



City of Cambridge, Massachusetts

Moving Forward

Cambridge's Journey to Work

Cambridge Community Development Department

2020



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About CDD

The Community Development Department is the planning agency for the City of Cambridge. Our mission is to foster a livable, sustainable, just, and equitable community. We work to enhance the character and diversity of the city's neighborhoods, preserve and increase affordable housing, create and promote accessible and sustainable mobility, build environmental resilience, and support sustainable economic growth. Through these initiatives, we strive to enrich the lives of residents, expand their opportunities, and contribute to a healthy urban environment. CDD takes an interdisciplinary approach to manage and guide evolution of our urban environment in a manner consistent with the City's priorities. We engage and collaborate with community partners, other government agencies, businesses and residents to make Cambridge a desirable place to live, work, learn, play, and innovate.

Document Summary

The Moving Forward Report provides an overview of current commuting patterns of the Cambridge workforce, labor force and resident workforce, supplemented with demographic information and historical context.

Citation

Moving Forward, Cambridge's Journey to Work. City of Cambridge, Massachusetts. Community Development Department. 2020.

Primary Contact

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Photography

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Maps

Basemap on page 6 and map on page 62 prepared by Brendan Monroe. All other maps prepared by Bailey Werner.

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INTRODUCTION

ABOUT THE REPORT

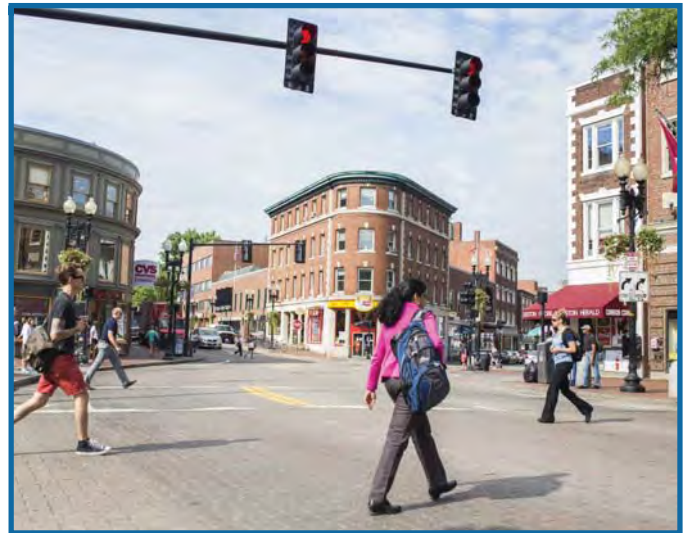
Moving Forward: 2020 summarizes commuting trends in Cambridge. Incorporating 20 years of transportation data, the report spans the American Community Survey (ACS), the 2012—2016 Census Transportation Planning Products (CTPP) program, and 2017 data from the Longitudinal Employer-Household Dynamics (LEHD) program. The report implicitly evaluates the effects of past transportation planning successes and provides data to guide both current and future initiatives.

We track changes in commuting trends of three different groups of workers: the workforce, the labor force, and the resident workforce. The workforce comprises everyone who works in Cambridge regardless of where they live. The labor force includes all Cambridge residents who work, regardless of a workplace location either inside or outside Cambridge. The resident labor force includes only those Cambridge residents who also work in Cambridge.

Recent years have seen a rapid evolution in urban commuting options. Cambridge has worked to enhance its bicycling and walking infrastructure while supporting public transit options. New commuter choices have emerged in the form of the BlueBikes bikeshare network and ride hail systems such as Lyft and Uber. The advent of a range of micromobility devices suggests more change is on the horizon.

Our data sources have just begun to capture these changes, though imperfectly in some cases such as ride hail. Limitations of the data pose other constraints on analysis. For some topics, different modes, such as bicycling or walking, are grouped together. Furthermore, limited data is available to elucidate commuting differences by gender and race or ethnicity.

As we bring this publication to completion, the COVID-19 pandemic has caused widespread disruption of commuting patterns. Whether and how this event will have a long-term effect on commuting is a source of much conversation. Only time will tell. No matter the outcome, the material here tells us what is possible when a concerted effort is made to encourage alternatives to single occupancy vehicle commuting.



HOW TO READ THIS REPORT

A GUIDE TO SYMBOLS AND TERMS

Throughout the first three chapters of this report, you will find helpful icons on the upper right hand corner of each page to help you remember which subgroup of people is being discussed:



This tab represents everyone who works in Cambridge, regardless of place of residence — the **Cambridge Workforce**.



This tab represents all Cambridge residents who work, regardless of workplace location — the **Cambridge Labor Force**.



This tab represents all Cambridge residents who work in Cambridge — the **Cambridge Resident Workforce**.

“Mode” refers to a worker’s primary method of commuting. This report addresses six mode categories:



Drive Alone

Using a private vehicle to commute to work alone



Carpool*

Using a private vehicle to commute to work with one or more other people



Public Transit*

Using a bus, subway, railroad, trolley, or ferryboat to commute to work



Walk*

Walking as the primary mode of commuting to work



Bike*

Biking as the primary mode of commuting to work



Other

Using a taxi, motorcycle, or other method to commute to work

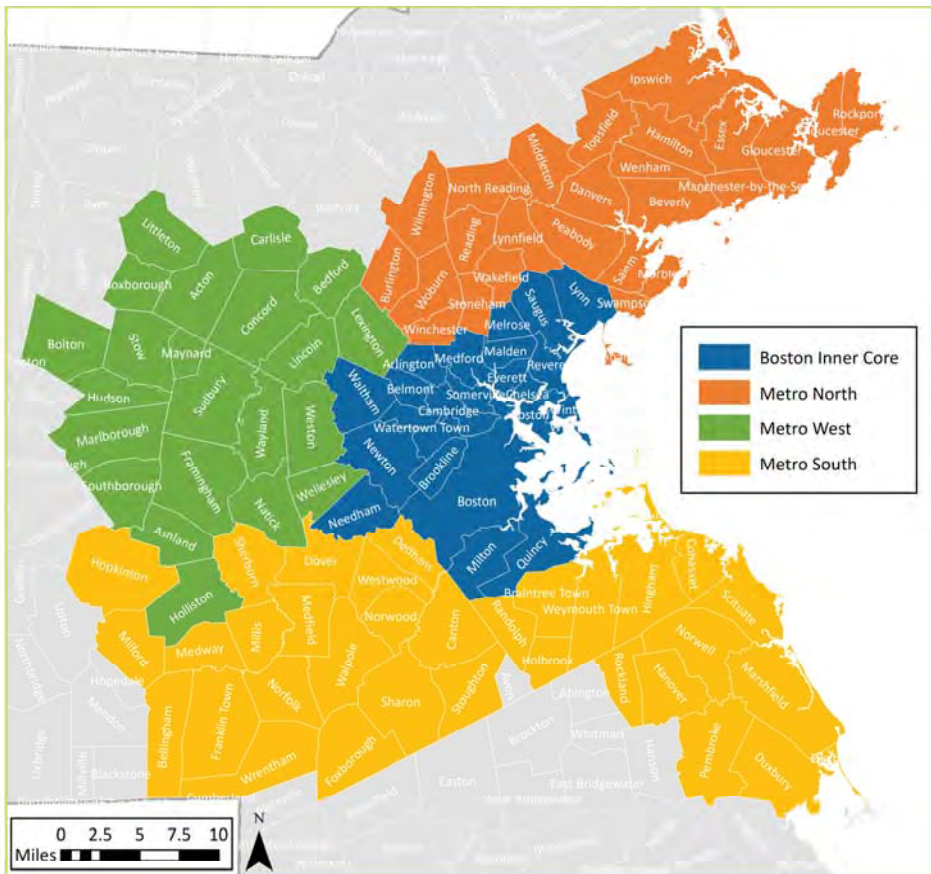
*These modes are considered sustainable modes of transportation.

Note: Workers who work from home are also included in this report, even though they do not have a “commute.”

➔ **Something missing?** Ride-hailing services, such as Lyft and Uber, are not listed as a commute option on the American Community Survey, and neither are micromobility devices, such as scooters. Workers who commute via these methods are likely included in the “carpool” or “other” counts, but the data is unclear at this juncture.

A GUIDE TO SYMBOLS AND TERMS

This report includes summary statistics about workers who commute to and from selected geographies, such as the Boston Inner Core and Metro North, Metro South, and Metro West:



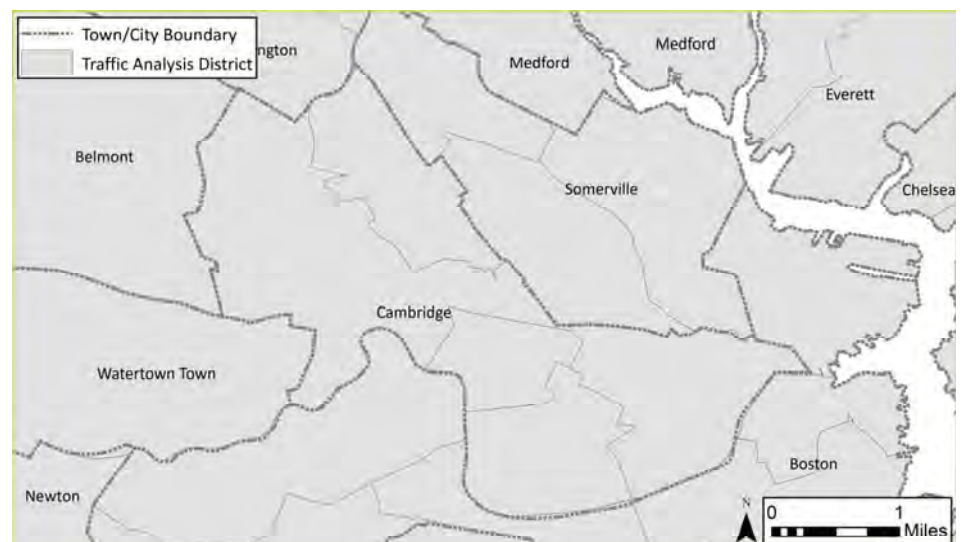
The Metro “regions,” as they are referred to in this report, are displayed on the map at left. These regions, defined by the Cambridge Community Development Department for the purpose of this report, combine Boston Metropolitan Area Planning Council subregions.

More information about Boston Metropolitan Area Planning Council subregions can be found at www.mapc.org/get-involved/subregions/.

Another type of geographic area referenced in this report are Traffic Analysis Districts, or TADs:

In Cambridge, TADs are aggregations of smaller units named Traffic Analysis Zones (TAZs) and are delineated by state and regional transportation officials for tabulating traffic-related data. Each TAD contains a minimum of 20,000 residents.

More information about TADs and TAZs may be found at <https://tigerweb.geo.census.gov/>



A GUIDE TO SYMBOLS AND TERMS

Section V of the report describes the commute patterns of people who work within selected Cambridge employment centers. These employment centers are home to a mix of businesses and educational institutions that employ a large portion of the workforce.

Alewife & Fresh Pond

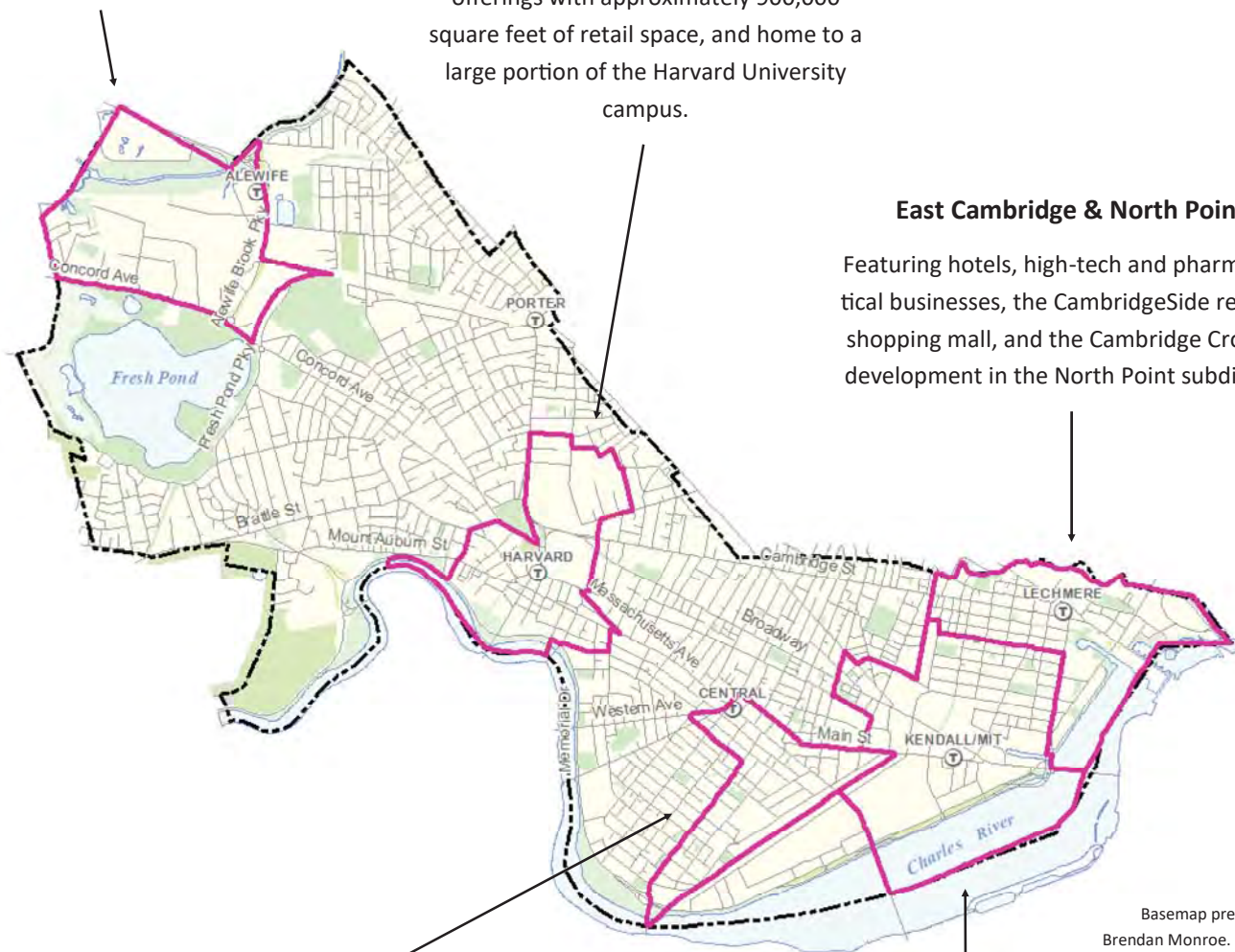
A variety of light manufacturing businesses, offices, retail uses, and modern apartment complexes.

Harvard Square & University

A blend of restaurants, shops and cultural offerings with approximately 900,000 square feet of retail space, and home to a large portion of the Harvard University campus.

East Cambridge & North Point

Featuring hotels, high-tech and pharmaceutical businesses, the CambridgeSide regional shopping mall, and the Cambridge Crossing development in the North Point subdistrict.



Central Square, University Park & Adjacent Office Areas

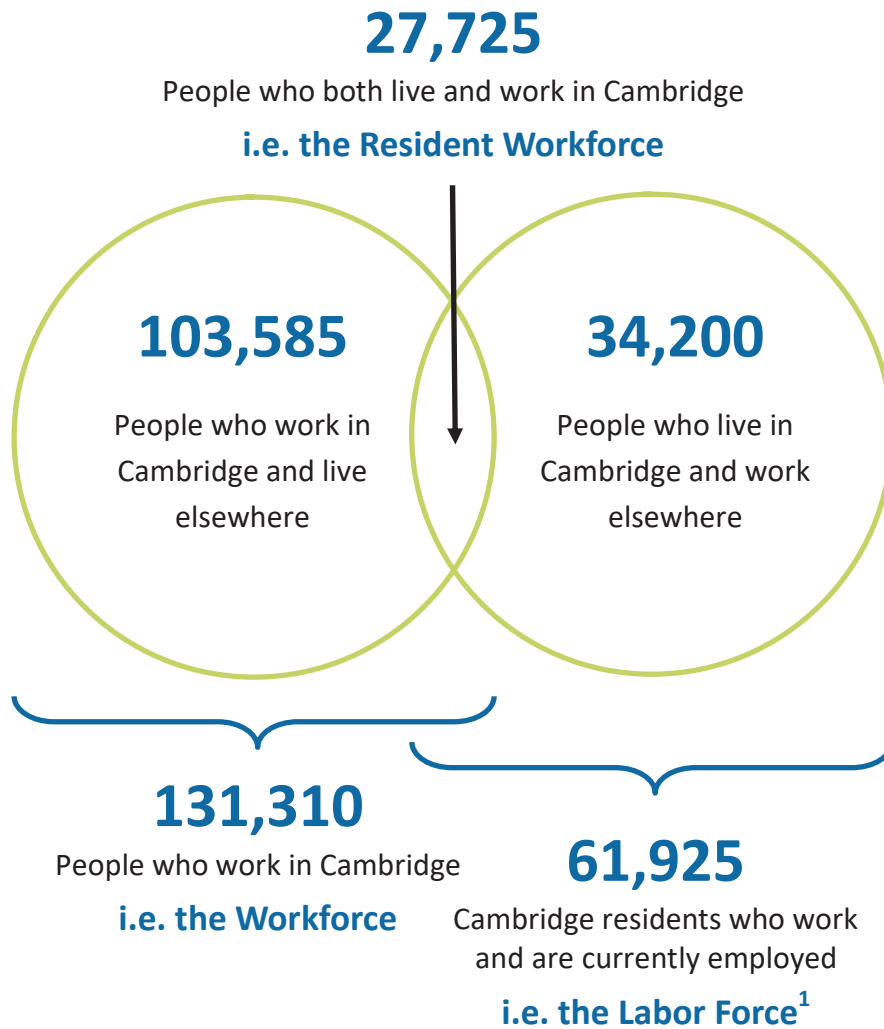
Characterized by office and commercial laboratory buildings, this area is home to major employment centers at University Park, in the Osborn Triangle, and in lower Cambridgeport. Retail, including many independent and chain businesses in Central Square, supports the daytime worker population, adjacent neighborhoods, and MIT students.

Kendall Square & MIT

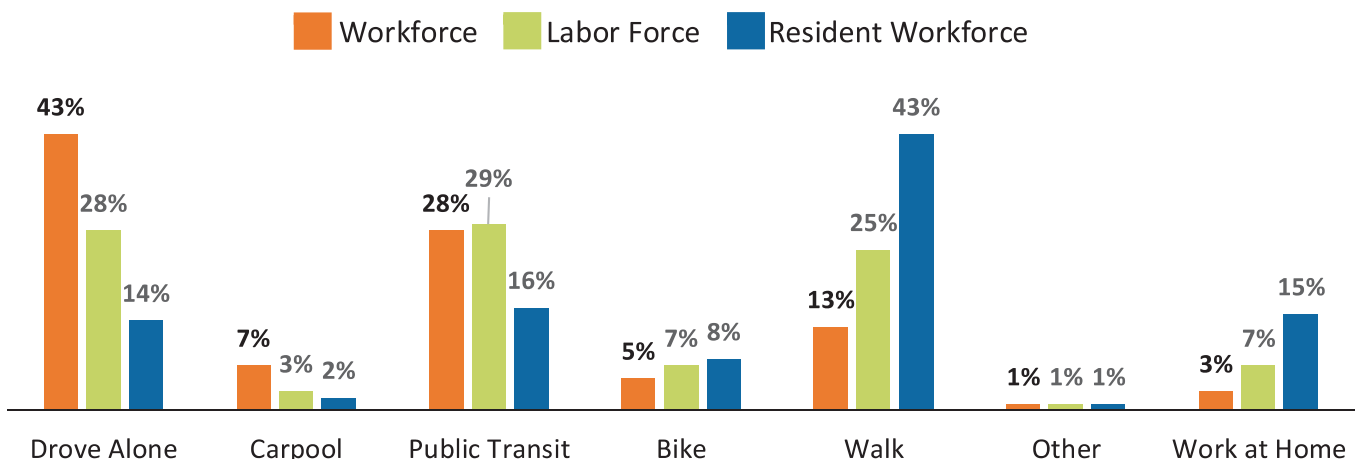
Home to MIT and one of the world's leading centers for biotechnology, life science, and technology research and innovation, this area also contains hotels, restaurants, and shops that serve the university and worker communities.

SUMMARY STATISTICS

Overview



Commuting Mode Split



All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹The 2012-16 American Community Survey provides a higher labor force estimate of 67,249, which also includes people who are currently unemployed but actively seeking work.



THE CAMBRIDGE WORKFORCE

All persons reporting a place of work in the city of Cambridge regardless of where they live, including those who work at home in the city

WORKFORCE CHARACTERISTICS



Workplace Industry	
Educational, Health, and Social Services	35%
Professional, Scientific, Management, Administrative, and Waste Management Services	24%
Manufacturing	10%
Arts, Entertainment, Recreation, Accommodation, and Food Services	7%
Retail Trade	5%
Finance, Insurance, Real Estate, and Rental and Leasing	4%
Information	3%
Construction	3%
Other Services (except Public Administration)	3%
Public Administration	2%
Wholesale Trade	2%
Transportation, Warehousing, and Utilities	1%
Agriculture, Forestry, Fishing and Hunting, Mining, and Armed Forces	<1%

Occupation	
Management	16%
Education, Training, and Library	11%
Life, Physical, and Social Science	10%
Office and Administrative Support	10%
Computer and Mathematical	9%
Business and Financial Operations Specialists	7%
Sales and Related	5%
Healthcare Practitioners, Technicians, and Support	6%
Food Preparation and Serving Related	4%
Architecture and Engineering	3%
Construction, Installation, and Repair	4%
Building and Grounds Cleaning and Maintenance	3%
Arts, Design, Entertainment, Sports, and Media	3%
Personal Care and Service	2%
Production	2%
Community and Social Service	2%
Protective Service	1%
Transportation and Material Moving	1%
Legal	1%
Armed Forces, Farming, and Forestry	<1%

Race / Ethnicity:

- White, non-Hispanic
- White, Hispanic
- Non-White, Hispanic
- Black, non-Hispanic
- Asian, non-Hispanic
- Other / Multiple Races, non-Hispanic



Length of U.S. Residence:

- Born in the U.S.
- 10 or more years
- 6 to 9 years
- 3 to 5 years
- 2 years or less

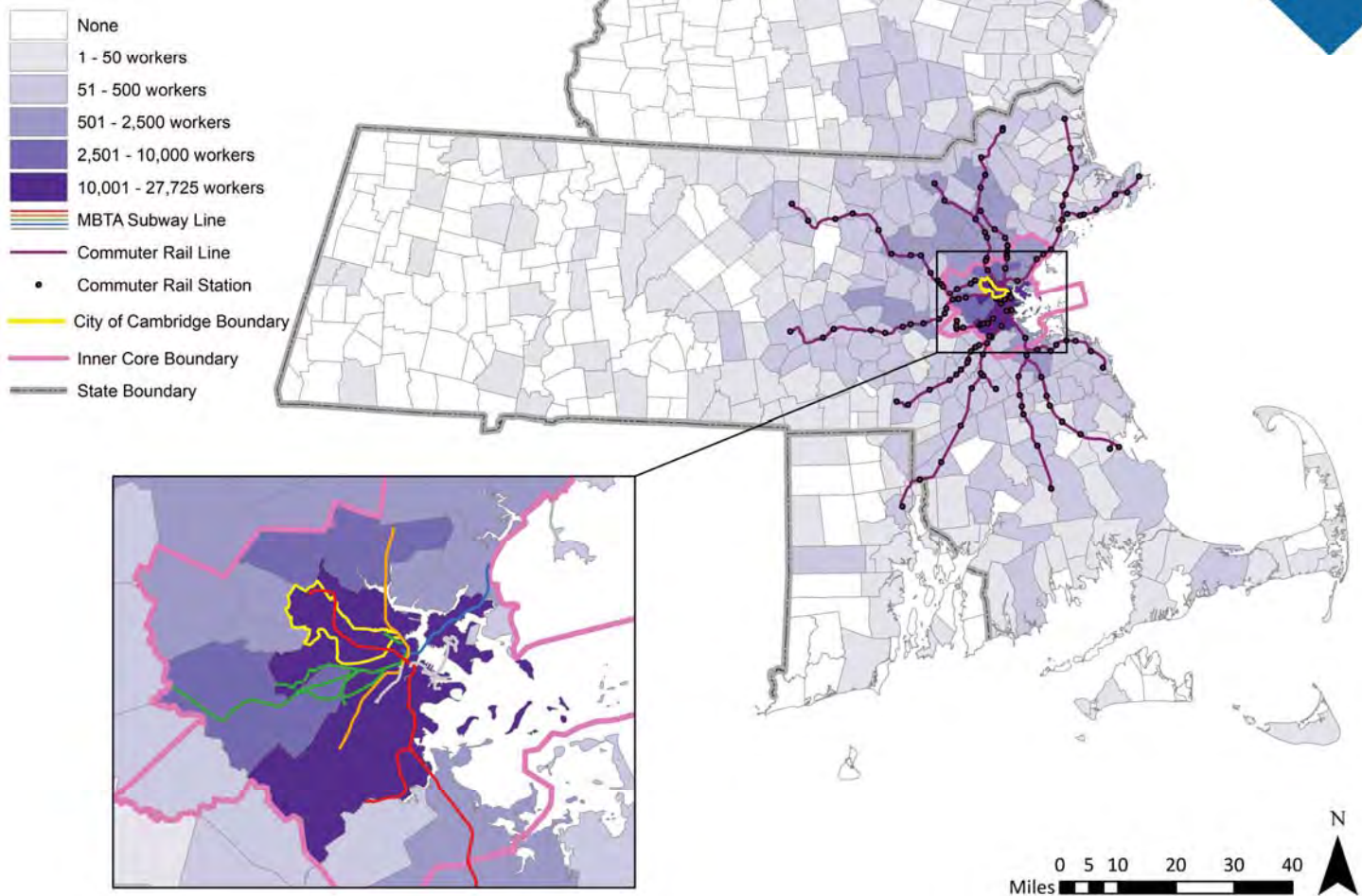


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates.

WHERE DO THEY COMMUTE FROM?



Commuting by Any Means of Transportation: Workforce by Town of Origin



131,310

People who work in Cambridge

97% (or about 127,000) live in Massachusetts

70% (or about 91,500) live in the Inner Core

6% (or about 8,000) live in the Metro North Region

21% (or about 28,000) live in Cambridge

7% (or about 9,500) live in the Metro West Region

15% (or about 19,000) live in Boston

4% (or about 6,000) live in the Metro South Region

8% (or about 11,000) live in Somerville

Median travel time to work is

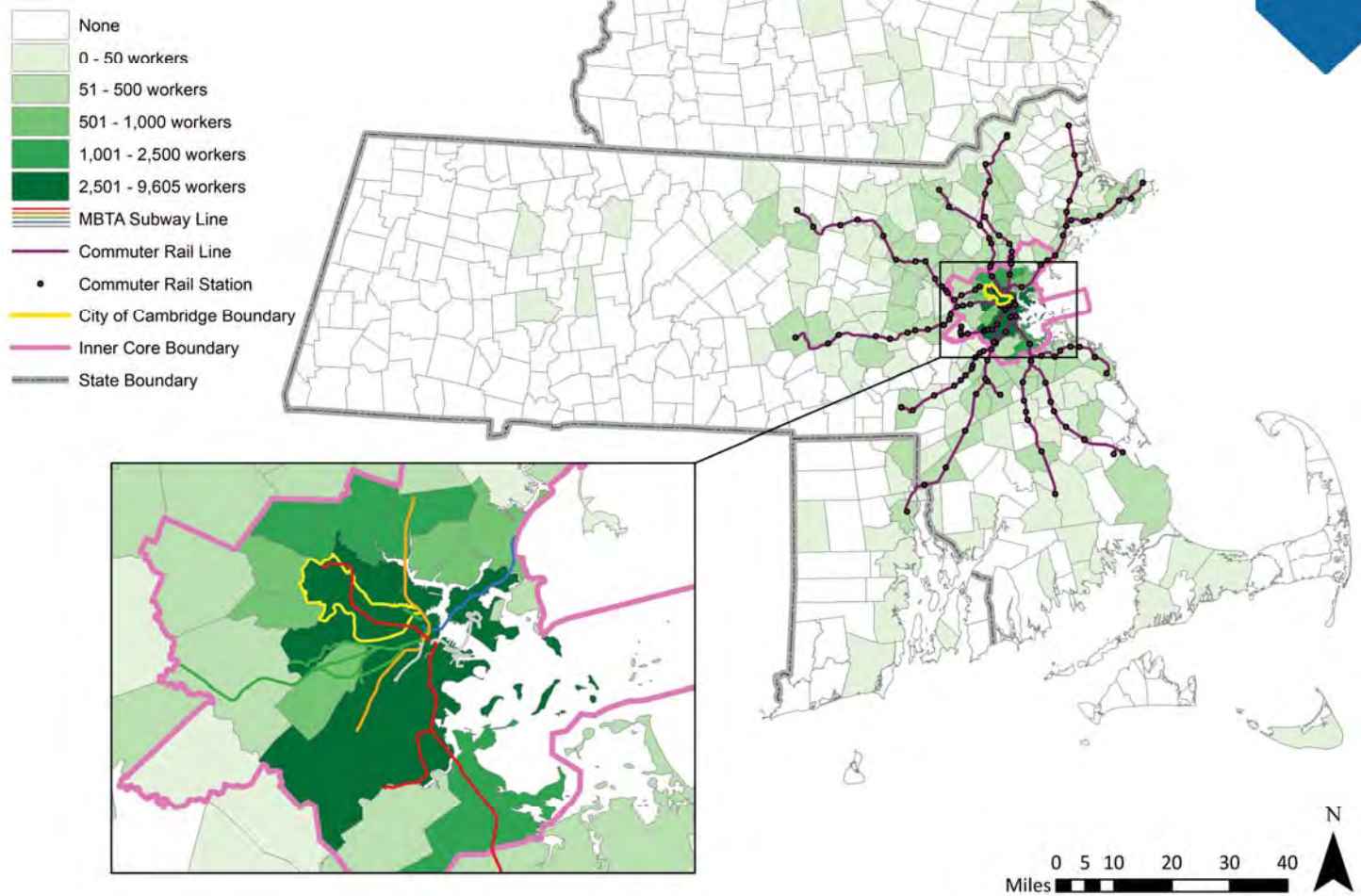
24 minutes

Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates.

