

# HPI Technical Note

## Release of New Indexes for Three-Digit ZIP Codes

FHFA's house price indexes are sometimes used to approximate the current value of properties that act as mortgage collateral. Using loan-level data with sales prices and appraisal values for individual homes, analysts derive updated value estimates by assuming that the property values have changed by the same percentage as the applicable house price index for the local area. Although imprecise, the updated values are used to evaluate market conditions and measure mortgage risk.

When choosing the applicable index to use for updating home values, analysts use information about the location of the properties. Depending on the geographic information available in the data, analysts may evaluate price changes for the ZIP codes or cities in which the collateral properties are located. Some published mortgage datasets show the "three-digit" ZIP code of the collateral properties, where the three-digit ZIP code is merely the first three digits of the applicable five digit code. For example, a property whose ZIP code is 91711 would be in the "917" three-digit ZIP code. Three-digit ZIP codes represent larger geographic areas than five-digit ZIP codes.

To aid modelers who have three-digit ZIP codes, FHFA has released a set of experimental house price indexes for such areas. These new indexes have been produced under the same "repeat-transactions" methodology as is used to produce the standard HPI. The underlying information used for calibrating the indexes is the "all-transactions" dataset, meaning that the new measures are estimated using sales prices and appraisal values for properties with mortgages guaranteed by Fannie Mae and Freddie Mac.

The new data file is available on the HPI Downloadables page at <http://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#gat>. When reviewing the indexes, users will note that, for some three-digit ZIP codes, relatively small sample sizes would make the three-digit ZIP code indexes highly volatile and not particularly useful. In such cases, the three-digit ZIP index is replaced with the all-transactions index for the applicable Metropolitan Statistical Area. In cases where the three-digit ZIP code is in a rural location, the applicable "nonmetropolitan" area index for the state has been substituted. The downloadable data file identifies, for each three-digit ZIP code, whether the index represents the native three-digit ZIP-level index or one of the two replacements (the MSA or nonmetropolitan-area indexes).<sup>1</sup>

Users will note that, once the native three-digit ZIP code is released for a given three-digit ZIP code, future index releases will always show the native three-digit ZIP code index. That is—for any given ZIP code, once the native three-digit ZIP index is shown, users can assume that future index releases will always show the native local-area index.

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<sup>1</sup> Where three-digit ZIP codes cross MSA boundaries and the MSA-level index is shown, the selected MSA is the one with the greatest historical transaction volume (i.e., the most loans guaranteed by Fannie Mae and Freddie Mac).