

## Changes to the Housing Stock: Loss of Housing Units

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### *Extended Abstract*

In this paper we present a procedure to more precisely estimate the loss of housing units for all counties by using a model developed with data from the American Housing Survey in combination with annual estimates from the American Community Survey.

### Background

The Census Bureau estimates the number of housing units for states and counties for public consumption, and for sub-county areas for internal use. County housing unit estimates are used as controls for the ACS and sub-county estimates are currently used to allocate the county population estimates, which are derived using the component method, to sub-county areas.

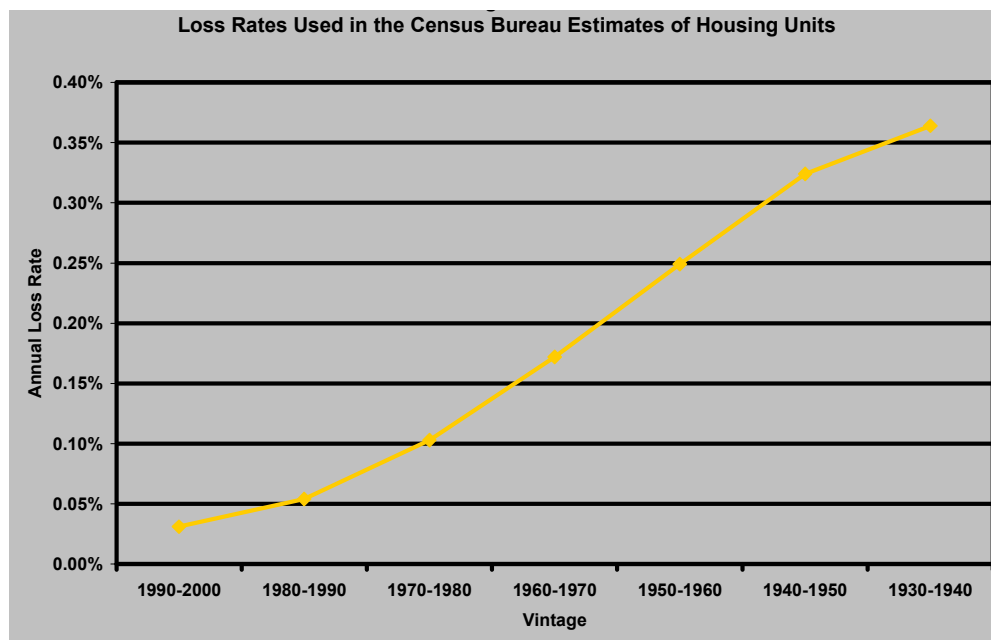
The Census Bureau uses a components-of-change approach to estimate the number of housing units in a sub-county area. There are three components: new housing units that are not mobile homes; new mobile homes; and loss of housing units. Estimating housing loss has been a serious stumbling block for years, since the Bureau does not collect data on permits for demolition of existing buildings. In order to estimate the loss of housing units—due to demolition, disaster, structural problems or the structure being moved—the Census Bureau uses data from the American Housing Survey’s national sample to create rates based on age and type of housing unit. For mobile homes one rate is created and applied to stocks of mobile homes regardless of their age. For all other housing types—including single and multi-unit structures—rates of loss are derived based solely on vintage of the housing unit without regard for type of unit. These rates are then applied to the housing stock of a sub-county area based on characteristics reported in Census 2000. The approach is “bottom-up,” in that housing units for sub-county areas are summed to counties, which are in turn summed-up to states.

The Bureau has evaluated their housing unit estimates based on building permits and found them to be superior to those produced as a by-product of the component method (Devine and Coleman, 2003). There are, however, issues regarding housing data inputs that need to be addressed before housing unit estimates can be incorporated into a set of population estimates. The focus of this proposal is upon loss of housing units.

### Need for Improved Estimates of Loss of Housing Units

**The Census Bureau needs to improve its model regarding the relationship between the age of housing and housing loss.** Assumptions about the state of aging housing units, based on national experience, may be generally inappropriate for many older cities. Results from the national sample of the American Housing Survey for the nation have led the Census Bureau to assume that the rate of loss for housing units rises in an S-curve fashion (see Figure 1) with age, reaching an annual loss rate of 0.364 percent for units built prior to 1940. At 36 percent of all units in 2000, New York City's pre-1940 buildings contained some 1.15 million units; a large and permanent part of the city's housing stock. About 43 percent of the housing stock in Manhattan and Brooklyn was built prior to 1940. Nationally, just 15 percent of all housing units in the nation were built prior to 1940. Many of New York City's pre-1940 buildings are among the most elegant and well-maintained in its housing stock. Moreover, local government has succeeded in rehabilitating many pre-1940 buildings that left the stock or laid vacant in the 1960s and 1970s. Research on housing depreciation and loss has shown that age alone is not a good predictor, and that tenure, type of structure and housing market conditions must be included (Follain and Malpezzi, 1980).

Figure 1.



### Modeling Loss of Housing

Although the Census Bureau’s Housing Unit Based Estimates Research Team research plan calls for “... sources other than the AHS for estimating housing loss...” we believe that it has been a conceptual rather than a data problem. We propose to develop a more complete model of housing unit loss that takes into account not only age of housing unit but also tenure, type of unit, and regional market conditions. We propose to work with the confidential version of the American Housing Survey. The data on Components of Inventory Change (CINCH) are no longer produced but the confidential microdata from the American Housing Survey can be used to track the loss of housing units not only by age of structure, but also tenure, type of structure and local market conditions.

Information on regional housing market conditions are produced by the US Housing and Urban Development Department and we will see if these reports provide objective data that lend themselves to evaluating the relative demand for housing as indicated by occupancy rates and property values. The confidential microdata versions of the American Housing Survey are included in the files available through the Census Research Data Center Program, with coverage from 1984 through 2004.

## **BIBLIOGRAPHY**

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