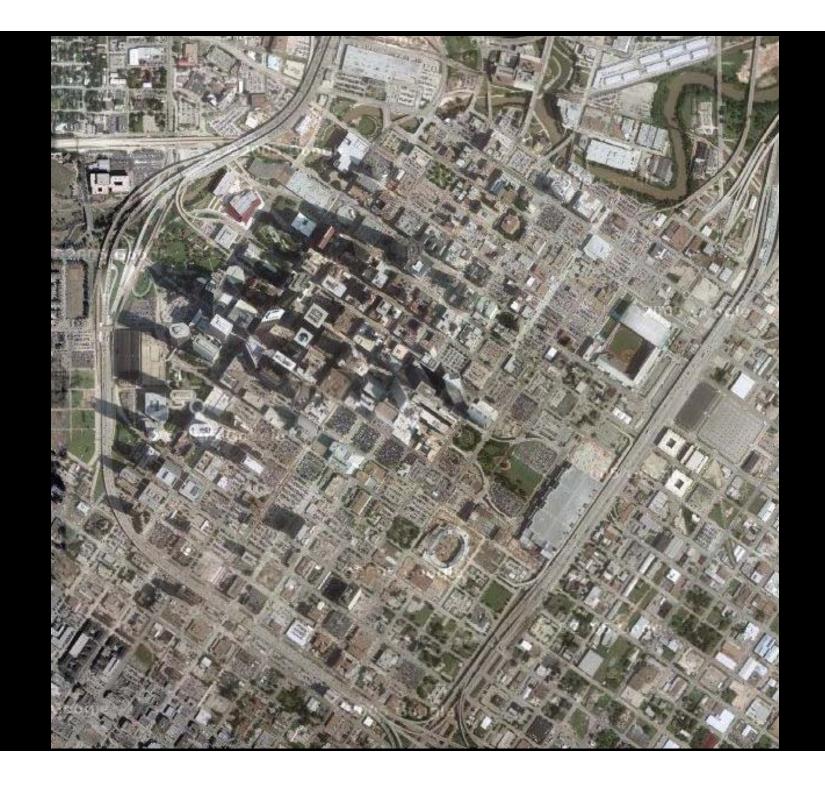
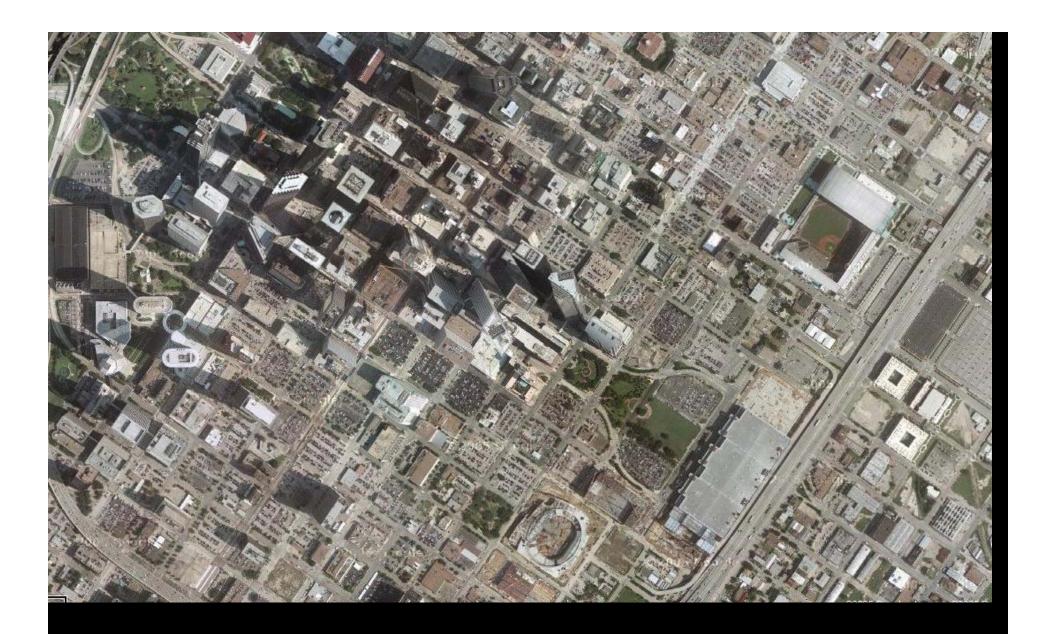


