

## Hennepin County Economic Analysis – Executive Summary

Embrace Open Space commissioned an economic study of home values in Hennepin County to quantify the financial impact of proximity to open spaces on the value of nearby single-family homes. As communities in the Twin Cities metropolitan area begin to plan now for one million new residents coming to the region by 2030, such results can help communities better understand how decisions to conserve open space might affect property tax revenues.

The economic study conducted by Embrace Open Space addresses the following question: *Is there a quantifiable value increment -- enhanced value -- to residential properties that are located near open space, which includes parks and natural areas?* In other words, is there an “open space premium” for homes adjacent or near open space in Hennepin County? And, if so, *what is the value of that open space premium?*

This study examined single-family residential properties in Hennepin County that were sold between January 2001 and March 2006. It is these sales that provide the data for the regression analysis that answers the above questions. Over 81% of the single-family residences in the studied communities have greater value due to the presence of open space. The overall impact on property values county-wide is just over \$3.5 billion, resulting in approximately \$36million/year in increased property tax revenues. This increase in value of single family homes is due to the fact that 18% of Hennepin County land is protected as some form of open space<sup>1</sup>.

As compared to Embrace Open Space’s earlier study of Washington County, this study breaks new ground by considering not only the impact on homes that are immediately adjacent (within 200 feet) of open space, but also the impact of being within a half-mile of very large open space (50 acres or more) and the impact on residential property values throughout a city due to that city’s percentage of land in preserved open space. Homes impacted by open-space proximity in Hennepin County benefit from these three components of open space premiums, described in further detail below.

**Homes within 200 Feet of Open Space:** Properties within 200 feet of open space generally benefit from a value increment. More specifically, this component of the open space premium applies to homes within 200 feet of an open space, where the open space is at least 1 acre in size and where there is not also water within 200 feet (the impact of water proximity on homes is much greater than other open space and is accounted for separately in the analysis). The open-space premium applies to almost all homes that fit these specifications - the only exception is homes larger than one acre that are in high-income areas (defined as areas where median income is above the 75th percentile).

---

<sup>1</sup> See definition of open space for this study on page 4.

This study also showed that large residential home lots (2 acres or more) are not affected by open-space proximity. For homes of a half-acre or less, the open-space impact is 3.5% (except for homes of a quarter-acre or less in low-income neighborhoods, where the impact is only 1.75%). For homes between half an acre and two acres (except those greater than an acre in high-income areas) the impact is 5.1%.

*Countywide, there are over 44,190 homes that benefit from being within 200 feet of open space, and the enhanced value = \$13,700 per home and the total value countywide is \$606 million.*

**City-Wide Open Space Proportion:** Having more open space in a community adds to home values throughout the community. Specifically, the proportion of land that is open space impacts the value of homes in low and moderate income<sup>2</sup> neighborhoods in that city. In other words, cities with more open space are recognized as having greater amenity value, and people seeking to locate in particular communities appear to factor in that community's open space proportion when purchasing a home.

*This new component of open space premium shows that, for every additional percent of open space that is protected (that is, if a city increases open space from 5% of city area to 6%), the impact is .2%. In this example, a \$200,000 home would be worth \$400 more. In all, there are almost 109,000 homes impacted in this way; the average impact is just over \$7,400 per home, and the total value across the county is \$808 million.*

**Proximity to Large Open Spaces:** A new component explored in this study is the economic impact of homes near very large open spaces (greater than 50 acres). This study shows that people pay more to live close to very large open spaces; homes within a quarter-mile of large open spaces are worth almost 4.8% more; those beyond a quarter mile but within half a mile are worth 3% more.

*Over 143,000 homes fall within a half-mile of large open spaces that benefit from this component of the open space premium. The average value increment per home is \$15,000 and the total value countywide is \$2.15 billion.*

**The average impact across all three of components of open space premiums is \$16,300 per home.<sup>3</sup>**

---

<sup>2</sup> Income below the county-wide median.

<sup>3</sup> Some residential homes benefit from more than one of these components. For this reason, the average increase for all affected parcels - \$16,300 - is somewhat greater than the average for those in each of the three affected categories.

## SUMMARY OF FINDINGS

A study of this magnitude produces a breadth of learnings and observations. The findings are described in more detail below.

