Design Consultants, Inc.

120 Middlesex Avenue Somerville, MA 02145 (617) 776-3350

MEMORANDUM

DCI JOB NO. 2017-037

то:	Cassia Silva 38 Dane Street Somerville, MA 02143	SALAMANA AND AND AND AND AND AND AND AND AND
FROM:	Tom Bertulis, P.E., PTOE Design Consultants, Inc.	35844 0 DAV 10
SUBJECT:	Parking Study 34-38 Dane Street Somerville, MA	A STATE OF THE STATE
DATE:	April 21, 2017	

As per a request by the client, Design Consultants, Inc. (DCI) undertook an on-street parking study for the project located at 34-38 Dane Street in Somerville, Massachusetts. 34 Dane Street currently consists of a vacant lot. 38 Dane Street currently consists of a five-bedroom single-family home. It is our understanding that the client is proposing to redevelop both properties. After construction, 34 Dane Street will consist of a three-unit building. It will consist of two 2-bedroom units and one 3-bedroom unit. After construction, 38 Dane Street will support two 3-bedroom units. There will be a total of five (5) residential units; two 2-bedroom units and three 3-bedroom units. The plan is to provide four (4) off-street parking spaces; one in a garage at 34 Dane Street, one located atgrade between the two buildings, and two located at-grade south of the building at 38 Dane Street. Parking is limited due to the topography of the property, which is adjacent to the MBTA Commuter Rail tracks and the bridge traversing the tracks. Additionally, there are currently zero (0) bicycle parking spaces on-site, and after redevelopment there will be six (6) bicycle parking spaces provided on-site.

As shown in Table 1, the Somerville Zoning Ordinance (SZO) requires a total of nine (9) residential parking spaces. Therefore the client is seeking relief of five (5) of these parking spaces.

This memorandum serves to demonstrate that the relief of five (5) parking spaces will have negligible impact on the local neighborhood parking supply, and that the residential units at 34-38

Dane Street will generate less parking demand that what the SZO calls for. The project location is shown in Figure 1.

Required Parking Spaces per Somerville Zoning Ordinance					
	2-Bedroom	3-Bedroom			
# of Units	2	3			
# of Required Parking Spaces per Unit	1.5	2.0			
# of Required Parking Spaces for Units in Building	3	6			
Total Residential Parking Spaces Required	9				
# of Visitor Parking Spaces Required (1 per 6 units)	0				
Total Parking Spaces Required)			

Table 1: Required Spaces According to Somerville Zoning Ordinance

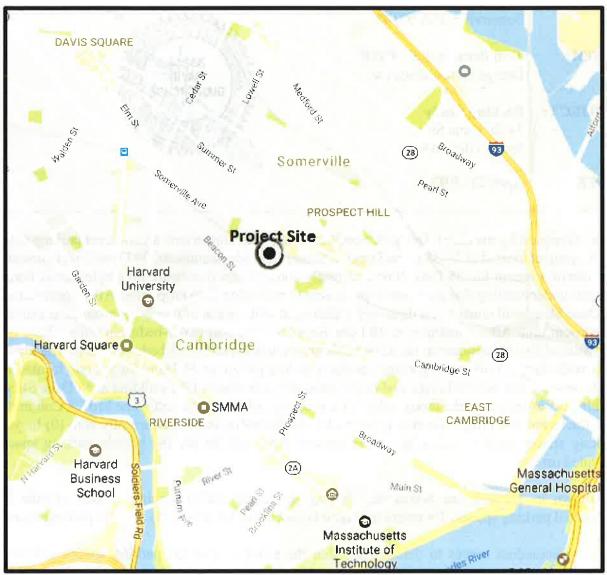


Figure 1: Project Location

Off-Street Parking

The off-street parking will be accessed via two existing curb-cuts along Dane Street; one at 34 Dane Street to access two parking spaces, and one at 38 Dane Street to access two parking spaces. As mentioned, the proposed site plan provides a total of four (4) off-street parking spaces.

Existing On-Street Parking Utilization

DCI performed a field parking survey of all available on-street parking to determine the existing parking utilization. The study area includes all on-street parking in the vicinity of 34-38 Dane Street within approximately 250 linear feet. Parking on-street in this area of Somerville is limited to mostly private and permit parking. Parking permits can be bought by residents of Somerville at a cost of \$30 for the year and it allows them to park on any street at any time within City limits. The study area is shown in Figure 2 and includes the following roadways:

- **Dane Street:** Dane Street is a two-way, two-lane roadway. Parking is permitted along Dane Street in the northbound direction from Washington Street to Dane Avenue, which is limited to one accessible parking space and Permit-only parking spaces. There are shared-lane markings ("sharrows") in both directions along Dane Street. The approximately curb-to-curb width is 28 feet.
- **Dane Avenue:** Dane Avenue is a one-way roadway in the westbound direction. Parking is permitted along Dane Avenue in the westbound direction from Leland Street to Dane Street, which is limited to Permit-only parking spaces. The approximate curb-to-curb width is 20 feet.
- Skehan Street: Skehan Street is a two-way roadway. Parking is permitted in the westbound direction only, which is limited to Permit-only parking. The approximate curb-to-curb width is 20 feet.
- Village Street: Village Street is a two-way roadway between Nevada Street and Dane Street, and a one-way roadway in the westbound direction from Nevada Street to Hanson Street. Public parking is prohibited along Village Street, as curbside parking is limited to residents of the street only. The approximate curb-to-curb width is 18 feet.
- **Nevada Avenue:** Nevada Street is a one-way street in the northeasterly direction. Public parking is prohibited along Nevada Street, as curbside parking is limited to residents of the street only. The approximate curb-to-curb width is 17 feet.

DCI recorded the number of available parking spaces during a typical Thursday and Saturday. The parking data was collected during the following time periods:

- Thursday April 6, 2017 (7 to 9 PM)
- Saturday April 8, 2017 (12 to 2 PM)
- Saturday April 8, 2017 (5 to 7 PM)

The results of these surveys are shown in Table 2.

