The Impact of Rail Trails on Nearby Residential Property Values: A Case Study of the Minuteman Bikeway and Lexington, Massachusetts

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The Wayside Rail Trail

- Proposed multi-use rail trail to go through 7 towns from Waltham to Berlin, MA, including town of Weston
- After task force review, Weston town government voted against construction of the trail
- One of the primary concerns was the potential decrease in property values of abutters

Weston concerns not uncommon

- Crime and property values commonly sited concerns when trails are proposed
- Trail advocates argue that the opposite is true.

Studies on property values in relation to greenspace

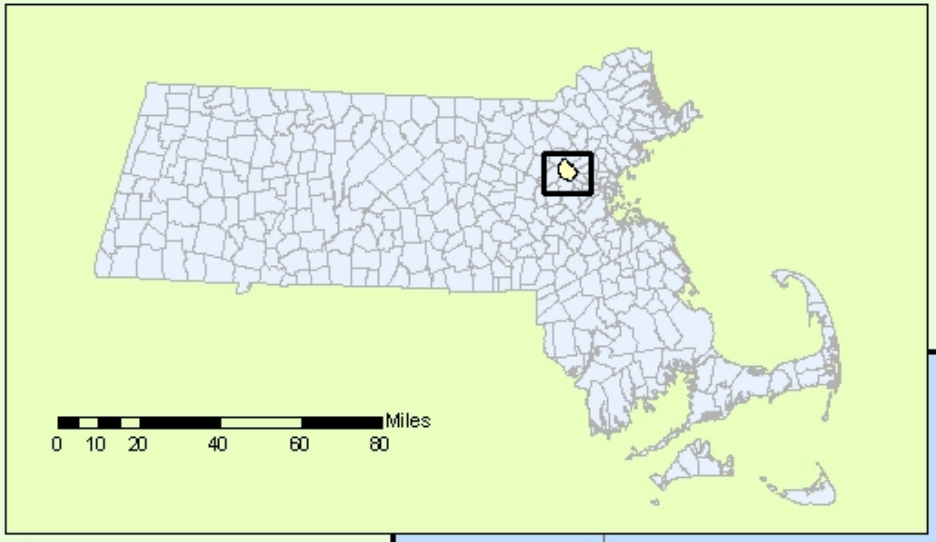
- Anecdotal studies suggest that rail trails actually increase values (Rails to Trails Conservancy)
- Study of property values & urban parks found that property values decrease with proximity to parks due to negative elements like noise and crime
- 2 studies using hedonic analysis to isolate variables suggest values increase with nearness to trails, but that results may vary depending on the trail
- Real estate study of 2 Mass trails saw decreasing time on market with increased proximity to trails

