

Spatial Dynamics of Warehousing and Distribution in California

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INTRODUCTION

We examine the location patterns of warehousing and distribution (W&D) activity in California.

PART I TRENDS IN W&D IN CALIFORNIA 2003-2013

We conduct a descriptive analysis of W&D trends from 2003 to 2013 using Zip Code Business Patterns data (ZBP).

Findings at the state level

- The transportation section constitutes just 3.3% of jobs and 2.4% of establishments in CA. The W&D sector is much smaller, constituting 0.5% jobs and 0.2% establishments.
- The W&D sector grew much faster than the economy as a whole. From 2003 to 2013, W&D jobs and establishments grew by 31% and 24% respectively, compare to an increase in total jobs and establishments of 3.2% and 5.6% respectively.

Findings at four metro levels

We define four metro levels as:

Level 1: CSA/MSA >2 million population*

Level 2: 2 million >CSA/MSA>250,000

Level 3: 250,000>CSA/MSA

Level 4: MiSA or rural counties**

Table 1 shows:

- Population and jobs are approximately co-located. Level 1 accounts for slightly more jobs than population; Level 2 accounts for slightly more population than jobs.

- W&D sector jobs have the same distribution as all jobs.
- These distributions remain stable between 2003 and 2013.

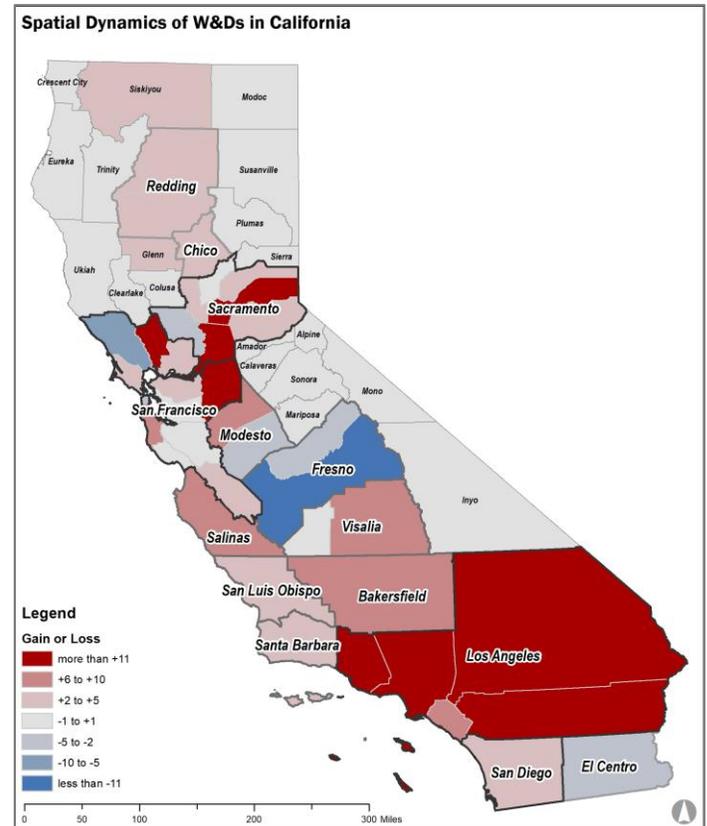


FIGURE 1 Gains and Losses of W&D establishments by county between 2003 and 2013

TABLE 1 Number of establishments 2003-2013, the entire economy and the W&D sector, compared to 2010 population

Level	The entire economy				Warehousing and distribution				Population 2010 Share
	2003		2013		2003		2013		
	N	Share	N	Share	N	Share	N	Share	
1	673,582	86.5%	723,433	87.5%	1,196	86.0%	1,541	87.3%	84.7%
2	75,206	9.7%	76,568	9.3%	152	10.9%	175	9.9%	11.8%
3	12,776	1.6%	12,085	1.5%	24	1.7%	30	1.7%	1.7%
4	17,063	2.2%	14,962	1.8%	19	1.4%	19	1.1%	1.8%
Total	778,627	100.0%	827,048	100.0%	1,391	100.0%	1,765	100.0%	100.0%

* CSA: Combined Statistical Area; MSA: Metropolitan Statistical Area; ** MiSA: Micropolitan Statistical Area

