

COMMUTER CONNECTIONS
A SMARTER WAY TO WORK

2019

STATE OF THE COMMUTE

"AT-A-GLANCE" SURVEY SECTION

FROM THE
WASHINGTON DC
METROPOLITAN REGION

National Capital Region
Transportation Planning Board

Metropolitan Washington
Council of Governments



COMMUTE PATTERNS

 National Capital Region
Transportation Planning Board

 Metropolitan Washington
Council of Governments



This is an “At-a-Glance” section from the 2019 State of the Commute (SOC) Report showing key figures and tables for commute patterns. To view the full report, go to www.commuterconnections.org.

Commute Patterns

Current Commute Mode

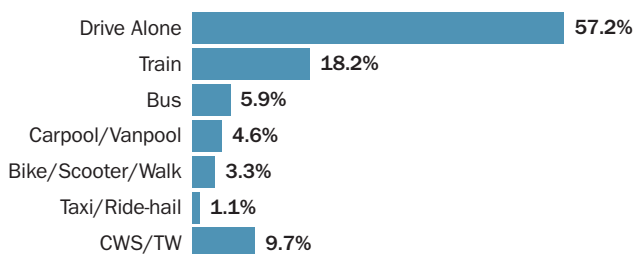
Respondents were asked what modes they used to travel to work each weekday (Monday-Friday) during a typical work week. By asking about an entire week, rather than simply “usual” travel mode, the survey captures use of modes that are used just one or two days per week.

WEEKLY WORK DAYS BY MODE IN 2019

The figure below presents mode shares as a percentage of commuters’ weekly work days for six “on the road” travel mode groups: drive alone (personal vehicle), train (Metrorail/commuter rail), carpool/vanpool (traditional carpool, casual carpool/slug, vanpool), bus (local bus, express bus, shuttle, and buspool), bike/scooter/walk, and taxi/ride-hail (e.g., Uber, Lyft, Via). The figure also includes the mode share for compressed work schedule and telework (CWS/TW). These are not actually travel modes, but are included to show the percentage of weekly work trips eliminated through use of these work schedule options.

Commuters drove alone to work on 57.2% of their total work days. They rode on a train for 18.2% of work days and used a bus for 5.9%. Respondents carpooled or vanpooled to work on 4.6% of work days and bicycled, rode a scooter, or walked for 3.3% of trips.

Weekly Commute Trips by Modes – 2019
(n = 8,107)



About 1.1% of weekly commute trips were made by riding as a passenger in a taxi or ride-hail vehicle (Uber, Lyft, Via). Note that in past SOC surveys, use of taxi/ride-hail was reported within the drive-alone mode. While they are still considered “driving alone” for purposes of vehicle use, the 2019 survey tracked and reported ride-hail use separately to define a baseline for use of this growing service.

Compressed work schedule days off and telework days (CWS/TW) eliminated 9.7% of weekly work trips. These days are officially assigned as part of the work week since a commute trip would be made if not for the work arrangement. If these savings were added back in, all travel modes would see higher percentages. For example, the drive alone share would rise to 63.4%.

Drive alone (including motorcycle)	63.4%
Train	20.2%
Carpool/vanpool	5.1%
Bus	6.5%
Bike/scooter/walk	3.6%
Taxi/Ride-hail	1.2%

FREQUENCY OF CURRENT MODE USE

Primary Mode – Mode split also can be portrayed as the percentage of respondents who use each mode. The following figure presents the percentage respondents’ “primary” mode, defined as that used for the greatest number of days per week. Most respondents worked five weekdays per week, so primary mode generally equated to use three or more days per week. For a small percentage of respondents’ “primary” mode, defined as that used for the greatest number of days per week.