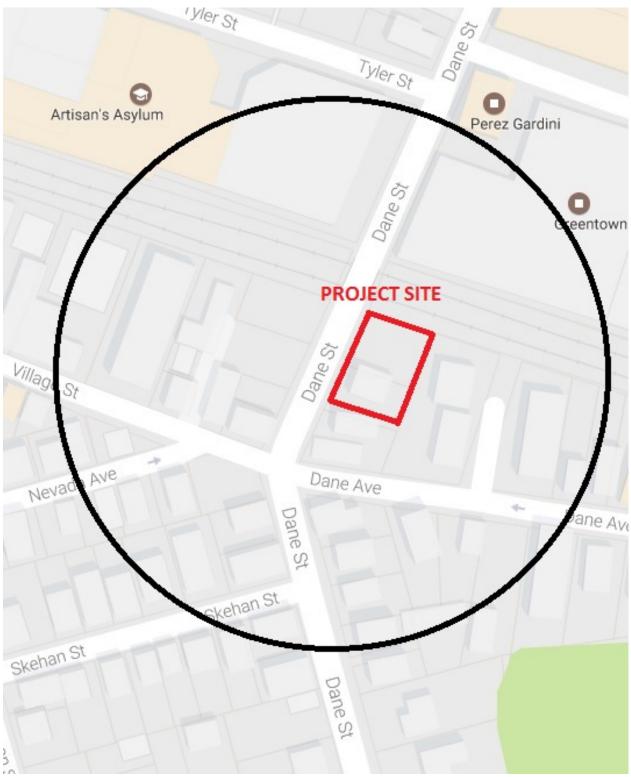


Figure 2: On-Street Parking Utilization Study Area

							Averag	e Number of Cars	Parked
							Weekday	Saturday	Saturday
	Street	Side	From	То	Parking Notes /Type	Total No. of Spaces	Evening (7pm to 9pm)	Afternoon (12pm to 2pm)	Evening (5pm to 7pm)
		Eastside	56 Dane Street	48 Dane Street	Permit Parking	4	1	2	4
1	Dane Street	Eastside	56 Dane Street	48 Dane Street	Handicap Parking	1	0	0	0
1	Dane Street	Eastside	48 Dane Street	19 Dane Street	No Parking				
		Westside	51 Dane Street	25 Dane Street	No Parking				
2	Dane Avenue	Northside	20 Dane Avenue	Dane Street	No Parking				
2	Darie Averide	Southside	21 Dane Avenue	Dane Street	Permit Parking	8	6	4	6
3	Skehan Street	Northside	7 Skehan Street	Dane Street	Permit Parking	2	0	2	2
3	Skenan Sheet	Southside	6 Skehan Street	Dane Street	No Parking				
4	Village Street	Northside	17 Village Street	Dane Street	No Parking				
4	village Street	Southside	18 Village Street	Dane Street	No Parking				
5	Nevada Avenue	Northside	9 Nevada Avenue	Village Street	No Parking				
5	Nevada Aveilde	Southside	8 Nevada Avenue	Village Street	No Parking				
				-					
				Perr	nit Parking Only Totals	14	7	8	12

Table 2: On-Street Parking Survey Summary

Permit Parking Only Totals	14	7	8	12
Number of Permit Parking Spaces Available		7	6	2
% of Permit Parking Spaces Available		50%	43%	14%
Handicap Parking Only Totals	1	0	0	0
Number of Handicap Parking Spaces		1	1	1
% of Handicap Parking Spaces Available		100%	100%	100%
Total Parking	15	7	8	12
Number of Total Parking Spaces Available		8	7	3
% of Total Parking Spaces Available		53%	47%	20%

As shown in Table 2, on-street parking is under-utilized on street in the vicinity of the project site. Since residents who purchase a parking permit are allowed to park in any parking space in the area, the most important data is shown in "Number of Permit Parking Spaces Available". As shown in Table 2, there are seven (7) parking spaces available within 250 feet of the project site during the weekday evening period, six (6) parking spaces available during the Saturday afternoon period, and two (2) parking spaces available during the Saturday evening period. This further reduces the amount of required parking on site, allowing residents to park on street in the vicinity of the redeveloped site.

It should be noted that residents of the area may also purchase Visitor Permits from the City of Somerville for someone who is visiting them. This permit costs \$20 for two-day parking or \$40 for three-day parking, with both options being valid for up to one year. These can be purchased by an individual whether they have a vehicle or not, as long as they are an official resident of the City of Somerville. This permit allows a visitor to stay for up to two or three days in a row on the resident's street or an adjacent street. Each household is able to purchase up to two Visitor Permits if they choose to do so.

Additionally, parking utilization at other sites in Somerville that DCI has studied show an approximate average of 0.5 parked vehicles per dwelling unit. Applied to this Project, that correlates to 2.5 parking spaces needed for the five (5) proposed dwelling units. Consequently, the four (4) proposed parking spaces should meet the demand for this location.

Mode Split Comparison

Commuting characteristics were analyzed from the 2011-2015 American Community Survey 5-Year Estimates. Census Tract 3512.04, which covers the project site, was analyzed and used to estimate mode splits for journeys to work in the project area. Detailed Census Data is attached in the Appendix. According to the data, only 42.0% of the residents within the study area census tract use a vehicle to commute to work. Additionally, 23.9% of residents use public transportation, 19.4% walk, and 10.7% bike to commute to work. Figure 3 shows the average difference in mode split between the study area of 34-38 Dane Street, the City of Somerville, and the Commonwealth of Massachusetts.

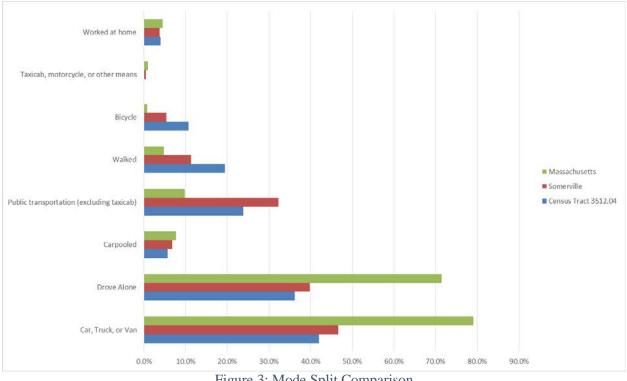


Figure 3: Mode Split Comparison

Based on the high percentage of non-vehicular mode splits within the study area, as well as observations within the City of Somerville, there is a trend that residents are opting to use nonvehicular modes as their primary means of transportation. With the site's proximity to Union Square, Inman Square, and Harvard Square, there are facilities in place to reduce the need for residents to own vehicles. Additionally, Beacon Street, approximately 0.25 miles from the Project site, is a highly used link for pedestrians and bicyclists to commute throughout Somerville and other central business districts in Cambridge and downtown Boston. With the Beacon Street reconstruction project, walking and biking mode splits have the potential to increase, further reducing the need for vehicle ownership in the area.

