



The High Cost of Free Parking

DONALD SHOUP







Parking Standards

Edited by

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APA

American Planning Association

PAS

Planning Advisory Service
Report Number 510/511

Survey of parking requirements for 660 land uses

a

abattoir (*see* slaughterhouse)
accessory dwelling unit
administrative office (*see* office uses)
adult use
adult use, adult arcade
adult use, adult cabaret
adult use, adult motion picture theater
adult use, adult theater
adult use, book store
adult use, entertainment facility
adult use, massage parlor (*see also* massage establishment)
adult use, sex novelty shop
advertising agency (*see also* office use)
agricultural use, unless otherwise specified (*see also* farm uses)
agricultural processing plant (*see also* industrial uses)
agricultural-related industry (*see also* agricultural use, unless otherwise specified)
agricultural sales and service use (*see also* farm supply store; feed store)
aircraft charter service
airport (*see also* airport terminal)
airport hangar
airport, local/private use
airport terminal (*see also* airport; transportation terminal)
ambulance service
amphitheater (*see also* stadium)
amusement enterprise (*see also* recreation facility uses)
amusement enterprise, indoor
amusement enterprise, outdoor
amusement park
amusement park, children's
amusement park, water
ancillary use (*see* accessory use)
animal boarding facility
animal breeder establishment
animal grooming salon
animal hospital
animal sales establishment (*see* pet shop)
animal shelter
animal training facility
antique shop (*see also* second-hand store)
apartment (*see* dwelling, apartment uses)
apartment hotel (*see* extended-stay hotel)
apparel store (*see* clothing store)
appliance and equipment repair establishment (*see also* equipment uses)

ALL USES

appliance sales establishment
aquaculture use
aquarium
arboretum (*see also* botanical gardens; community garden)
arcade, amusement (*see also* amusement enterprise uses)
archery range (*see also* rifle range; shooting range)
arena (*see* stadium)
armory
art gallery (*see also* cultural uses)
art school (*see* educational facilities, school for the arts)
art supplies store
artisan workshop (*see also* live-work studio)
artist studio (*see also* artisan workshop; live-work studio)
asphalt manufacturing facility (*see also* industrial use, heavy)
assembly hall (*see also* auditorium; civic center)
assisted living (*see* elderly housing, assisted living)
asylum (*see* mental health facility)
athletic field (*see also* ball field; grandstands; recreation facility uses)
auction, automobile
auction house
auditorium (*see also* assembly hall; civic center)
automated teller machine (ATM)
automated teller machine (ATM), exterior, on bank property
automobile convenience store (*see* gas station, mini-mart)
automobile dealership (*see also* motor vehicle sales establishment)
automobile graveyard (*see* automobile salvage yard; junk yard)
automobile impound facility (*see also* towing service)
automobile laundry (*see* car wash uses)
automobile maintenance, quick service establishment (*see also* automobile repair service establishment)
automobile mall (*see* automobile dealership uses)
automobile parts store
automobile rental establishment (*see also* motor vehicle rental establishment)
automobile repair service establishment (*see also* gas station; motor vehicle repair service establishment; tire store and

service establishment)
automobile salvage yard (*see also* junk yard)
automobile service station (*see also* gas station)

b

bait shop (*see also* retail use, unless otherwise specified)
bakery
bakery, wholesale
ball field (*see also* athletic field; grandstands; recreation facility uses)
ballroom (*see also* banquet hall; dance hall)
bank (*see also* accessory banking; automated teller machine (ATM); credit union)
bank, drive-thru only (*see also* drive-thru use, unless otherwise specified)
bank with drive-thru (*see also* drive-thru use, unless otherwise specified)
bank, without drive-thru
banquet hall (*see also* ballroom; dining room; meeting hall)
bar (*see also* beer garden; bottle club; brew pub; night club)
barber shop (*see also* beauty shop; personal services establishment)
baseball field (*see* ballfield)
basketball court
batch plant (*see* concrete production plant)
bathhouse (*see also* health spa; sauna bath)
batting cage facility
beach, commercial
beach, community
beauty shop (*see also* barber shop; personal services establishment)
beauty school (*see also* educational facility; trade school)
bed and breakfast home
bed and breakfast inn (*see also* tourist home)
beer garden (*see also* outdoor seating area)
bicycle rental and repair shop
bicycle repair shop
bicycle sales shop
billiard hall (*see* pool hall)
big box retail establishment (*see also* department store; shopping center uses)
bingo hall
blood donor center
blueprinting shop (*see also* copy shop; printing and publishing facility)
boarding house (*see also* lodging house; rooming house)

a

abattoir (see *slaughterhouse*)

accessory dwelling unit

- 1 additional space, on the same zone lot (*Greensboro, N.C., pop. 223,891*)
- ✓ 1 per attached accessory dwelling unit, in addition to other required spaces (*Washoe County, Nev., pop. 339,486*)
- 1 per bedroom (*Reno, Nev., pop. 180,480*)
- 1 space (*Encinitas, Calif., pop. 58,014*)
- 1 space per unit (*Palo Alto, Calif., pop. 58,598*)
- 2 spaces per unit; such space must have convenient access to a street (*Smithfield, Va., pop. 6,324*)



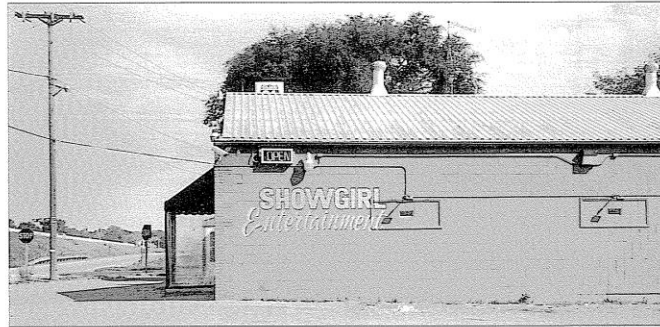
Bicycle Parking Standard: 0.5 per 1,000; 1 per 20 seats (*Tigard, Ore., pop. 41,223*)

adult use adult arcade

- 1 parking space shall be provided for every 2 occupants per the allowable occupant load as established by the city's building official or fire marshal, whichever standard is greater. In addition, 1 parking space shall be provided for each employee or independent contractor on the maximum shift. (*Santa Clarita, Calif., pop. 151,088*)

adult use, adult cabaret

- 1 parking space shall be provided for every 2 occupants per the allowable occupant load as established by the city's building official or fire marshal, whichever standard is greater. In addition, 1 parking space shall be provided for each employee or independent contractor on the maximum shift. (*Santa Clarita, Calif., pop. 151,088*)
- 1 space per 25 square feet of gross floor area (*Garden Grove, Calif., pop. 165,196*)



adult use

administrative office (see *office uses*)

adult use

- 0.3 per seat, plus 3.3 per 1,000 square feet of gross floor area (*Tampa, Fla., pop. 303,447*)
- 1 per 60 square feet (*Henderson, Nev., 175,381*)
- 10 per 1,000 square feet (*Hickory, N.C., pop. 37,222*)
- 12 per 1,000 square feet (*St. Mary's County, Md., pop. 86,211*)
- Minimum: 1 per 500 square feet above first 2,400 square feet
- Maximum: 1 per 150 square feet (*Pittsburgh, Pa., pop. 334,563*)
- Minimum: 1 per 250 square feet of gross floor area
- Maximum: 1 per 200 square feet of gross floor area (*Glenville, N.Y., pop. 28,183*)

- 1 per 200 square feet (*Fort Wayne, Ind., pop. 205,727*)
- 10 per 1,000 square feet, but not less than 15 (*Clark County, Nev., pop. 1,375,365*)

adult use, adult motion picture theater

- 1 off-street parking space for each 10 seats or equivalent (*San Bruno, Calif., pop. 40,165*)
- 1 parking space shall be provided for every 2 occupants per the allowable occupant load as established by the city's building official or fire marshal, which ever standard is greater. In addition, 1 parking space shall be provided for each employee or independent contractor on the maximum shift. (*Santa Clarita, Calif., pop. 151,088*)
- 1 space for each 8 fixed seats or 1 space for each 100 square feet of spectator assembly area not containing fixed seats (*Seattle, Wash., pop. 563,374*)

A parking requirement sampler

Barber shop	2 spaces per barber
Beauty shop	3 spaces per beautician
Nunnery	1 space per 10 nuns
Rectory	3 spaces per 4 clergymen
Sex novelty shop	3 spaces per 1,000 square feet
Gas station	1.5 spaces per fuel nozzle
Swimming pool	1 space per 2,500 gallons
Mausoleum	10 spaces per maximum number of interments in a one-hour period

San José's minimum parking requirements



■ Building area ■ Parking area

San Jose's off-street parking requirements

Table 20-190 Parking Spaces Required by Land Use		
Use	Minimum Parking Required	Applicable Sections
	per staff	
School, trade and vocational	1 per 3 students, plus 1 per staff	
Entertainment and Recreation		
Arcade, amusement	1 per 200 sq. ft of floor area	
Batting Cages	1 per station, plus 1 per employee	
Bowling establishment	7 per lane	
Dancehall	1 per 40 sq. ft. open to public	
Driving range	1 per tee, plus 1 per employee	
Golf course	8 per golf hole, plus 1 per employee	
Health club, gymnasium	1 per 80 sq. ft. recreational space	
Miniature golf	1.25 per tee, plus 1 per employee	
Performing arts production per rehearsal space	1 per 150 sq. ft. of floor area	
Poolroom	1 per 200 sq. ft. of floor area	
Private club or lodge	1 per 4 fixed seats on the premises, or 1 per 6 linear feet of seating, plus 1 per 200 square feet of area without seating but designed for meeting or assembly by guests, plus 1 per 500 sq. ft. of outdoor area developed for recreational purposes	
Recreation, Commercial (indoor)	1 per 80 sq. ft. of recreational area	
Recreation, Commercial (outdoor)	20 per acre of site	
Skating rink	1 per 50 sq. ft. of floor area	
Swim and tennis club	1 per 500 sq. ft. of recreation area	

