

An Assessment of the Blight Potential Indicators

Report prepared for Mississippi Home Corporation

Social Science Research Laboratory
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CONTENTS

Assessment of Blight Potential Indicators

Additional Material Submitted

1. Spreadsheet of all Block Groups in Mississippi
Attached to email as: Blight Potential Indicators-Statewide.xls
2. Spreadsheet of Block Groups that Meet Eligibility Threshold
Attached to email as: Blight Potential Indicators-Eligible Block Groups.xls
3. Digital image of Eligible Block Groups in the following formats:
 - a. PNG (low resolution)
 - b. PNG (high resolution)
 - c. JPEG (high resolution)
 - d. JPEG (low resolution)
 - e. TIFF (high resolution)
 - f. TIFF (low resolution)
 - g. PDF

Available at the following link in .zip format:

https://www.dropbox.com/s/n4ixb4pvqqd4cs2/Blight_Potential_Block_Groups.zip?dl=0

4. Statewide block group shapefile with data

Available at the following link in .zip format:

<https://www.dropbox.com/s/4c3g343tewwo820/MHC%20Final%20Map%20Images.zip?dl=0>

PURPOSE

The purpose of this analysis is to provide macro level information on geographic areas that may include potential blighted properties based on the aggregate profile of that area. Since there is no commonly accepted definition for what constitutes a blighted property or commonly accepted indicators for what geographic areas have higher levels of blighted property, this analysis is not designed to be a definitive guide for finding blighted property. The purpose of this analysis is to provide an empirical overview of select indicators of potential blight within geographic areas of a community. Of course, not all property (or perhaps any) property within these highlighted areas may be a candidate for being considered blighted, and potential blighted properties may be found in the areas with low levels of blight indicators.

This report discusses the methodology used to create a blight potential index along with the associated variables in the index and others of interest for determining target areas for locating individual blighted properties. Additionally, we provide a discussion of the coding of all variables listed in the output along with a discussion of the cut points selected by the Mississippi Home Corporation for selecting targeted areas. The purpose is to generate a list of target areas (Census Block Groups) to help facilitate the goal of finding blighted properties for removal that will help stabilize property values and mortgage stability of existing residential owners.

Methodology

Determining blight at both the individual property and neighborhood or other geographic level is difficult due to the lack of a standard definition of the concept by either practitioners or academics.¹ As such, there is no well-defined or accepted definition for what constitutes blight. However, previous research often points to vacant property and depreciating home or land values as common themes among blighted property or neighborhoods. Both the academic and policy practitioner literature suggests blight is a multi-dimensional concept with variations based on geography and scale.² For example, what constitutes blight may vary based on urban, suburban, or rural geographies.

For this analysis, we consider metrics that are available for the entire state of Mississippi rather than various metrics by individual communities within the state. We focus on macro level geographic areas (i.e. Census Block Group and Census Tract) rather than attempting to determine the likelihood of blight at the individual property level. For these determinations there are several survey methodologies used by academic researchers and practitioners for scoring individual properties. However, this is beyond the scope of this analysis. Our methodology allows for a single metric to compare all areas within the state on the same scale and provides a single baseline for understanding the results. Therefore, the analysis provided provides the same information and interpretation, for example, between the metro-Jackson area and the Gulf Coast.

We utilize data from Census Bureau's American Community Survey (ACS). The ACS data is the 2015 five-year estimate data that includes estimates from 2011-2015. We focus on two variables: vacancy rates and median home values. Vacancy rate is a common metric used in studies on blight and provides an indicator of areas of empty and unused property. A high concentration of these properties in an area may indicate potential for clustering or grouping of properties for blight consideration. Median home values serve as a broader indicator as the general economic indicators of blight (i.e. tax delinquencies, foreclosures, etc.) correlate with home values in an area.

With the ACS data, we analyze the Census Block Group level. The Block Group level is the second smallest geographical unit utilized by the Census and is the smallest unit available with this data. Block groups range in both geographic size and population; the population within these groups typically ranges from 600 to 3,000 people, and they represent a combination of the smaller Block group units. These are generally contiguous units and never cross county or census tract boundaries.

We present the results from the individual metrics along with a blight potential index metric we create by combining vacancies, median home value, single-family unit density, and homeownership percentage. Vacancy rate is a common metric used in determining blight and captures a common metric in blight research: abandoned property. The vacancy rate is for

¹ Weaver, R.C. and Sharmistha Bagchi-Sen. 2013. "Spatial Analysis of Urban Decline: The Geography of Blight." *Applied Geography* 40: 61-70.

² The Vacant Properties Research Network. 2015. "Charting the Multiple Meanings of Blight: A National Literature Review on Addressing the Community Impacts of Blighted Properties." A Report for *Keep America Beautiful*.

individual-owned properties. Median home value serves as a general proxy to capture other underlying characteristics of blight as low property values are often considered a condition of blight.³ The final two components of the index account for the availability of eligible properties (non-commercial, residential units) to maximize the goals of the program. The single-family unit density measure is the number of single-family units in a block group divided by the area (in square miles) of the block group while the homeownership variable is the percentage of owner occupied units.