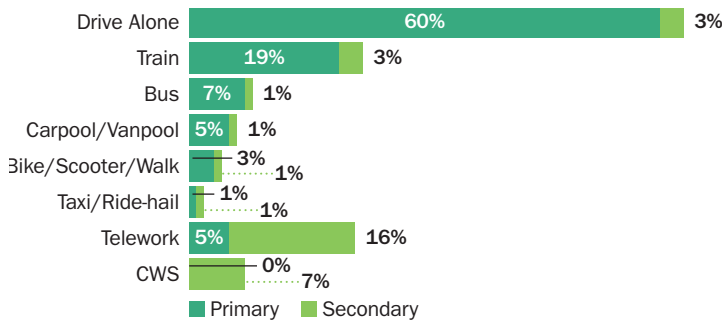
As with mode split by weekly trips, the most common primary mode was drive alone, used by 60% of respondents. The second most common primary mode, used by 19% of respondents, was train. Seven percent said they primarily rode a bus and 5% rode in a carpool or vanpool. Three percent of respondents primarily biked, rode a scooter, or walked and 1% rode in a taxi or ride-hail vehicle. Five percent primarily teleworked. No commuters worked a primary compressed work schedule, but that is because CWS schedules eliminate at most two of the regular work days, so commuters would have at least one other mode during the week.

Secondary Modes – The figure also shows respondents’ use of a secondary mode, meaning use for one or two days per week in addition to the primary mode. The mode with the greatest secondary use was telework; 16%. Seven percent had a compressed schedule day off one or two days per week or one day off every two weeks. Three percent of respondents drove alone as a secondary mode and 3% rode a train. The remaining four modes each was used by just 1% of respondents as a secondary mode.

In most cases, the percentage of respondents who used a mode as their primary mode was higher than the percentage of total work days on which commuters actually used that mode. For example, 19% of respondents primarily rode a train to work but only 18.2% of weekly work trips were made by train. The difference was largely due to the incidence of telework and compressed work schedule as secondary schedules.

Primary Modes and Secondary Modes

(n = 8,107)



MODE USE WITHIN MODE GROUPS

The mode groupings shown are each comprised of several related individual modes. The large sample size of the SOC survey enables analysis of not only grouped modes, but also of individual modes. The next figure shows the relative use of individual modes within the four main combined mode groups: train, carpool/vanpool, taxi/ride-hail, and bike/scooter/walk.

Train – The train mode group was comprised of Metrorail and three commuter rail companies: MARC (Maryland commuter rail), Virginia Railway Express (VRE), and Amtrak.

Carpool/Vanpool – Regular carpooling dominated the carpool/vanpool mode group.

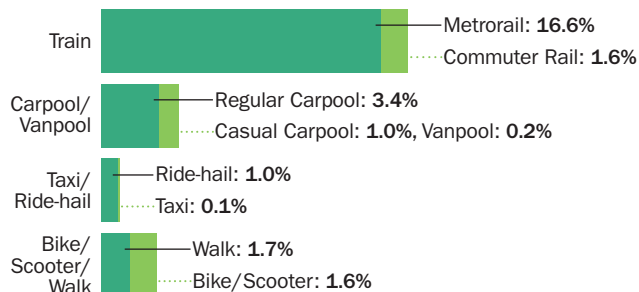
Taxi/Ride-hail – Within the taxi/ride-hail group, ride-hailing was ten times more common.

Ride-hailing services are relatively new travel modes in the region, but appear to be expanding quickly: and commuters who used ride-hailing to get to work during their typical week were asked several follow-up questions. First, they were asked which ride-hailing services they had used.

Ride-hail users also were asked how they would have made these commute trips if the ride-hail service had not been available.

Composition of Combined Mode Groupings – Percentage of Weekly Commute Trips

(n = 8,107)



PERCENTAGE OF RIDE-HAIL

MODE USED IF RIDE-HAIL NOT AVAILABLE	RESPONDENTS (n = 105)
Drive alone in personal vehicle	28%
Taxi	20%
Public transit (train, bus)	59%
Walk	16%
Bicycle/scooter	9%
Carpool/casual carpool	4%
Not sure	0%

Bike/Scooter/Walk – Walking and biking were about equally represented in the bike/scooter/walk mode group. Walking accounted for 1.7% of the total 3.3% trips in this group and 1.5% were made by bicycle. A very small share, 0.1%, of these trips were made by scooter or e-scooter.