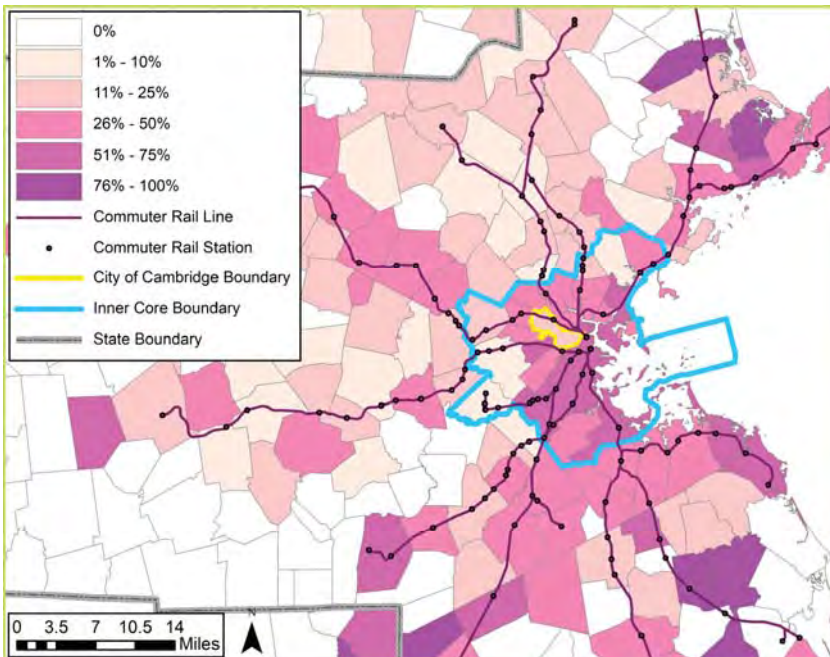
HOW DO THEY GET HERE?



Commuting by Public Transit: Workforce by Town of Origin



Percent of Commuters Using Public Transit by Town of Origin



28%
of the total Cambridge Workforce takes public transit to work.

78%
of the Cambridge Workforce that uses public transit lives within the Inner Core.

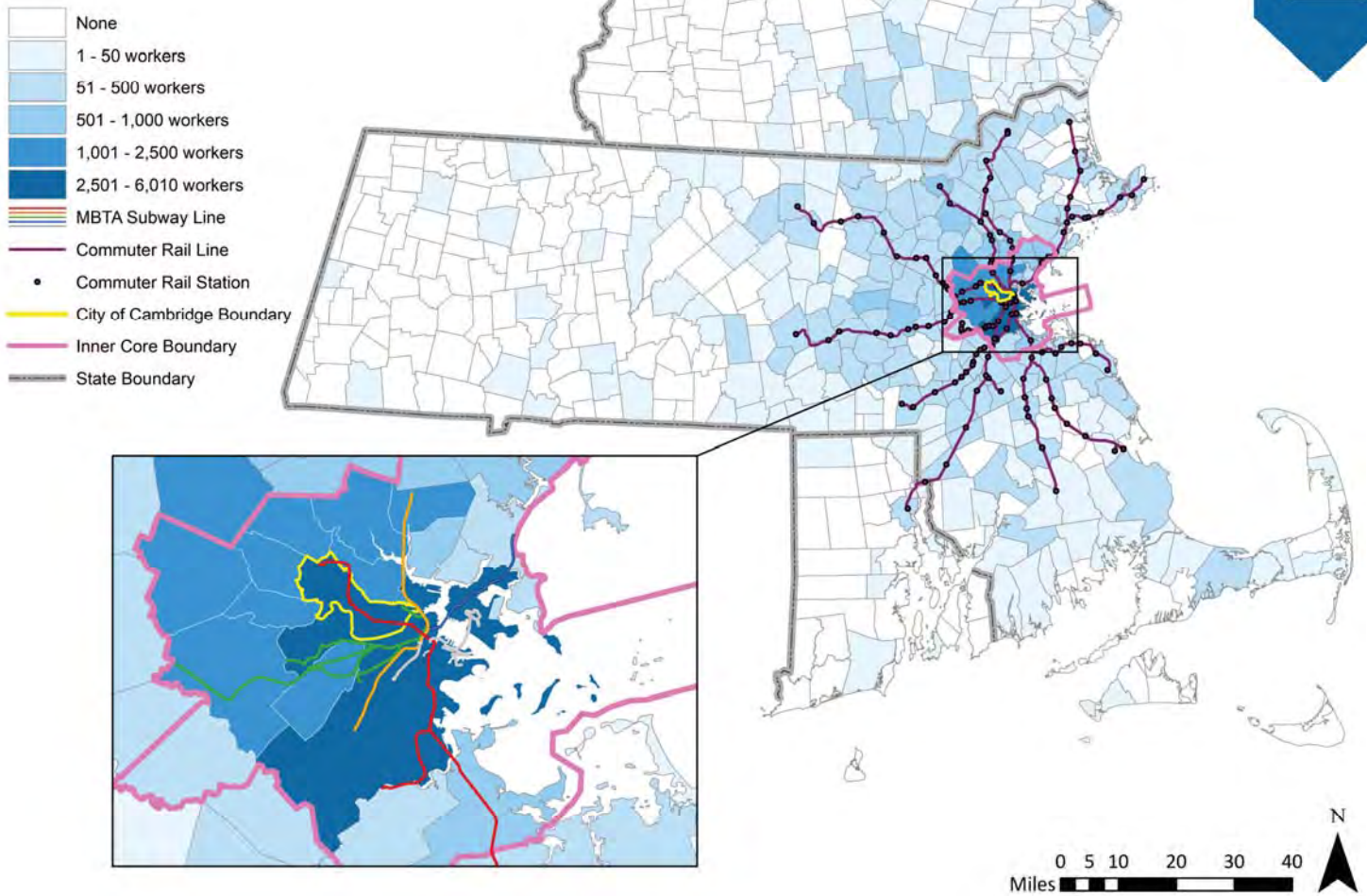
31%
of the Cambridge Workforce that lives in Cambridge, Somerville or Boston takes public transit to work.

Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Towns with a reported 0% of commuters using a particular mode may represent towns in which no members of the workforce live; these towns are identified on page 12.

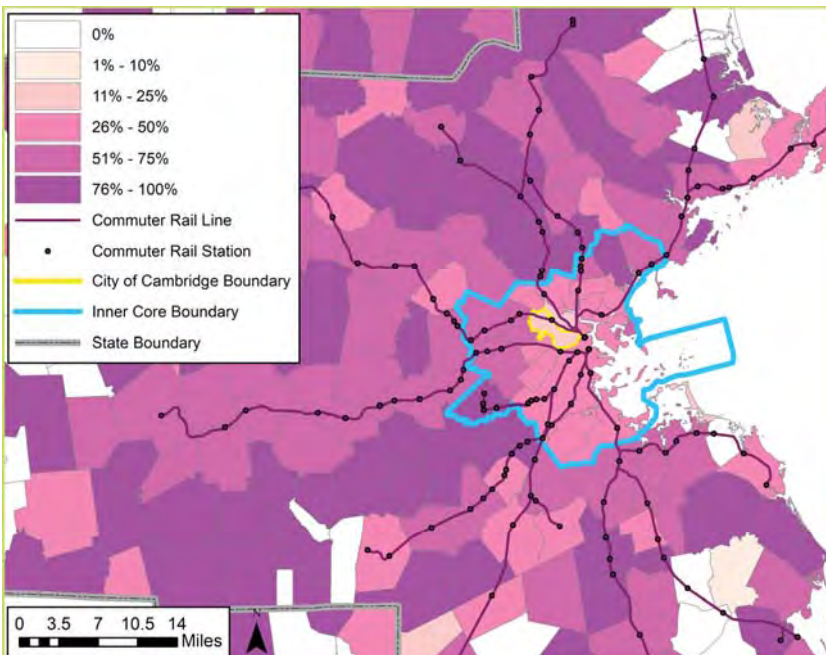
HOW DO THEY GET HERE?



Commuting by Driving Alone: Workforce by Town of Origin



Percent of Commuters Driving Alone by Town of Origin



43%

of the total Cambridge Workforce drives alone to work.

51%

of the Cambridge Workforce that drives alone to work lives within the Inner Core.

21%

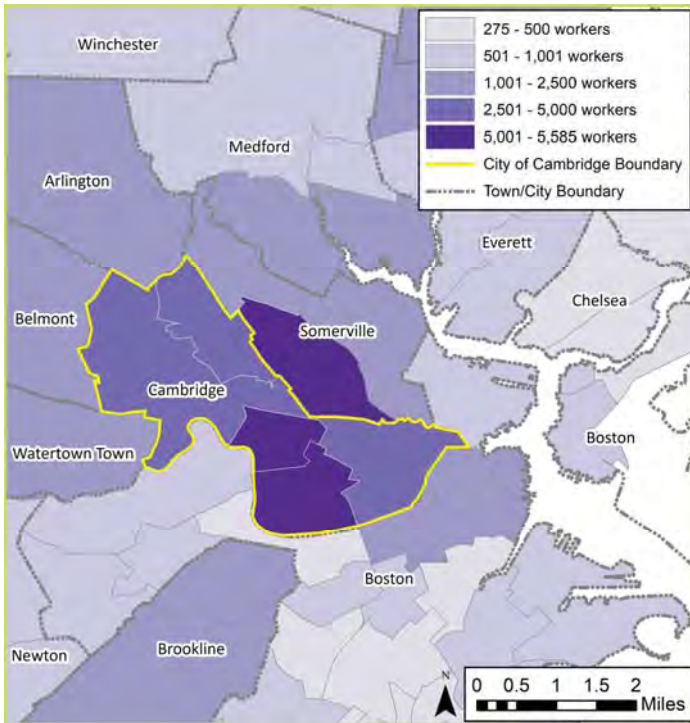
of the Cambridge Workforce that lives in Cambridge, Somerville or Boston drives alone to work.

Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Towns with a reported 0% of commuters using a particular mode may represent towns in which no members of the workforce live; these towns are identified on page 12.

HOW DO THEY GET HERE?



Commuting by Any Means of Transportation: Workforce by TAD of Origin



13%

of the total Cambridge Workforce walks to work.

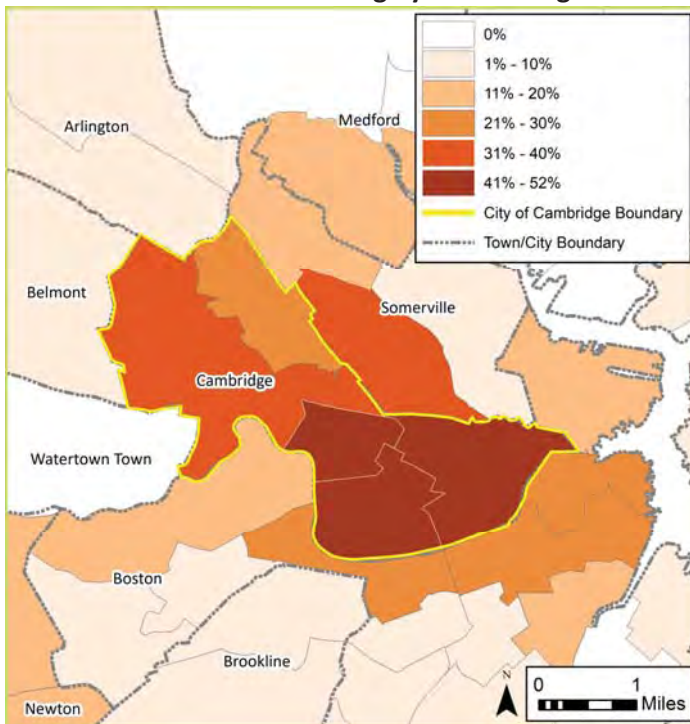
5%

of the Cambridge Workforce bikes to work.

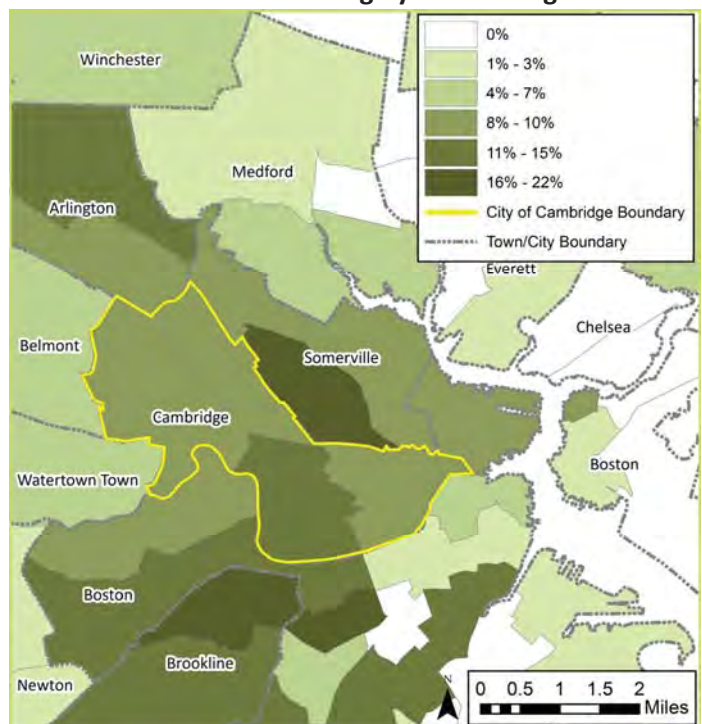
36%

of the Cambridge Workforce that lives in Cambridge, Somerville or Boston walks or bikes to work.

Percent of Commuters Walking by TAD of Origin



Percent of Commuters Biking by TAD of Origin

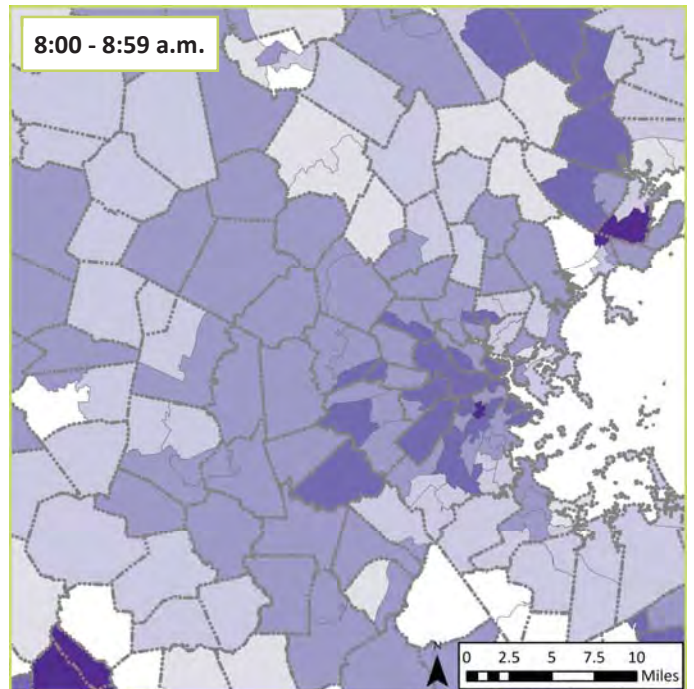
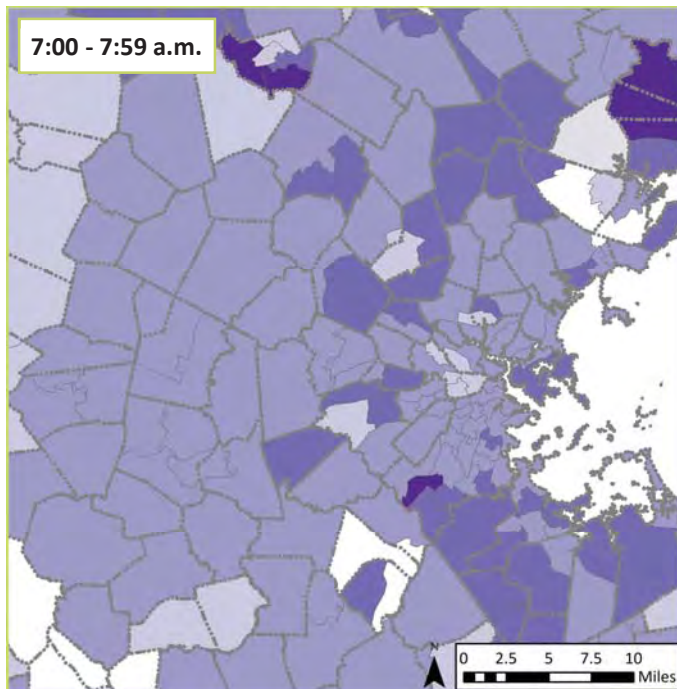
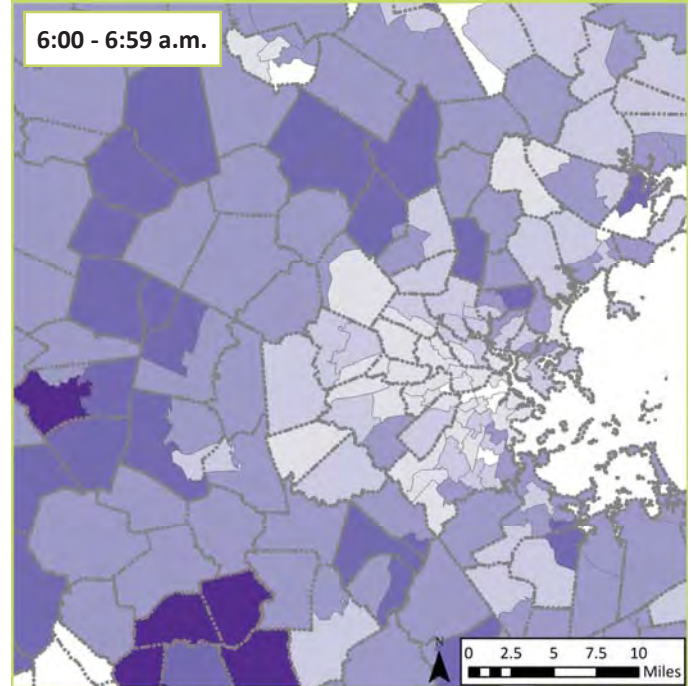
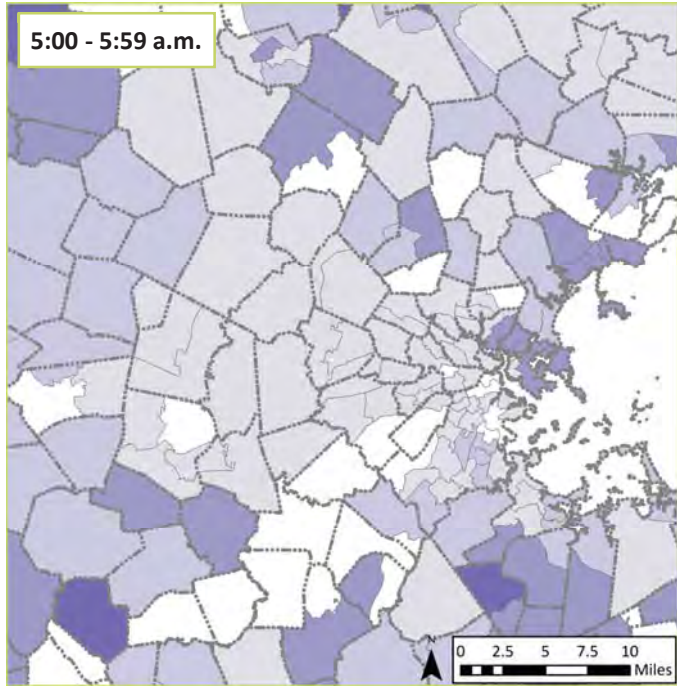


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. TADs with a reported 0% of commuters using a particular mode may represent towns in which no members of the workforce live.

WHAT TIME DO THEY LEAVE HOME?



Percent of Morning Commuters¹ to Cambridge by Time Leaving Home (by TAD of Residence)

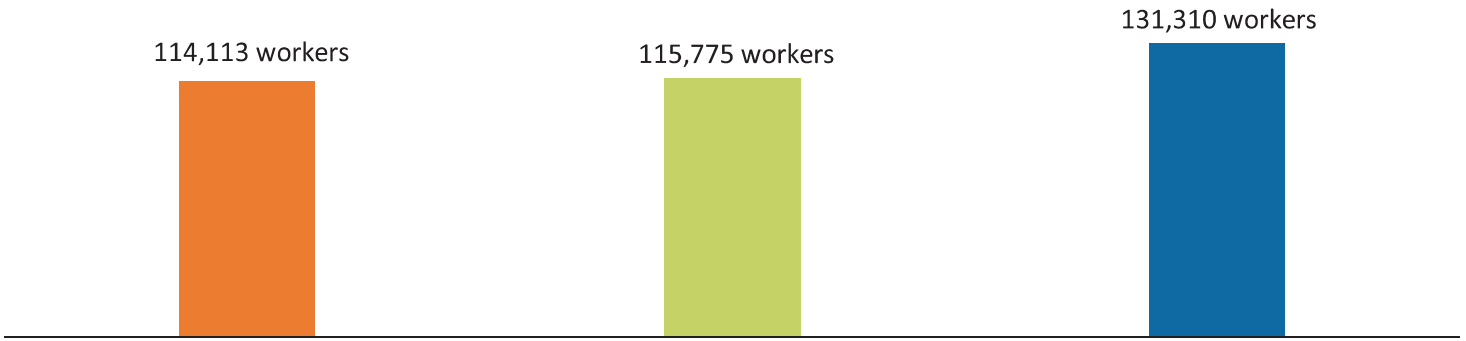


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Morning Commuters includes all commuters to Cambridge who leave home between 5:00 a.m. and 9:59 a.m.

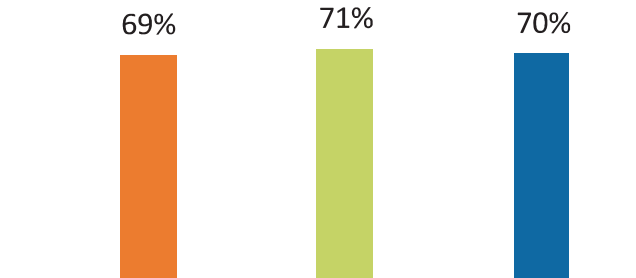


Year: ■ 2000 ■ 2006-2010 ■ 2012-2016

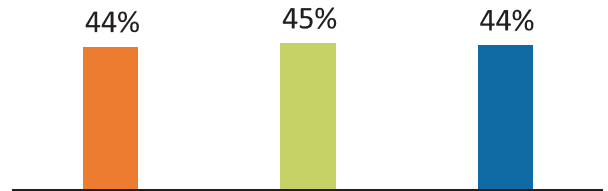
Total Workforce



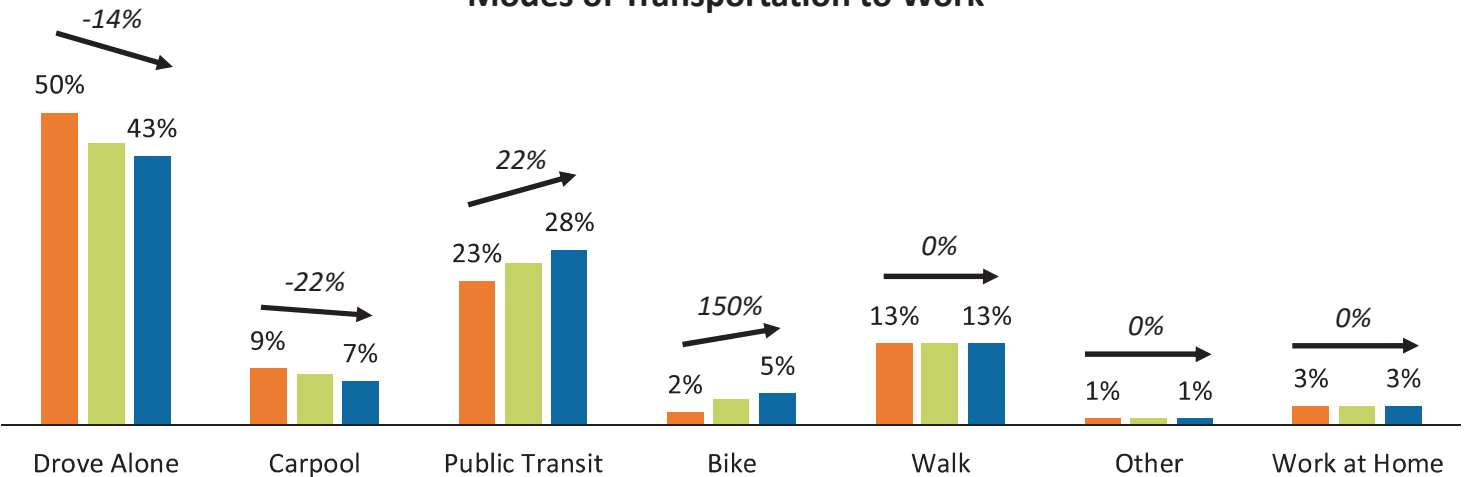
Workforce Living in the Inner Core



Workforce Living in Cambridge, Somerville or Boston



Modes of Transportation to Work¹

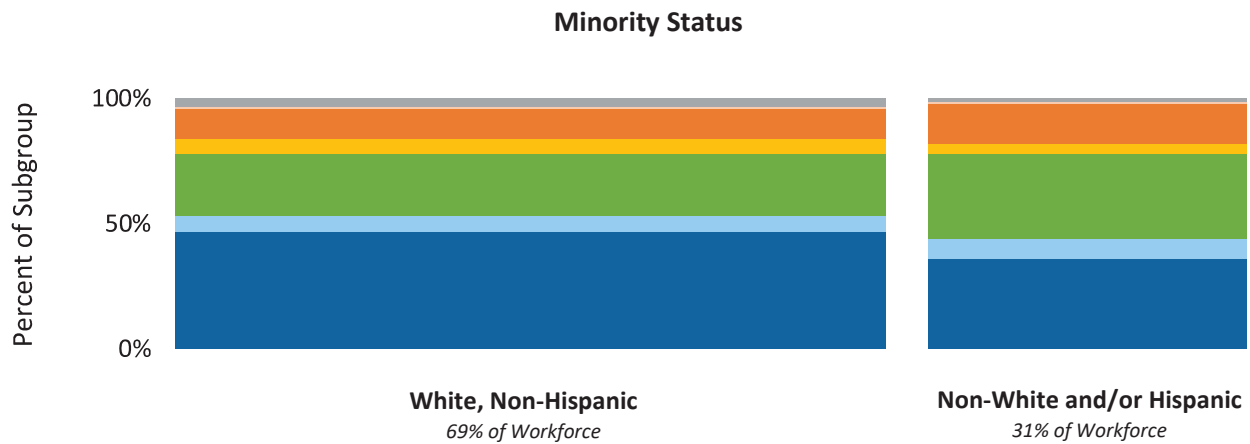
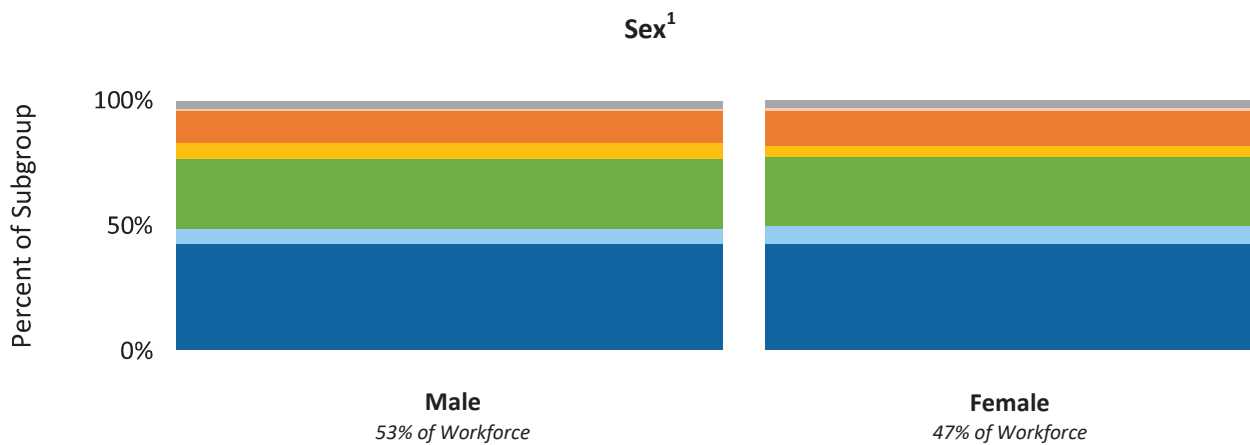
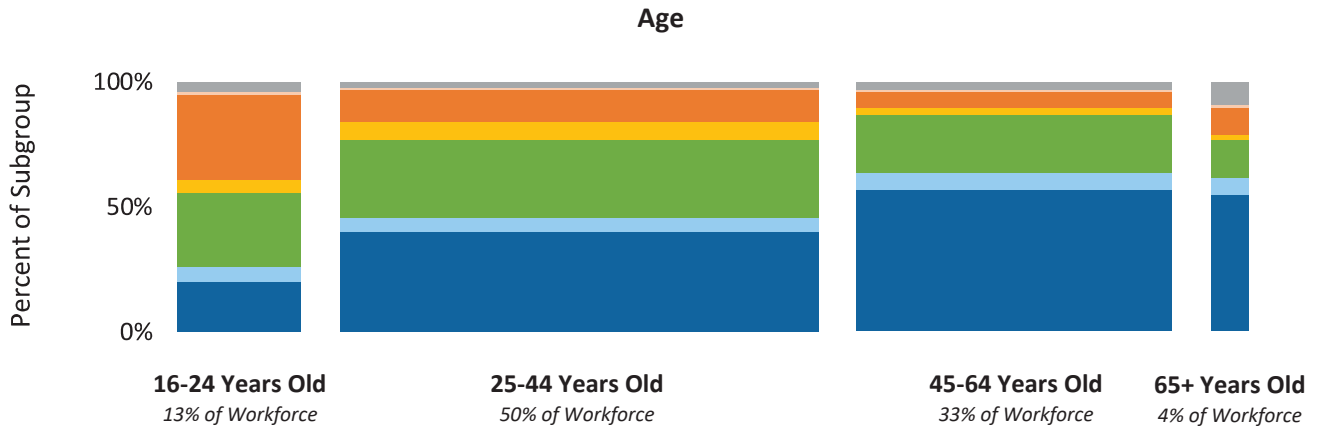


Source: All data on this page derive from the Census Transportation Planning Products, based on 2000 Census and 2006-10 and 2012-16 5-year American Community Survey estimates. ¹Tabular values can be found on the Cambridge Open Data portal.