PERIODIC TABLE OF THE ELEMENTS

<http://www.ktf-split.hr/periodni/en/>

GROUP	PERIODIC TABLE OF THE ELEMENTS																18			
1	IIA		III A										14	15	16	17	VIIIA			
1	1.0079		13	10.811											5	6	7	8	9	10
1	H		B												B	C	N	O	F	Ne
2	Li	Be											Al	Si	P	S	Cl	Ar		
3	Na	Mg											Ga	Ge	As	Se	Br	Kr		
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
6	Cs	Ba	La-Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
7	Fr	Ra	Ac-Lr	Rf	Db	Sg	Bh	Hs	Mt	Uun	Uuu	Uub	Uuq							

RELATIVE ATOMIC MASS (1)

GROUP IUPAC GROUP CAS

ATOMIC NUMBER

SYMBOL

ELEMENT NAME

■ Metal ■ Semimetal ■ Nonmetal

1 Alkali metal 16 Chalcogens element
2 Alkaline earth metal 17 Halogens element
10 Transition metals 18 Noble gas

■ Lanthanide ■ Actinide

STANDARD STATE (25 °C; 101 kPa)

■ Ne - gas ■ Fe - solid
■ Ga - liquid ■ Tc - synthetic

LANTHANIDE

57 138.91	58 140.12	59 140.91	60 144.24	61 (145)	62 150.36	63 151.96	64 157.25	65 158.93	66 162.50	67 164.93	68 167.26	69 168.93	70 173.04	71 174.97
La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
LANTHANUM	CERIUM	PRASEODYMIUM	NEODYMIUM	PROMETHIUM	SAMARIUM	EUROPIUM	GADOLINIUM	TERBIUM	DYSPROSIUM	HOLMIUM	ERBIUM	THULIUM	YTTTERBIUM	LUTETIUM

ACTINIDE

89 (227)	90 232.04	91 231.04	92 238.03	93 (237)	94 (244)	95 (243)	96 (247)	97 (247)	98 (251)	99 (252)	100 (257)	101 (258)	102 (259)	103 (262)
Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
ACTINIUM	THORIUM	PROTACTINIUM	URANIUM	NEPTUNIUM	PLUTONIUM	AMERICIUM	CURIUM	BERKELIUM	CALIFORNIUM	EINSTEINIUM	FERMIUM	MENDELEVIUM	NOBELIUM	LAWRENCIUM

(1) Pure Appl. Chem., 73, No. 4, 667-683 (2001)
 Relative atomic mass is shown with five significant figures. For elements having no stable nuclides, the value enclosed in brackets indicates the mass number of the longest-lived isotope of the element.
 However three such elements (Th, Pa, and U) do have a characteristic terrestrial isotopic composition, and for these an atomic weight is tabulated.

Planners who set minimum parking requirements:

Don't know how much the required parking spaces cost.

Don't know how much the parking requirements increase the cost of housing and everything else.

Don't know how the parking requirements affect urban design.

Don't know how the parking requirements affect congestion.

Don't know how the parking requirements affect air pollution.

Don't know how the parking requirements affect fuel consumption and CO₂ emissions.

Have no training in how to set a parking requirement.

Are governmentalizing what should remain private decisions.

Two Mistakes in Parking Policy

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

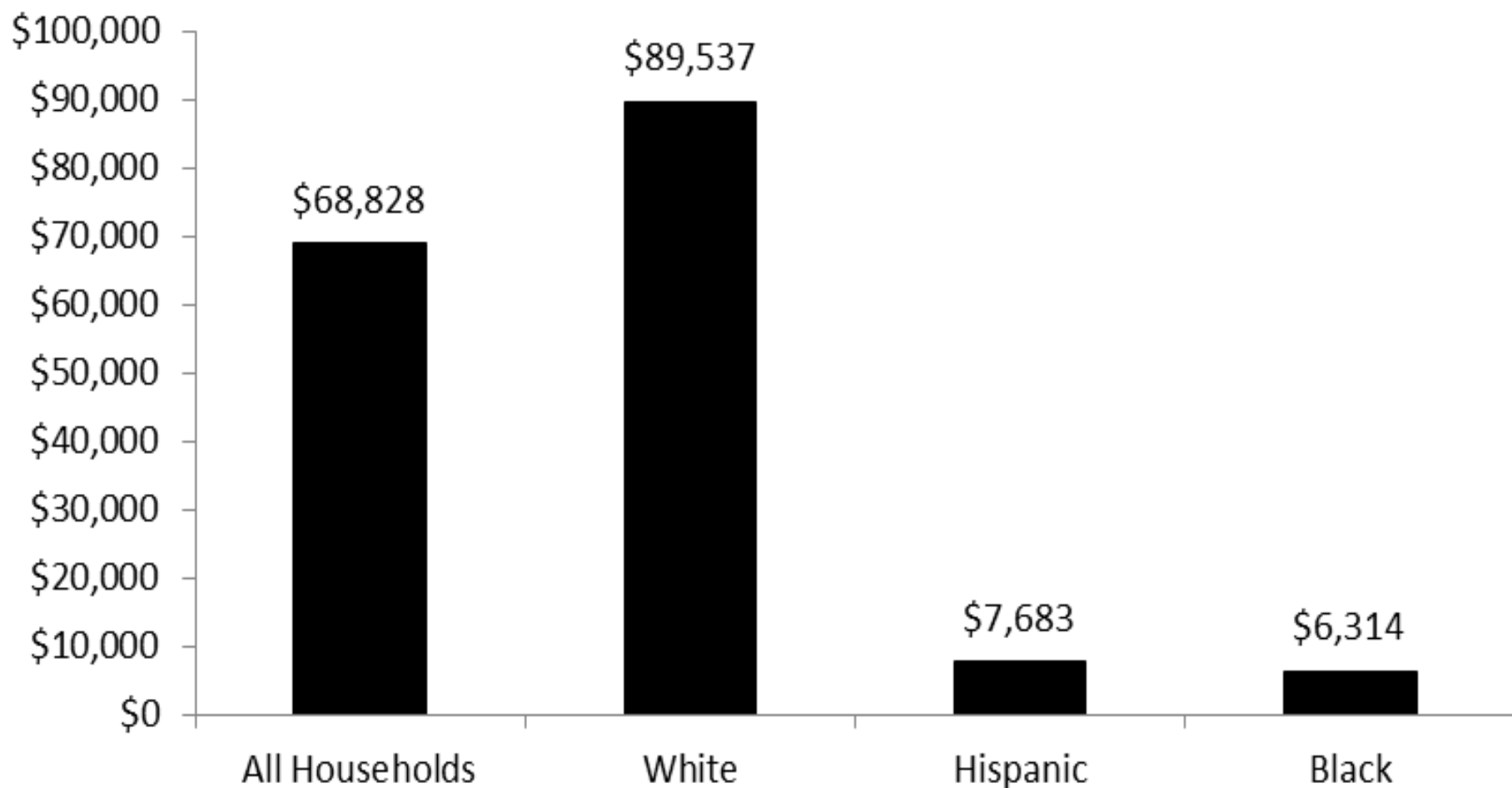
Table 1. The Construction Cost of a Parking Space

City	Construction Cost per Square Foot		Construction Cost per Space	
	Underground	Aboveground	Underground	Aboveground
	\$/sq ft	\$/sq ft	\$/space	\$/space
	(1)	(2)	(3)=(1)x330	(4)=(2)x330
Boston	\$95	\$75	\$31,000	\$25,000
Chicago	\$110	\$88	\$36,000	\$29,000
Denver	\$78	\$55	\$26,000	\$18,000
Honolulu	\$145	\$75	\$48,000	\$25,000
Las Vegas	\$105	\$68	\$35,000	\$22,000
Los Angeles	\$108	\$83	\$35,000	\$27,000
New York	\$105	\$85	\$35,000	\$28,000
Phoenix	\$80	\$53	\$26,000	\$17,000
Portland	\$105	\$78	\$35,000	\$26,000
San Francisco	\$115	\$88	\$38,000	\$29,000
Seattle	\$105	\$75	\$35,000	\$25,000
Washington, DC	\$88	\$68	\$29,000	\$22,000
Average	\$103	\$74	\$34,000	\$24,000

Source: Rider Levett Bucknall, Quarterly Construction Cost Report, Fourth Quarter 2012

One structured parking space costs more than the entire net worth of many families.

