

**ZIP Code Foreclosure Needs Score Methodology Appendix
Intra-State Scores**

October 2011

In 2008, to help State and local governments identify areas of greatest need for Neighborhood Stabilization Program (NSP) funding and foreclosure prevention, LISC researchers calculated a foreclosure needs score for most U.S. ZIP codes that incorporates factors specified in the NSP authorizing legislation. In 2010, the researchers updated these calculations based on new data. This document describes how the state level score is calculated.

NOTE: LISC has also released a separate file showing the relative foreclosure needs scores of ZIP codes within each metropolitan area. The calculations for those data are similar, but the scores are not comparable with the ZIP code level data discussed below.

LISC has also prepared a separate file showing the relative foreclosure needs scores of CDBG jurisdictions within each state. As with the metropolitan area data mentioned above, the calculations of the CDBG area scores are similar but the scores are not comparable with the ZIP Code level data discussed below. To access foreclosure needs scores for CDBG jurisdictions within each state, visit www.foreclosure-response.org/maps_and_data/lisc_data.html#sub1.

The [Congressional legislation](#) authorizing creation of the NSP program requires states and local jurisdictions to allocate funding to areas with (1) the greatest percentage of home foreclosures; (2) the highest percentage of homes financed by a subprime mortgage related loan; and (3) identified by the grantee as likely to face a significant rise in the rate of home foreclosures. The legislation also allows grantees to add related factors they deem important. Absent a single national source of data on these factors, researchers drew on information from four different sources:

- U.S. Census Bureau estimates of the total number of housing units by county;
- American Community Survey counts by county of the owner-occupied housing units with mortgages, and of single-family rental housing units;
- Residential Finance Survey on the share of U.S. single-family rental homes with mortgages
- Mortgage Bankers Association's National Delinquency Survey State-level reports on numbers of prime and subprime mortgages and their delinquency and default rates;
- ZIP Code level June 2011 reports from LPS Applied Analytics (a vendor of loan performance data from the nation's largest loan servicers and formerly known as McDash Analytics) on the performance of prime and subprime loans; and
- Special tabulation of the U.S. Postal Service data created by the US Department of Housing and Urban Development.

The indicators themselves include:

- First-lien mortgages in foreclosure as a percentage of all units with a residential mortgage;
- Subprime first-lien mortgages as a percentage of all units with a residential mortgage;
- First-lien mortgage delinquencies of 30 days or more as a percentage of all units with a residential mortgage (used to anticipate future foreclosures); and
- Vacancies as a percent of occupied units in ZIP codes with high rates of subprime loans (to reflect the program’s emphasis on vacant properties).

Note that all loan and foreclosure counts are restricted to first-lien mortgages only. Foreclosures include pre-foreclosures filings and loans where banks have begun the foreclosure process, but have not sold the property to another owner. REO properties are not included in the ZIP code analysis.

Our treatment of these variables is similar to HUD’s method for calculating relative need across states and local governments for the purpose of making the initial funds allocation. Most important was our method of weighting the percentage of foreclosures, subprime loans, and delinquencies by the actual counts of these same factors. This ensures that very small places with high percentages of foreclosures do not receive very large amounts of funding, in total disregard of the number of units involved.

To transform data and calculate the needs score, researchers:

(1) Weighted number of loans from LPS Applied Analytics to correct for undercounting of outstanding mortgages

LPS Applied Analytics releases its data at the ZIP code level, but the data are incomplete, as are all other loan performance data sources. To correct for this, we weighted up the number of loans from the LPS Applied Analytics file to the estimated number of total housing units with a mortgage.

Total outstanding mortgage counts were first calculated for the March 2008 data release. Mortgage loans outstanding include all mortgaged owner-occupied units, plus 44 percent of the one-to-four unit rental units – the percentage of units with residential mortgages in the [2002 Residential Finance Survey](#). We used the number of mortgaged owner-occupied units and 44 percent of the one-to-four unit rental units from the [2006 American Community Survey \(ACS\)](#) to estimate the number of homes with mortgage loans outstanding in the [2007 US Census county-level counts of total housing units](#). ACS county level data were used to estimate the 2007 share of homes with mortgage loans outstanding for the 783 counties in the ACS and state proportions were used for remaining counties. We then applied the distribution of each county’s mortgage loans across ZIP codes.