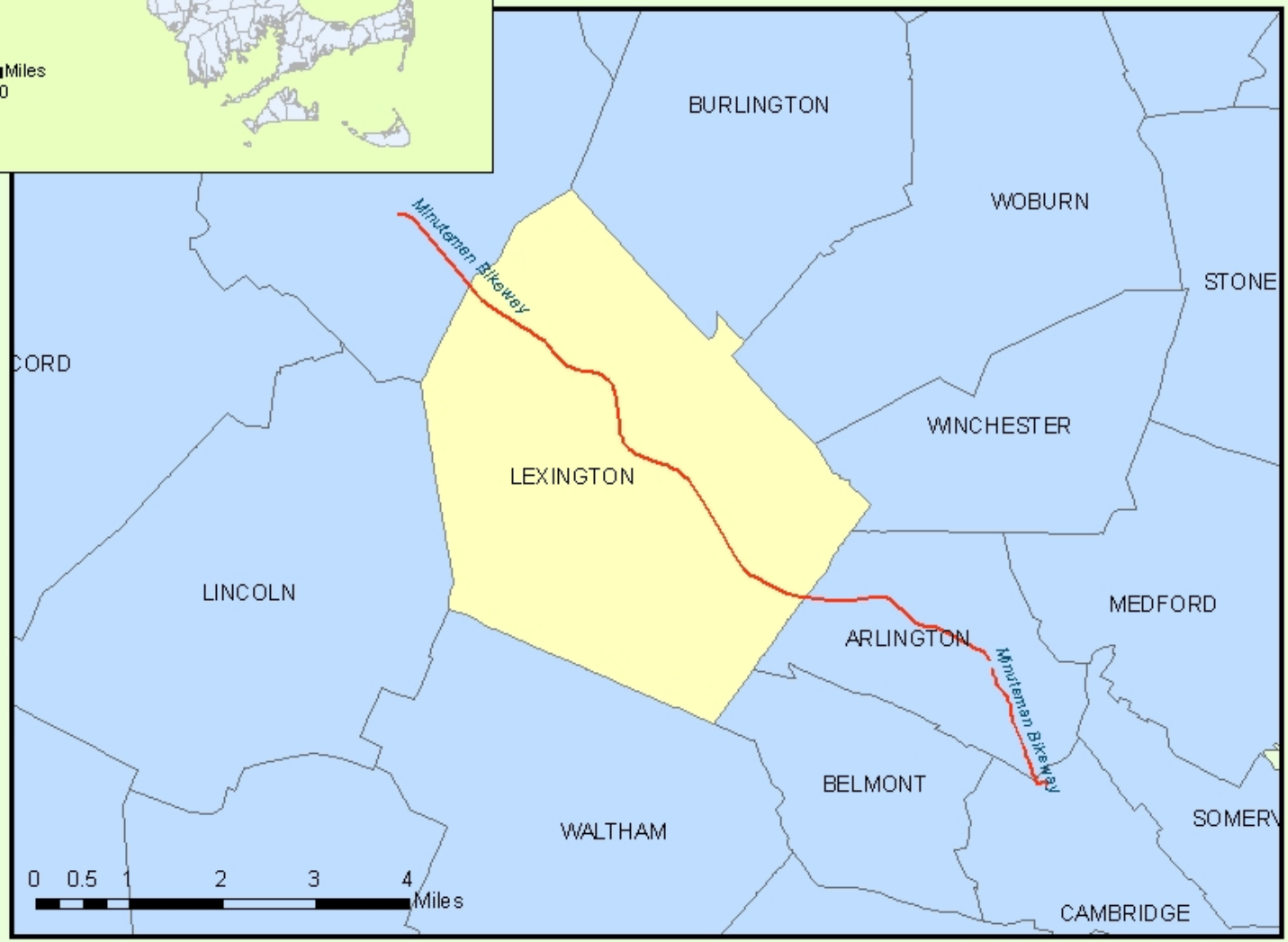
Minuteman Bikeway

- Established trail, opened in 1993
- Goes through 4 towns in MA (Cambridge, Arlington, Lexington, Bedford)
- Town of Lexington has some similarities to Weston:

	Weston	Lexington
Town area	17.33 sq mi	16.54 sq mi
2000 Population	11,469	30,355
1999 Median Household income	$153,918	$96,825

Town of Lexington, MA & the Minuteman Bikeway





Data Used

- Annual property sales data for Lexington, 1991-1995 (Lexington Assessor's on-line data base)
  - Decided to use sales data because it was most readily available for prior years & would reflect actual market trends
- Parcel shape files for Lexington (MassGIS)
- 2000 Census Massachusetts town shape file (MassGIS)
- Massachusetts rail trails shape file (MassGIS)

