NEWTON/NEEDHAM TRANSPORTATION SURVEY

PRELIMINARY (1-DIMENSIONAL) DATA PREVIEW

FEBRUARY 15, 2018

128 BUSINESS COUNCIL
UNLOCKING THE GRID

THE BASICS

1320 people

took the survey

84.8%

completion rate

This is an estimate based upon unique visits to the survey page. Perhaps not surprisingly, 99.6% of visits from a desktop, but only 49.3% of visits from a phone, yielded a complete response.

13:22

average time to completion

Respondents using a desktop spent the most time on the survey, averaging 13:42, while respondents from a phone averaged 11:45. Tablets fell in between.

▶ We are still in the process of cleaning the data, going line-by-line through each completed response to isolate invalid entries.

▶ Going forward through the report, this sidebar will highlight some of the issues and questions that will drive our final (multi-dimensional) data analysis.
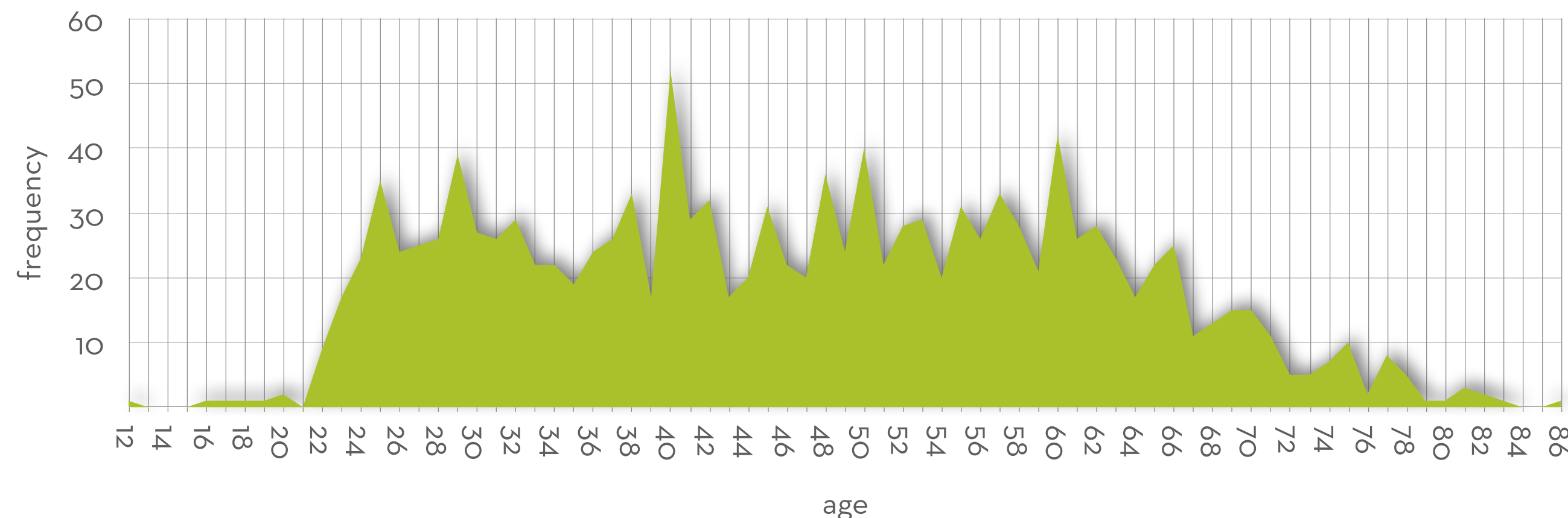
DEMOGRAPHICS: Age

