 OTHER
IF PTXDAYS > 0, Q30 MODE = 9 TAXI, UBER/LYFT

DEFINE PALTDAYS (days previously using alternative modes)
PALTDAYS = PCPDAYS + PVPDAYS + PTRDAYS + PBWDAYS)

NON-GRH USERS; CHECK FOR PRE-PANDEMIC AND PREVIOUS ALT MODE USE
INSTRUCTIONS BEFORE Q31
- Pre-pandemic alt mode use, some previous alt mode use: **IF (PREALTDAYS > 0 AND PALTDAYS > 0), SKIP TO INSTRUCTIONS BEFORE Q44**
- Pre-pandemic alt mode use, no previous alt mode use: **IF (PREALTDAYS > 0 AND PALTDAYS = 0), SKIP TO INSTRUCTIONS BEFORE Q40**
- No pre-pandemic alt mode use, Some previous alt mode use**: IF (PREALTDAYS = 0 AND PALTDAYS > 0), SKIP TO INSTRUCTIONS BEFORE Q38**
- No pre-pandemic alt mode use, no previous alt mode use**: IF (PREALDTAYS = 0 AND PALTDAYS = 0), CONTINUE WITH Q31**

Non-GRH, NO pre-pandemic alt mode, NO previous alt mode
IF COMMSTAT = 1 (same commute), ENTER "you typically get to work" IN Q31
IF COMMSTAT = 2 OR 3 (different commute), ENTER "that before the pandemic, you typically got to work" IN Q31

31 You said [*you typically get to work; that before the pandemic, you typically got to work*] most days by driving alone, taxi, Uber, or Lyft. In the time since you first got commute information from Commuter Connections, did you use any of the following types of transportation to get to work, even if only on a trial or temporary basis? **(ALLOW MULTIPLES FOR 1-4)**

1 Carpool or casual carpool (slug), including dropped off by family member, UberPool, or Waze Carpool
2 Vanpool
3 Bus, Metrorail, or commuter train
4 Walk, bicycle, or scooter (entire trip or longest part of trip to work)
9 No, did not use or try any of these types of transportation
99 Left blank

IF Q31 = 9 OR 99, SKIP TO Q50
IF Q31 = ANY OF 1 – 4, ASK Q32 – Q35

33 About how long did you use this type of transportation for your commute? If you used or tried more than one of these types of transportation, report the time for the type you used the longest.

1 1 month or less
2 2 – 6 months
3 7 – 12 months (1 year)
4 13 – 24 months (2 years)
5 25 – 36 months (3 years)
6 More than 3 years
99 Left blank

35 For what reason or reasons did you stop using these types of transportation?

OPEN ENDED _____

SKIP TO Q50

Non-GRH, NO pre-pandemic alt mode, SOME previous alt mode
INSTRUCTIONS BEFORE Q38
IN Q38, INSERT Q30 MODE AS FOLLOWS:
IF PRECPDAYS > 0, INSERT, "carpooled" AS Q30 MODE
IF PREVPDAYS > 0, INSERT, "vanpooled" AS Q30 MODE
IF PRETRDAYS > 0, INSERT, "rode a bus or train" AS Q30 MODE
IF PREBWDAYS > 0, INSERT, "walked or rode a bicycle or scooter" AS Q30 MODE
IF MORE THAN ONE Q30 MODE, NAME ALL APPLICABLE MODES. INSERT COMMAS OR "and/or" AS APPROPRIATE

IF COMMSTAT = 1 (same commute), ENTER "you typically get to work" IN Q38
IF COMMSTAT = 2 OR 3 (different commute), ENTER "that before the pandemic, you typically got to work" IN Q38

38 You said [*you typically get to work; that before the pandemic, you typically got to work*] most days by driving alone, taxi, or Uber/Lyft, but you [*Q30 MODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycled or scooter*] before you first got commute information from Commuter Connections. When did you switch to primarily driving alone/taxi/Uber or Lyft for your trip to work?