Proximity to Public Transit

Within 0.25 miles of the Project site, the Massachusetts Bay Transportation Authority (MBTA) runs bus routes 83, 86, and 87. Bus route 83 runs along Beacon Street, with a stop at the intersection of Beacon Street at Washington Street, approximately 0.25 miles from the Project site, between Russell Field in Cambridge and Central Square on the MBTA Red Line in Cambridge. Bus route 86 runs along Washington Street, approximately 700 feet from the Project site, and runs between Reservoir Station in Brookline on the MBTA Green Line and Sullivan Square Station in Boston on the MBTA Orange Line. Bus route 87 runs along Somerville Avenue, approximately 700 feet from the Project site, and runs between the Arlington Center in Arlington and Lechmere Station

on the MBTA Green Line. Detailed schedules and routes for each bus service is provided in the Appendix.

Consequently, given the mode split data, proximity to multi-modal facilities, and project proximity to multiple bus routes, it is expected that there will continue to be a high use of public transit in the area of the 34-38 Dane Street project. It is anticipated that the four (4) will meet the parking demand for this location.

Conclusion

The project located at 34-38 Dane Street will have five (5) residential units in total. The proposed development requires nine (9) parking spaces, based on the Somerville Zoning Ordinance. Four (4) will be provided on-site, therefore the proponent is seeking relief of five (5) parking spaces.

This parking study determined that the impact of the five (5) parking spaces that require relief will be negligible on the local neighborhood's parking supply during typical weekday and Saturday periods. Although five (5) parking spaces require relief based on the SZO, the expected number of parking spaces that will require relief is lower. The mode split of the project area, as well as the proximity to multi-modal transportation facilities, serves to reduce the need for a resident to use a vehicle as their primary mode of transportation. The need for vehicle ownership is then lowered, and consequently, less parking is required on-site. Additionally, an on-street parking study determined the number of available on-street parking spaces within the vicinity of the project site during a weekday evening and Saturday afternoon and evening period. This study showed that there is under-utilized on-street parking near the site that can be used by residents who purchase a resident parking permit from the City of Somerville. Although mode split and proximity to multimodal facilities reduces the need for vehicle ownership, there are seven (7) parking spaces available for residents to park within 250 feet of the project site during the weekday evening period, the critical time period. Additionally, the City of Somerville also allows residents to buy Visitor Permits, which allows a visitor to park on the resident's street or an adjacent street, which will help mitigate the need for visitor spots on-site.

Based on these facts and the results of this study, DCI recommends granting relief for five (5) parking spaces for the project at 34-38 Dane Street in Somerville, Massachusetts.

APPENDIX

U.S. Census Bureau



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2011-2015 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Census Tract 3512.04, Middlesex County, Massachusetts						
	Tota	al	Mal	Female			
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate		
Workers 16 years and over	2,557	+/-286	1,337	+/-270	1,220		
MEANS OF TRANSPORTATION TO WORK							
Car, truck, or van	42.0%	+/-6.0	37.4%	+/-8.1	47.0%		
Drove alone	36.2%	+/-5.5	35.8%	+/-7.8	36.7%		
Carpooled	5.7%	+/-3.8	1.6%	+/-2.2	10.2%		
In 2-person carpool	5.7%	+/-3.8	1.6%	+/-2.2	10.2%		
In 3-person carpool	0.0%	+/-1.3	0.0%	+/-2.4	0.0%		
In 4-or-more person carpool	0.0%	+/-1.3	0.0%	+/-2.4	0.0%		
Workers per car, truck, or van	1.07	+/-0.05	1.02	+/-0.03	1.12		
Public transportation (excluding taxicab)	23.9%	+/-7.0	29.8%	+/-12.4	17.5%		
Walked	19.4%	+/-6.0	23.1%	+/-9.5	15.4%		
Bicycle	10.7%	+/-4.6	9.7%	+/-5.7	11.7%		
Taxicab, motorcycle, or other means	0.0%	+/-1.3	0.0%	+/-2.4	0.0%		
Worked at home	4.0%	+/-2.4	0.0%	+/-2.4	8.4%		
PLACE OF WORK							
Worked in state of residence	96.2%	+/-2.7	95.1%	+/-4.8	97.5%		
Worked in county of residence	63.6%	+/-7.3	61.9%	+/-11.3	65.4%		
Worked outside county of residence	32.7%	+/-6.7	33.2%	+/-10.1	32.0%		
Worked outside state of residence	3.8%	+/-2.7	4.9%	+/-4.8	2.5%		
Living in a place	100.0%	+/-1.3	100.0%	+/-2.4	100.0%		
Worked in place of residence	15.3%	+/-5.3	11.9%	+/-6.0	19.1%		
Worked outside place of residence	84.7%	+/-5.3	88.1%	+/-6.0	80.9%		
Not living in a place	0.0%	+/-1.3	0.0%	+/-2.4	0.0%		
Living in 12 selected states	100.0%	+/-1.3	100.0%	+/-2.4	100.0%		
Worked in minor civil division of residence	15.3%	+/-5.3	11.9%	+/-6.0	19.1%		
Worked outside minor civil division of residence	84.7%	+/-5.3	88.1%	+/-6.0	80.9%		
Not living in 12 selected states	0.0%	+/-1.3	0.0%	+/-2.4	0.0%		