We transform each of these four variables into standard scores and then sum them to create the composite index score.⁴ The additive index is scaled from 0-6 with 0 representing the lowest potential for blight within the block group to 6 being the highest potential. To standardize the variables, we create a ranking for all block groups with available data in that category. For vacancy rates, single-family unit density, and homeownership percentage, the ranking goes from lowest value to highest. Median home value is ranked from highest value to lowest value. We then add each block group's ranking together and re-scale the ranking from 0-6. We only include block groups with available data on each of the three scores in the final index. A total of 144 block groups across the state out of 2,164 did not receive an index ranking, or 6.65% of the block groups had missing data. Given the lack of theoretical or empirical grounding, we weight each category equally within the final index score.

³ Ibid and Miekley, A.E. (2008). *Counting Broken Windows: Pursuing an Objective Measurement of Blight*. Master's Thesis: Ohio State University.

⁴ This similar to the index methodology used in Adams, H.D. (2005). *Toward Determining Patterns of Residential Blight and Blight Mitigation in St. Louis County, Missouri*. Doctoral Dissertation: St. Louis University.

Blight Potential Indicators Coding

In the spreadsheets, we include along with the four measures discussed above and the index score, the block group population, the number of single-family housing units, and indicators of spatial clustering for median home value, vacancy rates, and the blight potential index. Below, we provide the details on the specific variable coding.

A Note on Spatial Analysis

The spatial analysis highlights statistically significant clustering of both similar block groups and outliers. A significant cluster of similar block groups indicates a block group and its neighbors have statistically significant features (i.e. similar vacancy rates or median home values). The outliers highlight clusters of dissimilarity. These clusters represent block groups where neighbors are dissimilar on the specific measure. For example, a block group with a high number of vacancies may be neighbors with block groups with low vacancy rates. Non-statistically significant results (an empty cell in the results tables) indicate the block group is not part of a statistical cluster or that the block group and its neighbors do not represent a cluster of either similar or dissimilar values. For this analysis, we use the Anselin Local Morans I procedure, which is a spatial autocorrelation procedure that produces the cluster results based on geographic proximity and value similarities.

Geographic Indicators:

ID = 12 digit fips code (State, County, Tract, Block Group)

County = County name

Tract = Census Tract Number

Block Group = Block Group Number

Variables for Creating Blight Potential Index (all results at the Block Group level):

Median Value = Median Home Value

Median Value Cluster = Results from spatial analysis to indicate a clustering of block groups with statistically significant similar or dissimilar median home value.

“Low-Low” = A low median value block group in close proximity to other low median value block groups

“Low-High” = A low median value block group in close proximity to high median value block groups

Vacancy (%) = % of owner-based properties that are vacant

Vacancy Cluster = Results from spatial analysis to indicate a clustering of block groups with statistically significant similar or dissimilar vacancy percentages.

“High-High” = A high vacancy percentage block group in close proximity to other high vacancy percentage block group

“High-Low” = A high vacancy percentage block group in close proximity to low vacancy percentage block groups

Single-Family Unit Density = The number of single family units per square (single-family units/area)

Home Ownership (%) = Percent of housing units owned by individuals

Blight Potential Index = Combination of four factors: median home value, vacancy percentage, single-family unit density, and homeownership percentage. The index ranges from 0-6, with a score of 0 indicating the lowest likelihood of blight potential within the block group and 6 indicating the highest likelihood of blight potential within the block group.

The index is based on the concept that block groups with low median home values and high vacancy rates will have a higher potential for blight. The density of single-family homes and homeownership within the block group account for the goals of stabilizing property values and mortgage stability of existing residential owners. A block group with a greater density of single-family homes and higher homeownership increases the blight potential score while those with lower density decrease the blight potential score.

Blight Potential Cluster = Results from spatial analysis to indicate a clustering of block groups with statistically significant similar or dissimilar vacancy percentages.

“High-High” = High blight potential block groups in close proximity to other high potential block groups

“High-Low” = High blight potential block groups in close proximity to low potential block groups

Eligibility = 1 if Blight Potential Index \geq 3.4, 0 if $<$ 3.4

Other Variables (all results at the Block Group level):

Population = Total population

Single-Family Units = Number of single-family units

Eligibility

To help facilitate the targeting of block groups to meet the program goal of finding blighted properties for removal that will help stabilize property values and mortgage stability of existing residential owners, we provide a discussion of the potential cut points on the blight potential index. In consultation with and approval from the Mississippi Home Corporation, a blight potential index of 3.4 or greater has been selected as the cut-point for block group eligibility.

The 3.4 or greater cut-point is the mean index value and leaves 51% of the block groups eligible throughout the state. When comparing to the statewide means for all 2,022 block groups on the variables included in the index, the 3.4 cut-point is the first index group with a mean home value below the state average and a vacancy rate above the state average. This cut-point offers a clear break for eligibility on the underlying focus of blight while also taking into account the geographic goals of single-family units and homeownership.

Table 1: Descriptive Statistics for Blight Potential Index by Index Score Groups

Index Score	Number of Block Groups	Mean Home Value	Vacancy Rate	Single-Family Unit Density	Homeownership %
0-1.99	69	160,822	2.08	121.07	41.65
2-2.99	550	131,710	5.24	197.65	63.64
3-3.39	372	107,310	9.42	226.33	69.53
3.4-3.99	579	91,610	14.16	278.30	72.19
4-4.99	406	73,101	20.21	442.07	72.14
5-6	44	58,700	27.78	938.42	75.24
Statewide	2,022	103,347	11.96	288.69	68.38