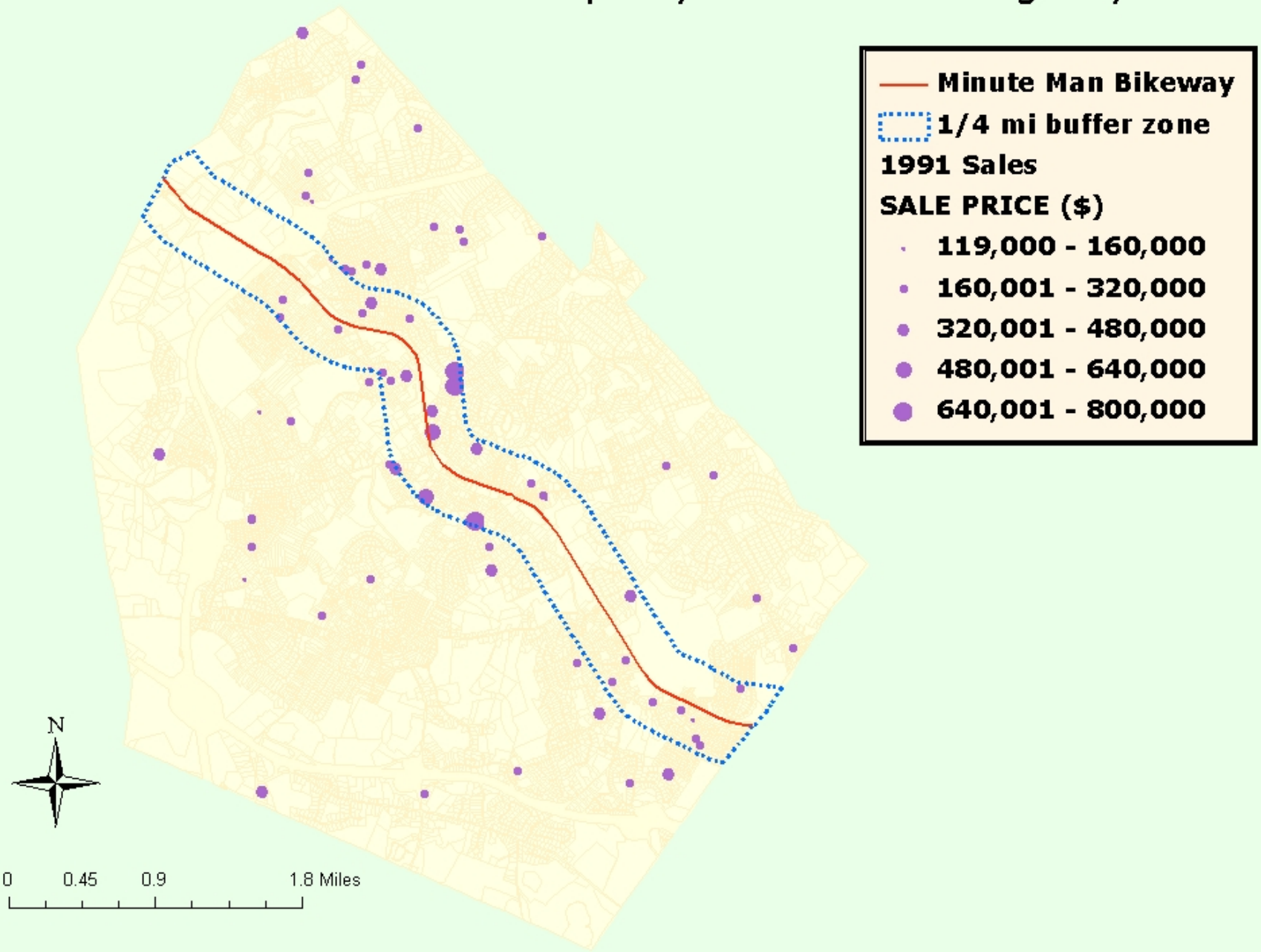
Methods

- Geocode sales data using single field address locator based on parcel file as reference
- Construct ¼ mi buffer around Minuteman Bikeway
- Select by location homes sold inside & outside buffer zone
- Select by attributes homes sold by year; create graduated symbol map for each year
- Use summarize function to calculate average sale price inside & outside buffer zone for each year
- Calculate % change in average sale price inside and outside buffer zone for each year