Median Net Worth of US Households, 2011



Median Net Wealth per Adult

<u>Country</u>		<u>Median</u>
(1)		(2)
Australia	1	\$225,337
Belgium	2	\$172,947
Iceland	3	\$164,193
Luxembourg	4	\$156,267
Italy	5	\$142,296
France	6	\$140,638
United Kingdom	7	\$130,590
Japan	8	\$112,998
Singapore	9	\$109,250
Switzerland	10	\$106,887
Canada	11	\$98,756
Netherlands	12	\$93,116
Finland	13	\$88,130
Norway	14	\$86,953
New Zealand	15	\$82,610
Spain	16	\$66,752
Taiwan	17	\$65,375
Sweden	18	\$63,376
Malta	19	\$63,271
Qatar	20	\$56,969
Germany	21	\$54,090
Greece	22	\$53,365
United States	23	\$53,352
Israel	24	\$51,346

Mean and Median Net Wealth per Adult

Country	Median		Mean	
(1)	(2)		(3)	
Switzerland	10	\$106,887	1	\$580,666
Australia	1	\$225,337	2	\$430,777
Iceland	3	\$164,193	3	\$362,982
Norway	14	\$86,953	4	\$358,655
United States	23	\$53,352	5	\$347,845
Luxembourg	4	\$156,267	6	\$340,836
Sweden	18	\$63,376	7	\$332,616
France	6	\$140,638	8	\$317,292
Belgium	2	\$172,947	9	\$300,850
United Kingdom	7	\$130,590	10	\$292,621
Singapore	9	\$109,250	11	\$289,902
Canada	11	\$98,756	12	\$274,543
Italy	5	\$142,296	13	\$255,880
Japan	8	\$112,998	14	\$222,150
Germany	21	\$54,090	15	\$211,049
Netherlands	12	\$93,116	16	\$210,233
New Zealand	15	\$82,610	17	\$204,401
Finland	13	\$88,130	18	\$196,621
Taiwan	17	\$65,375	19	\$182,756
Israel	24	\$51,346	20	\$169,064
Qatar	20	\$56,969	21	\$156,096
Spain	16	\$66,752	22	\$134,824
Malta	19	\$63,271	23	\$113,724
Greece	22	\$53,365	24	\$111,405

Credit Suisse Global Wealth Databook, 2014

Mean and Median Net Wealth per Adult

Country	Median		Mean		Mean/Median	
(1)	(2)		(3)		(4)=(3)/(2)	
United States	23	\$53,352	5	\$347,845	1	6.5
Switzerland	10	\$106,887	1	\$580,666	2	5.4
Sweden	18	\$63,376	7	\$332,616	3	5.2
Norway	14	\$86,953	4	\$358,655	4	4.1
Germany	21	\$54,090	15	\$211,049	5	3.9
Israel	24	\$51,346	20	\$169,064	6	3.3
Taiwan	17	\$65,375	19	\$182,756	7	2.8
Canada	11	\$98,756	12	\$274,543	8	2.8
Qatar	20	\$56,969	21	\$156,096	9	2.7
Singapore	9	\$109,250	11	\$289,902	10	2.7
New Zealand	15	\$82,610	17	\$204,401	11	2.5
Netherlands	12	\$93,116	16	\$210,233	12	2.3
France	6	\$140,638	8	\$317,292	13	2.3
United Kingdom	7	\$130,590	10	\$292,621	14	2.2
Finland	13	\$88,130	18	\$196,621	15	2.2
Iceland	3	\$164,193	3	\$362,982	16	2.2
Luxembourg	4	\$156,267	6	\$340,836	17	2.2
Greece	22	\$53,365	24	\$111,405	18	2.1
Spain	16	\$66,752	22	\$134,824	19	2.0
Japan	8	\$112,998	14	\$222,150	20	2.0
Australia	1	\$225,337	2	\$430,777	21	1.9
Italy	5	\$142,296	13	\$255,880	22	1.8
Malta	19	\$63,271	23	\$113,724	23	1.8
Belgium	2	\$172,947	9	\$300,850	24	1.7

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—demand-based pricing
2. Establish Parking Benefit Districts to spend the meter revenue in the neighborhoods that generate it.
Revenue return will make demand-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.

1. Demand-based Parking Prices

Demand-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.

The lowest price a city can charge and still leave one or two open spaces on every block.

If one curb space are open on each side of each block, everyone will see that convenient parking is available everywhere.

The only thing worse than paying for parking is having no parking.

Before SFpark



Block A - Central Business District Location - 0 Open Spots



Block B - Nearby Location - 3 Open Spots

After SFpark



Block A - Central Business District Location - 1 Open Spot



Block B - Nearby Location - 2 Open Spots

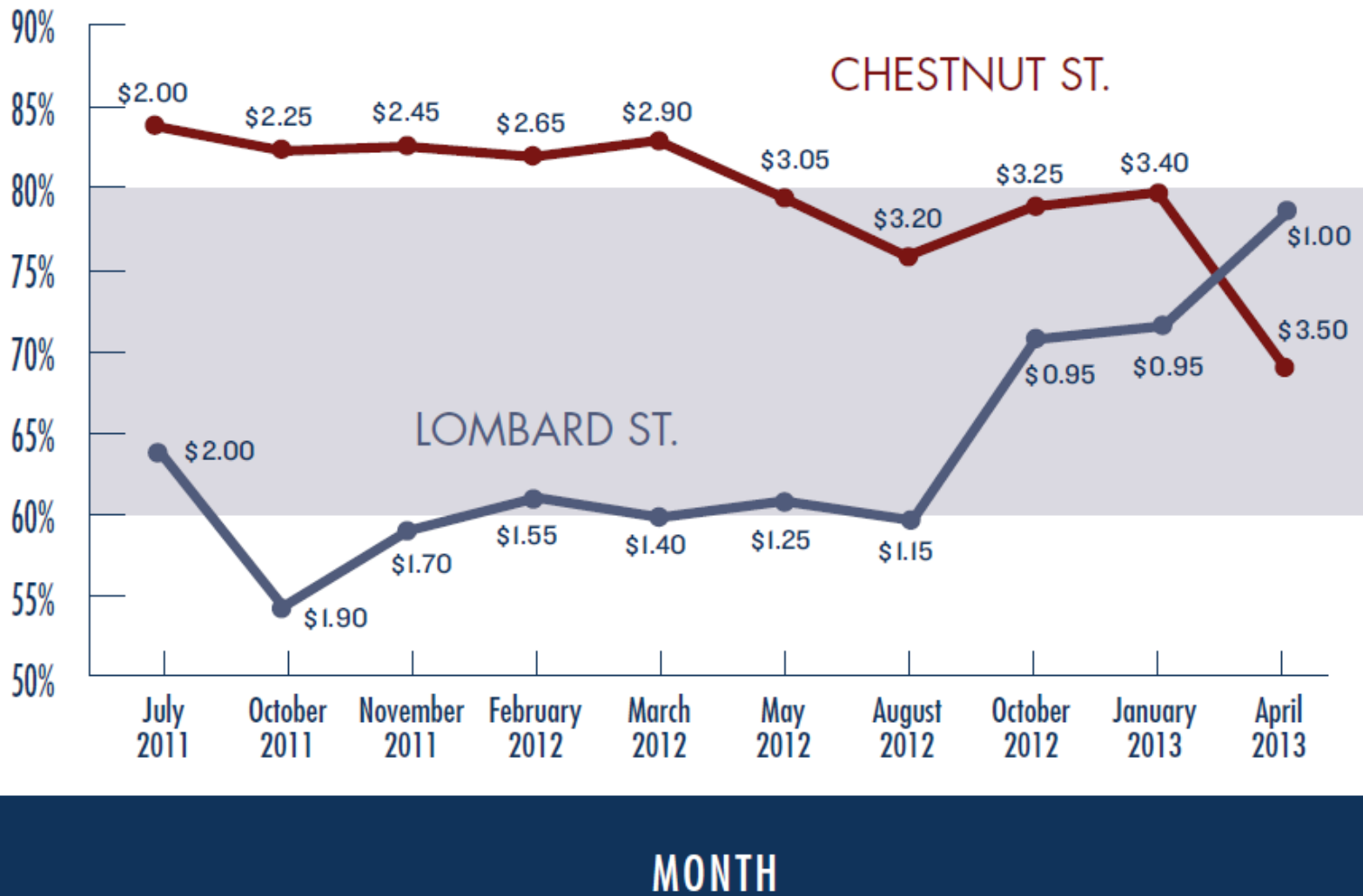
SFpark:

Putting Theory Into Practice

Post-launch implementation summary and lessons learned

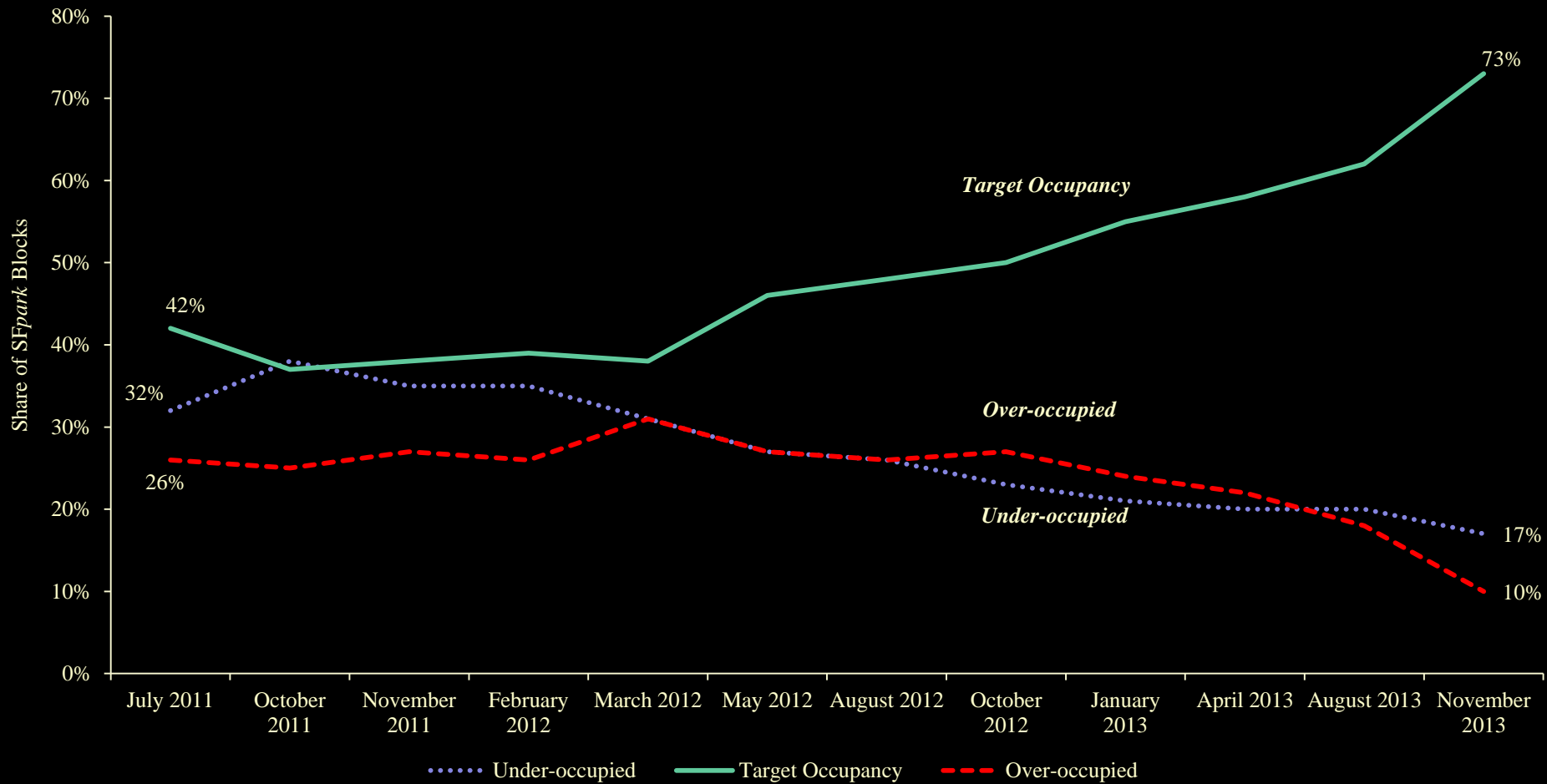


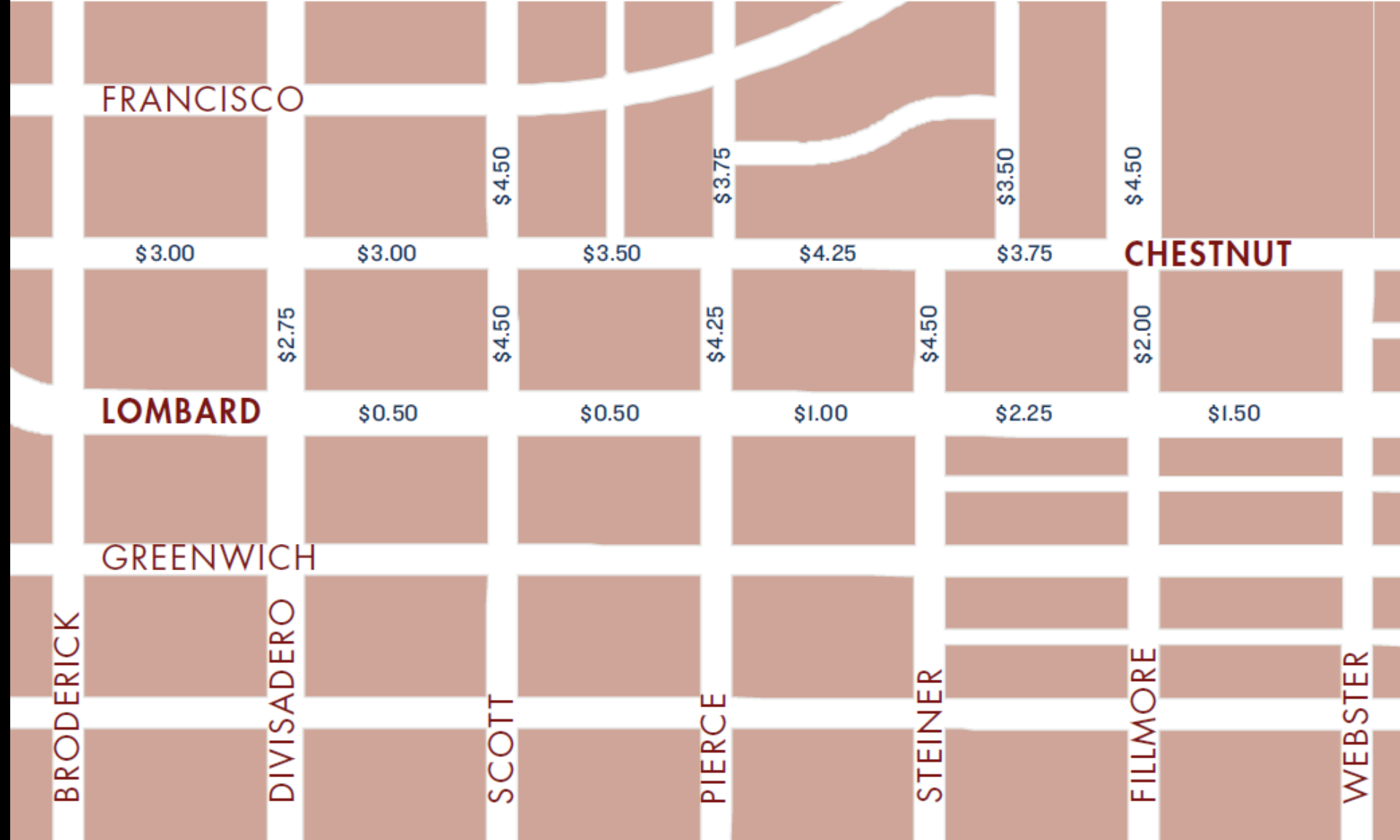
AVERAGE OCCUPANCY RATE



Parking prices and occupancy rates

Share of SFpark Blocks in Each Occupancy Range





Parking prices in April 2013, 3 pm to 6 pm

Average meter prices *declined* with SFpark

After the 10th rate change in April 2013, only 9 blocks had reached the \$6 per hour cap, and 179 had fallen to the \$0.25 per hour minimum.

Many blocks had been overpriced in the morning.

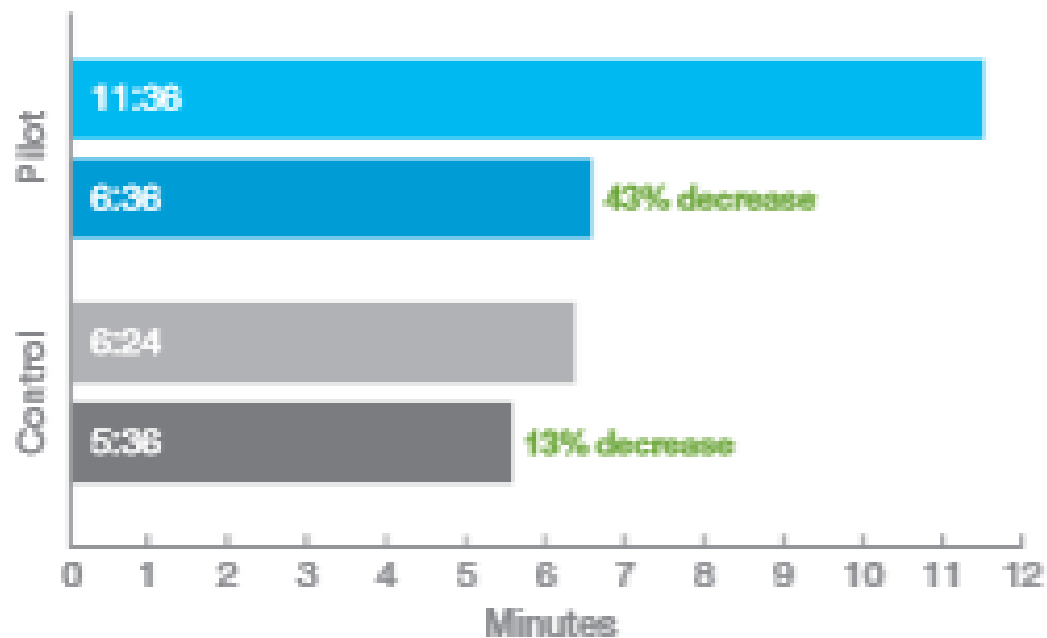
Parking should be free if many spaces remain empty at the zero price.

Performance pricing leads to higher prices only if prices are so low that no spaces are open.

