The High Cost of Free Parking

DONALD SHOUP
You wouldn’t know it by looking at me, but urban planning keeps you young. I know because when I was a boy I told my father that when I grow up I want to be an urban planner. My father told me, “Son, ya can’t have it both ways.”
Here is a map from Barbara Solomon’s book Good Mourning California that captures one conception of California. Some Easterners think we have even hopped down all our redwood trees to make room for gas stations, like this one
Too much of suburban America look like this view of Silicon Valley. A light rail line is in the lower right hand corner of the picture, but we can’t this transit oriented development. We tend to ignore this asphalt blight in our daily life, especially when we are parked free in it, as all these cars undoubtedly are. Parking is only free to us in our role as motorists, our course, because we pay for parking dearly in every other aspect of our lives. The cost of parking does not cease to exist just because the driver doesn’t pay for it. Any sensible discussion of reforms in urban planning cannot ignore the off-street parking requirements in zoning ordinances because cities literally require this pattern of development.
Bad parking policy and no parking technology
I would say to this group something I would not say to everyone. How much money do you think any professional parking operator is earning from all this parking? It’s free to any driver. No professional expertise or advanced technology is necessary to manage it.
Planning Advisory Service report on parking standards. Standards sounds like a good thing, like high standards. But the report says nothing about standards. It does not say what parking requirements should be, it reports only the parking requirements from a selection of cities.
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)
appliance store (see clothing store)
appliance and equipment repair establishment (see also equipment 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)
auditorium (see also assembly hall; civic center)
automated teller machine (ATM) (see also bank; drive-thru)
automobile convenience store (see gas station, mini-mart)
automobile dealership (see also motor vehicle sales establishment)
automobile grave yard (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)
balcony room (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)
bathing 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)
And things are getting worse. In the 1991 survey of parking requirements, all the land uses fit onto one page. In the most recent survey in 2002, there were eight pages of the 660 land uses with parking requirements, and this is just the first page, from abattoir to boarding house. One disturbing sign of the economic boom of the 90s was the increase in adult land uses from one in 1991, which was termed adult entertainment, to 10 in 2002.
abattoir (see slaughterhouse)

accessory dwelling unit
• 1 additional space, on the same zone lot (Greenbrier, N.C., pop. 233,891)

• 1 per attached accessory dwelling unit, in addition to other required spaces (Wake County, N.C., pop. 339,456)

• 1 per bedroom (Reno, Nev., pop. 180,468)

• 1 space (Encinitas, Calif., pop. 58,014)

• 1 space per unit (Palo Alto, Calif., pop. 68,598)

• 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. 42,223)

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. 131,688)

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. 131,688)

• 1 space per 25 square feet of gross floor area (Garden Grove, Calif., pop. 165,316)

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, N.V., pop. 1,375,363)

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, 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. 131,688)

• 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)
We are in bad shape if this is what the American Planning Association’s image of the US.
<table>
<thead>
<tr>
<th>Establishment</th>
<th>Parking Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barber shop</td>
<td>2 spaces per barber</td>
</tr>
<tr>
<td>Beauty shop</td>
<td>3 spaces per beautician</td>
</tr>
<tr>
<td>Nunnery</td>
<td>1 space per 10 nuns</td>
</tr>
<tr>
<td>Rectory</td>
<td>3 spaces per 4 clergymen</td>
</tr>
<tr>
<td>Sex novelty shop</td>
<td>3 spaces per 1,000 square feet</td>
</tr>
<tr>
<td>Gas station</td>
<td>1.5 spaces per fuel nozzle</td>
</tr>
<tr>
<td>Swimming pool</td>
<td>1 space per 2,500 gallons</td>
</tr>
<tr>
<td>Mausoleum</td>
<td>10 spaces per maximum number of interments in a one-hour period</td>
</tr>
</tbody>
</table>
The requirements look simple when planners can link parking to people: 1 space per tennis player, 2 spaces per barber, and 3 spaces per beautician. But other requirements are dazzling in their combination of precision and inventiveness: 1 space per 2,500 gallons of water (for a swimming pool), 1.5 spaces per fuel nozzle (for a gas station), and 10 spaces per maximum number of interments in a one-hour period (for a mausoleum). When planners deal with difficult land uses, perhaps they simply close their eyes and tap the heels of their ruby slippers together three times to set the parking requirements.
San José's minimum parking requirements

- **Restaurant**: 1,000 square feet of building area, 8,250 required parking area
- **Dance Hall**: 1,000 square feet of building area, 8,250 required parking area
- **Skating Rink**: 1,000 square feet of building area, 6,600 required parking area
- **Auction House**: 1,000 square feet of building area, 6,600 required parking area
- **Animal Grooming**: 1,000 square feet of building area, 1,650 required parking area

*Square feet of building area and required parking area.*
The green bar shows the floor area of the building and the red bar shows the size of the required parking lot. These parking requirements produce the asphalt jungle.