1 Within the past 6 months
2 7 – 12 months ago (1 year)
3 13 – 24 months ago (2 years)
4 25 – 36 months ago (3 years)
5 More than 3 years ago
99 Left blank

39 For what reason or reasons did you switch to driving alone/taxi/Uber or Lyft at that time?

OPEN ENDED _____

SKIP TO Q50

Non-GRH, SOME pre-pandemic alt mode, NO previous alt mode
INSTRUCTIONS BEFORE Q40
IN Q40, INSERT Q16 ALTMODE AS FOLLOWS:
IF PRECPDAYS > 0, INSERT, "carpool" AS Q16 ALTMODE
IF PREVPDAYS > 0, INSERT, "vanpool" AS Q16 ALTMODE
IF PRETRDAYS > 0, INSERT, "ride a bus or train" AS Q16 ALTMODE
IF PREBWDAYS > 0, INSERT, "walk or ride a bicycle or scooter" AS Q16 ALTMODE
IF MORE THAN ONE Q16 ALTMODE, NAME ALL APPLICABLE MODES. INSERT COMMAS OR "and/or" AS APPROPRIATE

IF COMMSTAT = 1 (same commute), ENTER "currently Q16 ALT MODE: carpool, vanpool, ride a bus or train, walk or ride a bicycle or scooter to work" IN Q40
IF COMMSTAT = 2 OR 3 (different commute), ENTER "Q16 ALTMODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycle or scooter to work before the pandemic" IN Q40

40 You said you typically got to work by driving alone, taxi, Uber, or Lyft before you first got commute information from Commuter Connections but you [currently Q16 ALTMODE: carpool, vanpool, ride a bus or train, walk or ride a bicycle or scooter to work; Q16 ALTMODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycle or scooter to work before the pandemic] at least some of your work days. How long have you been using [this type, these types] of transportation for your commute? [**PROGRAMMER NOTE: IF MORE THAN ONE Q16 ALTMODE, ADD:** "Please report the time for the type you've used the longest."]

1 1 month or less
2 2 – 6 months
3 7 – 12 months (1 year)
4 13 – 24 months (2 years)
5 25 – 36 months (3 years)
6 More than 3 years
99 Left blank

41 What are the primary reasons that you use this type or these types of transportation for your commute?

OPEN ENDED _____

(OPEN-ENDED, DO NOT SHOW RESPONSES. CODE RESPONSES DURING POST-PROCESSING INTO THE FOLLOWING CATEGORIES)
1 Save money, less expensive
2 Save time, faster
3 Avoid traffic, congestion
4 Enjoy carpooling, vanpooling, riding a bus, riding a train, walking, biking
5 Help the environment, reduce pollution, global warming, climate change
6 More convenient to commute this way
7 Employer offers incentives for this mode
8 No longer have a car/parking available to me
9 Moved home or work location, work schedule changed
10 Employer now permits me to telework
11 Use HOV/express lanes
12 Coronavirus pandemic
97 Other (SPECIFY_____)
99 Don't know/refused

SKIP TO Q50

Non-GRH, SOME pre-pandemic alt mode, SOME previous alt mode

IF COMMSTAT = 1 (same commute), ENTER "you typically Q16 MODE: carpool, vanpool, ride a bus or train, walk or ride a bicycle or scooter" IN Q44
IF COMMSTAT = 2 OR 3 (different commute), ENTER "that before the pandemic, you Q16 MODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycle or scooter" IN Q44

44 You said [you typically Q16 MODE; carpool, vanpool, ride a bus or train, walk or ride a bicycle or scooter; that before the pandemic, you typically Q16 MODE: carpooled, vanpooled, rode a bus or train, walked or rode a bicycle or scooter] to work at least some days. What are the primary reasons that you use or used this or these types of transportation for your commute?

OPEN ENDED _____

(OPEN-ENDED, DO NOT SHOW RESPONSES. CODE RESPONSES DURING POST-PROCESSING INTO THE FOLLOWING CATEGORIES)

1 Save money, less expensive
2 Save time, faster
3 Avoid traffic, congestion
4 Enjoy carpooling, vanpooling, riding a bus, riding a train, walking, biking
5 Help the environment, reduce pollution, global warming, climate change
6 More convenient to commute this way
7 Employer offers incentives for this mode
8 No longer have a car/parking available to me
9 Moved home or work location, work schedule changed
10 Employer now permits me to telework
11 Use HOV/express lanes
12 Coronavirus pandemic
97 Other (SPECIFY_____)
99 Don't know/refused