In recent years, numerous new shared-bike and shared-scooter options have been introduced in the metropolitan Washington region. Commuters who reported one or more days of bike/scooter use were asked what type(s) of bike/scooter they used. This distribution is shown below.

PERCENTAGE OF BIKE/SCOOTER

BIKE/SCOOTER TYPE	RESPONDENTS (n = 195)
Personal bike	85%
Capital Bikeshare bike	16%
Dockless bike	7%
Personal scooter/e-scooter	6%
Rented scooter/e-scooter	5%

Use of personal bikes, rented bikes and scooters was strongly related to respondents' demographics and home and work locations. Seven in ten (70%) commuters who used a rented bike/scooter lived in the Inner Core, 68% worked in the Inner Core, and 81% traveled less than five miles to work

Predominant Characteristics of Commuters Who Used Rented and Personal Bikes/Scooters

RESPONDENT CHARACTERISTIC	RENTED (n = 43)	PERSONAL (n = 179)
Lived in Inner Core	70%	64%
Worked in Inner Core	68%	77%
Travel distance less than 5 miles	81%	53%
Age under 35 years old	56%	36%
Income \$160,000 or more	63%	53%
Male	75%	71%

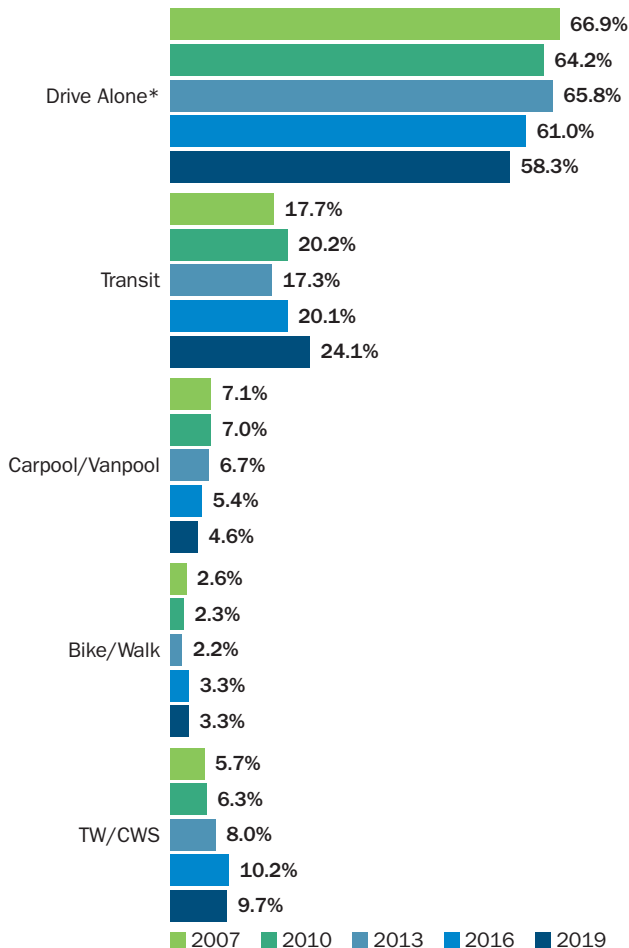
WEEKLY TRIPS BY MODE – TRENDS FROM 2007 TO 2019

The following figure presents mode shares as a percentage of weekly commute trips for 2019 and for four previous SOC surveys. The share of drive alone trips in 2019 (58.3%) was the lowest rate of all the SOC surveys shown, continuing a general decline since 2007, even with taxi/ride-hail included in this category. During the same time period, transit use has generally risen, from a low of 17.7% of weekly trips in 2007 to 24.1% in 2019. The carpool/vanpool mode share has fallen since 2007/2010. Bike/walk mode share grew in 2016 compared with past SOC surveys and remained at that same level in 2019. All of these changes were statistically significant.

