

# Standardizing the California County Assessor Use Codes

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## ***Introduction***

Each of California's 58 County Assessors track the current use of each property in their county (i.e. residential, commercial, agricultural, etc.) in order to more consistently appraise property within their county for tax assessment purposes.

To promote consistency among appraisal staff, each Assessor has developed a custom, finite list of property use descriptions from which appraisers may choose when describing a property being appraised. Further, each county converts its custom descriptions into a custom set of "Use Codes" which are then entered into that Assessor's property database.

As with all organizations, the policies and procedures developed within each Assessor's office, including their use code system, were designed specifically for their internal use to facilitate the efficient and effective performance of the duties with which they have been charged. However, to provide greater benefit to the general public, Assessors have typically made their data available for a fee to anyone who requests it. While this has been a great thing for the real estate industry, it does bring up the problem of needing to understand the Assessor's office in order to correctly interpret the Assessor's data. Never is this more apparent than in the area of property use categorization.

For individuals and organizations needing to identify properties by use on a multi-county or statewide basis, interpreting and rectifying the 58 county use coding schemes can be expensive, time consuming and fraught with error. Simply identifying single family residential properties requires an understanding of 1000's of possible code variations statewide.

Even more complex are the variety of uses and their coding for commercial, industrial and agricultural properties. Add to that the coding for mixed uses such as "Store Front with a 2<sup>nd</sup> Floor Apartment" and it becomes almost impossible to interpret the 58 Assessors' use code systems without a substantial understanding of the inner workings of the Assessor's office, the activities that govern the maintenance of each coding system, and the procedures guiding the assignment of use categories to each property. This is CD-DATA's expertise.

Using knowledge gained from working directly with Assessors and their staff for the past 30 years, CD-DATA's expert staff developed a three-phase methodology for standardizing the 58 county use code systems and assigned a standardized use description to every property in California.

Our ParcelQuest customers can now search for property with the same use description in any county in the state without having to interpret a single county use code or even look up a code in a table. This white paper outlines the methods and procedures used to create this universal set of property use descriptions.

## ***CD-DATA's Three-Phase Standardization Methodology***

CD-DATA's methodology for standardizing property use categories statewide made use of decades of real estate data expertise, extensive industry knowledge, and the company's unique working relationship with County Assessors and their staffs. CD-DATA's personnel at all levels as well as outside industry experts and County Assessor personnel were all involved in the standardization process.

### **Three-Phase Methodology & Reasoning**

- 1) CD-DATA's expert staff analyzed the use code systems in all 58 counties to develop a set of standardized use categories that retains as much critical information as possible with the fewest categories.

First we identified the general use classes common to all or a significant majority of counties. This identified the classes that describe the most properties and consequently benefited the most number of users.

Within each general category, we then determined if any subcategories were useful enough to warrant inclusion in the system. A subcategory was included in the standardized system if, 1) it applied to a substantial number of properties within the state, and 2) it described a use readily distinguishable from other subcategories.

- 2) We then performed a preliminary standardization. By applying a set of general coding rules, we mapped each county use category to a use category in the standardized system.

This ensured all county use categories deemed legitimate by the Assessors were accounted for in the standardized system.

- 3) Using the same rules, we analyzed and standardized the use codes for all 13+ million properties found in the 58 California assessment roll databases.

Changes in county use code systems, appraisal personnel turnover, and simple data entry errors have resulted in each Assessor database containing a substantial number of use codes which are not legitimate according to the applicable county's use code system. This made it necessary to do an automated as well as a manual review of the actual use code data in each county to accomplish the best standardization.

An automated review of the data was sufficient to identify and standardize the use codes that complied with a county's official use code system. For cases where all or a portion of a code did not comply, a manual review was necessary. The goal of the manual review was to determine whether a standardized code could be reliably applied, or whether a "miscellaneous" or null code was required in order to avoid misleading users.

## **Phase 1: Develop a Standardized Use Category System**

Some County Assessors have implemented very simple coding systems often containing less than 20 property use categories and their corresponding codes. The primary benefits of a simple coding system are: 1) to improve coding accuracy and consistency between appraisers, and 2) to speed the process of assigning a use category to a property. The limitation of a simple coding system is that widely varying properties can wind up with the same use code and thereby appear more similar on paper than they really are. To see an example of a simple use coding system, refer to the Orange County use codes in Example A.