50 **COMMUTER CONNECTIONS SERVICES ACCESSED – AUTOCODE ONLY – ACCEPT MULTIPLE RESPONSES**

IF Q1 = 1, AUTOCODE Q50 = 1
IF Q1 = 2, AUTOCODE Q50 = 2
IF Q1 = 3, AUTOCODE Q50 = 3
IF Q1 = 4, AUTOCODE Q50 = 4
IF Q1 = 5, AUTOCODE Q50 = 5
IF Q1 = 6, AUTOCODE Q50 = 6
IF Q1 = 6, AUTOCODE Q50 = 13

IF Q2 = 1, AUTOCODE Q50 = 7
IF Q2 = 2, AUTOCODE Q50 = 8
IF Q2 = 3, AUTOCODE Q50 = 9
IF Q2 = 4, AUTOCODE Q50 = 10
IF Q2 = 5, AUTOCODE Q50 = 11
IF Q2 = 6, AUTOCODE Q50 = 14
IF Q2 = 7, AUTOCODE Q50 = 15

IF Q3 = 1, AUTOCODE Q50 = 12

IF (Q1 = 90 OR 99) AND (Q2 = 90 OR 99) AND (Q3 = 2 OR 9), AUTOCODE Q50 = 90

1 Names of people you could contact to form a carpool or vanpool (matchlist)
2 Map showing home/work locations of people you could contact to form a carpool or vanpool
3 Carpool / Vanpool rider wanted bulletin board
4 Other carpool / vanpool information or assistance
5 HOV lane information
6 'Pool Rewards carpool financial incentive
7 Transit schedule or route information, transit fare information, SmarTrip
8 Park & Ride lot information
9 Telework information, telework center information
10 Bicycling information, Bicycle to Work Guide, online bicycle route planning
11 Special events information (e.g., Bike to Work Day, Car Free Day)
12 Guaranteed Ride Home Program
13 CarpoolNow mobile application (real-time ridematching)
14 incenTrip mobile application (trip tracking/points application)
15 Flextime Rewards incentive program
90 Did not report receiving any of these CC services

INSTRUCTIONS BEFORE Q51
IF PREALTDAYS = 0, SKIP TO Q52
IF Q50 = ONLY 90, SKIP TO Q52
IF COMMSTAT = 4 (FTTW, No change), SKIP TO Q52
IF PREALTDAYS > 0 AND Q50 = ANY OF 1-15, CONTNUE WITH Q51

51 You mentioned earlier that you accessed, requested, and/or received the commute information and assistance services shown below from Commuter Connections. Did any of these services influence you or assist you to use carpool, vanpool, bus or train, walk, bicycle, or scooter for your trip to work?

SHOW ALL RESPONSES 1-15 CODED IN Q50; ALSO SHOW RESPONSE 91 AND 98

1 Names of people you could contact to form a carpool or vanpool (matchlist)
2 Map showing home/work locations of people you could contact to form a carpool or vanpool
3 Carpool / Vanpool rider wanted bulletin board
4 Other carpool / vanpool information or assistance
5 HOV lane information
6 'Pool Rewards carpool / vanpool financial incentive
7 Transit schedule or route information, transit fare information, SmarTrip
8 Park & Ride lot information
9 Telework information, telework center information
10 Bicycling information, Bicycle to Work Guide, online bicycle route planning
11 Special events information (e.g., Bike to Work Day, Car Free Day)
12 Guaranteed Ride Home Program
13 CarpoolNow mobile application (real-time ridematching)
14 incenTrip mobile application (trip tracking/points application)
15 Flextime Rewards incentive program

91 No, services did not influence or assist me
98 Not sure
99 Left blank

COMMUTER CONNECTIONS IMPROVEMENTS

52 Do you have any suggestions for ways Commuter Connections could improve its services for you? If so, please describe them here.

OPEN ENDED _____

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

88 no improvement needed
1 quicker response
2 more helpful staff
3 more follow-up assistance
4 more match names
5 matches fit travel better
6 matches are more interested in carpoo/vanpool
7 better transit information
8 more advertising
9 more current information
10 use Internet
11 transit improvements
12 VP resources & assistance
13 GRH suggestion
14 Separate driver & rider lists
15 More mobile app features

DEMOGRAPHICS

INSTRUCTIONS BEFORE Q56
IF Q15a = 1 (full-time telework now, full-time TW pre-pandemic), SKIP TO Q59

56 About how many miles it is from your home to work one way? If you are currently telecommuting/working at home all your workdays, please indicate the distance from home to where you worked before the pandemic began.