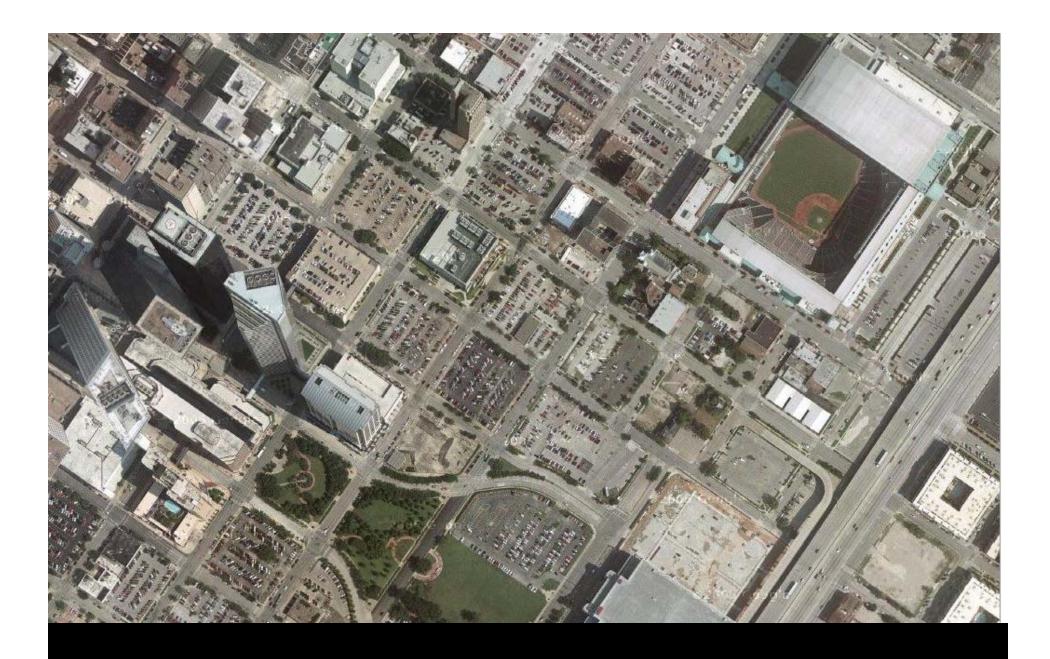
The High Cost of Free Parking

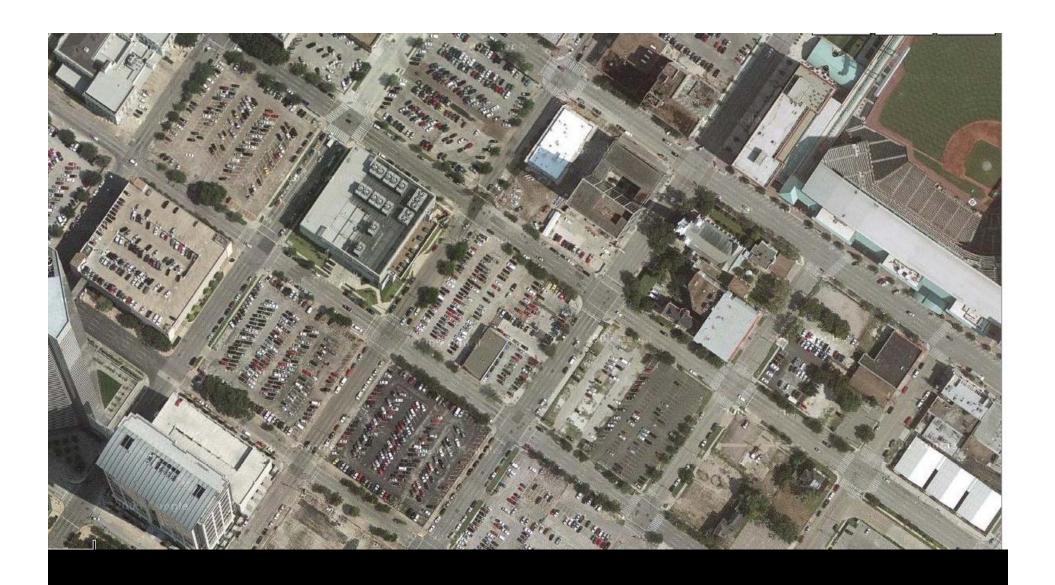
DONALD SHOUP

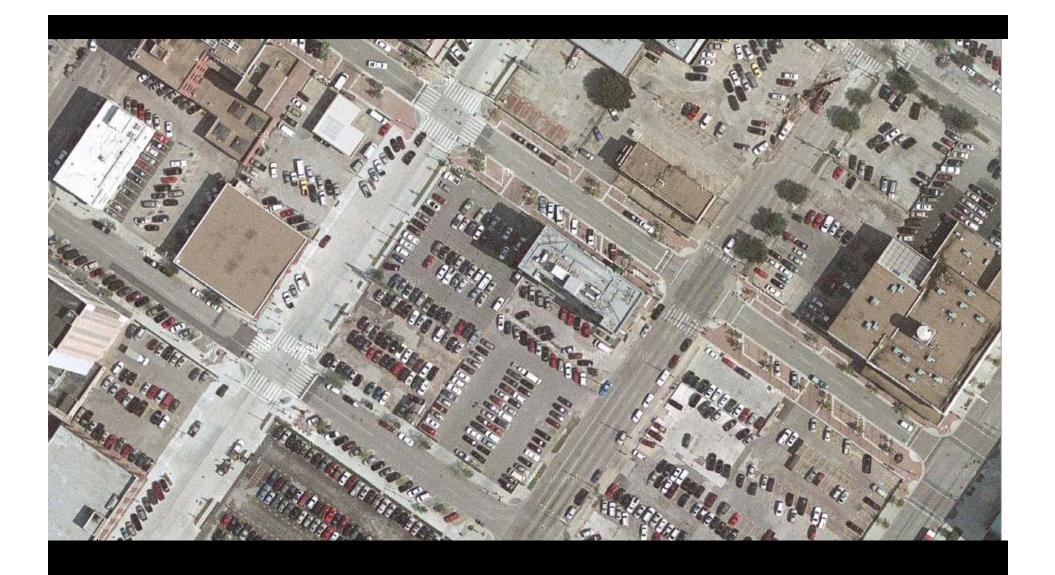


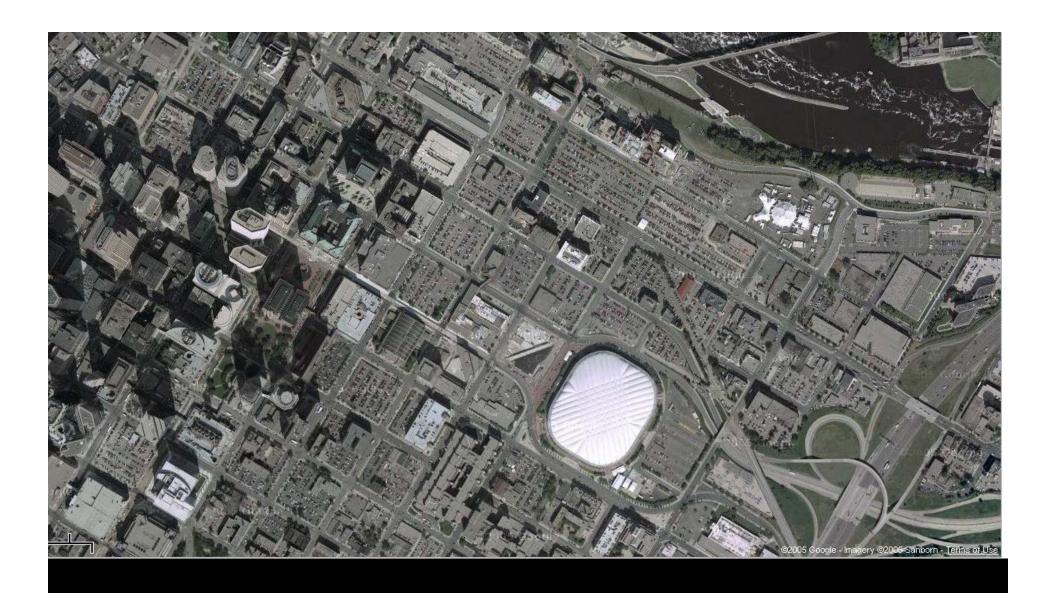


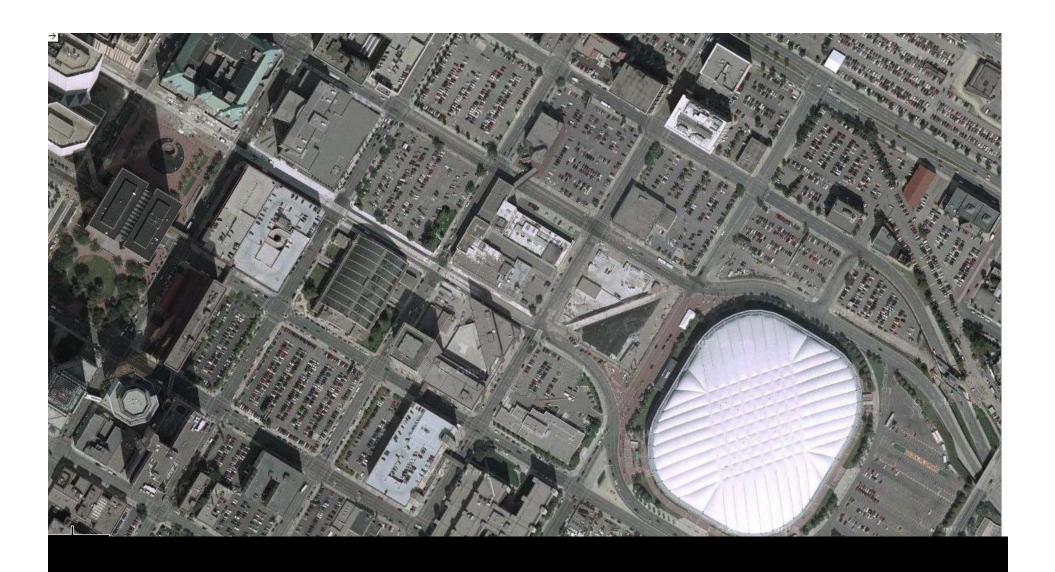


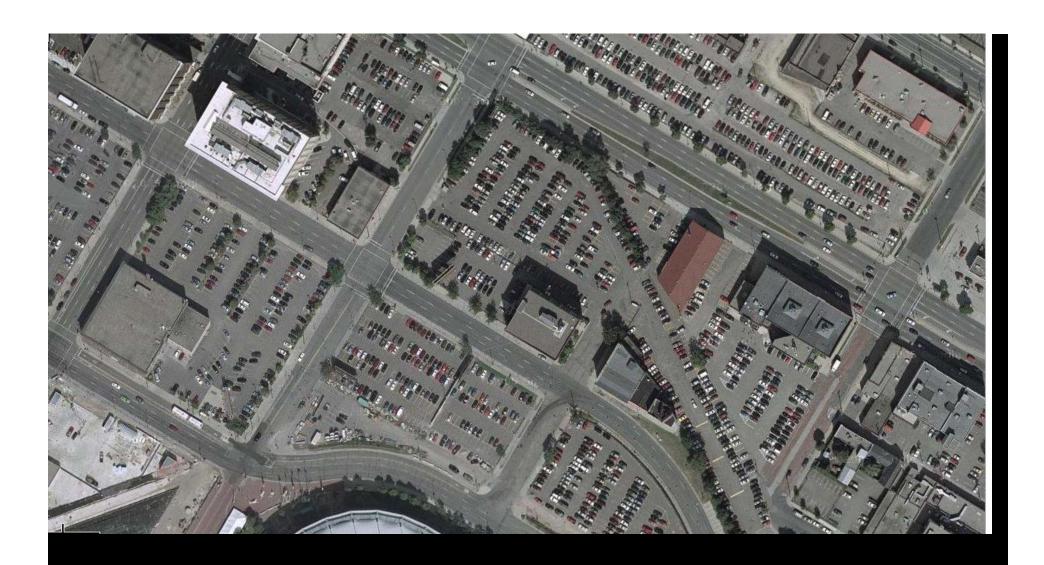


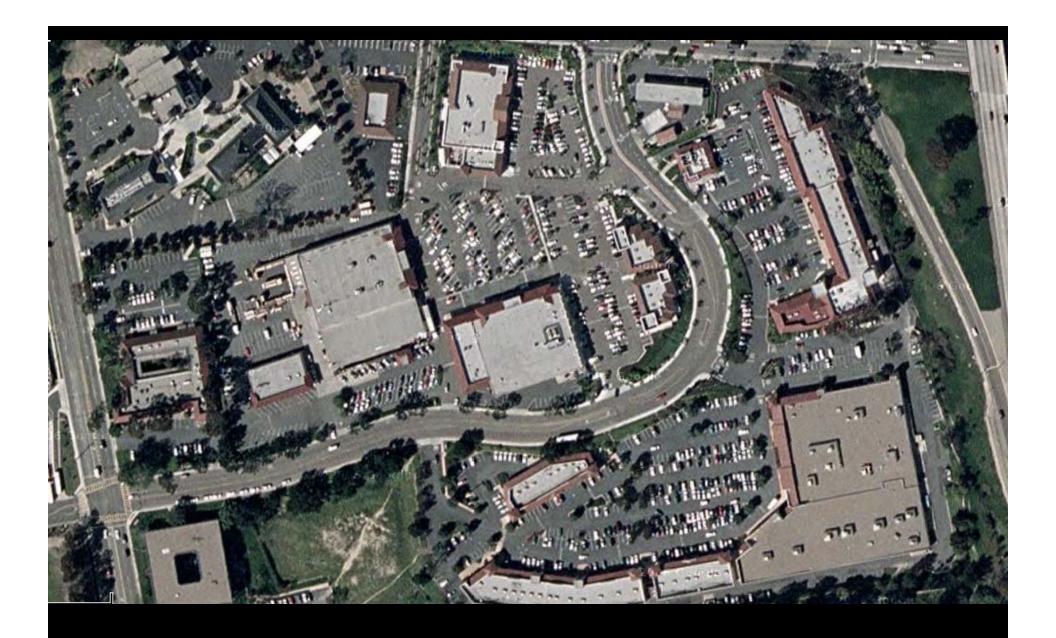


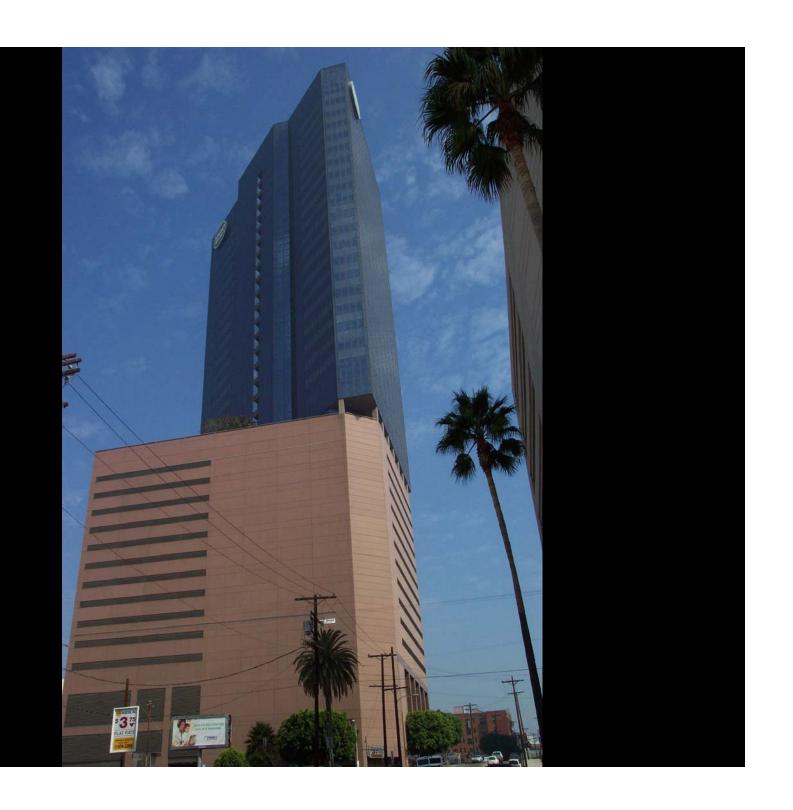


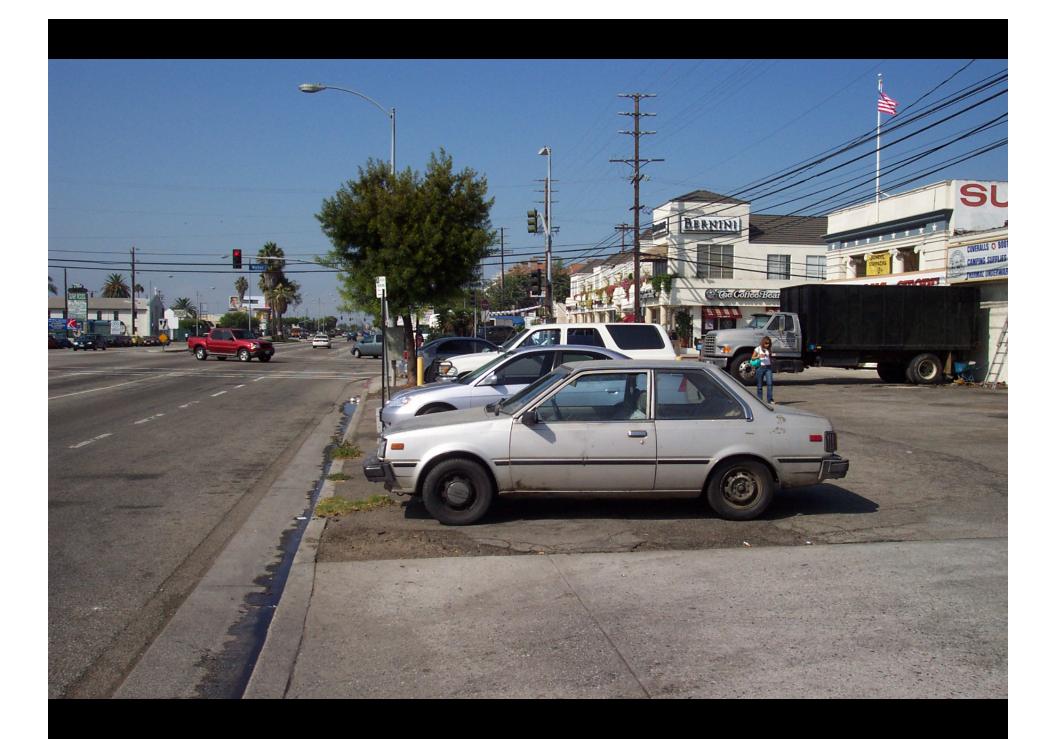


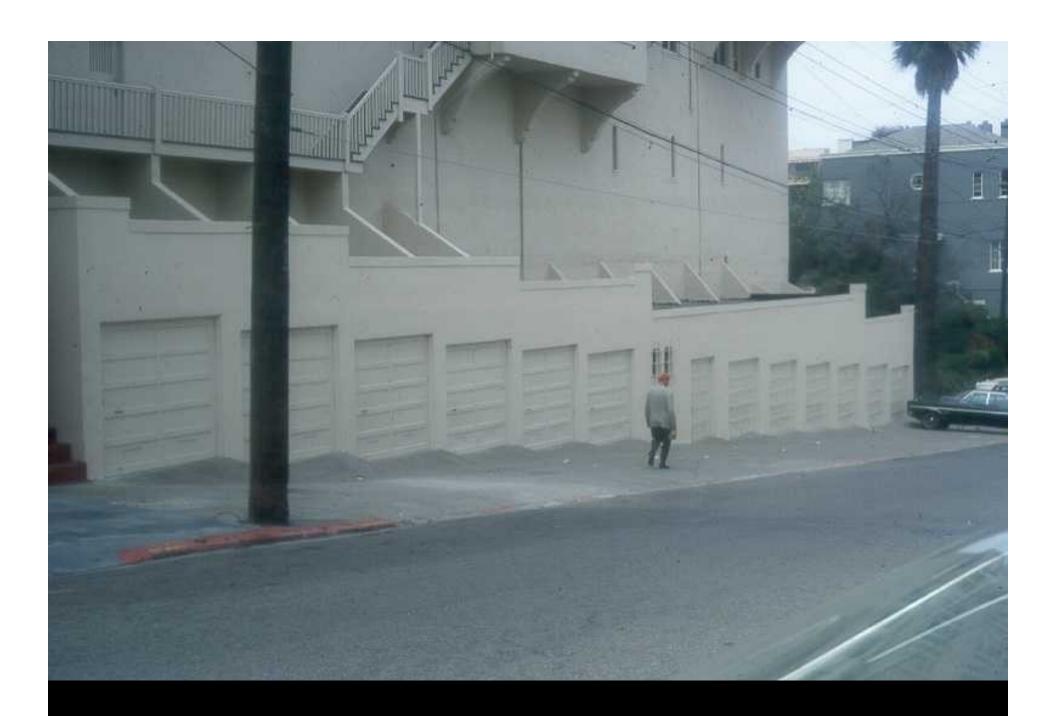












All transportation systems have three basic elements:

<u>Vehicles</u> <u>Rights of way</u> <u>Terminal capacity</u>

Trains Tracks Stations

Airplanes Sky Airports

Ships Oceans Seaports

Cars Roads Parking spaces

Who pays for free parking?

Everyone but the motorist.

Zoning has three basic components

- 1. Permitted uses, such as residential, commercial and industrial zones
- 2. Permitted bulk—regulated by floor-area ratios, height limits, setbacks, and open-space requirements
- 3. Off-street parking requirements

Two Mistakes in Parking Policy

- 1. Keep curb parking free or cheap
- 2. Require lots of off-street parking

A parking requirement sampler

Barber shop

Beauty shop

Nunnery

Rectory

Sex novelty shop

Gas station

Swimming pool

Mausoleum

2 spaces per barber

3 spaces per beautician

1 space per 10 nuns

3 spaces per 4 clergymen

3 spaces per 1,000 square feet

1.5 spaces per fuel nozzle

1 space per 2,500 gallons

10 spaces per maximum number

of interments in a one-hour

period

FIGURE 1

SELECTED LAND USES WITH MINIMUM PARKING REQUIREMENTS

Accessory Use Adult Entertainment Airport Amusement Center Amusement Park Art Gallery Asylum or Sanitarium Athletic Field Automatic Teller Machine Auction House Auditorium Auto Body Shop Auto Parts Store Auto Rental Automobile Repair Automobile Sales Bait Shop Bank Bank, Drive In Bar or Tavern Barber Shop Basketball Court Bed and Breakfast Beauty Parlor Bicycle Repair Billiard Hall Bingo Parlor Boarding House Bookstore Botanical Garden Bowling Alley Campground Camp Cartage, Express, and Parcel Delivery Car Wash, Full-Serve Car Wash, Self-Serve Cemetery Church or Synagogue Club or Lodge College or University Community Center Consulate and Consular Office Contractor's Yard Convalescent Center or Nursing Home Convenience Store Convent Correctional Facility Crematorium Dance Hall Dav Care Center Diet Clinic Dormitory Drive-In Facility Dry Cleaning Drug and Alcohol Treatment Center

