Staff to the Boston Metropolitan Planning Organization

## MEMORANDUM

TO: Transportation Planning and
Programming Committee

## FROM: Alicia Wilson

## RE: 2006 Alewife License Plate Data Rematching with 2008 RMV Database

## BACKGROUND

License plate data collected for the Alewife Phase I study ${ }^{1}$ at 10 locations on November 15, 2006, was initially matched with 2003 Registry of Motor Vehicles (RMV) database to determine the community in which each vehicle was garaged. The plates of $56 \%$ of total vehicles were matched with the 2003 database, with match rates by location ranging from a low of $50 \%$ to a high of $61 \%$. (Unmatchable plates such as those of police, fire, and out-of-state vehicles were not included in the match rates.) A few TPPC members questioned the validity of the results given the age of the RMV database and requested that the data be rematched when new RMV database were received.

CTPS received the 2008 RMV database in February 2008. The plates of $81.8 \%$ of total vehicles were matched with this database, with match rates by location ranging from a low of $74.3 \%$ to a high of $86.4 \%$. The older database produced fewer matches because, during the intervening years, people moved and registered their vehicles in different communities, and new vehicles were registered.

## ANALYSIS AND RESULTS

Initially, the margin of error for the $95 \%$ confidence level was used for the origin data. This means that for any location, the estimate of the proportion of vehicles originating in any given community falls within the range of plus or minus the margin of error $95 \%$ of the time. For example, with the 2003 database, it was estimated that $13 \%$ of the vehicles observed traveling southbound on Alewife Brook Parkway at the Fresh Pond Rotary in Cambridge originated in Lexington, and the margin of error for this location is $\pm 1.5 \%$. Then, $95 \%$ of the time, the proportion from Lexington would range between $11.5 \%$ and $14.5 \%$. In other words, if this survey were conducted 100 times, 95 of those times the proportion of vehicles from Lexington would be within 1.5 points of the percentage found in this survey.

[^0]The attached tables show, for each location, the percent of vehicles garaged in given communities from the 2003 database, the percent ranges to be expected with the margin of error, and the proportions calculated from the 2008 RMV database. Excluding the "Other Massachusetts" category, the tables contain a total of 267 entries. Only six (shaded in the tables) of the entries from the 2008 rematching fall outside the margin of error. Five of the six are only one half of one percent or less outside the expected values, and that degree of difference might be attributable to rounding.

## CONCLUSION

The analysis validates traditional statistical methods. Conclusions drawn from using the older RMV database are valid.