Subject	Census Tract 3512.04, Middlesex County, Massachusetts						
	Total		Male		Female		
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate		
Workers 16 years and over who did not work at home	2,455	+/-275	1,337	+/-270	1,118		
TIME LEAVING HOME TO GO TO WORK							
12:00 a.m. to 4:59 a.m.	0.6%	+/-1.0	1.1%	+/-1.9	0.0%		
5:00 a.m. to 5:29 a.m.	2.2%	+/-1.7	3.0%	+/-2.6	1.3%		
5:30 a.m. to 5:59 a.m.	2.0%	+/-1.6	2.5%	+/-2.8	1.3%		
6:00 a.m. to 6:29 a.m.	4.5%	+/-2.9	4.8%	+/-4.3	4.2%		
6:30 a.m. to 6:59 a.m.	3.8%	+/-2.2	2.5%	+/-2.2	5.3%		
7:00 a.m. to 7:29 a.m.	9.2%	+/-3.7	6.4%	+/-4.9	12.6%		
7:30 a.m. to 7:59 a.m.	11.7%	+/-4.0	6.8%	+/-4.3	17.5%		
8:00 a.m. to 8:29 a.m.	23.5%	+/-6.0	22.1%	+/-6.8	25.0%		
8:30 a.m. to 8:59 a.m.	11.7%	+/-4.6	12.0%	+/-6.2	11.4%		
9:00 a.m. to 11:59 p.m.	30.8%	+/-8.1	38.7%	+/-13.5	21.5%		
TRAVEL TIME TO WORK							
Less than 10 minutes	10.0%	+/-4.9	9.6%	+/-5.7	10.6%		
10 to 14 minutes	11.5%	+/-3.9	7.9%	+/-4.2	15.8%		
15 to 19 minutes	20.0%	+/-5.3	23.4%	+/-6.9	15.8%		
20 to 24 minutes	12.2%	+/-4.5	12.9%	+/-6.7	11.3%		
25 to 29 minutes	5.7%	+/-2.7	5.7%	+/-4.2	5.8%		
30 to 34 minutes	15.4%	+/-4.2	16.9%	+/-6.2	13.6%		
35 to 44 minutes	10.1%	+/-4.0	7.5%	+/-4.6	13.2%		
45 to 59 minutes	9.3%	+/-3.2	9.2%	+/-4.7	9.4%		
60 or more minutes	5.8%	+/-4.1	6.9%	+/-6.5	4.5%		
Mean travel time to work (minutes)	25.0	+/-2.4	25.2	+/-2.8	24.7		
VEHICLES AVAILABLE							
Workers 16 years and over in households	2,556	+/-286	1,337	+/-270	1,219		
No vehicle available	18.6%	+/-6.9	20.6%	+/-9.9	16.4%		
1 vehicle available	42.6%	+/-8.8	40.5%	+/-12.2	45.0%		
2 vehicles available	32.0%	+/-10.6	34.3%	+/-16.2	29.5%		
3 or more vehicles available	6.8%	+/-6.0	4.7%	+/-5.8	9.1%		
PERCENT IMPUTED							
Means of transportation to work	7.2%	(X)	(X)	(X)	(X)		
Private vehicle occupancy	4.6%	(X)	(X)	(X)	(X)		
Place of work	10.2%	(X)	(X)	(X)	(X)		
Time leaving home to go to work	19.2%	(X)	(X)	(X)	(X)		
Travel time to work	9.2%	(X)	(X)	(X)	(X)		
Vehicles available	2.9%	(X)	(X)	(X)	(X)		

Subject	Census Tract 3512.04, Middlesex County, Massachusetts Female
Workers 16 years and over	Margin of Error +/-194
MEANS OF TRANSPORTATION TO WORK	+/-194
Car, truck, or van	+/-7.5
Drove alone	+/-7.3
Carpooled	+/-7.0
In 2-person carpool	+/-7.0
In 3-person carpool	+/-2.6
In 4-or-more person carpool	+/-2.6
Workers per car, truck, or van	+/-0.09
Public transportation (excluding taxicab)	+/-5.4
Walked	+/-5.4
Bicycle	+/-5.3
Taxicab, motorcycle, or other means	+/-2.6
Worked at home	+/-4.9
PLACE OF WORK	
Worked in state of residence	+/-2.5
Worked in county of residence	+/-6.9
Worked outside county of residence	+/-6.9
Worked outside state of residence	+/-2.5
Living in a place	+/-2.6
Worked in place of residence	+/-8.6
Worked outside place of residence	+/-8.6
Not living in a place	+/-2.6
Living in 12 selected states	
Worked in minor civil division of residence	+/-2.6
Worked arminor civil division of residence	., 0.0
Not living in 12 selected states	+/-8.6
	+/-2.0
Workers 16 years and over who did not work at home	+/-186
TIME LEAVING HOME TO GO TO WORK	
12:00 a.m. to 4:59 a.m.	+/-2.9
5:00 a.m. to 5:29 a.m.	+/-1.9
5:30 a.m. to 5:59 a.m.	+/-1.5
6:00 a.m. to 6:29 a.m.	+/-4.1
6:30 a.m. to 6:59 a.m.	+/-4.2
7:00 a.m. to 7:29 a.m.	+/-5.5
7:30 a.m. to 7:59 a.m.	+/-7.0
8:00 a.m. to 8:29 a.m.	+/-7.4
8:30 a.m. to 8:59 a.m.	+/-5.5
9:00 a.m. to 11:59 p.m.	+/-6.1
TRAVEL TIME TO WORK	
Less than 10 minutes	+/-7.9
10 to 14 minutes	+/-7.9
15 to 19 minutes	+/-0.0
20 to 24 minutes	+/-7.2
25 to 29 minutes	+/-3.6
30 to 34 minutes	+/-3.0
35 to 44 minutes	+/-4.9
45 to 59 minutes	+/-7.3
60 or more minutes	+/-3.2
Mean travel time to work (minutes)	+/-3.2
	+/-3.1

Subject	Census Tract 3512.04, Middlesex County, Massachusetts Female Margin of Error
VEHICLES AVAILABLE	
Workers 16 years and over in households	+/-194
No vehicle available	+/-6.8
1 vehicle available	+/-9.7
2 vehicles available	+/-9.2
3 or more vehicles available	+/-8.1
PERCENT IMPUTED	
Means of transportation to work	(X)
Private vehicle occupancy	(X)
Place of work	(X)
Time leaving home to go to work	(X)
Travel time to work	(X)
Vehicles available	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2011-2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.

4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.

5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
 An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

8. An '(X)' means that the estimate is not applicable or not available.

U.S. Census Bureau



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2011-2015 American Community Survey 5-Year Estimates