MEANS OF TRANSPORTATION BY WORKFORCE CHARACTERISTICS



■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home



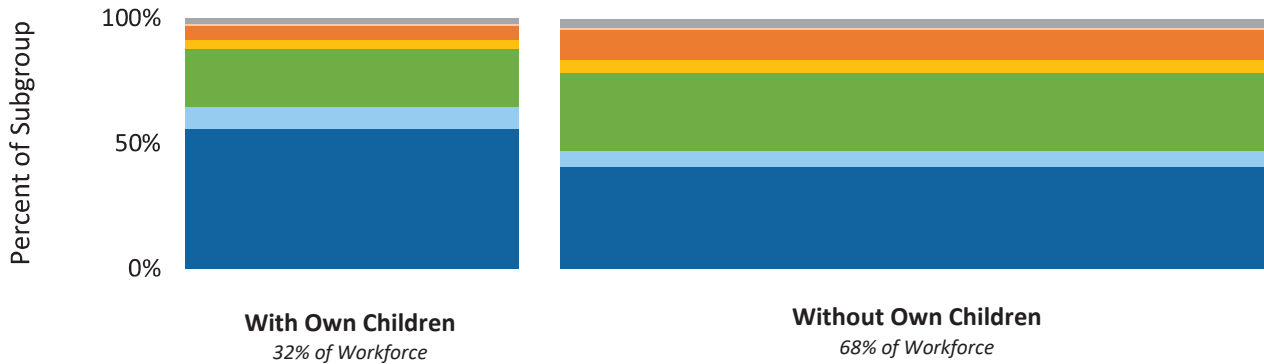
Source: Unless otherwise noted, all other data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Derived from 2012-16 5-year American Community Survey estimates.

MEANS OF TRANSPORTATION BY WORKFORCE CHARACTERISTICS

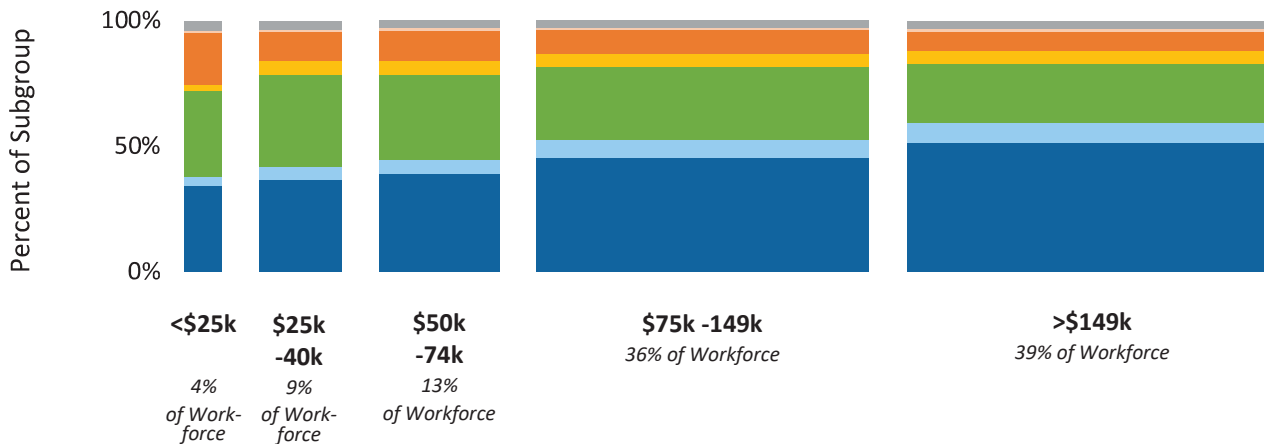


■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home

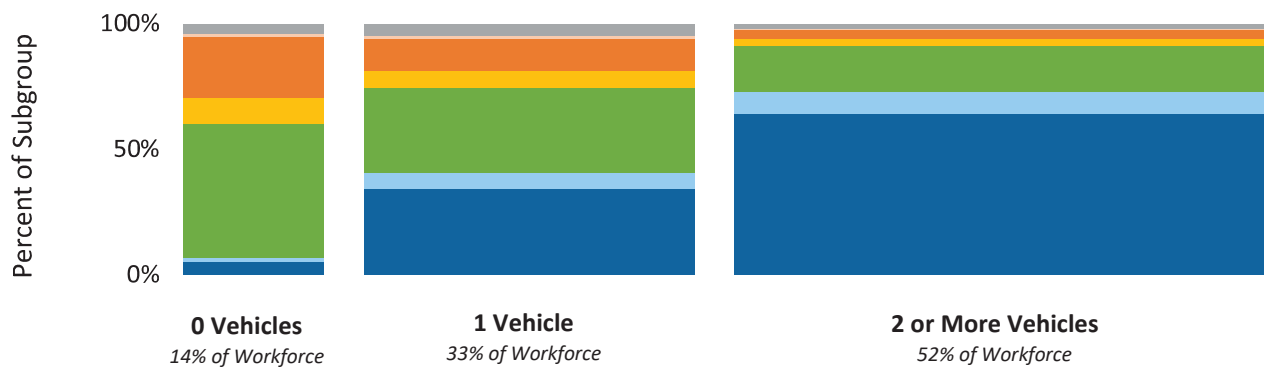
Presence of Children in Household¹



Household Income in the Past 12 Months¹



Number of Vehicles Available in Households¹



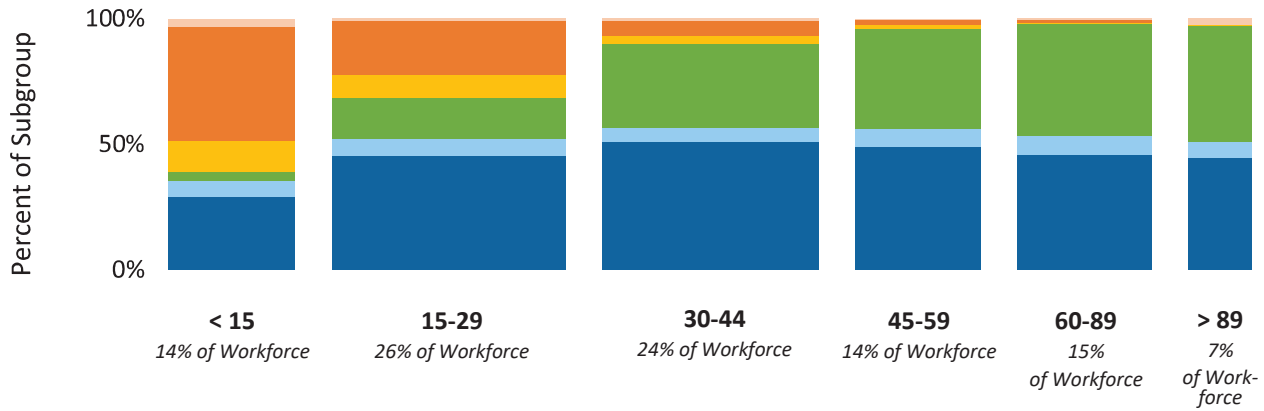
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Excludes students in dormitories and residents of other group quarters types, such as nursing homes.

MEANS OF TRANSPORTATION BY WORKFORCE CHARACTERISTICS

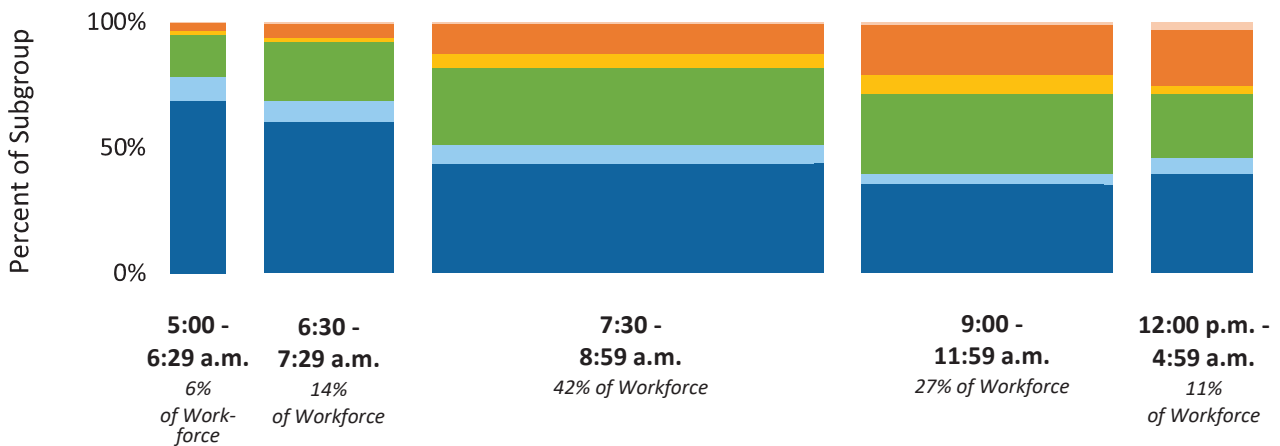


■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home

Time (in Minutes) Travelling to Work
(excluding those who work at home)



Time Arriving at Work
(excluding those who work at home)



Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal.



THE CAMBRIDGE LABOR FORCE

All Cambridge residents who are actively seeking work or are currently employed, regardless of workplace location

LABOR FORCE CHARACTERISTICS



Workplace Industry	
Educational, Health, and Social Services	41%
Professional, Scientific, Management, Administra-	21%
Arts, Entertainment, Recreation, Accommodation, and Food Services	6%
Finance, Insurance, Real Estate, and Rental and Leasing	6%
Manufacturing	6%
Retail trade	5%
Other Services (Except Public Administration)	4%
Information	3%
Public Administration	3%
Transportation, Warehousing, and Utilities	2%
Wholesale Trade	1%
Construction	1%
Agriculture, Forestry, Fishing and Hunting, and Mining	<1%
Armed Forces	<1%

Occupation	
Education, Training, and Library	15%
Management	13%
Life, Physical, and Social Science	10%
Office and Administrative Support	9%
Business and Financial Operations Specialists	8%
Healthcare Practitioners, Technicians, and Support	7%
Computer and Mathematical	7%
Sales and Related	6%
Arts, Design, Entertainment, Sports, and Media	5%
Food Preparation and Serving Related	4%
Architecture and Engineering	3%
Community and Social Service	2%
Legal	2%
Personal Care and Service	2%
Transportation and Material Moving	2%
Building and Grounds Cleaning and Maintenance	1%
Production	1%
Construction, Installation, and Repair	1%
Protective Service	1%
Armed Forces, Farming, and Forestry	<1%

Race / Ethnicity:

- White, non-Hispanic
- White, Hispanic
- Non-White, Hispanic
- Black, non-Hispanic
- Asian, non-Hispanic
- Other / Multiple Races, non-Hispanic



Length of U.S. Residence:

- Born in the U.S.
- 10 or more years
- 6 to 9 years
- 3 to 5 years
- 2 years or less

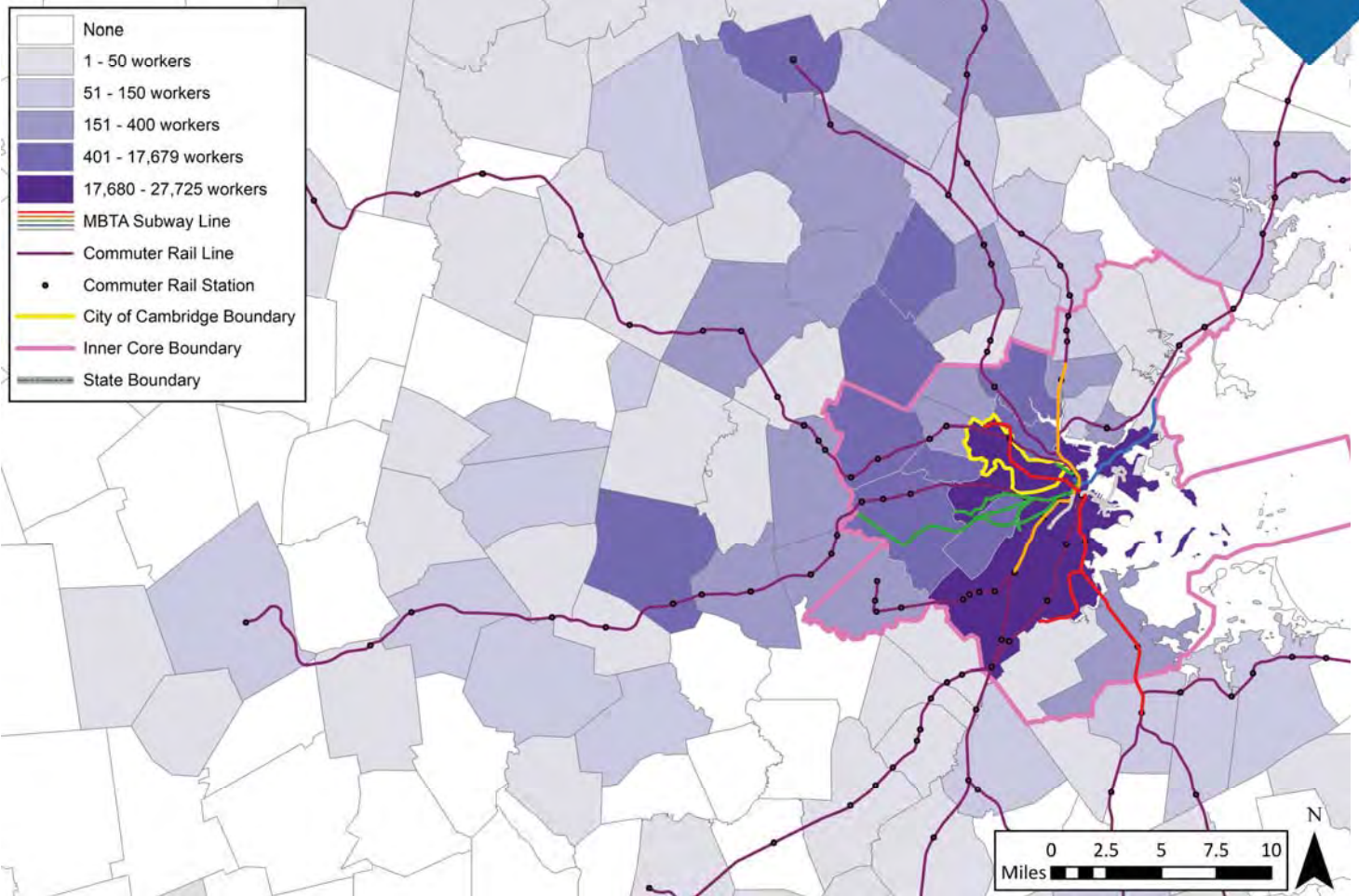


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates.

WHERE DO THEY COMMUTE TO?



Commuting by Any Means of Transportation: Labor Force by Town of Workplace



61,925¹

People who live in Cambridge are employed members of the Labor Force
(and are included in the journey to work data)

99% of (or about 61,000) of employed Labor Force members work in Massachusetts

86% of (or about 53,500) employed Labor Force members work in the Inner Core

3% (or about 2,000) work in the Metro North Region

45% (or about 28,000) work in Cambridge

5% (or about 3,000) work in the Metro West Region

29% (or about 17,500) work in Boston

1% (or about 500) work in the Metro South Region

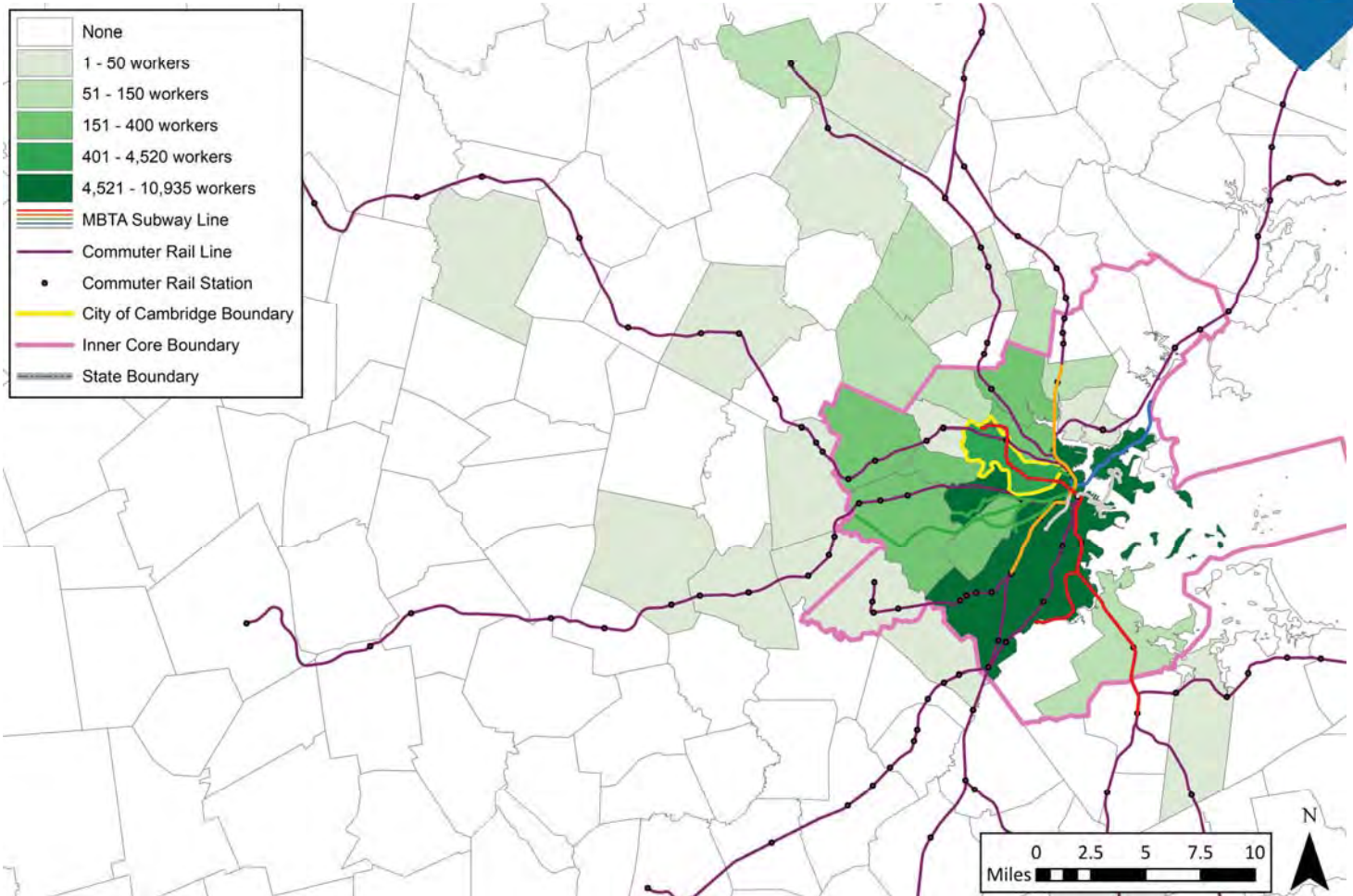
5% (or about 3,000) work in the neighboring towns of Somerville, Arlington, Belmont, Watertown and Brookline

Source: Unless otherwise noted, all other data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹The 2012-16 American Community Survey provides a higher labor force estimate of 67,249, which also includes people who are currently unemployed but actively seeking work.

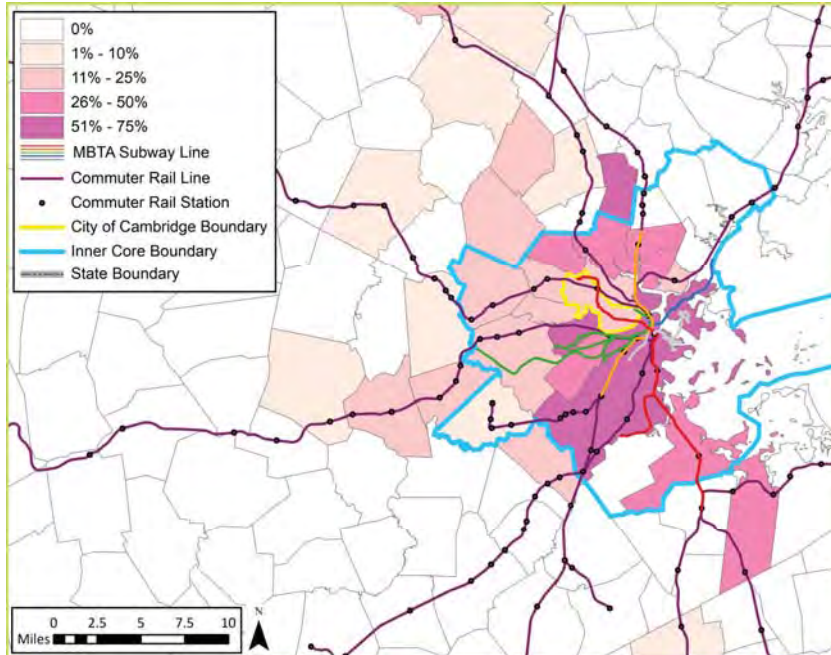
HOW DO THEY GET THERE?



Commuting by Public Transit: Labor Force by Town of Workplace



Percent of Commuters Using Public Transit by Town of Workplace



29%

of the employed Cambridge Labor Force takes public transit to work.

96%

of the employed Cambridge Labor Force that uses public transit works within the Inner Core.

34%

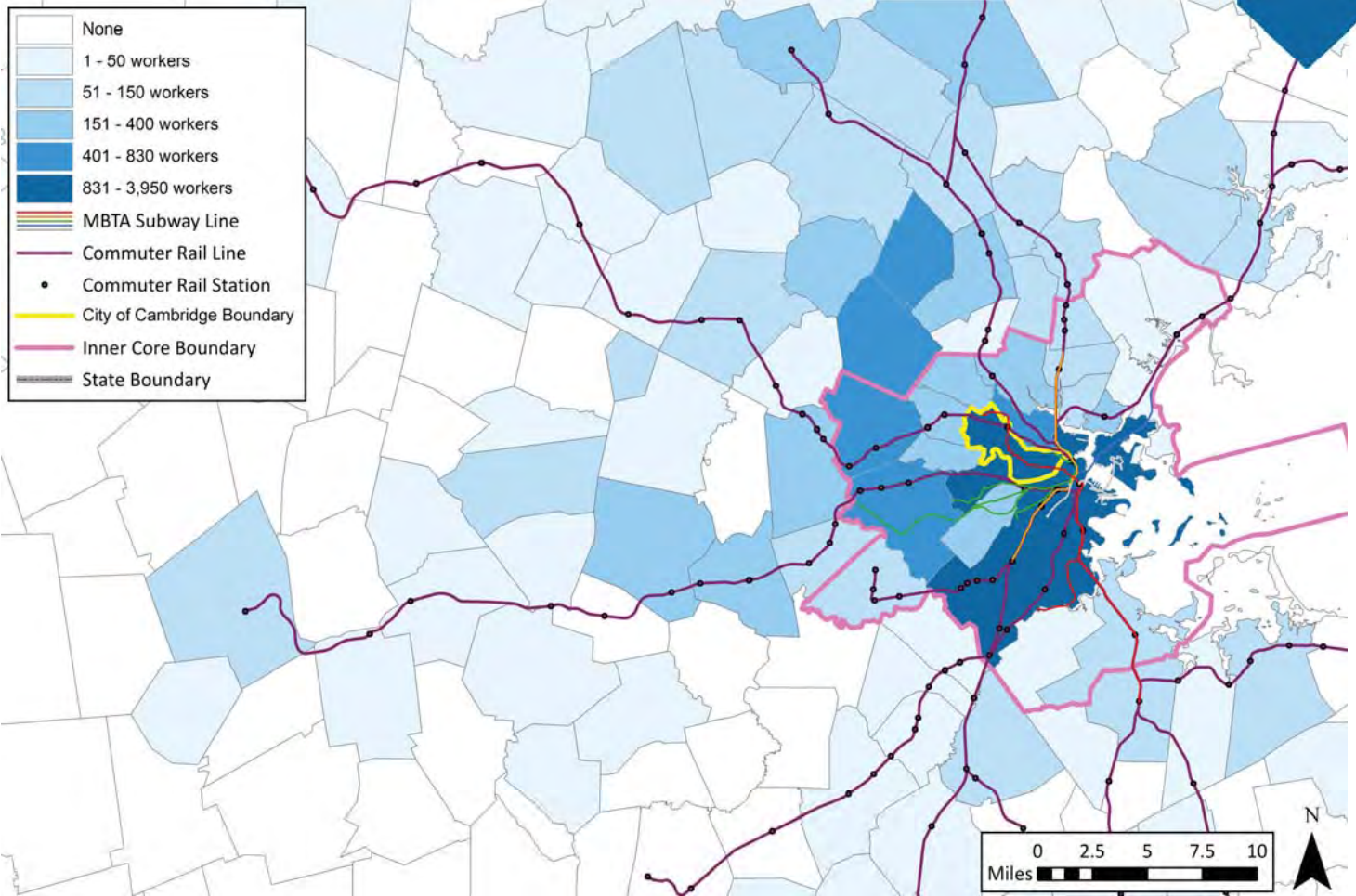
of the employed Cambridge Labor Force that works in Cambridge, Somerville or Boston takes public transit to work.

Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Towns with a reported 0% of commuters using a particular mode may represent towns in which no members of the labor force work; these towns are identified on page 24.