In an effort to capture more information about each property, other Assessors have implemented more complex use coding systems. Often these coding systems employ a hierarchical structure with the first character(s) of the code representing the primary use category (e.g. residential), and subsequent characters indicating subcategories (e.g. single or multi-family) or other information (e.g. the number of dwelling units). To see an example of a hierarchical use coding system, refer to the Calaveras County use codes in Example A.

While more complex coding systems create a more information-packed code, the trade-off is that these systems are more difficult for new appraisers in the Assessor's office to learn and apply consistently. Even once an appraiser is applying codes consistently it may be discovered they are applying the codes consistently different than another appraiser or than a previous appraiser.

Adding to the problems of both simple and complex code systems, many county computer systems use a free-form field for use code entry, meaning personal judgment, misunderstanding of the use code system and simple typos result in codes that were never intended to exist.

### **Example A: County Use Code Systems**

<b>Orange County Property Use Codes (All)</b>		<b>Calaveras County Property Use Codes (Sample)</b>	
<b><u>Use Code</u></b>	<b><u>Description</u></b>	<b><u>Use Code</u></b>	<b><u>Description</u></b>
0	Mobile homes	0110	Residential Multiple Family 1-4 Units -- Vacant
1	Single Family Residential (SFR)	0115	Residential Multiple Family 1-4 UNITS -- W/IMP
2	Multiple Residential	0300	Commercial Property
3	Commercial	0301	Commercial – Vacant Land - Developed
4	Industrial	0302	Commercial – Vacant Land - Undeveloped
5	Rural	0305	Commercial Property with Improvements
6	Miscellaneous (no specific type)	0310	Commercial – Retail
8	Wholly Exempt	0320	Commercial – Office
9	Unassigned	0330	Commercial – Mixed Use
		0340	Commercial – Special Use
		0350	Commercial – Multi Family

CD-DATA's Standardized Use Description System (see Example B) combines the best features of simple and complex use coding systems while reducing the shortcomings of both. The system cleanly separates properties with distinct primary uses into 7 generic categories and 39 specific subcategories. With this system, our customers easily identify a highly targeted list of desired properties with as little as one category without having to wade through dozens or sometimes 100's of unwanted codes in each county of interest.

**Example B: CD-DATA's Standardized Use Categories**

<p><b>Residential</b>  Single Family Residential  Multiple Family Residential  Condominium  Apartments  Mobile/Manufactured Home  Parks  Mobile/Manufactured Homes  Boarding Houses  Student Housing  Timeshare  Hotel/Motel/Resorts  Retirement Home  Planned Unit Residential</p> <p><b>Commercial</b>  Restaurant  Shopping Centers  Automotive Uses  Parking Lot  Nurseries  Retail Sales  Laundromat  Grocery Store  Mini Mart  Hospital  Bank  Office  Medical/Dental/Labs  Veterinarian/Hosp</p>	<p><b>Industrial</b></p> <p><b>Agricultural</b>  Agricultural Preserve  Timber  Timber Preserve</p> <p><b>Government</b>  Utility  Well/Water  Post Office</p> <p><b>Miscellaneous</b>  Recreational  Tax Exempts  Church  Schools  Day Care Nurseries  Cemetery/Mortuary</p> <p><b>Vacant</b></p>
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## **Phase 2: Preliminary Standardization**

Dedicated coding staff mapped each county use category to a standardized category using a set of general coding rules. The purpose of the rule set was to ensure we always selected the standardized category which 1) best conveyed the understanding and intent of the county's original category, and 2) retained as much descriptive information as possible from the county's original category. County categories that did not easily map to a standardized category were marked for additional review.

Data managers then reviewed the category mapping for accuracy and made changes, additions, or more difficult category assignments as necessary. Outside industry experts as well as County Assessors and their staff were also consulted to ensure accurate assignments were made. Finally, at least two of CD-DATA's owners also reviewed the preliminary standardization results before actual data standardization began.

### **General Coding Rules**

1) Starting with the county's primary category, assign the most specific standardized category that can be reasonably applied.

Example: For the county category *Retail*, the most specific standardized category that can be reasonably applied is **Retail Sales**.

Although the standardized category Commercial can be reasonably applied, Retail Sales can also be reasonably applied and is more specific. The standardized category Boarding House is also specific, but cannot be reasonably applied as an equivalent category.

2) If the county's secondary category reasonably leads to a more specific standardized subcategory within the same primary category, use the more specific subcategory.

Example: For the county category *Commercial Nursery*, the most specific standardized category that can be reasonably applied is **Nurseries**.

