## **TECHNICAL REPORT 2011-9**

Blanks and Zeroes in the SCAG Parcel Database

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## Blanks and Zeroes in the SCAG Parcel Database

Many fields in the SCAG parcel database have a large number of cells whose datum is or may be missing. If a cell is blank, the datum is obviously missing. If a cell contains a zero, it may either be that the zero represents the recorded value (for example, if a parcel has been misclassified as having a developed land use but is in fact vacant) or that the zero represents "datum unknown" or "datum not recorded" or "datum not yet transcribed from paper to electronic form". The patterns of blanks and zeroes different across counties and across aggregated land use category. Appendix 1 indicates how the aggregated land use categories were obtained from the SCAG land use categories.

This report simply records the percentage of blanks and zeroes by data field, county, and aggregated land use category. It does not report on the results of Yizhen Gu's visits to the various assessment offices, where he enquired into the possible reasons for the blanks and the zeroes. Yizhen Gu plans to write up a technical reporting on the results of his visits.

Table 1: Sales price

land use type\County	Tal	ne 1. Sales price	Imporial		Los Angolos		Orango		
Indication   Ind		land use type\County						Orange	
1   single family residential   2   multi-family residential   3   mixed residential   44.1   0.0   33.8   0.0   0.0   45.9   0.0   47.1   0.0   38.0   0.0   59.4   0.0   60   0.0   0.0   43.8   0.0   70.2   0.0				•		•		•	
1   single family residential   2   multi-family residential   3   mixed residential   44.1   0.0   33.8   0.0   0.0   40.5   0.0   44.5   0.0   44.5   0.0   45.9   0.0   47.1   0.0   38.0   0.0   59.4   0.0   40.5   0.0   44.5   0.0   44.5   0.0   38.0   0.0   59.4   0.0   40.2   0.0   63.2   0.0   43.8   0.0   70.2   0.0   63.2   0.0   43.8   0.0   70.2   0.0   63.2   0.0   43.8   0.0   70.2   0.0   63.2   0.0   43.8   0.0   70.2   0.0   63.2   0.0   43.8   0.0   70.2   0.0   63.2   0.0   41.1   0.0   57.7   0.0   41.1   0.0   57.7   0.0   41.1   0.0   57.7   0.0   41.9   0.0   62.9   0.0   41.9   0.0   62.9   0.0   41.9   0.0   62.9   0.0   41.9   0.0   62.9   0.0   40.4   0.0   85.2   0.0   40.4   0.0   40.4   0.0   85.2   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   40.4   0.0   4									
2 multi-family residential   3 mixed residential   4 office   5 retail   6 other commercial   7 public   sales price unavailable   45.0			zero	blank					
3 mixed residential   4 office   5 retail   6 other commercial   7 public   8 warehousing   9 other industrial   transportation/communi   10 cation/utilities   11 mixed   12 vacant   13 other   13 single family residential   2 multi-family residential   2 multi-family residential   2 multi-family residential   2 multi-family residential   3 mixed residential   75.2   0.0   4 office   71.4   0.0   5 retail   75.2   0.0   6 other commercial   74.6   0.0   74.6   0.0   12 vacant   74.6   0.0   73.1   0.0   73.1   0.0   75.2   0.0   12 vacant   73.1   0.0   73.1   0.0   75.2   0.0   73.1   0.0   75.2   0.0   73.1   0.0   73.1   0.0   75.2   0.0   73.1   0.0   75.2   0.0   73.1   0.0   75.2   0.0   0.0   75.2   0.0   0.0   75.2   0.0   0.0   0.0   0.0   0.0   0.0									
A office   5 retail   6 other commercial   7 public   sales price   unavailable   Sales price   unavailable   40.2   0.0   63.2   0.0   64.1   0.0   65.4   0.0   66.6   0.0   92.2   0.0   68.6   0.0   92.2   0.0   68.6   0.0   92.2   0.0   68.6   0.0   92.2   0.0   64.9   0.0   62.9   0.0   62.9   0.0   64.9   0.0   64.9   0.0   64.1   0.0   67.5   0.0									
S retail									
Sales price unavailable   Sales price unav									
Topublic   Sales price   Sal									
S   warehousing   Unavailable   45.0   0.0   85.2   0.0									
9 other industrial transportation/communi 10 cation/utilities  11 mixed 12 vacant 13 other    land use type\County   Riverside   San Bernardino   Wentura     % of parcels entered as zero   blank   zero   blank     2 multi-family residential   64.1   0.0     3 mixed residential   67.5   0.0     4 office   71.4   0.0     5 retail   75.2   0.0     6 other commercial   74.6   0.0     7 public   88.9   0.0     8 warehousing   78.8   0.0     9 other industrial   74.6   0.0     1 transportation/communi   10 cation/utilities   92.2   0.0     11 mixed   67.7   0.0     12 vacant   73.1   0.0						0.0	76.3	0.0	
Transportation/communi cation/utilities			unav	ailable	45.0	0.0	85.2	0.0	
10   cation/utilities   11   mixed	9				41.1	0.0	57.7	0.0	
11   mixed		transportation/communi							
12   vacant	10	cation/utilities			68.6	0.0	92.2	0.0	
Riverside   San Bernardino   Ventura   Wo of parcels entered as zero   blank   zero   z	11	mixed			41.9	0.0	62.9	0.0	
Riverside   San Bernardino   Ventura   % of parcels entered as   2ero   blank   zero   zero   zero   zero   zero   zero   ze	12	vacant			41.9	0.0	85.0	0.0	