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Subject	Somerville city, Massachusetts						
	Tot	al	Mal	e	Female		
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate		
Workers 16 years and over	48,912	+/-1,144	25,761	+/-1,102	23,151		
MEANS OF TRANSPORTATION TO WORK							
Car, truck, or van	46.6%	+/-1.8	47.9%	+/-2.5	45.1%		
Drove alone	39.8%	+/-1.6	42.0%	+/-2.3	37.4%		
Carpooled	6.8%	+/-1.0	5.9%	+/-1.2	7.7%		
In 2-person carpool	5.3%	+/-0.9	4.4%	+/-1.0	6.2%		
In 3-person carpool	0.6%	+/-0.3	0.4%	+/-0.2	0.9%		
In 4-or-more person carpool	0.9%	+/-0.4	1.1%	+/-0.7	0.6%		
Workers per car, truck, or van	1.09	+/-0.01	1.08	+/-0.02	1.10		
Public transportation (excluding taxicab)	32.3%	+/-1.8	32.2%	+/-2.8	32.5%		
Walked	11.3%	+/-1.1	10.1%	+/-1.4	12.6%		
Bicycle	5.4%	+/-0.7	6.5%	+/-1.1	4.3%		
Taxicab, motorcycle, or other means	0.5%	+/-0.3	0.4%	+/-0.3	0.7%		
Worked at home	3.8%	+/-0.6	2.9%	+/-0.7	4.8%		
PLACE OF WORK							
Worked in state of residence	98.8%	+/-0.4	98.3%	+/-0.7	99.4%		
Worked in county of residence	60.4%	+/-1.8	59.3%	+/-2.5	61.6%		
Worked outside county of residence	38.5%	+/-1.9	39.0%	+/-2.6	37.9%		
Worked outside state of residence	1.2%	+/-0.4	1.7%	+/-0.7	0.6%		
Living in a place	100.0%	+/-0.1	100.0%	+/-0.1	100.0%		
Worked in place of residence	15.1%	+/-1.5	13.4%	+/-1.8	17.1%		
Worked outside place of residence	84.9%	+/-1.5	86.6%	+/-1.8	82.9%		
Not living in a place	0.0%	+/-0.1	0.0%	+/-0.1	0.0%		
Living in 12 selected states	100.0%	+/-0.1	100.0%	+/-0.1	100.0%		
Worked in minor civil division of residence	15.1%	+/-1.5	13.4%	+/-1.8	17.1%		
Worked outside minor civil division of residence	84.9%	+/-1.5	86.6%	+/-1.8	82.9%		
Not living in 12 selected states	0.0%	+/-0.1	0.0%	+/-0.1	0.0%		

Subject	Somerville city, Massachusetts						
	Tota		Mal	Female			
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate		
Workers 16 years and over who did not work at home	47,032	+/-1,144	25,002	+/-1,108	22,030		
TIME LEAVING HOME TO GO TO WORK							
12:00 a.m. to 4:59 a.m.	2.3%	+/-0.7	3.5%	+/-1.1	1.0%		
5:00 a.m. to 5:29 a.m.	1.3%	+/-0.4	1.4%	+/-0.5	1.2%		
5:30 a.m. to 5:59 a.m.	2.0%	+/-0.5	2.6%	+/-0.8	1.4%		
6:00 a.m. to 6:29 a.m.	4.6%	+/-0.6	5.8%	+/-1.0	3.4%		
6:30 a.m. to 6:59 a.m.	5.9%	+/-0.7	5.5%	+/-1.0	6.4%		
7:00 a.m. to 7:29 a.m.	13.7%	+/-1.3	12.9%	+/-1.7	14.5%		
7:30 a.m. to 7:59 a.m.	13.2%	+/-1.1	11.0%	+/-1.6	15.7%		
8:00 a.m. to 8:29 a.m.	19.6%	+/-1.5	18.5%	+/-1.8	20.8%		
8:30 a.m. to 8:59 a.m.	10.8%	+/-1.1	10.5%	+/-1.5	11.1%		
9:00 a.m. to 11:59 p.m.	26.6%	+/-1.6	28.3%	+/-2.3	24.6%		
TRAVEL TIME TO WORK							
Less than 10 minutes	6.5%	+/-1.1	5.6%	+/-1.1	7.6%		
10 to 14 minutes	9.3%	+/-1.1	8.9%	+/-1.6	9.7%		
15 to 19 minutes	12.1%	+/-1.3	12.7%	+/-1.6	11.4%		
20 to 24 minutes	12.9%	+/-1.2	15.0%	+/-1.7	10.6%		
25 to 29 minutes	6.1%	+/-0.6	5.9%	+/-1.0	6.4%		
30 to 34 minutes	18.7%	+/-1.4	18.6%	+/-1.7	18.7%		
35 to 44 minutes	12.4%	+/-1.4	13.2%	+/-2.0	11.5%		
45 to 59 minutes	13.2%	+/-1.1	12.3%	+/-1.5	14.2%		
60 or more minutes	8.7%	+/-1.1	7.8%	+/-1.4	9.8%		
Mean travel time to work (minutes)	29.7	+/-0.7	29.5	+/-1.1	30.0		
VEHICLES AVAILABLE							
Workers 16 years and over in households	47,863	+/-1,143	25,376	+/-1,104	22,487		
No vehicle available	17.0%	+/-1.5	16.6%	+/-1.9	17.5%		
1 vehicle available	42.8%	+/-2.1	42.2%	+/-2.7	43.6%		
2 vehicles available	28.9%	+/-2.3	29.7%	+/-3.0	27.9%		
3 or more vehicles available	11.3%	+/-2.0	11.6%	+/-2.0	11.0%		
PERCENT IMPUTED							
Means of transportation to work	12.1%	(X)	(X)	(X)	(X)		
Private vehicle occupancy	13.7%	(X)	(X)	(X)	(X)		
Place of work	15.4%	(X)	(X)	(X)	(X)		
Time leaving home to go to work	17.6%	(X)	(X)	(X)	(X)		
Travel time to work	14.8%	(X)	(X)	(X)	(X)		
Vehicles available	1.0%	(X)	(X)	(X)	(X)		