The county's primary category *Commercial* correctly leads to the equivalent standardized category Commercial. However, also taking into account the county's secondary category *Nursery* leads to the more specific standardized category Nurseries, which is therefore preferable.

3) If the county's primary and secondary categories lead to different standardized primary categories, ignore the county's secondary category.

Example: For the county category *Commercial Miscellaneous SFR*, the most specific standardized category that can be reasonably applied is **Commercial**.

Although the standardized categories Miscellaneous and Residential Single Family do exist they cannot be reasonably applied here, because they are not subcategories of Commercial in the standardized system and would be misleading, implying the property use was other than Commercial.

Example: For the county category *Commercial Crop*, the most specific standardized category that can be reasonably applied is **Commercial**.

The county's primary category *Commercial* leads to the standardized primary category, Commercial. But the county's secondary category *Crop*, leads to the standardized primary category Agricultural, therefore the county's secondary category should be ignored.

4) If the county's primary category is unknown or indeterminable, assign the standardized category **Miscellaneous**.

Example: For the county category *State Board Assessed Parcels*, the most specific standardized category that can be reasonably assigned is **Miscellaneous**.

5) If the county's primary category is known, but the county's secondary category is unknown indeterminable, ignore the county's secondary category and assign the standardized category based on the county's primary category alone.

Example: For the county category *Commercial Multiple Use*, the most specific standardized category that can be reasonably assigned is **Commercial**.

None of the "multiple uses" are known, nor would they likely lead to a single subcategory if they were known, therefore the county's secondary category should be ignored.

6) If the county's primary category does not reasonably lead to any specific standardized category, assign the standardized category **Miscellaneous**.

Example: For the county category *Cell Tower*, the most specific standardized category that can be reasonably assigned is **Miscellaneous**.

7) If either the county's primary or secondary categories are *Vacant*, assign the standardized category **Vacant**.

Example: For the county category *Vacant Land Industrial*, assign the standardized category **Vacant**.

Although the county's secondary category Industrial seems to imply a non-vacant use, it is generally understood that properties categorized in this manner are in fact vacant. In these cases, the property is typically being assigned a non-vacant use category by the county, because the assessed value of the property heavily influenced by the property's zoning and the use category of surrounding properties.

Example: For the county category *Commercial Vacant*, assign the standardized category **Vacant**.

Although the county's primary category Commercial seems to imply a non-vacant use, it is generally understood that properties categorized in this manner are in fact vacant. In these cases, the property is typically being assigned a non-vacant use category by the county, because the assessed value of the property heavily influenced by the property's zoning and the use category of surrounding properties.

### ***Phase 3: Statewide Data Standardization***

Standardized use categories were assigned to all 13+ million California properties in the 58 County Assessor databases using a 4 step assignment and verification process. After final review, CD-DATA's regular data processing routines were modified to include use category standardization to ensure proper maintenance of the standardized data.

- 1) Dedicated coding staff used the same general coding rules developed in the preliminary standardization phase to review the actual county use codes appearing on all 13+ million property records in all 58 county assessment databases.
- 2) Electronic code translation tables were then created for each of the 58 county assessment databases. These tables cross-reference every legitimate county use code to its standardized equivalent. County data sets were passed through the translation tables and, wherever possible, a standardized use code was machine-assigned to each parcel.
- 3) Dedicated coding staff reviewed all of the remaining use codes appearing in the county databases for which no standardized category could be machine assigned. For each of these county codes, either 1) an error in the code translation tables was corrected, 2) a determination was made that the use code in the data was illegitimate and therefore no standardized code could be applied, or 3) if a large enough number of properties had the same use code, the appropriate county was contacted to determine if the code represented a new legitimate code previously unknown to CD-DATA, but which could be reliably standardized. In the case of a new legitimate use code, a modification was made to the code translation table to facilitate machine standardization.
- 4) Dedicated coding staff meticulously reviewed the final output of the data standardization process. Extensive and random spot checking was done to ensure the standardized use descriptions assigned to each parcel matched not only the intended assignment, but also was the best standardized category based on the county's original use category.

### ***Conclusion***

The process of creating a Standardized set of California Property Use Descriptions was extensive and involved. It required the unique expertise and position afforded CD-DATA by our staff's 30 years of industry experience and dedicated work with County Assessors throughout California.

The use of multiple reviews and approval stages provided a comprehensive and complete set of standardized descriptions, easily interpreted and readily usable by all CD-DATA customer, while ensuring the greatest accuracy possible.

Customers needing to search for property within California by property use will find CD-DATA's standardized use descriptions an effective and indispensable tool.