

Who Bikes in Washington, DC? Rider Demographics and Capital Bikeshare Mode Substitution

October 2026

Summary

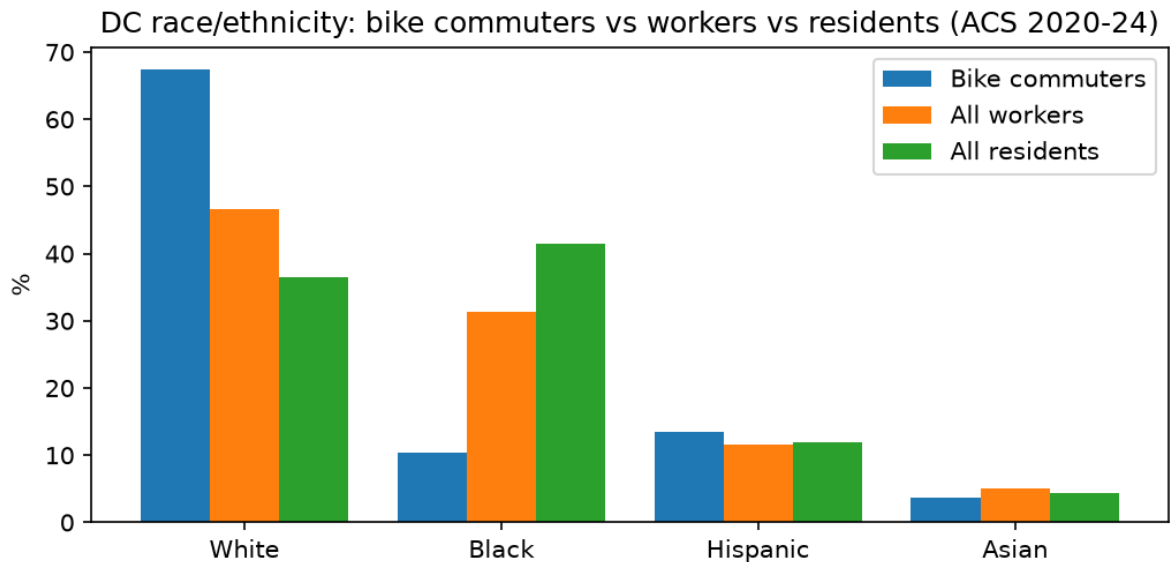
- People who bike to work in DC (about 12,100, or 3.3% of DC workers, ACS 2020–2024) are disproportionately male (67% vs 48% of all workers), white non-Hispanic (67% vs 47% of workers and 37% of residents), and highly educated (62% hold a graduate degree vs 46% of workers and 38% of adult residents). Black residents are 42% of DC's population and 31% of its workers but only about 10% of bike commuters.
- Bike commuters are concentrated at ages 25–44 (72%) and have higher median personal earnings (\$101,500 vs \$89,500 for all workers).
- Capital Bikeshare (CaBi) member surveys from 2011–2016 show the same pattern: 80–84% white, 3–4% Black, 55–59% male, and a rising share with household income of \$100k or more (39% in 2011, 52% in 2016).
- Mode substitution: had CaBi not been available, about three-quarters of members' most recent trips would have been made by transit or on foot (74–82% across surveys), and only about 4–7% by personal car. Ride-hail substitution rose to 14% in 2016.

1. ACS: bike commuters vs all workers vs residents (DC, 2020–2024 5-year)

Weighted percentages with 90% margins of error ($\pm$). Source: ACS PUMS, computed by the author. Bike commuters: unweighted $n=663$ (weighted 12,134); all workers $n=18,505$ (372,846, includes work-from-home); residents $n=32,505$ (681,294).

Group	Category	Bike commuters	All workers	All residents
Sex	Male	66.5% ± 3.4	48.1% ± 0.4	47.5% ± 0.1
Sex	Female	33.5% ± 3.4	51.9% ± 0.4	52.5% ± 0.1
Age 16+	16-24	4.1% ± 1.2	9.0% ± 0.4	13.5% ± 0.2
Age 16+	25-34	35.7% ± 3.8	33.8% ± 0.4	26.6% ± 0.1
Age 16+	35-44	35.9% ± 4.2	25.3% ± 0.4	20.2% ± 0.1
Age 16+	45-54	15.0% ± 3.3	15.4% ± 0.3	12.8% ± 0.1
Age 16+	55-64	7.5% ± 1.8	11.2% ± 0.3	11.5% ± 0.1
Age 16+	65+	1.8% ± 0.8	5.3% ± 0.3	15.5% ± 0.1
Age	median age	37	37	39
Race/ethnicity	White NH	67.4% ± 4.2	46.6% ± 0.4	36.5% ± 0.2
Race/ethnicity	Black NH	10.3% ± 3.0	31.3% ± 0.5	41.5% ± 0.3