Average cruising time before parking declined by 43%

Parking search time (minutes)

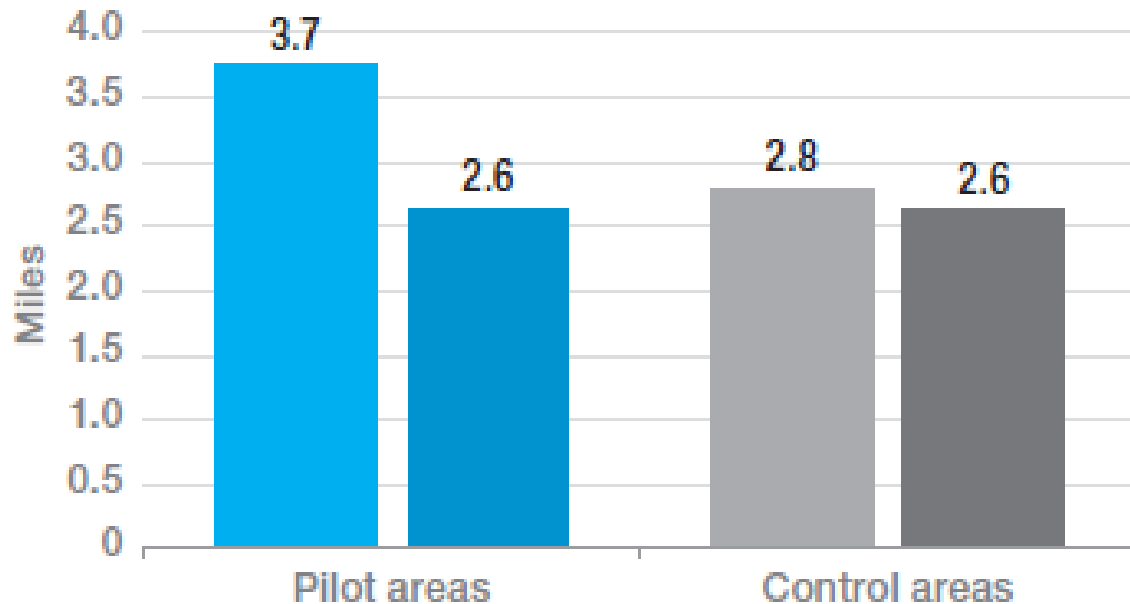
Reported search times, before vs. after
Pilot vs. control areas | Weekdays 9am to 6pm



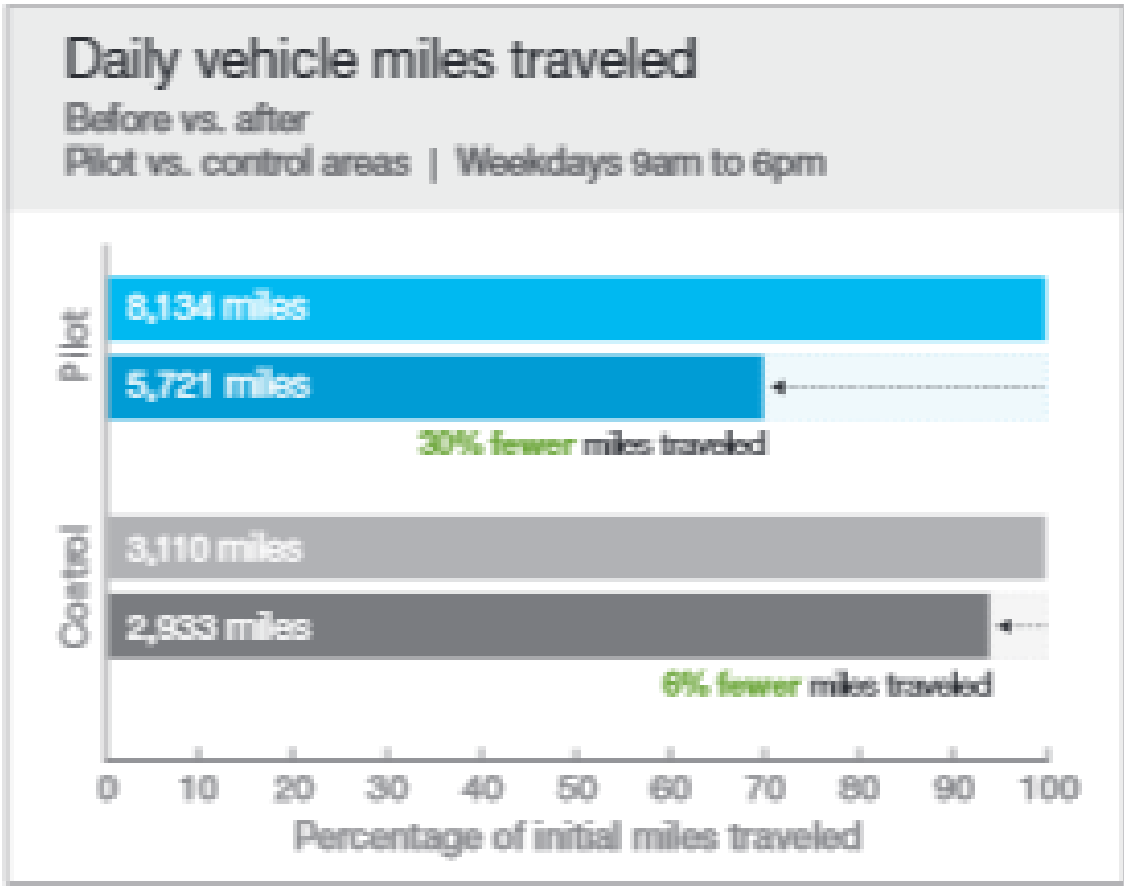
Daily cruising travel per meter declined by 30%

Daily VMT per meter

Weekdays, 9am to 6pm
SFpark pilot and control areas
Before vs after



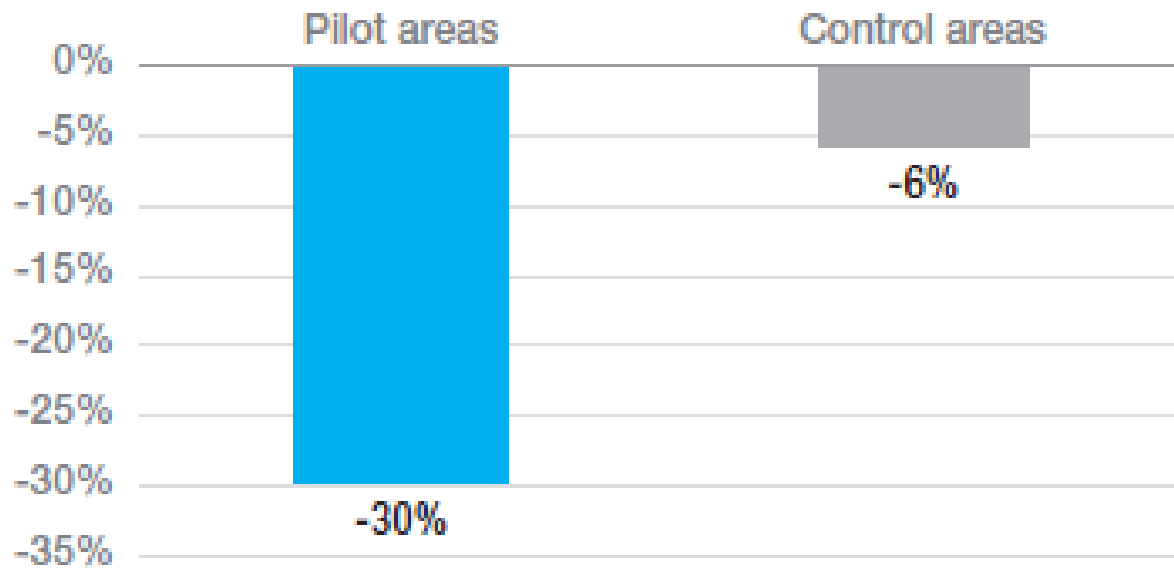
Total vehicle travel for cruising declined by about 2,400 miles per day in the pilot area



Vehicle travel and greenhouse gas emissions declined by 30%

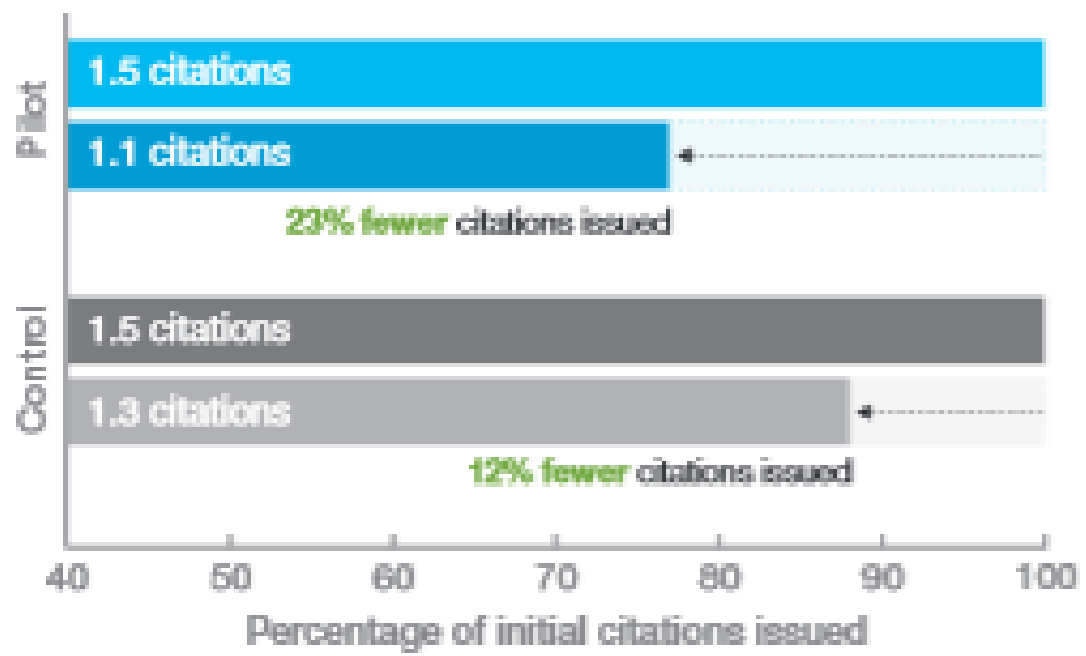
Reduction in VMT and GHG: Percent change, before to after