12 years old

youngest person who completed the survey

86 years old

oldest person who completed the survey

age of survey respondents
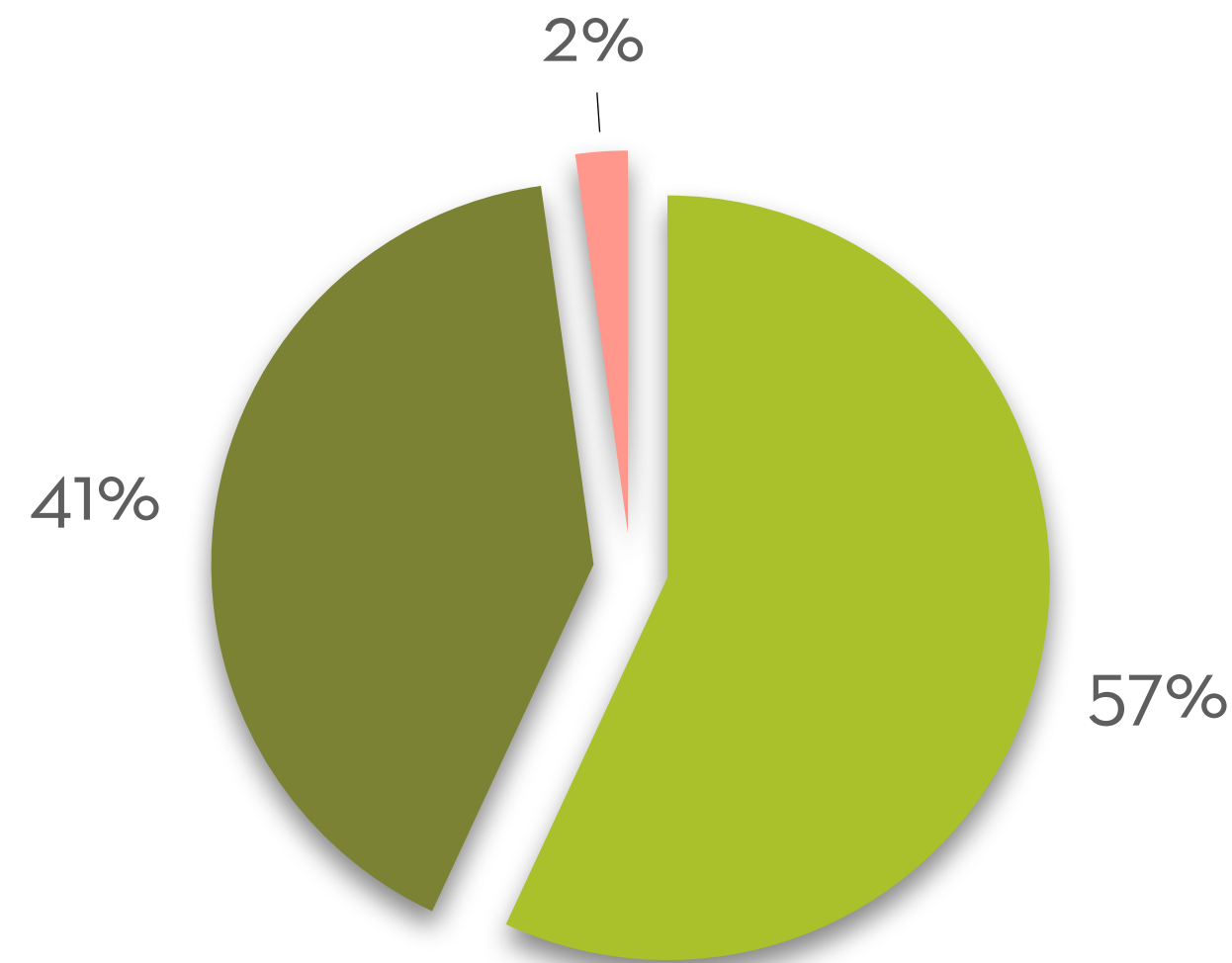

- How do these demographic markers compare to the