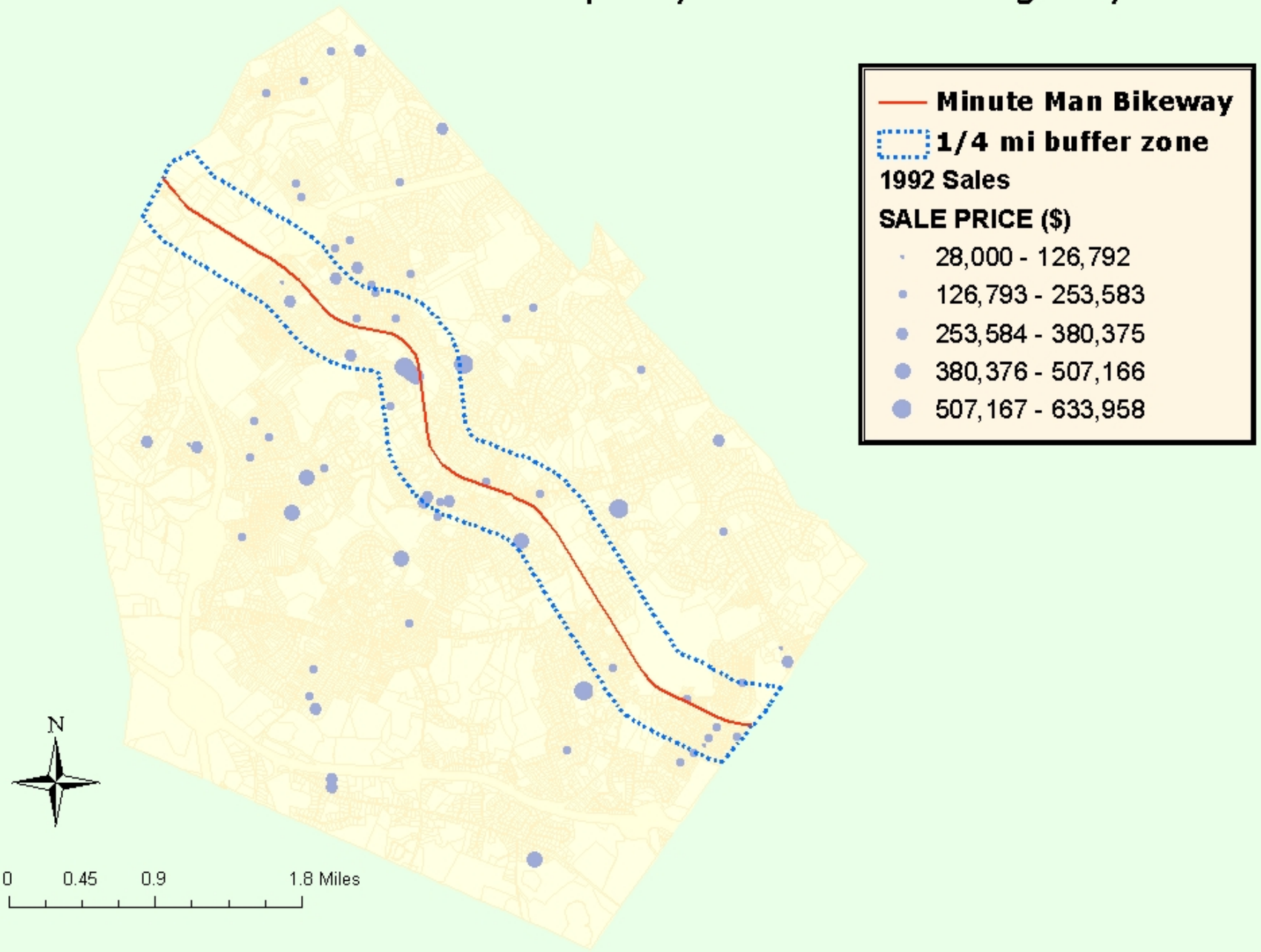
Study Goals

- Goal was to analyze the change in home sale prices inside the buffer before and after the opening of the trail, in comparison to change in average prices outside buffer

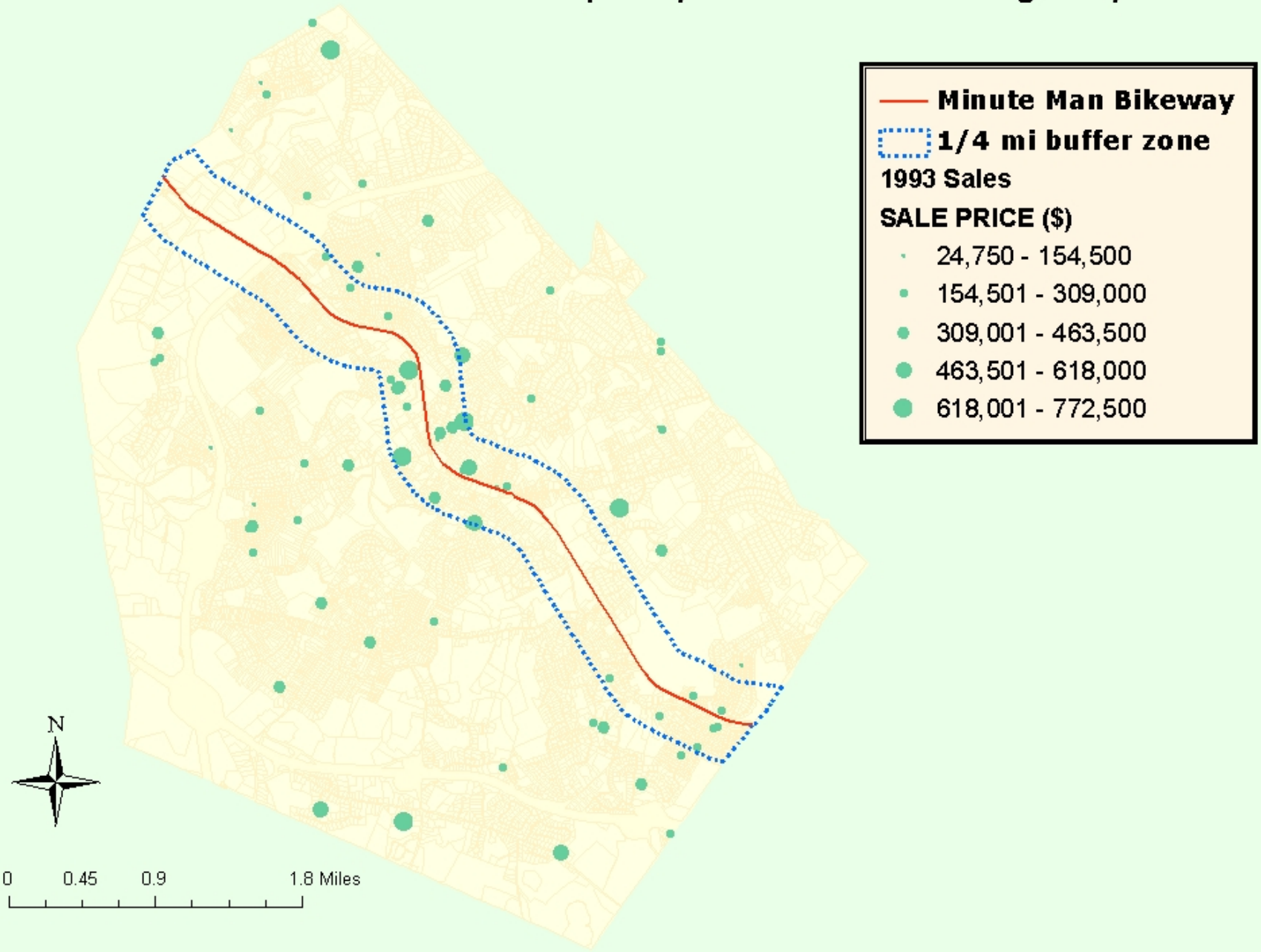
1991 Residential Property Sales in Lexington, MA



