



Analysis of Parking Costs

SCAG Modeling Task Force

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Purpose of Parking Cost Estimate

- **Used in model choice model**
- **For both trip based model and activity-based model**
- **Cost estimation by hourly, daily, and monthly at Tier-2 TAZs**
- **Current parking cost was developed in 2003**

Assumptions

- **Parking is free in low-density areas**
- **Parking cost is a significant cost element for commuting because of longer time use**
- **Our estimation focus on higher employment density areas, or job centers**
- **Parking cost will become more expensive if density increases**

Job Centers

- Based on definition by Giuliano and Small (1990).
- A job center as continuous set of zones, each with density above some cutoff (D), that together have at least E total employment and for which all the immediately adjacent zones outside the sub-centers have density below D
- T2 TAZ: $D = 10$ jobs/acre; $E = 10,000$ jobs

SCAG Job Centers

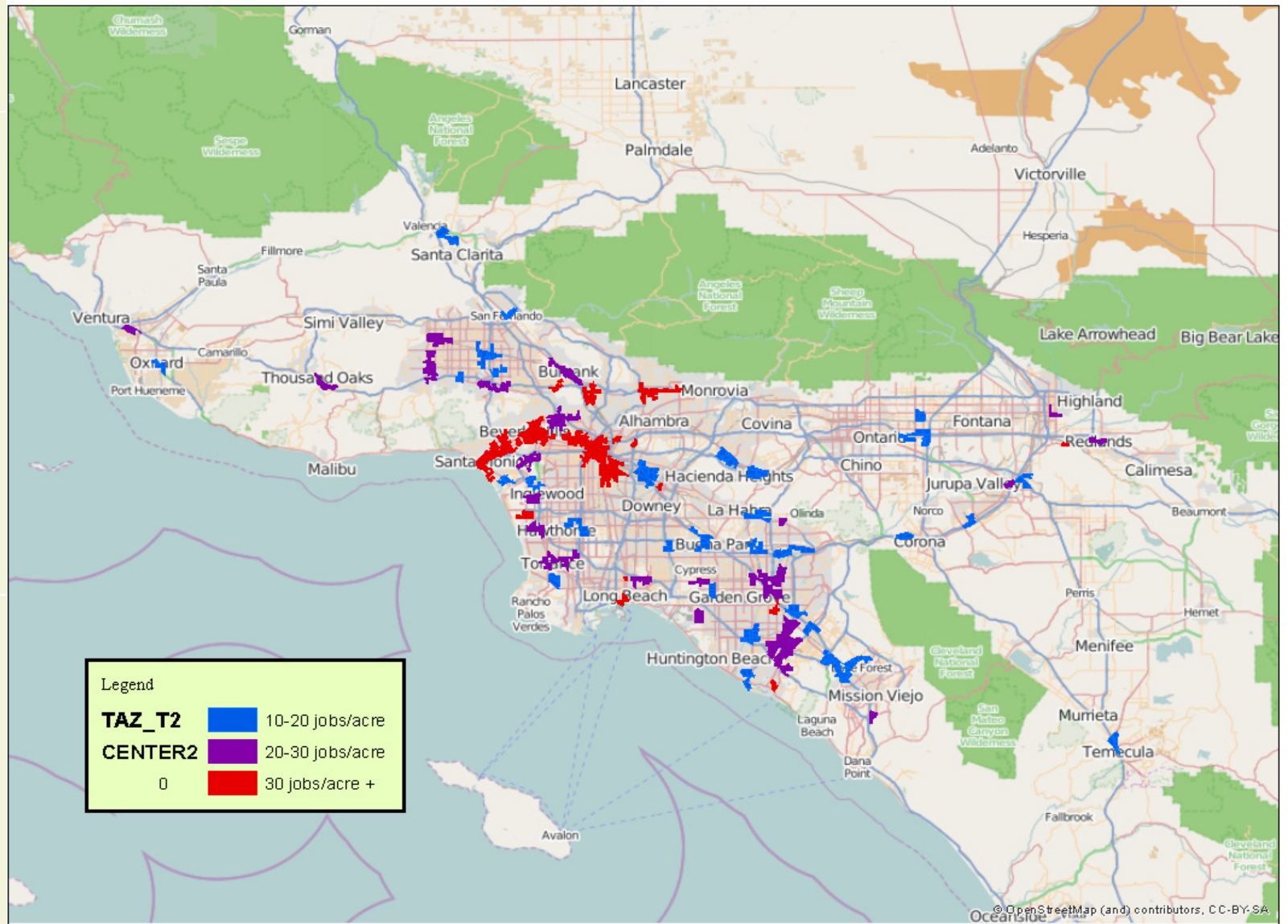
**ED Density \geq
10 jobs/acre;**

**Center Jobs \geq
10,000 Jobs**

**Cover 36% of
total jobs**

**Land Area:
0.43% of SCAG
Region**

**Average ED =
25.21 jobs/acre**



Job Centers Statistics

# Center Categories	% Areas	% EMP	Emp_den	HH_den
1. 10 - 20 jobs./acre	0.17%	9%	16.42	1.53
2. 20-30 jobs/acre	0.15%	12%	24.36	3.36
3. 30+ jobs/acre	0.12%	15%	39.16	8.25
Centers	0.43%	36%	25.21	3.95
Non-Centers	99.57%	64%	0.19	0.23
Total	100.00%	100%	0.30	0.24

Parking Costs Estimate

ParkMe Where are you going? **BROWSE**