Weekdays, 9am to 6pm
SFpark pilot and control areas
Before vs after

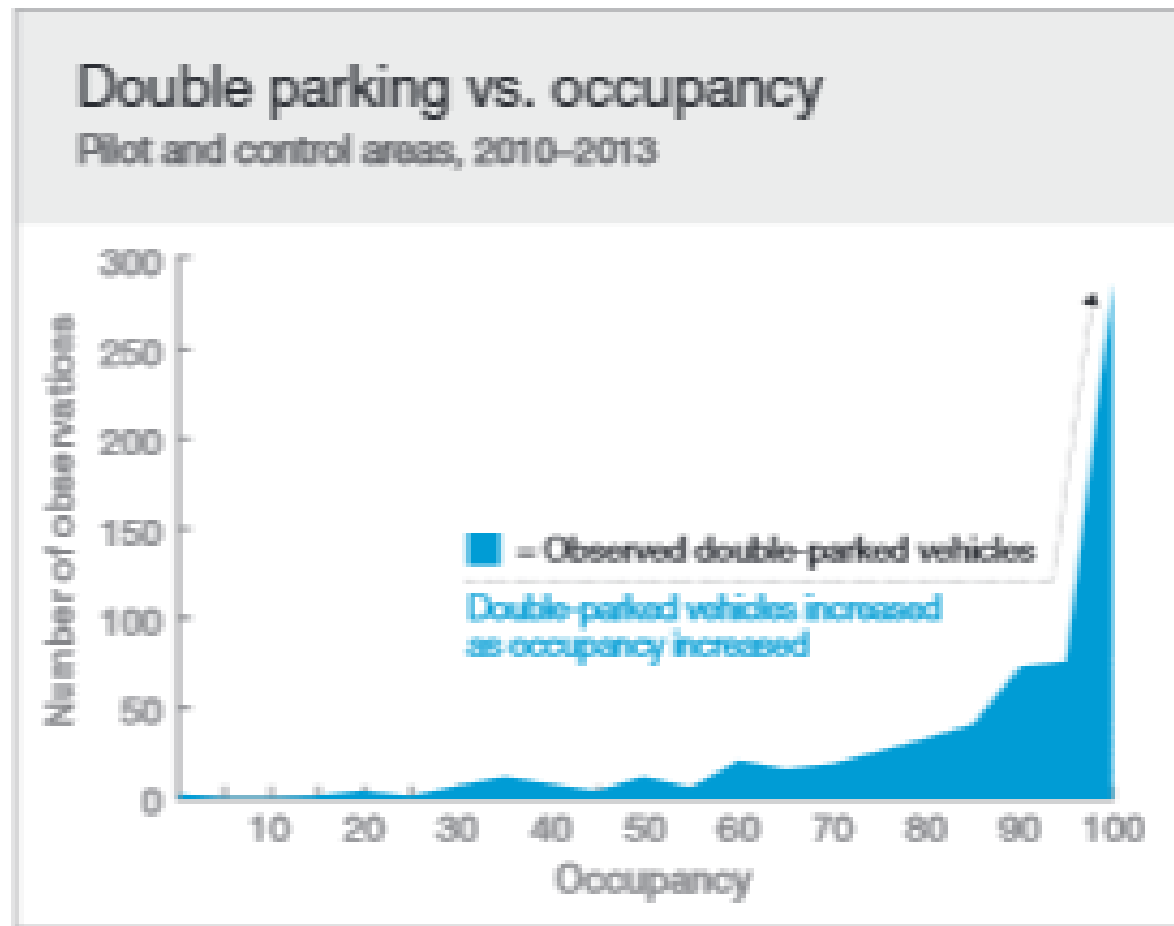


Number of parking tickets declined by 23%

Average monthly parking citations per meter
Before vs. after
Pilot vs. control areas | Weekdays 9am to 6pm

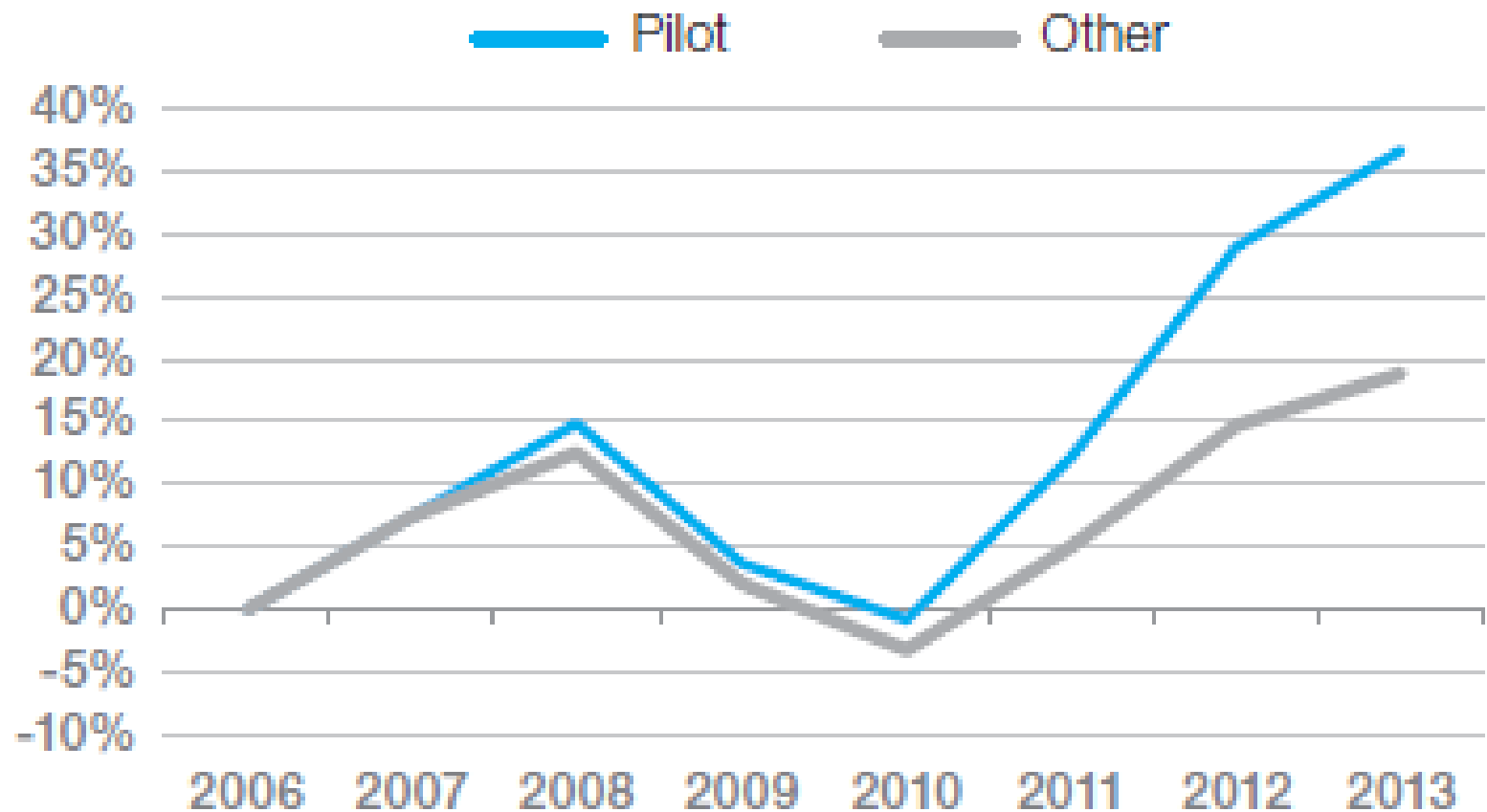


Double parking declined



Change in sales tax revenue, FY2006–2013

Food product, general retail and miscellaneous;
chain stores excluded



Will charging for curbside parking hurt poor people?

Drivers have to pay for their cars and fuel and tires and maintenance and repairs and insurance and registration fees, but I haven't heard anyone argue that those should all be free because charging for them would hurt the poor.