Subject	Somerville city, Massachusetts Female
	Margin of Error
Workers 16 years and over	+/-860
MEANS OF TRANSPORTATION TO WORK	
Car, truck, or van	+/-2.2
Drove alone	+/-2.0
Carpooled	+/-1.7
In 2-person carpool	+/-1.6
In 3-person carpool	+/-0.5
In 4-or-more person carpool	+/-0.3
Workers per car, truck, or van	+/-0.02
Public transportation (excluding taxicab)	+/-2.0
Walked	+/-1.5
Bicycle	+/-0.9
Taxicab, motorcycle, or other means	+/-0.6
Worked at home	+/-1.1
PLACE OF WORK	
Worked in state of residence	+/-0.3
Worked in county of residence	+/-2.3
Worked outside county of residence	+/-2.3
Worked outside state of residence	+/-0.3
Living in a place	+/-0.1
Worked in place of residence	+/-2.0
Worked outside place of residence	+/-2.0
Not living in a place	+/-0.1
Living in 12 selected states	+/-0.1
Worked in minor civil division of residence	+/-2.0
Worked outside minor civil division of residence	+/-2.0
Not living in 12 selected states	+/-0.1
Workers 16 years and over who did not work at home	+/-806
TIME LEAVING HOME TO GO TO WORK	
12:00 a.m. to 4:59 a.m.	
5:00 a.m. to 5:29 a.m.	+/-0.5
5:30 a.m. to 5:59 a.m.	+/-0.4
6:00 a.m. to 6:29 a.m.	+/-0.5
6:30 a.m. to 6:59 a.m.	+/-0.8
7:00 a.m. to 7:29 a.m.	+/-1.1
7:30 a.m. to 7:59 a.m.	+/-1.5
8:00 a.m. to 8:29 a.m.	+/-1.6
8:30 a.m. to 8:59 a.m.	+/-2.2
9:00 a.m. to 11:59 p.m.	+/-1.5
9.00 a.m. to 11.39 p.m.	+/-2.3
TRAVEL TIME TO WORK	
Less than 10 minutes	+/-1.5
10 to 14 minutes	+/-1.3
15 to 19 minutes	+/-1.8
20 to 24 minutes	+/-1.6
25 to 29 minutes	+/-0.9
30 to 34 minutes	+/-2.0
35 to 44 minutes	+/-1.6
45 to 59 minutes	+/-1.6
60 or more minutes	+/-1.4
Mean travel time to work (minutes)	+/-0.8
VEHICLES AVAILABLE	

Subject	Somerville city, Massachusetts
	Female
	Margin of Error
Workers 16 years and over in households	+/-832
No vehicle available	+/-2.0
1 vehicle available	+/-2.7
2 vehicles available	+/-2.3
3 or more vehicles available	+/-2.5
PERCENT IMPUTED	
Means of transportation to work	(X)
Private vehicle occupancy	(X)
Place of work	(X)
Time leaving home to go to work	(X)
Travel time to work	(X)
Vehicles available	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Workers include members of the Armed Forces and civilians who were at work last week.

While the 2011-2015 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.

 An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
 An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate. 7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

8. An '(X)' means that the estimate is not applicable or not available.

U.S. Census Bureau



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COMMUTING CHARACTERISTICS BY SEX

2011-2015 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Tell us what you think. Provide feedback to help make American Community Survey data more useful for you.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Massachusetts												
	Tot	al	Mal	e	Female								
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate								
Workers 16 years and over	3,346,749	+/-8,960	1,703,780	+/-5,075	1,642,969								
MEANS OF TRANSPORTATION TO WORK													
Car, truck, or van	79.1%	+/-0.1	79.4%	+/-0.2	78.9%								
Drove alone	71.4%	+/-0.2	71.8%	+/-0.2	71.1%								
Carpooled	7.7%	+/-0.1	7.6%	+/-0.1	7.8%								
In 2-person carpool	6.1%	+/-0.1	6.0%	+/-0.1	6.3%								
In 3-person carpool	0.9%	+/-0.1	0.9%	+/-0.1	0.9%								
In 4-or-more person carpool	0.6%	+/-0.1	0.7%	+/-0.1	0.6%								
Workers per car, truck, or van	1.06	+/-0.01	1.06	+/-0.01	1.06								
Public transportation (excluding taxicab)	9.8%	+/-0.1	9.5%	+/-0.2	10.1%								
Walked	4.8%	+/-0.1	4.5%	+/-0.1	5.1%								
Bicycle	0.8%	+/-0.1	1.1%	+/-0.1	0.5%								
Taxicab, motorcycle, or other means	1.0%	+/-0.1	1.1%	+/-0.1	0.9%								
Worked at home	4.5%	+/-0.1	4.4%	+/-0.1	4.6%								
PLACE OF WORK													
Worked in state of residence	96.0%	+/-0.1	95.3%	+/-0.1	96.7%								
Worked in county of residence	65.2%	+/-0.2	62.4%	+/-0.2	68.1%								
Worked outside county of residence	30.8%	+/-0.2	32.9%	+/-0.2	28.6%								
Worked outside state of residence	4.0%	+/-0.1	4.7%	+/-0.1	3.3%								
Living in a place	69.9%	+/-0.1	69.3%	+/-0.2	70.5%								
Worked in place of residence	23.9%	+/-0.2	22.3%	+/-0.2	25.5%								
Worked outside place of residence	46.1%	+/-0.2	47.1%	+/-0.2	45.0%								
Not living in a place	30.1%	+/-0.1	30.7%	+/-0.2	29.5%								
Living in 12 selected states	100.0%	+/-0.1	100.0%	+/-0.1	100.0%								
Worked in minor civil division of residence	31.1%	+/-0.2	29.2%	+/-0.3	32.9%								
Worked outside minor civil division of residence	68.9%	+/-0.2	70.8%	+/-0.3	67.1%								
Not living in 12 selected states	0.0%	+/-0.1	0.0%	+/-0.1	0.0%								