_____ miles one way
999 Question left blank

57 As a result of the pandemic, did you buy or do you plan to buy any of the following vehicles or transportation services? Select all that apply. **(ALLOW MULTIPLE RESPONSES FOR 1-5, DO NOT ALLOW MULTIPLES WITH 6 or 9)**

1 Bicycle or e-bike
2 Personal vehicle (car, truck, van, SUV, motorcycle)
3 Transit pass
4 Carshare service membership
5 Bikeshare, scooter, or e-scooter service membership
6 Did not buy/do not plan to buy any of these vehicles/services
9 Not sure
99 Question left blank

58 Are you considered an essential worker who is required to go to a workplace outside your home for a job in any of the following industries? Select all that apply. **(ALLOW MULTIPLE RESPONSES FOR 1-6, DO NOT ALLOW MULTIPLES WITH 7)**

1 Grocery/food store
2 Health care
3 Public works
4 Government service
5 Transportation
6 Other (please specify) _____
7 Not classified as essential worker
99 Left blank

The last few questions are for classification purposes only.

59 Which of the following groups includes your age?

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

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

1 Yes
2 No
9 Prefer not to answer
99 Left blank

61 Which of the following best describes your ethnic background?

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

62 Please indicate the category that best represents your household's total annual income.

1 less than $20,000
2 $20,000 - $29,999
3 $30,000 - $39,999
4 $40,000 - $59,999
5 $60,000 - $79,999
6 $80,000 - $99,999
7 $100,000 - $119,999
8 $120,000 - $139,999
9 $140,000 - $159,999
10 $160,000 - $179,999
11 $180,000 - $199,999
12 $200,000 or more
19 Prefer not to answer
99 Left blank

63 What is your gender?

1 Male
2 Female
3 Other
9 Prefer not to answer
99 Left blank

Q64 Commuter Connections is offering a drawing for three $100 Amazon gift cards. If you would like to participate in the drawing for one of these gift cards, please provide your name and email address. Please be assured that we will not sell or use your information for anything other than the drawing. Would you like to participate in the drawing?

1 Yes **(ASK Q65)**
2 No **(SKIP TO END)**
89 Left blank **(SKIP TO END)**

Q65 Please provide your name and email address so we can contact you if you are one of the winners.

First Name:
Last Name:
Email Address:

Thank you very much for your time and cooperation!

PAGE FOLLOWING SUBMIT BUTTON

Thank you for submitting your responses.

If you would like more information on commuting options, click this Commuter Connections logo. It will direct you to the Commuter Connections website.