demographics of Newton and Needham? To the Commonwealth as a whole?

- Do transit mode preferences relate to generational divisions for this population?
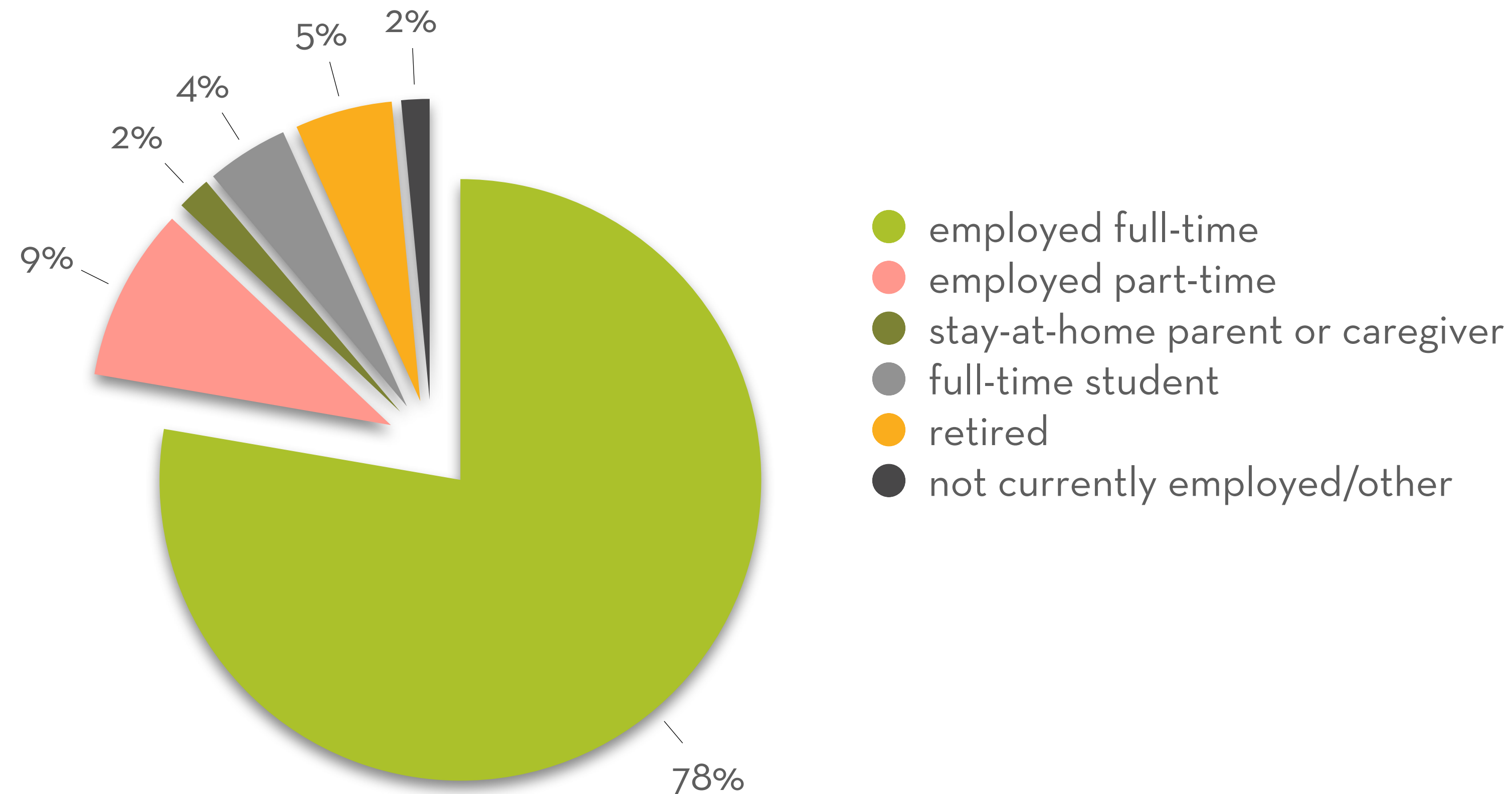
DEMOGRAPHICS: Gender and Race