Race/ethnicity	Hispanic/Latino (any race)	13.4% $\pm$ 3.7	11.6% $\pm$ 0.3	11.9% $\pm$ 0.1
Race/ethnicity	Asian NH	3.7% $\pm$ 1.3	5.1% $\pm$ 0.2	4.3% $\pm$ 0.1
Race/ethnicity	Other/ Multiracial NH	5.2% $\pm$ 1.6	5.3% $\pm$ 0.3	5.8% $\pm$ 0.4
Education 25+	<HS	2.3% $\pm$ 1.9	3.5% $\pm$ 0.4	7.1% $\pm$ 0.4
Education 25+	HS/GED	3.0% $\pm$ 1.8	8.5% $\pm$ 0.6	14.2% $\pm$ 0.6
Education 25+	Some college/Assoc	5.8% $\pm$ 1.9	11.3% $\pm$ 0.7	14.0% $\pm$ 0.6
Education 25+	Bachelor's	27.2% $\pm$ 3.7	30.8% $\pm$ 0.9	26.4% $\pm$ 0.7
Education 25+	Graduate/prof	61.7% $\pm$ 4.5	45.8% $\pm$ 0.8	38.3% $\pm$ 0.7
Earnings	\$1-25k	6.7% $\pm$ 2.0	12.1% $\pm$ 0.5	—
Earnings	\$25-50k	10.0% $\pm$ 3.6	13.4% $\pm$ 0.6	—
Earnings	\$50-75k	14.2% $\pm$ 3.6	15.5% $\pm$ 0.7	—
Earnings	\$75-100k	17.4% $\pm$ 4.0	14.2% $\pm$ 0.7	—
Earnings	\$100-150k	23.3% $\pm$ 3.3	20.4% $\pm$ 0.6	—
Earnings	\$150k+	28.5% $\pm$ 3.9	24.3% $\pm$ 0.7	—
Earnings	median earnings \$ (earners)	101,525	89,493	89,493



2. Capital Bikeshare member survey demographics

Year	Respon dents	White	Black	Hispani c	Asian	Male	HH income \$100k+	Under 35
2011	5,464	81%	3%	5%	7%	55%	39%	66%
2012	3,731	80%	3%	5%	7%	57%	45%	—
2014	4,314	84%	3%	5%	5%	59%	50%	63%
2016	5,564	80%	4%	7%	7%	58%	52%	51%

Education: in 2011, 95% held a four-year degree or higher and 53% an advanced degree; in 2012, 56% held an advanced degree. The 2016 survey also found 15% with household income under \$50k.

DC-resident respondents to the 2014 survey compared with the DC population (DDOT CaBi Development Plan, 2015):

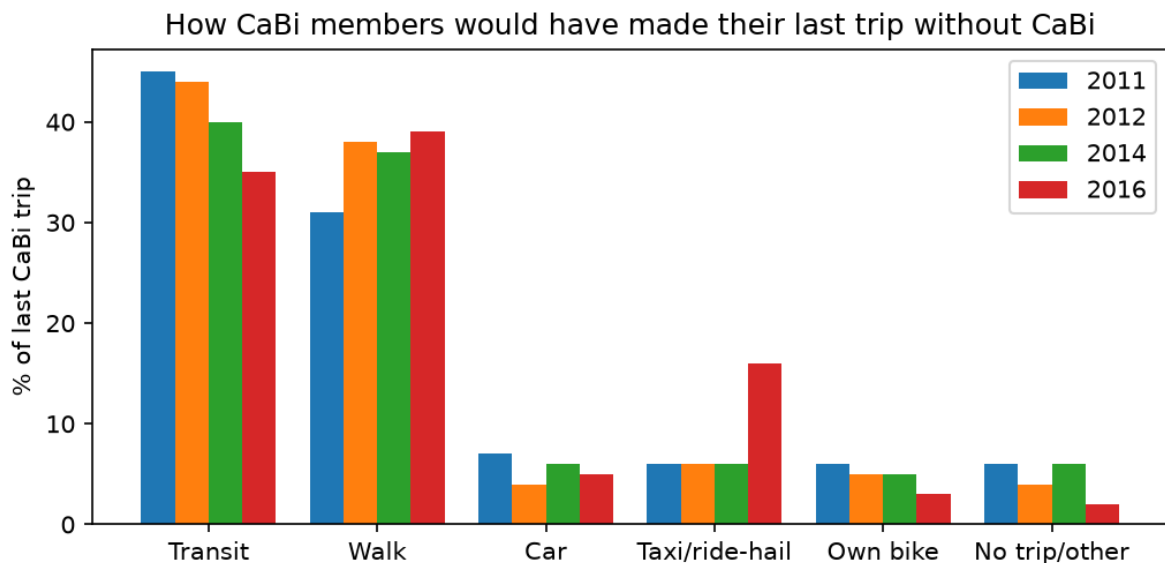
Indicator	CaBi respondents (DC)	DC population	Difference
White/Caucasian	81%	43%	+38
HH income < \$50,000	16%	43%	-27
Under age 35	63%	52%	+11
Female	42%	53%	-11