www.commuterconnections.org

APPENDIX C – DE-DUPLICATION PROTOCOL

Retention Rate Database Cleaning
Final: December 18, 2020

Initial Review of Database Tables / Objects

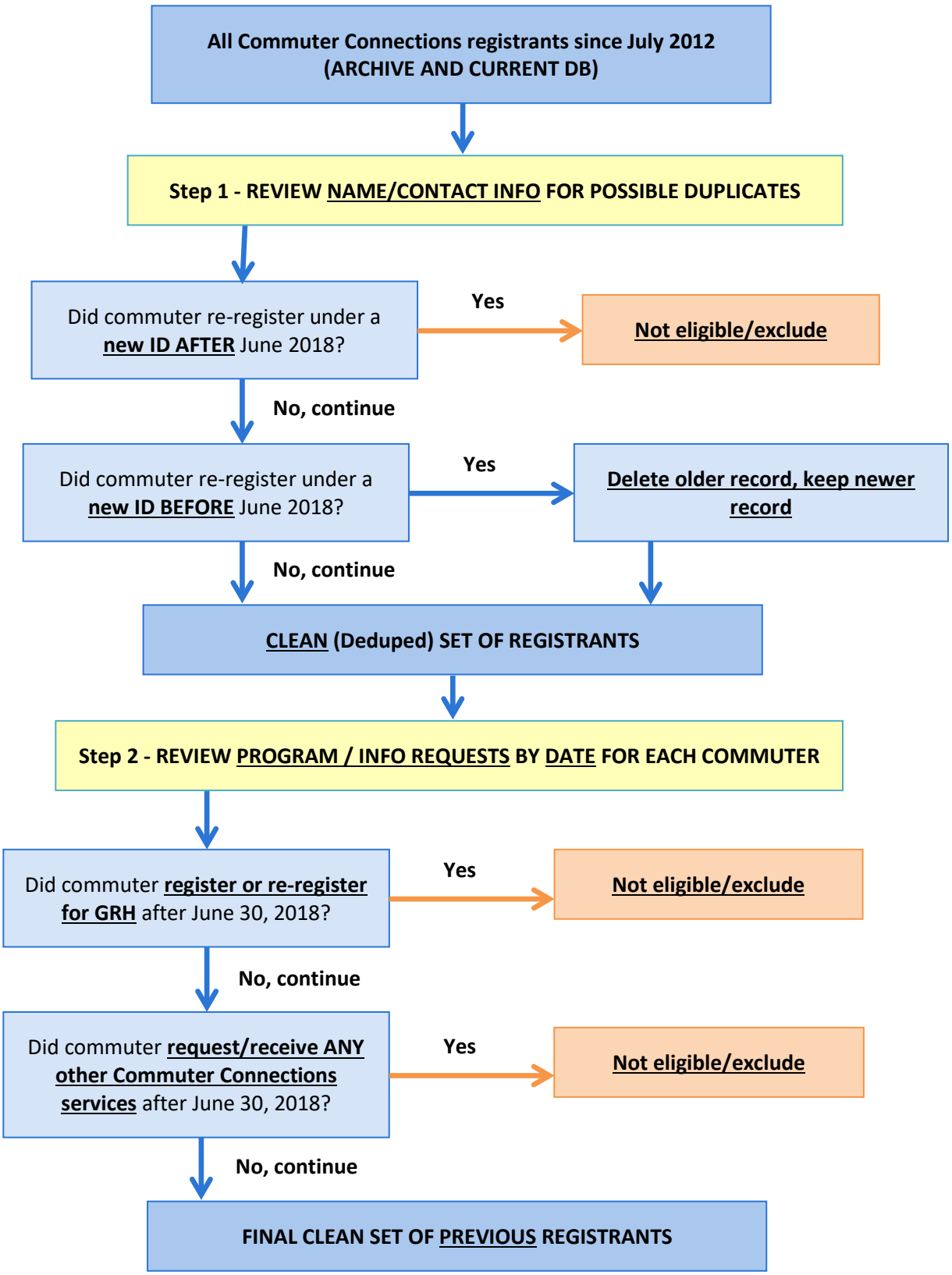
The consulting team obtained a list of all tables/objects in the Commuter Connections databases, both current (active) and archived. After reviewing all tables/objects, the consultants requested data for 15 of the tables that appeared to include information on service use, service dates, and commuter contact information that would be useful to classifying and selecting respondents for the survey.

TBL_COMMUTER (Base)
TBL_COMMUTERADDR
TBL_COMMUTEREMAIL
TBL_COMMUTERPHONE
TBL_GRH_COMMUTERSUMMARY
TBL_LINK_COMMUTERCCRS
TBL_LINK_PRGMCOMMUTER
TBL_LOG_DAILY_PASSENGER_INFO
TBL_PROGRAMS
TBL_CCRS_MATCHREQ
TBL_REQUEST_INFO
TBL_COMMUTELOG_MASTER
TBL_FLEXTIME
TBL_INCENTRIP_LOG
ARCHIVE_COMMUTERS

Deduplication of Records and Selection of Applicable Records

The consultants next received from Commuter Connections both current and archived databases for commuters who participated in a Commuter Connections program between July 2012 and December 2020. The survey was to include only applicants who completed their GRH enrollment or who had participated in a Commuter Connections service prior to July 1, 2018, thus the database records had to be reviewed to exclude commuters who had received services after these dates. Additionally, an initial review of the databases indicated duplication of records, thus the consultants undertook a de-duplication effort to create a database with only one record for each commuter. These steps are detailed in Figure D1.

