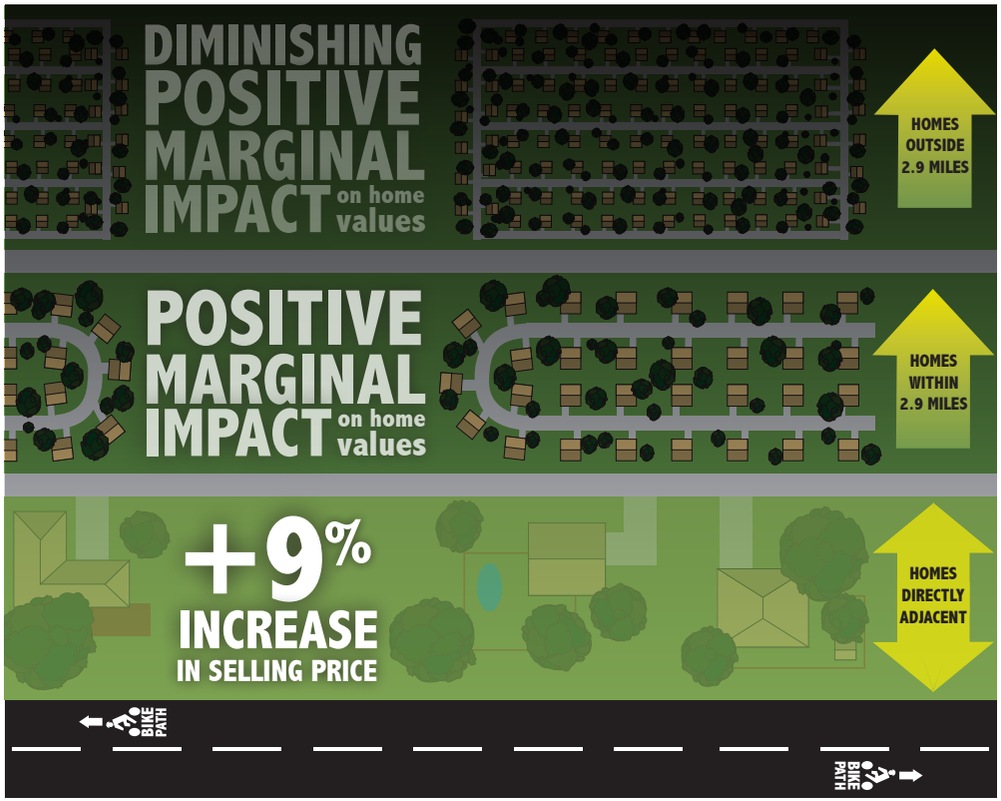
Public policymakers may utilize this study as a reference to support the construction and maintenance of bike paths in suburban towns. This study also highlights the lack of consensus in the literature as to whether bike paths are a positive or negative externality on local home values, although generally studies support the former rather than the latter.



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The Externalities of OPEN SPACE and Recreational BIKE PATHS in Wisconsin

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INTRODUCTION

A recreational bike path is defined as a bikeway that provides non-motorized travel on a paved or non-paved right-of-way completely separate from any street or highway. The decision to construct a recreational bike path is often justified by the benefit of transforming an abandoned railroad into a useful recreational area. Many discussions have arisen regarding the possible externalities the path itself may create. For example, does the path increase or decrease the value of the homes located adjacent to it? Is there crime associated with bike paths? The purpose of this study is to gather an understanding of bike paths and how they relate to homebuyers' preferences through hedonic analysis. To ensure validity in the results, we include controls that have been proven in prior literature.

Bicycle path studies have commonly been done using either traditional survey methods and descriptive statistics or hedonic analysis. Using survey methodology, a study done in Colorado on the trails in the Denver metro area concluded that 29 percent of the residents adjacent to paths experienced an increase in the selling price of their house. In Omaha, Nebraska, 81 percent of homeowners near bike paths believed the path had a positive effect or no effect at all when it came to selling their home. A telephone survey of Seattle, Washington, real estate agents conducted by Zarker et al. asked about the effects of the Burke-Gilman Bike Trail. The results of the study show properties near but not adjacent to the trail are easier to sell, and properties adjacent to the trail are only slightly easier to sell. The agents believed the selling price of homes immediately adjacent to the trail were not noticeably impacted.

Hedonic analysis developed from the recognition that a good (e.g., a house) is comprised of many different attributes, such as the number of rooms and square footage, and that even the same good is differentiated by the values of these attributes. Researchers use hedonic analysis to estimate how the different attributes that make up a good's overall value (for example, a home's price) contribute to it. The majority of studies employing hedonic analysis when studying bike paths include an indicator of whether or not a home is on a bike path. Lindsey et al. used an indicator of whether a home was within one-half of a mile of the three different bike trails in Indianapolis, Indiana, and found some, but not all, to have positive and significant effects on property values. Analyzing Portland, Oregon, Netusil concluded a variety of amenities had positive and negative effects on property values. She used an indicator of whether the amenity was within 200 feet of the lot of the home. The bike trail variable was found to be statistically significant and negative, indicating bike paths negatively affected a home's value. Finally, Racca and Dhanju used an indicator of whether a home was directly adjacent to a bike path throughout the state of Delaware. They concluded being situated on a bike path improved the value of the home by $8,886.

STUDY AND CONCLUSIONS

The data used in this study consist of 7,780 single-family home sales between 1994 and 2014 from Muskego, Wisconsin. Muskego is located in southeast Wisconsin in Waukesha County. As of the 2010 census, Muskego's population was 24,135, with 75 percent being over the age of 18. The city assessor provided the sales price and characteristics of each home. All distances were calculated using geographic information systems (GIS).

Analyzing 20 years of home sales in Muskego using hedonic analysis indicates the city bike path has a statistically significant positive impact on the sale price for homes located directly adjacent to the path. Geospatial analysis was used to calculate the distance of each home from amenities throughout the city, including the bike path. Analysis finds homes located directly adjacent to the bike path see a statistically significant 9 percent increase in selling price. Further analysis shows a nonlinear, positive marginal impact of distance from the bike path on home values, which increases until 2.9 miles and then decreases until reaching city limits. Homes located outside of this 2.9-mile distance suffer a diminishing, positive impact with each additional foot away from the bike path.