Subject	Massachusetts												
	Tota	al	Mal	e	Female								
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate								
Workers 16 years and over who did not work at home	3,194,998	+/-8,283	1,628,329	+/-5,293	1,566,669								
TIME LEAVING HOME TO GO TO WORK													
12:00 a.m. to 4:59 a.m.	2.9%	+/-0.1	4.1%	+/-0.1	1.6%								
5:00 a.m. to 5:29 a.m.	3.0%	+/-0.1	4.2%	+/-0.1	1.8%								
5:30 a.m. to 5:59 a.m.	4.0%	+/-0.1	5.3%	+/-0.1	2.7%								
6:00 a.m. to 6:29 a.m.	8.2%	+/-0.1	9.8%	+/-0.2	6.6%								
6:30 a.m. to 6:59 a.m.	9.7%	+/-0.1	10.4%	+/-0.2	9.1%								
7:00 a.m. to 7:29 a.m.	14.6%	+/-0.1	14.8%	+/-0.2	14.4%								
7:30 a.m. to 7:59 a.m.	12.5%	+/-0.1	10.9%	+/-0.2	14.1%								
8:00 a.m. to 8:29 a.m.	13.4%	+/-0.1	11.8%	+/-0.2	15.0%								
8:30 a.m. to 8:59 a.m.	6.9%	+/-0.1	5.6%	+/-0.1	8.3%								
9:00 a.m. to 11:59 p.m.	24.7%	+/-0.2	23.1%	+/-0.2	26.5%								
TRAVEL TIME TO WORK													
Less than 10 minutes	11.3%	+/-0.1	10.3%	+/-0.2	12.4%								
10 to 14 minutes	12.5%	+/-0.1	11.4%	+/-0.2	13.6%								
15 to 19 minutes	13.4%	+/-0.1	12.6%	+/-0.2	14.2%								
20 to 24 minutes	13.1%	+/-0.2	12.6%	+/-0.2	13.5%								
25 to 29 minutes	5.8%	+/-0.1	5.8%	+/-0.1	5.8%								
30 to 34 minutes	14.2%	+/-0.1	14.6%	+/-0.2	13.9%								
35 to 44 minutes	8.0%	+/-0.1	8.5%	+/-0.2	7.4%								
45 to 59 minutes	10.2%	+/-0.1	11.0%	+/-0.2	9.3%								
60 or more minutes	11.6%	+/-0.1	13.2%	+/-0.2	10.0%								
Mean travel time to work (minutes)	28.7	+/-0.1	30.3	+/-0.1	27.1								
VEHICLES AVAILABLE													
Workers 16 years and over in households	3,280,243	+/-8,680	1,678,275	+/-4,939	1,601,968								
No vehicle available	5.8%	+/-0.1	5.7%	+/-0.1	6.0%								
1 vehicle available	23.9%	+/-0.2	21.9%	+/-0.3	26.0%								
2 vehicles available	43.2%	+/-0.3	44.5%	+/-0.3	41.8%								
3 or more vehicles available	27.1%	+/-0.2	28.0%	+/-0.3	26.1%								
PERCENT IMPUTED													
Means of transportation to work	8.6%	(X)	(X)	(X)	(X)								
Private vehicle occupancy	9.5%	(X)	(X)	(X)	(X)								
Place of work	11.3%	(X)	(X)	(X)	(X)								
Time leaving home to go to work	17.6%	(X)	(X)	(X)	(X)								
Travel time to work	12.5%	(X)	(X)	(X)	(X)								
Vehicles available	1.0%	(X)	(X)	(X)	(X)								

Subject	Massachusetts
	Female
Walkers 10 years as they are	Margin of Error
Workers 16 years and over MEANS OF TRANSPORTATION TO WORK	+/-5,245
Car, truck, or van	
Drove alone	+/-0.2
Carpooled	+/-0.3
	+/-0.2
In 2-person carpool	+/-0.2
In 3-person carpool In 4-or-more person carpool	+/-0.1
Workers per car, truck, or van	+/-0.1
Public transportation (excluding taxicab)	+/-0.01
Walked	+/-0.2
Bicycle	+/-0.1
Taxicab, motorcycle, or other means	+/-0.1
Worked at home	+/-0.1
worked at nome	+/-0.1
PLACE OF WORK	
Worked in state of residence	+/-0.1
Worked in county of residence	+/-0.1
Worked outside county of residence	+/-0.3
Worked outside state of residence	+/-0.2
	+/-0.1
Living in a place	+/-0.2
Worked in place of residence	+/-0.2
Worked outside place of residence	+/-0.2
Not living in a place	+/-0.2
	+/-0.2
Living in 12 selected states	+/-0.1
Worked in minor civil division of residence	+/-0.1
Worked outside minor civil division of residence	+/-0.3
Not living in 12 selected states	+/-0.3
<u> </u>	
Workers 16 years and over who did not work at home	+/-4,647
TIME LEAVING HOME TO GO TO WORK	
12:00 a.m. to 4:59 a.m.	
5:00 a.m. to 5:29 a.m.	+/-0.1
5:30 a.m. to 5:59 a.m.	+/-0.1
6:00 a.m. to 6:29 a.m.	+/-0.1
6:30 a.m. to 6:59 a.m.	+/-0.1
7:00 a.m. to 7:29 a.m.	+/-0.2
	+/-0.2
7:30 a.m. to 7:59 a.m.	+/-0.2
8:00 a.m. to 8:29 a.m.	+/-0.2
8:30 a.m. to 8:59 a.m.	+/-0.1
9:00 a.m. to 11:59 p.m.	+/-0.2
TRAVEL TIME TO WORK	
Less than 10 minutes	
10 to 14 minutes	+/-0.2
15 to 19 minutes	+/-0.2
20 to 24 minutes	+/-0.2
25 to 29 minutes	+/-0.2
30 to 34 minutes	+/-0.1
	+/-0.2
35 to 44 minutes	+/-0.1
45 to 59 minutes	+/-0.2
60 or more minutes	+/-0.2
Mean travel time to work (minutes)	+/-0.1
VEHICLES AVAILABLE Workers 16 years and over in households	
WOLKELS TO VEALS AND OVER IN DOUSEDOIDS	+/-5,121

Subject	Massachusetts
	Female
	Margin of Error
No vehicle available	+/-0.1
1 vehicle available	+/-0.3
2 vehicles available	+/-0.3
3 or more vehicles available	+/-0.2
PERCENT IMPUTED	
Means of transportation to work	(X)
Private vehicle occupancy	(X)
Place of work	(X)
Time leaving home to go to work	(X)
Travel time to work	(X)
Vehicles available	(X)

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

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Workers include members of the Armed Forces and civilians who were at work last week.

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Estimates of urban and rural population, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.

2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.

3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.

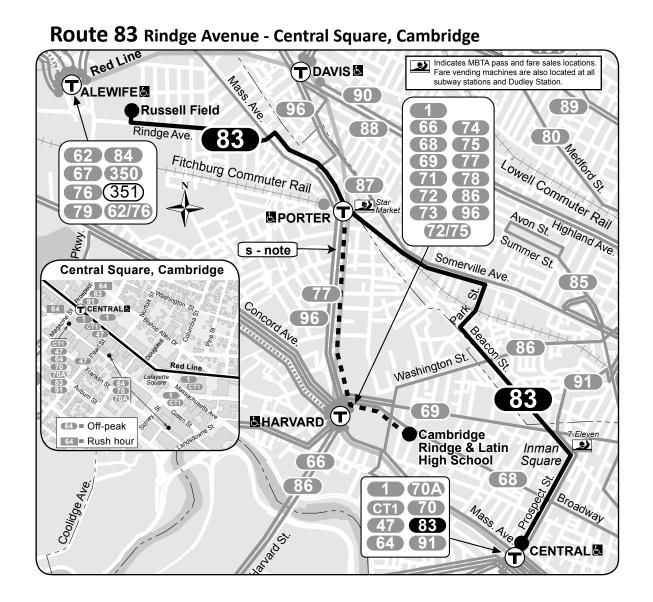
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.

