

## MPO Study Finds 15 Percent of Boston Region Workers Reverse Commute; Woburn, Burlington, Waltham, and Needham Lead

A recent study (<https://www.ctps.org/reverse-commute-areas-analysis>) conducted by the Metropolitan Planning Organization (MPO) found that a substantial number of Boston region workers reverse commute, but serving these trips by transit remains challenging because of entrenched land use patterns and the structure of transit, walking, and biking networks.

Reverse commuters are residents of the core of a major urban area, such as Boston, who travel to and from work in the suburbs. In recent years, this phenomenon has become a major point of interest in media and public policy circles. The MPO study sought to better understand how many reverse-commute trips occur in the region so planners can develop strategies for improving these trips.

### Estimating the MPO Region's reverse commute

Staff used the Longitudinal Employer-Household Dynamics (LEHD) dataset from the US Census Bureau, which encodes the locations of employers and the (anonymized) home addresses of their employees, to separate the region into sectors. Analysis of LEHD data found that the MPO region sees an estimated 216,735 reverse commute trips, or 15.4 percent of all commute trips, on a given day. With this dataset, it was possible to compile the flow of reverse commuters from the region's core to suburban areas and from the inner areas of each sector to areas further out. Together, these give an estimate of the total flow of reverse commuters within the region. Table 1 presents a summary of the results of this analysis.

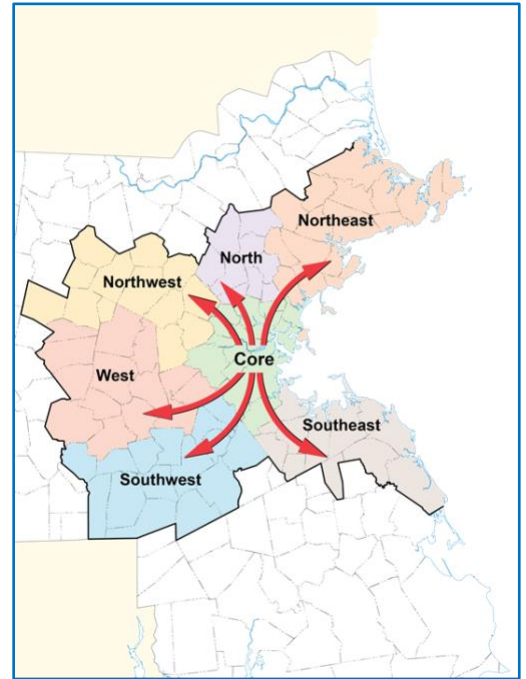


Figure 1. The figure shows the Boston region sectors and how reverse commuters travel from the core to these sectors.

**Table 1: Summary of Reverse Commute Flows in the Boston MPO Region**

Trip Origin	Number of Reverse-Commute Trips	Percent of Reverse-Commute Trips
City of Boston	65,910	30.4
Other Core Municipalities	88,185	40.7
Municipalities in Subregions	62,640	28.9
<b>Total in MPO Area</b>	<b>216,735</b>	<b>100.0</b>

Source: US Census Bureau Longitudinal Employer-Household Dynamics Reports for 2015.

### High concentrations of reverse commuters in Woburn, Burlington, Waltham, and Needham

After compiling the regional analysis, the study team used an assortment of existing data sources to identify several clusters of jobs that have a concentration of reverse commuters and analyze the needs of those commuters. Mainly located along Route 128/I-95, these employment clusters are generally well served by the roadway network, but the quality of transit service varies. Woburn, Waltham, and Needham are served by Massachusetts Bay Transportation Authority (MBTA) Commuter Rail, while Burlington is not. Waltham has many MBTA bus routes, while other locations may have only one or two. In the case study areas, as is generally typical of the region, schedules for reverse-commute service are limited, and

many reverse commute trips would require multiple transfers. In addition, employment locations are often far from existing transit services.

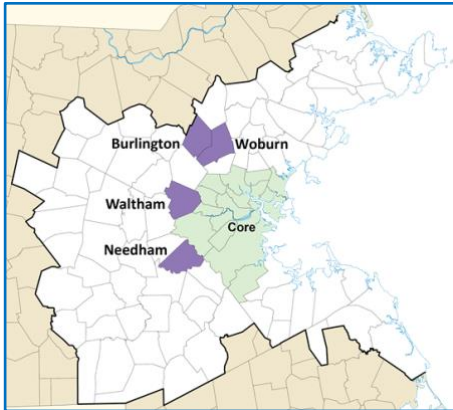


Figure 2. Woburn, Burlington, Waltham, and Needham showed high concentrations of reverse commuters.

To supplement fixed-route transit, employers in these large suburban employment centers have organized Transportation Management Associations (TMAs), which can provide services targeted at reverse commuters. Employers in Needham and Waltham are served by the 128 Business Council (128 BC); Burlington by the Middlesex 3 Coalition; and Woburn by the Junction Transit Management Organization (TMO). The 128 BC provides an extensive network of shuttle services, serving Waltham employment clusters from Alewife station on the Red Line and downtown Waltham with its MBTA commuter rail station and many fixed-route buses, and Needham clusters from Newton Highlands on the Green Line. The Middlesex 3 Coalition operates limited shuttle services to Burlington employers from both Alewife and Lowell (the latter of which is partially funded by the MPO). All three TMAs also provide Guaranteed Ride Home (GRH) programs, which allow a limited number of emergency rides each year to pre-registered workers at participating employers in a taxi, Uber, or Lyft vehicle. GRH programs can provide reverse commuters with the confidence that backup transportation will be available to mitigate the fear that insufficient transit schedules will be unable to provide needed flexibility.

### Serving reverse commuters with transit remains challenging

Transit planning still faces challenges when seeking solutions to serve reverse commuters. Because of the dispersed characteristics of suburban work locations, and of the urban core residents who might want to reverse commute, it is difficult to provide transit options that are both efficient from an operations standpoint and avoid multiple transfers or long walking distances at one or both ends of a trip. Long walks and multiple transfers may also encourage car commuting.

Suburban employers cannot successfully recruit transit-dependent employees if transit is unavailable. Employer-sponsored shuttles are probably the best solution for serving employment locations beyond reasonable walking distance from fixed-route transit, but it can take years to build ridership habits. The study makes several recommendations for better serving its case study areas with fixed-route transit and shuttles, and suggests that more employers join a TMA and implement GRH programs. The Waltham area, where MBTA commuter rail and fixed-route bus coexist with a robust system of commuter shuttles, can provide a template for other parts of the Boston region, even as work remains to tighten coordination among the various services and optimize routings.



Figure 3. Commuter rail and a fixed-route bus system coexist with a robust system of commuter shuttles in Waltham.

### Learn More

You can find the full report on the MPO website at <https://www.ctps.org/reverse-commute-areas-analysis>.

Federal fiscal year 2019 ended in September and with it, a year of research studies and technical work at the MPO. These studies will be presented to the MPO board and will be available on the MPO's website in the coming months. Keep an eye out for the results of analyses on topics such as how shoppers access business districts, new traffic volume data, and the evolving use of curb space.

The turn of this fiscal year also means that a fresh slate of exciting new studies will get underway, and MPO staff will begin gathering feedback on ideas for projects to undertake starting in October 2020. Do you have an idea for a study? Submit it online at [www.ctps.org/contact](http://www.ctps.org/contact) or reach out to Sandy Johnston, UPWP Manager, at [sjohnston@ctps.org](mailto:sjohnston@ctps.org).

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