The Wayside Rail Trail: Access and Destination

Overview

The Wayside Rail Trail will be a 23 mile multi-use path along the old Massachusetts Central Railroad right-of-way. My parents’ house abuts the right-of-way, and for almost 20 years, my father has been maintaining an informal trail (a gravel path on the side of the railroad ties) along three miles in Weston. I grew up walking and bicycling along the “tracks,” as we call them.

In 2011, the Department of Conservation and Recreation (DCR), established a lease with the Massachusetts Bay Transit Authority (MBTA), which owns the right-of-way, to construct and operate the Wayside Trail (DCR, 2014a). Pending funding, DCR hopes to begin construction later this year, with the projected year of completion and trail opening (EDEEA, 2014).

The Wayside Trail is just one part of a larger long-term plan for the 104 mile Massachusetts Central Rail Trail. Eleven miles of the westernmost portion of this trail, from Amherst the Northampton, have been operating as a rail-trail for more than twenty years (DCR 2014b).

Project Purpose

To explore the access and assets for the trail and its abutting towns. My hope is that this exploration will be useful in either predicting the impact of the trail on the health of community residents, advocating for the trail, or designing programs to promote the use of the trail.

Question 1

How accessible is the trail on foot and bicycle, and how does accessibility vary across the trail?

Rationale

Research has shown associations between trails and healthy behaviors such as exercise and active transportation (Dunton et al., 2009; Pierce et al., 2006; Buehler & Pucher, 2010). Research has shown associations between trails and healthy behaviors such as exercise and active transportation (Dunton et al., 2009; Pierce et al., 2006; Buehler & Pucher, 2010). Exercise and active transportation (Dunton et al., 2009; Pierce et al. 2006; Buehler & Pucher, 2010).

Methods

Ped/Bike Shed: I used the network analyst service area tool to create a layer with all segments of the street network within a half mile network distance from a trail access point, and a polygon defined as the 100-meter buffer around the street network.

Walk/Bike ablity: The “ped/bike indices” estimated walkability/bikeability within each ped/bike shed. My methods were a simplified version of those followed by Giles-Corti et al. (2011). The index measures accessibility by comparing network distance to “as the crow flies” distance. First, I calculated the area of the ped/bike shed. Then I calculated the ratio of the ped/bike shed area to the area of a circle with a half-mile radius. A “walking” and “bikeable” distance is highly subjective; I used a half-mile to define accessibility because it is about a ten minute walk or a five minute bike ride. These polygons were my “ped/bike shed.”

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Access to "third spaces" and "natural spaces": Using basic spatial analysis tools, I selected all cafes and public libraries located within the ped/bike shed, and all open spaces and water bodies overlapping with the ped/bike shed. The resulting data layers represented all libraries, cafes, water bodies, and open spaces within a half mile network distance of a trail access point.

Results

Walk/Bikeability: The ped/bike indices indicated a low overall level of pedestrian/bicyclist accessibility. Indices ranged from 0.12 to 0.64, with a median of 0.42. Only four ped/bike sheds, all located in Waltham, were “walkable” (as defined by a score of 0.6 or greater). Hudson had the highest number of access points (21) followed by Waltham (14), but the median walkability was higher in Waltham (0.53) than in Hudson (0.45).

Access to “third spaces” and “natural spaces”: With a half-mile network bicycling/walking distance of the proposed Wayside Rail Trail, there are: 185 parcels of open space, 4 ponds, 13 cafes, and 4 public libraries. The ped/bike shed of the trail connects to an open space “shed” of 3,682 acres, and a river/stream network of 52 miles.