Fire or Police Station Fraternity or Sorority Funeral Home or Mortuary Furniture Store Gas Station, Full-Serve Gas Station, Self-Serve Golf Course Golf Course, Private Golf Course, Par Three Golf Driving Range Government Building Grocery Store Group Home Gunsmith Gymnasium Hardware Store Hazardous Waste Transfer Facility Headquarters, Corporate Health Club Heliport Helistop Home Occupation Horse Stable Hospital Hotel Indoor Racquet Court Indoor Soccer Facility Iunkvard Kennel Landfill Laundromat Library Liquor Store Locksmith Lumberyard Machinery Sales Manufactured Housing Manufacturing/Industrial Marina Massage Parlor Mausoleum Miniature Golf Course Mining and Mineral Extraction Motorcycle Service and Sales Movie Theater Museum Newspaper Stand Night Club Nursery or Greenhouse Office Office, Dental Office, Medical Oil Change Shop Outdoor Storage Outdoor Theater Park Pawn Shop Pet Shop Pet Cemetery Photography Studio

Post Office Printing and Publishing Produce Stand Public Assembly Hall Racetrack Radio or Television Station Railroad Switching Yard Research and Development Facility Recreational Vehicle Park Recycling Center Rental of Equipment Repair Shop Residential, Houseboat Residential, Multifamily, One Bedroom Residential, Multifamily, Two Bedroom Residential, Multifamily, Three Bedroom Residential, Multifamily, Four Bedroom Residential, Multifamily, Studio Residential, Single-Family, Townhouse Residential, Single-Family Restaurant Restaurant, Fast-Food Retail, Outdoor Retail Store Rifle Range Sawmill School, Beauty School, Dance School, Elementary School, Junior High School, High School School, Trade Self-Service Storage Facility Shipping Port Shopping Center Skating Kink Slaughterhouse Stadium Stockvard Subsidized Housing Swimming Pool Taxi Stand Telecommunications Facility Tennis Club Transit Terminal Travel Agency Truck Terminal Ultra-Light Flight Park Utility Veterinarian Warehouse Wastewater Treatment Zoo

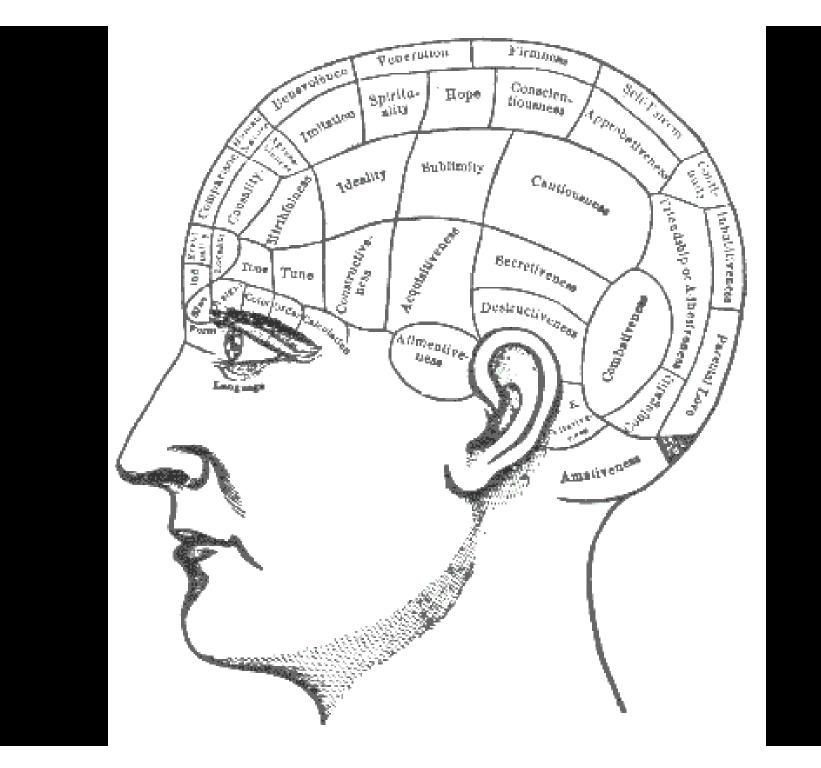
Plumbing and Heating Supply

Elderly Housing Emergency Medical Services

Employment Agency

Exterminator

Table 3-3. Parking Requirements for the Afterlife	
Parking spaces required for funeral parlors	Number of cities
1 per 100 sq. ft.	3
1 per 200 sq. ft.	1
1 per 250 sq. ft.	1
1 per 100 sq. ft. + 1 per dwelling unit	1
1 per 100 sq. ft. or 1 per 6 seats	1
1 per 5 seats or 1 per 35 sq. ft. seating area, + 1 per 400 sq. ft. other areas	; 1
1 per 3 seats	1
1 per 4 seats	1
5 + 1 per 5 seats in largest chapel	1
1 per 6 seats in chapel	1
1 per 3 seats + 1 per funeral vehicle	1
1 per 4 seats + 1 per funeral vehicle + 1 per employee	1
1 per 5 seats + 1 per funeral vehicle + 1 per dwelling unit	1
1 per 25 sq. ft. of parlor area 1 per 50 sq. ft. of parlor area	1
3 per parlor	4 2
4 per parlor	1
5 per parlor	3
15 + 5 per parlor over 3 parlors	1
5 per parlor or 1 per 4 seats	1
5 per parlor + 1 per funeral vehicle	2
8 per parlor + 1 per funeral vehicle	9
10 per parlor + 1 per funeral vehicle	4
5 per parlor + 1 per funeral vehicle + 1 per family on premises	1
5 minimum	1
30 minimum	1
1 per 4 persons of design capacity	1
No specific requirements	19
Total	66
Source: Planning Advisory Service (1971, 36).	