Cities require that parking must be available everywhere anyone wants to go, but they create many places where no one wants to be.
## Minimum parking requirements in Southeast Florida

<table>
<thead>
<tr>
<th>Type</th>
<th>Building Area</th>
<th>Parking Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortuary (Boca Raton)</td>
<td>1,000</td>
<td>8,250</td>
</tr>
<tr>
<td>Dance Hall (Miami Beach)</td>
<td>1,000</td>
<td>5,500</td>
</tr>
<tr>
<td>Restaurant (Delray Beach)</td>
<td>1,000</td>
<td>3,960</td>
</tr>
<tr>
<td>Drinking Place (South Miami)</td>
<td>1,000</td>
<td>3,300</td>
</tr>
<tr>
<td>Educational Use (Miami)</td>
<td>1,000</td>
<td>990</td>
</tr>
</tbody>
</table>

**Square feet of building and required parking**

- **Building area**
- **Parking area**
Cincinnati's minimum parking requirements

- **Funeral and interment services**: 1,000 (Building area) - 6,600 (Parking area)
- **Commercial meeting facility**: 1,000 (Building area) - 6,600 (Parking area)
- **Drinking establishments**: 1,000 (Building area) - 2,200 (Parking area)
- **Poolroom**: 1,000 (Building area) - 1,320 (Parking area)
- **Sexually oriented business**: 1,000 (Building area) - 1,320 (Parking area)

Square feet of building and required parking:
- **Building area**: Green
- **Parking area**: Red
The green bar is the area of the building, and the red bar is the area of parking lot. Do city planners in Cincinnati really know so much about parking that they can precisely require exactly how much parking every building needs? If the government regulated any other aspect of our lives as much as it regulates the number of off-street parking spaces, we would all join the Tea Party.
Detroit's minimum parking requirements

- **Armory**: Building area 1,000, Parking area 3,300
- **Beauty Shop**: Building area 1,000, Parking area 3,300
- **Mortuary**: Building area 1,000, Parking area 3,300
- **Nail Salon**: Building area 1,000, Parking area 3,300
- **Substance Abuse Facility**: Building area 1,000, Parking area 3,300

Square feet of building and required parking

- **Building area**
- **Parking area**
Why do all these different land uses have the same parking demand? I suspect that no one in Detroit’s city planning department could explain a single one of these requirements, much explain why they are all the same. We certainly want to have plenty of parking for substance abusers.
And here is a close up of the main land use in Downtown Detroit.
Michigan Theater, Detroit

1927

Present
On June 4th, 1896, Henry Ford completed his 'quadricycle," the name he had given to his horseless carriage, in a shed on the lot on which the Michigan Theater.
The case of the Michigan Theatre emphasizes the degree to which urban development in Detroit has revolved around the automobile. We now lament this vandalism, but if it were not for the parking use, the theatre would probably have been demolished long ago. It may live to see another use in the future because of this temporary use.
Toronto developer's proposal to turn historic Detroit bank into parking lot sparks outrage. “I don’t want to do anything that isn’t good for the city, but we do need parking downtown.”
Minimum parking requirements in the Boston area

- Roller rink (Salem): 1,000 (1,000) - 9,167 (Red)
- Restaurant (Wellesley): 1,000 (1,000) - 3,300 (Red)
- Offices (Cohasset): 1,000 (1,000) - 3,300 (Red)
- Place of Worship (Cambridge): 1,000 (1,000) - 3,300 (Red)
- Retail (Medfield): 1,000 (1,000) - 2,750 (Red)

Square feet of building and required parking

- Building area - Green
- Parking area - Red
The Boston area also has some high parking requirements. Here is a sample. The green part of each bar shows the size of a building, and the red part of the bar shows the size of its required parking lot. For example, a restaurant in Wellesley will occupy less that a quarter of its lot because the parking lot is more than three times larger than the restaurant.

Are places of worship really so popular in Cambridge that the city has to require parking lots more than three times the size of the building? Or does Cambridge require such large parking lots to discourage new places of worship in a secular city?

Parking requirements in the Boston area are often quite complicated. Look at these in Medfield.
UMASS Boston, Bayside
Boston Convention Center
Lynn
Aerial views often give an unflattering impression of what you see on the ground. Here is a typical ground view.
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 CO\textsubscript{2} emissions.

Have no training in how to set a parking requirement.