land use type\County	13	other			40.4	0.0	85.2	0.0	
Industry   entered as   entered as   zero   blank   zero   zero   zero   zero			Riverside		San Bernardino		Ventura		
entered as   entered as   zero   blank   zero		land use type/County	% of	parcels	% of parcels		% of parcels		
1         single family residential         59.4         0.0           2         multi-family residential         64.1         0.0           3         mixed residential         67.5         0.0           4         office         71.4         0.0           5         retail         75.2         0.0           6         other commercial         72.6         0.0           7         public         88.9         0.0           8         warehousing         78.8         0.0           9         other industrial         74.6         0.0           transportation/communi         10         cation/utilities         92.2         0.0           11         mixed         67.7         0.0           12         vacant         73.1         0.0		iand use type (County	ente	red as	enter	ed as	enter	ed as	
2 multi-family residential       64.1       0.0         3 mixed residential       67.5       0.0         4 office       71.4       0.0         5 retail       75.2       0.0         6 other commercial       72.6       0.0         7 public       88.9       0.0         8 warehousing       78.8       0.0         9 other industrial       74.6       0.0         transportation/communi       10 cation/utilities       92.2       0.0         11 mixed       67.7       0.0         12 vacant       73.1       0.0			zero	blank	zero	blank	zero	blank	
3         mixed residential         67.5         0.0           4         office         71.4         0.0           5         retail         75.2         0.0           6         other commercial         72.6         0.0           7         public         88.9         0.0           8         warehousing         78.8         0.0           9         other industrial         74.6         0.0           transportation/communi         10         cation/utilities         92.2         0.0           11         mixed         67.7         0.0           12         vacant         73.1         0.0	1	single family residential	59.4	0.0					
4 office       71.4 0.0         5 retail       75.2 0.0         6 other commercial       72.6 0.0         7 public       88.9 0.0         8 warehousing       78.8 0.0         9 other industrial       74.6 0.0         transportation/communi       0.0         10 cation/utilities       92.2 0.0         11 mixed       67.7 0.0         12 vacant       73.1 0.0	2	multi-family residential	64.1	0.0					
5 retail       75.2       0.0         6 other commercial       72.6       0.0         7 public       88.9       0.0         8 warehousing       78.8       0.0         9 other industrial       74.6       0.0         transportation/communi       0.0         10 cation/utilities       92.2       0.0         11 mixed       67.7       0.0         12 vacant       73.1       0.0	3	mixed residential	67.5	0.0					
6 other commercial         72.6         0.0           7 public         88.9         0.0           8 warehousing         78.8         0.0           9 other industrial         74.6         0.0           transportation/communi         0.0           10 cation/utilities         92.2         0.0           11 mixed         67.7         0.0           12 vacant         73.1         0.0	4	office	71.4	0.0					
7 public         88.9         0.0         sales price unavailable           8 warehousing         78.8         0.0         unavailable           9 other industrial         74.6         0.0         unavailable           transportation/communi         92.2         0.0           11 mixed         67.7         0.0           12 vacant         73.1         0.0	5	retail	75.2	0.0					
8 warehousing       78.8       0.0       unavailable         9 other industrial       74.6       0.0         transportation/communi       92.2       0.0         10 cation/utilities       92.2       0.0         11 mixed       67.7       0.0         12 vacant       73.1       0.0	6	other commercial	72.6	0.0					
9 other industrial       74.6       0.0         transportation/communi       0.0         10 cation/utilities       92.2       0.0         11 mixed       67.7       0.0         12 vacant       73.1       0.0	7	public	88.9	0.0	sales	price	sales	price	
transportation/communi 10 cation/utilities 92.2 0.0 11 mixed 67.7 0.0 12 vacant 73.1 0.0	8	warehousing	78.8	0.0	unava	ilable	unava	ilable	
10 cation/utilities       92.2 0.0         11 mixed       67.7 0.0         12 vacant       73.1 0.0	9	other industrial	74.6	0.0					
10 cation/utilities       92.2 0.0         11 mixed       67.7 0.0         12 vacant       73.1 0.0		transportation/communi							
11 mixed     67.7 0.0       12 vacant     73.1 0.0	10		92.2	0.0					
12 vacant 73.1 0.0	I IU	·	C 7 7	0.0	1				
	_	mixed	6/./	0.0					
	11								