Percentage of Weekly Trips by Mode – 2007 to 2019

(Including telework and compressed schedules)

(*Note: taxi/ride-hail was reported as part of “drive alone” in the 2007-2016 surveys. For consistency, “drive alone” percentage shown for 2019 follows the same approach. In 2019, taxi/ride-hail accounted for 1.1% of the total 58.3% drive alone.)



As indicated by survey respondents in 2019 who were younger than 35 years old were less likely to drive alone and more likely to use a train and to bike/walk than were older respondents. Use of these modes was consistent for respondents in the other age groups. Carpool/vanpool and bus use were approximately equal among all age groups.

Primary Mode by Age – 2019 SOC

(Note: row totals might not add to 100% because telework is not included; (Shading indicates statistically higher percentages of mode use)

AGE	(n = _)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
Under 35 years old	1,725	57%	5%	6%	23%	5%
35-44 years old	1,795	61%	5%	6%	20%	3%
45-54 years old	1,998	64%	5%	8%	16%	3%
55 years or older	2,297	65%	4%	6%	18%	2%

* Includes drive alone in personal vehicle or riding alone as a passenger in taxi or ride-hail vehicle

Primary Commute Mode by Demographic Group

Analysis of survey data showed some modest differences in choice of primary mode (mode used most days per week) among other demographic categories. The next tables present distributions of primary mode by respondent sex, ethnic group, income, vehicle availability, and location of residence and employment. Note that telework percentages are excluded from the tables, so row totals will not add to 100%.

SEX

Female and male respondents used each mode group at an equal rate, within one percentage point in all mode cases. There were no significant differences in mode use rates for any modes.

INCOME

Presents primary mode by annual household income.

RACE/ETHNICITY

The next table presents primary mode distribution for respondents of the three primary race/ethnicity groups.

VEHICLES AVAILABLE

Shows the primary mode distribution by the number of vehicles per adult resident in the respondent’s household.

RESIDENCE AND EMPLOYMENT LOCATION

Residence and Employment State – Respondents’ commute modes differed by where they lived and worked.

Primary Mode by Sex

(Note: row totals might not add to 100% because telework is not included)

SEX	(n = _)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
Female	3,806	61%	5%	7%	20%	3%
Male	3,859	60%	6%	6%	19%	4%

Primary Mode by Annual Household Income

(Note: row totals might not add to 100% because telework is not included) (Shading indicates statistically higher percentages of mode use)

INCOME	(n = __)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
Less than \$60,000	633	64%	3%	12%	16%	4%
\$60,000 – 99,999	1,234	64%	4%	5%	21%	3%
\$100,000 – 139,999	1,267	58%	5%	6%	21%	4%
\$140,000 – 179,999	1,013	60%	4%	5%	22%	4%
\$180,000 – 249,999	957	57%	8%	4%	19%	5%
\$250,000 +	580	59%	6%	5%	17%	4%

* Includes drive alone in personal vehicle or riding alone as a passenger in taxi or ride-hail vehicle

Primary Mode by Race/Ethnicity

(Note: row totals might not add to 100% because telework is not included. (Shading indicates statistically higher percentages of mode use)

ETHNIC GROUP	(n = __)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
Hispanic	502	63%	4%	9%	17%	2%
Non-Hispanic Black	1,351	61%	5%	9%	21%	1%
Non-Hispanic White	5,466	61%	5%	5%	18%	6%

* Includes drive alone in personal vehicle or riding alone as a passenger in taxi or ride-hail vehicle

Primary Mode by Number of Vehicles Per Adult in the Household

(Note: row totals might not add to 100% because telework is not included) (Shading indicates statistically higher percentages of mode use)