PAY · BY · SPACE

PAY BY:
CREDIT CARD

CASH
EXACT BILLS REQUIRED \$1, \$5 ONLY

REMEMBER
NO IN AND OUT PRIVILEGES
NOT TRANSFERABLE
PAY STATION TICKETS ARE ONLY VALID
IN DESIGNATED PAY STATION AREAS
MUST DISPLAY PAY STATION PASS ON
DASHBOARD AT ALL TIMES
VIOLATORS ARE SUBJECT TO CITATION
21113A CVC

DIGITAL

INSTRUCTIONS

- 1 PREPARE TO PAY
- 2 PREPARE MONIES
- 3 MAKE PAYMENT
- 4 TAKE RECEIPT

1 2 3
4 5 6
7 8 9
0 * #

MAINTENANCE HOTLINE
WEEKDAYS: 310-204-PARK (7275)
AFTER 5PM & WEEKENDS: 310-825-2865
PAY STATION UNIT #57-1
YOU ARE PARKED IN
Charles E. Young Dr. East
Pay Station Area
www.transportation.ucck.edu

RECEIPT

DIGITAL

Stall: 05769

Press Number on Keypad to Select Options:

- 1) 2 Hours \$7.00
- 2) 1 Hr 30 Min \$5.00
- 3) 1 Hour \$3.00
- 4) 40 Minutes \$2.00
- 5) 20 Minutes \$1.00





















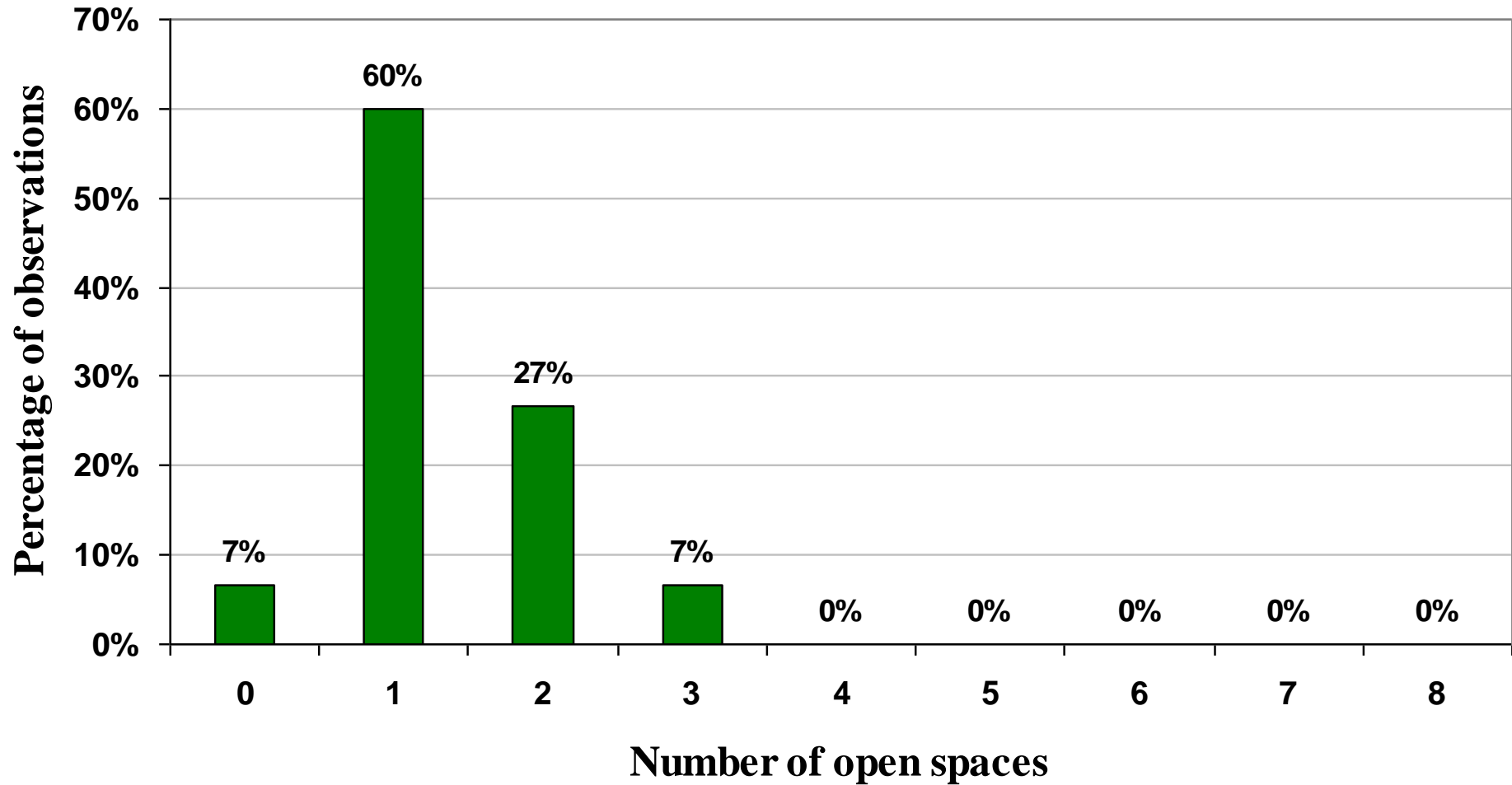








Parking is well used but readily available



The right price

Should the price be higher?

Should the price be lower?

The Goldilocks principle of parking prices.

“I know it when I see it.”

Cruising for Parking

Central Parking System
55 West 26th St

License No: 1096744
Capacity: 140

Hours of operation
24 hours/7 days

Day & Night Rates
Up to 1 hour 16.90
Up to 2 hrs 18.59
Up to 10 hrs 25.34
Max to 24 hrs 42.24
O'sized/vans/SUV's/4x4's addl 8.45
Monthly Rates
Regular 464.64
Main floor addl 84.47
O'sized/vans/SUV's/4x4's addl 84.47
Motorcycles 211.20
18.375% Parking tax extra



Off-street: \$20/hour

On-street: \$1/hour

New York City

Cruising for underpriced curbside parking

Suppose you want to park for one hour while visiting this location. Parking in the garage for one hour costs \$20.

Parking on the street for one hour costs \$1.

Finding a curbside space will save you \$19. Would *you* be willing to cruise for a few minutes to save \$19?

For example, if you cruise 6 minutes ($1/10$ of an hour) before finding a curbside space you will earn money at a rate of \$190/hour

The city sets the prices for the parking meters, and the city is telling you to cruise for parking.

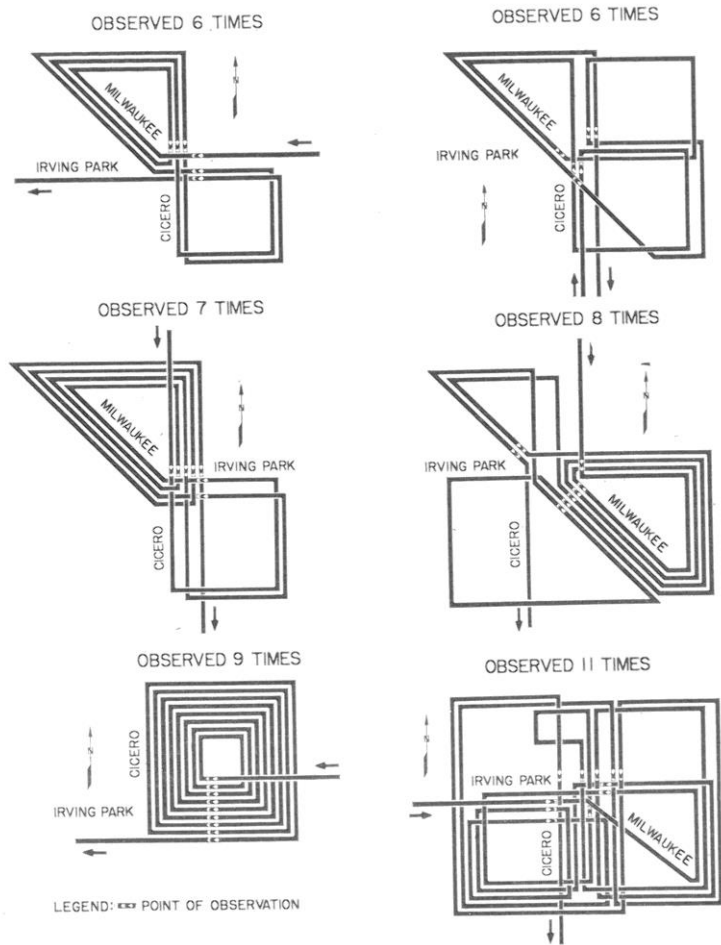
This does *not* mean that curbside parking should cost \$20/hour.

TABLE 11-5
CRUISING FOR PARKING

Year	City	Share of traffic cruising (percent)	Average search time (minutes)
1927	Detroit	19%	
1927	Detroit	34%	
1934	Washington		8.0
1962	New Haven	17%	
1965	London		6.1
1966	London		3.5
1966	London		3.6
1977	Freiburg	74%	6.0
1984	Jerusalem		9.0
1985	Cambridge	30%	11.5
1993	Cape Town		12.2
1993	New York	8%	7.9
1993	New York		10.2
1993	New York		13.9
1997	San Francisco		6.5
2001	Sydney		6.5
2005	Los Angeles	68%	3.3
2007	New York	28%	
2007	New York	45%	
2008	New York		3.8
2011	Barcelona	18%	
Average		34%	7.5