Note 1: Parcels entered as "X" refer to parcels with sales price entered as "X". Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Note 3: The current calculation is based on information exported from LA.gdb. We will try to update this table using information exported from the raw datasets later.

Table 2: Sales date

		Imperial		Los Angeles		Orange		
	land use type\County		% of parcels		% of parcels		% of parcels	
			entered as		entered as		ed as	
		zero	blank	zero	blank	zero	blank	
1	single family residential			8.7	0.0	5.6	0.0	
2	multi-family residential			7.4	0.0	7.9	0.0	
3	mixed residential			9.1	0.0	12.2	0.0	
4	office			9.3	0.0	11.3	0.0	
5	retail			12.5	0.0	12.9	0.0	
6	other commercial			16.0	0.0	22.8	0.0	
7	public	sale	s date	37.6	0.0	17.9	0.0	
8	warehousing	unav	ailable	27.5	0.0	31.0	0.0	
9	other industrial			15.5	0.0	11.9	0.0	
	transportation/communi							
10	cation/utilities			57.6	0.0	46.5	0.0	
11	mixed			14.3	0.0	12.4	0.0	
12	vacant				0.0	31.0	0.0	
13	other			13.5	0.0	20.7	0.0	
		Riverside S		San Bernardino		Ventura		
	land use type/County	% of	parcels	% of parcels		% of parcels		
	land use type\County	ente	red as	entered as		entered as		
		zero	blank	zero	blank	zero	blank	
1	single family residential	45.4	0.0	71.6	0.0	73.6	0.0	
2	multi-family residential	50.9	0.0	65.8	0.0	72.6	0.0	
3	mixed residential	52.7	0.0	82.1	0.0	80.2	0.0	
4	office	53.9	0.0	77.5	0.0	84.3	0.0	
5	retail	58.5	0.0	82.3	0.0	73.4	0.0	
6	other commercial	50.1	0.0	89.9	0.0	71.2	0.0	
7	public	79.1	0.0	85.7	0.0	79.5	0.0	
8	warehousing	66.5	0.0	85.0	0.0	62.9	0.0	
9	other industrial	60.1	0.0	75.9	0.0	74.0	0.0	
	transportation/communi							
10	cation/utilities	84.3	0.0	90.9	0.0	92.2	0.0	
11	mixed	52.9	0.0	83.7	0.0	76.5	0.0	
12	vacant	56.9	0.0	89.3	0.0	82.7	0.0	
13	other	74.1	0.0	82.3	0.0	99.9	0.0	

Note 1: Parcels entered as "X" refer to parcels with sales date entered as "X".

Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Note 3: The current calculation is based on information exported from LA.gdb. We will try to update this table using information exported from the raw datasets later.