Are governmentalizing what should remain private decisions.
Are politicizing what should remain market choices.
I often hear complaints that charging for curb parking is the same as privatizing it. But the government continues to own the parking, continues to manage the parking, and continues to get all the revenue. That is not privatization. Off-street parking requirements governmentalize what should be private decisions, and have created a disaster.
Table 1. The Construction Cost of a Parking Space

<table>
<thead>
<tr>
<th>City</th>
<th>Construction Cost per Square Foot</th>
<th>Construction Cost per Space</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Underground</td>
<td>Aboveground</td>
</tr>
<tr>
<td></td>
<td>$/sq ft</td>
<td>$/sq ft</td>
</tr>
<tr>
<td>Boston</td>
<td>$95</td>
<td>$75</td>
</tr>
<tr>
<td>Chicago</td>
<td>$110</td>
<td>$88</td>
</tr>
<tr>
<td>Denver</td>
<td>$78</td>
<td>$55</td>
</tr>
<tr>
<td>Honolulu</td>
<td>$145</td>
<td>$75</td>
</tr>
<tr>
<td>Las Vegas</td>
<td>$105</td>
<td>$68</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>$108</td>
<td>$83</td>
</tr>
<tr>
<td>New York</td>
<td>$105</td>
<td>$85</td>
</tr>
<tr>
<td>Phoenix</td>
<td>$80</td>
<td>$53</td>
</tr>
<tr>
<td>Portland</td>
<td>$105</td>
<td>$78</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$115</td>
<td>$88</td>
</tr>
<tr>
<td>Seattle</td>
<td>$105</td>
<td>$75</td>
</tr>
<tr>
<td>Washington, DC</td>
<td>$88</td>
<td>$68</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>$103</strong></td>
<td><strong>$74</strong></td>
</tr>
</tbody>
</table>

Source: Rider Levett Bucknall, Quarterly Construction Cost Report, Fourth Quarter 2012
Planners do not consider the cost of parking spaces when they set these parking requirements. Well, how much do parking spaces cost? I calculated this Table of parking space costs by using published estimates of local construction costs. Rider Levett Bucknall (RLB), an international consulting firm that specializes in estimating real estate construction costs, publishes quarterly cost estimates for several real estate categories in cities around the world, including 12 cities in the United States. Table 1 presents RLB’s estimates of the average cost of parking spaces in these 12 American cities in 2012. The average cost for underground parking is $34,000 per space. The average cost for aboveground parking is $24,000 per space.

How does this cost compare with our ability to pay for the required parking spaces?
One structured parking space costs more than the entire net worth of many families.
A single parking space can cost far more than the entire net worth of many American families. I estimated that the average cost per space for parking structures in the U.S. is about $24,000 for aboveground parking and $34,000 for underground parking. We can compare the cost of a parking space with the net worth of US households (the value of all assets minus all debts). In 2011, this median net worth was $68,828 for all U.S. households, $7,683 for Hispanic households and $6,314 for Black households. The average cost of one underground parking space is thus more than five times greater than median net worth for all Black households in the US. Nevertheless, cities require several parking spaces (at home, work, shopping, recreation, churches, schools) for every household.

Yet cities casually require parking spaces as though cost doesn’t matter, even though many poor people cannot afford a car. The only way a poor family can take advantage of a parking subsidy is to buy a car, which they then have to support, and which probably reduces their savings for retirement. And they

Are parking requirements really good planning? Do they really improve the welfare of poor families?
Percentage of US households with zero or negative net worth

- All Households: 18%
- White: 16%
- Hispanic: 29%
- Black: 34%
Who does not own a car?

Exhibit 1-17: Characteristics of Zero-Vehicle Households

- **Race**
  - White
  - Black
  - Asian
  - Hispanic
  - Other

- **Income**
  - Less Than $30,000
  - $30,000–$49,999
  - $50,000–$69,999
  - $70,000–$99,999
  - $100,000 or Greater

- **MSA Size**
  - Not in MSA
  - Less Than 500,000
  - In MSA of 500,000–999,999
  - In MSA of 1,000,000–2,999,999
  - In MSA of 3,000,000 or Greater

- **Density**
  - Population/Sq Mi Less Than 4,000
  - Pop/Sq Mi 4,000–9,999
  - Pop/Sq Mi 10,000 or Greater

**U.S. Average for Zero-Vehicle Households = 8.7%**

Source: 2009 NHTS.
And cities are not requiring off-street parking to help poor people. The horizontal bars in this graph show the percentage of all households who do not own a car. Poor and minority households are much more likely not to own cars. So minimum parking requirements impose heavy costs on many people who are too poor to own even one car.

