Unplanned Land Development and Land Use Change in Southern California

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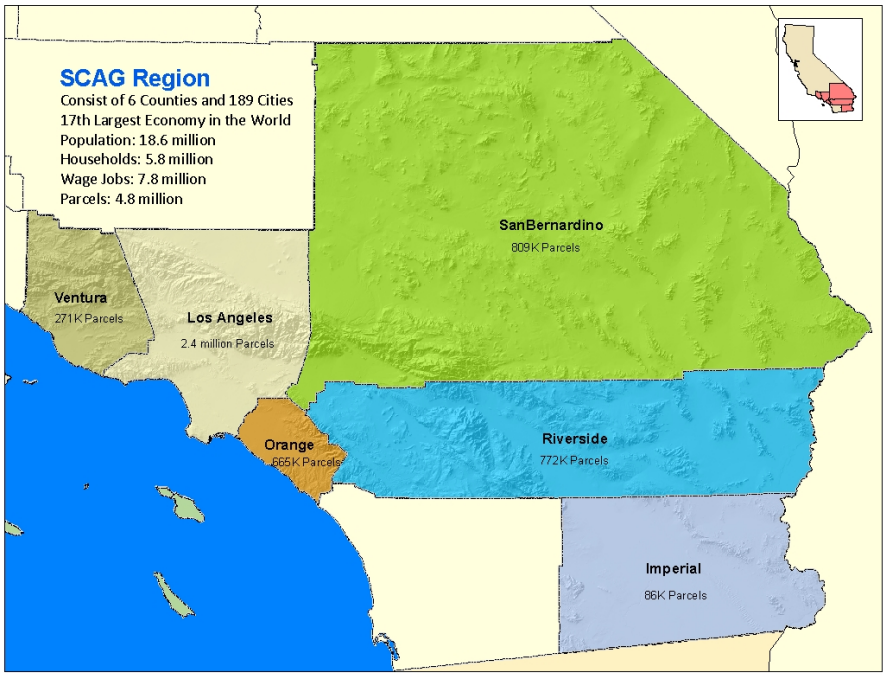
Purpose of Study

- Identifying new land development:
  - by planning
  - market driven
- Understanding the role of unplanned land developments

Theoretical Background

- Planners seek growth management through implementing land use regulations such as general plan, zoning, and other controls (Pendall, 2000)
- Land use controls do not always work as intended or advertised (Landis, 1992)



Data

- New land development data
  - 400K records from 2000 to 2008 at parcel level in Southern California
  - Collected by County assessors' offices
- General Plan in Southern California
- Existing Land Use: at parcel level from 1990 to 2008
- Value of land: County assessors' offices
- Socio-economic data: Census 2000 SF3

Data Processing

- General Plan Data
  - Collected from local jurisdictions
  - General Plan codes were re-categorized into standardized 25 codes
  - For the study purpose, the 25 codes were re-categorized into 8 categories
- Existing Land Use Data
  - Collected from local jurisdictions
  - Land use codes were re-categorized into standardized 101 codes
  - For the study purpose, the codes were re-categorized into 8 categories

Re-Cat	Description	Code	Description
1	Residential	23	Residential Categories
2	Commercial	1	Regional Retail Categories
2	Commercial	2	Retail/Services Categories
2	Commercial	3	Commercial Categories
2	Commercial	4	Hotel Categories
2	Commercial	5	Miscellaneous Commercial Categories
2	Commercial	19	Urban Mixed Categories
2	Commercial	20	General Commercial Categories
3	Industrial	6	Light Industrial Categories
3	Industrial	7	Heavy Industry Categories
3	Industrial	8	Miscellaneous Industry Categories
3	Industrial	21	General Industrial Categories
4	Public	9	K-12 School Categories
4	Public	10	College Categories
4	Public	11	Transportation Categories
4	Public	12	Utilities Categories
4	Public	13	Other Institutions (Gov,Fire,Church,Clubhouse, Etc)
4	Public	22	Military Categories
5	Parks	15	Open Nodevelopable Categories
5	Parks	16	Cemetery Categories
5	Parks	17	Golf Course Categories
5	Parks	18	Parks Categories
6	Agricultural	14	Agriculture Categories
7	Vacant	0	Vacant
8	Etc	99	Etc