NUMBER OF VEHICLES PER ADULT	(n = __)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
0 vehicles	393	8%	1%	24%	48%	16%
0.1 to 0.5 vehicles	1,021	43%	9%	8%	30%	5%
0.6 to 0.9 vehicles	431	67%	7%	5%	17%	1%
1 vehicle or more	5,982	70%	5%	4%	15%	2%

* Includes drive alone in personal vehicle or riding alone as a passenger in taxi or ride-hail vehicle



Primary Mode by State of Residence and State of Employment

(Note: row totals might not add to 100% because telework is not included)

(Shading indicates statistically higher percentages of mode use)

STATE	(n = __)	PRIMARY COMMUTE MODE				
		DRIVE ALONE*	CARPOOL/VANPOOL	BUS	TRAIN	BIKE/WALK
STATE OF RESIDENCE						
District of Columbia	735	31%	2%	12%	35%	17%
Maryland	3,828	65%	3%	5%	19%	1%
Virginia	3,544	65%	8%	6%	15%	2%
STATE OF EMPLOYMENT						
District of Columbia	2,720	32%	6%	12%	41%	7%
Maryland	2,447	75%	4%	5%	7%	2%
Virginia	2,846	76%	5%	4%	9%	2%

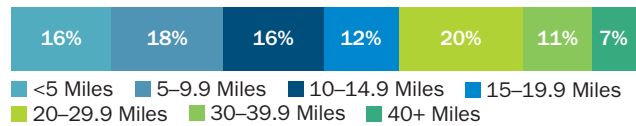
Length of Commute

NUMBER OF MILES

Commuters in the sample had a wide range of commute distances, ranging from less than one mile to more than 100 miles, with an overall average of 17.1 miles.

Commute Distance (miles)

(n = 7,412)

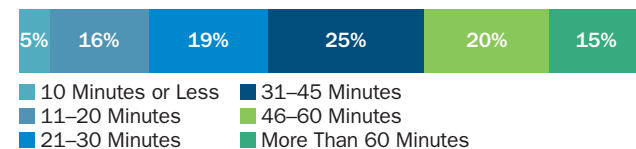


COMMUTE TRAVEL TIME

Survey respondents commuted, on average, about 43 minutes one-way.

Commute Time (minutes)

(n = 7,862)



COMMUTE DISTANCE BY MODE

Survey respondents' travel distance varied by the type of transportation they used to commute.

Average Commute Distance and Commute Time by Primary Mode

(Note: Distances greater than 120 miles and times greater than 150 minutes are excluded from the averages)

PRIMARY COMMUTE MODE	AVERAGE DISTANCE (MI.)		AVERAGE TIME (MIN.)	
	(n = _)	AVERAGE	(N = _)	AVERAGE
Vanpool	24	35.0 mi.	26	52 min.
Commuter rail	131	29.8 mi.	143	78 min.
Carpool	343	20.6 mi.	349	46 min.
Drive alone	4,908	17.6 mi.	5,012	39 min.
Bus	504	16.4 mi.	578	55 min.
Metrorail	987	13.6 mi.	1,172	50 min.
Bike	142	4.2 mi.	140	24 min.
Walk	152	1.0 mi.	156	18 min.

PRIMARY COMMUTE MODE	AVERAGE DISTANCE (MI.)		AVERAGE TIME (MIN.)	
	(n = _)	AVERAGE	(N = _)	AVERAGE
HOME AREA				
Inner Core	1,971	7.5 mi.	2,128	33 min.
Middle Ring	2,137	16.4 mi.	2,329	42 min.
Outer Ring	3,291	26.7 mi.	3,371	53 min.
WORK AREA				
Inner Core	3,419	15.5 mi.	3,755	47 min.
Middle Ring	2,645	17.1 mi.	2,728	39 min.
Outer Ring	1,282	22.3 mi.	1,301	39 min.