Buttons: Daily, Reserve, Monthly, Street, Duration: 1 hour, Sort By: Distance

The One-Eyed Gypsy 901 E 1st St, Los Angeles, CA 90012, 0.31 Miles, \$6.00

830 Traction Ave Los Angeles, CA 90013, 0.58 Miles, \$8.00

Gateway Center Union ... 1 Gateway Plaza, Los Angeles, CA 90012, 0.39 Miles, \$6.00

501-503 E Cesar Chave... Los Angeles, CA 90012, 0.46 Miles, \$5.00

Lot 753 414 E Temple St, Los Angeles, CA 90012, 0.49 Miles

Joe's Auto Parks #414 414 E Commercial St, Los Angeles, CA 90012, 0.51 Miles, \$6.00

Lot D - Union Station 800 N Alameda St, Los Angeles, CA 90012, 0.54 Miles, \$6.00

Lot 2 300 E Temple St, Los Angeles, CA 90012, 0.58 Miles

400 E 1st St Los Angeles, CA 90012, 0.59 Miles, \$7.00

El Pueblo Parking - Lot 5 711 N Alameda St, 0.61 Miles, \$5.00

Joe's Auto Parks #414 414 E Commercial St, Los Angeles, CA 90012, 0.51 Miles, \$6.00

Daily Max: \$6
Monthly: \$90
Rates Reset at 12am
24 Hours
[See Details](#)

Data:

- **Parkme.com data (2013)**
 - SCAG purchased (1996 records)
 - SCAG staff collected (966 records)
 - Calculated TAZ average rate
 - Hourly, daily, and monthly

Daily Parking Cost Model

Variable	Parameter Estimate	t Value
Tier-1 TAZ employment density	0.014	2.18
Tier-2 Job Job Share to Tier 1	3.933	2.93
Tier-2 Office job share to total jobs*	5.430	3.4
Tier-1 % of Multiple Households	7.390	7
1 = LA CBD **	-3.975	-3.91
1 = Emp >= 100K (excluding CTR_LA)***	2.146	2.23

- Linear regression model
- Adj R-Sq = 0.8035

* Office jobs: information, finance/real estate, professional service, transportation