### **Finding: An open space premium exists**

**The study finds that over 81% of single-family residential homes in Hennepin County benefit from an open space premium because of the presence of open space.** These are homes where a 1+ acre open space is within 200 feet, where the community has a high proportion of open space, and/or within ½ mile of a large open space (>50 acres). We did not see impacts on homes on lots larger than one acre and on homes that are in high-income neighborhoods,<sup>4</sup> and small open spaces -- less than 1 acre in size -- do not generate residential open space premiums in Hennepin County.

After taking into account the impact of other key factors on home values in Hennepin County -- such as size, number of bedrooms, year built, etc -- **the value of open space premium is \$16,300 for homes that benefit from the open space premium, equal to 5.2% of residential value.**

In addition to the overall results, open space premiums and percent open space in each city, have been calculated separately for the 45 Hennepin County cities (and one township) in the study.

### **Finding: Significant impact on county-wide property valuation and tax revenues**

Countywide, the total increase in property values due to the presence of open space is \$3.56 billion. Based on residential average tax rates<sup>5</sup> within each community, the open space premium generates more than \$36 million in additional tax revenues each year across Hennepin County.

### **Finding: Density of development affects the open space premium**

As expected, the impact of near-by open space is greatest in more densely developed communities. Related to this, this study found that there was virtually no open space premium for larger lot homes; in essence, the landowners own their own “open space” and are therefore less likely to pay a premium for open space bordering their homes.

Less developed communities can anticipate a future when they will be more fully built out, and plan ahead to conserve open space in order to capture the open space premiums as they grow.

Another consideration is that cluster development (smaller lots coupled with reserving a significant amount of the site as protected open space) can substantially increase the overall

---

<sup>4</sup> Defined as areas where median income is above the 75th percentile.

<sup>5</sup> Calculated from assessor’s data that included annual property tax in 2006, then averaged across each community to determine a tax rate per \$1,000 in home value. Results verified by Hennepin County Taxpayers Services.

value of the land (and the amount of property tax revenues to the county)—even taking into account a substantial portion of the property being protected as open space—compared to use of that same property divided into relatively few large lots.

### **Finding: Impact of adding open space within a community**

There are varying levels of open space in each city and township (ex: City of Osseo has 1.1% in open space; City of Champlin has 32.1%). This study examined the impact of various levels of open space for each community in the study. Across the 45 communities, 18% of the total area is in open space, and because of its presence, almost half of the \$16,300 open space premium is attributable to this open space.

These results suggest that communities can anticipate a positive community-wide impact of adding open space to their community. For example: If the amount of open space is doubled in a community, the analysis shows that all residential properties would increase in value by 1.3%. If the percent of open space in the community again doubles, the properties will increase an additional 1.3%.

This is important to think about as a community grows. When a community begins with 1% of its land use is open space, then increases it to 2%, the impact on property values is just as powerful as going from 10% to 20% open space in a community. This means that it is particularly powerful to add open space in communities that currently have very little open space.

## **Methodology**

### **Definition of Open Space**

There is no definitive source of information on what constitutes “open space.” The best starting point, however, is data from county and city assessors’ offices, which include information about open space parcels. In some cases, this assessor’s information provides a set of parcels that are clearly “open space” - parcels in the following assessment categories: parks, golf courses, woodlands, and public hunting grounds.

However, many open spaces in Hennepin County were *not* included in the list of properties in the above assessment classes, so additional manual analysis was conducted. Supplemental information was consulted, including the 2005 Generalized Land Use dataset (Metropolitan Council). By matching the land use areas on the Generalized Land Use dataset to the Hennepin County parcel dataset, each parcel could have a land use identified for it. Further analysis looked at combinations of land use and assessment category that looked like they might be open space (for example, publicly owned land with no buildings on it). Representative parcels were examined in more detail, and, in a few cases, researchers actually visited parcels.

On the basis of this manual analysis, additional parcels were included as “open space” owned by charitable organizations, and parcels listed as “state acquired” or otherwise in public ownership (federal property, state property), provided that they were listed in the land use map as parks,

golf courses, water, or undeveloped and have no buildings on them. (The assessor's database gives the assessed value of buildings on any parcel, separate from the value of the land itself; parcels with no building value have no buildings). There were many open space parcels in this group, as well as open space parcels held by charitable organizations. Also, many golf courses (as identified by the land use map) were listed in the assessor's database as commercial properties.