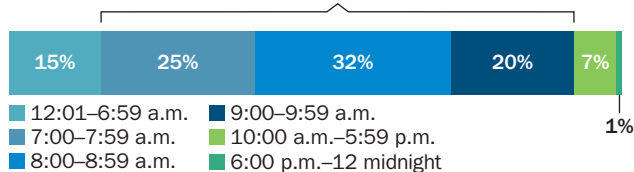
By contrast with the home area results, respondents who worked in the Inner Core had the longest commute times, an average of 47 minutes one-way. Middle Ring workers and Outer Ring workers each commuted 39 minutes. The higher travel time for Inner Core workers likely was due to their higher use of transit for commuting and the greater congestion they would encounter along their commute.

WORK ARRIVAL TIME

More than half (57%) of all respondents typically arrived at work between the hours of 7:00 am and 8:59 am.

Arrival Time at Work (n = 7,926)

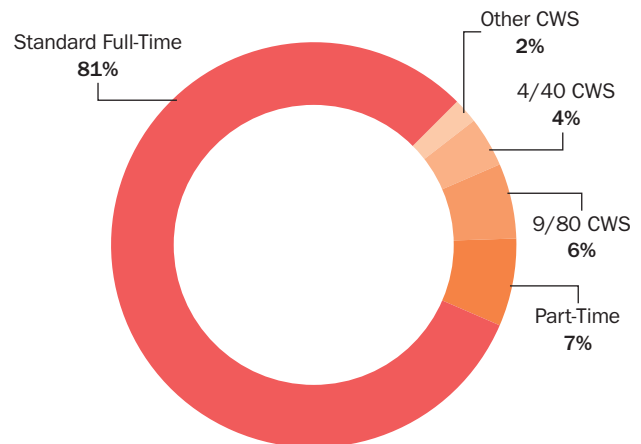
77% Arrive During Peak Period
7:00 – 9:59 am



Non-Standard Work Schedules

The figure below shows the distribution of work schedules for respondents who said they commuted to an outside work location.

Non-Standard Schedule Types Used (n = 8,091)



AVAILABILITY OF FLEXIBLE WORK SCHEDULES

Some employers also permit employees to work a “flexible” work schedule, in which they can choose their work start and end times, so long as they meet a minimum number of weekly or daily work hours. More than half (54%) of commuters said their employers offered at least some degree of work schedule flexibility and 81% of respondents who had access to a flexible schedule had used it.

ALTERNATIVE MODE USE CHARACTERISTICS CARPOOL AND VANPOOL OCCUPANCY

The average number of occupants in respondents’ carpools and vanpools was 2.6 and 7.7 people, respectively. Overall average pool occupancy was 2.8. Carpool occupancy has remained relatively stable over the past 12 years, at about 2.4 to 2.6 occupants per vehicle. In 2019, about six in ten (57%) of carpoolers rode with just one other person.

The 2019 vanpool average of 7.7 was about the same as the 2016 average of 7.5 occupants and the 2010 average of 7.6 occupants. The average measured in the 2013 survey was higher (10.8 occupants), however the sample sizes for vanpools in the SOC survey have generally been less than 25 respondents, making it difficult to conclude any trends in vanpool occupancy.

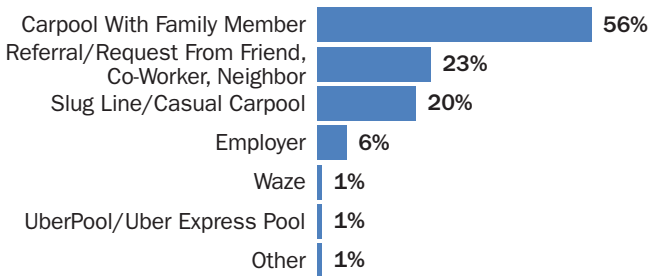
A small number of respondents said they used UberPool or Uber Express Pool for their commute. While Uber and other ride-hail services are not typically considered carpools, in the traditional sense of the word, these two Uber options are similar to casual carpooling, because passengers share rides with other passengers on a one-time, or at least non-regular, basis. UberPool/Uber Express Pool users reported 2.4 passengers on average in the vehicle (excluding the driver): about two-thirds (63%) reported two passengers; 37% reported three or more passengers.

