Getting Columbia Road Moving

An analysis of future mode shift possibilities along the corridor

Introduction

Columbia Road is a major arterial road in Boston, Massachusetts that extends for 2.4 miles from the eastern corner of Franklin Park to Kosciuszko Circle at the southern point of Moakley Park, extending through the neighborhoods of Roxbury and Dorchester. Columbia Road is one of the widest streets in Boston, but has limited transit access considering its width, capacity, and destinations along its length. Recognizing its high potential for efficient transit access and connection possibilities, it’s important to evaluate the corridor’s current access to transportation and potential areas for improvement for the impending redesign process. The MBTA and the City of Boston are proposing a new Fairmount Commuter Line stop on Columbia Road, bus service improvements along the corridor, and better walking and biking infrastructure. This analysis compares two current commute modes (vehicle and public transit) for people living in block groups within ¼ mile of the Columbia Road Corridor, and determines the potential for mode shifts away from personal vehicle use to public transportation if both bus and train access and reliability were improved.

Methods

In order to determine mode shift potential, block groups within ¼ mile of Columbia Road were clipped and most data sources were matched to this clipped study area. Attribute joins were used to combine data to block groups and then various visualization options were used to show the variations. Data was normalized to show a percentage of total block group population who use each mode. Summary statistics was used to determine total numbers of people who commute by the various modes. US Census data provided commute modes by block groups, and the MBTA data provided locations for current bus stops as well as ridership per stop. The three data sources used were the following:

1. Mass GIS
2. MBTA data
3. US Census 2010

Results

The research showed that within our study area, block groups within ¼ mile of Columbia Road, there are 18,475 vehicles owned and 12,336 people who drive their vehicles (cars, trucks, or vans) to commute to work on a daily basis. In addition, 9,835 people use public transit, including the bus and train, as their main mode of commuting to work. As can be seen from the city-wide map, areas such as Back Bay and the South End have a significant portion of people who walk, bike or take public transit to commute, while the areas with lower access to transit, such as West Roxbury and Hyde Park, have a much higher number of people who commute by vehicle.

Conclusion

Considering that other areas of Boston have successfully shifted people away from driving by increasing transit access and reducing the need to drive, the Columbia Road Corridor has significant potential to move away from such a high number of vehicle commuters to more sustainable transportation options. With the proposed Fairmount Commuter Line stop on Columbia Road, and the planned improvements to bus service, the City of Boston, in partnership with the MBTA could nudge many residents along the corridor to consider public transit, as well as walking and biking as viable, safe, and convenient modes of commuting.