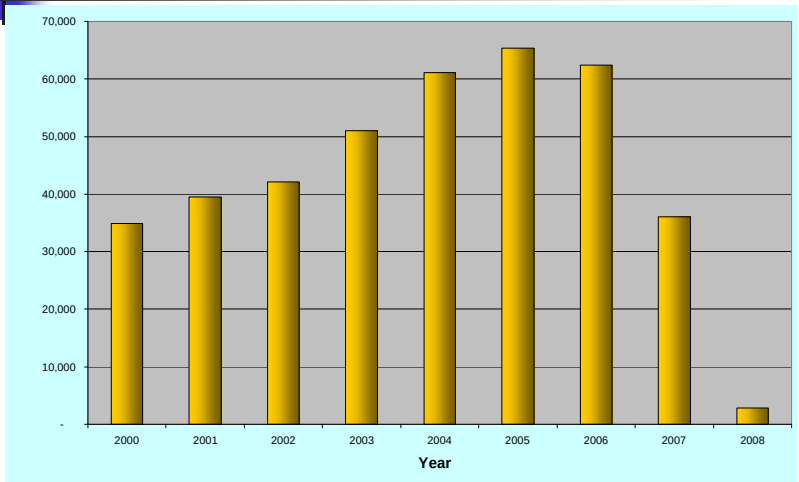
Data Processing (cont.)

- Land Value
  - Collected by County assessors' office for tax purpose
  - Adjusted unreasonable values
  - Re-calculated to 2007 constant dollar
  - Aggregated at block group level

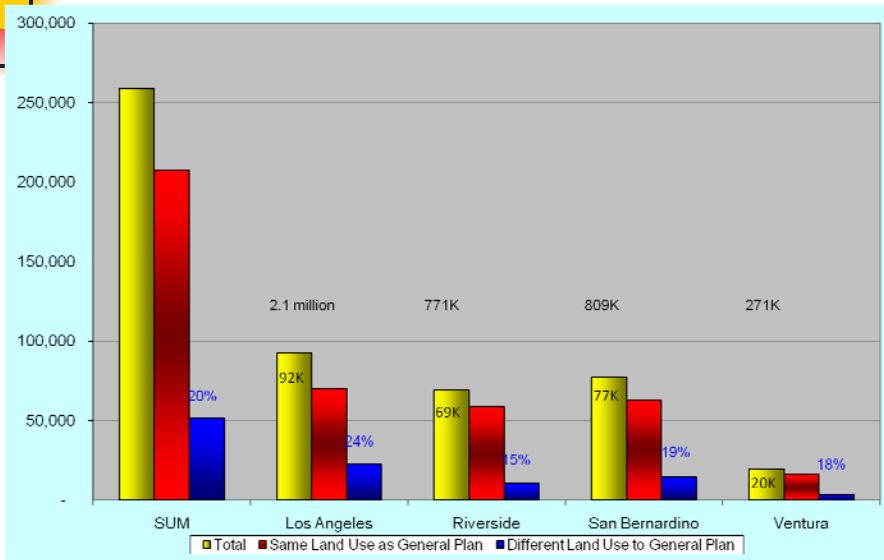
Data Processing (cont.)