AW/aw

Origins of Vehicles Observed in the Alewife Station Garage

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -1.8\% | +1.8\% | Community | Vehicles | Total |
| Lexington | 358 | 14.4\% | 12.6\% | 16.2\% | Lexington | 378 | 15.2\% |
| Arlington | 325 | 13.1\% | 11.3\% | 14.9\% | Arlington | 342 | 13.7\% |
| Out-of-State | 166 | 6.7\% | 4.9\% | 8.5\% | Out of State | 166 | 6.7\% |
| Acton | 130 | 5.2\% | 3.4\% | 7.0\% | Acton | 123 | 4.9\% |
| Waltham | 127 | 5.1\% | 3.3\% | 6.9\% | Waltham | 158 | 6.3\% |
| Concord | 89 | 3.6\% | 1.8\% | 5.4\% | Concord | 93 | 3.7\% |
| Bedford | 72 | 2.9\% | 1.1\% | 4.7\% | Bedford | 74 | 3.0\% |
| Belmont | 69 | 2.7\% | 0.9\% | 4.5\% | Belmont | 73 | 2.9\% |
| Billerica | 55 | 2.2\% | 0.4\% | 4.0\% | Billerica | 57 | 2.3\% |
| Boston | 55 | 2.2\% | 0.4\% | 4.0\% | Boston | 40 | 1.6\% |
| Burlington | 48 | 1.9\% | 0.1\% | 3.7\% | Burlington | 57 | 2.3\% |
| Maynard | 45 | 1.8\% | 0.0\% | 3.6\% | Maynard | 42 | 1.7\% |
| Westford | 45 | 1.8\% | 0.0\% | 3.6\% | Westford | 44 | 1.8\% |
| Chelmsford | 43 | 1.7\% | 0.0\% | 3.5\% | Chelmsford | 33 | 1.3\% |
| Leominster | 41 | 1.6\% | 0.0\% | 3.4\% | Leominster | 33 | 1.3\% |
| Sudbury | 39 | 1.6\% | 0.0\% | 3.4\% | Sudbury | 47 | 1.9\% |
| Littleton | 38 | 1.5\% | 0.0\% | 3.3\% | Littleton | 41 | 1.6\% |
| Medford | 34 | 1.4\% | 0.0\% | 3.2\% | Medford | 24 | 1.0\% |
| Boxborough | 33 | 1.3\% | 0.0\% | 3.1\% | Boxborough | 33 | 1.3\% |
| Watertown | 31 | 1.2\% | 0.0\% | 3.0\% | Watertown | 21 | 0.8\% |
| Woburn | 31 | 1.2\% | 0.0\% | 3.0\% | Woburn | 44 | 1.8\% |
| Cambridge | 29 | 1.2\% | 0.0\% | 3.0\% | Cambridge | 16 | 0.7\% |
| Lincoln | 29 | 1.2\% | 0.0\% | 3.0\% | Lincoln | 40 | 1.6\% |
| Winchester | 29 | 1.2\% | 0.0\% | 3.0\% | Winchester | 27 | 1.1\% |
| Somerville | 27 | 1.1\% | 0.0\% | 2.9\% | Somerville | 13 | 0.5\% |
| Carlisle | 22 | 0.9\% | 0.0\% | 2.7\% | Carlisle | 26 | 1.0\% |
| Lunenburg | 22 | 0.9\% | 0.0\% | 2.7\% | Lunenburg | 16 | 0.7\% |
| Framingham | 21 | 0.8\% | 0.0\% | 2.6\% | Framingham | 8 | 0.3\% |
| Wayland | 21 | 0.8\% | 0.0\% | 2.6\% | Wayland | 21 | 0.8\% |
| Fitchburg | 17 | 0.7\% | 0.0\% | 2.5\% | Fitchburg | 28 | 1.1\% |
| Groton | 17 | 0.7\% | 0.0\% | 2.5\% | Groton | 16 | 0.7\% |
| Harvard | 17 | 0.7\% | 0.0\% | 2.5\% | Harvard | 12 | 0.5\% |
| Stow | 17 | 0.7\% | 0.0\% | 2.5\% | Stow | 17 | 0.7\% |
| Natick | 14 | 0.5\% | 0.0\% | 2.3\% | Natick | 9 | 0.4\% |
| Townsend | 14 | 0.5\% | 0.0\% | 2.3\% | Townsend | 13 | 0.5\% |
| Lowell | 12 | 0.5\% | 0.0\% | 2.3\% | Lowell | 17 | 0.7\% |
| Newton | 10 | 0.4\% | 0.0\% | 2.2\% | Newton | 13 | 0.5\% |
| Shirley | 10 | 0.4\% | 0.0\% | 2.2\% | Shirley | 10 | 0.4\% |
| Winchendon | 10 | 0.4\% | 0.0\% | 2.2\% | Winchendon | 5 | 0.2\% |
| Other MA | 283 | 11.3\% |  |  |  |  |  |
| Total | 2,494 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 1 (Winter Street at Concord Avenue, Belmont)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -3.1\% | +3.1\% | Community | Vehicles | Total |
| Lexington | 127 | 17.2\% | 14.1\% | 20.3\% | Lexington | 137 | 18.5\% |
| Arlington | 58 | 7.8\% | 4.7\% | 10.9\% | Arlington | 52 | 7.1\% |
| Burlington | 48 | 6.5\% | 3.4\% | 9.6\% | Burlington | 43 | 5.8\% |
| Woburn | 43 | 5.8\% | 2.7\% | 8.9\% | Woburn | 41 | 5.5\% |
| Belmont | 36 | 4.9\% | 1.8\% | 8.0\% | Belmont | 39 | 5.2\% |
| Out-of-State | 34 | 4.6\% | 1.5\% | 7.7\% | Out-of-State | 34 | 4.6\% |
| Watertown | 28 | 3.8\% | 0.7\% | 6.9\% | Watertown | 19 | 2.6\% |
| Bedford | 23 | 3.1\% | 0.0\% | 6.2\% | Bedford | 19 | 2.6\% |
| Billerica | 21 | 2.9\% | -0.2\% | 6.0\% | Billerica | 33 | 4.5\% |
| Boston | 20 | 2.7\% | -0.4\% | 5.8\% | Boston | 7 | 0.9\% |
| Wilmington | 20 | 2.7\% | -0.4\% | 5.8\% | Wilmington | 18 | 2.5\% |
| Medford | 18 | 2.5\% | -0.6\% | 5.6\% | Medford | 10 | 1.4\% |
| Acton | 13 | 1.8\% | -1.3\% | 4.9\% | Acton | 11 | 1.5\% |
| Chelmsford | 13 | 1.8\% | -1.3\% | 4.9\% | Chelmsford | 15 | 2.0\% |
| Somerville | 13 | 1.8\% | -1.3\% | 4.9\% | Somerville | 7 | 0.9\% |
| Waltham | 12 | 1.6\% | -1.5\% | 4.7\% | Waltham | 9 | 1.2\% |
| Other MA | 213 | 28.7\% |  |  |  |  |  |
| Total | 741 | 100.0\% |  |  |  |  |  |