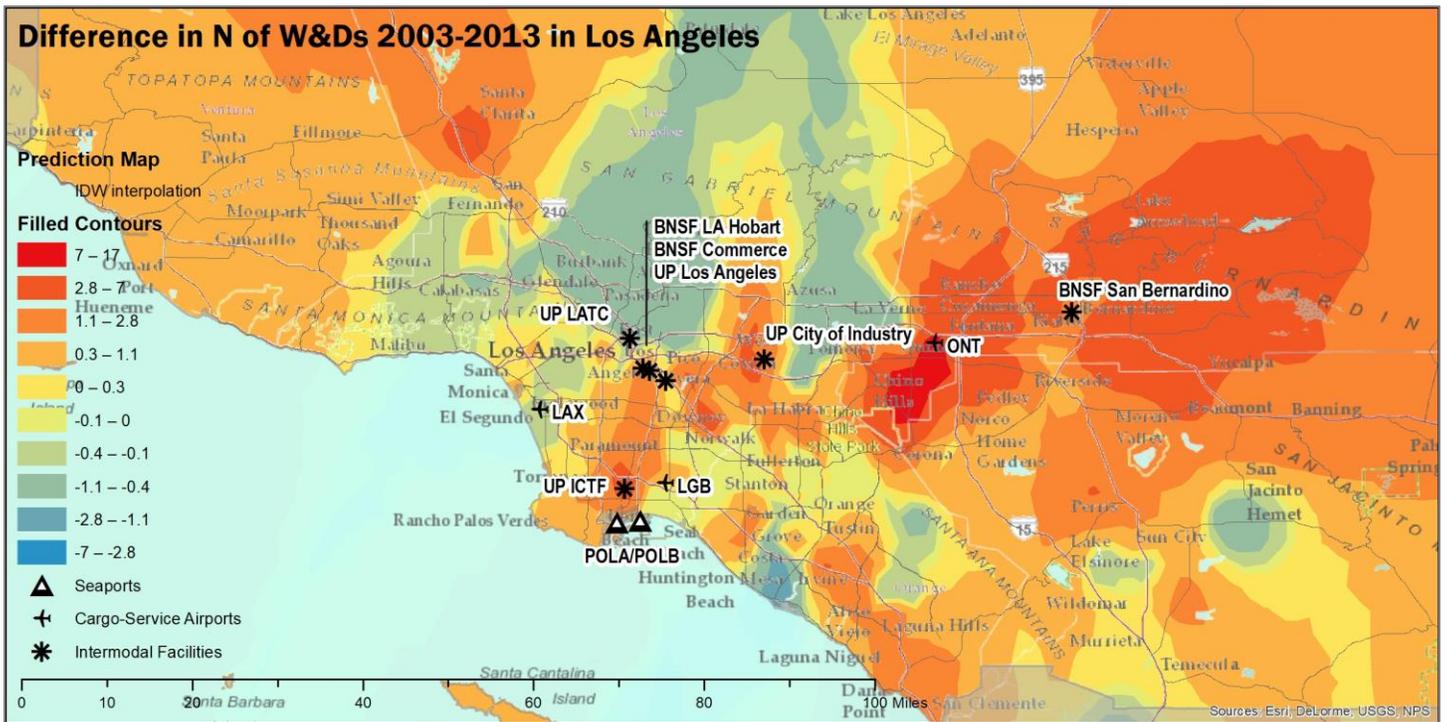


FIGURE 2 Growth and Loss of W&Ds in the Los Angeles CSA

Findings at the county level

- Figure 1 shows gains and losses of W&D establishments by county. The greatest increases took place in the Los Angeles region and in the counties connecting San Francisco and Sacramento metro areas.
- Figure 1 lends some support for the possibility that W&D activity is moving from the major metro areas to outlying areas.

Findings at the ZIP Code level

- In Los Angeles, between 2003 and 2013, W&D activity increased the most in Ontario, San Bernardino, and Riverside (Figure 2).
- When the average distance from the CBD to all W&Ds is measured, we document a significant increase from 2003 to 2013 in Los Angeles only.
- When calculated with respect to employment, the magnitude of the change is larger, which suggests that larger facilities are locating further from the center.

PART II UNDERSTANDING TRENDS

We examine possible explanatory factors for W&D location trends and seek to explain why particular locations are attractive.

- Local access variables (employment density and labor force access) have the expected positive effects, however the effect of employment density declines and the effect of

labor force access increases, consistent with decentralization trends at the sub-metropolitan level.

- The effect of access varies by transport facility; W&Ds tend to locate away from seaports and airports, but closer to intermodal terminals and highways.
- The underlying dynamics of W&D location have not changed much over the 2003-2013 period.

CONCLUSIONS

Warehouse location patterns overall are quite stable. W&D location is largely a function of the population and employment distribution. Explanatory factors associated with W&D location are consistent with the industry location literature. Absent major external shocks, W&Ds will remain concentrated in the largest metro areas, and those in less populated areas will continue to cluster around high access nodes of the highway network.

ACKNOWLEDGEMENT

This research was made possible by funding from Caltrans through the METRANS Tier 1 University Transportation Center. Any errors are the responsibility of the authors.