** Parking cost is lower in LA CBD

*** Santa Monica, West LA, Korean Town, Anaheim, Irvine

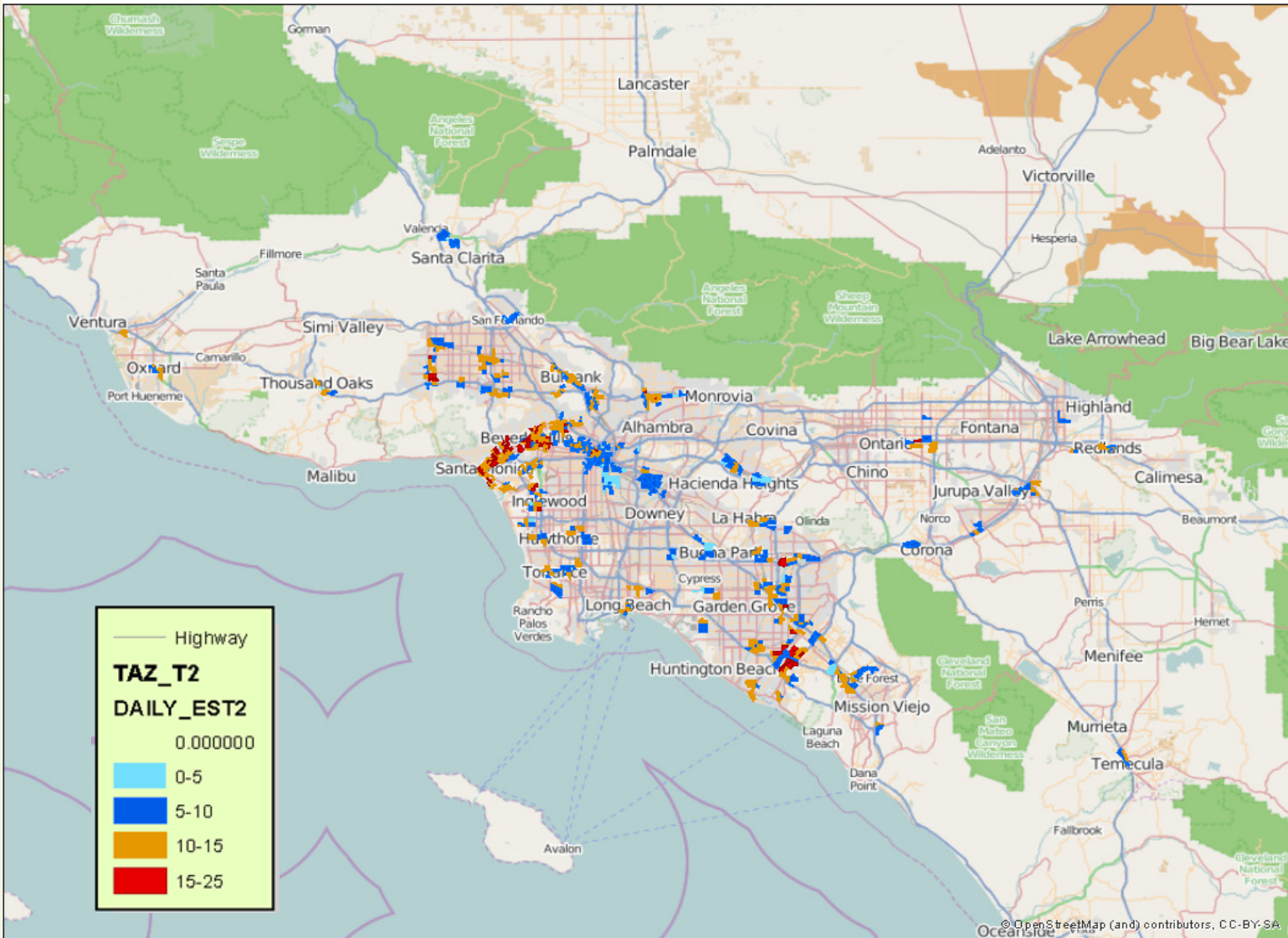
Hourly Parking Cost Model

- Hourly data is related to Daily Rate
- A simple regression model:

Hourly rate = f (daily rate, employment density by industry, LA CBD)

Variable	Parameter Estimate	t Value
Tier-2 TAZ Daily Rate	0.468	19.7
Tier-2 Emp Density - finance, real estate	-0.037	-1.9
Tier-2 Emp Density - education, health and social services	0.011	1.77
Tier-2 Emp Density - arts, entertainment, food service and hospitality	0.110	3.86
1 = LA CBD	2.258	5.15
Adj. R-sq = 0.8325		

Estimated Parking Costs (Daily Rate)





Thank you

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