ALL USES

service establishment) appliance sales establishment a automobile salvage vard (see also junk aquaculture use abattoir (see slaughterhouse) aguarium accessory dwelling unit arboretum (see also botanical gardens; automobile service station (see also gas administrative office (see office uses) station) community garden) adult use arcade, amusement (see also amusement adult use, adult arcade enterprise uses) adult use, adult cabaret archery range (see also rifle range; shooting bait shop (see also retail use, unless adult use, adult motion picture theater range) adult use, adult theater otherwise specified) arena (see stadium) bakery adult use, book store bakery, wholesale adult use, entertainment facility art gallery (see also cultural uses) adult use, massage parlor (see also massage ball field (see also athletic field; art school (see educational facilities, school grandstands; recreation facility uses) establishment) for the arts) ballroom (see also banquet hall; dance hall) adult use, sex novelty shop art supplies store bank (see also accessory banking; advertising agency (see also office use) artisan workshop (see also live-work studio) automated teller machine (ATM); credit agricultural use, unless otherwise specified artist studio (see also artisan workshop; live-(see also farm uses) work studio) bank, drive-thru only (see also drive-thru agricultural processing plant (see also asphalt manufacturing facility (see also use, unless otherwise specified) industrial uses) industrial use, heavy) bank with drive-thru (see also drive-thru agricultural-related industry (see also assembly hall (see also auditorium; civic agricultural use, unless otherwise use, unless otherwise specified) center) bank, without drive-thru specified) assisted living (see elderly housing, assisted banquet hall (see also ballroom; dining agricultural sales and service use (see also living) room; meeting hall) farm supply store; feed store) asylum (see mental health facility) bar (see also beer garden; bottle club; brew aircraft charter service athletic field (see also ball field; pub; night club) airport (see also airport terminal) grandstands; recreation facility uses) barber shop (see also beauty shop; personal airport hangar auction, automobile services establishment) airport, local/private use auction house baseball field (see ballfield) airport terminal (see also airport; auditorium (see also assembly hall; civic basketball court transportation terminal) batch plant (see concrete production plant) ambulance service automated teller machine (ATM) bathhouse (see also health spa; sauna bath) amphitheater (see also stadium) automated teller machine (ATM), exterior, batting cage facility amusement enterprise (see also recreation on bank property beach, commercial facility uses) automobile convenience store (see gas beach, community amusement enterprise, indoor station, mini-mart) beauty shop (see also barber shop; personal amusement enterprise, outdoor automobile dealership (see also motor services establishment) amusement park vehicle sales establishment) beauty school (see also educational facility; amusement park, children's automobile gravevard (see automobile trade school) amusement park, water salvage yard; junk yard) bed and breakfast home ancillary use (see accessory use) automobile impound facility (see also bed and breakfast inn (see also tourist home) animal boarding facility towing service) beer garden (see also outdoor seating area) animal breeder establishment automobile laundry (see car wash uses) bicycle rental and repair shop animal grooming salon automobile maintenance, quick service bicycle repair shop animal hospital establishment (see also automobile repair animal sales establishment (see pet shop) bicycle sales shop service establishment) animal shelter billiard hall (see pool hall) automobile mall (see automobile dealership big box retail establishment (see also animal training facility department store; shopping center uses) antique shop (see also second-hand store) automobile parts store bingo hall apartment (see dwelling, apartment uses) automobile rental establishment (see also blood donor center apartment hotel (see extended-stay hotel) motor vehicle rental establishment) blueprinting shop (see also copy shop; apparel store (see clothing store) automobile repair service establishment printing and publishing facility) appliance and equipment repair (see also gas station; motor vehicle repair boarding house (see also lodging house;

service establishment; tire store and

rooming house)

establishment (see also equipment uses)











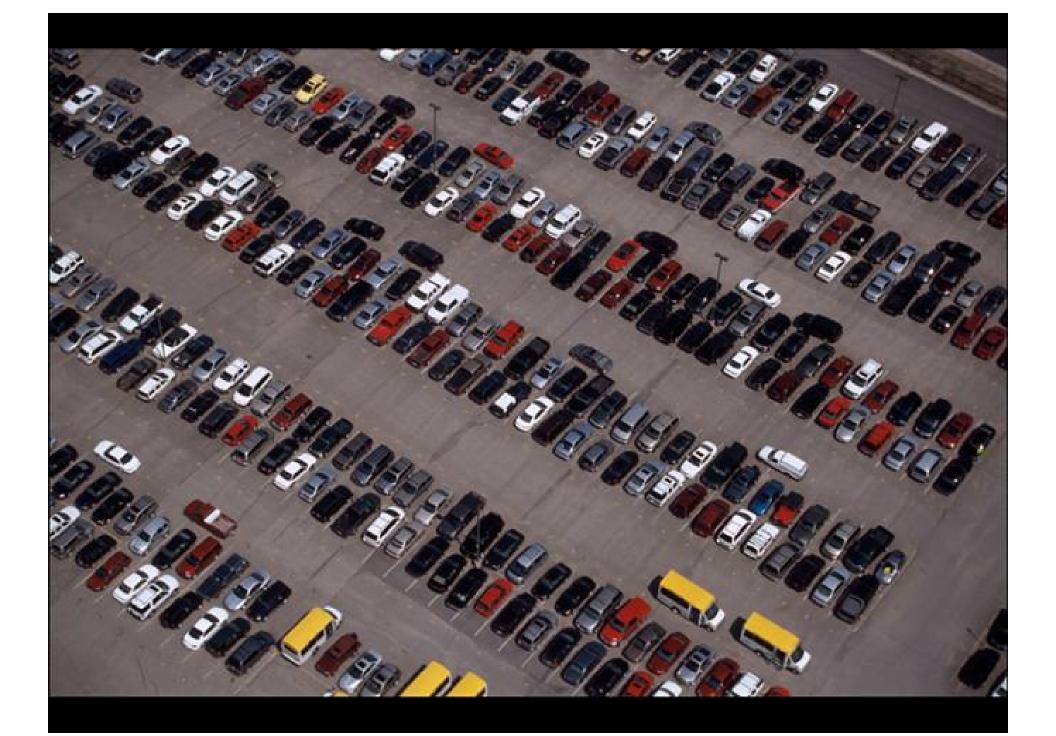
Off-street parking requirements waste resources in two ways

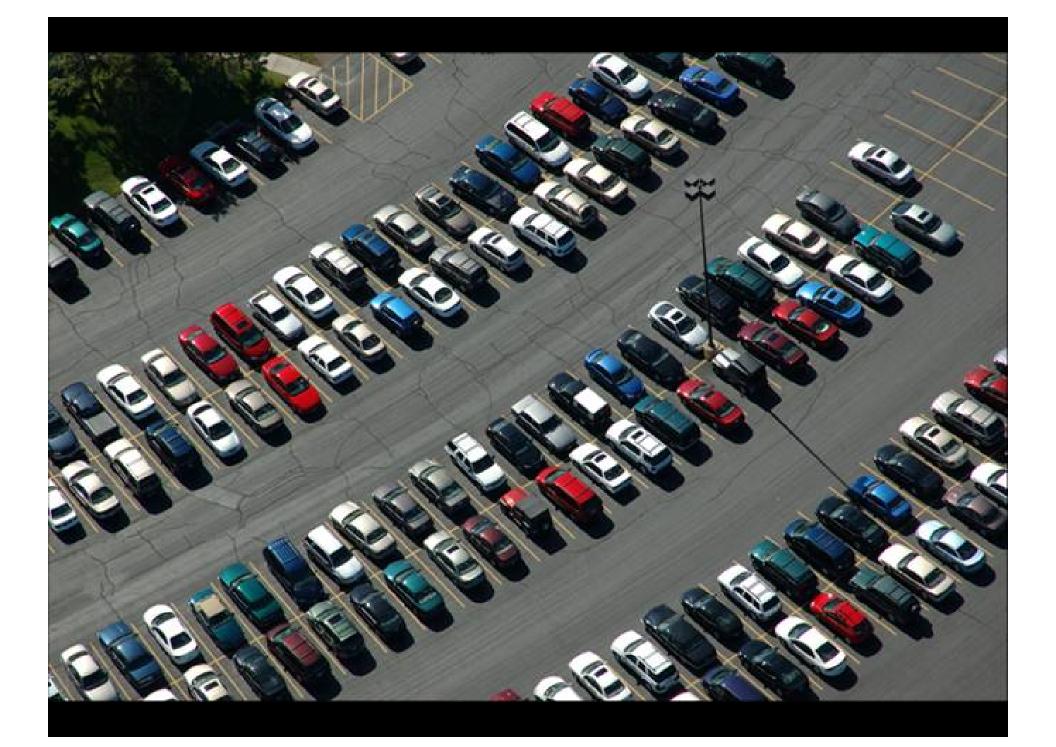
- 1. Directly, by increasing the land and capital devoted to parking
- 2. Indirectly, by increasing automobile use and urban sprawl.