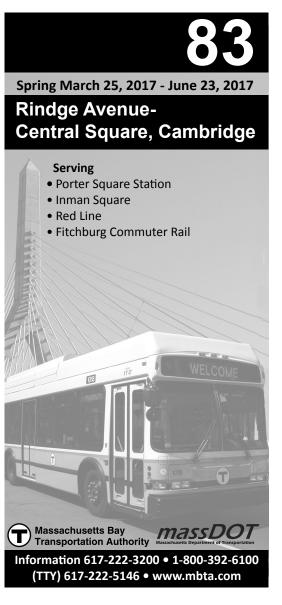
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.

6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.

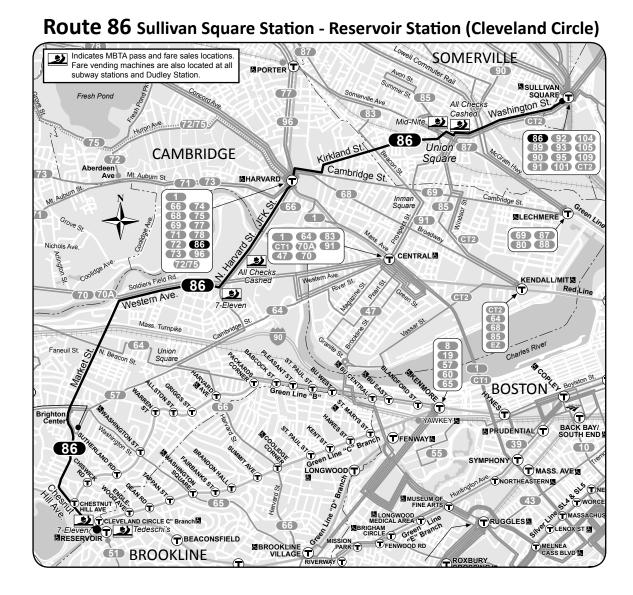
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.

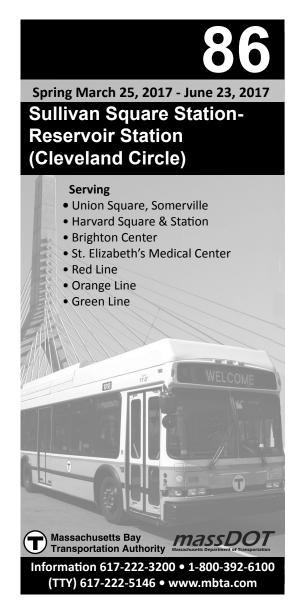
8. An '(X)' means that the estimate is not applicable or not available.



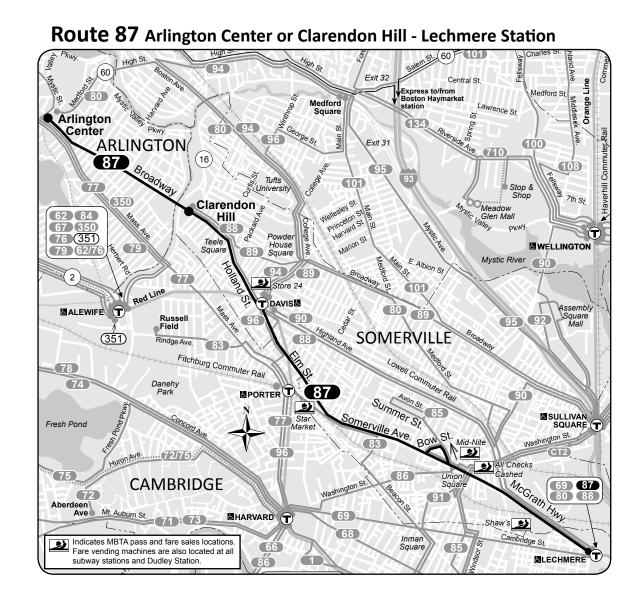


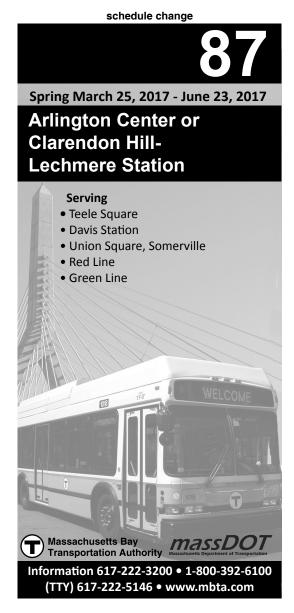
83	Inbound							Satu	ırday	Outbound	83	Inbound	Su	nday U Outbound				
							Inbound											
Leav Rinde Aven	ge Porter Sq.	Arrive Central Square	Leave Central Square	Arrive Porter Sq. Station	Arrive Rindge Avenue	Leave Rindge Avenue	Arrive Porter Sq. Station	Arrive Central Square	Leave Central Square	Arrive Porter Sq. Station	Arrive Rindge Avenue	Leave Rindge Avenue	Arrive Porter Sq. Station	Arrive Central Square	Leave Centra Squar	al Porter S	iq. Rindge	
5:1		5:24A	5:30A	5:38A	5:44A	5:10A	5:12A	5:24A	5:30A	5:38A	5:43A	7:45A	7:49A	8:00			A 7:40A	
5:3		5:44	5:50	5:58	6:04	5:50	5:52	6:04	6:10	6:19	6:24	8:45	8:50	9:03	8:25			
5:5		6:04	6:10 6:30	6:18	6:24 6:44	6:30 7:10	6:32 7:12	6:44 7:24	6:50 7:30	6:59 7:39	7:04 7:44	9:40 10:30	9:45 10:35	10:00 10:50	9:15			
6:1 6:3		6:24 6:50	6:55	6:38 7:06	0.44 7:11	7:50	7:53	8:05	8:10	8:19	8:24	11:20	11:25	11:40	10:55			
6:5		7:10	7:20	7:33	7:40	8:30	8:34	8:48	8:50	9:01	9:08	11.20			11:45			
7:1		7:30	7:40	7:55	8:02	8:55	8:59	9:13	9:20	9:31	9:38	12:10P	12:16P	12:311				
7:3		7:57	8:05	8:20	8:27	9:20	9:24	9:38	9:45	9:56	10:03	1:00	1:06	1:21	12:3			
7:5		8:17	8:25	8:40	8:47	9:45	9:49	10:05	10:10	10:21	10:28	1:50 2:40	1:56 2:45	2:11	1:25			
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