Land with a conservation easement is an important category of open space, particularly when the open space is an integral part of a cluster development. Many of the homes in cluster developments are adjacent to preserved open space and therefore command higher prices. However, parcels with conservation easements cannot be recognized from the assessor's database. In most cases, the open space is privately owned, and the conservation easement may not apply to the entire parcel. We obtained conservation easement information from organizations that hold such easements, and included as many as possible in the inventory of open space parcels.

### **Regression Analysis**

While proximity to open space affects the value of a residential property, it is not the most important factor. Regression analysis was used to separate out the values of *all* the factors of a home's value. Regression analysis is a useful technique because the various determinants of the value of a particular single family home interact with each other. To address the challenge of multiple causation, this study used multi-variate regression, a statistical procedure that isolates the impact of each explanatory variable, holding all other factors constant. Regression analysis effectively compares homes of equal size with each other so that it can isolate the impact of other factors, such as open space proximity.

### **Timeframes**

All analysis is pegged to February 2006 values. The homes that included in the study were sold in the period from January 2001 through February 2006. For homes sold before the end of the study period, the 2006 value was determined by taking the actual sales price and adjusting it by a calculated regression coefficient that shows that home values increased over the study period by .7% per month. For homes with no recorded sale, homes that sold before 1999, and homes not sold at arms length, value in February 2006 was calculated directly from the regression analysis. Using the regression coefficients, values were first calculated by ignoring any open space proximity and then calculated again using actual proximity; the difference between the two is the open space proximity impact.

Note that the study timeframe reflects a period when residential home values were high, before the significant downturn in home values in 2008. However, the nature of the study produces results that are directional and illustrative, and it is very likely that the scale of open space premium is of similar proportion when home values are lower.

### **Limitations of the study**

The economic impact of preserved open space on countywide property values may, for several reasons, be even higher than indicated by the results of this study. This study does not measure the economic impact of open space proximity to other types of residential property, such as

condominiums, townhomes, multi-family dwellings and undeveloped residential land, nor the impact on commercial and industrial properties.

Note that this economic analysis addresses only the increase in home sale value; it does not quantify other community benefits, such as protecting water quality, providing wildlife habitat, supporting recreational opportunities, and preserving natural heritage.

## **STUDY FINDINGS: WHAT MIGHT THEY SUGGEST?**

The findings of this study suggest important implications for long-term development planning. Local officials wishing to recoup some of the tax revenues “lost” because newly acquired open space is not taxable should consider the impacts of future zoning decisions, in light of the findings of this study, to determine whether there might be zoning approaches that could help further their communities’ growth strategies and help recoup some of the “lost” revenue. The findings of the study provide the foundation for discussion in a number of areas, including such considerations as the following:

1. An opportunity to maintain home values: For municipalities and counties, a commitment to acquiring and maintaining preserved open spaces (both public and private) as part of future land use planning and zoning should be viewed as an opportunity to maintain property values and not entirely as a loss in tax base. Creative land use planning and zoning, including setting aside preserved open spaces, can help increase the value of adjacent and city-wide residential homes, resulting in higher tax revenues from those properties.
2. A variety of designs for new developments: Consideration of a variety of designs for new residential developments may result in higher property valuations for the development, increased tax revenues for the county or municipality, the potential for increased demand for such properties with open space proximity, and enhanced quality of life for property owners with proximity to open spaces.
3. A more visually pleasing and inviting community atmosphere: Preserved open spaces—including parks and community walking paths— can result in a more visually pleasing and inviting community atmosphere, which may translate into potential new residents recognizing a higher premium on the value of any property in the area.
4. Grouping homes together on smaller lots: Results of this study suggest opportunities to secure significant financial benefits from developments focused on grouping smaller residential lots together (less than one acre) adjacent to open spaces, rather than larger lots that do not benefit from the open space premium.
5. Future design of parks and other open space areas: Recognition of the open space premium could influence the future design of parks, golf courses and other public/private areas. If the goal were solely to maximize the total open space premium, the design could maximize the length of the outer perimeter of the open space, thus providing greater opportunity for a larger number of residential properties to benefit from proximity to the open space— and resulting in

increased property tax revenues. Such decisions, however, should be based on a number of considerations, including accessibility to the open space, impact of the design on wildlife habitat, and other important factors. To assist land use decisions that balance multiple considerations, a “value analysis framework” is described in the Embrace Open Space report titled *The Economic Value of Open Space: Implications for Land Use Decisions (2005)*.

## **CONCLUSION**

These results provide a better understanding of the economic impact of open space on residential home values, which is important information for homebuyers, policymakers and open space planners.