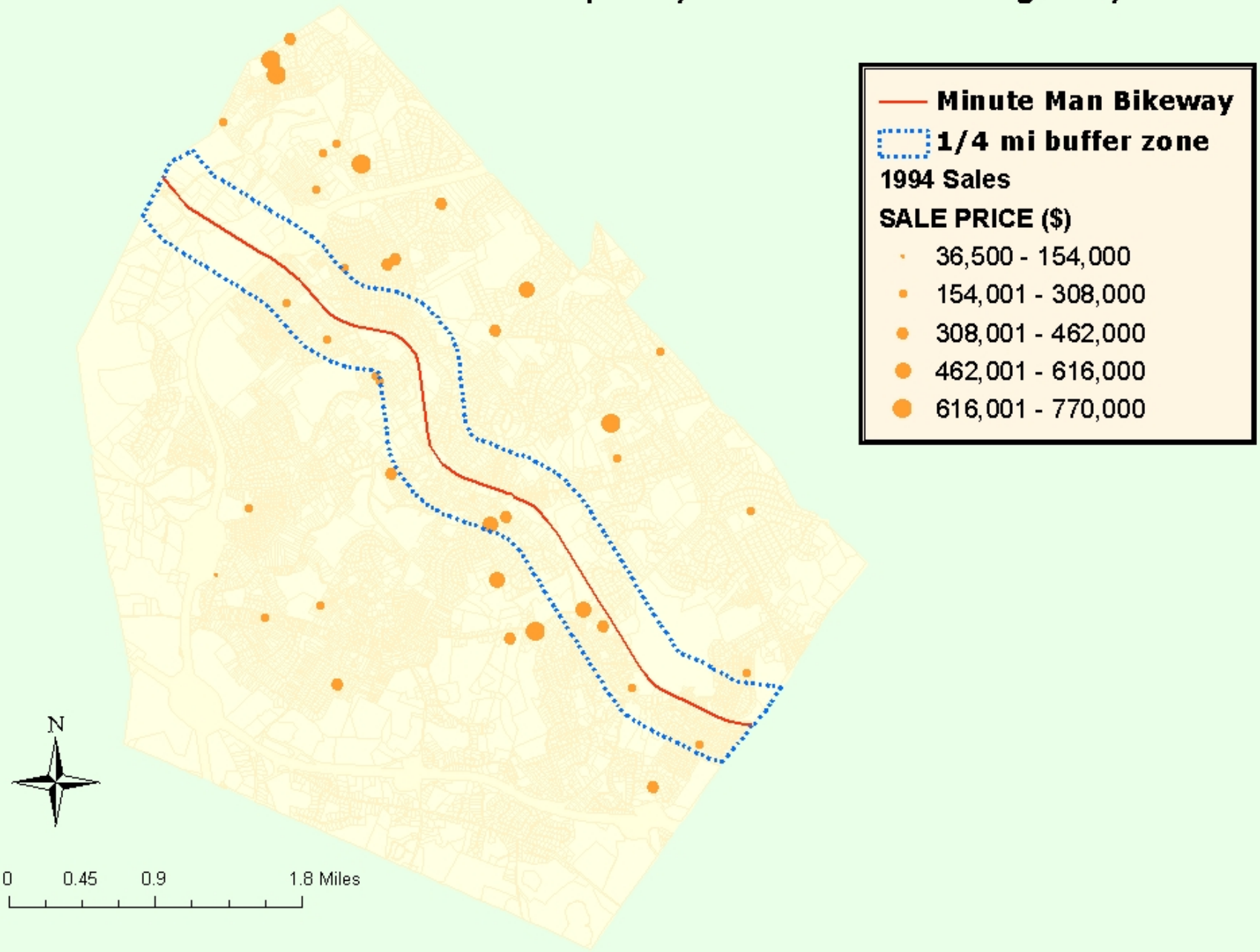
1992 Residential Property Sales in Lexington, MA