Table 3: floor area

		Imperial		Los Angeles		Orange	
	land use type\County	% of	parcels	% of parcels		% of parcels	
	land use type (County		entered as		entered as		ed as
		zero	blank	zero	blank	zero	blank
1	single family residential	8.5	0.1	0.0	2.9	15.1	4.6
2	multi-family residential	14.0	0.4	0.0	4.6	14.0	5.3
3	mixed residential	27.3	0.2	0.1	6.7	19.7	11.8
4	office	14.1	0.8	0.0	6.2	27.2	9.3
5	retail	25.8	0.3	0.2	13.5	25.4	11.9
6	other commercial	24.7	0.0	0.2	14.5	32.2	21.9
7	public	64.7	0.0	0.2	29.9	49.7	16.6
8	warehousing	25.0	2.6	0.3	25.2	27.3	30.3
9	other industrial	40.8	1.4	0.8	19.2	21.7	10.9
	transportation/communi						
10	cation/utilities	78.0	1.6	0.6	68.2	45.7	45.9
11	mixed	18.7	0.0	0.2	14.3	46.8	11.4
12	vacant	75.0	0.2	0.2	83.2	66.8	26.8
13	other	83.7	15.2	4.2	20.4	24.8	68.3
		1					
		Rive	erside	San Ber	nardino	Vent	tura
	land use type\County		erside parcels		nardino parcels	Vent % of p	
	land use type\County	% of		% of p			arcels
	land use type\County	% of	parcels	% of p	arcels	% of p	arcels
1		% of ente	parcels red as	% of p	oarcels ed as	% of p	arcels ed as
1 2	land use type\County  single family residential multi-family residential	% of ente	parcels red as blank	% of penter zero	oarcels ed as blank	% of p enter zero	arcels ed as blank
	single family residential	% of ente zero 2.9	parcels red as blank 10.5	% of penter zero	oarcels ed as blank 1.3	% of p entero zero 4.7	ed as blank 0.0
2	single family residential multi-family residential	% of ente zero 2.9	parcels red as blank 10.5 22.3	% of penter zero 8.5 7.3	barcels ed as blank 1.3 8.4	% of p entero zero 4.7 11.6	blank 0.0 0.0
3	single family residential multi-family residential mixed residential	% of ente zero 2.9 1.8 18.9	parcels red as blank 10.5 22.3 7.4	% of penter zero 8.5 7.3 22.9	barcels ed as blank 1.3 8.4 3.0	% of p entered zero 4.7 11.6 36.1	barcels ed as blank 0.0 0.0
2 3 4	single family residential multi-family residential mixed residential office	% of ente zero 2.9 1.8 18.9 3.9	parcels red as blank 10.5 22.3 7.4 59.5	% of penter zero 8.5 7.3 22.9 43.5	barcels ed as blank 1.3 8.4 3.0 3.4	% of p entered zero 4.7 11.6 36.1 83.5	blank 0.0 0.0 0.0 0.0
2 3 4 5	single family residential multi-family residential mixed residential office retail	% of ente zero 2.9 1.8 18.9 3.9 5.7	parcels red as blank 10.5 22.3 7.4 59.5 84.8	% of penter zero 8.5 7.3 22.9 43.5 67.9	barcels ed as blank 1.3 8.4 3.0 3.4 3.3	% of p entered zero 4.7 11.6 36.1 83.5 89.9	blank 0.0 0.0 0.0 0.0 0.0
2 3 4 5 6	single family residential multi-family residential mixed residential office retail other commercial	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0
2 3 4 5 6 7	single family residential multi-family residential mixed residential office retail other commercial public	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0
2 3 4 5 6 7 8	single family residential multi-family residential mixed residential office retail other commercial public warehousing	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2 5.9	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0 92.5	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1 85.0 68.1	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1 96.8 85.7	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
2 3 4 5 6 7 8	single family residential multi-family residential mixed residential office retail other commercial public warehousing other industrial	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2 5.9 10.6	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0 92.5 61.5	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1 85.0 68.1	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1 96.8	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
2 3 4 5 6 7 8 9	single family residential multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2 5.9 10.6	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0 92.5 61.5	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1 85.0 68.1	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8 7.8 0.9	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1 96.8 85.7	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
2 3 4 5 6 7 8 9 10 11	single family residential multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi cation/utilities	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2 5.9 10.6 15.8 6.8 40.7	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0 92.5 61.5 78.6 85.9 42.9	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1 85.0 68.1 82.2 59.1 87.2	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8 7.8 0.9 4.2	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1 96.8 85.7	blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.
2 3 4 5 6 7 8 9 10 11 12 13	single family residential multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi cation/utilities mixed	% of ente zero 2.9 1.8 18.9 3.9 5.7 7.0 9.2 5.9 10.6 15.8 6.8 40.7 24.4	parcels red as blank 10.5 22.3 7.4 59.5 84.8 73.9 77.0 92.5 61.5 78.6 85.9 42.9 63.8	% of penter zero 8.5 7.3 22.9 43.5 67.9 55.8 79.1 85.0 68.1 82.2 59.1 87.2 48.6	barcels ed as blank 1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8 7.8 0.9 4.2 34.9	% of p entered zero 4.7 11.6 36.1 83.5 89.9 94.1 77.1 96.8 85.7 96.0 97.0 92.1 99.7	oarcels ed as blank 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.

