

Research measures financial impact of brownfields on nearby property values

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Research from the University of Cincinnati just published in the March issue of the *Journal of Environmental Assessment Policy and Management* measures the impact of brownfields on nearby residential property values in the City of Cincinnati. (Brownfields are abandoned business or industrial sites with either potential or proven on-site pollutants.)

In an article titled "Using Spatial Regression to Estimate Property Tax Discounts from Proximity to Brownfields: A Tool for Local Policy Making," researchers Oana Mihaescu, a former UC regional development planning doctoral student now affiliated with the Stockholm, Sweden, research institute, HUI Research, and with Dalarna University, and Rainer vom Hofe, UC associate professor of [urban planning](#), examine the property value impacts caused by 87 brownfield sites in Cincinnati. Most of these were located in older, more centralized neighborhoods like Camp Washington, Fairmount, Lower Price Hill, Price Hill, Westwood and along the I-75/Millcreek corridor.

In all, Mihaescu and vom Hofe analyzed more than 6,800 properties located within 2,000 feet of a brownfield. They found that for each 1 percent nearer to a brownfield a residential property stood, the value of the house depreciated nearly .1 percent (one tenth of one percent). Conversely, a 1 percent increase in distance from the closest brownfield corresponded to a nearly .1 percent (one tenth of one percent) increase in market value.

So, for the average house in their study, which had a market value of \$103,108 and was located 1,205 feet away from the closest brownfield, that translated into a \$92.09 impact for every 12 feet of distance.

The total decreased property values associated with these brownfields cost the city slightly more than \$2.2 million annually in lost property tax revenue.

Beyond 2,000 feet, they found that the impact of these brownfield sites was negligible.

POSSIBLE PAYOFF FROM BROWNFIELD REMEDIATION

Studies by other planning researchers in other cities have found that redevelopment of brownfields leads to a net increase in nearby housing prices. Converting brownfields into parks and residential areas seems to provide the most significant benefits to adjacent properties, but there were also significant and positive net benefits associated with conversion to industrial and commercial uses. Redevelopment helped raise the property tax base.

Moreover, according to vom Hofe, the positive effects of brownfield redevelopment may not only be monetary but would likely encompass environmental, social and aesthetic benefits as well. These would likely have some monetary effects, such as fewer health-related costs for city residents.

And while Mihaescu and vom Hofe focused their study on the loss in residential property values, other studies examining the effect of brownfield proximity on residential houses, office space, commercial and industrial properties as well as vacant land have found that the

effects on residential property values represent only about one third of the total property-value losses. The other two thirds is accounted for by losses in value to these other types of property in the area.

Taking that into consideration, said vom Hofe, likely means that the gains to the city due to any cleanup and redevelopment at these sites would actually be larger than was calculated here.

THE IMPACT OF OTHER VARIABLES ON PROPERTY VALUES

Mihaescu and vom Hofe also examined 15 other variables – in addition to proximity to a brownfield – that would impact the value of the specific 6,863 properties they studied.

Among their findings:

- Adding one bedroom to an average house in their study increased the house's value by 6.19 percent.
- Adding a full bath increased valued by 14.33 percent, while a half bath added 9.5 percent to the average property in their study.
- On average, a garage car space added 4.8 percent in value.
- On average, the presence of air conditioning systems increased value by 21.65 percent, and the presence of heating systems added 19.6 percent in value.

Said vom Hofe, "The dramatic effect of air conditioning and heating systems on property value in our findings can likely be explained by the fact that our sample properties lie in rather distressed parts of town, and houses do not always have properly functioning heating and air conditioning systems."

Provided by University of Cincinnati

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