CARPOOL AND VANPOOL FORMATION ASSISTANCE

Carpoolers and vanpoolers have numerous ways to find carpool and vanpool partners. More than half (56%) of respondents who were carpooling or vanpooling at the time of the survey said they rode with family members and 23% found their rideshare partners through a referral or simple request from a friend, co-worker, or neighbor who knew that their work locations and schedules were compatible. Presumably these respondents did not need assistance from an outside group to identify their rideshare partners, although they might have received other services that influenced their decisions to rideshare: for example, preferential/reserved carpool parking at work or information about the location of Park & Ride lots.

How Carpool and Vanpool Riders Found Rideshare Partners

(n = 420, multiple responses permitted)



Two in ten (20%) said they casual carpooled/slugged, so they did not have regular partners; they traveled with different people each day they carpooled. These commuters either picked up riders waiting in line at slug line pick-up points or waited in the line to travel as a passenger. The slug lines that facilitate use of this mode, primarily located in Virginia near the I-95 and I-395 HOV/Express Lanes, provide both a substantial motivation for commuters to utilize carpooling and an opportunity for commuters to carpool occasionally as their schedules permit, without committing to a full-time carpool arrangement.

Six percent of carpoolers/vanpoolers said they found their rideshare partners through their employer. Although some employers do provide pool formation assistance, it is likely that many of these ridersharing workers actually used regional or local commuter service ridematching resources, which were made available at transportation information meetings and fairs at their worksites, with the agreement and encouragement of their employers.

One percent carpooled through UberPool or Uber Express Pool, a similar form of casual carpool and 1% found their partner through the Waze mobile application.

ACCESS MODE TO ALTERNATIVE MODE MEETING POINTS AND MODE USED FROM DROP OFF TO WORKSITE DESTINATION

The next table presents how carpoolers, vanpoolers, and transit riders traveled to where they met their rideshare partners or where they started their transit trip.

Means of Getting from Home to Alternative Mode Meeting Place and from Alternative Mode “Drop Off” Location to Worksite Destination

(Access to alternative mode n = 2,453;
Worksite destination access n = 1,905)

ACCESS/DESTINATION MODE	ACCESS MODE PERCENTAGE	DESTINATION MODE PERCENTAGE
DRIVING ACCESS	32%	
Drive to a central location (e.g., Park & Ride)	30%	
Drive alone to driver's/passenger's home	2%	
NON-DRIVING ACCESS	68%	
Walk	38%	
Bus/transit	14%	
Picked up at home by carpool/vanpool driver	9%	
Dropped off/rode in another carpool/vanpool	5%	
I am the carpool/vanpool driver or carpool with household member	1%	
Bicycle	1%	
NON-DRIVING DESTINATION MODE (TRANSIT USERS)		100%
Walk		92%
Ride-hail (Uber, Lyft, Via)		1%
Bicycle (personal, Capital Bikeshare, or dockless bike), scooter/e-scooter		1%
Bus, shuttle, Metrorail		6%