To calculate outstanding mortgages for June 2011, the mortgage counts resulting from the above analysis were weighted by [Mortgage Bankers Association \(MBA\)](#) change in total mortgages by state from March 2008 to June 2011. June 2011 LPS Applied Analytics percentages of foreclosures, subprime and delinquent loans in each ZIP were used to calculate new counts based on adjusted total of outstanding mortgages.

(2) Further adjusted the interim LPS Applied Analytics subprime loan counts to match counts from the [Mortgage Bankers Association \(MBA\)](#), the best source on the number of subprime loans.

The MBA's [June 2011 National Delinquency Survey \(NDS\)](#) provides more accurate state-level percentages of subprime loans, so we multiplied the MBA shares by our estimated number of outstanding mortgage loans to create control counts for subprime loans by state. The state adjustment was applied to each ZIP code's number of subprime loans, so our state counts of subprime loans equaled the MBA totals.

(3) Adjusted interim state totals of foreclosures and delinquencies with results from the NDS.

In the states where LPS Applied Analytics counts of foreclosures and delinquent loans fell short of the NDS totals for these categories, the counts were pro-rata adjusted across all ZIP codes to produce counts equal to the MBA totals for both subprime and total loans. (In some states, the NDS showed lower delinquency or foreclosure percentages than calculated from LPS Applied Analytics, in which case the higher estimates were retained.) These steps ensured a reasonable correspondence between estimates from two different sources of mortgage loan, delinquency, and foreclosure information, and while doing so, maintained the relative inter-state proportions.

(4) Calculated percentages for each ZIP code.

We re-calculated the three key measures used in the needs score: percent of loans in foreclosure, percent of loans that are subprime, and the percent of loans that are delinquent.

(5) Calculated an initial score for each ZIP code

To account for the incidence as well as the concentration of each measure, we created three product indicators:

- Percent of loans in foreclosure weighted by number of foreclosures
- Percent of subprime loans weighted by number of subprime loans
- Percent of delinquent loans weighted by number of delinquent loans.

In other words, the percent of foreclosures was multiplied by the number of foreclosures, and so on. We next needed to standardize the three products since the ranges of the values varied greatly. To create comparable values that would give the indicators equal weight, we calculated what share each ZIP code's product represented of the total product summed across all states. We summed these three shares for each place to create an initial allocation score.

All ZIP codes with less than 10 total weighted loans were removed before initial and final scores were calculated. In addition, PO Box and Unique ZIP codes were not included in final calculations.

(6) Adjusted each initial score by a local vacancy factor.

Following HUD's example, each ZIP code's initial score was multiplied by the ratio of the June 2010 local vacancy rate in high subprime ZIP codes to the overall state vacancy rate in high subprime ZIP codes. High-subprime ZIP codes are those that fell in the top quartile nationwide of the percent of first-lien mortgages that are subprime. In these ZIP codes, more than 14.66 percent of loans are subprime. The vacancy rate adjustment to the initial score was capped at 10 percent, making the minimum adjustment equal to 0.9 and maximum equal to 1.1.

(7) Created a final score for each ZIP code, indicating need relative to other ZIP codes within the same state.

Using the adjusted initial scores in (6), we assigned a final score of 100 to the ZIP code with the highest adjusted initial score in each state, which identified it as the neediest ZIP code. Each remaining ZIP code was assigned a final score based on the ratio of its adjusted initial score to the adjusted initial score of the neediest ZIP code. For example, an initial score of 80 in the neediest Michigan ZIP code would earn it the top final score of 100. A ZIP code with an adjusted initial score 20 would receive a final score of 25 (20 being 25 percent of 80).