

## Appendix 6: Neighborhood Typologies

A first attempt at typology classification was based on percentages of total value. For instance, an area in good physical condition would not have over a 50% tax delinquency/true cash value ratio. This line of reasoning did not produce meaningful results (i.e. the overlay process returned no selected tracts).

Because the first categorization attempt failed to provide telling results, a second classification scheme was developed. Table A5 defines neighborhood condition by category—good physical condition, vulnerable and blighted. Definitions are shown in quintiles, which represent relative values for each indicator. This relative value can be used because actual numeric values were accounted for in defining the thresholds. The same quintiles are used for typology classifications and thresholds definitions to allow consistent spatial manipulation and compatible output. Reasoning for typology classifications is explained in Table A6.

**Table A5**  
Neighborhood Typology Classification

Variable	Good Physical Condition	Vulnerable	Blighted
Mortgage Loan Approval Rate	High (top 2 quintiles)	Middle Range (middle and 2 <sup>nd</sup> to bottom quintiles)	Low (bottom quintile)
Number of Mortgage Loan Applications	High (top 2 quintiles)	Middle Range (middle and 2 <sup>nd</sup> to bottom quintiles)	Low (bottom quintile)
Median Home Purchase Loan*	High (top 2 quintiles)	Middle Range (middle and 2 <sup>nd</sup> to bottom quintiles)	Low (bottom 2 quintiles)
Delinquent Tax/True Cash Value	Less than 100% (bottom 2 quintiles)	Between 100-200% (middle)	Over 200% (top 2 quintiles)
Serious Crime per Capita	-	-	-

\*Overlap between the blighted and vulnerable categories for median home loan amount was intentional and accounts for possible errors in threshold determination. This classification scheme was adopted for purposes of example, since other schemes did not yield productive results. The thresholds should be assessed and new classifications assigned, based on a more complete knowledge of typical loan amounts in Detroit. The middle quintile includes the mean value for each variable.

Indicators may have different levels of influence in indicating blight, and this should be accounted for in the overlay process through the process of weighting. By weighting, a priority system is established that gives more value to indicators that play a more significant role in identifying neighborhood strength or decline. In this model, indicators were each given equal weight. However, if in the future some variables prove better predictors of blight than others in Detroit, an alternative weighting scheme would fine-tune the models.

**Table A6**  
Reasoning for Typology Classifications

Indicator Typology	Justification
<b>Good Physical Condition</b>	
Mortgage Loan Approval Rate (top 2 quintiles)	A relatively high approval rate can be a reflection of credit-worthiness or economic stability. The more economically stable the residents, the more residents may be able to invest, the more secure the neighborhood, and the less likely residents will vacate or allow properties to deteriorate.
Number of Mortgage Loan Applications (top 2 quintiles)	A high number of loan applications can indicate investment as a reflection of desired purchasing activity. The more investment, the more solid the economic and social base of a neighborhood and the less likely residents will vacate or allow properties to deteriorate.
Median Home Purchase Loan (top 2 quintiles)	A high median value for home purchase loans reflects a high cost of homes. The higher the value associated with property, the more residents may feel invested in the property, and the less likely they will vacate or allow properties to deteriorate. NOTE: High median loan amount may reflect a small number of high value loans and not indicate broad scale investment.
Delinquent Tax/True Cash Value (bottom 2 quintiles)	A lower ratio of delinquent taxes to true cash value reflects a higher investment in that property. The more investment, the less likely residents will vacate or allow properties to deteriorate. NOTE: A low ratio may also be present where many vacant and delinquent properties have been foreclosed. The delinquency associated with these properties will appear as zero, thereby decreasing the overall ratio and misleading the viewer. "Peeling back" the census tract and viewing parcel-level data will reveal this dilemma.
Serious Crime (removed from model)	Serious crime was pulled from the model due to its interference with model output. Inclusion of this indicator in the overlay process resulted in no selected tracts.

**Table A6 (continued)**

Reasoning for Typology Classifications

<b>Vulnerable</b>	
Mortgage Loan Approval Rate (middle and 2 <sup>nd</sup> to bottom quintiles)	A mean or medium approval rate can reflect a potentially growing or decreasing base of credit-worthiness or economic stability. Areas with a more stable economic base may be less likely to see vacancy and physical deterioration, while those with a potentially unstable economic base may experience vacancy and physical deterioration.
Number of Mortgage Loan Applications (middle and 2 <sup>nd</sup> to bottom quintiles)	A mean or medium number of loan applications can indicate increasing or declining investment through desired purchasing activity. An area with declining desired purchasing activity may have fewer properties available for purchase or needing improvement, or may be experiencing less investment and increased property abandonment. The opposite may be true for areas with an increase in desired purchasing activity.
Median Home Purchase Loan Amount (middle and 2 <sup>nd</sup> to bottom quintiles)	An average value of homes may indicate less investment by property owners and residents. An increase in housing (and therefore property) values may indicate an increase in investment and a decreased chance that residents will allow properties to deteriorate, while a decrease in property values may suggest increasing rates of disinvestment.
Delinquent Tax/True Cash Value (middle)	A mean ratio of delinquent tax to true cash value reflects a lesser amount of investment in that property. If the percent of property value that is delinquent in taxes is increasing, this reflects abandonment and may result in an increase in physical deterioration. The opposite may occur as this ratio decreases.
Serious Crime (removed from model)	See “Good Physical Condition” (above)
<b>Blighted</b>	
Mortgage Loan Approval Rate (bottom quintile)	A low approval rate can reflect less credit-worthiness or economic stability of applicants, which may indicate less ability to invest and an increased likelihood that properties would be abandoned or allowed to deteriorate. NOTE: Low approval rates may be more reflective of a bank’s willingness to loan than the applicant’s qualifications.
Number of Mortgage Loan Applications (bottom quintile)	A low number of loan applications can indicate disinvestment as a function of desired purchasing activity. A lower amount of investment may decrease the economic and social fabric of a community and result in more vacancy or physical deterioration. NOTE: A low number of applications may also be a reflection of the number of opportunities for purchase or improvement.
Median Home Purchase Loan Amount (bottom 2 quintiles)	A low median value for home purchase loans reflects a low cost of homes. A lower level of connection to place may accompany lower property values and result in increased vacancy or physical deterioration.
Delinquent Tax/True Cash Value (top 2 quintiles)	A higher ratio of delinquent taxes to true cash value reflects a high amount of delinquent taxes or low true cash value. Not paying property taxes can represent disinvestment and abandonment, which may result in physical deterioration.