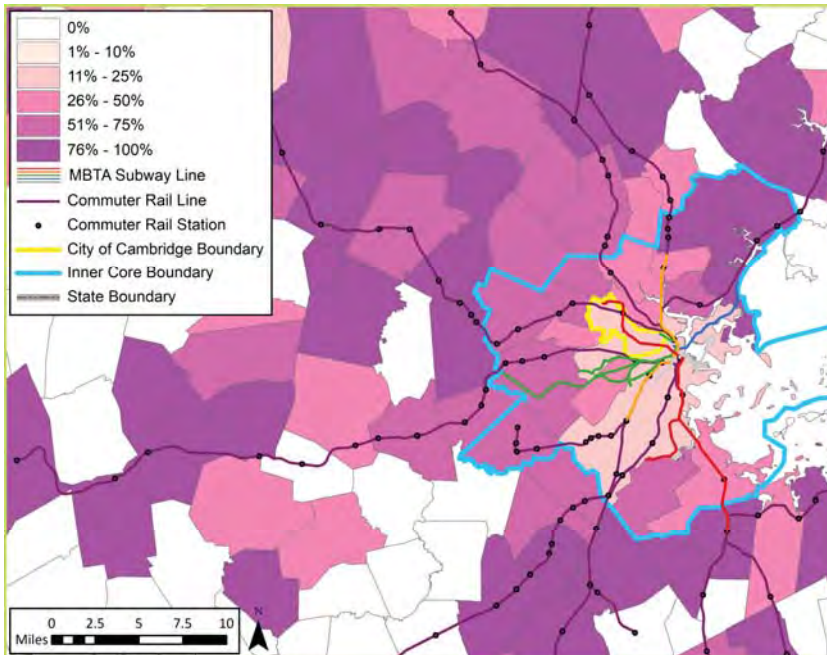
HOW DO THEY GET THERE?



Commuting by Driving Alone: Labor Force by Town of Workplace



Percent of Commuters Driving Alone by Town of Workplace



28%

of the total employed Cambridge Labor Force drives alone to work.

68%

of the employed Cambridge Labor Force that drives alone works within the Inner Core.

18%

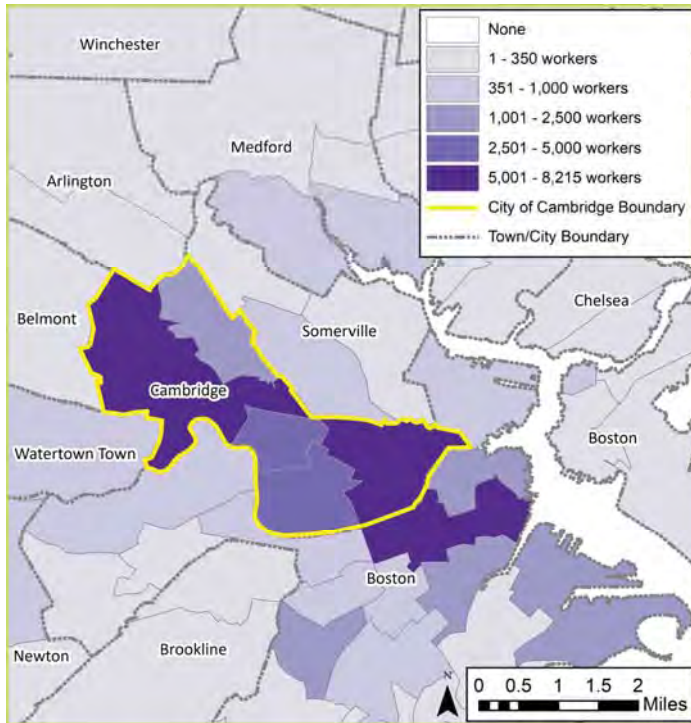
of the employed Cambridge Labor Force that works in Cambridge, Somerville or Boston drives alone to work.

Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Towns with a reported 0% of commuters using a particular mode may represent towns in which no members of the labor force work; these towns are identified on page 24.

HOW DO THEY GET THERE?



Commuting by Any Means of Transportation: Labor Force by TAD of Workplace Location



25%

of the total employed Cambridge Labor Force walks to work.

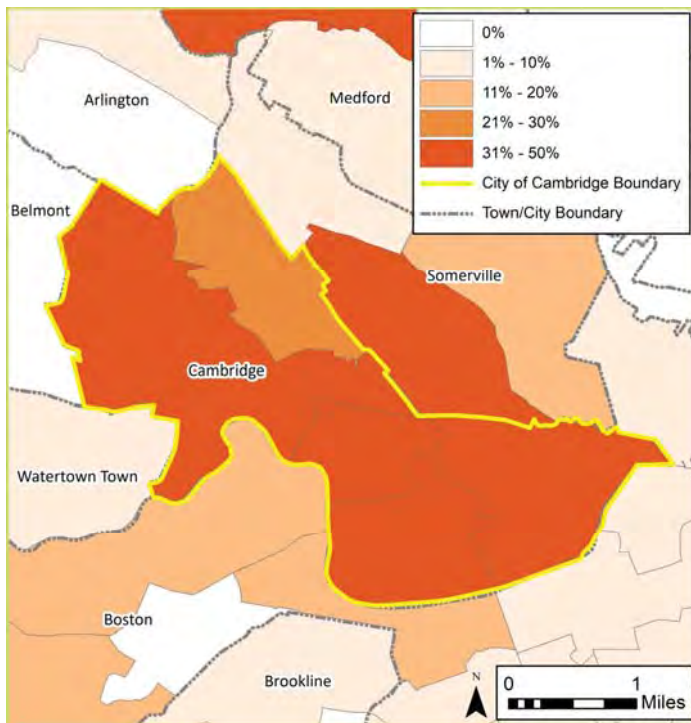
7%

of the employed Cambridge Labor Force bikes to work.

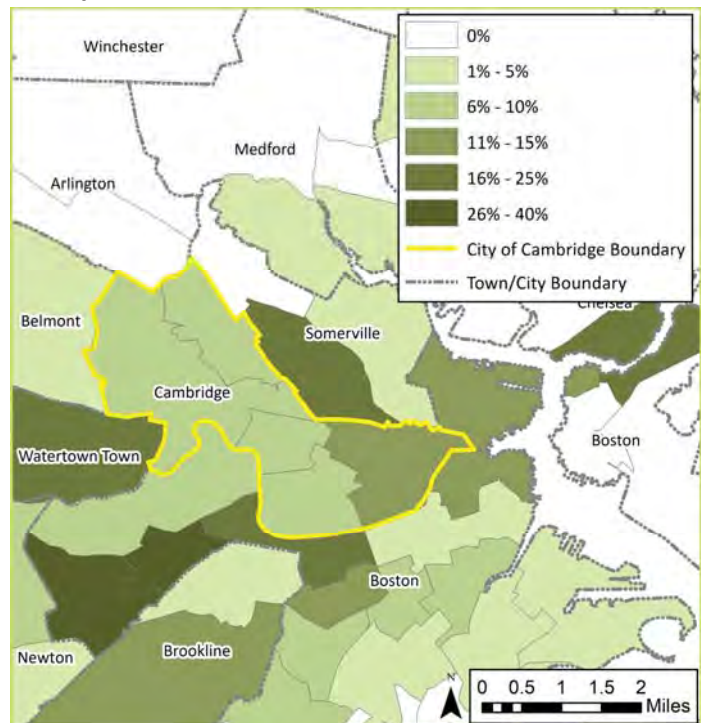
36%

of the employed Cambridge Labor Force that works in Cambridge, Somerville or Boston walks or bikes to work.

Percent of Commuters Walking by TAD of Workplace Location



Percent of Commuters Biking by TAD of Workplace Location

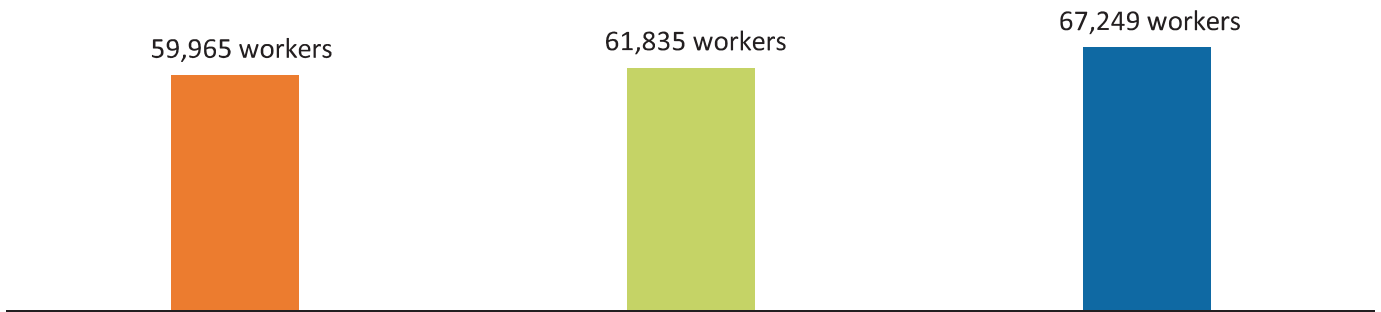


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. TADs with a reported 0% of commuters using a particular mode may represent towns in which no members of the labor force work; these towns are identified on page 24.

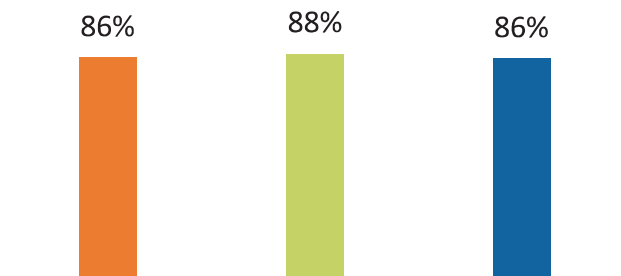


Year: ■ 2000 ■ 2006-2010 ■ 2012-2016

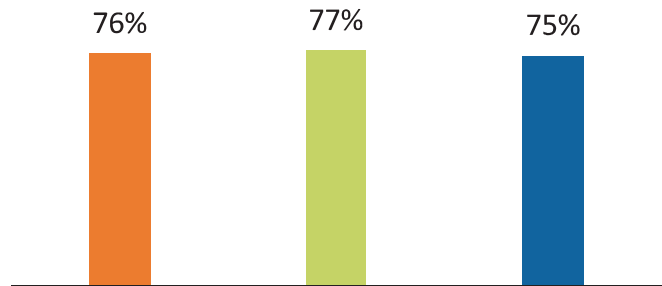
Total Labor Force¹



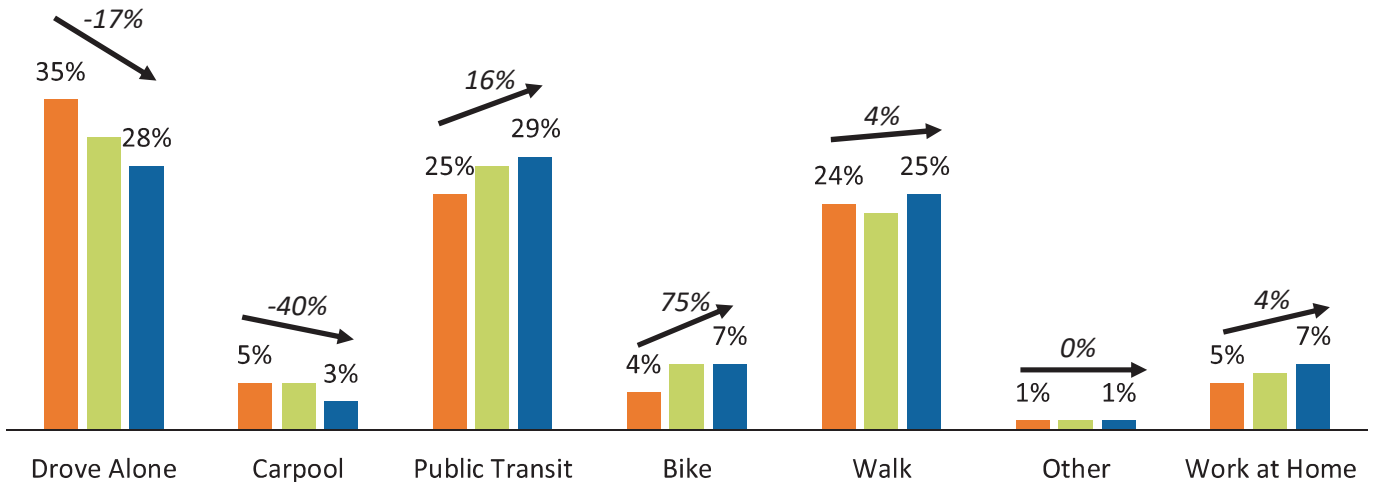
Employed Labor Force Working in the Inner Core



Employed Labor Force Working in Cambridge, Somerville or Boston



Modes of Transportation to Work²

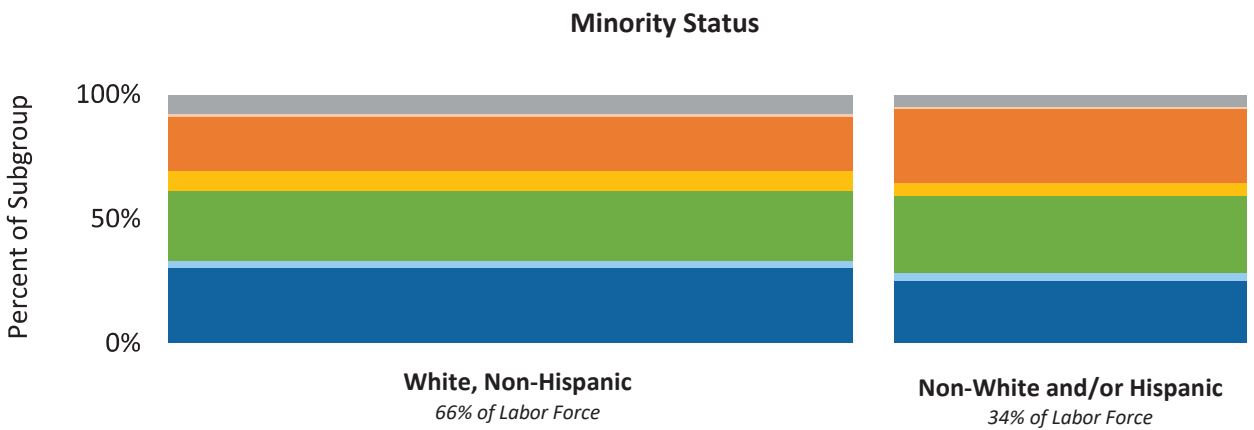
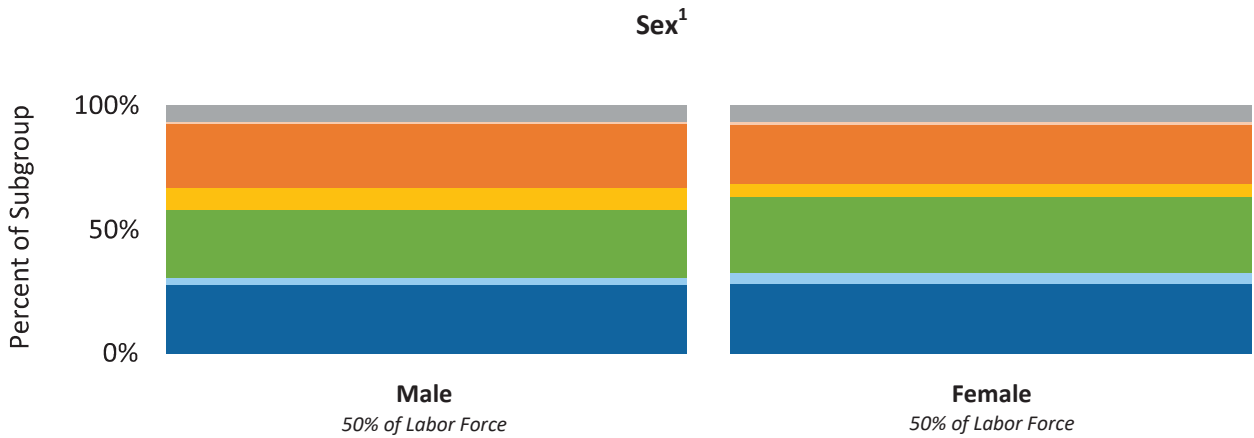
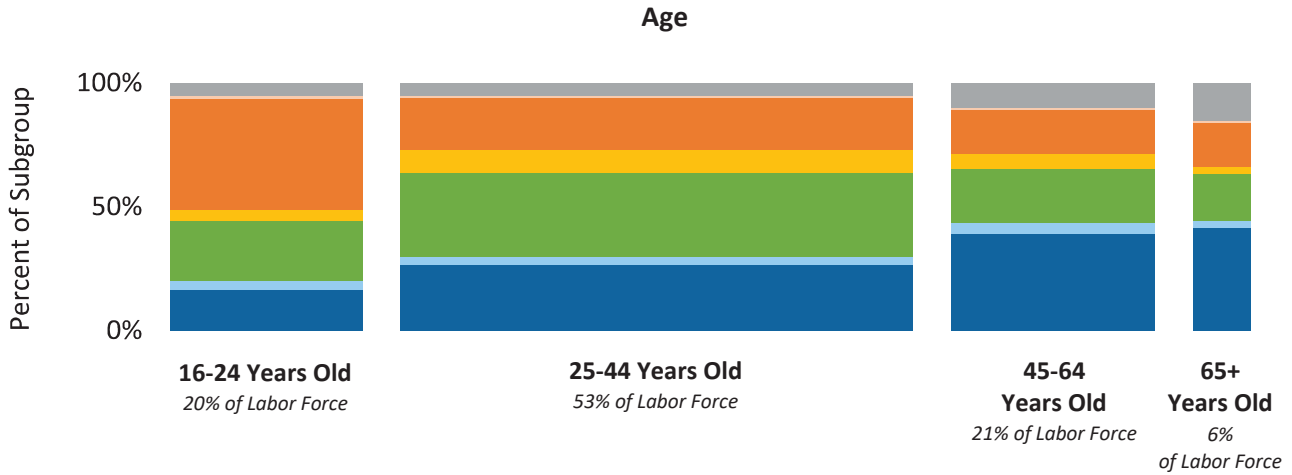


Source: All data on this page derive from the Census Transportation Planning Products, based on 2000 Census and 2006-10 and 2012-16 5-year American Community Survey estimates. ¹Derived from 2012-16 5-year American Community Survey estimates. ²Tabular values can be found on the Cambridge Open Data portal.

MEANS OF TRANSPORTATION BY LABOR FORCE CHARACTERISTICS



■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home



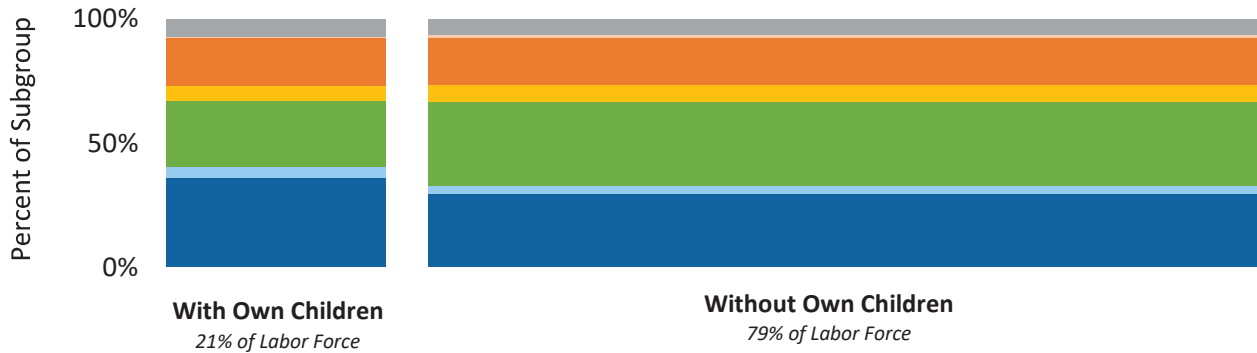
Source: Unless otherwise noted, all other data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Derived from 2012-16 5-year American Community Survey estimates.

MEANS OF TRANSPORTATION BY LABOR FORCE CHARACTERISTICS

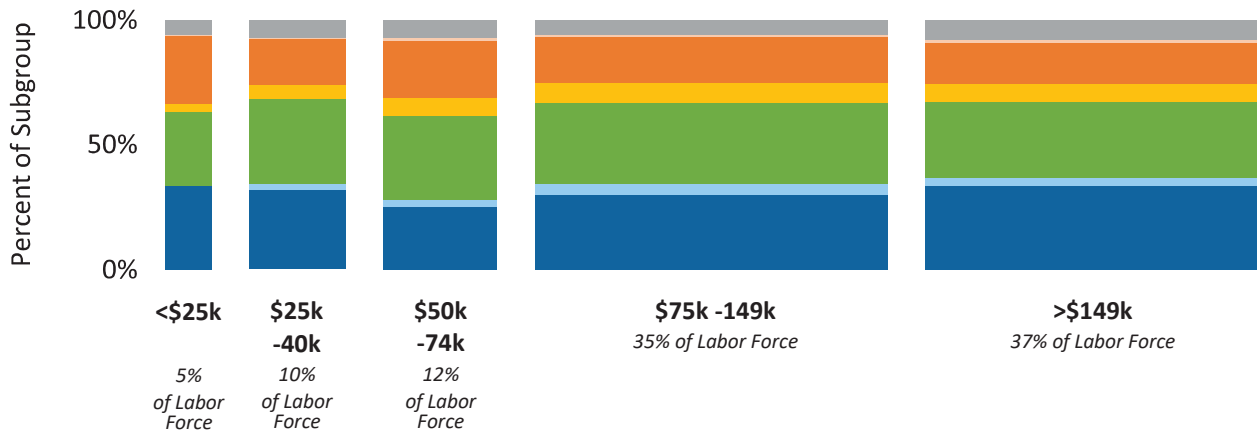


■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home

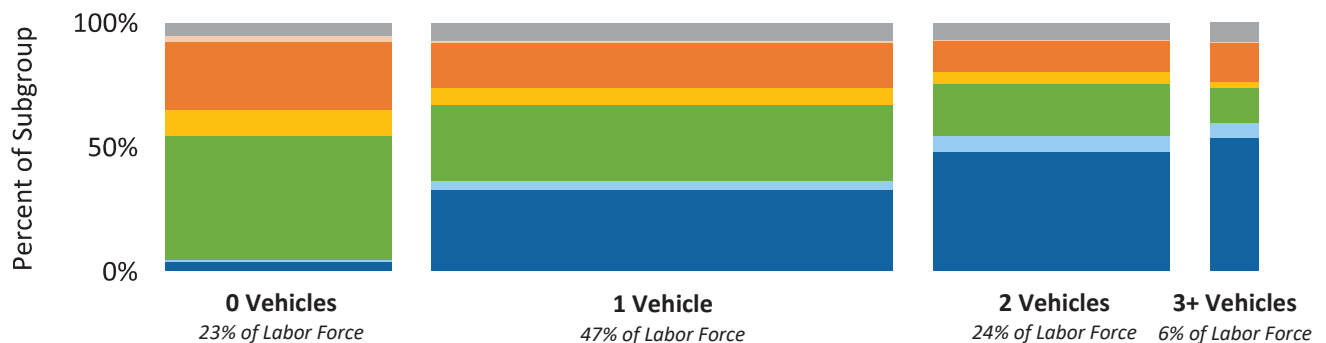
Presence of Children in Household¹



Household Income in the Past 12 Months¹



Number of Vehicles Available in Households¹



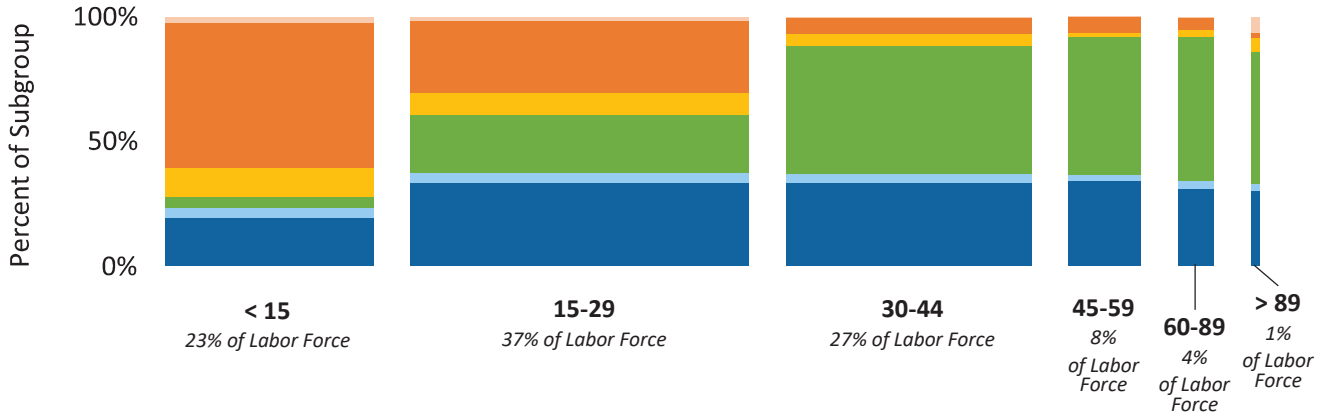
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Excludes students in dormitories and residents of other group quarters types, such as nursing homes.

MEANS OF TRANSPORTATION BY LABOR FORCE CHARACTERISTICS

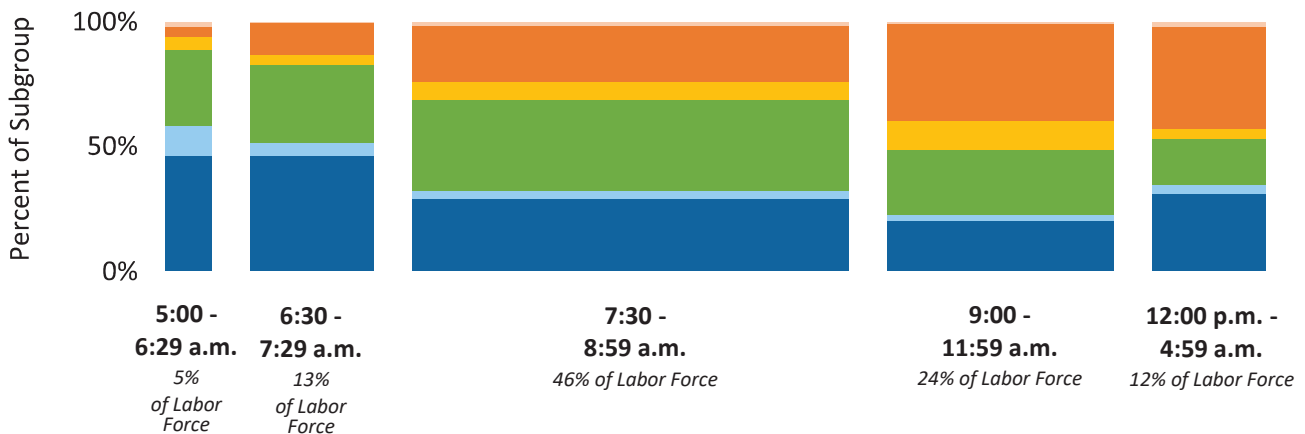


■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike
 ■ Walk
 ■ Other
 ■ Work at Home

Time (in Minutes) Travelling to Work
(excluding those who work at home)



Time Leaving Home
(excluding those who work at home)



Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on Cambridge Open Data portal.



THE CAMBRIDGE RESIDENT WORKFORCE

All employed people who both live and work in Cambridge



Workplace Industry	
Educational, Health, and Social Services	48%
Information, Finance, Insurance, Real Estate, Rental and Leasing, Professional, Scientific, Management, Administrative, and Waste Management Services	25%
Arts, Entertainment, Recreation, Accommodation, and Food Services	7%
Wholesale Trade, Retail Trade, Transportation, Warehousing, and Utilities	7%
Other Services and Public Administration	6%
Manufacturing	5%
Agriculture, Forestry, Fishing and Hunting, Mining, Construction, and Armed Forces	1%

Minority Status:

■ White Alone, Non-Hispanic/Latino
 ■ All Others

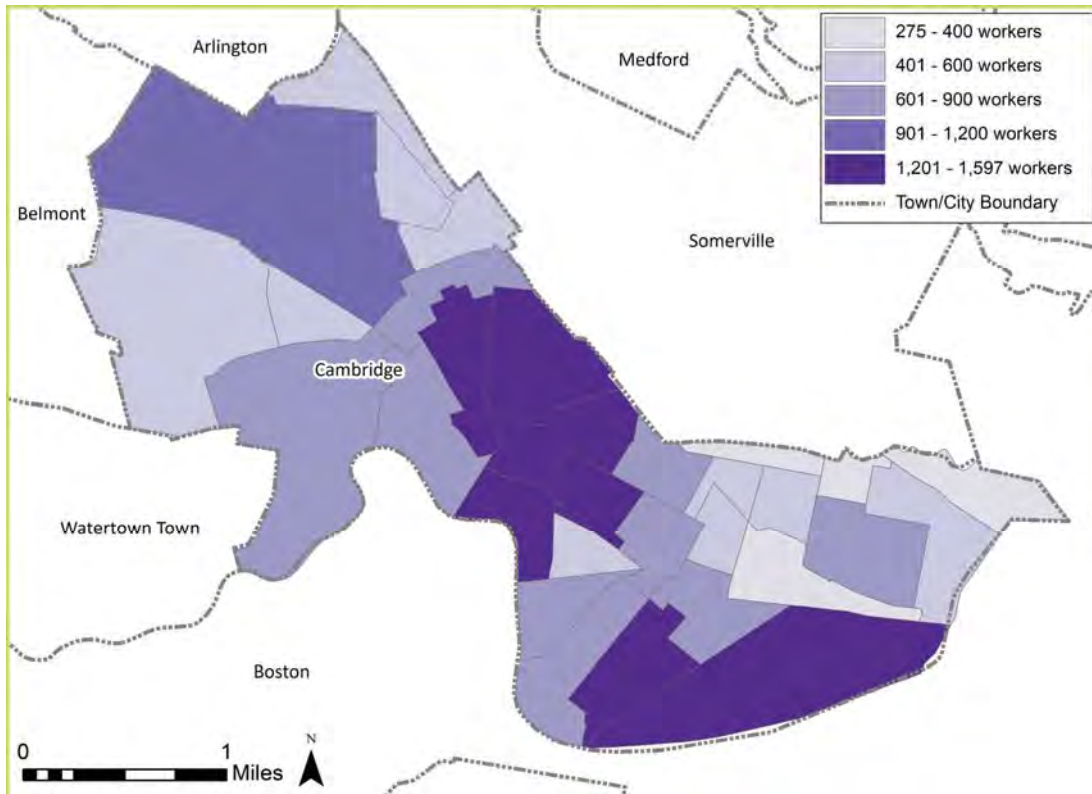


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Statistics on occupations, length of residency in the U.S. and detailed racial/ethnic distribution are not available for the resident workforce.