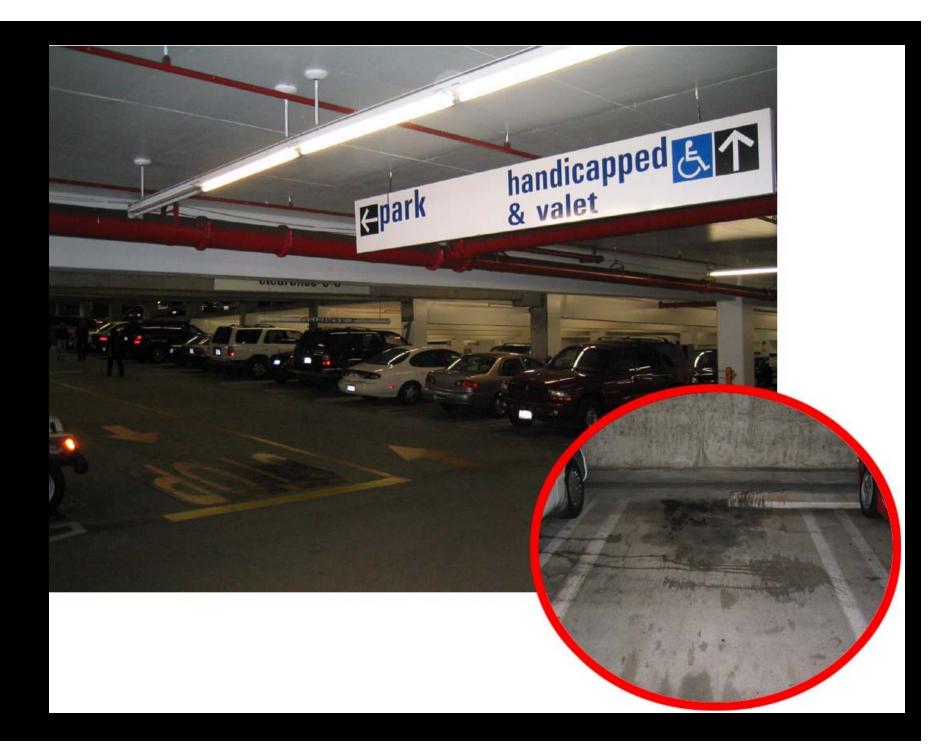














A Great Planning Disaster

- Skew travel choices
- Distort urban form
- Degrade urban design
- Raise housing costs
- Impede reuse of older buildings
- Limit homeownership
- Damage the urban economy
- Harm the environment

How much does free parking cost?

The total subsidy for off-street parking in 2002 was between \$127 billion and \$374 billion.

This subsidy amounted to between 1.2 and 3.6 percent of total national income.

In 2002, the federal government spent \$231 billion for Medicare, and \$349 billion for national defense.

A long habit of not thinking a thing wrong gives it a superficial appearance of being right.

Thomas Paine

"The information needed to understand the problem depends upon one's idea for solving it. . . . The problem can't be defined until the solution has been found."

Mel Webber

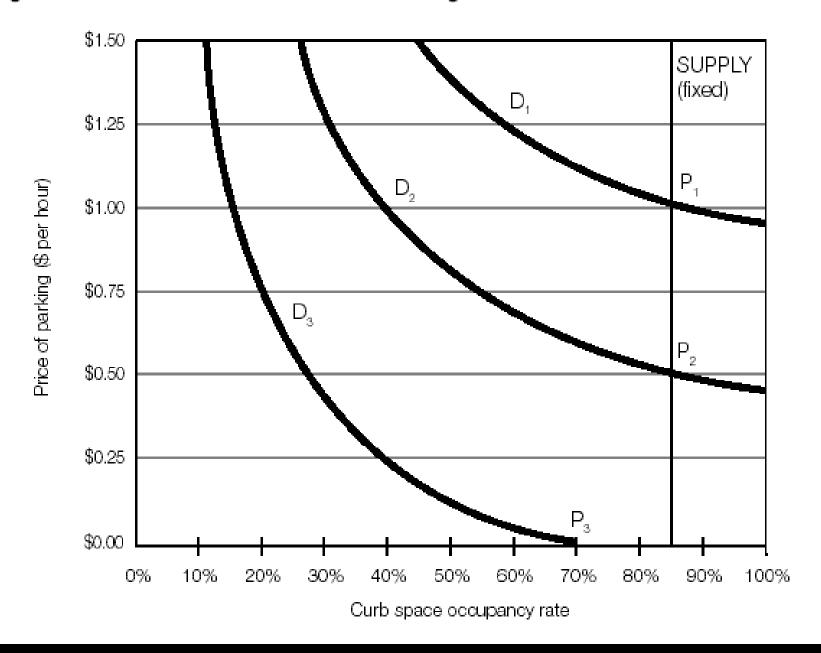
Redwood City parking ordinance

To accomplish the goal of managing the supply of parking and to make it reasonably available when and where needed, a target occupancy rate of eighty-five percent (85%) is hereby established.

The Parking Manager shall survey the average occupancy for each parking area in the Downtown Meter Zone that has parking meters. Based on the survey results, the Parking Manager shall adjust the rates up or down in twenty-five cent (\$0.25) intervals to seek to achieve the target occupancy rate.

Revenues generated from on-street and off-street parking within the Downtown Meter Zone boundaries shall be accounted for separately from other City funds and may be used only ...within or for the benefit of the Downtown Core Meter Zone.

Figure 12-1. The Market Price of Curb Parking





Performance-based prices

Performance-based prices adjust over time to maintain a few vacant spaces.

The goal is to keep about 85 percent of the parking spaces occupied all the time.

About one curb space is vacant on each side of each block so that everyone can see that convenient parking is available everywhere.

FIGURE 13-1 PRICES OF CURB AND OFF-STREET PARKING IN SOUTHERN CALIFORNIA

(for parking one hour at noon on a weekday)

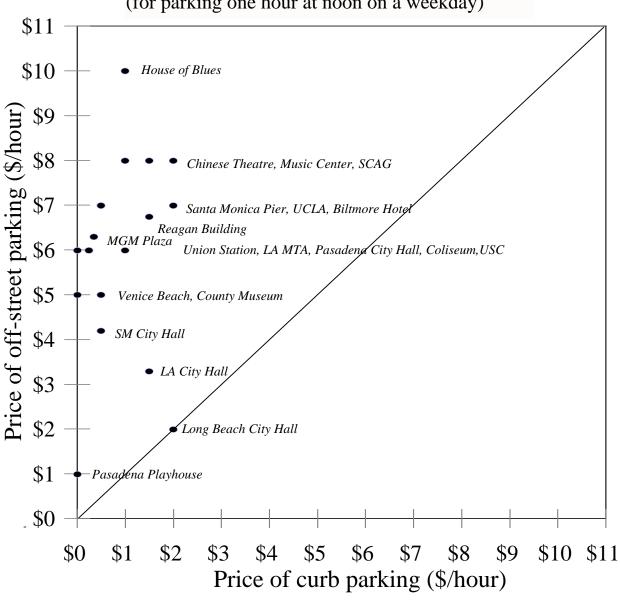
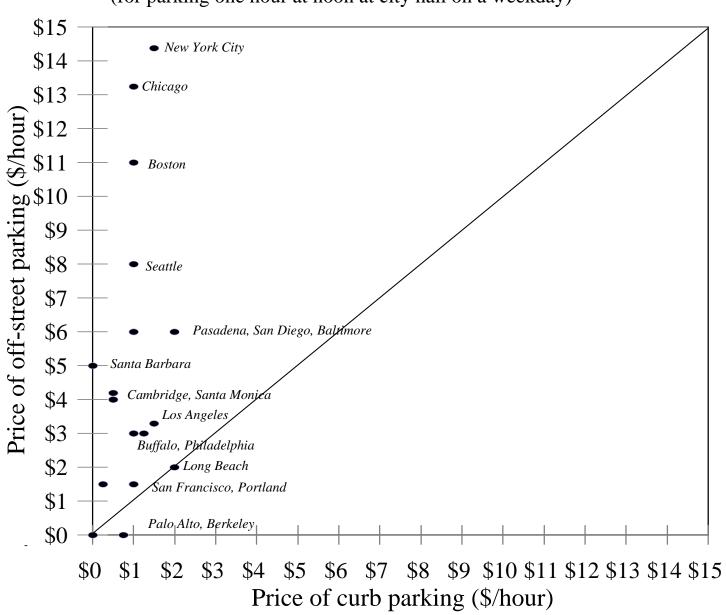


FIGURE 13-2 PRICES OF CURB AND OFF-STREET PARKING

(for parking one hour at noon at city hall on a weekday)



Cruising for underpriced curb parking

Suppose you want to park for 1 hour.

Curb parking is 50¢ an hour.

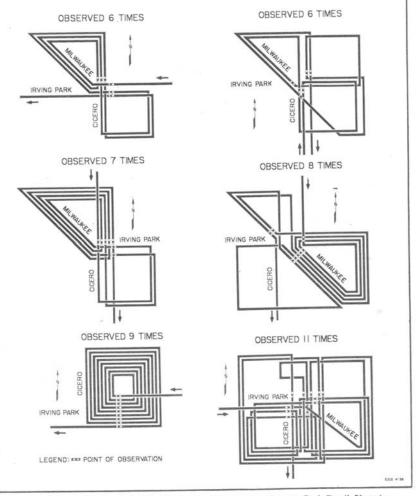
Off-street parking is \$2 an hour.

How long would you be willing to cruise for curb parking rather than pay the higher price for off-street parking?

TWENTIETH CENTURY CRUISING						
		Share of traffic	Average search			
Year	City	cruising	time			
		(percent)	(minutes)			
1927	Detroit (1)	19%				
1927	Detroit (2)	34%				
1933	Washington		8.0			
1960	New Haven	17%				
1965	London (1)		6.1			
1965	London (2)		3.5			
1965	London (3)		3.6			
1977	Freiburg	74%	6.0			
1984	Jerusalem		9.0			
1985	Cambridge	30%	11.5			
1993	Cape Town		12.2			
1993	New York (1)	8%	7.9			
1993	New York (2)		10.2			
1993	New York (3)		13.9			
1997	San Francisco		6.5			
2001	Sydney		6.5			
Average		30%	8.1			

ROUTES OF CERTAIN CRUISING VEHICLES IN THE VICINITY OF CICERO, MILWAUKEE, AND IRVING PARK CONSTRUCTED FROM OBSERVATIONS MADE ON THE SIX APPROACHES TO THE INTERSECTION OF THESE STREETS

7:00 P.M. TO' 9:30 P.M.-THURSDAY, MARCH 30, 1939



From the Report: "A Plan to Relieve Traffic Congestion in the Portage Park Retail Shopping Center." A Survey by City of Chicago, Chicago Motor Club, Chicago Surface Lines, April 1939

FIGURE 4—Observed Routes of Cruising Vehicles

PARKING SPOT for sale. West 78th Street, Manhattan. Must vacate this Sat. A.M. Box 927.



Cruising in Westwood Village

Suppose you want to park in Westwood Village for 1 hour

Curb parking is 50¢ an hour.

Off-street parking is \$4.50 an hour.

How long would you be willing to cruise for curb parking rather than pay the higher price for off-street parking?