2%

41%

57%

- ● female
- ● male
- ● other/prefer not to answer

caucasian/white	**89.8%**
asian	**5.6%**
hispanic/latino	**3.4%**
african-american/ african/black	**2.6%**
native american or alaska native	**0.5%**
native hawaiian or other pacific islander	**0.4%**
other	**0.7%**

▶ **How do these demographic markers compare to the demographics of Newton and Needham? To the Commonwealth as a whole?**

▶ **Do these demographic markers relate to a sense of comfort with or 'belonging' on public transit?**

DEMOGRAPHICS: Employment Status

5%   2%

4%

2%

9%

- employed full-time
- employed part-time
- stay-at-home parent or caregiver
- full-time student
- retired
- not currently employed/other

78%
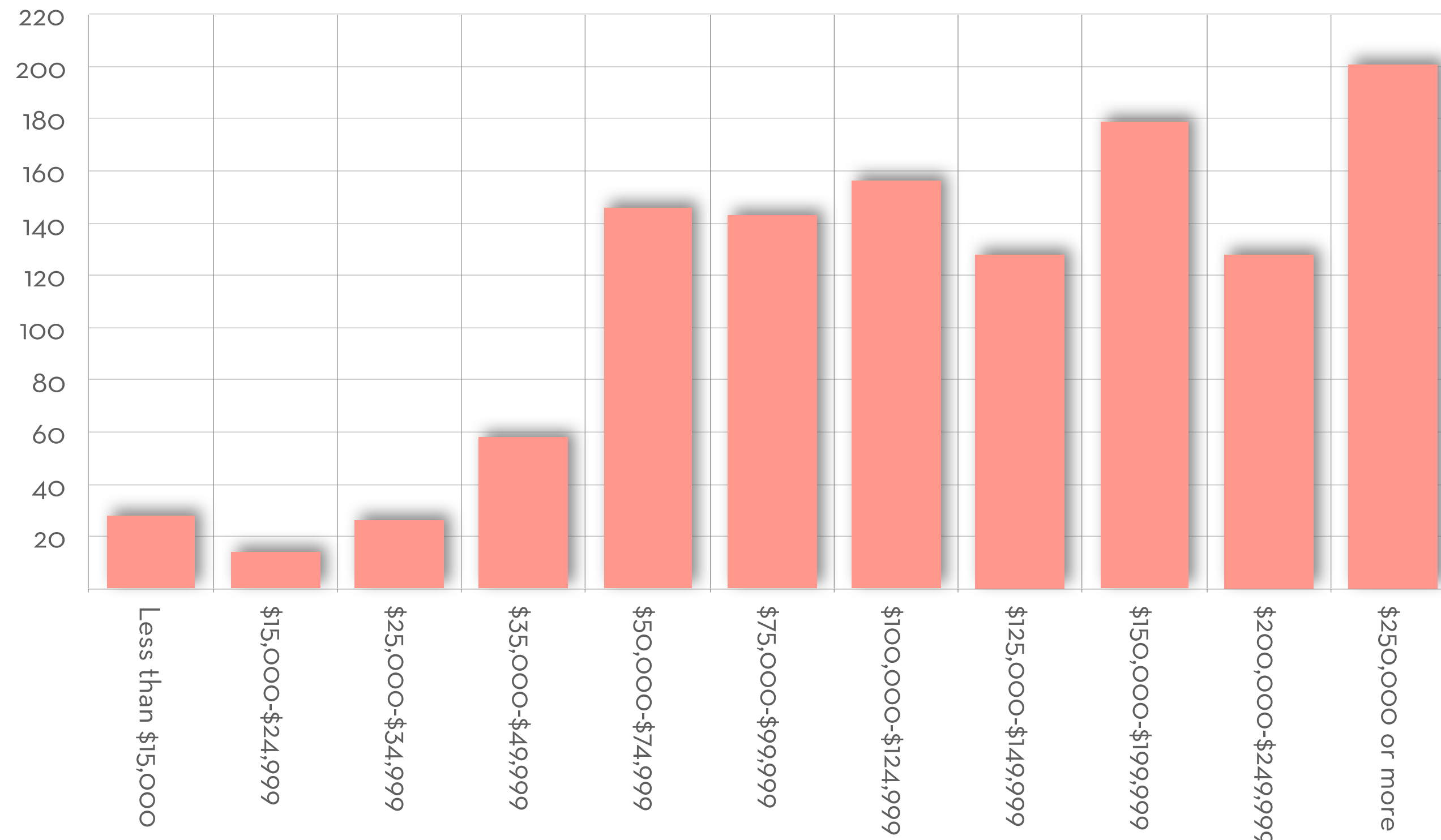
How do these demographic markers compare to the demographics of Newton and Needham? To the Commonwealth as a whole?