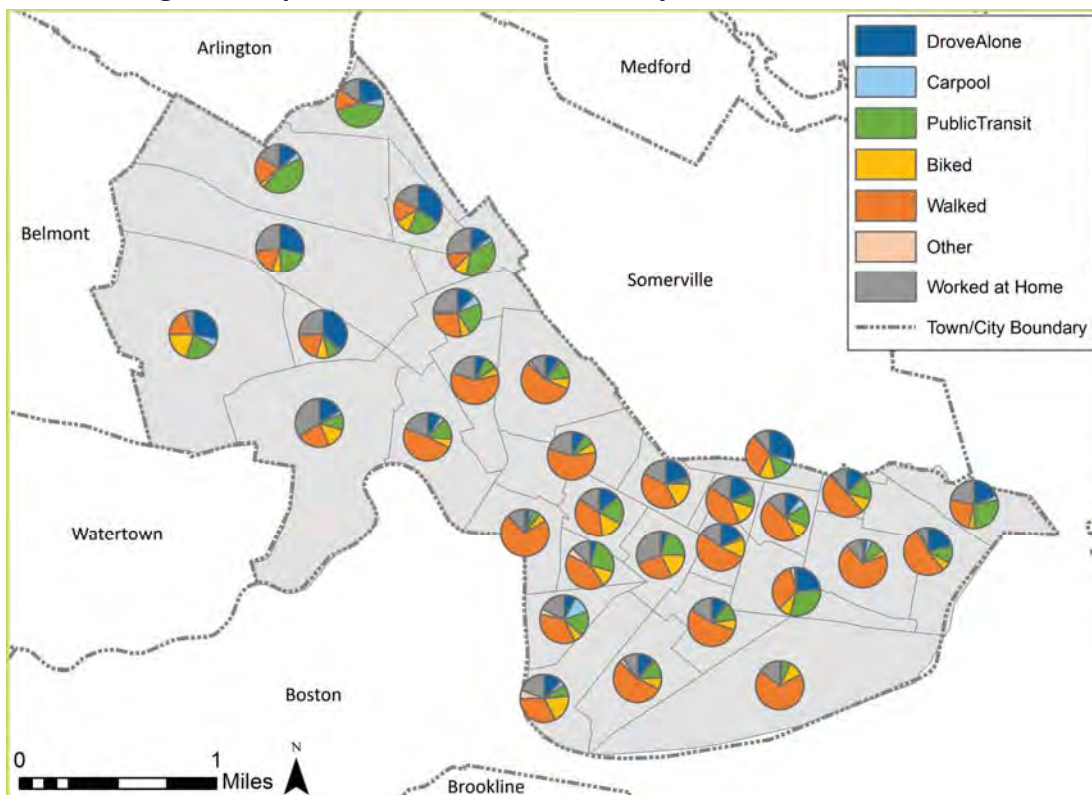
WHERE DO THEY LIVE AND HOW DO THEY GET TO WORK?



Resident Workforce by Census Tract of Home Location



Commuting Mode Split of Resident Workforce by Census Tract of Home Location

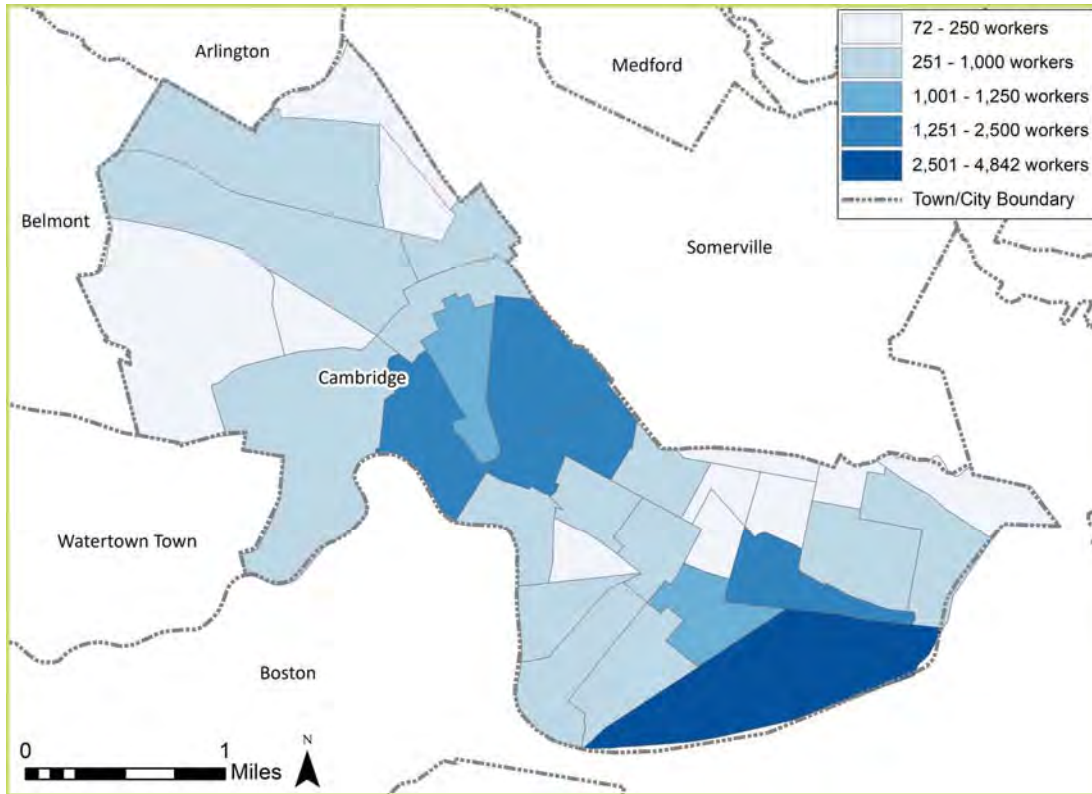


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates.

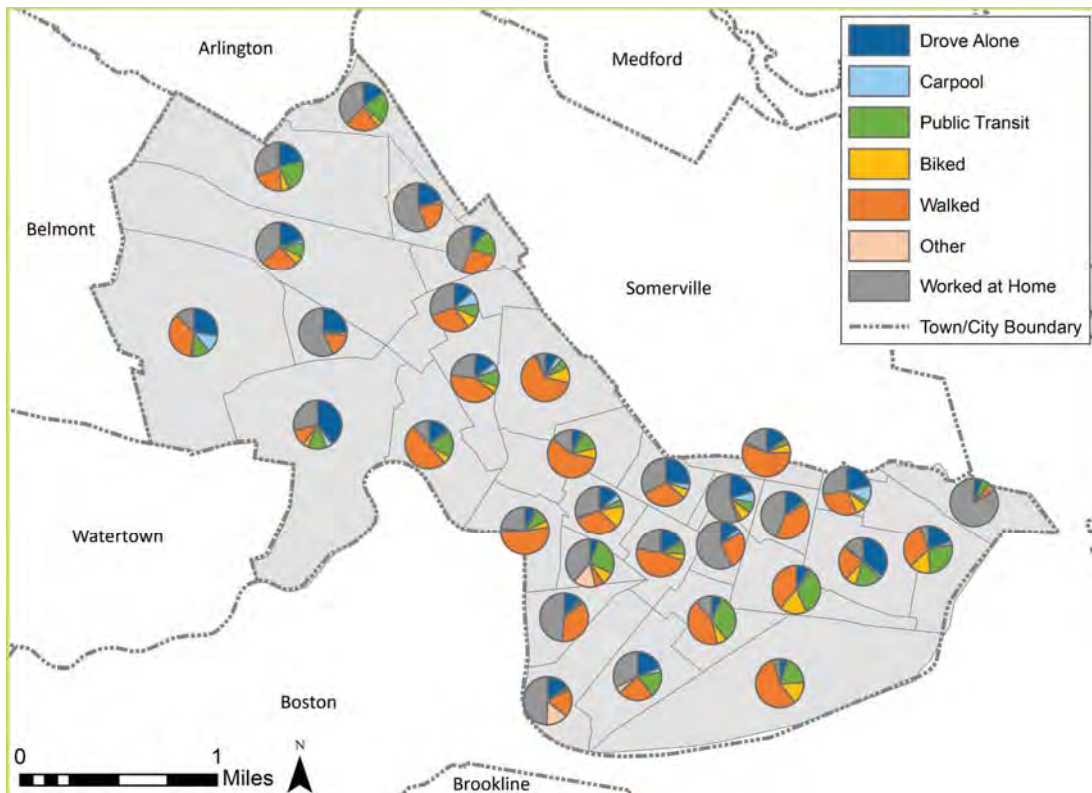
WHERE DO THEY WORK AND HOW DO THEY GET THERE?



Resident Workforce by Census Tract of Workplace Location



Commuting Mode Split of Resident Workforce by Census Tract of Workplace Location

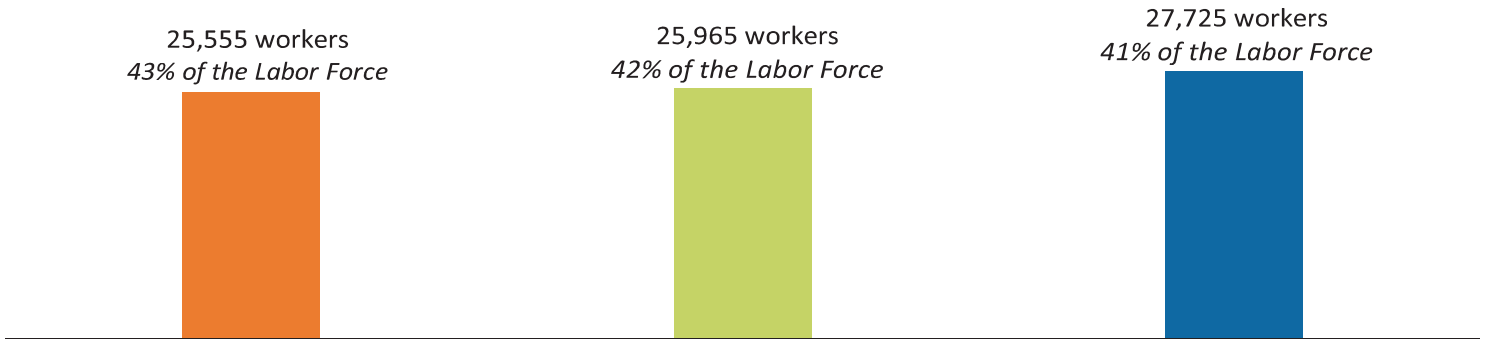


Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates.

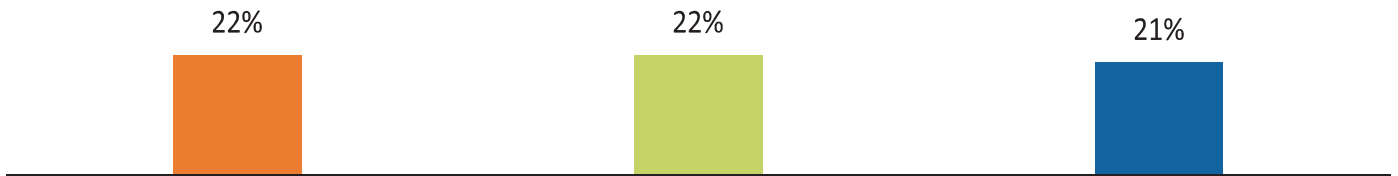


Year: ■ 2000 ■ 2006-2010 ■ 2012-2016

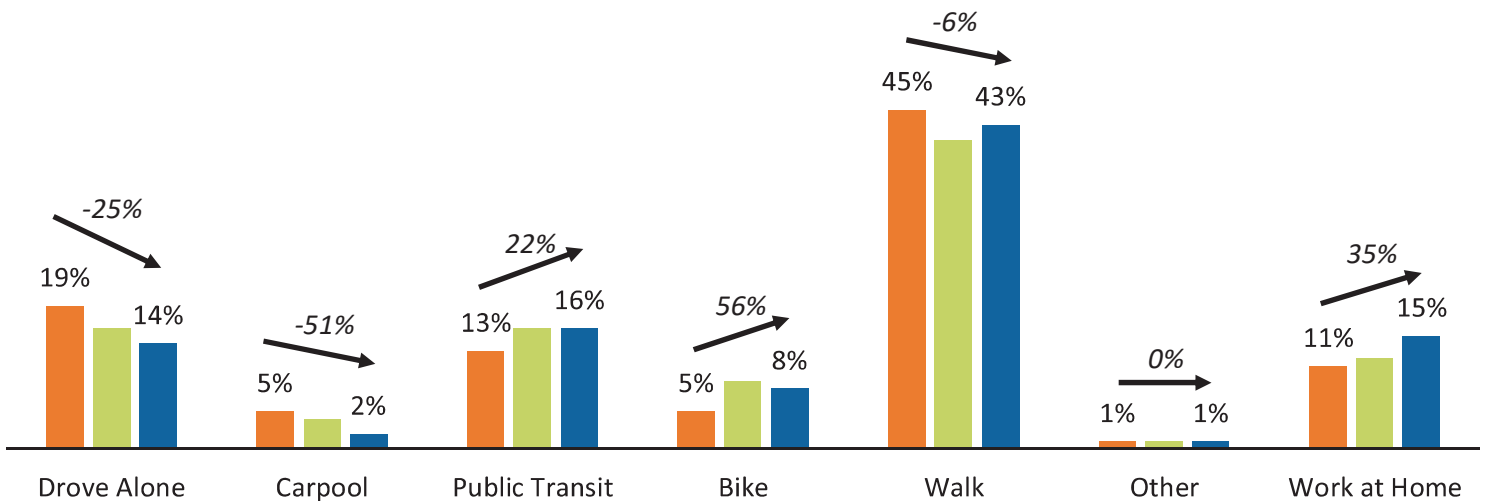
Total Resident Workforce



People Working in Cambridge Who Live in Cambridge



Modes of Transportation to Work¹

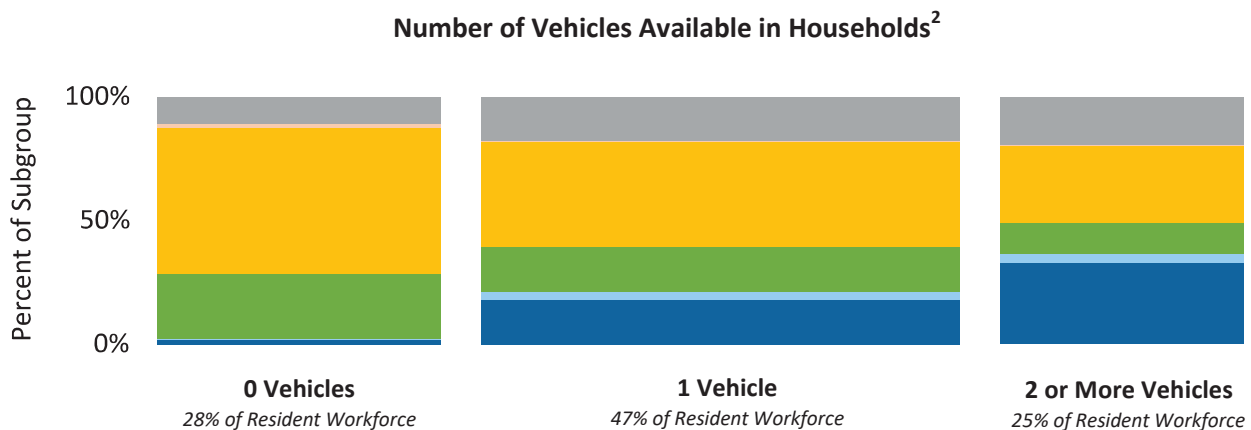
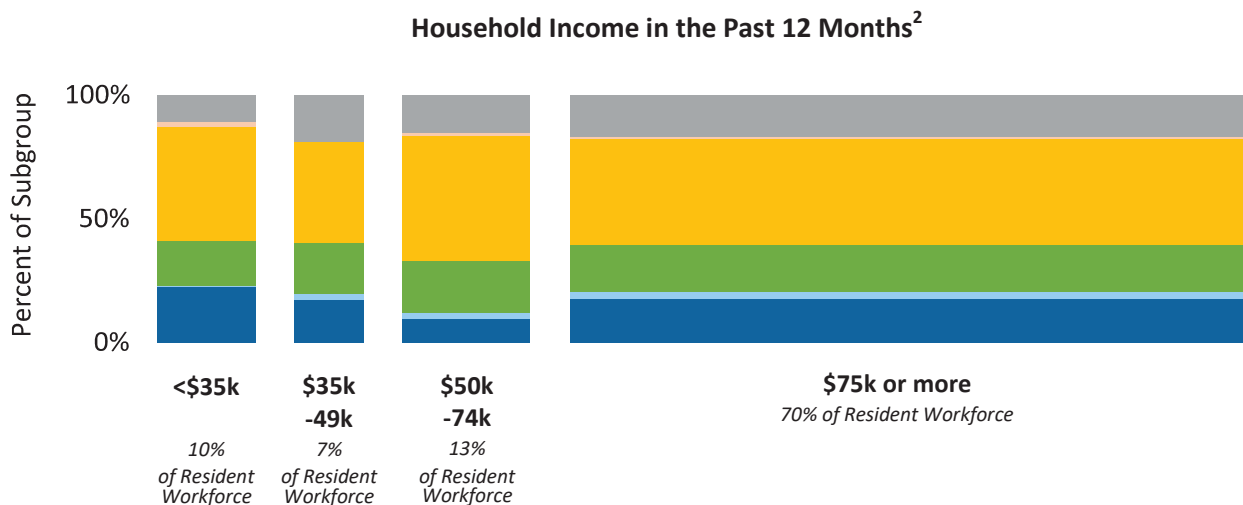
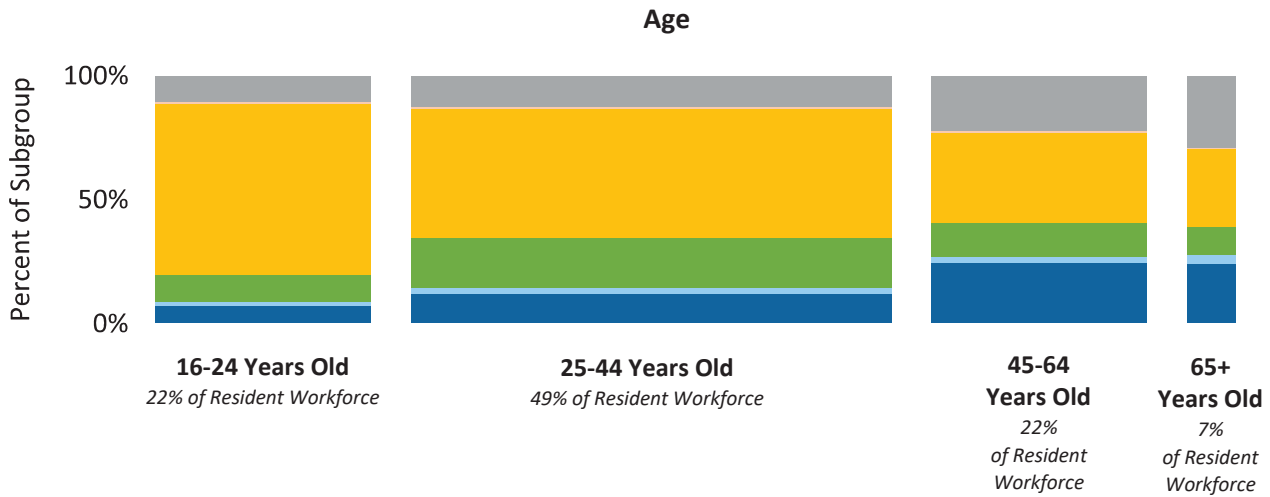


Source: All data on this page derive from the Census Transportation Planning Products, based on 2000 Census and 2006-10 and 2012-16 5-year American Community Survey estimates. ¹Tabular values can be found on Cambridge Open Data portal.

MEANS OF TRANSPORTATION BY WORKER CHARACTERISTICS



■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike or Walk¹
■ Other
 ■ Work at Home



Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Note that data available about the resident workforce is more limited than that of the labor force and workforce, and that biking and walking data are combined into a single category. ²Excludes students in dormitories and residents of other group quarters types, such as nursing homes.

MEANS OF TRANSPORTATION BY WORKER CHARACTERISTICS

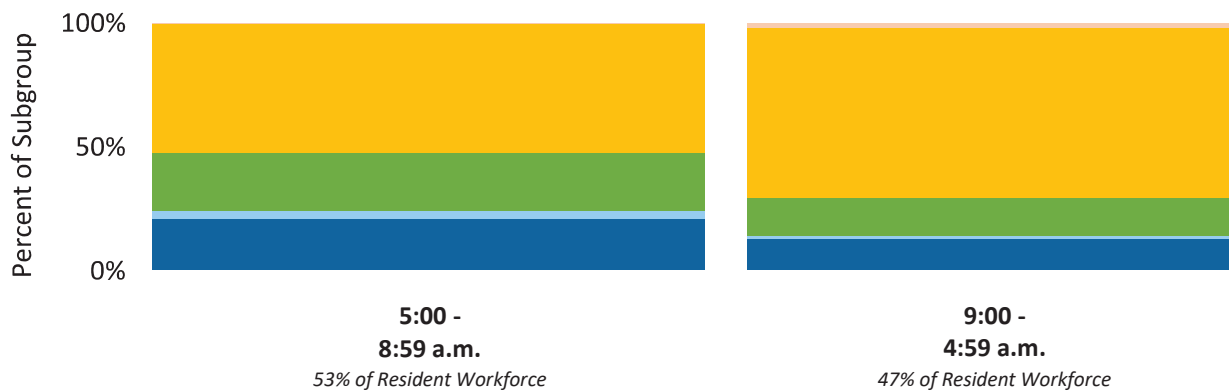


■ Drove Alone
 ■ Carpool
 ■ Public Transit
 ■ Bike or Walk¹
■ Other
 ■ Work at Home

Time (in Minutes) Travelling to Work (excluding those who work at home)



Time Leaving Home (excluding those who work at home)



Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. Tabular values can be found on the Cambridge Open Data portal. ¹Note that data available about the resident workforce is more limited than that of the labor force and workforce, and that biking and walking data are combined into a single category.

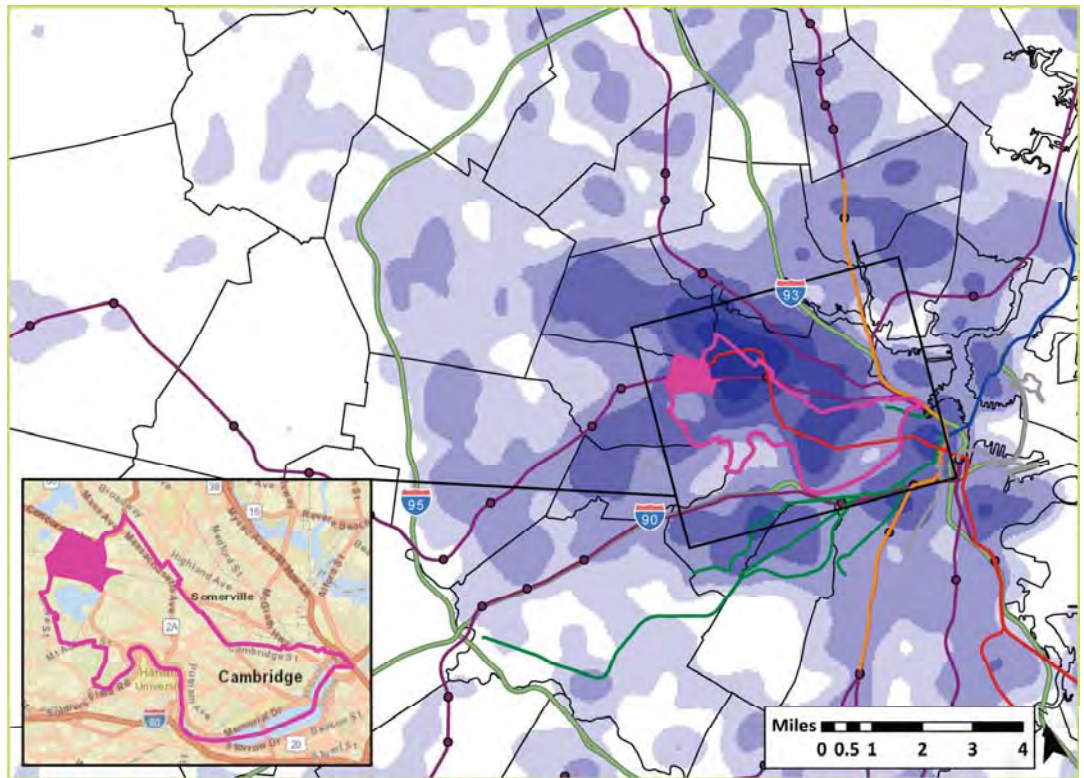
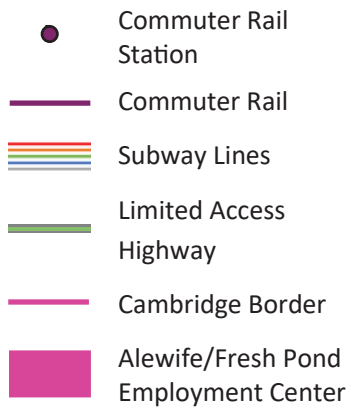
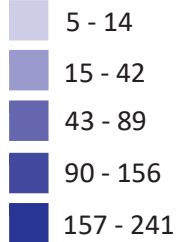
EMPLOYMENT CENTER PROFILES

