households resided in single family units, while 91% resided in multifamily units.[2] Second, there is no readily available data or analytic procedure to distinguish owner-occupied from renter-occupied single family units.[3]

There are two useful definitions of multi-family properties: the HUD definition that includes properties with four or more rental units, and the Census definition that includes any building with two or more units. For sampling purposes we will use the Census definition, however secondary data analysis will be performed at both the two or more and four or more rental unit levels.

Low-Income Housing Universe. An empirical estimation of the universe of low-income rental housing must account for two low-income rental housing sub-groups:

- Properties with project-based subsidies and/or HUD mortgage insurance--these clearly constitute low-income rental housing;
- Properties without project-based subsidies or HUD insurance that are occupied by low-income households.[4]

This approach offers a number of benefits. To start, it provides a meaningful distinction between two types of low-income housing that may be affected differently by disasters. Properties with project-based subsidies essentially reserve affordable units for low-income households regardless of market forces, so it is particularly important to understand how the owners are responding to the financial and management challenges created by earthquake damage. HUD-insured properties are similarly of special interest.

Also, as described below, this approach provides a straightforward method for estimating the universe of low-income housing and for linking that universe to the California Office of Emergency Services database with information about damaged properties. In other words, it provides a clear definition of the sample frame needed to draw damaged property samples and to estimate sample weights for calculation of population parameters from survey results. Our methods for defining the two sub-groups are detailed below.

- *Properties with Project-Based Subsidies or HUD Mortgage Insurance.* This sub-group consists of the properties identified in a series of project-based subsidy and HUD insurance datasets including MIDLIS from HUD, the California Housing Finance Agency's Project Management database, and datasets on subsidized projects maintained by local housing agencies such as the City of Los Angeles Housing Department. Properties may

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[2] While 42% of LA county's single family rental stock is located in the San Fernando Valley, which includes the epicenter of the Northridge Earthquake, only 35% of the single family rental stock in the Valley is occupied by very low and low-income households, compared, for example, to 69% of the single family rental stock in South Central LA.

[3] We will also screen out condominium buildings and focus only on buildings whose primary purpose is to serve as rental housing.

[4] Our method does not *explicitly* classify properties occupied by households with tenant-based subsidies (e.g. Section 8 Certificates and Vouchers) as low-income. In the Los Angeles area, comparable buildings could provide replacement housing for households receiving tenant-based subsidies.