Note 1: Parcels entered as "X" refer to parcels with FLOOR AREA entered as "X". Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Table 4: Year built

1		Imperial		Los Angeles		Orange	
	land use type\County		parcels	% of parcels		% of parcels	
	land use type (county		entered as		entered as		ed as
		zero	blank	zero	blank	zero	blank
1	single family residential	0.0	0.1	0.0	2.9	15.0	4.6
2	multi-family residential	0.0	0.4	0.0	4.6	13.6	5.3
3	mixed residential	0.0	0.2	0.0	6.7	17.8	11.8
4	office	0.0	0.8	0.0	6.2	25.0	9.3
5	retail	0.0	0.3	0.0	13.5	20.2	11.9
6	other commercial	0.0	0.0	0.0	14.5	29.5	21.9
7	public	0.0	0.0	0.0	29.9	39.1	16.6
8	warehousing	0.0	2.6	0.0	25.2	23.9	30.3
9	other industrial	0.0	1.4	0.0	19.2	18.9	10.9
	transportation/communi						
10	cation/utilities	0.0	1.6	0.0	68.2	45.3	45.9
11	mixed	0.0	0.0	0.0	14.3	45.3	11.4
12	vacant	0.0	0.2	0.0	83.2	66.7	26.8
13	other	0.0	15.2	0.0	20.4	24.8	68.3
		Rive	erside	San Ber	nardino	Vent	tura
	land use type\County		parcels	% of parcels		% of parcels	
	land ase type (county	ente	red as	enter	ed as	enter	ed as
		zero	blank	zero	blank	zero	blank
1	single family residential	2.8	10.5	0.0	0.0	4.6	0.0
2	multi-family residential	1.8	22.3	0.0	0.0	11.6	0.0
3				0.0	0.0		0.0
	mixed residential	17.2	7.4	0.0	0.0	35.9	0.0
4	mixed residential office	3.8	7.4 59.5				
				0.0	0.0	35.9	0.0
4 5 6	office	3.8	59.5	0.0	0.0	35.9 63.0	0.0
4	office retail	3.8 5.4	59.5 84.8	0.0 0.0 0.0	0.0 0.0 0.0	35.9 63.0 31.0	0.0 0.0 0.0
4 5 6 7 8	office retail other commercial	3.8 5.4 6.8 8.7 5.9	59.5 84.8 73.9 77.0 92.5	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5	0.0 0.0 0.0 0.0 0.0 0.0
4 5 6 7	office retail other commercial public	3.8 5.4 6.8 8.7	59.5 84.8 73.9 77.0	0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5 67.3	0.0 0.0 0.0 0.0 0.0
4 5 6 7 8 9	office retail other commercial public warehousing other industrial transportation/communi	3.8 5.4 6.8 8.7 5.9 10.1	59.5 84.8 73.9 77.0 92.5 61.5	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5 67.3 51.6	0.0 0.0 0.0 0.0 0.0 0.0
4 5 6 7 8 9	office retail other commercial public warehousing other industrial transportation/communi cation/utilities	3.8 5.4 6.8 8.7 5.9 10.1	59.5 84.8 73.9 77.0 92.5 61.5	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5 67.3 51.6 28.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0
4 5 6 7 8 9	office retail other commercial public warehousing other industrial transportation/communi	3.8 5.4 6.8 8.7 5.9 10.1 15.4 6.8	59.5 84.8 73.9 77.0 92.5 61.5 78.6 85.9	0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5 67.3 51.6 28.0 92.6 27.1	0.0 0.0 0.0 0.0 0.0 0.0 0.0
4 5 6 7 8 9	office retail other commercial public warehousing other industrial transportation/communi cation/utilities	3.8 5.4 6.8 8.7 5.9 10.1	59.5 84.8 73.9 77.0 92.5 61.5	0.0 0.0 0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0	35.9 63.0 31.0 34.5 67.3 51.6 28.0	0.0 0.0 0.0 0.0 0.0 0.0 0.0

