

## The Impact of Public Open Space System on Housing Price in Chicago

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**Abstract :** The research explored the influences of public open space system on housing price through hedonic models, in order to support better open space plans and economic policies. We have three initial hypotheses: 1) public open space system has an overall positive influence on surrounding housing prices. 2) Different public open space types have different levels of influence on motivating surrounding housing prices. 3) Walking and driving accessibilities from property to public open spaces have different statistical relation with housing prices. Cook County, Illinois, was chosen to be a study area since data availability, sufficient open space types, and long-term open space preservation strategies. We considered the housing attributes, driving and walking accessibility scores from houses to nearby public open spaces, and driving accessibility scores to hospitals as influential features and used real housing sales price in 2010 as a dependent variable in the built hedonic model. Through ordinary least squares (OLS) regression analysis, General Moran's I analysis and geographically weighted regression analysis, we observed the statistical relations between public open spaces and housing sale prices in the three built hedonic models and confirmed all three hypotheses.

**Keywords :** hedonic model, public open space, housing sale price, regression analysis, accessibility score

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