Is there any correlation between employment status and mode dependency or preference?

DEMOGRAPHICS: Household Income

annual household income before taxes

- How do these demographic markers compare to the demographics of Newton and Needham? To the Commonwealth as a whole?

- Is there any correlation between income and mode dependency or preference?

GEOGRAPHY

36.6%
of those surveyed
LIVE in Newton

17.1%
of those surveyed
LIVE in Needham

47.3%
of those surveyed
COMMUTE INTO
Newton

25.9%
of those surveyed
COMMUTE INTO
Needham

▶ All of our raw ZIP code data needs to be converted into **dynamic trip data**, i.e. a mapped system of from+to data pairs.

▶ This trip data can then be compared against:
- collected departure and arrival time data, as well as trip length data.
- collected mode behavior data and qualitative mode satisfaction data.
- most importantly, preexisting alternative transit routes.

CAR OWNERSHIP

95.7%
of those surveyed
own a car

and yet
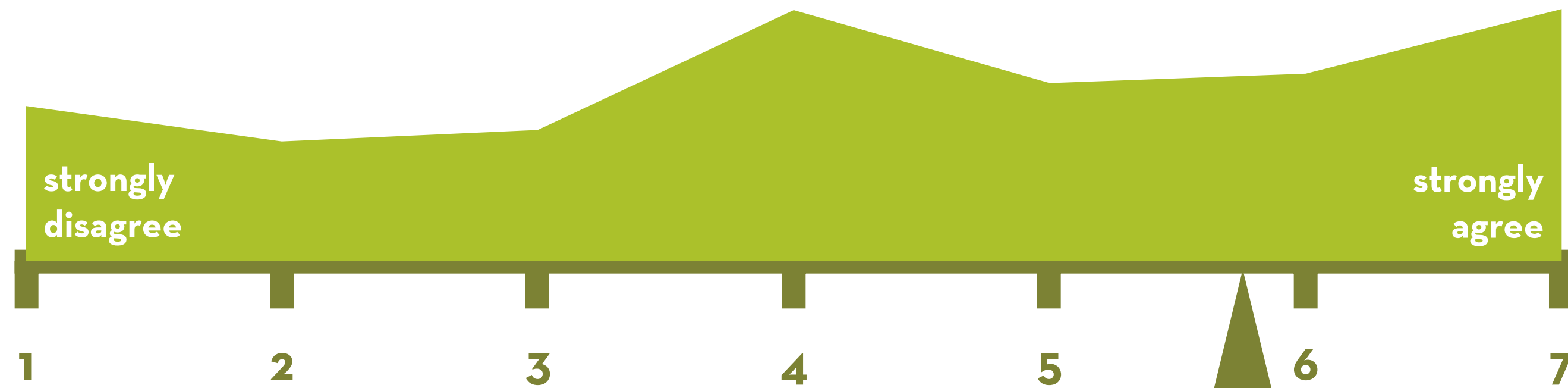
59.7%
of those surveyed
disagree with the statement
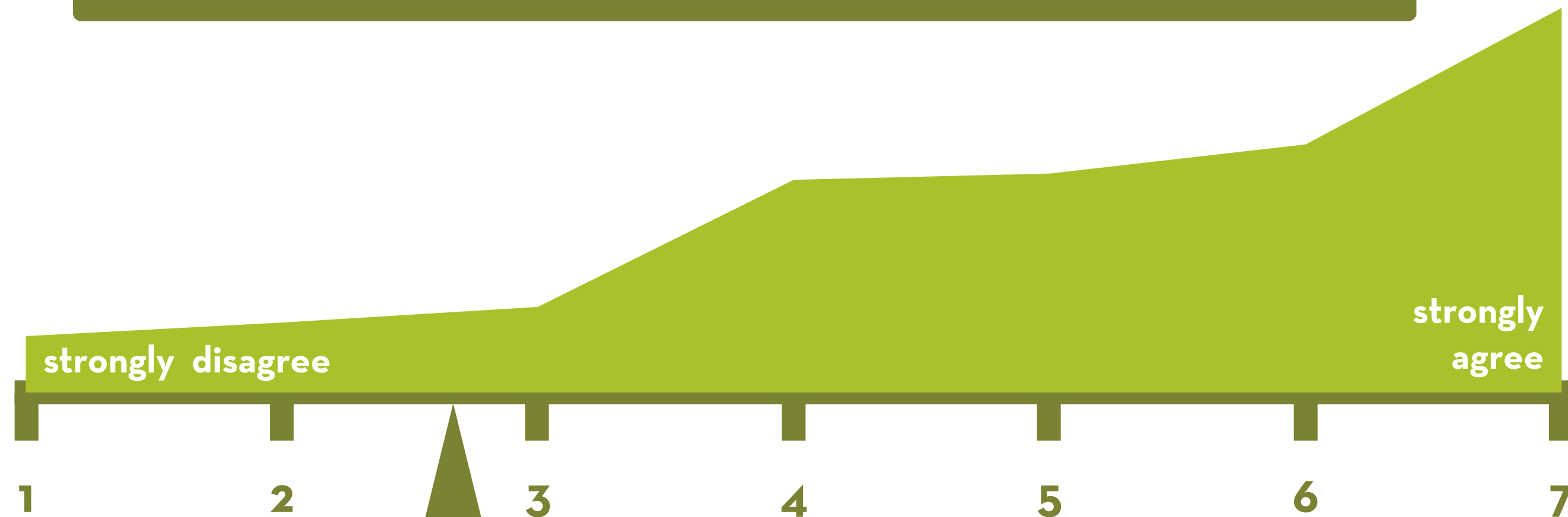
In an ideal world, everyone would have their own car.

Comparing car ownership data to zip code data, does living and working in the same zip code correspond to higher rates of not owning a vehicle?

CAR OWNERSHIP

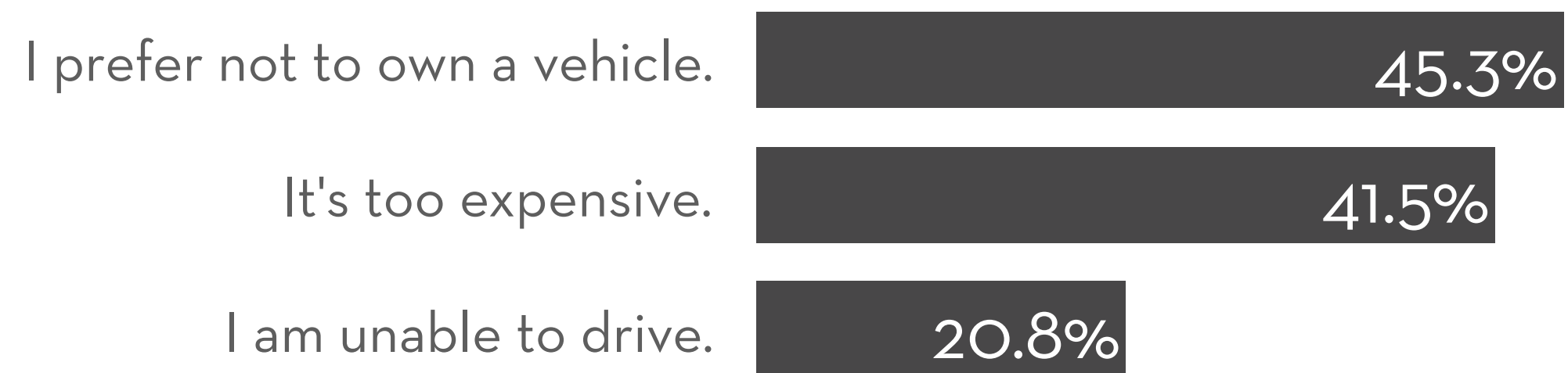For the **4.3%** of those surveyed who do <u>not</u> own a car, **why not?**

I prefer not to own a vehicle.	45.3%
It's too expensive.	41.5%
I am unable to drive.	20.8%

Why do you prefer not to?