Note 1: Parcels entered as "X" refer to parcels with Year built entered as "X". Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Table 5: Assessed value (totvalue07)

	Table 3. Assessed value (totva		Imperial		Los Angeles		Orange	
		% of parcels		% of parcels		% of parcels		
	land use type\County		entered as		entered as		ed as	
			blank	zero blank		zero blank		
1	single family residential	zero 0.8	0.1	0.1	0.2	2.3	4.6	
2	multi-family residential	3.3	0.0	0.2	1.7	8.4	5.3	
3	mixed residential	2.4	0.2	0.2	0.7	4.1	11.8	
4	office	4.0	0.8	0.4	3.4	5.3	9.3	
5	retail	3.7	0.3	0.8	1.6	1.9	11.9	
6	other commercial	6.4	0.0	2.3	4.0	6.9	21.9	
7	public	54.8	0.0	4.2	5.3	4.4	16.6	
8	warehousing	1.7	2.6	10.1	1.6	6.1	30.3	
9	other industrial	8.1	1.4	2.4	3.2	2.4	10.9	
	transportation/communi							
10	cation/utilities	49.2	1.6	26.7	1.3	23.8	45.9	
11	mixed	1.1	0.0	0.5	2.0	5.6	11.4	
12	vacant	9.6	0.2	2.9	2.7	27.4	26.8	
13	other	53.6	15.2	2.3	8.6	18.2	68.3	
		Riverside San Bernardino		nardino	Ventura			
	land use true County	% of	parcels	% of p	arcels	% of p	arcels	
	land use type\County	entered as		enter		entered as		
		zero	blank	zero	blank	70r0	blank	
				2010	Dialik	zero	Dialik	
1	single family residential	0.4	7.3	1.2	1.3	1.7	0.0	
2	single family residential multi-family residential	0.4 2.5	7.3 4.3					
				1.2	1.3	1.7	0.0	
2 3 4	multi-family residential	2.5	4.3	1.2 3.4	1.3 8.4	1.7 9.1	0.0	
2 3 4 5	multi-family residential mixed residential	2.5 0.6	4.3 2.4 6.6 9.4	1.2 3.4 1.7 3.9 4.6	1.3 8.4 3.0	1.7 9.1 8.7 50.1 7.0	0.0 0.0 0.0	
2 3 4	multi-family residential mixed residential office	2.5 0.6 2.4	4.3 2.4 6.6	1.2 3.4 1.7 3.9	1.3 8.4 3.0 3.4	1.7 9.1 8.7 50.1	0.0 0.0 0.0 0.0	
2 3 4 5	multi-family residential mixed residential office retail	2.5 0.6 2.4 3.0	4.3 2.4 6.6 9.4	1.2 3.4 1.7 3.9 4.6	1.3 8.4 3.0 3.4 3.3 2.9 2.2	1.7 9.1 8.7 50.1 7.0	0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7 8	multi-family residential mixed residential office retail other commercial public warehousing	2.5 0.6 2.4 3.0 4.3 12.6 2.4	4.3 2.4 6.6 9.4 6.9 29.0 6.4	1.2 3.4 1.7 3.9 4.6 8.5 62.0 14.1	1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5	1.7 9.1 8.7 50.1 7.0 7.1	0.0 0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7	multi-family residential mixed residential office retail other commercial public warehousing other industrial	2.5 0.6 2.4 3.0 4.3 12.6	4.3 2.4 6.6 9.4 6.9 29.0	1.2 3.4 1.7 3.9 4.6 8.5 62.0	1.3 8.4 3.0 3.4 3.3 2.9 2.2	1.7 9.1 8.7 50.1 7.0 7.1 42.9	0.0 0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7 8 9	multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi	2.5 0.6 2.4 3.0 4.3 12.6 2.4 2.1	4.3 2.4 6.6 9.4 6.9 29.0 6.4 8.1	1.2 3.4 1.7 3.9 4.6 8.5 62.0 14.1 7.1	1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8	1.7 9.1 8.7 50.1 7.0 7.1 42.9 8.1 8.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7 8 9	multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi cation/utilities	2.5 0.6 2.4 3.0 4.3 12.6 2.4 2.1	4.3 2.4 6.6 9.4 6.9 29.0 6.4 8.1	1.2 3.4 1.7 3.9 4.6 8.5 62.0 14.1 7.1	1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8	1.7 9.1 8.7 50.1 7.0 7.1 42.9 8.1 8.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7 8 9	multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi cation/utilities mixed	2.5 0.6 2.4 3.0 4.3 12.6 2.4 2.1 22.2	4.3 2.4 6.6 9.4 6.9 29.0 6.4 8.1 28.7 3.4	1.2 3.4 1.7 3.9 4.6 8.5 62.0 14.1 7.1 57.2 3.8	1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8 7.8 0/9	1.7 9.1 8.7 50.1 7.0 7.1 42.9 8.1 8.2 79.4 9.8	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	
2 3 4 5 6 7 8 9	multi-family residential mixed residential office retail other commercial public warehousing other industrial transportation/communi cation/utilities	2.5 0.6 2.4 3.0 4.3 12.6 2.4 2.1	4.3 2.4 6.6 9.4 6.9 29.0 6.4 8.1	1.2 3.4 1.7 3.9 4.6 8.5 62.0 14.1 7.1	1.3 8.4 3.0 3.4 3.3 2.9 2.2 7.5 2.8	1.7 9.1 8.7 50.1 7.0 7.1 42.9 8.1 8.2	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	