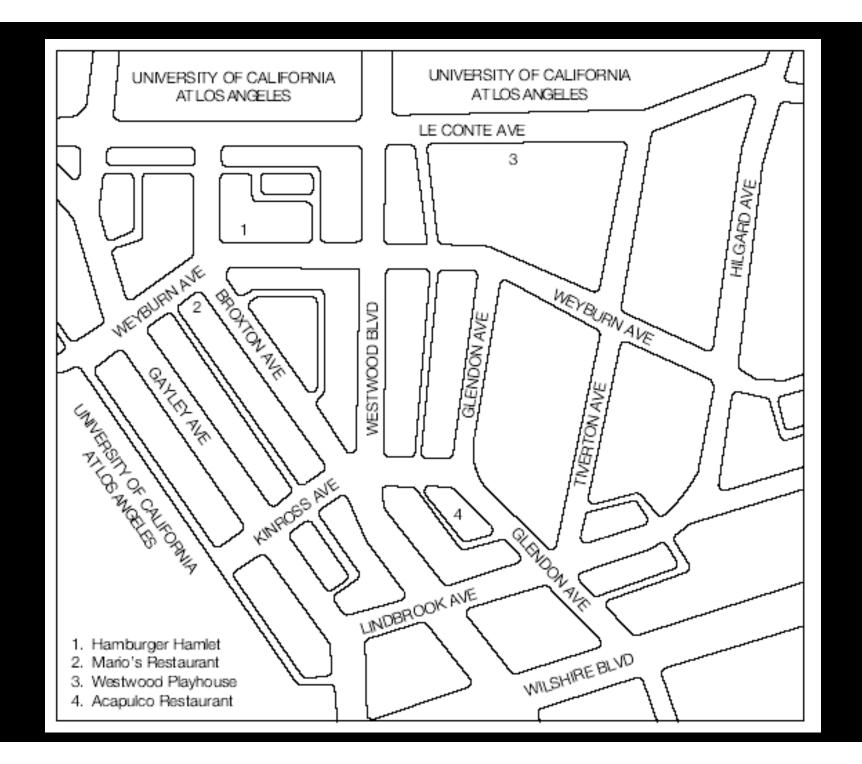


TABLE 14-1 SEARCH TIME FOR CURB PARKING IN WESTWOOD VILLAGE

	Price of	Search time (minutes)					
Hour	curb parking	Acapulco Restaurant	Hamburger Hamlet	Mario's Restaurant	Westwood Playhouse	Average	
4pm-5pm	\$0.50	6.6	5.7	5.4	7.2	6.2	
5pm-6pm	\$0.50	7.6	6.8	7.6	9.0	7.8	
6pm-7pm	\$0.00	8.7	9.8	8.5	10.6	9.4	
7pm-8pm	\$0.00	8.3	9.2	10.0	11.1	9.7	
Average		7.8	7.9	7.9	9.5	8.3	

Note: Cruising times are the average of 10 observations at each site during each hour The price of curb parking was 50 cents per hour before 6pm, and free after 6pm. The price of off-street parking was \$1 per hour before 6pm, and \$2 per entry after 6pm.

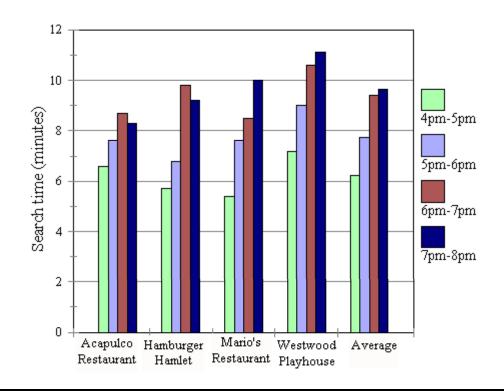


TABLE 14-2 A DAY OF CRUISING IN WESTWOOD VILLAGE

	Average search time	Parking turnover per meter	Search time per meter	Total search time	Cruising distance per parking	Cruising distance per meter	Total cruising distance
Hour	(minutes)	(cars)	(minutes)	(hours)	(VMT)	(VMT)	(VMT)
(1)	(2)	(3)	(4)=(2)x(3)	(5)	(6)	(7)=(3)x(6)	(8)=(7)x470
8am-9am	0.0	1.9	0.0	0	0.0	0.0	0
9am-10am	0.0	2.3	0.0	0	0.0	0.0	0
10am-11am	0.9	1.2	1.1	8	0.2	0.2	113
11am-noon	2.0	2.1	4.2	33	0.3	0.6	296
noon-1pm	4.4	1.5	6.6	52	0.6	0.9	423
1pm-2pm	3.5	1.8	6.3	49	0.4	0.7	338
2pm-3pm	4.1	1.4	5.7	45	0.5	0.7	329
3pm-4pm	3.4	1.0	3.4	27	0.5	0.5	235
4pm-5pm	6.2	1.2	7.4	58	0.9	1.1	508
5рт-6рт	7.7	1.3	10.0	78	1.2	1.6	733
6pm-7pm	9.4	0.3	2.8	22	1.4	0.4	197
7pm-8pm	9.7	0.7	6.8	53	1.4	1.0	461
Average	3.3	1.4	4.5	35	0.5	0.6	303
Total		17	54	426		7.7	3,633

Figure 14-2
Curb Space Occupancy Rates and Search Times

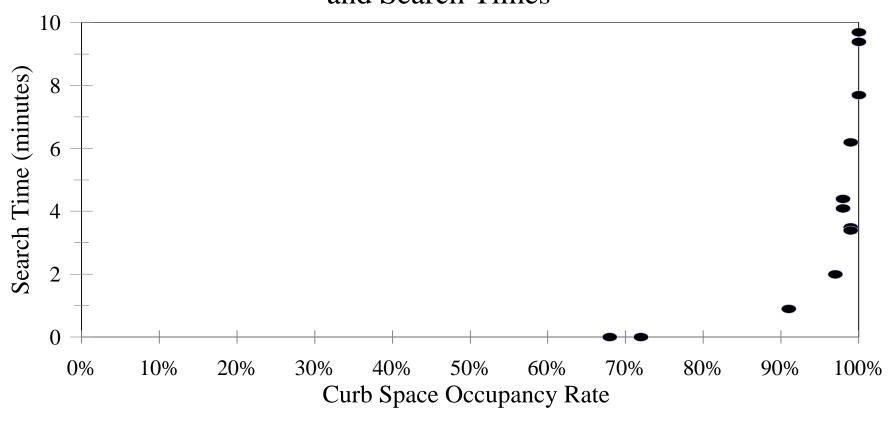
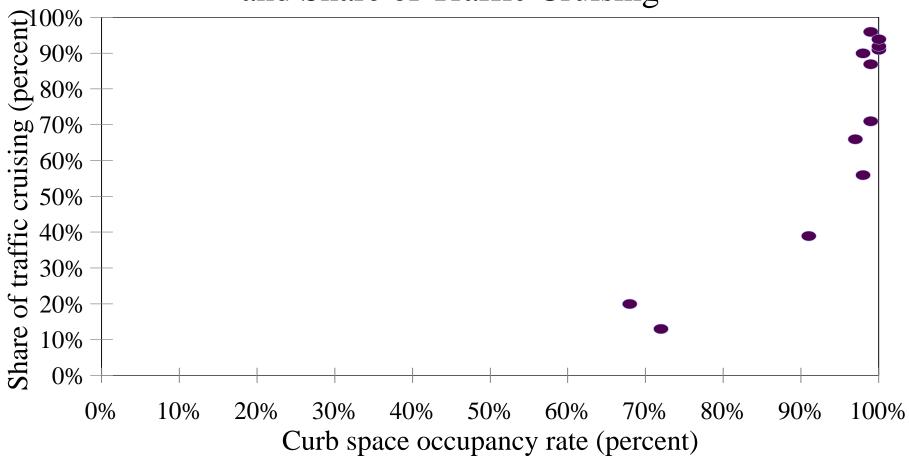


Figure 14-3
Curb Space Occupancy Rates and Share of Traffic Cruising

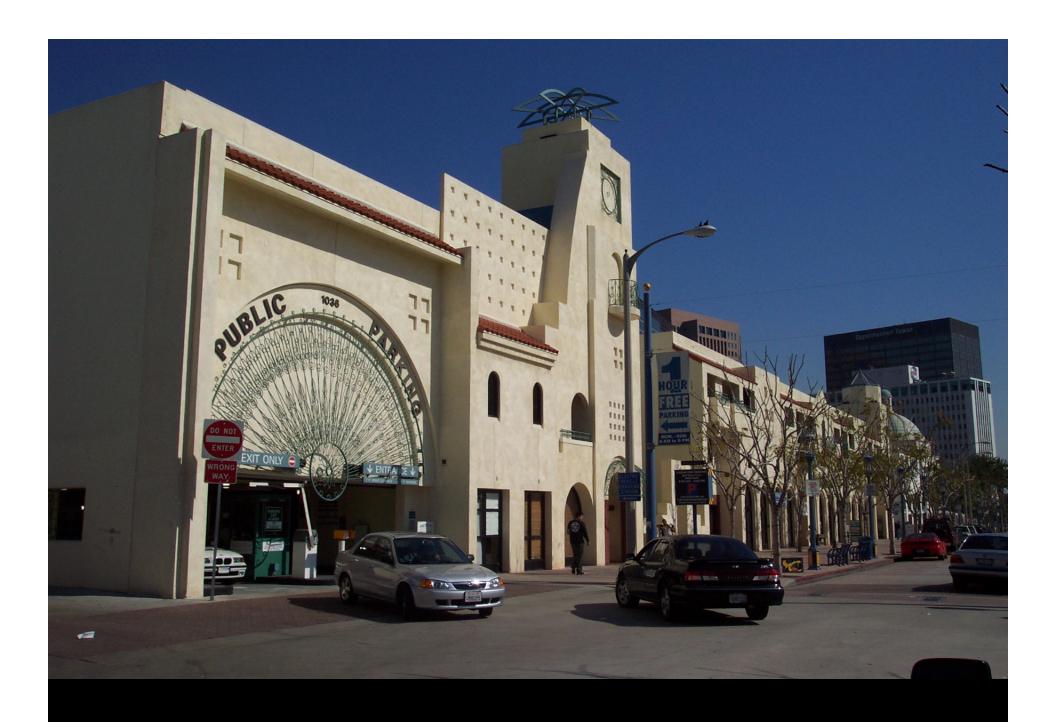


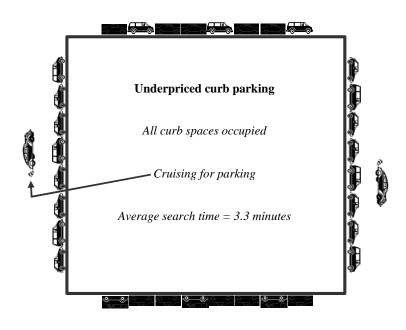
Cruising creates excess vehicle travel

- 1. It takes 3 minutes to find a curb space, and the turnover rate is 10 cars per space per day.
- 2. Cruising 3 minutes for parking at a curb space 10 times a day creates 30 vehicle-minutes of travel per curb space per day.
- 3. Cruising for 30 minutes at 10 miles an hour creates 5 VMT per curb space per day.
- 4. Cruising 5 VMT a day for 500 spaces creates 2,500VMT per day.
- 5. Cruising 2,500 VMT a day for 365 days creates 912,500 VMT per year.