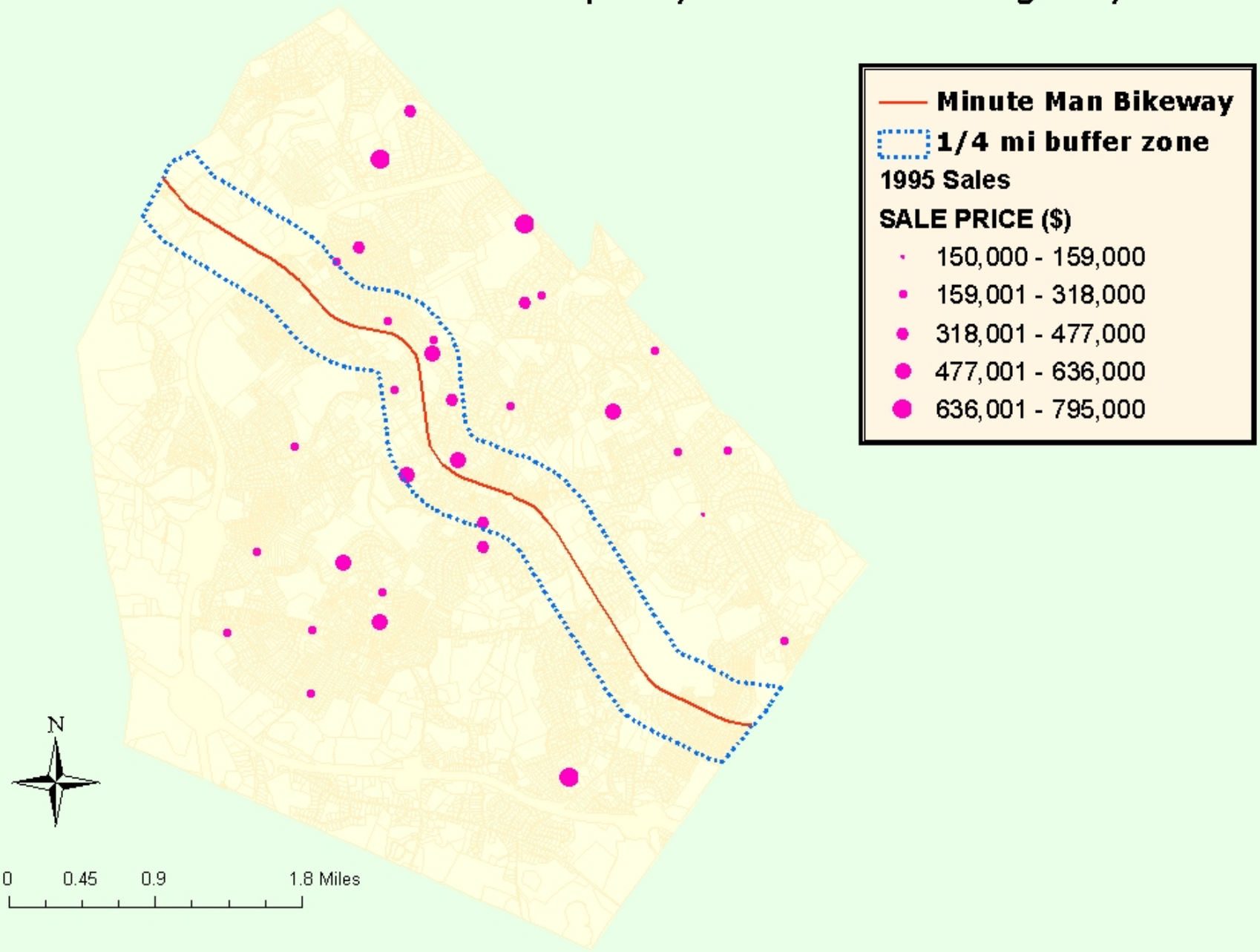
1993 Residential Property Sales in Lexington, MA