ALEWIFE / FRESH POND WORKFORCE

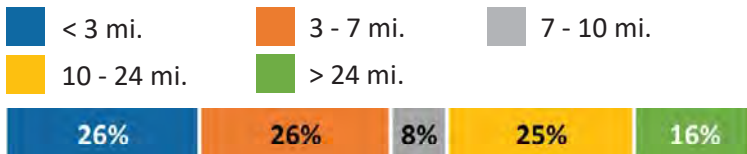
8,200 TOTAL WORKERS IN ALEWIFE/FRESH POND, 7.2% LIVE IN CAMBRIDGE

Workforce Home Location

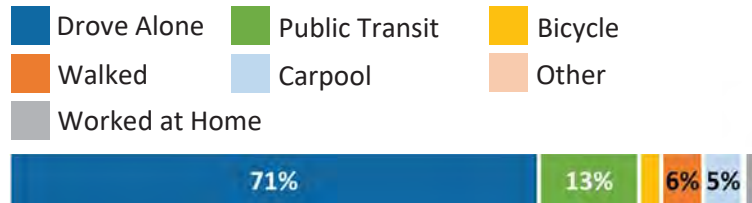
Workers per Square Mile



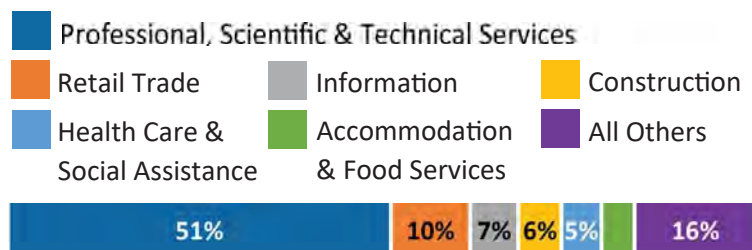
Workers by Commute Distance



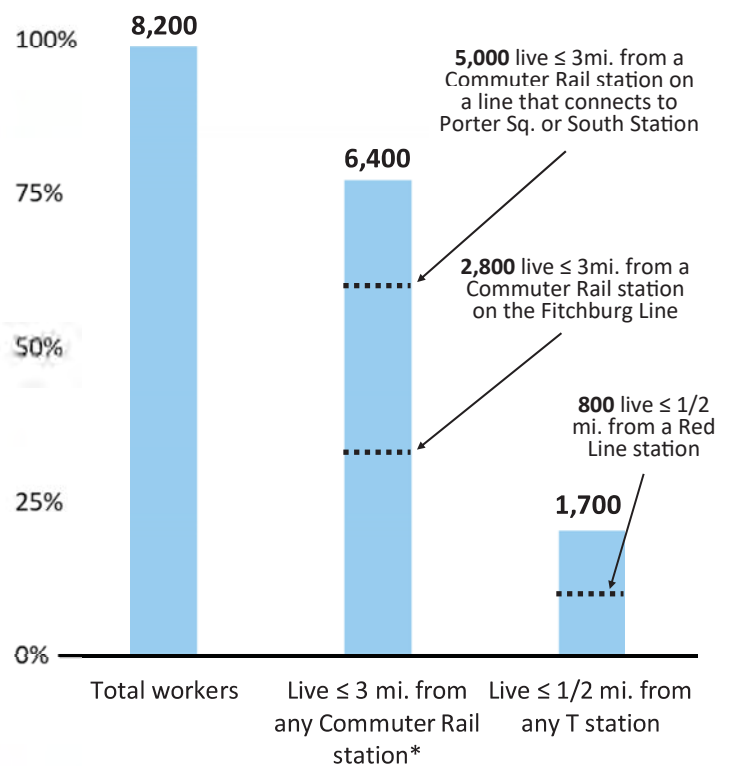
Commuting Mode Split¹



Top Employer Industries



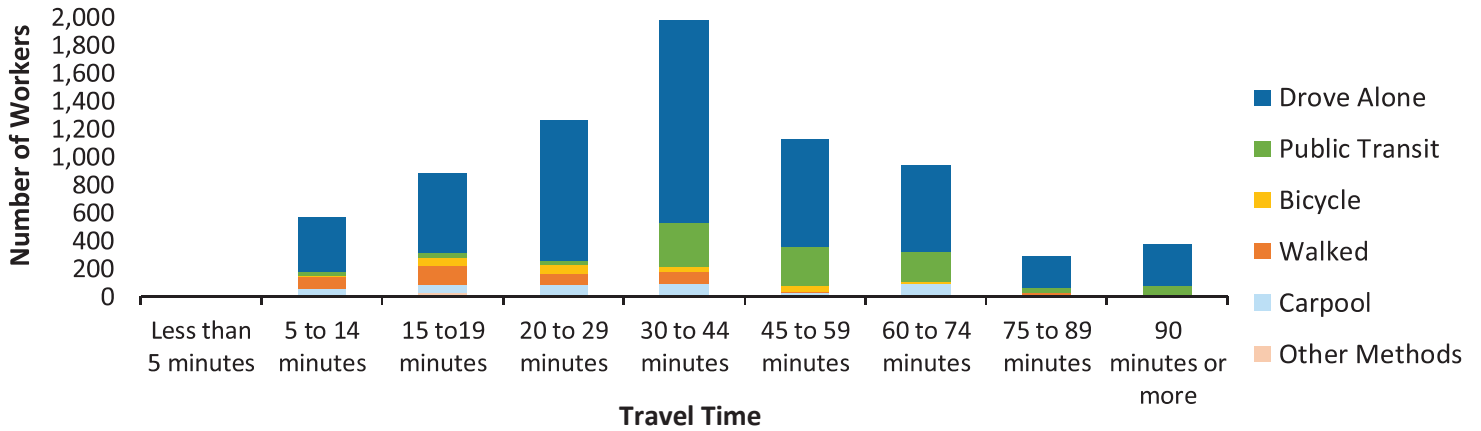
Workers by Transit Proximity of Home Location



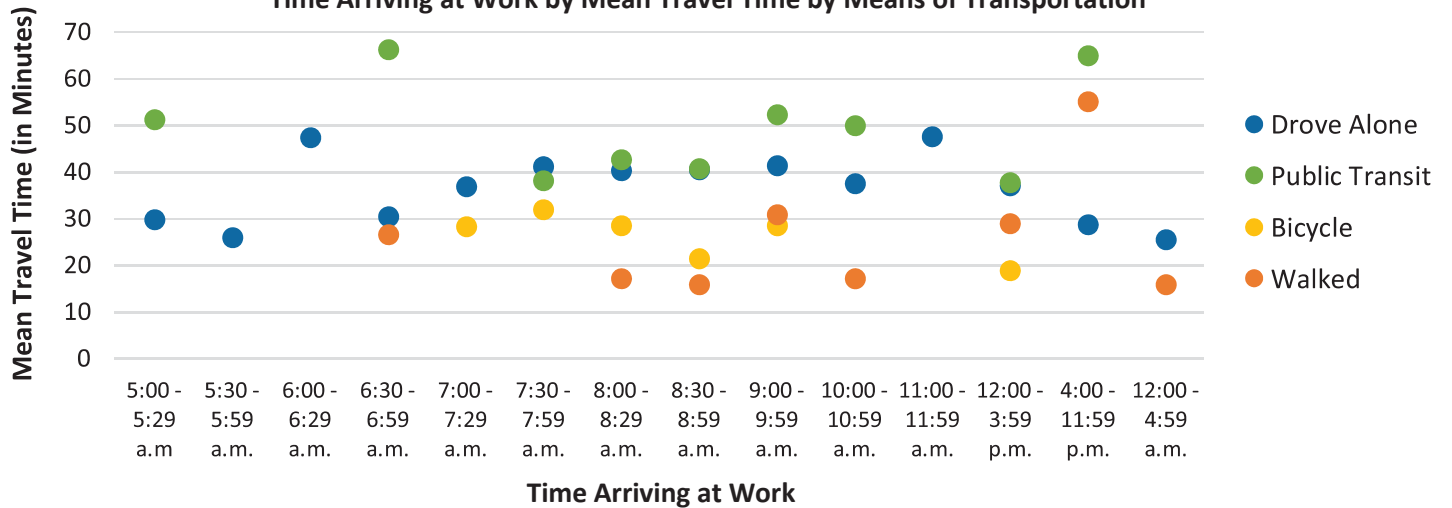
Source: Unless noted otherwise, all data on this page derive from LEHD OnTheMap origin-destination analysis, current as of 2017. ¹Data derived from Census Transportation Planning Products, based on 2012 - 2016 5-year American Community Survey estimates.

ALEWIFE / FRESH POND WORKFORCE

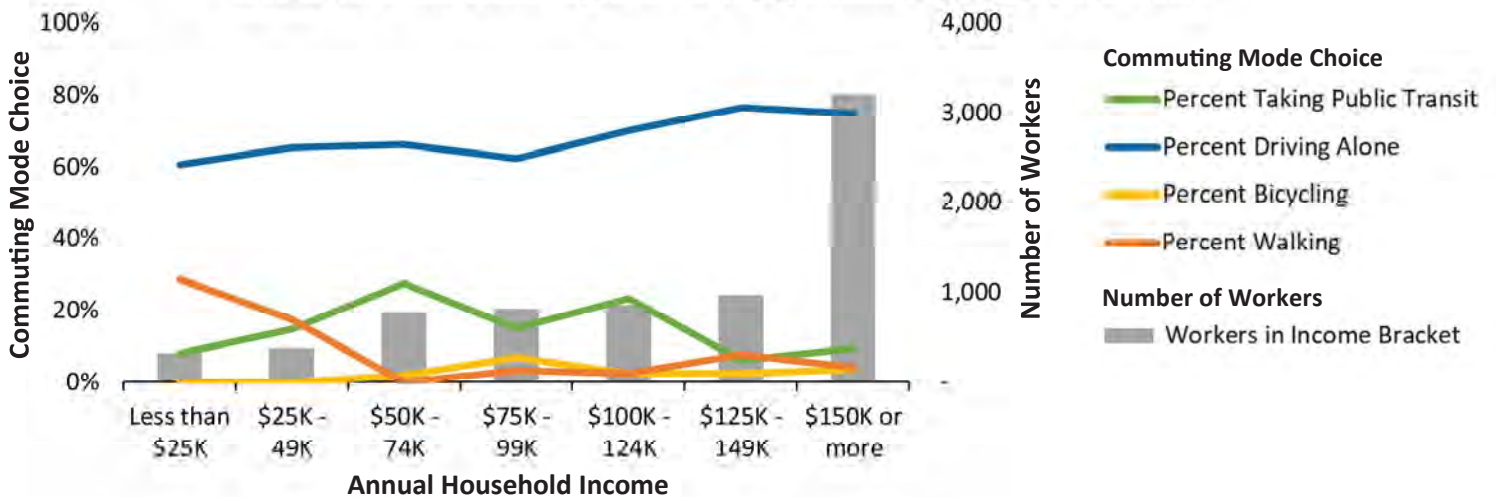
Travel Time by Means of Transportation



Time Arriving at Work by Mean Travel Time by Means of Transportation¹



Annual Household Income by Means of Transportation and Number of Workers²



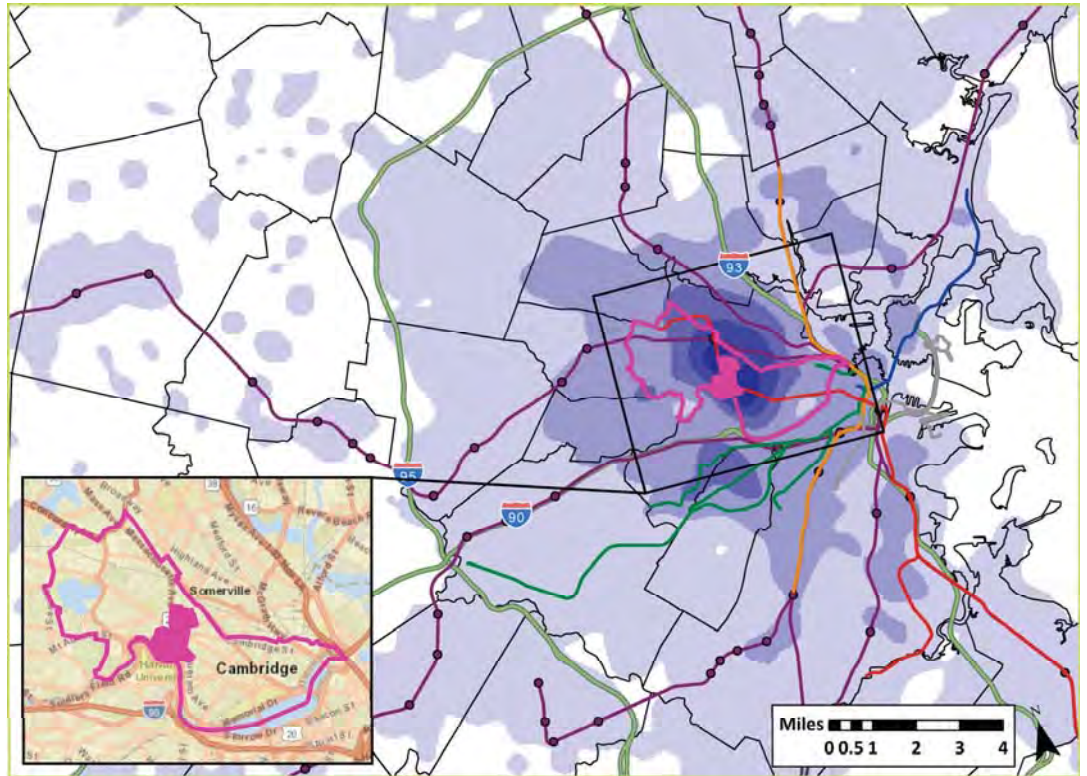
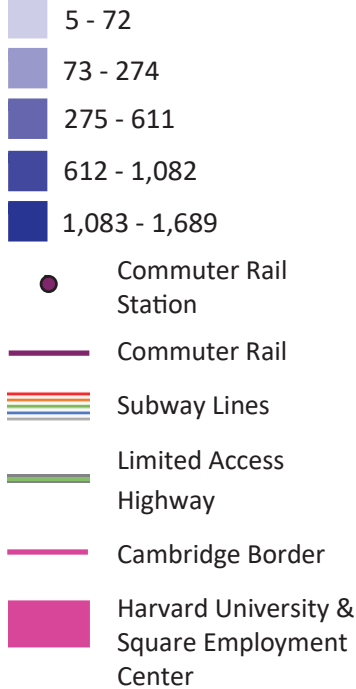
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Missing points indicate that no workers arrive at work at that time by that particular mode. ²Excludes workers who do not live in households (i.e. students living in dormitories, etc.)

HARVARD SQUARE & UNIVERSITY WORKFORCE

21,700 TOTAL WORKERS IN HARVARD SQUARE, 17.2% LIVE IN CAMBRIDGE

Workforce Home Location

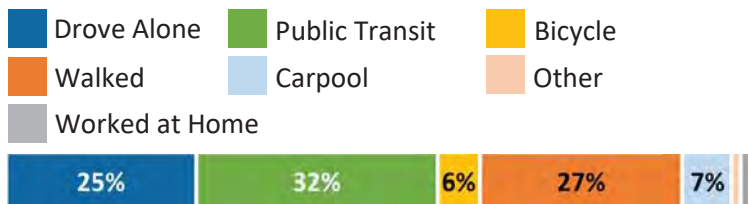
Workers per Square Mile



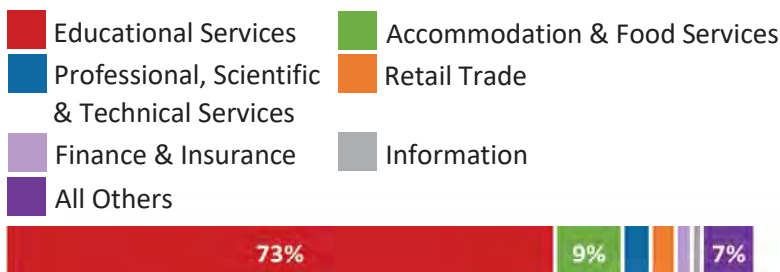
Commute Distance



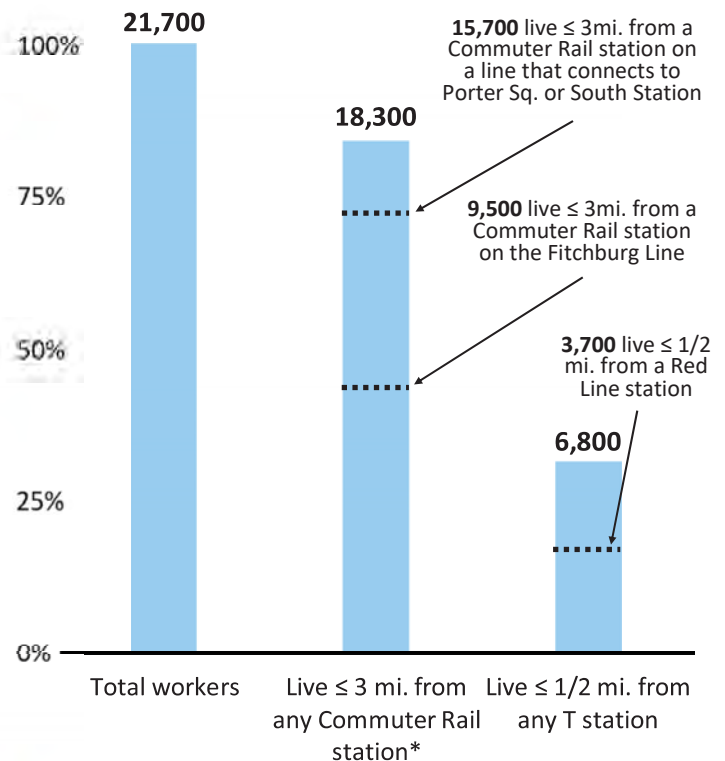
Commuting Mode Split¹



Top Employer Industries



Transit Proximity of Home Location

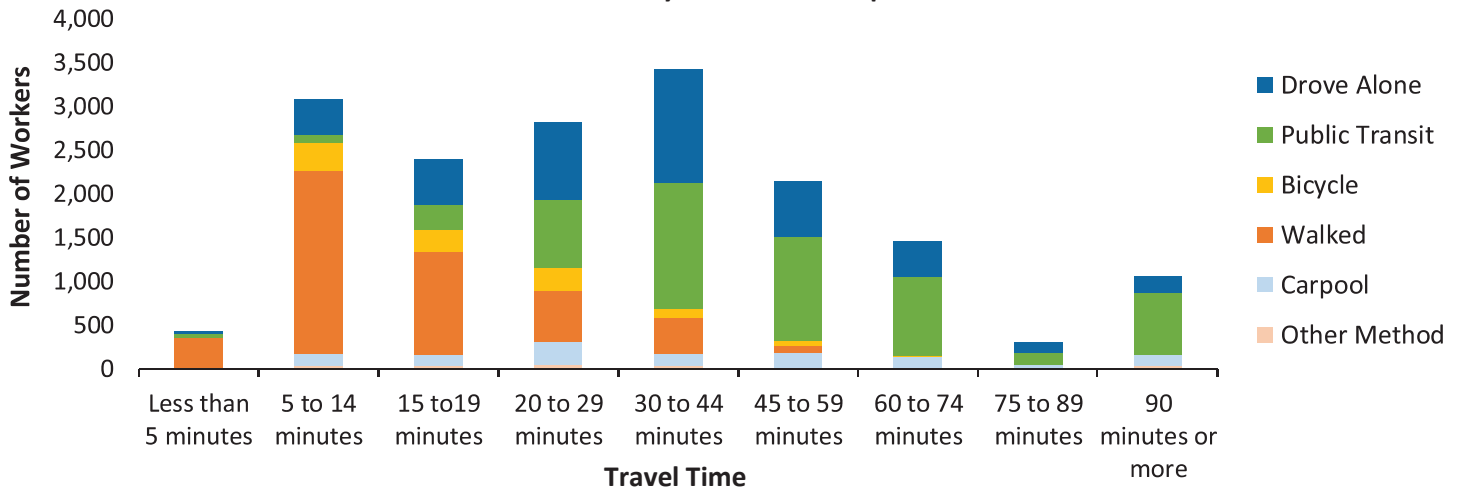


*Includes all stations active or under construction as of 2015.

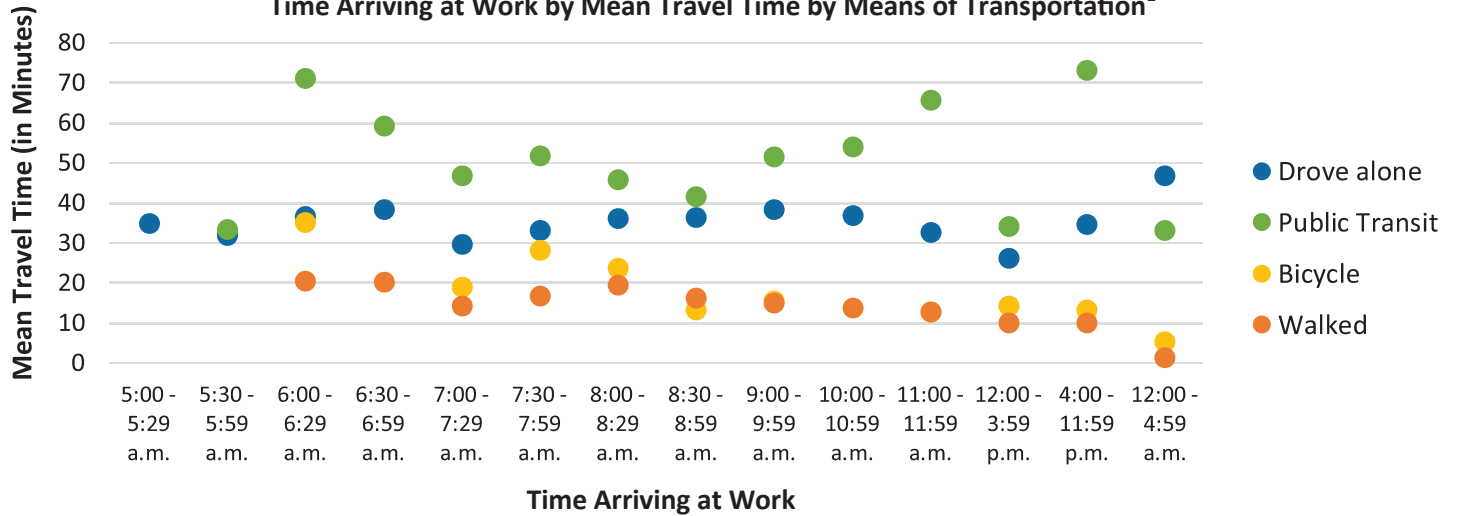
Source: Unless noted otherwise, all data on this page derive from LEHD OnTheMap origin-destination analysis, current as of 2017. ¹Data derived from Census Transportation Planning Products, based on 2012 - 2016 5-year American Community Survey estimates.

HARVARD SQUARE & UNIVERSITY WORKFORCE

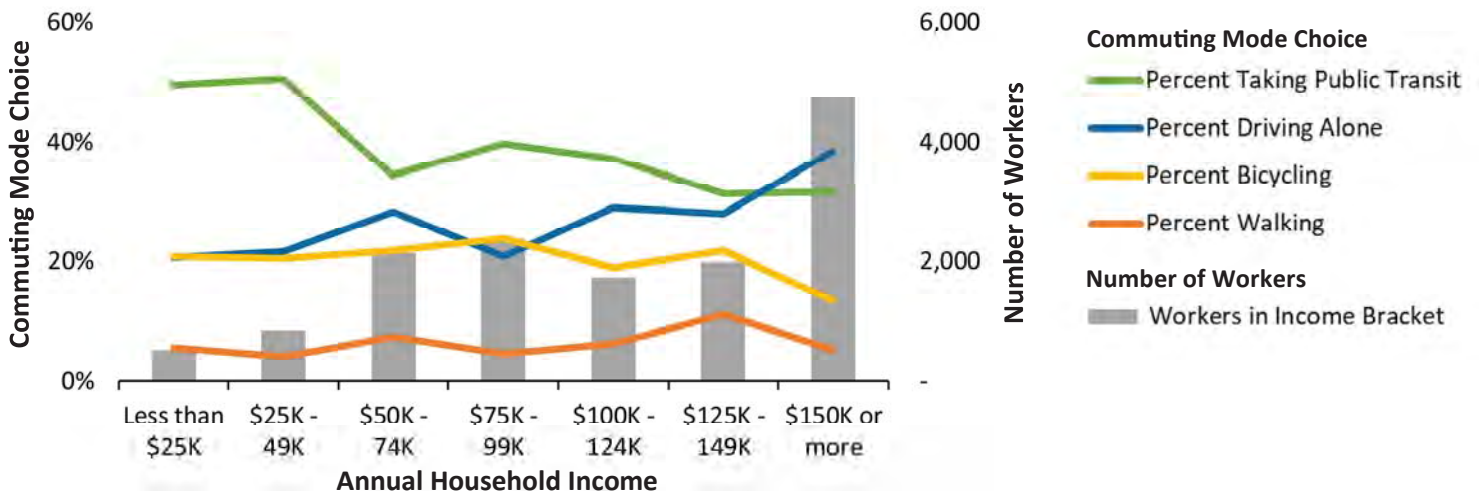
Travel Time by Means of Transportation



Time Arriving at Work by Mean Travel Time by Means of Transportation¹



Annual Household Income by Means of Transportation and Number of Workers²



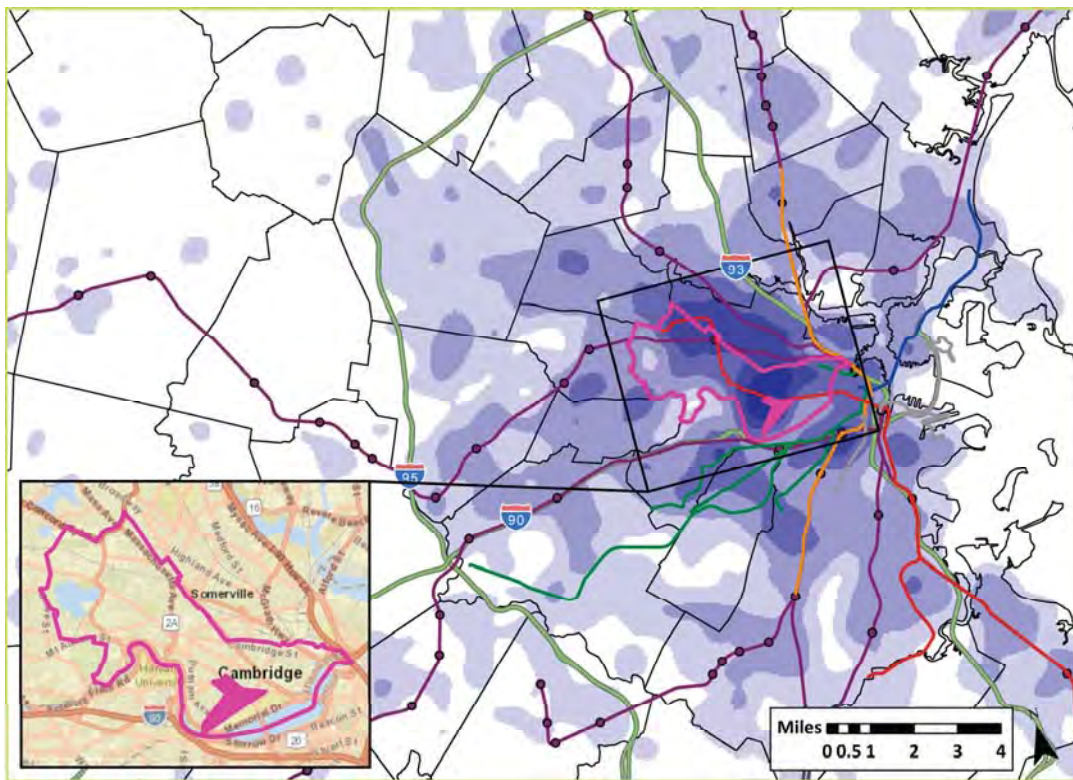
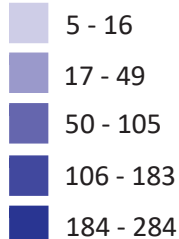
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Missing points indicate that no workers arrive at work at that time by that particular mode. ²Excludes workers who do not live in households (i.e. students living in dormitories, etc.)

UNIVERSITY PARK & CENTRAL SQUARE WORKFORCE

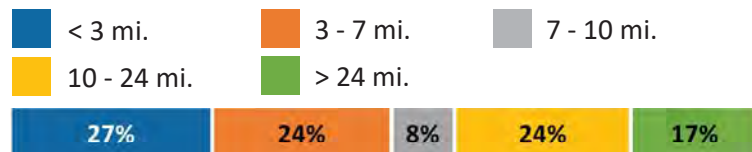
8,200 TOTAL WORKERS IN UNIVERSITY PARK & CENTRAL SQUARE, 8.9% LIVE IN CAMBRIDGE

Workforce Home Location

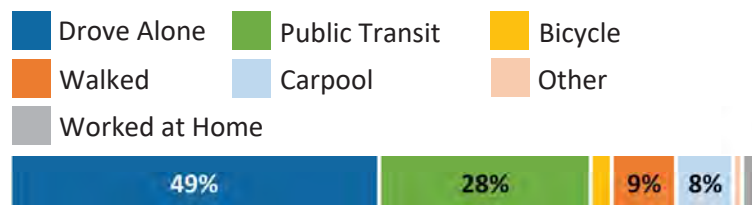
Workers per Square Mile



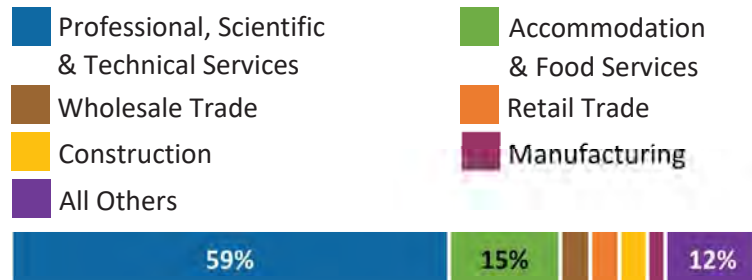
Commute Distance



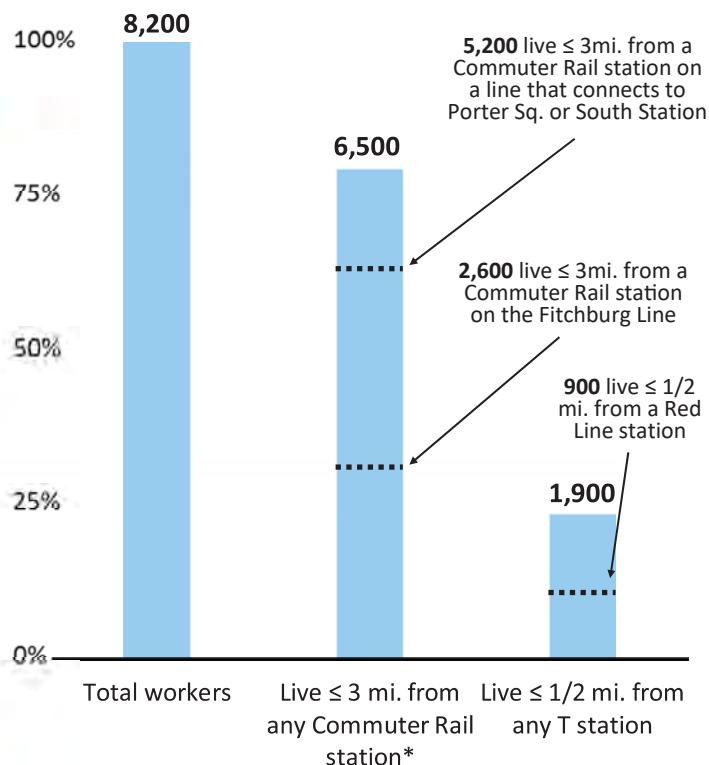
Commuting Mode Split¹



Top Employer Industries



Transit Proximity of Home Location

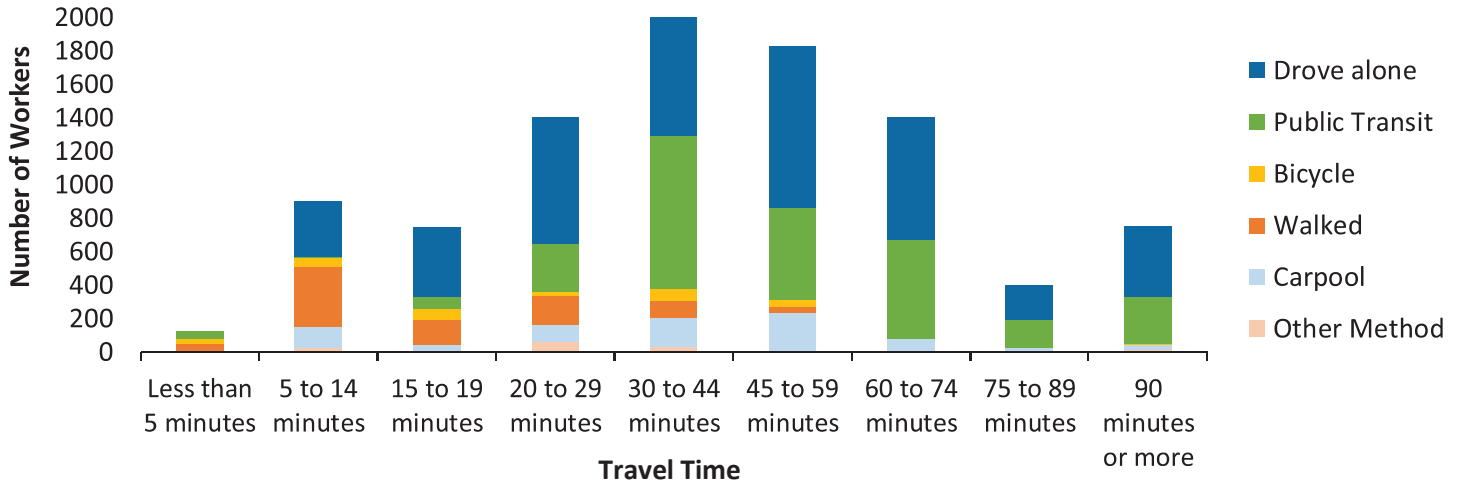


*Includes all stations active or under construction as of 2015.