- New land development data
  - For the study, excluded Orange and Imperial county records because of insufficient information
  - Excluded records which developed year were later than GP adopted year
  - Joined to parcel base map with county assessors parcel number
  - Geocoded some records
  - Joined with General Plan map
  - Re-categorized land use codes into 8 groups

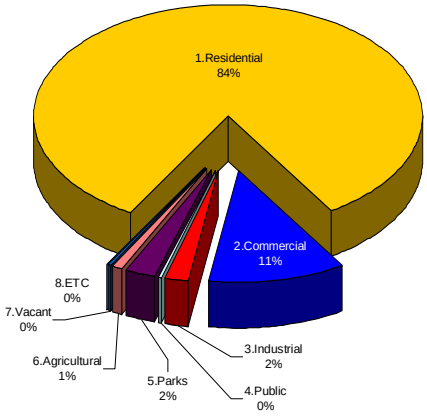
New Land Development by Year



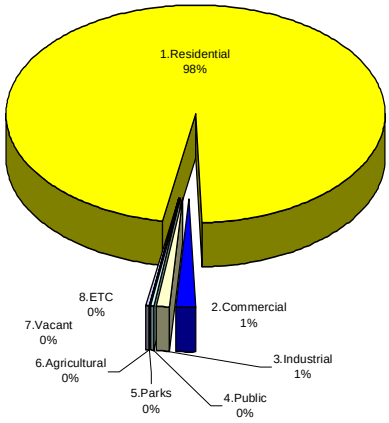
New Land Development by County

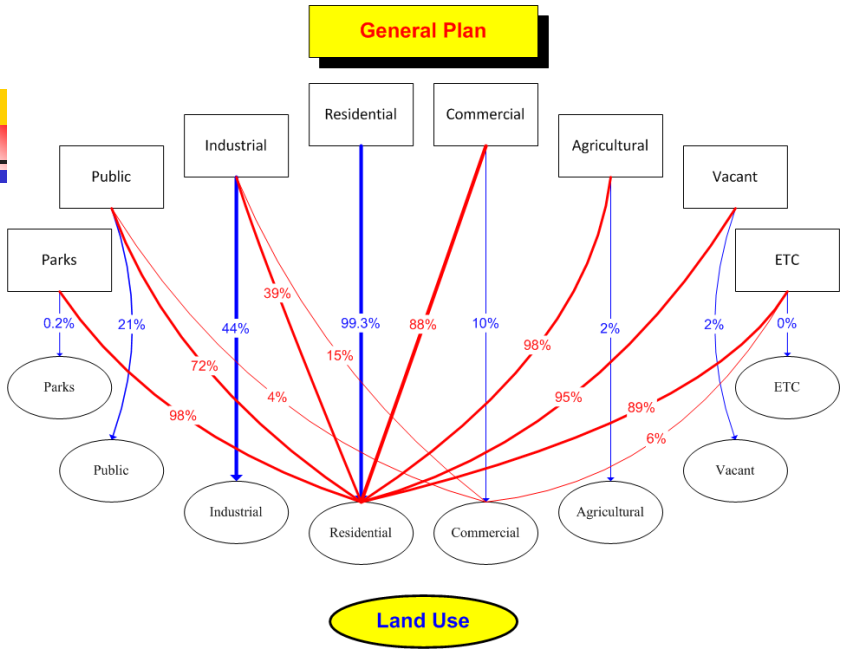


New Land Development by GP Land Use Type



New Land Development by Land Use Type





Result of Logistic Regression

		Estimate	P-value
Dependent Variable: Land Use Change			
Intercept		-5.7081	***
Block Group SES	Population	0.8196	***
	Household Income	8.2882	***
	Land Value	3.1759	
County Dummy (Reference: Los Angeles)	Riverside	0.3497	***
	San Bernardino	-0.1683	***
	Ventura	-0.7670	***
General Plan (Reference: Residential)	Commercial	7.4215	***
	Industrial	5.4941	***
	Parks	10.7031	***
	Public	6.6929	***
	Agricultural	9.8070	***
R-Square		0.5469	
Number of Observation		258,469	

P-value: *** $p<0.001$

Findings

- New land developments in SCAG region were mainly for residential developments. It would be explained by the real estate bubble in the period.
- New land developments mainly occurred in the parcels that were categorized in residential use.
- About 20% of new land developments were unplanned and it was higher in Los Angeles County where most of land were already developed.

Next Step

- Understanding conditions of unplanned land developments such as city level land use regulations, and infill/new development.
- Geographically weighted regression with more explanatory variables such as transportation networks