Environmental reasons.	45.8%
I prefer to use carsharing.	37.5%
I find driving too scary/unsafe.	33.3%
Driving is inconvenient where I live.	25%
I can borrow a car	25%
Other.	16.7%
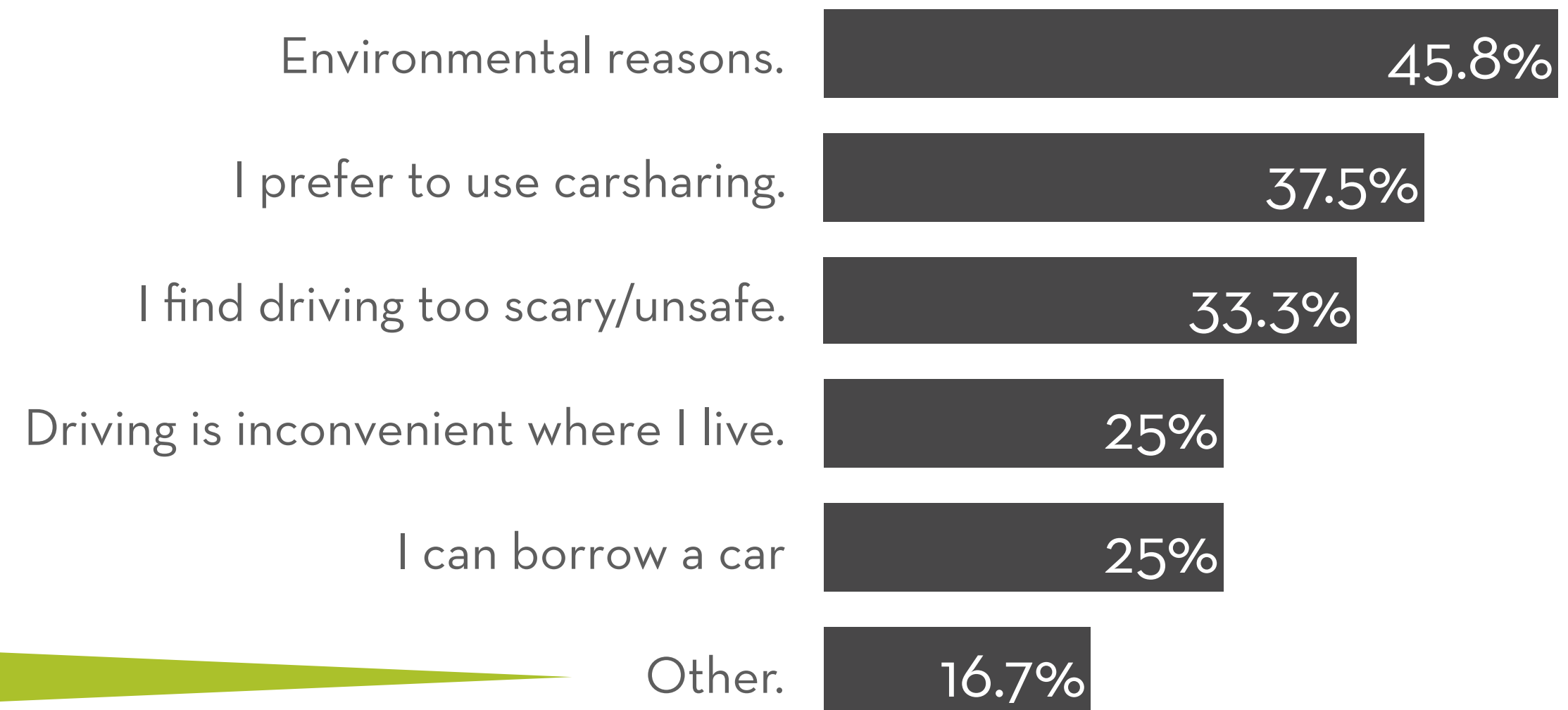
I ride my bicycle.

I prefer public transportation or walking.

Newton parking is too expensive.

CAR SERVICES/CARSHARES

Those surveyed report currently using **smartphone-based car services** (e.g. Uber, Lyft) far more than they currently use **carshares** (e.g. ZipCar, Car2Go).

In fact, in response to the question "In a typical month, which of the following mode do you use most?" almost

30x

as many respondents chose smartphone-based car services, as compared to carshares.

▶ Is this a result of preference or availability: Is reported carshare usage higher for those with home ZIP codes closer to preexisting carshare hubs?

ALTERNATIVE TRIP INCENTIVIZATION

21%

of respondents' employers provide incentives
or support for taking public transportation.

For example, they may provide a transit pass, give money to those who do
not park a car at the office, or offer a guaranteed ride home for late nights.

14.6%

of respondents' employers provide some
type of type of shuttle service.