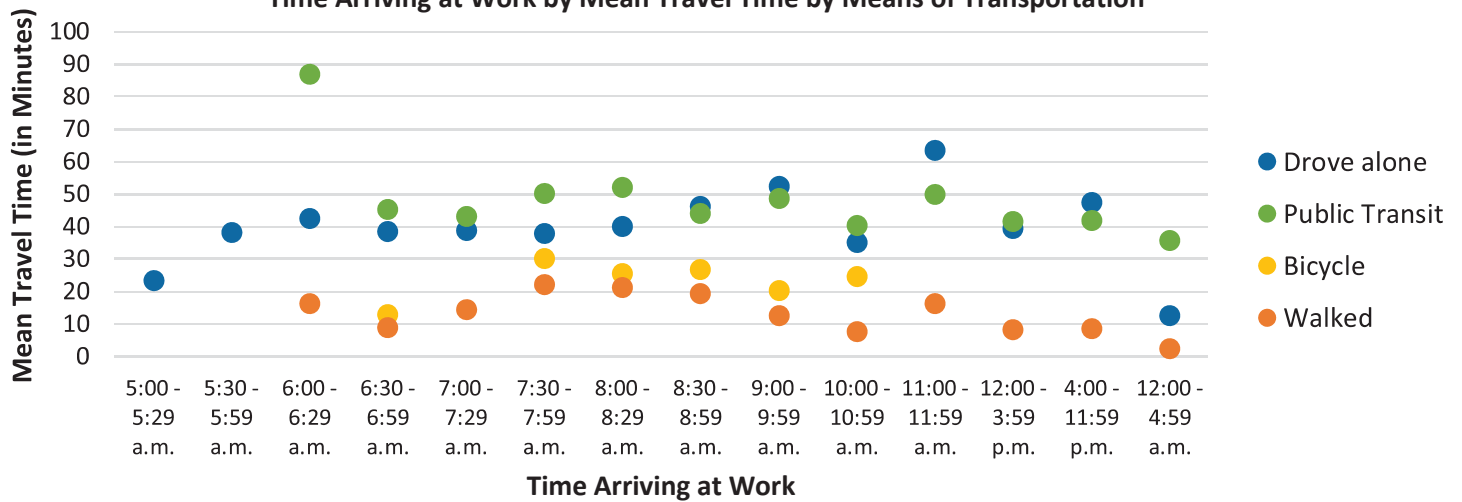
Source: Unless noted otherwise, all data on this page derive from LEHD OnTheMap origin-destination analysis, current as of 2017. ¹Data derived from Census Transportation Planning Products, based on 2012 - 2016 5-year American Community Survey estimates.

UNIVERSITY PARK & CENTRAL SQUARE WORKFORCE

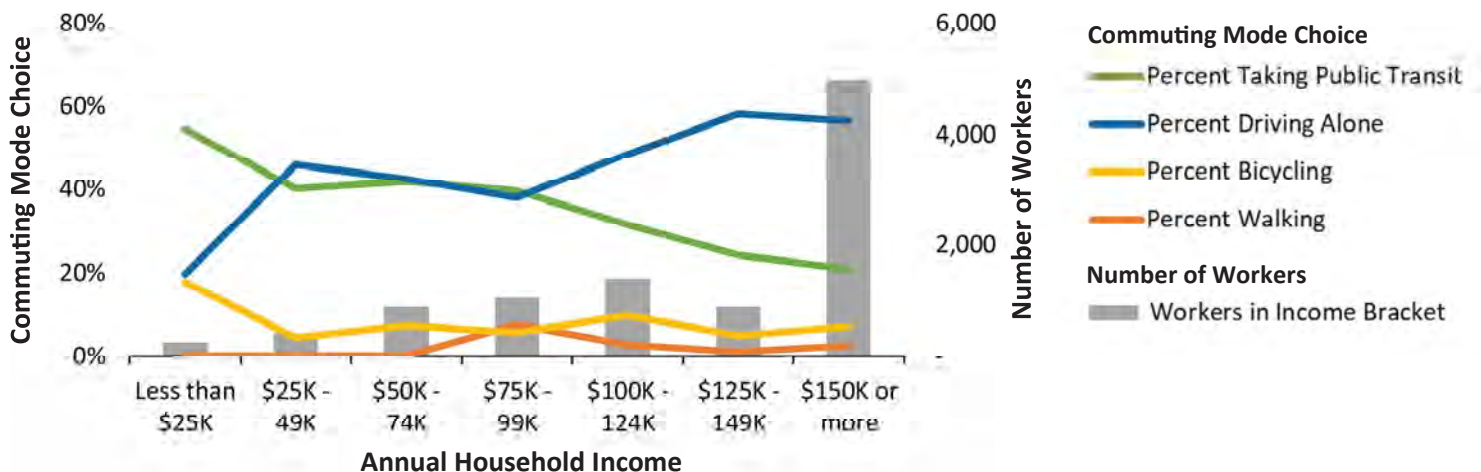
Travel Time by Means of Transportation



Time Arriving at Work by Mean Travel Time by Means of Transportation¹



Annual Household Income by Means of Transportation and Number of Workers²



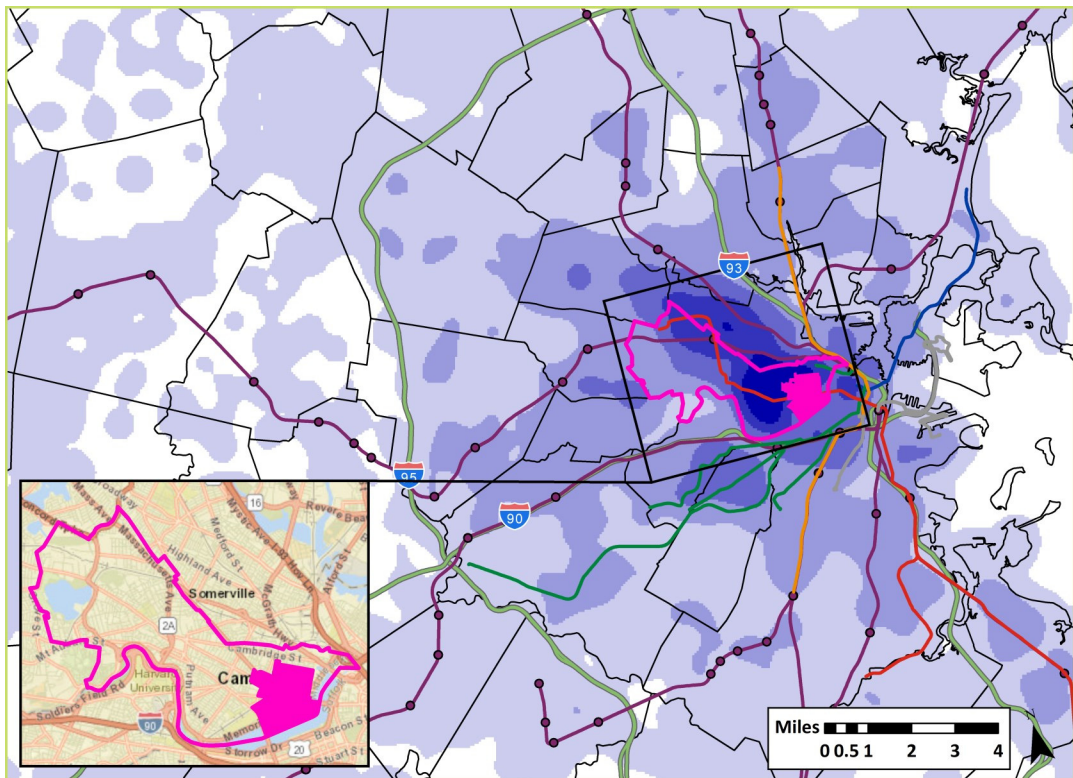
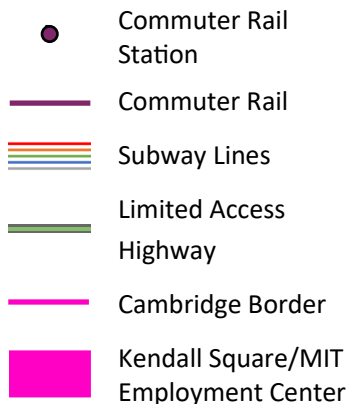
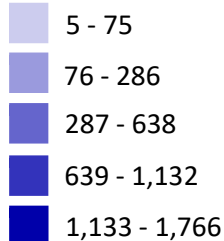
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Missing points indicate that no workers arrive at work at that time by that particular mode. ²Excludes workers who do not live in households (i.e. students living in dormitories, etc.)

KENDALL SQUARE/MIT WORKFORCE

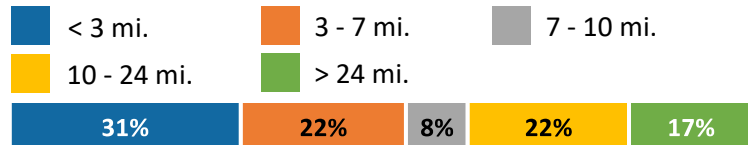
43,000 TOTAL WORKERS IN KENDALL SQUARE/MIT, 12.1% LIVE IN CAMBRIDGE

Workforce Home Location

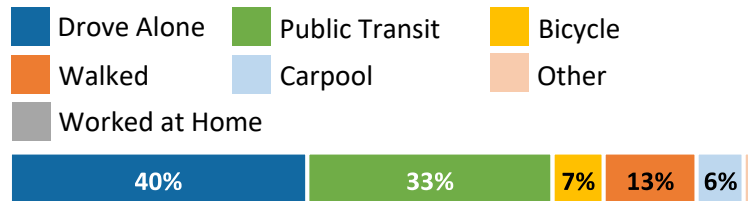
Workers per Square Mile



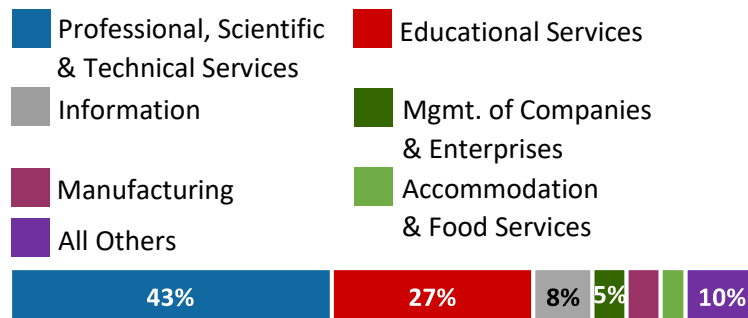
Commute Distance



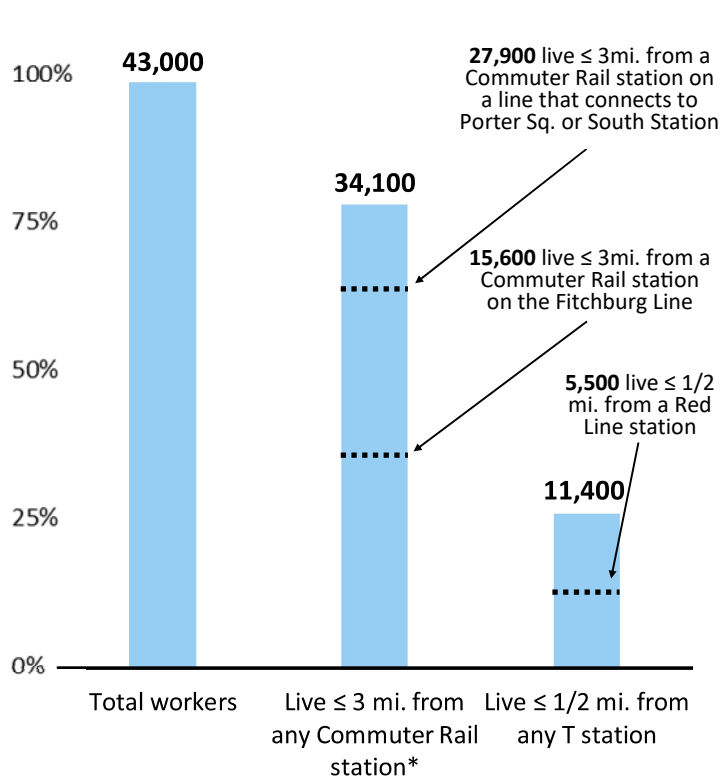
Commuting Mode Split¹



Top Employer Industries



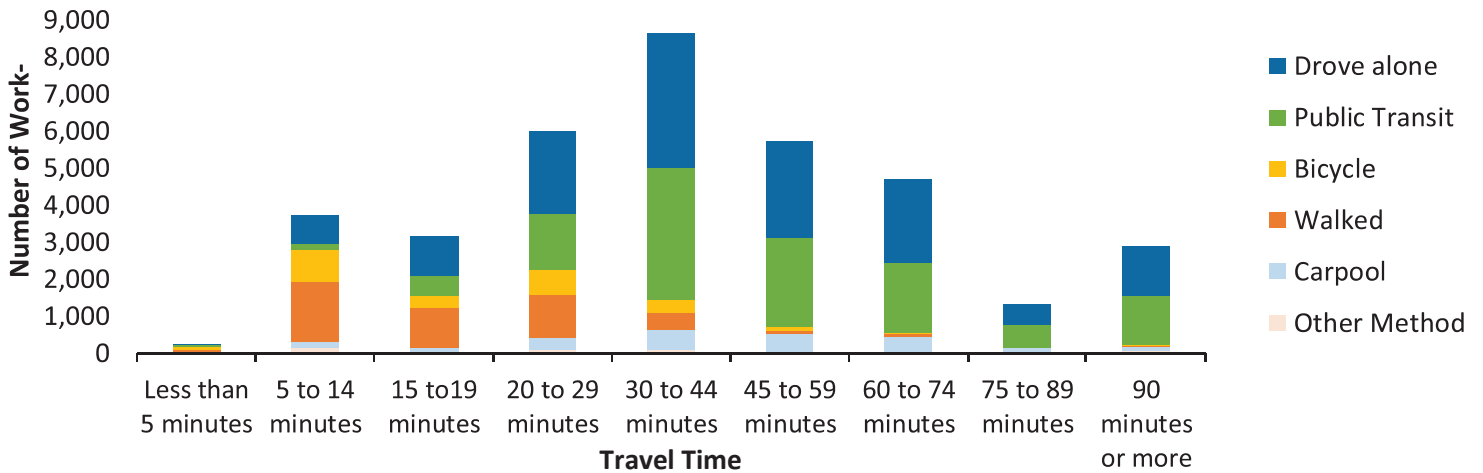
Transit Proximity of Home Location



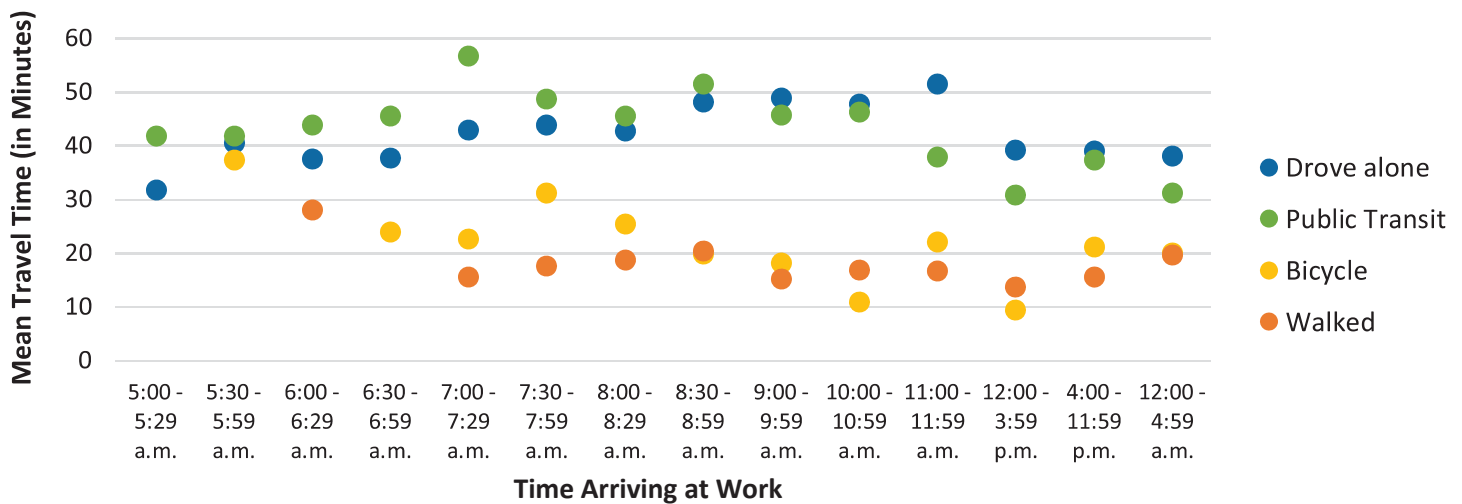
Source: Unless noted otherwise, all data on this page derive from LEHD OnTheMap origin-destination analysis, current as of 2017. ¹Data derived from Census Transportation Planning Products, based on 2012 - 2016 5-year American Community Survey estimates.

KENDALL SQUARE/MIT WORKFORCE

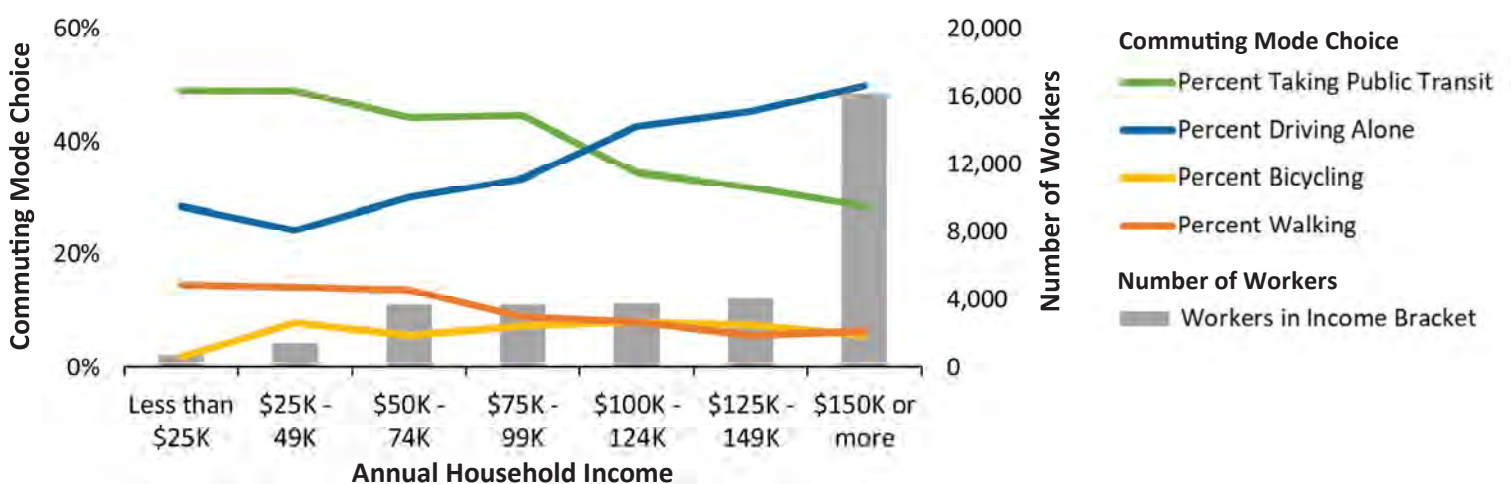
Travel Time by Means of Transportation



Time Arriving at Work by Mean Travel Time by Means of Transportation¹



Annual Household Income by Means of Transportation and Number of Workers²



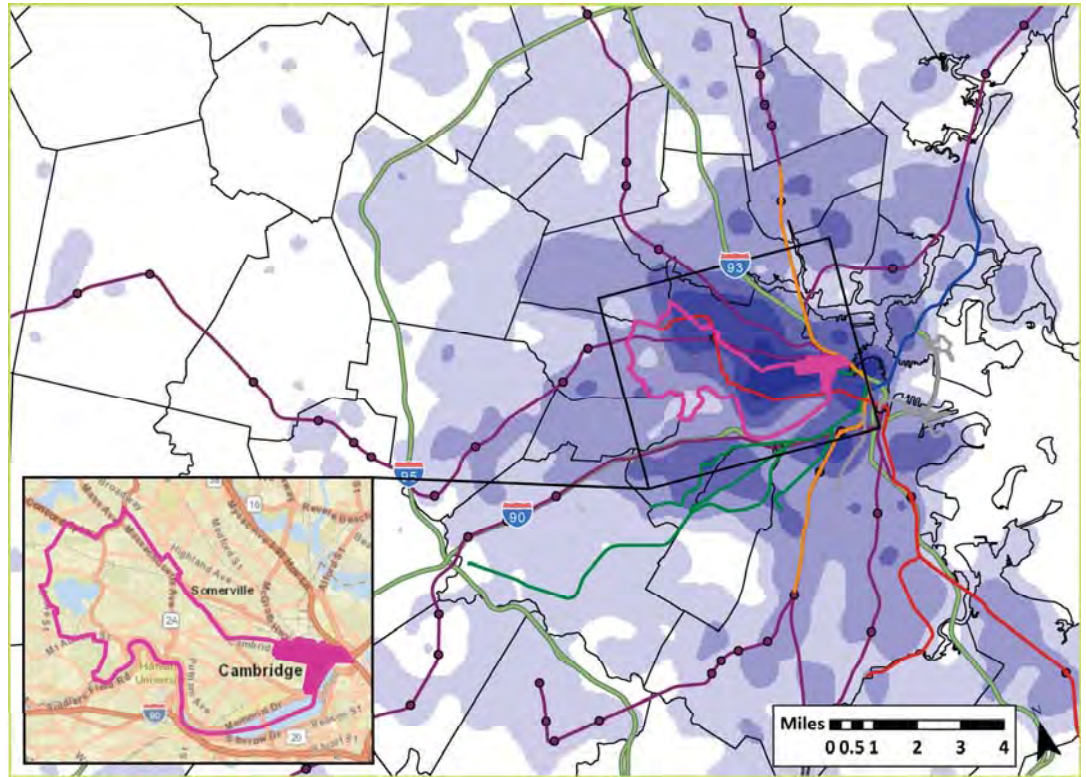
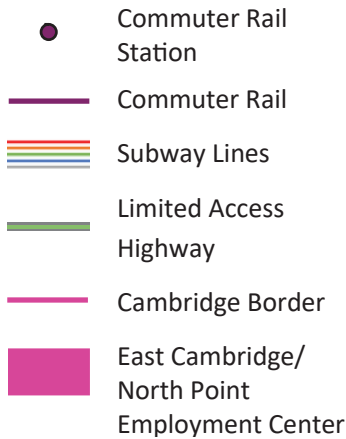
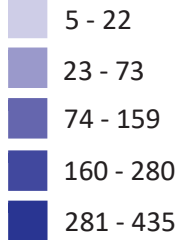
Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Missing points indicate that no workers arrive at work at that time by that particular mode. ²Excludes workers who do not live in households (i.e. students living in dormitories, etc.)