Commute Mode Shifts and Mode Shift Motivations

LENGTH OF TIME USING MODE

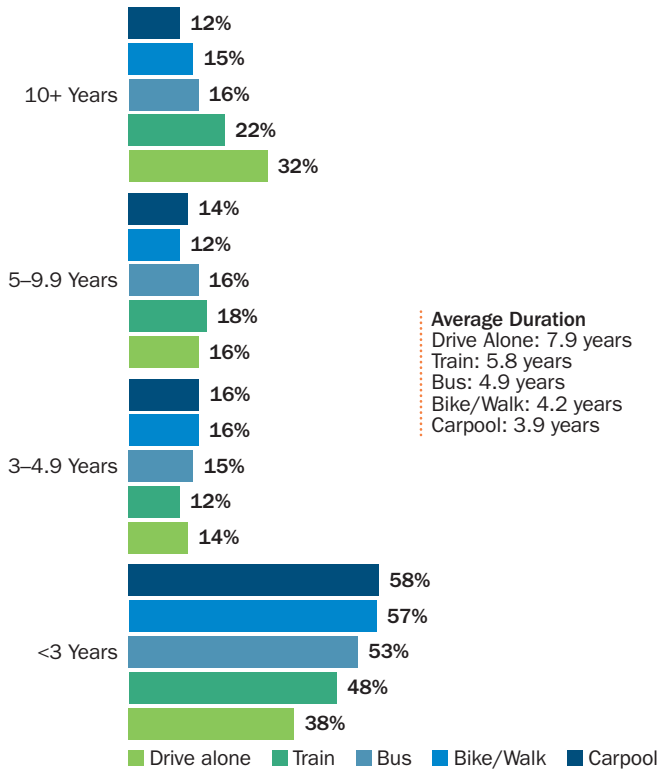
Respondents were asked how long they had used each mode they reported using one or more days per week. Results are shown in the figure on the next page for commuters who drove alone, rode a train, rode a bus, biked/walked, and carpooled.

MODES USED BEFORE STARTING CURRENT ALTERNATIVE MODES

Nearly six in ten (57%) respondents who were using an alternative mode at the time of the survey said they started using that mode within the past three years. These respondents were asked what modes they used before starting the new alternative mode. Respondents were permitted to select multiple previous modes, so the total of the percentages will add to more than 100%.

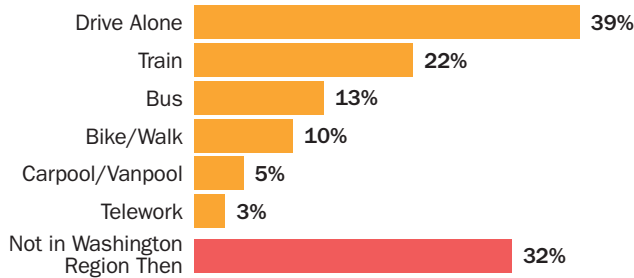
Duration of Mode Use

(Drive alone n = 5,067, Train n = 1,426, Bus n = 634, Bike/Walk n = 380, Carpool n = 409)



Previous Mode of Current Alternative Mode Users

Respondents who Used Current Alternative Mode Three Years or Less (n = 1,362, multiple responses permitted)



REASONS FOR USING ALTERNATIVE MODES

Respondents who had been using an alternative mode for three years or less were asked why they began using those modes. The reasons listed in the following figure are divided into three broad motivation categories:

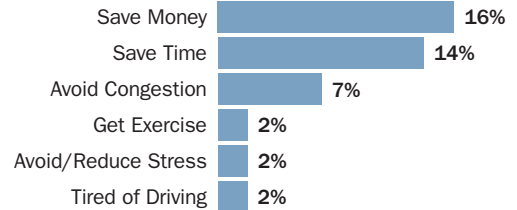
- **Personal benefits** – the respondent would expect to receive by using an alternative mode
- **Commute program** – assistance services the respondent received that encouraged or assisted use of the alternative mode
- **Personal circumstances** – changes experienced by the respondent

Current alternative mode users cited motivations in each of the three categories.

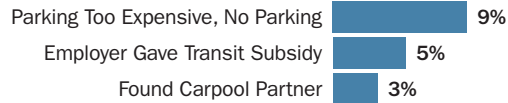
Motivations to Start Using Current Alternative Mode

(Note: Scale extends only to 30% to highlight difference in responses) (n = 1,184, multiple responses permitted)

Personal Benefit Motivations



Commute Program Motivations



Personal Circumstances Motivations

