



# RETURN ON ENVIRONMENT

The Economic Value of Protected Open Space  
in Chester County, Pennsylvania

**EXECUTIVE SUMMARY**

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From the rolling fields of Willistown to the rich farmland of Honey Brook, Chester County is among the most beautiful places in Pennsylvania. Its verdant countryside and thriving communities contain boundless opportunities to enjoy the outdoors, whether on the county’s popular bike trails, in quiet nature preserves and lively parks, or just when passing by any of the tens-of-thousands of acres of scenic landscapes that have been preserved, forever.

But Chester County is about more than pretty places. The quality of life sustained by its commitment to preservation attracts employers and well-qualified workers alike. Balancing preservation and progress has helped to make Chester County one of the most economically robust counties in the state and among the best places to live in the country.

Protected open spaces—public parks, preserved farmland, and private conserved lands—provide proven and substantial economic, environmental, and public health benefits to surrounding communities. This report indicates that protected open space adds significant value to the county’s economy, with benefits for businesses, governments, and households. This value occurs in different ways—some are direct revenue streams to individuals or governments, some represent appreciation in asset values, others are the result of avoided costs.<sup>7</sup>

Building off a previous regional report and using standard economic analysis techniques, this report estimates the economic value of protected open space in Chester County by measuring impacts across five areas: property values, environmental benefits, recreation and health, economic activity, and cost of community services.

The benefits presented in this report provide information to elected leaders, policy makers, and the general public on the value of protected open space and contribute to informed decisions concerning both preservation and development in the county.

*Chester County’s scenic landscapes have inspired one of the country’s most effective open space initiatives. As a result, some 28 percent of its acreage is protected.*

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<sup>7</sup> Because these values differ in nature, the estimates in this study should not be added together to produce a single aggregate value of protected open space in Chester County. It is important to note that this study does not analyze the costs associated with acquiring, preserving, or maintaining land as protected open space, and does not represent a cost-benefit approach.



## Property Value

### OPEN SPACE ENHANCES HOME VALUES.

Homeowners are willing to pay a premium to live near protected open space. As a result, in Chester County the existing protected open space adds to the overall value of its housing stock. This increased wealth is captured by citizens through higher sales values of homes near protected open space, and generates increased government revenues via larger property tax collections and greater transfer taxes at time of sale. This report analyzes approximately 98,000 home sales in Chester County from 1981-2017 to estimate the effect of protected open space on residential property values and the attendant fiscal impacts. Results indicate that proximity to protected open space contributes a significant positive impact to residential property values.

#### WHO BENEFITS?

##### Households

Nearby protected open space increases home values, resulting in increased equity and wealth captured when the home is sold.

##### Governments

Property value increases attributed to nearby open space result in higher property and transfer tax revenues for local governments.

**\$1.65 billion**  
added to the value of housing stock

There is an average increase of over \$11,000 in the value of homes in Chester County that are located up to a ½ mile from protected open space. When added together, this proximity to protected open space totals \$1.65 billion.

**\$27.4 million**  
in annual property and transfer tax revenues

By increasing the value of homes within a ½ mile radius, protected open space also increases the amount of property taxes and transfer taxes that local governments and school districts receive. These increased property and transfer tax revenues total \$27.4 million per year.



## Environmental

### OPEN SPACE PROTECTS PROPERTY, FILTERS DRINKING WATER, AND CLEANS THE AIR.

Protected open space also provides value through naturally occurring environmental processes. If these lands were developed, Chester County would be forced to replicate vital services such as flood control and air and water pollution mitigation through costly alternative methods. In relying on the natural features on protected open spaces to provide these valuable services, Chester County and its communities avoid significant expenses. This report estimates the value and avoided costs associated with several environmental benefits provided via protected open spaces, including water supply, flood and stormwater mitigation, provision of wildlife habitat, air and water pollution removal, and carbon sequestration and storage.

#### WHO BENEFITS?

##### Governments

Local governments avoid having to spend money to artificially replicate the vital environmental benefits provided by protected open space.

##### Businesses

Businesses avoid having to pay additional taxes to replicate the environmental benefits provided by protected open space and to recover from damage caused by flooding and air pollution.

##### Households

Homeowners avoid having to pay additional taxes to replicate the environmental benefits provided by protected open space and to recover from damage caused by flooding and air pollution.

**\$97 million**  
annually through the provision of six environmental services

The six ecosystem services include replenishment of water supply, water quality improvement, flood mitigation, wildlife habitat, air pollution removal, and carbon storage in trees on protected open space. This sum represents value gained and costs avoided by not having to sacrifice or artificially replace vital ecological services currently provided by protected open space within Chester County.

**\$263 million**  
in avoided stormwater capital costs and  
**\$134 million**  
in avoided annual stormwater system maintenance and stormwater pollutant removal costs

A study of the Brandywine Creek watershed concluded that protection of the current open space lands from development similar to surrounding areas avoided \$263 million of capital construction cost for stormwater management systems, \$27 million of annual operation and maintenance expenses for those systems, and \$107 million of annual stormwater pollutant removal costs.