3. Mode substitution: how the most recent CaBi trip would have been made without CaBi

Year	n	Question wording	Results
2011	5,287	If Capital Bikeshare had not been available, how would you have made this trip? (one answer only)	Bus/Metrorail 45%, walk 31%, personal vehicle 7%, taxi 6%, personal bike 6%, other 2%, would not have made trip 4%
2012	2,814	If Capital Bikeshare had not been available, how would you have made this trip? (check only one)	Bus/Metrorail 44%, walk 38%, taxi 6%, personal bike 5%, personal/company vehicle 4%, other 1%, no trip 3%
2014	4,289	If Capital Bikeshare had not been available, how would you have made this particular trip? (check only one)	Bus/Metrorail 40%, walk 37%, taxi/Uber/Lyft 6%, personal/company vehicle 6%, personal bike 5%, other 3%, no trip 3%
2016	5,832	If Capital Bikeshare had not been available for your last trip, how would you have made that trip? (please select only one)	Walk 39%, Metrorail 21%, bus 14%, Uber/Lyft 14%, personal/company vehicle 5%, personal bike 3%, taxi 2%, no trip 2%

Takeaway: about three-quarters of CaBi trips replaced transit or walking (76%, 82%, 77%, 74% in 2011, 2012, 2014, 2016), while only about 5% (4–7%) replaced a personal car trip. Bikeshare

mainly substitutes for transit and walking, not driving, although 2016's 14% Uber/Lyft share shows some substitution away from ride-hail.



Methodology and caveats

- ACS: computed from the 2020–2024 5-year and 2024 1-year PUMS person files for DC (state 11). Bike commuter = JWTRNS 9 (bicycle). Weighted by PWGTP; MOEs use the 80 successive-difference replicate weights. Earnings = PERNP adjusted by ADJINC. Education is for ages 25+. Hispanic is any race; other groups are non-Hispanic.
- The Census API now requires a key, and published tables B08101, B08105, B08119 and B08121 combine bicycle with taxi, motorcycle and other modes (only B08006 and B08301 separate bicycle), so microdata were used instead of the API tables.
- ACS measures only the usual mode to work in the prior week. It excludes non-work, occasional and non-worker riders. 2020–2024 spans pandemic-era work-from-home shifts. Subgroups (Black, Asian, 65+) have wide MOEs; 2024 1-year estimates (n=178) have MOEs of about ± 7 points and are in the CSV only.
- CaBi surveys are self-selected online surveys of members (16–31% response rates), cover the whole region rather than just DC, exclude casual riders, and changed answer categories over time. CaBi income is household income; ACS income is personal earnings, so the two are not comparable.

Gaps

- 2019 CaBi member survey: published only as charts in DDOT's 2020 plan update. Exact figures were not extracted; the text reports little change from 2016 (female +3 points, under 35 –3 points).
- No 2022 or later CaBi member survey was found, and there are no 2019+ mode-substitution figures.

- Not covered in this report: DDOT bicycle counts, moveDC surveys and the Strategic Bikeways Plan; the MWCOG Regional Travel Survey 2017/2022; LEHD; and GGWash, WABA and academic equity studies.

Sources

- ACS PUMS DC 2020–2024 5-year:
https://www2.census.gov/programs-surveys/acs/data/pums/2024/5-Year/csv_pdc.zip
- ACS PUMS DC 2024 1-year:
https://www2.census.gov/programs-surveys/acs/data/pums/2024/1-Year/csv_pdc.zip
- CaBi 2011 Member Survey (LDA Consulting):
<https://d21xlh2maitm24.cloudfront.net/wdc/Capital-Bikeshare-SurveyReport-Final.pdf>
- CaBi 2012 Member Survey:
<https://d21xlh2maitm24.cloudfront.net/wdc/cabi-2012surveyreport.pdf>
- CaBi 2014 Member Survey:
<https://d21xlh2maitm24.cloudfront.net/wdc/cabi-2014surveyreport.pdf>
- CaBi 2016 Member Survey: https://d21xlh2maitm24.cloudfront.net/wdc/Capital-Bikeshare_2016MemberSurvey_Final-Report.pdf
- CaBi survey index: <https://capitalbikeshare.com/system-data>
- DDOT CaBi Development Plan (2015):
https://ddot.dc.gov/sites/default/files/dc/sites/ddot/page_content/attachments/Draft%20DDOT%20Bikeshare%20Development%20FINAL%20reduced.pdf
- DDOT CaBi Development Plan Update (May 2020):
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