1994 Residential Property Sales in Lexington, MA



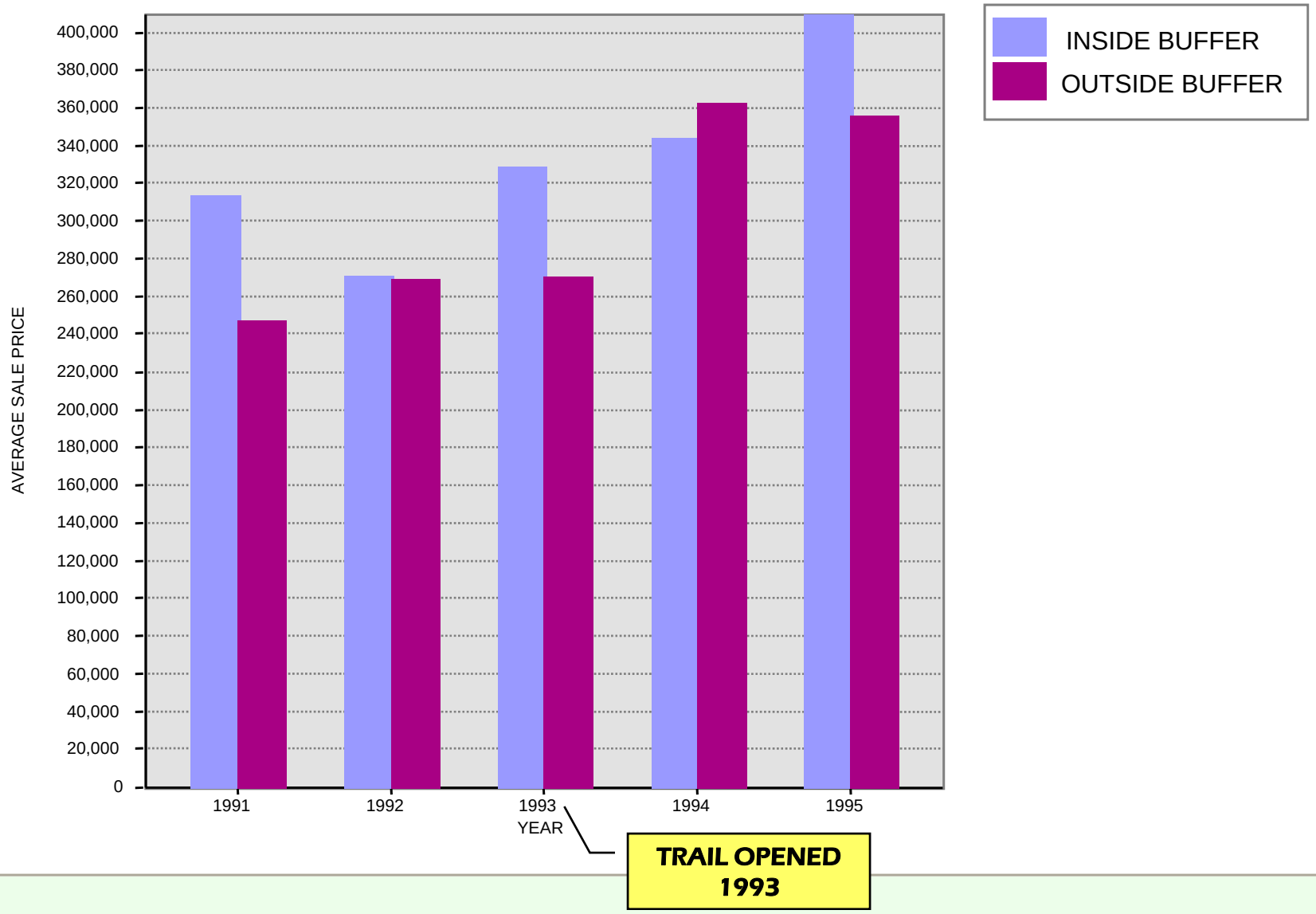
1995 Residential Property Sales in Lexington, MA