20.3%

of respondents' employers provide offer a
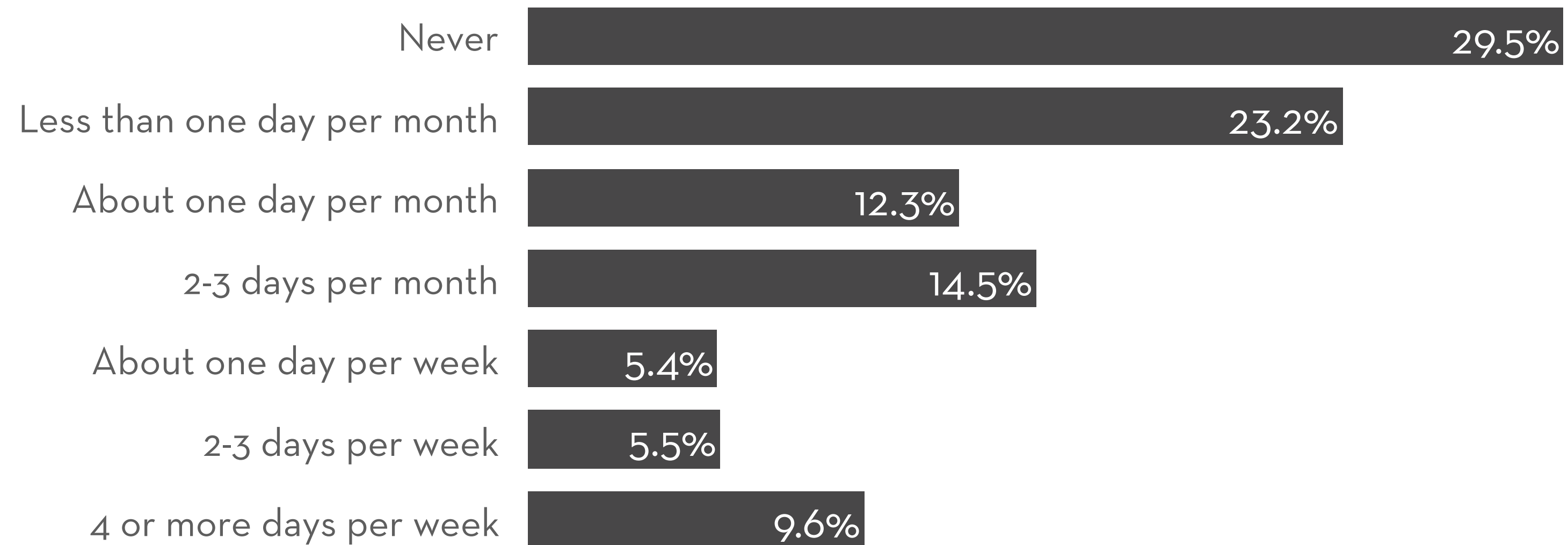tax-free commuter benefit for transit.

e.g., TransitCheck, WageWorks, etc.

▶ **Do such incentives actually correlate to higher rates of public transportation use, as reported elsewhere on the survey?**

PUBLIC TRANSPORTATION

During the past year, how often have you used public transportation?

Frequency	Percentage
Never	29.5%
Less than one day per month	23.2%
About one day per month	12.3%
2-3 days per month	14.5%
About one day per week	5.4%
2-3 days per week	5.5%
4 or more days per week	9.6%

46.9%

of those surveyed said it would be <u>very</u> difficult for them to take public transportation for all of their trips to and from work or school.
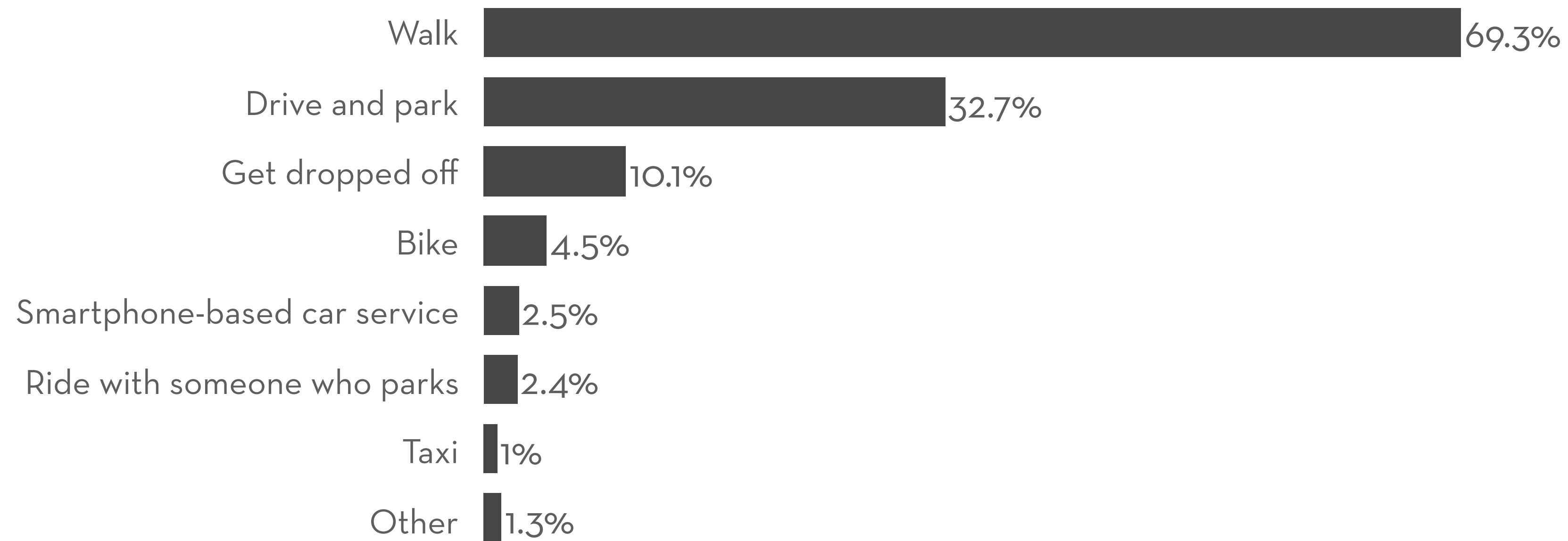
17.4%