Note 1: Parcels entered as "X" refer to parcels with totvalue07 entered as "X". Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Table 6: Planned land use

		Imperial		Los Angeles		Orange	
	land use type\County	% of	parcels	% of parcels		% of parcels	
	land use type (county		entered as		entered as		ed as
		zero	blank	zero	blank	zero	blank
1	single family residential	0.0	0.1	0.0	0.7	0.1	0.5
2	multi-family residential	0.0	0.2	0.0	1.5	0.2	0.5
3	mixed residential	0.0	0.5	0.0	0.1	0.3	0.1
4	office	0.0	0.8	0.0	2.3	0.1	1.8
5	retail	0.0	0.0	0.0	2.4	0.1	1.6
6	other commercial	0.0	0.3	0.1	1.3	0.1	5.0
7	public	0.0	0.1	0.1	2.0	0.7	1.4
8	warehousing	0.0	0.0	0.1	0.8	0.0	5.1
9	other industrial	0.1	1.3	0.1	1.1	0.1	2.2
	transportation/communi						
10	cation/utilities	0.3	2.2	0.2	2.2	0.5	15.9
11	mixed	0.0	0.0	0.0	1.3	0.0	0.1
12	vacant	0.0	0.2	0.0	2.2	1.0	2.6
13	other	0.0	15.8	0.0	10.4	0.0	61.9
		Riverside San		San Ber	nardino	Vent	ura
	land use type\County	% of	parcels	% of parcels		% of parcels	
	land use type (County	ente	entered as er		entered as		ed as
		zero	blank	zero	blank	zero	blank
1	single family residential	1.4	0.2	0.0	1.9	0.2	0.0
2	multi-family residential	1.4	1.0	0.0	1.9	1.0	0.0
3	mixed residential	0.4	0.0	0.0	1.9	0.1	0.0
4	office	0.9	2.9	0.1	0.8	3.6	0.0
5	retail	1.1	2.3	0.0	1.3	0.1	0.0
6	other commercial	1.5	1.6	0.1	0.9	0.6	0.0
7	public	1.0	3.8	1.0	1.6	1.2	0.0
_				0	0	0	0.0
8	warehousing	0.8	0.3	0.0	0.0	3.2	0.0
9	other industrial	0.8	0.3	0.0	1.4	3.2 1.1	0.0
9	other industrial transportation/communi	0.7	0.4		1.4	1.1	
9	other industrial transportation/communi cation/utilities	0.7 4.3	0.4 2.7	1.0	1.4 8.3	1.1	0.0
9 10 11	other industrial transportation/communi	0.7 4.3 0.5	0.4 2.7 0.0	1.0 0.0	8.3 0.4	1.1 13.2 0.6	0.0 0.0 0.0
9	other industrial transportation/communi cation/utilities	0.7 4.3	0.4 2.7	1.0	1.4 8.3	1.1	0.0