## Origins of Vehicles Observed at Location 2 (Park Avenue at Prospect Street Rotary, Cambridge)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -3.2\% | +3.2\% | Community | Vehicles | Total |
| Arlington | 296 | 35.0\% | 31.8\% | 38.2\% | Arlington | 307 | 36.3\% |
| Lexington | 78 | 9.2\% | 6.0\% | 12.4\% | Lexington | 69 | 8.2\% |
| Belmont | 56 | 6.6\% | 3.4\% | 9.8\% | Belmont | 59 | 7.0\% |
| Winchester | 35 | 4.2\% | 1.0\% | 7.4\% | Winchester | 44 | 5.2\% |
| Boston | 26 | 3.1\% | -0.1\% | 6.3\% | Boston | 11 | 1.3\% |
| Woburn | 20 | 2.4\% | -0.8\% | 5.6\% | Woburn | 26 | 3.1\% |
| Burlington | 19 | 2.2\% | -1.0\% | 5.4\% | Burlington | 23 | 2.8\% |
| Newton | 17 | 2.0\% | -1.2\% | 5.2\% | Newton | 6 | 0.7\% |
| Billerica | 15 | 1.8\% | -1.4\% | 5.0\% | Billerica | 12 | 1.5\% |
| Cambridge | 15 | 1.8\% | -1.4\% | 5.0\% | Cambridge | 6 | 0.7\% |
| Watertown | 15 | 1.8\% | -1.4\% | 5.0\% | Watertown | 4 | 0.5\% |
| Out-of-State | 14 | 1.7\% | -1.5\% | 4.9\% | Out-of-State | 14 | 1.7\% |
| Medford | 13 | 1.5\% | -1.7\% | 4.7\% | Medford | 11 | 1.3\% |
| Somerville | 13 | 1.5\% | -1.7\% | 4.7\% | Somerville | 4 | 0.5\% |
| Stoneham | 11 | 1.3\% | -1.9\% | 4.5\% | Stoneham | 10 | 1.1\% |
| Other MA | 202 | 23.9\% |  |  |  |  |  |
| Total | 846 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 3 (Left Turns from Pleasant Street to Brighton Street, Belmont)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -3.2\% | +3.2\% | Community | Vehicles | Total |
| Arlington | 200 | 26.7\% | 23.5\% | 29.9\% | Arlington | 212 | 28.4\% |
| Lexington | 56 | 7.4\% | 4.2\% | 10.6\% | Lexington | 51 | 6.8\% |
| Belmont | 38 | 5.1\% | 1.9\% | 8.3\% | Belmont | 27 | 3.6\% |
| Woburn | 33 | 4.4\% | 1.2\% | 7.6\% | Woburn | 45 | 6.0\% |
| Boston | 26 | 3.5\% | 0.3\% | 6.7\% | Boston | 16 | 2.2\% |
| Medford | 26 | 3.5\% | 0.3\% | 6.7\% | Medford | 14 | 1.8\% |
| Winchester | 26 | 3.5\% | 0.3\% | 6.7\% | Winchester | 31 | 4.1\% |
| Billerica | 23 | 3.0\% | -0.2\% | 6.2\% | Billerica | 20 | 2.7\% |
| Out-of-State | 19 | 2.5\% | -0.7\% | 5.7\% | Out-of-State | 19 | 2.5\% |
| Wilmington | 16 | 2.1\% | -1.1\% | 5.3\% | Wilmington | 10 | 1.3\% |
| Cambridge | 14 | 1.9\% | -1.3\% | 5.1\% | Cambridge | 5 | 0.7\% |
| Stoneham | 14 | 1.9\% | -1.3\% | 5.1\% | Stoneham | 7 | 1.0\% |
| Chelmsford | 12 | 1.6\% | -1.6\% | 4.8\% | Chelmsford | 16 | 2.2\% |
| Lowell | 12 | 1.6\% | -1.6\% | 4.8\% | Lowell | 10 | 1.3\% |
| Burlington | 10 | 1.4\% | -1.8\% | 4.6\% | Burlington | 15 | 2.0\% |