of those surveyed would <u>not</u> be able to access their job, school, and/or other activities without public transit.

▶ Compare this data on transit usage to train & bus stop distance data: How impactful is stop convenience on transit usage for these respondents?

PUBLIC TRANSPORTATION

How far from your home is the nearest...
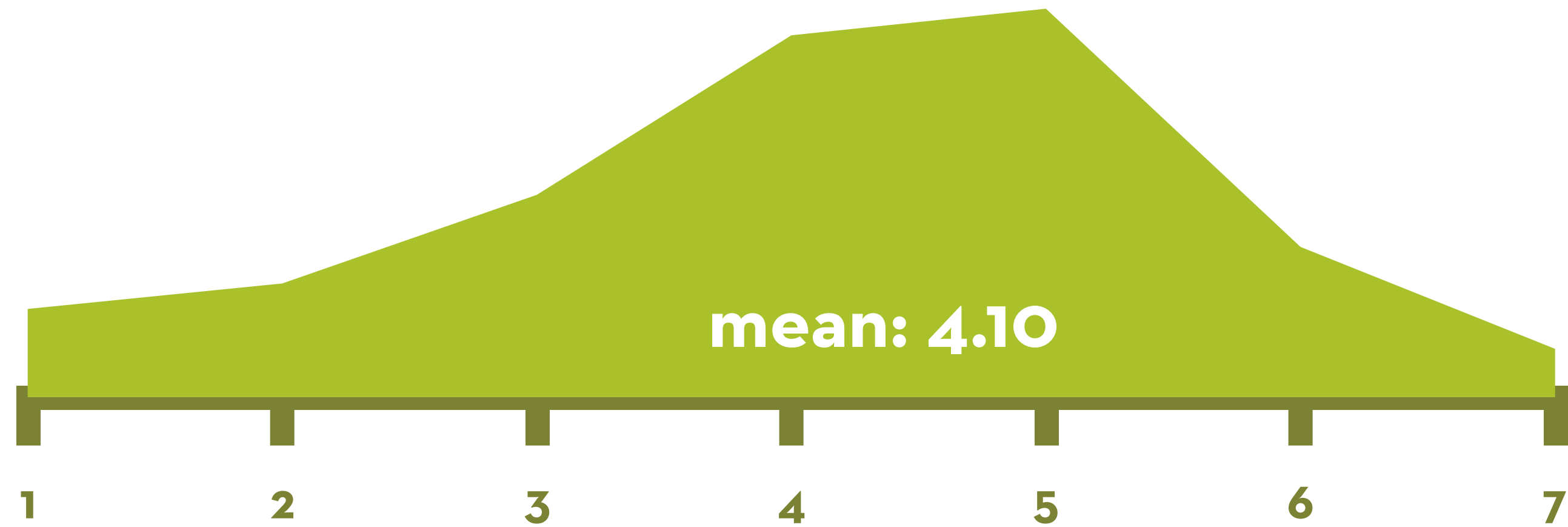

◇ train station
◇ bus stop

▶ Compare this data on train & bus stop distance to transit usage: How impactful is stop convenience on transit usage for these respondents?

PUBLIC TRANSPORTATION

How would you rate the overall public transit services in your area?

mean: 4.10

1   2   3   4   5   6   7

How satisfied are you with... (mean scores on a scale of 0-7)

...safety of your trip to the stop/station	5.48	...ability to be productive while riding	4.39
...options for paying your fare	5.21	...price	4.34
...distance to the stop/station	4.85	...time it takes to get to your destination	4.23
...information on when bus/train is coming	4.66	...reliability of the service	4.16
...number of transfers you have to take	4.62	...frequency of service	4.10
...availability of seating on the train/bus	4.54	...facilities at the stop/station	3.89

- How do these subjective assessments of transit quality correlate to mode preferences?

- How do these subjective assessments correlate to actual transit usage, e.g. having used public transportation in the past year?

- Are there significant variations in satisfaction factors across different transit lines?