How far is 912,500 VMT?

- 36 trips around the earth (25,000 miles)
- 2 round trips to the moon (239,000 miles)
- At 10 miles an hour, it would take one person 10 years, 24 hours a day, to drive 912,500 miles.







Turning Small Change into Big Changes



1978 Plan for Old Pasadena

- "The area's been going downhill for years."
- "It's a bunch of dirty old buildings."
- "It's filthy."
- "It's Pasadena's sick child."
- "The area is unsafe."





Old Pasadena Now



Parking Problems in Old Pasadena

- Employees and shop owners parked at the curb
- Merchants opposed meters because they feared customers would stay away
- Pasadena had no money to pay for public infrastructure in Old Pasadena

Three Reforms in Parking Policy

- 1. Charge the right price for curb parking.
 - The lowest price that will leave one or two vacant spaces on each block—performance-based pricing
- 2. Return the meter revenue to the neighborhoods that generate it.
 - Revenue return will make performance-based prices for curb parking politically popular.
- 3. Reduce or remove off-street parking requirements. Do not require additional parking when a building's use changes.
 - Freedom from parking requirements will allow higher density and new uses for old buildings.

Parking meters with revenue return

- City of Pasadena offered to return all parking meter revenue to Old Pasadena
- Merchants and property owners immediately agreed to install meters
- 690 meters operate until midnight, and on Sunday
- Meters yield \$1.2 million a year for Old Pasadena's 15 blocks, about \$80,000 per block.

"The only reason meters went into Old Pasadena in the first place was because the city agreed all the money would stay in Old Pasadena. We've come a long way. This might seem silly to some people, but if not for our parking meters, its hard to imagine that we'd have the kind of success we're enjoying. They've made a huge difference. At first it was a struggle to get people to agree with the meters. But when we figured out that the money would stay here, that the money would be used to improve the amenities, it was an easy sell."

Marilyn Buchanan, Chair, Old Pasadena Parking Meter Zone Advisory Board











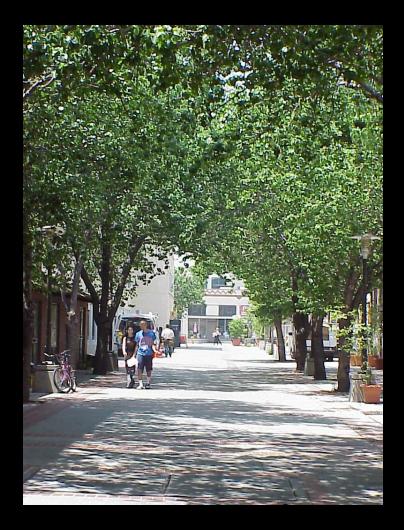


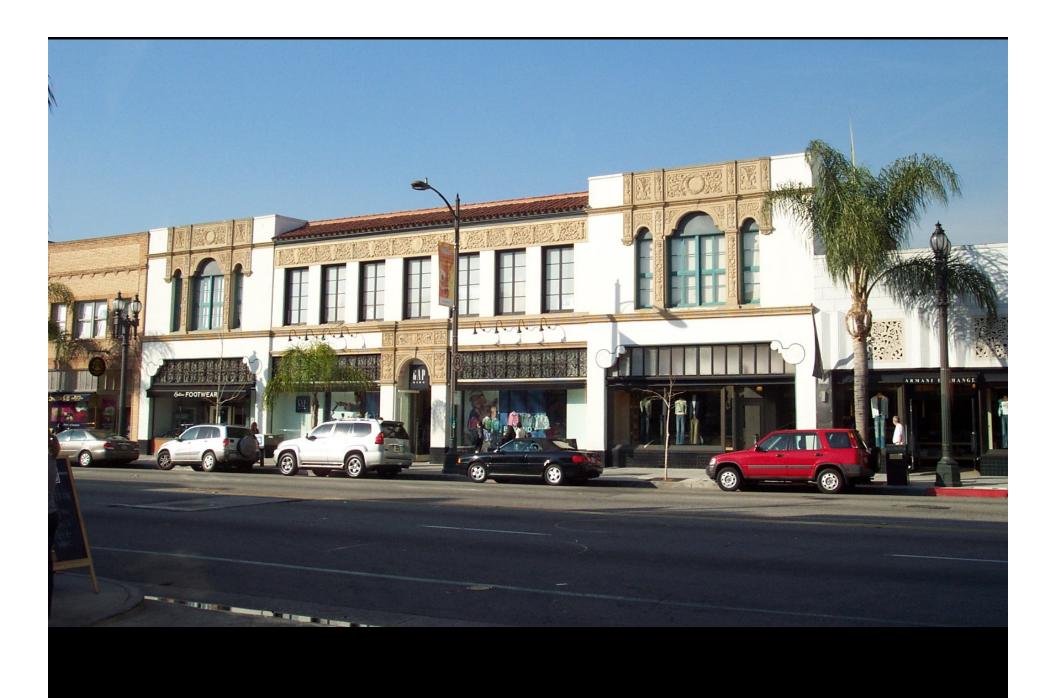








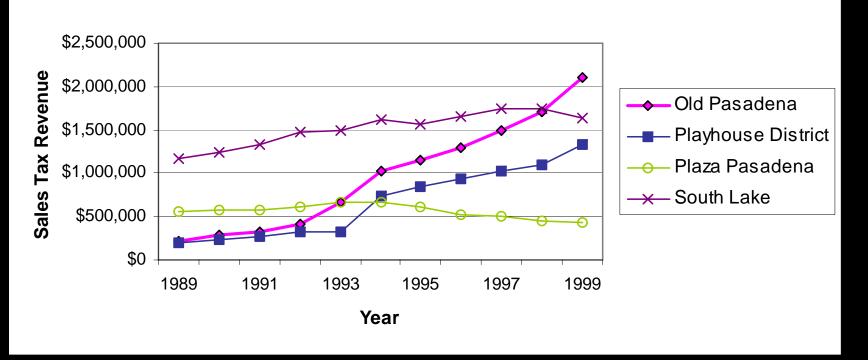




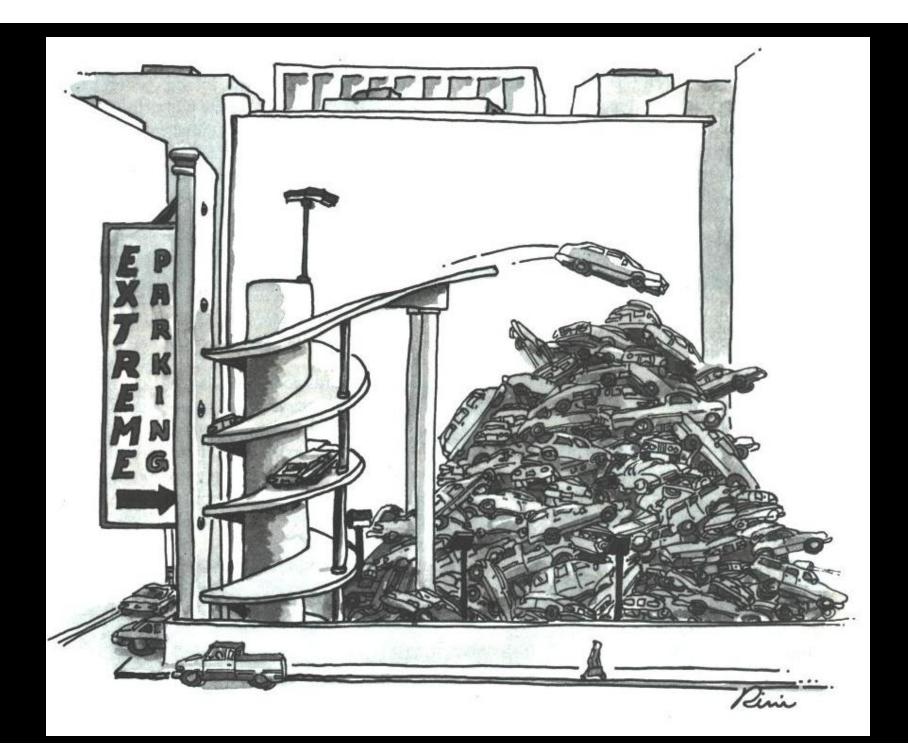
"This place, it's perfect, really. They've kept the buildings and the streets well. That makes it so attractive. People are walking around because they like the way it looks and feels. It's something you just don't see in Los Angeles. As a driver, I don't mind paying more for what you have here. I tell you what: For this, I will pay."

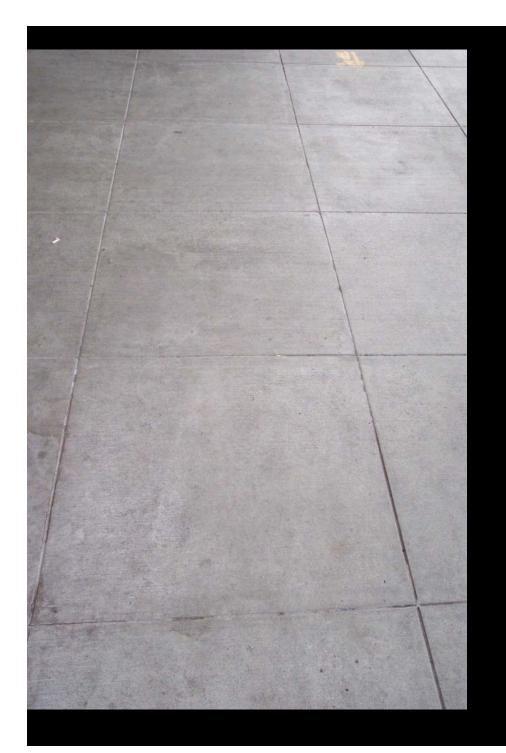
Shopper interviewed by Los Angeles Times