| Reading | 10 | 1.4\% | -1.8\% | 4.6\% | Reading | 10 | 1.3\% |
| Tewksbury | 10 | 1.4\% | -1.8\% | 4.6\% | Tewksbury | 14 | 1.8\% |
| Waltham | 10 | 1.4\% | -1.8\% | 4.6\% | Waltham | 7 | 1.0\% |
| Other MA | 194 | 25.9\% |  |  |  |  |  |
| Total | 749 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 4 (Cross St. at Lake St., Belmont/Arlington Town Line)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -3.1\% | +3.1\% | Community | Vehicles | Total |
| Arlington | 215 | 29.7\% | 26.6\% | 32.8\% | Arlington | 246 | 33.9\% |
| Medford | 86 | 11.9\% | 8.8\% | 15.0\% | Medford | 79 | 10.9\% |
| Belmont | 54 | 7.5\% | 4.4\% | 10.6\% | Belmont | 46 | 6.4\% |
| Somerville | 41 | 5.6\% | 2.5\% | 8.7\% | Somerville | 29 | 4.0\% |
| Boston | 27 | 3.7\% | 0.6\% | 6.8\% | Boston | 10 | 1.4\% |
| Cambridge | 24 | 3.3\% | 0.2\% | 6.4\% | Cambridge | 23 | 3.1\% |
| Lexington | 22 | 3.0\% | -0.1\% | 6.1\% | Lexington | 21 | 2.9\% |
| Malden | 20 | 2.8\% | -0.3\% | 5.9\% | Malden | 18 | 2.4\% |
| Out-of-State | 16 | 2.2\% | -0.9\% | 5.3\% | Out-of-State | 16 | 2.2\% |
| Winchester | 15 | 2.1\% | -1.0\% | 5.2\% | Winchester | 10 | 1.4\% |
| Melrose | 12 | 1.6\% | -1.5\% | 4.7\% | Melrose | 10 | 1.4\% |
| Watertown | 12 | 1.6\% | -1.5\% | 4.7\% | Watertown | 14 | 1.9\% |
| Billerica | 10 | 1.4\% | -1.7\% | 4.5\% | Billerica | 10 | 1.4\% |
| Burlington | 10 | 1.4\% | -1.7\% | 4.5\% | Burlington | 8 | 1.0\% |
| Other MA | 160 | 22.1\% |  |  |  |  |  |
| Total | 725 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 5 (Alewife Brook Parkway at Fresh Pond Rotary, Cambridge)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -1.5\% | +1.5\% | Community | Vehicles | Total |
| Lexington | 521 | 12.6\% | 11.1\% | 14.1\% | Lexington | 557 | 13.5\% |
| Arlington | 384 | 9.3\% | 7.8\% | 10.8\% | Arlington | 459 | 11.1\% |
| Out-of-State | 295 | 7.1\% | 5.6\% | 8.6\% | Out-of-State | 295 | 7.1\% |
| Cambridge | 235 | 5.7\% | 4.2\% | 7.2\% | Cambridge | 224 | 5.4\% |
| Concord | 228 | 5.5\% | 4.0\% | 7.0\% | Concord | 216 | 5.2\% |
| Acton | 184 | 4.4\% | 2.9\% | 5.9\% | Acton | 203 | 4.9\% |
| Somerville | 155 | 3.7\% | 2.2\% | 5.2\% | Somerville | 106 | 2.6\% |
| Boston | 142 | 3.4\% | 1.9\% | 4.9\% | Boston | 101 | 2.4\% |
| Medford | 127 | 3.1\% | 1.6\% | 4.6\% | Medford | 110 | 2.7\% |
| Lincoln | 120 | 2.9\% | 1.4\% | 4.4\% | Lincoln | 105 | 2.5\% |
| Bedford | 102 | 2.5\% | 1.0\% | 4.0\% | Bedford | 98 | 2.4\% |
| Waltham | 73 | 1.8\% | 0.3\% | 3.3\% | Waltham | 70 | 1.7\% |