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

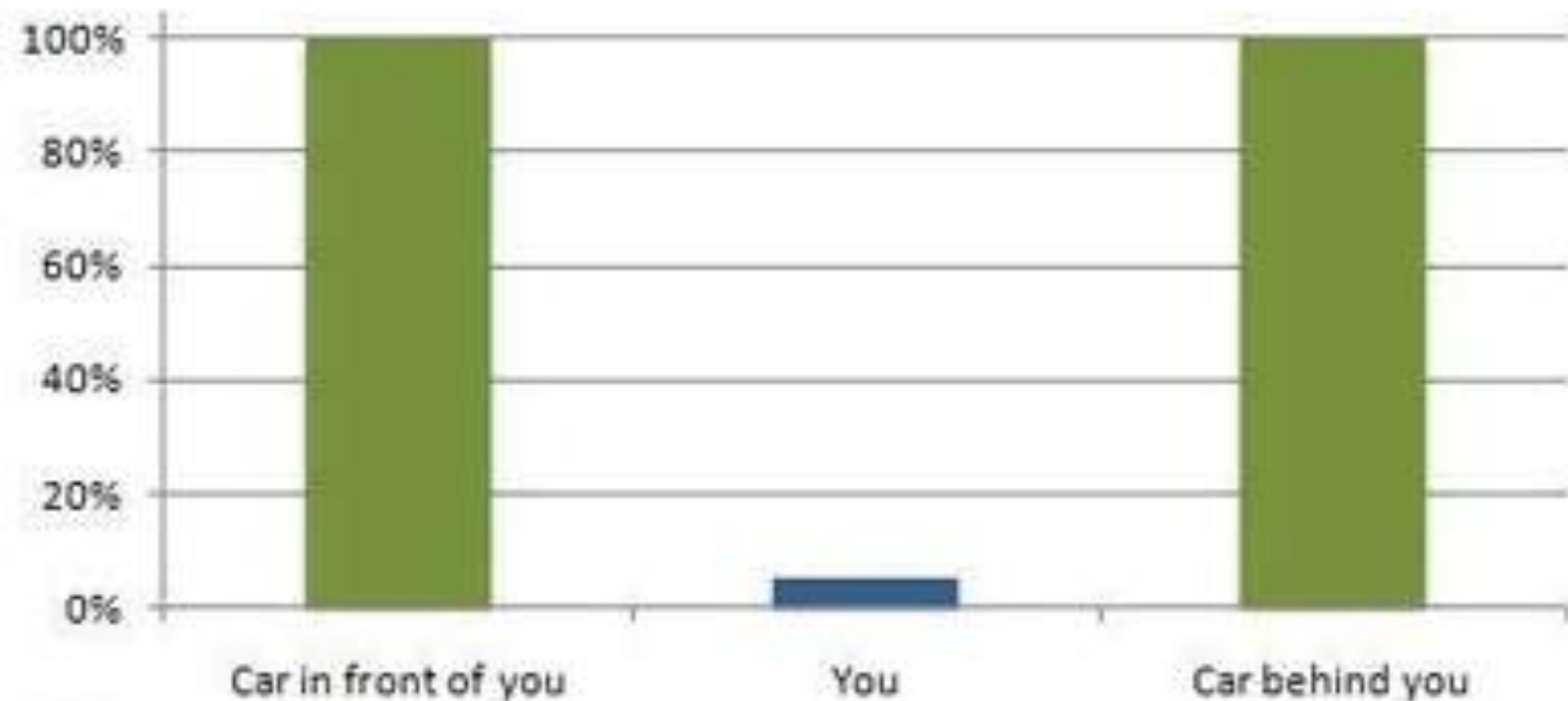
7:00 P.M. TO 9:30 P.M.-THURSDAY, MARCH 30, 1939



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

Probability of finding parking space





Key-in-the-door technique to measure cruising for parking

Choose a street where all the curb spaces are occupied and traffic is congested.

Walk to the driver-side door of a car parked at the curb with a key in your hand.

If the first driver who sees you stops to wait for “your” space, much of the traffic is probably cruising for curb parking.

2. Parking Benefit Districts







"Take away a few more parking spaces."



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 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.

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

Turning Small Change into Big Changes











FOOTWEAR

GAP

ARMANI EXCHANGE

ON SALE

612

Vertical sign on a utility pole



NEWS

For Immediate Release

Downtown Merchants Support the Parking Meters!

Downtown Ventura, May 5, 2011 - The overwhelming consensus downtown is that the meters are working! Downtown business owners were interviewed and business surveys were conducted over the past two weeks along Main Street in downtown Ventura. The downtown merchants gave the managed parking system a thumbs up with 83% surveyed in support of the meters, 13% neutral, and 4% not in support the meters.

In addition, the revenue generated from the meters is being reinvested into the downtown. The funds help pay for a dedicated police officer and nine police cadets. This has resulted in an overall decrease in crime by 40% and a 15% decrease in calls for service. Funds are also used for new improvements like additional lighting for parking lots, new planters and plant materials, and a cross-the-street banner planned for installation this summer.

Free Wi-Fi is yet another benefit made possible by the meters. Residents and visitors can stay "connected" through the outdoor network provided by the Downtown Parking Management program.

Parking Benefit Districts

Transportation management tool.

Reduces traffic congestion, air pollution, and fuel consumption.

Economic development tool.

Makes curb parking available, increases sales and property tax revenue, and employs people.

More Ways to Make Parking Meters Popular

1. A city can give discounts at parking meters for its own residents.
2. A city can give discounts at parking meters for smaller and cleaner cars.
3. A city can use parking meters to give free wi-fi on the metered streets.

1. Discounts at Parking Meters

Parking discounts for residents

Parking discounts for clean cars

Parking discounts for short cars

Higher gas mileage

Lower emissions

Resident Parking Discounts

Miami Beach, Florida, gives residents a discounted parking price of \$1.00 per hour instead of the posted meter price of \$1.75 per hour, a 43% discount.

Monterey, California, and Annapolis, Maryland, give residents two hours of free parking per visit in public garages.

Denver, Colorado, gives residents free parking at park-and-ride lots while nonresidents pay \$4 per day.

Richmond upon Thames, England, gives residents 30 minutes of free parking at meters.

Technology for Parking Discounts

Pay-by-license-plate technology enables the resident discounts.

Drivers pay either by cell phone or by entering their license plate number at a parking kiosk and paying with cash or credit card.

Both cell phones and meters can automatically give discounts to all cars with license plates registered in a city.

Cities link payment information to license plate numbers to show enforcement officers which cars have paid or not paid.

Sample receipt with
all three discounts

RECEIPT

Welcome to Your City

License Plate Number

145CTW

Expiration Date/Time

08:16 PM

MAY 28, 2014

Purchase Date/Time: 05:16pm May 28, 2014

Total Due: \$6.00

Rate: \$2 Per Hour

Total Paid: \$2.00

Payment Type: Card

Ticket #: 00000003

S/N #: 500022223333

Setting: Pacific Boulevard

Mach Name: LUKE II

#****-8431, American Express

Resident Discount: \$2

Small Car Discount: \$1

Clean Car Discount: \$1

Total Savings: \$4

Madrid Gives Parking Discounts to Cleaner Cars

Madrid's smart parking meters to charge more for most polluting cars

Electronic cars will park free and hybrids will get 20% off under scheme to target emissions in Spanish capital

Ashifa Kassam in Madrid

The Guardian, Wednesday 30 April 2014 12.12 EDT

Cities Can Give Parking Discounts for Smaller Cars

TABLE 1

Parking Discounts Based on Car Length

MAKE AND MODEL (in 2014) 1	CAR LENGTH (feet) 2	PARKING DISCOUNT (percent) 3	FUEL EFFICIENCY (miles/gallon) 4	CO ₂ EMISSIONS (grams/mile) 5
Rolls Royce Phantom	20.0	0%	14	637
Lincoln MKS	17.2	14%	22	400
Buick Regal	15.8	21%	24	371
Ford Fiesta	14.5	28%	29	301
Chevrolet Spark	12.1	40%	34	258
Scion iQ	10.0	50%	37	238
Smart	8.8	56%	36	243

Will Parking Discounts for Smaller Cars Be Fair?

TABLE 1

Parking Discounts Based on Car Length

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Chevrolet Spark	12.1	40%	34	258
Scion iQ	10.0	50%	37	238
Smart	8.8	56%	36	243

Will Parking Discounts for Smaller Cars Harm Poor People?

MAKE AND MODEL (in 2014) <i>1</i>	LENGTH (feet) <i>2</i>	DISCOUNT (percent) <i>3</i>	FUEL EFFICIENCY (miles/gallon) <i>4</i>	CO ₂ EMISSIONS (grams/mile) <i>5</i>
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Parking discounts for cleaner cars

Cities with serious air pollution can also give parking discounts for cars with low hydrocarbon or nitrogen oxide emissions.

Parking meters in Madrid charge 20 percent less for clean cars and 20 percent more for dirty cars.

“We thought it would be fair if the cars that pollute more pay more, and compensate those who use more efficient vehicles.”

Instant
feedback for
good behavior



Political support for market-priced curb parking, parking benefit districts, and no off-street parking requirements

Liberals will see that it increases public spending.

Conservatives will see that it relies on markets and reduces government regulation.

Environmentalists will see that it reduces energy consumption, air pollution, and carbon emissions.

Businesses will see that it unburdens enterprise.

New Urbanists will see that it improves urban design and enables people to live at high density without being overrun by cars.

Libertarians will see that it increases the opportunities for individual choice.

Property-rights advocates will see that it reduces regulations on land use.

Developers will see that it reduces building costs.

Residents will see that it pays for neighborhood public improvements.

Affordable housing advocates will see that it reduces the cost of building new housing.

Neighborhood activists will see that it devolves public decisions to the local level.

Local elected officials will see that it reduces traffic congestion, encourages infill redevelopment, and pays for local public services without raising taxes.







**THIS ONE
RUNS ON FAT
AND SAVES YOU MONEY**



**THIS ONE
RUNS ON MONEY
AND MAKES YOU FAT**



All of us, if we are reasonably comfortable, healthy and safe, owe immense debts to the past.

There is no way, of course, to repay the past. We can only repay those debts by making gifts to the future.

Jane Jacobs

We--you and I, and our government--
must avoid the impulse to live only for
today, plundering, for our own ease and
convenience, the precious resources of
tomorrow.

Dwight Eisenhower

As our case is new, so must we think anew,
and act anew.

Abraham Lincoln

Smart Parking

Reform depends
on leadership
from all of you.



The High Cost of Free Parking

DONALD SHOUP