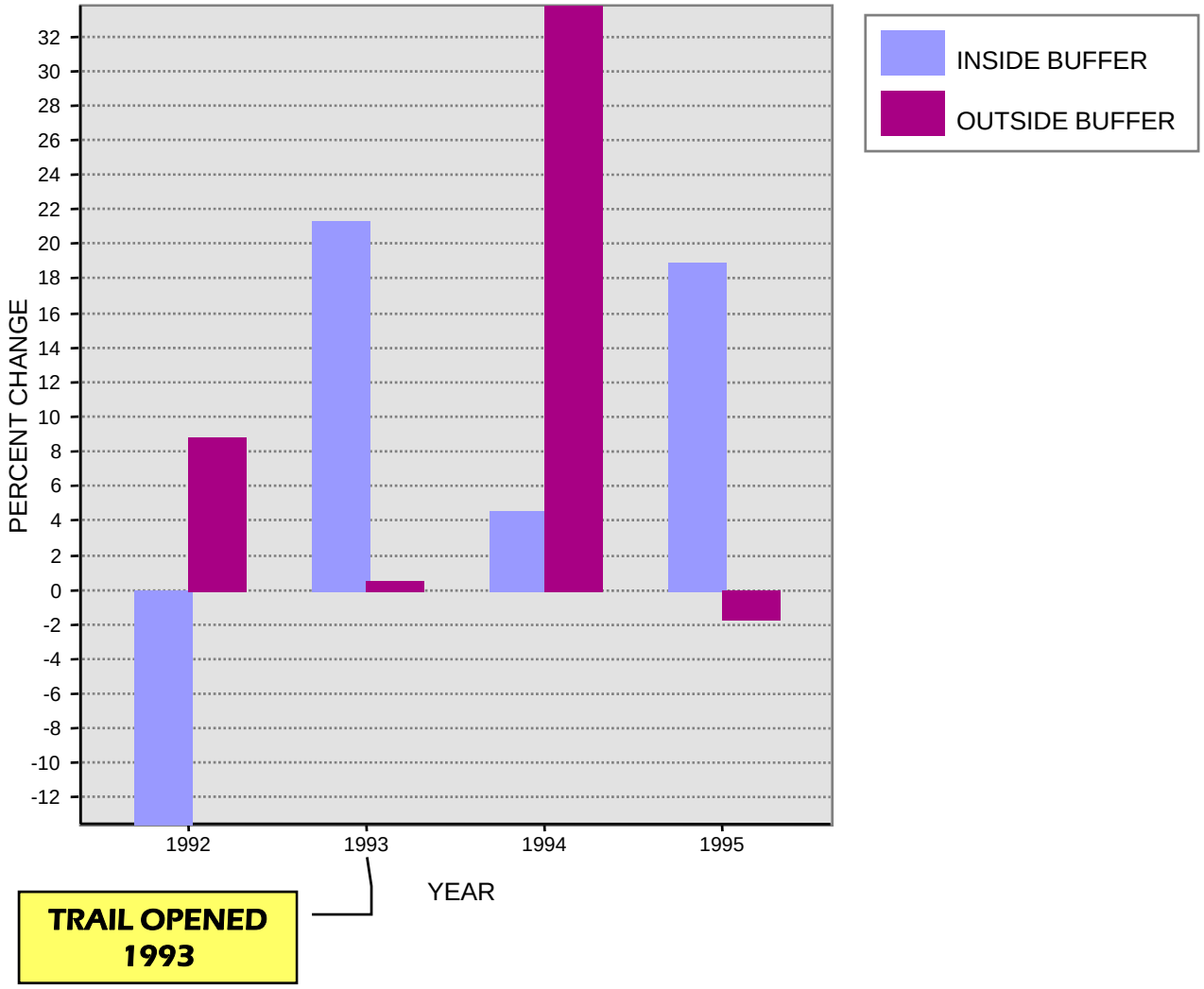
Results

- Average sale price within buffer dropped one year prior to trail opening, but then came back up the year of the opening
- Steady climb of average price within buffer after actual trail opening.
- Prices outside buffer fluctuated.

AVERAGE SALE PRICE INSIDE & OUTSIDE 1/4 MI BUFFER



PERCENT CHANGE IN AVERAGE SALE PRICE (FROM PRIOR YEAR)



Conclusions

- Overall inconclusive
- Anticipation/fear of trail prior to opening may have more affect than actual trail opening
- If trends continue, price growth within buffer may surpass growth outside

Thoughts for next time

- Choose wider range of study years to better show trends
  - 2 years before & after the trail opening not enough to show solid trends. Why not add current data?
- Choice of ¼-mile buffer was arbitrary
  - smaller buffer (only abutting properties) might yield different results.
- Possibly use assessed property values instead of average sale prices.
  - increase the amount of data present
  - allow comparisons of values for particular properties over a number of years.
- Use mean values instead of averages
  - might be more representative of the overall trend in each area.

Sources

- http://www.mass.gov/mgis/massgis.htm
- http://ci.lexington.ma.us/
- Buffington A:An Assessment of Urban Park Values and Residential Properties Utilizng GIS in Rochester, Minnesota. Winona, MN, Saint Mary's University, 2000
- Economic Benefits of Trails and Greenways. Washington, DC, Rails to Trails Conservancy, 2002
- Public Choices and Property Values: Evidence from Greenways in Indianpolis. Center for Urban Policy and the Environment, 2003
- Nicholls S: The Impact of Greenways on Property Values: Evidence from Austin, Texis. Journal of Leisure Research 37:321-341, 2005
- Della Penna C:Home Sales near Two Massachusetts Rail Trails. Northampton, MA, The Murphys Realtors, Inc., 2006