| Billerica | 71 | 1.7\% | 0.2\% | 3.2\% | Billerica | 85 | 2.0\% |
| Sudbury | 66 | 1.6\% | 0.1\% | 3.1\% | Sudbury | 67 | 1.6\% |
| Chelmsford | 64 | 1.5\% | 0.0\% | 3.0\% | Chelmsford | 70 | 1.7\% |
| Belmont | 62 | 1.5\% | 0.0\% | 3.0\% | Belmont | 48 | 1.2\% |
| Burlington | 60 | 1.5\% | 0.0\% | 3.0\% | Burlington | 54 | 1.3\% |
| Westford | 60 | 1.5\% | 0.0\% | 3.0\% | Westford | 76 | 1.8\% |
| Newton | 47 | 1.1\% | -0.4\% | 2.6\% | Newton | 25 | 0.6\% |
| Winchester | 47 | 1.1\% | -0.4\% | 2.6\% | Winchester | 36 | 0.9\% |
| Woburn | 47 | 1.1\% | -0.4\% | 2.6\% | Woburn | 57 | 1.4\% |
| Carlisle | 42 | 1.0\% | -0.5\% | 2.5\% | Carlisle | 47 | 1.1\% |
| Malden | 42 | 1.0\% | -0.5\% | 2.5\% | Malden | 47 | 1.1\% |
| Maynard | 40 | 1.0\% | -0.5\% | 2.5\% | Maynard | 55 | 1.3\% |
| Lowell | 38 | 0.9\% | -0.6\% | 2.4\% | Lowell | 52 | 1.3\% |
| Littleton | 36 | 0.9\% | -0.6\% | 2.4\% | Littleton | 37 | 0.9\% |
| Boxborough | 35 | 0.8\% | -0.7\% | 2.3\% | Boxborough | 39 | 1.0\% |
| Leominster | 31 | 0.7\% | -0.8\% | 2.2\% | Leominster | 39 | 1.0\% |
| Everett | 27 | 0.7\% | -0.8\% | 2.2\% | Everett | 24 | 0.6\% |
| Watertown | 27 | 0.7\% | -0.8\% | 2.2\% | Watertown | 20 | 0.5\% |
| Harvard | 25 | 0.6\% | -0.9\% | 2.1\% | Harvard | 25 | 0.6\% |
| Groton | 22 | 0.5\% | -1.0\% | 2.0\% | Groton | 23 | 0.5\% |
| Wayland | 22 | 0.5\% | -1.0\% | 2.0\% | Wayland | 21 | 0.5\% |
| Unmatchable | 21 | 0.5\% | -1.0\% | 2.0\% | Unmatchable | 21 | 0.5\% |
| Andover | 20 | 0.5\% | -1.0\% | 2.0\% | Andover | 13 | 0.3\% |
| Brookline | 20 | 0.5\% | -1.0\% | 2.0\% | Brookline | 10 | 0.2\% |
| Tewksbury | 20 | 0.5\% | -1.0\% | 2.0\% | Tewksbury | 19 | 0.5\% |
| Tyngsborough | 20 | 0.5\% | -1.0\% | 2.0\% | Tyngsborough | 16 | 0.4\% |
| Pepperell | 18 | 0.4\% | -1.1\% | 1.9\% | Pepperell | 13 | 0.3\% |
| Revere | 18 | 0.4\% | -1.1\% | 1.9\% | Revere | 11 | 0.3\% |
| Wakefield | 18 | 0.4\% | -1.1\% | 1.9\% | Wakefield | 14 | 0.3\% |
| Reading | 16 | 0.4\% | -1.1\% | 1.9\% | Reading | 13 | 0.3\% |
| Weston | 16 | 0.4\% | -1.1\% | 1.9\% | Weston | 13 | 0.3\% |
| Ayer | 15 | 0.4\% | -1.1\% | 1.9\% | Ayer | 18 | 0.4\% |
| Fitchburg | 15 | 0.4\% | -1.1\% | 1.9\% | Fitchburg | 21 | 0.5\% |
| Marlborough | 15 | 0.4\% | -1.1\% | 1.9\% | Marlborough | 11 | 0.3\% |
| North Reading | 15 | 0.4\% | -1.1\% | 1.9\% | North Reading | 12 | 0.3\% |
| Quincy | 15 | 0.4\% | -1.1\% | 1.9\% | Quincy | 7 | 0.2\% |
| Stoneham | 15 | 0.4\% | -1.1\% | 1.9\% | Stoneham | 16 | 0.4\% |