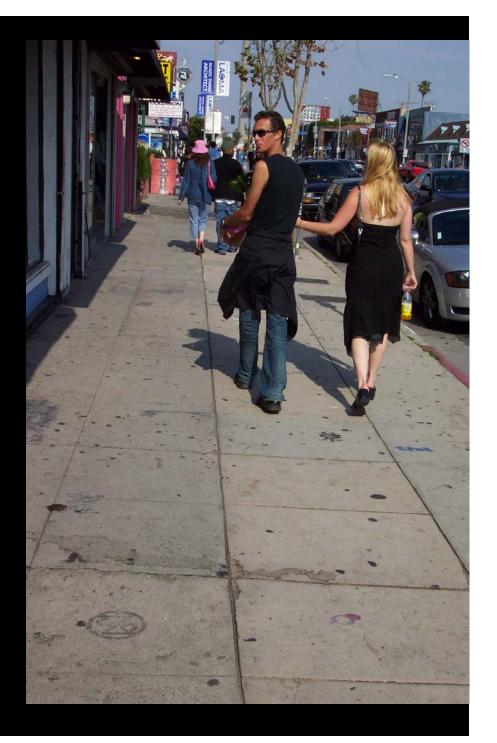


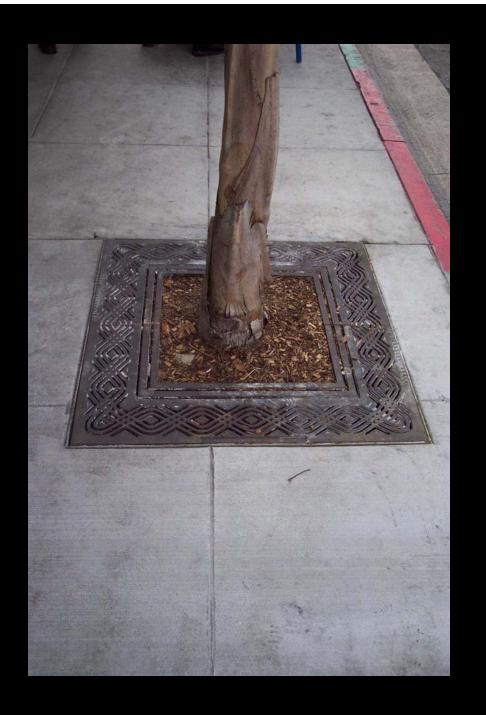














OLD PASADENA COMING SOON

STREET AND ALLEY WAY IMPROVEMENTS:

LIGHTING
REPAVING
TRASH RECEPTACLES
SIGNS AND BENCHES
DIRECTORY MAPS
TREES AND GRATES
NEWSRACKS
MAINTENANCE
SAFETY

YOUR METER MONEY IS MAKING A DIFFERENCE

THE OLD PASADENA RENAISSANCE CONTINUES

CITY OF PASADENA

Redwood City parking ordinance

To accomplish the goal of managing the supply of parking and to make it reasonably available when and where needed, a target occupancy rate of eighty-five percent (85%) is hereby established.

The Parking Manager shall survey the average occupancy for each parking area in the Downtown Meter Zone that has parking meters. Based on the survey results, the Parking Manager shall adjust the rates up or down in twenty-five cent (\$0.25) intervals to seek to achieve the target occupancy rate.

Revenues generated from on-street and off-street parking within the Downtown Meter Zone boundaries shall be accounted for separately from other City funds and may be used only ...within or for the benefit of the Downtown Core Meter Zone.











Parking occupancy sensors







What about cities that already have parking meters? They won't want to offer the existing meter revenue to BIDs.

Parking Increment Finance

- 1. The City continues to receive the current meter revenue.
- 2. The City splits any *increases* in meter revenue with the Business Improvement District.
- 3. The revenue stream creates a local incentive to increase the number of meters, the meter rates, the hours of meter operation, and enforcement.
- 4. Both the BID and the City get new revenue

Benefits of right-priced curb parking

Traffic congestion

Air pollution

Energy conservation

Sustainable transportation

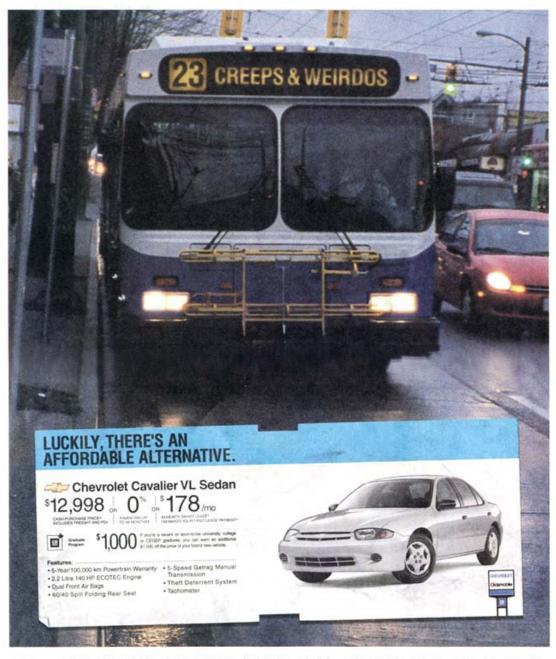
Economic development

Jobs

Global warming

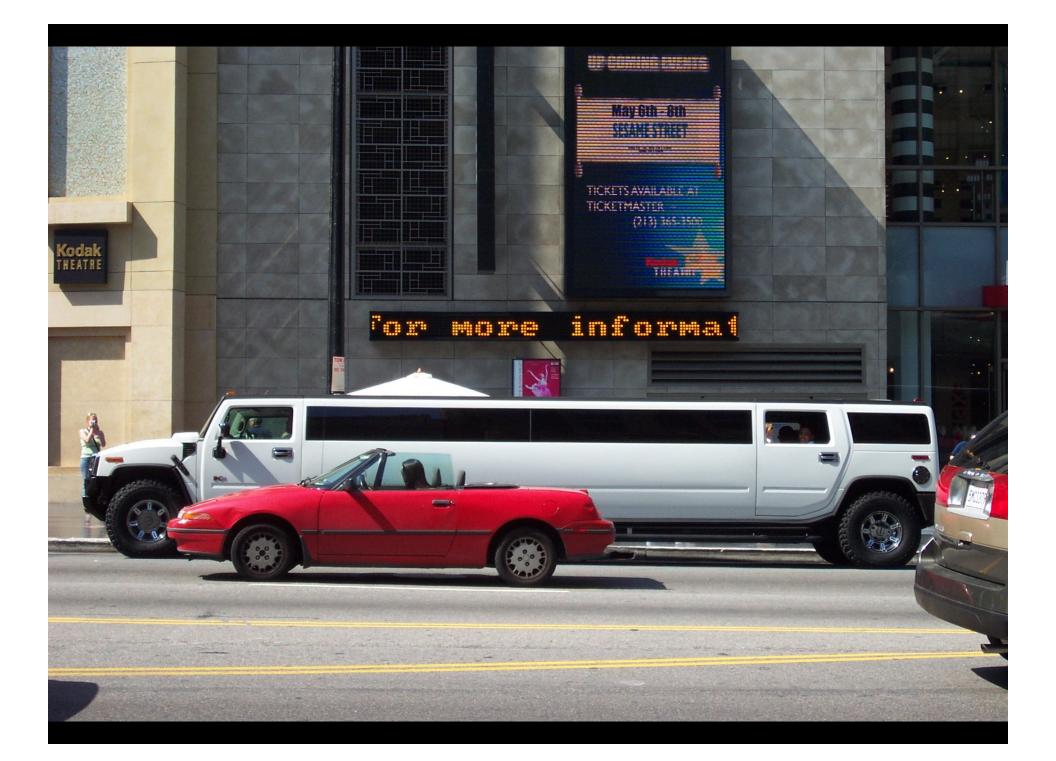
First Future

- 1. Change nothing.
- 2. Keep curb parking free or cheap.
- 3. Require ample off-street parking.

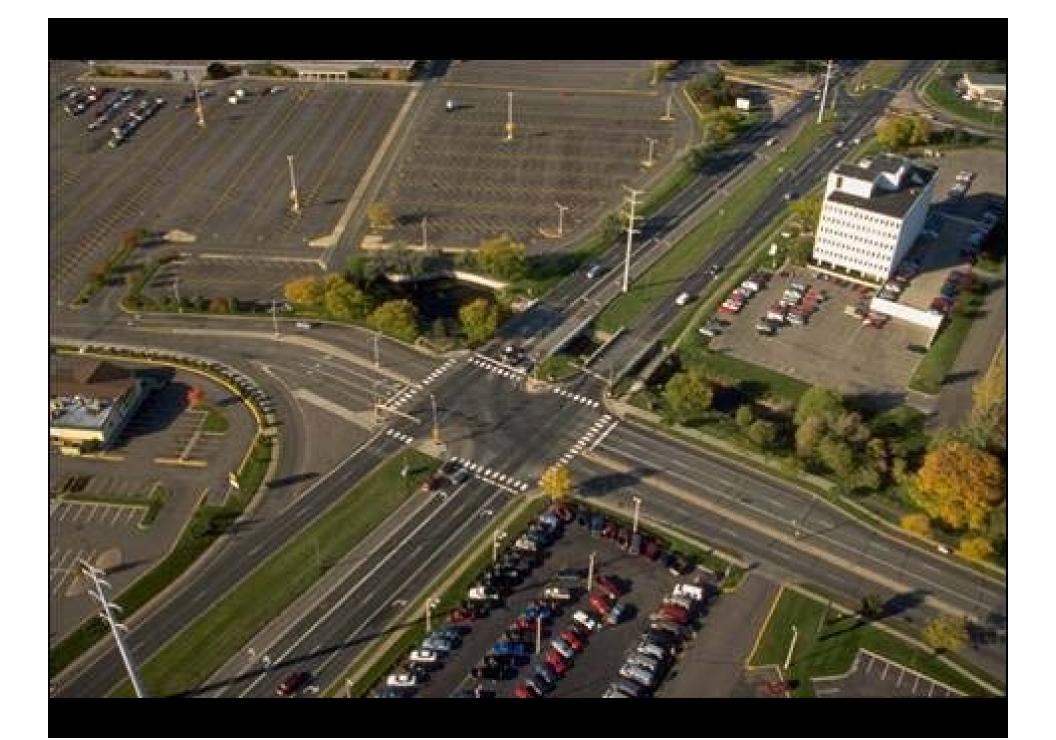




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Second Future

- 1. Charge performance-based prices for curb parking.
- 2. Use the revenue to improve neighborhoods.
- 3. Remove off-street parking requirements.



Parking Benefit Districts

- 1. Performance-based prices will improve curb parking.
- 2. The parking revenue will pay for neighborhood public improvements.
- 3. The neighborhood public improvements increase the desire to charge for curb parking.





















Effects of building job-adjacent housing on former parking lots

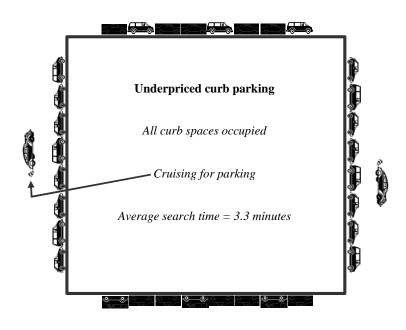
Increase housing supply

Reduce time spent commuting

Reduce spending on cars and fuel

Reduce traffic congestion and air pollution

Maybe even slow down climate change





A long habit of not thinking a thing wrong gives it a superficial appearance of being right, and raises at first a formidable outcry in defense of custom. But the tumult soon subsides. Time makes more converts than reason. Thomas Paine, Common Sense





The High Cost of Free Parking

DONALD SHOUP