Note 1: Parcels entered as "X" refer to parcels with planned land use entered as "X".

Note 2: The percent of parcels entered as "X" is calculated as Number of parcels entered as "X" in that land-use type divided by Number of parcels in that land-use type.

Note 3: The accuracy of planned land use is highly related to that of current land use. Thus, as expected, the missing rate of planned land use is higher for parcels of "other" type.

## $\label{eq:APPENDIX 1} \label{eq:APPENDIX 1}$ The correspondence between LA project land use code and SCAG 1993 code

Table 1: Basic

	LA projec	SCAG 1993 code	
Numerical	Alphabetic	Name	3-digit
1	RS-SF	Single-family residential	111
2	RS-MF	Multi-family residential	112
3	RS-MX	Mixed residential	110, 113, 114, 115
4	OF	Office	121
5	RT	Retail	122
6	OC	Other commercial	120, 123
7	P	Public	124, 125, 126, 127
8	W	Warehousing	134
9	I	Industrial	130, 131, 132, 133
10	TCU	Transportation/communication /utilities	140, 141, 142, 143, 144, 145, 146
11	M	Mixed	150, 160
12	V	Vacant	170; 180, 181, 182, 183, 184, 185, 186, 187, 188; 200, 210, 220, 230, 240, 250, 260, 270; 300, 310, 320
13	0	Other	400, 410, 420, 430, 440, 450; 128, 129, 190, 888, 999; 0, missing

Note 1: The original SCAG 1993 code is 4-digit. Here the 3-digit SCAG code refers to that by dropping off the last digit of the original code.

Note 2: The  $13^{th}$  land use code 0 refers to lu08 listed as "4000-4500" (water), and "0", "1900", "8888", "9999", or missing in the database.

Table 2: Extended with explanations on SCAG code

LA	project land i	ıse code		SCAG 1993 code				
Numerical	Alphabetic	Name	3- digit	Name	Note			
1	RS-SF	Single-family residential	111	Single family residential				
2	RS-MF	Multi-family residential	112	Multi-family residential				
			110	Residential	For parcels lacking of more detailed classification			
3	RS-MX	Mixed residential	113	Mobile homes and trailer parks				
			114	Mixed residential				
			115	Rural residential				
4	OF	Office	121	General office use				
5	RT	Retail	122	Retail stores and commercial stores				
6	OC	Other commercial	120	Commercial and Services	For parcels lacking of more detailed classification			
		commercial	123	Other commercial				
			124	Public facilities				
7	P	Public	125	Special Use Facilities				
,	•	Tublic	126	Educational institutions				
			127	Military installations				
8	W	Warehousing	134	Wholesaling and warehousing				
			130	Industrial	For parcels lacking of more detailed classification			
9	I	Industrial	131	Light industrial				
			132	Heavy industrial				
			133	Extraction				

10	TCU	Transportation/ communication /utilities	14x	Transportation, communications, and utilities	Including 140, 141, 142, 143, 144, 145, 146
11	М	M Mixed		Mixed commercial and industrial	
			160	Mixed urban	
	12 V Vacant		170	Under construction	
10			18x	Open space and recreation	Including 180, 181, 182, 183, 184, 185, 186, 187, 188
12		2x0	Agriculture	Including 200, 210, 220, 230, 240, 250, 260, 270	
			3x0	Vacant	Including 300, 310, 320
13	0	Other	4x0	Water	Including 400, 410, 420, 430, 440, 450
	_	Guiei		900, 1280, 1290, 8888, 9999, or missing	Not included in SCAG code

Note: The original SCAG 1993 code is 4-digit. Here the 3-digit SCAG code refers to that by dropping off the last digit of the original code.