Origins of Vehicles Observed at Location 5 (Alewife Brook Pkwy. at Fresh Pond Rotary, Camb.), cont.

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -1.5\% | +1.5\% | Community | Vehicles | Total |
| Stow | 15 | 0.4\% | -1.1\% | 1.9\% | Stow | 16 | 0.4\% |
| Framingham | 13 | 0.3\% | -1.2\% | 1.8\% | Framingham | 16 | 0.4\% |
| Natick | 13 | 0.3\% | -1.2\% | 1.8\% | Natick | 11 | 0.3\% |
| Dracut | 11 | 0.3\% | -1.2\% | 1.8\% | Dracut | 10 | 0.2\% |
| Lancaster | 11 | 0.3\% | -1.2\% | 1.8\% | Lancaster | 8 | 0.2\% |
| Lynn | 11 | 0.3\% | -1.2\% | 1.8\% | Lynn | 2 | 0.1\% |
| Melrose | 11 | 0.3\% | -1.2\% | 1.8\% | Melrose | 24 | 0.6\% |
| Shirley | 11 | 0.3\% | -1.2\% | 1.8\% | Shirley | 12 | 0.3\% |
| Other MA | 291 | 7.0\% |  |  |  |  |  |
| Total | 4,139 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 6 (Concord Ave. at Fresh Pond Rotary, Cambridge)