Figure D1 – Database Cleaning Steps Flowchart



Step #1

The consultants received commuter database files as tabs in an Excel workbook via Dropbox and summarized the information found in each of the archive and current Commuter Connections databases. Consultants' review of each file identified duplicate records in each table, defined by having the same commuter ID, date created, last update date, request date, address, phone number, email. As the first step, duplicate records were flagged and ultimately removed from each file to obtain clean files with a single (primary) record for each commuter in the table. Counts of duplicate records by file area presented in Table C-1.

Table C1 – 2021 Retention Rate Survey Data Files Primary and Duplicate Record Counts

Database File (Table) Name	Primary Records	Duplicate Records	Total Original Records
TBL_COMMUTER (Base)	36,977	2	104,917
TBL_COMMUTERADDR	36,390	16,850	130,222
TBL_COMMUTEREMAIL	33,459	46	91,871
TBL_COMMUTERPHONE	34,777	120,778	216,207
TBL_GRH_COMMUTERSUMMARY	15,834	0	50,579
TBL_LINK_COMMUTERCCRS	0	207,296	207,296
TBL_LINK_PRGMCOMMUTER	35,825	18,424	109,023
TBL_LOG_DAILY_PASSENGER_INFO	82	31,026	31,236
TBL_PROGRAMS	0	4	4
TBL_CCRS_MATCHREQ	17,341	134,656	167,099
TBL_REQUEST_INFO	1,680	655	4,516
TBL_COMMUTELOG_MASTER	1,174	319,213	324,348
TBL_FLEXTIME	11	1	247
TBL_INCENTRIP_LOG	0	18,559	19,362
ARCHIVE_COMMUTERS	0	1	587

Note: TBL_Programs also was reviewed. This included program names only.

After each individual database table was cleaned and de-duped, the tables were merged to create a single file. The combined file then was again de-duped to include a single record for each commuter, with the most recent information on service, dates, and contact information.

One additional file, containing 2,087 applicants who had participated in one of three Commuter Connections incentive programs, also was examined. These applicants had been contacted for the Commuter Connections 2020 Applicant Placement Rate Survey. The eligible commuter assistance service timeframe for these applicants overlapped with the timeframe for the Retention Rate Survey, so the file was examined to determine if their most recent activity date fell on or before the June 2018 cut-off date for the Retention survey. Forty-seven (47) applicant records were flagged as possible to include, while the rest of the sample was determined to be too recent. Of these 47 records, 13 had completed the Applicant Placement Survey interview, so were not contacted for the Retention Rate Survey. The remaining 34 records were included in the Retention Rate Survey sample frame.

Step #2

The merged and clean database was then examined again to identify and exclude recent applicants as shown in Step 2 of Figure D1 and to define GRH and non-GRH status of applicants. The following logical steps were applied to all records in the merged database:

1) If Date_Last_Modified is later than June 30, 2018, delete the record. This over-rode all other cases.
2) Create a new variable called GRH_Expired. This variable was calculated by adding one year to GRH_Eligible.
3) If there is no date in the GRH_Expired field **AND** the Date_Last_Modified is between July 1, 2012 and June 30, 2018, tag record as Non-GRH.
4) If GRH_Expired is later than June 30, 2018, delete.
5) If GRH_Expired **OR** Date_Last_Modified is later than June 30, 2012, keep the record. As a result of the **OR** operation, some GRH records will have a Date_Last_Modified before June 30, 2012, i.e., 2011.
6) Remove any Commuter IDs that completed an interview in the 2020 Placement Rate Survey.

When all de-duplication, cleaning, and selection steps were completed, the resulting sample included the distribution presented in Table C-2, by year, program (GRH or non-GRH) and contact information available.

Table C-2 – 2021 Retention Rate Survey – Final Sample Distribution

		COG Retention Rate Survey 2021 - Final Sample Distribution					
		GRH		Non-GRH		Total	
		Contact Status		Contact Status		Contact Status	
		Phone Only	Any Email	Phone Only	Any Email	Phone Only	Any Email
Year Last Updated	2012	45	2	193	1,580	238	1,582
	2013	222	1,063	436	3,227	658	4,290
	2014	378	2,614	351	3,287	729	5,901
	2015	319	2,671	344	2,979	663	5,650
	2016	245	2,727	227	3,502	472	6,229
	2017	283	2,908	236	3,523	519	6,431
	2018	115	1,365	124	2,011	239	3,376
	Total	1,607	13,350	1,911	20,109	3,518	33,459