**\$120 million**  
in carbon storage in trees

It is estimated that trees on Chester County's protected open space store a tremendous amount of carbon that would cost \$120 million to replicate.



## Recreation and Health

### OPEN SPACE FURNISHES LOW OR NO COST RECREATION THAT SAVES MONEY AND IMPROVES HEALTH.

Park usage generates value via the benefit that residents enjoy by engaging in recreation and exercise for free or at below-market rates instead of turning to private markets for the same activities. There also are considerable health cost avoidance and productivity savings related to rigorous exercise on protected open space. This report estimates these direct use and health cost savings benefits.

#### WHO BENEFITS?

##### Households

Protected open space provides free and low-cost recreational activities that residents would otherwise have to pay for in the private market. Moderate and strenuous recreational activity on protected open space also results in healthier lifestyles and avoided medical costs.

##### Businesses

The recreational opportunities available on protected open space contribute to the health of the region's workforce, translating into avoided medical, workers' compensation, and lost productivity costs.

### **\$124 million** in annual recreation benefits for residents

Nearly \$124 million in benefits accrue annually to residents who participate in recreational activities on protected open space within Chester County. This value represents the additional amount of money that residents in the county would be willing to spend in the private market to participate in the recreational activities that they currently enjoy on protected open space.

### **\$172 million** in medical costs avoided annually

Physically active people typically enjoy a variety of health benefits, including lower incidence of cardiovascular diseases, diabetes, depression, certain cancers, and obesity. It is estimated that the moderate and strenuous activity that takes place on protected open space in the county accounts for almost \$325 million in avoided medical costs annually.

### **\$150 million** in lost productivity costs avoided annually

It is estimated that businesses in Chester County avoid \$150 million in lost productivity costs per year as a result of the physical activities their employees engage in on protected open space in the region. This total represents the combined value of costs not incurred as a result of avoided productivity losses due to physical activity on the protected open space in Chester County.



## Economic Activity

### OPEN SPACE CREATES JOBS AND ATTRACTS PEOPLE WHO SPEND IN OUR COMMUNITIES.

Protected open space generates a variety of economic activities, ranging from agricultural activity on preserved farmland to tourist visitation to public park maintenance. This report estimates the spending, employment, earnings, and tax revenues associated with these activities.

#### WHO BENEFITS?

##### Businesses

Protected open space, including farmland and public parks, is a source of commerce for businesses in the five-county region.

##### Governments

The economic activity spurred by protected open space generates tax revenue for local governments in the form of income and property taxes.

##### Households

Protected open space provides economic opportunity for residents of Chester County in the form of employment and wages.

### \$238 million in annual expenditures

It is estimated that \$238 million in annual spending occurs on and because of protected open space in Chester County. Examples of these expenditures include spending related to tourism associated with protected open space, spending for the purchase of goods made on preserved farmland, and government spending for the management and maintenance of public open space.

### 1,800 jobs

Protected open space in Chester County contributes an estimated 1,800 jobs to the economy. Examples of these jobs include public maintenance workers, park administrators, and rangers; farmers, distributors, and suppliers working on protected farmland; and guides and hospitality professionals catering to tourists who visit protected open space.

### \$69 million in annual salaries

Salaries paid to individuals working jobs on or related to protected open space in Chester County total \$69 million per year.



# Community Cost Savings

## OPEN SPACE COSTS LESS FOR COMMUNITY SERVICES COMPARED TO RESIDENTIAL DEVELOPMENT.

How land is used in a community impacts the type, quality, and extent of local services provided, as well as the taxes that are needed to fund those services. Residential land often costs municipalities (through community services such as police and fire protection, road maintenance, public water or sewer, etc.) and school districts more than other land uses because of the number of students generated by residential land use. With the current school funding structure in Pennsylvania, taxes collected by school districts on residential uses generally do not keep pace with actual per-student costs. For this reason, converting open space to housing generally has a negative fiscal impact on local government.

### WHO BENEFITS?

#### Households

Homeowners pay less tax to their municipality and school district when open space is not developed into residential uses.

#### Governments

Open space and farms provide greater tax revenues for local governments than they require in costs for services provided by local governments.

### For every \$1 received from residential taxes, local governments spend \$1.11 on services

Residential land pays less to the community in taxes than it receives in service expenditures, and these expenditures are borne by taxpayers. Analysis for select municipalities in Chester County showed that the expenditures of required services ranged from \$1.01 to \$1.33 for every dollar in tax raised by the municipality and/or school district.

### For every \$1 received from farm land and open space taxes, local governments spend 7 cents on services

Municipal expenditures related to farmland and open space ranged from 2 to 20 cents for every dollar of tax revenue generated by these uses. This means that farms and protected open space in these municipalities in Chester County provided more revenue than they required back in service expenditures.

FOR EVERY **\$1** IN TAXES RECEIVED

Residential Costs

**\$1.11**

Farmland and Open Space Costs

**7¢**

FOR COMMUNITY SERVICES