| 2003 RMV Database |  | Range within Margin of Error |  | 2008 RMV Database |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :--- | ---: | ---: |
| Community | Vehicles | Total |  | $\mathbf{- 2 . 7 \%}$ | $\mathbf{+ 2 . 7 \%}$ | Community | Vehicles | Total

Origins of Vehicles Observed at Location 7 (Left Turns from Pleasant St. to Concord Ave., Belmont)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -2.5\% | +2.5\% | Community | Vehicles | Total |
| Arlington | 272 | 21.0\% | 18.5\% | 23.5\% | Arlington | 257 | 19.8\% |
| Belmont | 263 | 20.3\% | 17.8\% | 22.8\% | Belmont | 295 | 22.8\% |
| Lexington | 201 | 15.5\% | 13.0\% | 18.0\% | Lexington | 218 | 16.8\% |
| Cambridge | 66 | 5.1\% | 2.6\% | 7.6\% | Cambridge | 48 | 3.7\% |
| Boston | 34 | 2.6\% | 0.1\% | 5.1\% | Boston | 21 | 1.6\% |
| Waltham | 34 | 2.6\% | 0.1\% | 5.1\% | Waltham | 33 | 2.6\% |
| Out-of-State | 28 | 2.2\% | -0.3\% | 4.7\% | Out-of-State | 28 | 2.2\% |
| Watertown | 22 | 1.7\% | -0.8\% | 4.2\% | Watertown | 15 | 1.1\% |
| Winchester | 22 | 1.7\% | -0.8\% | 4.2\% | Winchester | 28 | 2.1\% |
| Medford | 20 | 1.5\% | -1.0\% | 4.0\% | Medford | 19 | 1.4\% |
| Newton | 20 | 1.5\% | -1.0\% | 4.0\% | Newton | 8 | 0.6\% |
| Woburn | 20 | 1.5\% | -1.0\% | 4.0\% | Woburn | 25 | 1.9\% |
| Bedford | 16 | 1.2\% | -1.3\% | 3.7\% | Bedford | 22 | 1.7\% |
| Billerica | 16 | 1.2\% | -1.3\% | 3.7\% | Billerica | 17 | 1.3\% |
| Burlington | 16 | 1.2\% | -1.3\% | 3.7\% | Burlington | 19 | 1.4\% |
| Stoneham | 16 | 1.2\% | -1.3\% | 3.7\% | Stoneham | 12 | 0.9\% |
| Acton | 13 | 1.0\% | -1.5\% | 3.5\% | Acton | 13 | 1.0\% |
| Lincoln | 11 | 0.8\% | -1.7\% | 3.3\% | Lincoln | 11 | 0.8\% |
| Somerville | 11 | 0.8\% | -1.7\% | 3.3\% | Somerville | 7 | 0.5\% |
| Other MA | 196 | 15.2\% |  |  |  |  |  |
| Total | 1,296 | 100.0\% |  |  |  |  |  |