EAST CAMBRIDGE/NORTH POINT WORKFORCE

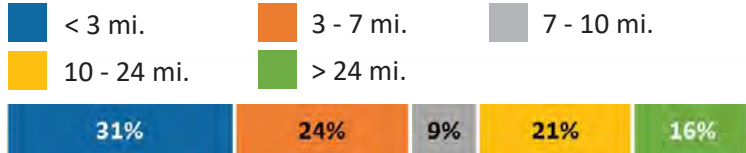
12,300 TOTAL WORKERS IN EAST CAMBRIDGE/NORTH POINT, 9.4% LIVE IN CAMBRIDGE

Workforce Home Location

Workers per Square Mile



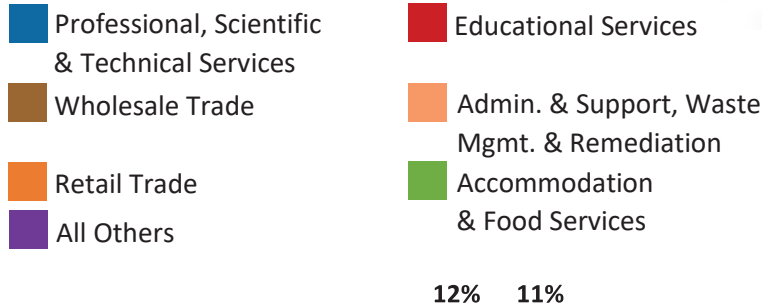
Commute Distance



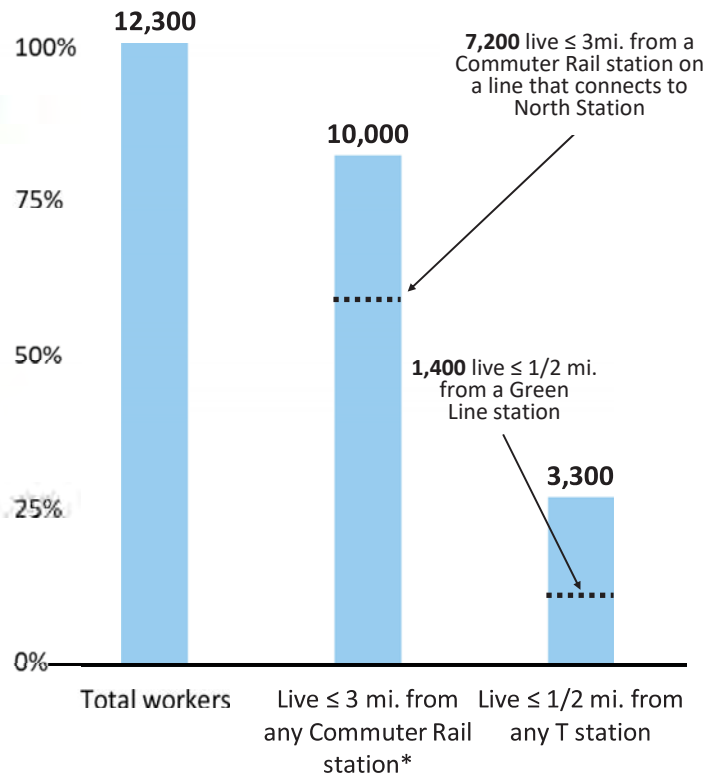
Commuting Mode Split¹



Top Employer Industries



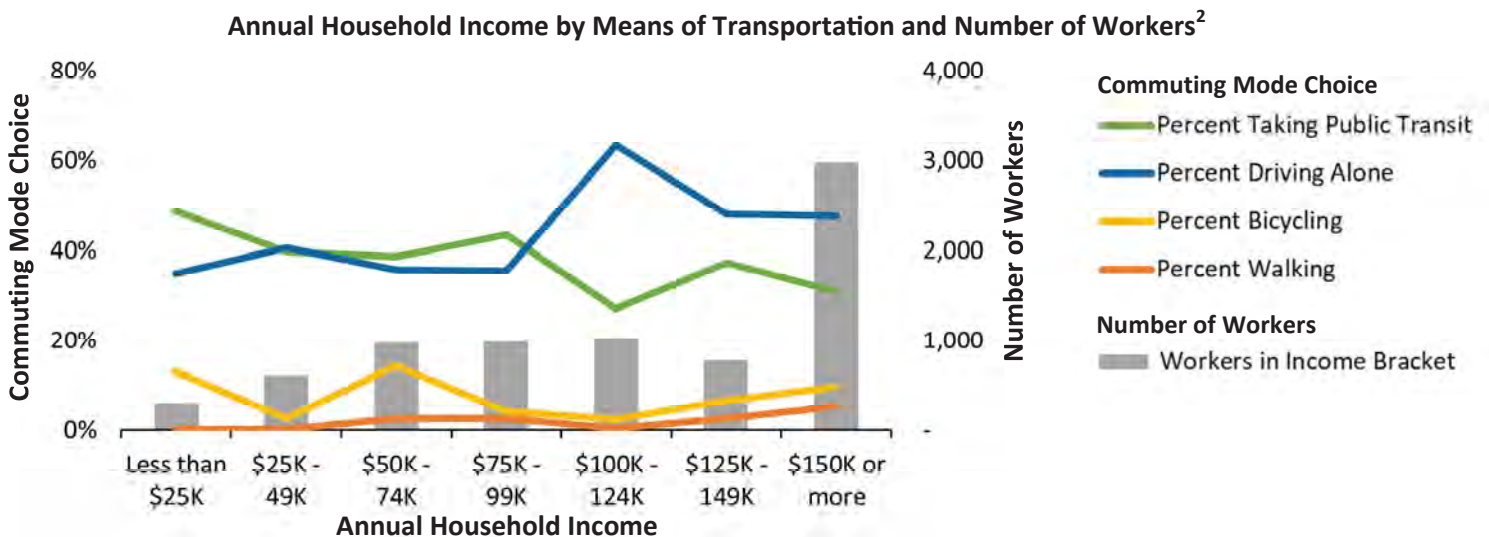
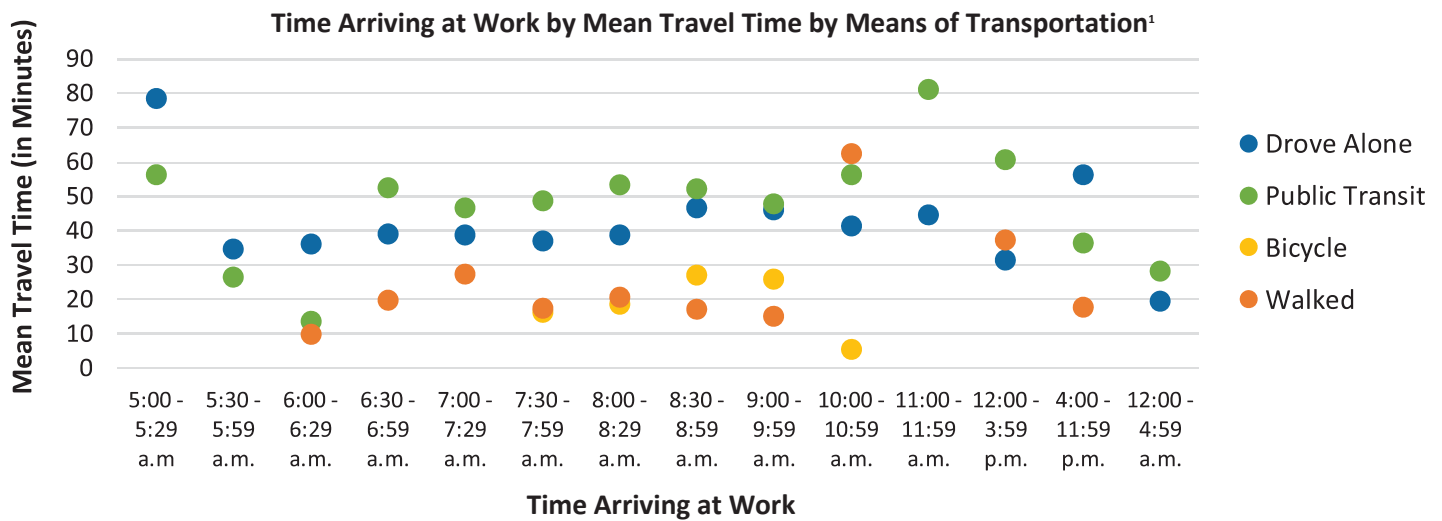
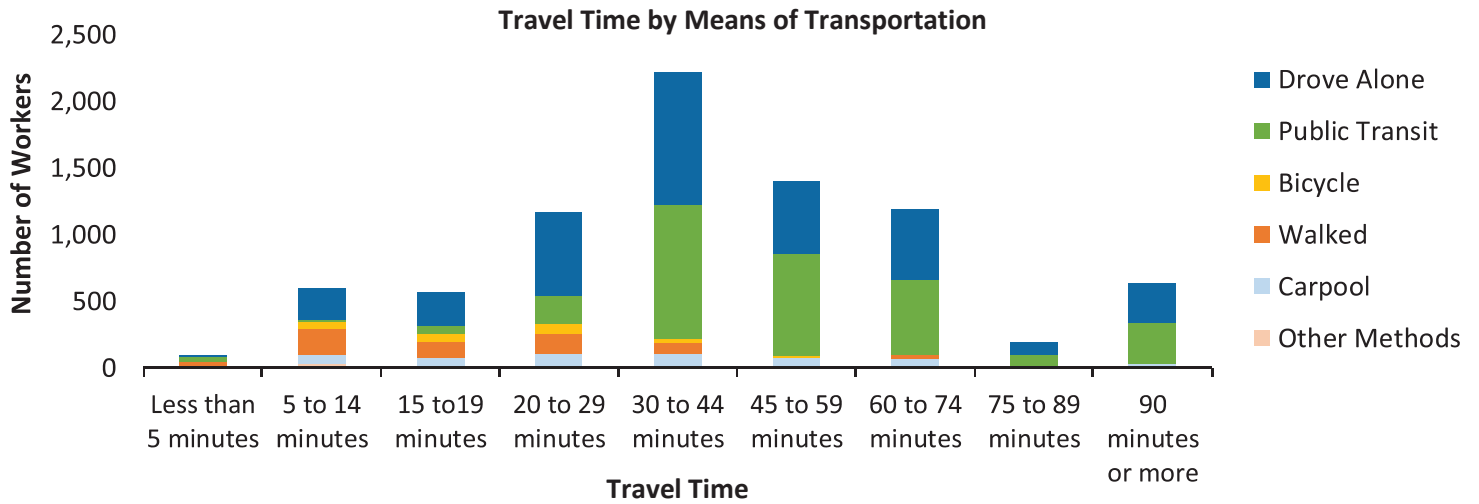
Transit Proximity of Home Location



*Includes all stations active or under construction as of 2015.

Source: Unless noted otherwise, all data on this page derive from LEHD OnTheMap origin-destination analysis, current as of 2017. ²Data derived from Census Transportation Planning Products, based on 2012 - 2016 5-year American Community Survey estimates.

EAST CAMBRIDGE/NORTH POINT WORKFORCE



Source: All data on this page derive from the Census Transportation Planning Products, based on 2012-16 5-year American Community Survey estimates. ¹Missing points indicate that no workers arrive at work at that time by that particular mode. ²Excludes workers who do not live in households (i.e. students living in dormitories, etc.)

ABOUT THE DATA

ABOUT THE DATA

About U.S. Census Bureau Data Sources

The majority of the information in the report derives from U.S. Census Bureau surveys. Surveys measure a characteristic by counting (i.e. surveying) a randomly selected sample of a population. Surveys are subject to both sampling and non-sampling error. Sampling error represents the difference between the measured values in the sample and the actual values across the entire population. Unlike non-sampling error, mathematical techniques exist for estimating the size of sampling error. Non-sampling error includes problems such as incomplete address lists, recording errors by survey staff, and incorrect answers to questions.

- The 2000 data derives from the 2000 Census Transportation Planning Products (CTPP), a special tabulation of 2000 Decennial Census data. The 2000 Journey to Work data is based upon the results of the long form Decennial Census questionnaire, which was sent to approximately one in six households. The CTPP summarizes individual commuting data. Information is reported by place of residence (Part 1), place of work (Part 2), and worker-flows between home and work (Part 3). In the case of Part 3 of the CTPP, the Census Bureau took steps that make comparisons to analogous data sets problematic. Many values were rounded or suppressed to protect individual confidentiality and some commute modes were combined. This affects our ability to separate bicyclers, walkers, and several other “minor” modes of commuting into individual categories. While there exists no straightforward means to generate values for all modes, such figures have been approximated using a series of calculations.
- The 2006—2010 and 2012—2016 data are excerpted from more recent versions of the CTPP. These recompile data collected for the American Community Survey (ACS). The ACS replaced the long form Decennial Census questionnaire after the 2000 Census and incorporates analogous questions related to commuting. This survey is administered on a rolling basis throughout the year to approximately 1-2% of the population annually. The 2006—2010 and 2012—2016 datasets each compile five years of ACS results into a single file. Unlike the ACS, the CTPP is not updated every year; 2006—2010 and 2012—2016 are the two most recent versions.

About LEHD/LODES Data

Data included in the employment district profiles derive from the 2017 Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) data, a product made available by the Census Bureau through the OnTheMap online application. LEHD/LODES is a partially synthetic dataset that describes geographic patterns and attributes of jobs. The data derives from administrative records of employed persons covered by the unemployment insurance system. Each state unemployment compensation system assembles and reports this material to the U. S. Bureau of Labor Statistics.

In the context of LEHD/LODES and OnTheMap, a job is counted if a worker is employed with positive earnings during both the reference quarter and during the quarter prior to the reference quarter. Since LEHD data refers to jobs rather than persons, individuals with more than one form of employment are included as two or more data points. The data in this report refers only to primary jobs covered by unemployment insurance. A primary job is the highest paying job for an individual worker for the year, thus the count of primary jobs is the same as the count of workers covered by unemployment insurance. Topics covered by OnTheMap include job location, worker residence location and a variety of demographic characteristics.

ABOUT THE DATA

Compiling Employment Center Data

Each of the Employment Center profiles includes data from the CTPP and from OnTheMap. While OnTheMap allows for analysis of custom geographies, CTPP is restricted to analysis of Census-designated geographies. For this reason, we compiled Traffic Analysis Zones (TAZs) to create the boundaries of the Employment Centers, as they are defined in this report. Details about this compilation for each employment district are as follows:

- **Alewife / Fresh Pond:** Analysis was performed on the area that fell within the boundaries of TAZs 09049043, 09049050, 09049065 and 0904965 and 09049070.
- **Harvard Square / University:** Analysis was performed on the area that fell within the boundaries of TAZs 09049001, 09049003, 09049004, 09049011, 09049025, 09049028, 09049046 and 09049047.
- **East Cambridge / North Point:** Analysis was performed on the area that fell within the boundaries of TAZs 09049006, 09049015, 09049018, 09049035 and 09049071.
- **Kendall Square / MIT:** Analysis was performed on the area that fell within the boundaries of TAZs 09049002, 09049010, 09049019, 09049021, 09049023, 09049032, 09049033, 09049039, 09049041, and 09049068.
- **University Park / Central Square:** Analysis was performed on the area that fell within the boundaries of TAZs 09049007, 09049020, 09049022, 09049024, 09049026 and 09049034.

Inclusion of Students and Other Group Quarters Residents in Journey to Work Mode Data

The Journey to Work datasets from 2000, 2006—2010 and 2012—2016 all include data collected from employed students living both on and off campus. However, residents of noninstitutionalized group quarters, such as all college and some graduate student on-campus housing, are excluded from tables that report household statistics, such as those about income, presence of children, and vehicle availability. Residents of institutional group quarters, such as nursing homes and jails, were included in Journey to Work data generated from the 2000 Decennial Census. Starting in 2006 institutional group quarters residents were excluded from all Journey to Work statistics collected through the ACS.

The LEHD/LODES dataset does not explicitly exclude students or other group quarters residents. However, because work study employees are not eligible for unemployment insurance and are thus not included in the LEHD/LODES data, it is unlikely that many students residing in dormitories are represented in the data.

Proportion of Commuters Assigned to Walking Mode

Commute mode data derives from the question: “How did this person usually get to work last week? If this person used more than one method of transportation during the trip, mark the box for the one used for most of the distance.”

Mistaken answers based on time rather than distances might help account for the seemingly large proportion of commuters who either report walking from Cambridge to work in distant towns or the reverse. Another explanation for this peculiarity may be persons who commuted that week from a location that’s closer to their reported workplace than is their reported address. Whatever the source for these long-distance walkers, similar peculiarities are found in each of

ABOUT THE DATA

Availability of Vehicles and Single Occupancy Vehicle Mode

The number of vehicles available to the household is compiled from the answer to the question: “How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of this household?”

An anomaly in the data is the frequency with which persons who report no access to a vehicle also report driving alone to work. Aside from incorrect answers to the question, there appear to be at least three likely explanations for this. Under some circumstances work vehicles that are brought home by an employee might not be considered a “vehicle available to the household,” though the questionnaire instructions do attempt to exclude such vehicles if they are not otherwise available for personal errands. A second possibility is that the respondent drove a borrowed vehicle to work and does not consider it to be a household vehicle. A third possibility, which seems probable within the Cambridge context, is persons using a carshare vehicle, such as one from Zip Car, Enterprise or Hertz, for commuting purposes.

Transit Lines

Unless otherwise noted, all transit lines in this report are current as of the end of 2017. Thus, the Silver Line expansion to Chelsea, completed in 2018, is not featured in any maps.

Tabular Data

Data tables with Journey to Work data by census tract from the 1990, 2000, 2006—2010 and 2012—2016 data sets are available on the City of Cambridge Open Data Portal:

<https://data.cambridgema.gov/browse>.

Select demographic and socio-economic data from the 2012—2016 Journey to Work dataset is also available at this location.

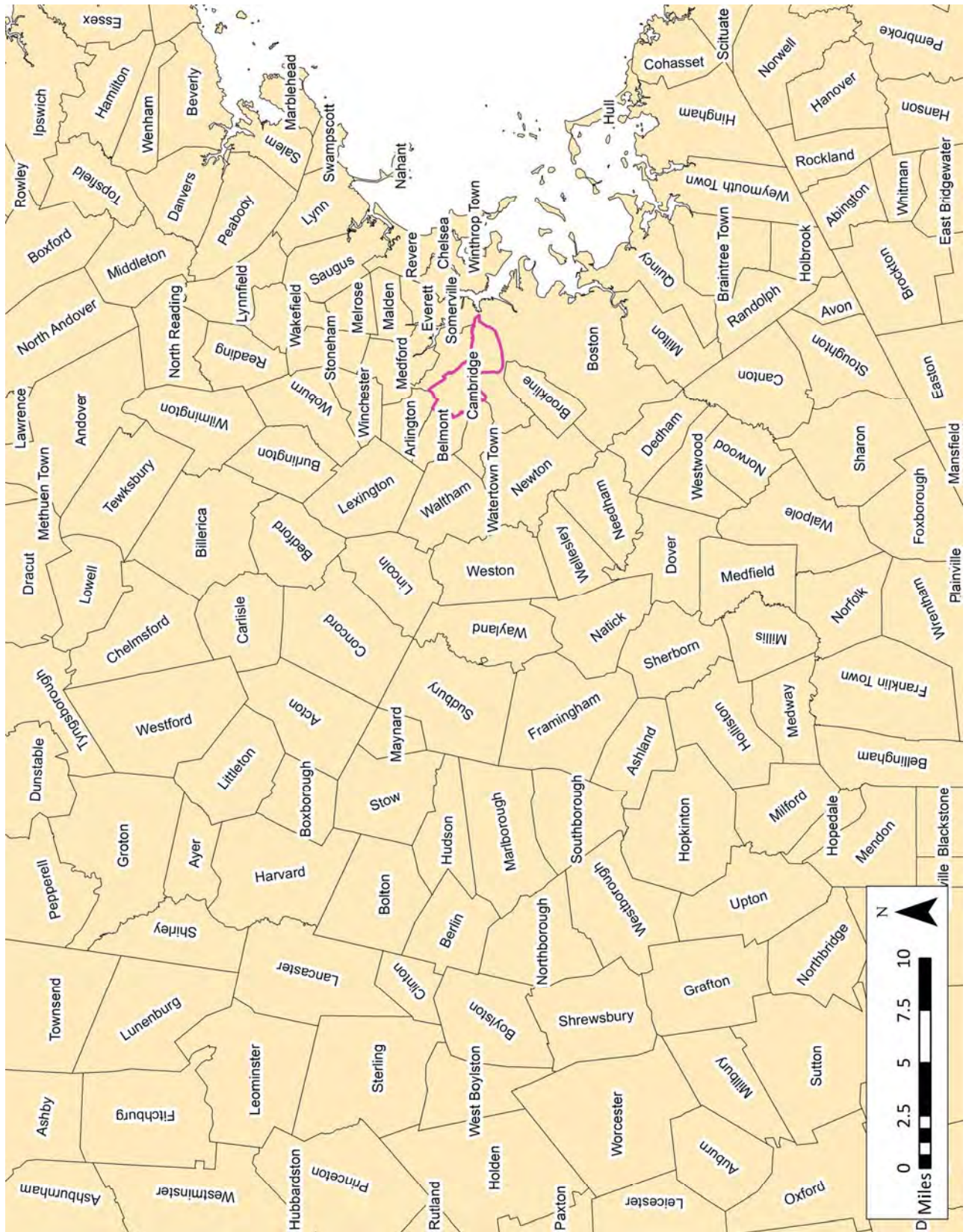
Links to External Data and Documentation

- AASHTO’s Census Transportation Planning Products: <https://ctpp.transportation.org/>
- For more information about the OnTheMap application and data see: https://lehd.ces.census.gov/applications/help/onthemap.html#!what_is_onthemap and <https://lehd.ces.census.gov/doc/help/onthemap/OnTheMapDataOverview.pdf>

APPENDICES

APPENDIX A

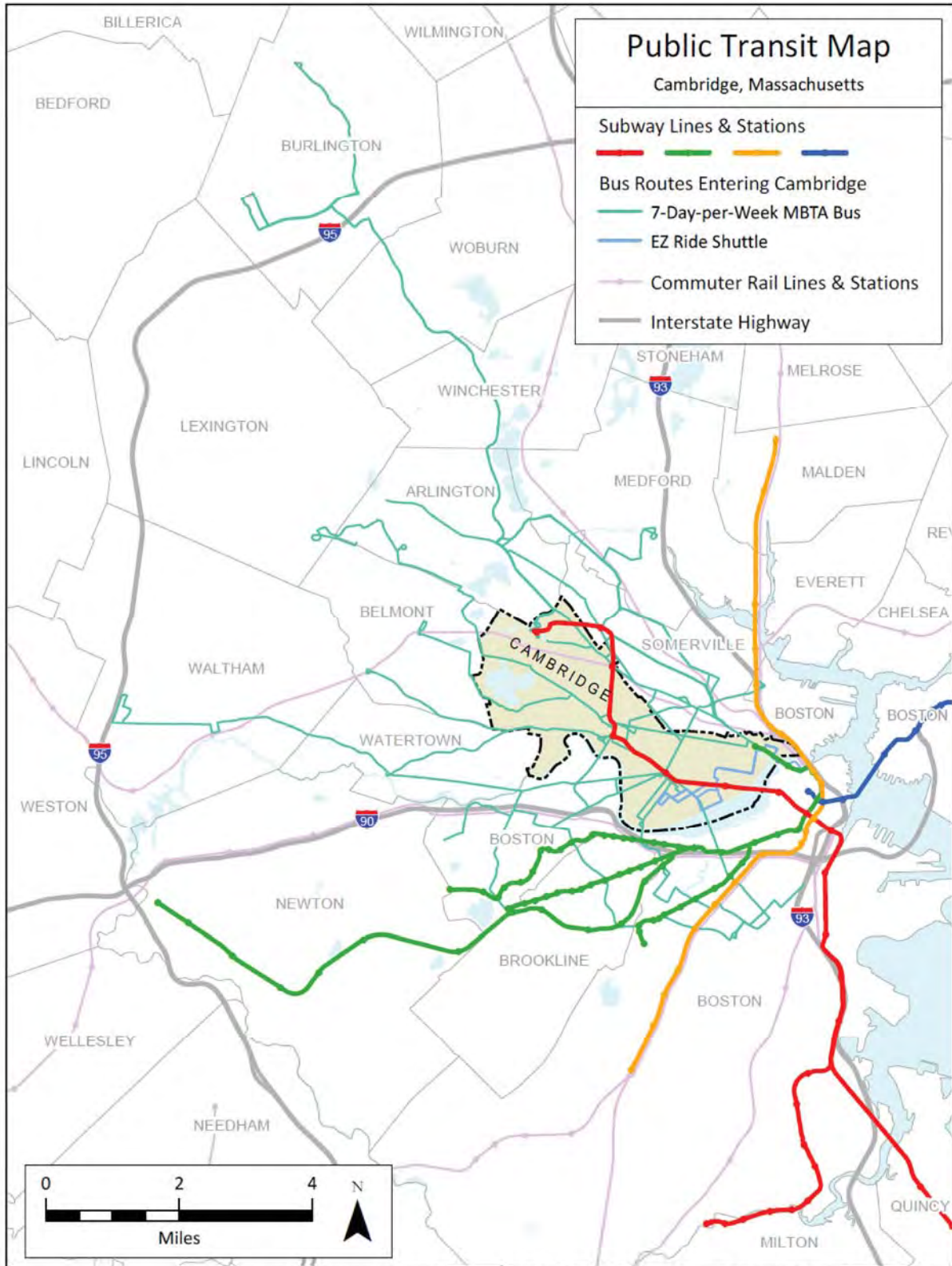
Cities and Towns in Eastern Massachusetts



APPENDIX B

Cambridge-Connected Transit Lines

Rapid Transit and Bus Lines that Originate in or Pass Through Cambridge

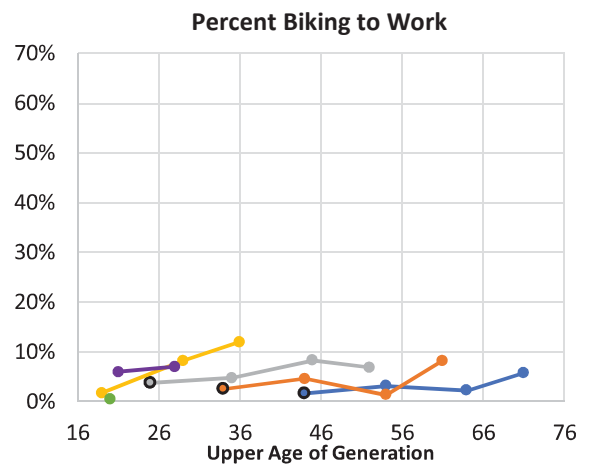
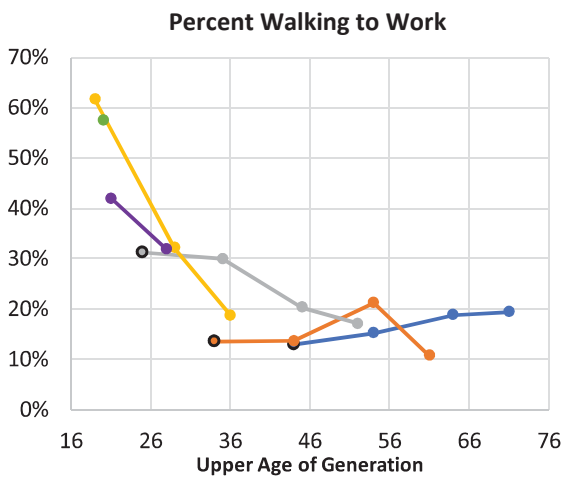
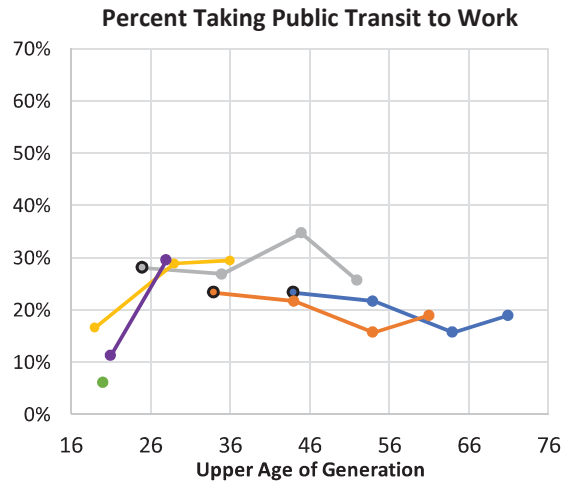
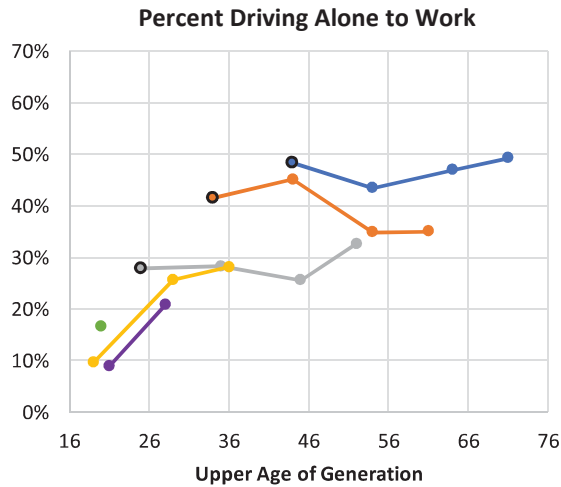


APPENDIX C

Labor Force Generational Mode Split Analysis

● Early Boomers
 ● Late Boomers
 ● Generation X
 ● Early Millennials
 ● Late Millennials
 ● Generation Z

○ Indicates that data represents Cambridge and Somerville combined. See “About the Data” for more information.



About the Data

- Points outlined in black: Due to inconsistently available geographies, we were unable to isolate Cambridge in the 1990 data. Thus, this 1990 mode split data represents that for Cambridge and Somerville combined.
- All statistics were derived using IPUMS USA, which allows for cross-tabulation and special analysis of data from various Census Bureau products, including the Decennial Census and the American Community Survey.
- Due to inconsistent geographies available through IPUMS, our analysis of Cambridge mode split by generation was limited to including data from 1990 (Census 5%), 2000 (Census 5%), 2010 (ACS 1-Year Estimates) and 2017 (ACS 1-Year Estimates). The rightmost point on each line represents the most recent year of data.
- Generations as they are referred to in this analysis are defined as follows:

Generation	Birth Year	
	Upper Age	Lower Age
Early Boomers	1946	1955
Late Boomers	1956	1964
Generation X	1965	1980
Early Millennials	1981	1988
Late Millennials	1989	1996
Generation Z	1997	2012

APPENDIX D

Commuting Costs by Mode

Estimated Median Commuting Cost Per Day

Geography	Daily Commuting Cost Driving All the Way ¹	Daily Commuting Cost Taking Public Transit ²	Estimated Median Annual Individual Income ³
Boston-Cambridge-Newton, MA-NH Metropolitan Statistical Area	\$11.80	\$4.20	\$37,737
Massachusetts	\$10.90	\$4.00	\$34,643
United States	\$11.00	\$6.00	\$29,122

¹Includes respondents who reported carpooling as well as those who drove a company car to work. The daily cost of driving (including gas, insurance, and use only) is estimated by multiplying the distance reported by the national 2017 Standard Mileage Rate of 53.5 cents for every mile of travel driven. The Internal Revenue Service (IRS) establishes the standard mileage rate based on an annual study of the fixed and variable costs of operating an automobile. It includes fuel, insurance, registration fees, taxes, maintenance for wear and tear, and depreciation. The full daily cost of driving is then estimated by summing together the daily cost of driving (including gas, insurance, and use only), the daily cost of parking, and the daily cost of tolls. Parking and toll data do not include respondents who drive a company car to work because it is assumed that they have these expenses paid for by their employers.

²Includes respondents who use public transportation for only part of their commute. Excludes respondents who also drive a company car to work. Daily public transportation costs were estimated by dividing a respondent's out-of-pocket costs (cost of public transportation minus any amount subsidized by an employer) by the number of days the respondent commuted.

³Medians were calculated using standard estimation techniques, and are based on 2013-17 American Community Survey 5-Year Estimates in Table B06010.

Unless otherwise noted, data is derived from the 2017 American Housing Survey (AHS). For more information about the AHS, visit <https://www.census.gov/programs-surveys/ahs.html>.