Origins of Vehicles Observed at Location 8 (Grove St. from Bright and Blanchard Sts.)

| 2003 RMV Database |  | Range within Margin of Error |  | 2008 RMV Database |  |  |  |
| :--- | ---: | ---: | ---: | ---: | :--- | ---: | ---: |
| Community | Vehicles | Total |  | $-2.3 \%$ | $+2.3 \%$ | Community | Vehicles | Total

Origins of Vehicles Observed at Location 9 (Eliot Bridge, Cambridge)

| 2003 RMV Database |  |  | Range within Margin of Error |  | 2008 RMV Database |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | -1.2\% | +1.2\% | Community | Vehicles | Total |
| Belmont | 706 | 12.2\% | 11.0\% | 13.4\% | Belmont | 793 | 13.7\% |
| Cambridge | 656 | 11.3\% | 10.1\% | 12.5\% | Cambridge | 720 | 12.4\% |
| Arlington | 543 | 9.4\% | 8.2\% | 10.6\% | Arlington | 518 | 8.9\% |
| Lexington | 512 | 8.8\% | 7.6\% | 10.0\% | Lexington | 571 | 9.9\% |
| Watertown | 503 | 8.7\% | 7.5\% | 9.9\% | Watertown | 524 | 9.0\% |
| Boston | 397 | 6.9\% | 5.7\% | 8.1\% | Boston | 306 | 5.3\% |
| Waltham | 231 | 4.0\% | 2.8\% | 5.2\% | Waltham | 238 | 4.1\% |
| Out-of-State | 200 | 3.5\% | 2.3\% | 4.7\% | Out-of-State | 200 | 3.5\% |
| Concord | 180 | 3.1\% | 1.9\% | 4.3\% | Concord | 168 | 2.9\% |
| Somerville | 157 | 2.7\% | 1.5\% | 3.9\% | Somerville | 122 | 2.1\% |
| Newton | 145 | 2.5\% | 1.3\% | 3.7\% | Newton | 107 | 1.9\% |
| Acton | 131 | 2.3\% | 1.1\% | 3.5\% | Acton | 152 | 2.6\% |
| Medford | 88 | 1.5\% | 0.3\% | 2.7\% | Medford | 68 | 1.2\% |
| Bedford | 79 | 1.4\% | 0.2\% | 2.6\% | Bedford | 74 | 1.3\% |
| Lincoln | 62 | 1.1\% | -0.1\% | 2.3\% | Lincoln | 63 | 1.1\% |
| Brookline | 55 | 0.9\% | -0.3\% | 2.1\% | Brookline | 35 | 0.6\% |
| Winchester | 48 | 0.8\% | -0.4\% | 2.0\% | Winchester | 52 | 0.9\% |
| Burlington | 44 | 0.8\% | -0.4\% | 2.0\% | Burlington | 39 | 0.7\% |
| Billerica | 41 | 0.7\% | -0.5\% | 1.9\% | Billerica | 61 | 1.0\% |
| Carlisle | 37 | 0.6\% | -0.6\% | 1.8\% | Carlisle | 36 | 0.6\% |
| Leominster | 37 | 0.6\% | -0.6\% | 1.8\% | Leominster | 37 | 0.6\% |
| Woburn | 37 | 0.6\% | -0.6\% | 1.8\% | Woburn | 41 | 0.7\% |
| Chelmsford | 35 | 0.6\% | -0.6\% | 1.8\% | Chelmsford | 43 | 0.7\% |
| Malden | 32 | 0.5\% | -0.7\% | 1.7\% | Malden | 27 | 0.5\% |
| Westford | 32 | 0.5\% | -0.7\% | 1.7\% | Westford | 49 | 0.8\% |
| Littleton | 28 | 0.5\% | -0.7\% | 1.7\% | Littleton | 23 | 0.4\% |
| Quincy | 28 | 0.5\% | -0.7\% | 1.7\% | Quincy | 21 | 0.4\% |
| Sudbury | 26 | 0.5\% | -0.7\% | 1.7\% | Sudbury | 21 | 0.4\% |
| Everett | 19 | 0.3\% | -0.9\% | 1.5\% | Everett | 18 | 0.3\% |
| Harvard | 19 | 0.3\% | -0.9\% | 1.5\% | Harvard | 24 | 0.4\% |
| Lowell | 19 | 0.3\% | -0.9\% | 1.5\% | Lowell | 26 | 0.5\% |
| Maynard | 19 | 0.3\% | -0.9\% | 1.5\% | Maynard | 23 | 0.4\% |
| Wellesley | 19 | 0.3\% | -0.9\% | 1.5\% | Wellesley | 18 | 0.3\% |
| Weston | 19 | 0.3\% | -0.9\% | 1.5\% | Weston | 21 | 0.4\% |
| Melrose | 18 | 0.3\% | -0.9\% | 1.5\% | Melrose | 13 | 0.2\% |
| Boxborough | 16 | 0.3\% | -0.9\% | 1.5\% | Boxborough | 17 | 0.3\% |
| Fitchburg | 16 | 0.3\% | -0.9\% | 1.5\% | Fitchburg | 19 | 0.3\% |
| Framingham | 16 | 0.3\% | -0.9\% | 1.5\% | Framingham | 14 | 0.2\% |
| Groton | 16 | 0.3\% | -0.9\% | 1.5\% | Groton | 18 | 0.3\% |
| Milton | 14 | 0.20\% | -1.0\% | 1.4\% | Milton | 12 | 0.2\% |
| Tewksbury | 14 | 0.2\% | -1.0\% | 1.4\% | Tewksbury | 11 | 0.2\% |
| Wayland | 14 | 0.2\% | -1.0\% | 1.4\% | Wayland | 14 | 0.2\% |
| Ayer | 12 | 0.2\% | -1.0\% | 1.4\% | Ayer | 11 | 0.2\% |
| Natick | 12 | 0.2\% | -1.0\% | 1.4\% | Natick | 8 | 0.1\% |
| Needham | 12 | 0.2\% | -1.0\% | 1.4\% | Needham | 6 | 0.1\% |
| Pepperell | 12 | 0.2\% | -1.0\% | 1.4\% | Pepperell | 11 | 0.2\% |
| Stoneham | 12 | 0.2\% | -1.0\% | 1.4\% | Stoneham | 13 | 0.2\% |
| Andover | 11 | 0.2\% | -1.0\% | 1.4\% | Andover | 10 | 0.2\% |
| Lynn | 11 | 0.2\% | -1.0\% | 1.4\% | Lynn | 7 | 0.1\% |
| Wakefield | 11 | 0.2\% | -1.0\% | 1.4\% | Wakefield | 8 | 0.1\% |

Origins of Vehicles Observed at Location 9 (Eliot Bridge, Cambridge), cont.

| 2003 RMV Database |  | Range within Margin of Error |  | 2008 RMV Database |  |  |  |
| :--- | ---: | ---: | :---: | :---: | :---: | :---: | :---: |
| Community | Vehicles | Total | $\mathbf{- 1 . 2 \%}$ | $\mathbf{+ 1 . 2 \%}$ | Community | Vehicles | Total |
| Walpole | 11 | $0.2 \%$ | $-1.0 \%$ | $1.4 \%$ | Walpole | 6 | $0.1 \%$ |
| Other MA | 381 | $6.6 \%$ |  |  |  |  |  |
| Total | 5,792 | $\mathbf{1 0 0 \%}$ |  |  |  |  |  |


[^0]:    1 "Route 2/Route 16 (Alewife Brook Parkway) Eastbound: Traffic Patterns and Alewife Station Parking Garage Survey," CTPS memorandum, July 19, 2007.