I think there are two kinds of people. One cannot conceive of living without a car. The other does live without a car. Minimum parking requirements are designed for people who cannot conceive of living without a car but don’t want to pay anything for parking. Drivers park without paying, and non-drivers pay without parking. One of the worst planning mistakes cities have made is to create a city where transportation is very difficult for people who are too poor to own a car. Many poor people respond by going further into debt to buy a car at a high subprime interest rate.
<table>
<thead>
<tr>
<th>Nation</th>
<th>Median Wealth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>$225,337</td>
</tr>
<tr>
<td>Belgium</td>
<td>$172,947</td>
</tr>
<tr>
<td>Iceland</td>
<td>$164,193</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>$156,267</td>
</tr>
<tr>
<td>Italy</td>
<td>$142,296</td>
</tr>
<tr>
<td>France</td>
<td>$140,638</td>
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<td>United Kingdom</td>
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<td>Japan</td>
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<td>Singapore</td>
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<tr>
<td>Switzerland</td>
<td>$106,887</td>
</tr>
<tr>
<td>Canada</td>
<td>$98,756</td>
</tr>
<tr>
<td>Netherlands</td>
<td>$93,116</td>
</tr>
<tr>
<td>Finland</td>
<td>$88,130</td>
</tr>
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<td>Norway</td>
<td>$86,953</td>
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<tr>
<td>New Zealand</td>
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</tr>
<tr>
<td>Spain</td>
<td>$66,752</td>
</tr>
<tr>
<td>Taiwan</td>
<td>$65,375</td>
</tr>
<tr>
<td>Sweden</td>
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<td>Malta</td>
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<td>Germany</td>
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<td>Greece</td>
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Credit Suisse Global Wealth
Databook, 2014
Median wealth per adult, not per household. Not the same as annual income. It is assets minus liabilities. Many households with two or more adults, so the wealth per household is higher than the wealth per adult. Half above this median and half below. So if you are not in the top half, at least you’re in the half that makes the top half possible.

The US is nowhere near the top in this league. In fact, in 2014 we were just below Greece.

So because parking spaces cost $20 to 30 thousand per space, and because there are several parking spaces for every car—at home, work, shopping, recreation, and everywhere else, the parking spaces for your car may be worth more than you are.
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<thead>
<tr>
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<th>Mean Wealth per Adult</th>
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<td>22</td>
<td>Spain</td>
<td>$66,752</td>
</tr>
<tr>
<td>23</td>
<td>Malta</td>
<td>$63,271</td>
</tr>
<tr>
<td>24</td>
<td>Greece</td>
<td>$53,365</td>
</tr>
</tbody>
</table>

Credit Suisse Global Wealth Databook, 2014
The *mean* wealth per adult is quite different. Total wealth divided by the number of adults in the country. So some people with very high wealth bring up the mean. On average, US has higher mean wealth per adult than most other countries, although not as high as Australia and Switzerland and Iceland and Norway.
# Median and Mean Wealth per Adult

<table>
<thead>
<tr>
<th>Nation</th>
<th>Median</th>
<th>Mean</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$53,352</td>
<td>$347,845</td>
<td>6.5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>$106,887</td>
<td>$580,666</td>
<td>5.4</td>
</tr>
<tr>
<td>Sweden</td>
<td>$63,376</td>
<td>$332,616</td>
<td>5.2</td>
</tr>
<tr>
<td>Norway</td>
<td>$86,953</td>
<td>$358,655</td>
<td>4.1</td>
</tr>
<tr>
<td>Germany</td>
<td>$54,090</td>
<td>$211,049</td>
<td>3.9</td>
</tr>
<tr>
<td>Israel</td>
<td>$51,346</td>
<td>$169,064</td>
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<tr>
<td>Taiwan</td>
<td>$65,375</td>
<td>$182,756</td>
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</tr>
<tr>
<td>Canada</td>
<td>$98,756</td>
<td>$274,543</td>
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</tr>
<tr>
<td>Qatar</td>
<td>$56,969</td>
<td>$156,096</td>
<td>2.7</td>
</tr>
<tr>
<td>Singapore</td>
<td>$109,250</td>
<td>$289,902</td>
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</tr>
<tr>
<td>New Zealand</td>
<td>$82,610</td>
<td>$204,401</td>
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</tr>
<tr>
<td>Netherlands</td>
<td>$93,116</td>
<td>$210,233</td>
<td>2.3</td>
</tr>
<tr>
<td>France</td>
<td>$140,638</td>
<td>$317,292</td>
<td>2.3</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>$130,590</td>
<td>$292,621</td>
<td>2.2</td>
</tr>
<tr>
<td>Finland</td>
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<td>Luxembourg</td>
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<td>Greece</td>
<td>$53,365</td>
<td>$111,405</td>
<td>2.1</td>
</tr>
<tr>
<td>Spain</td>
<td>$66,752</td>
<td>$134,824</td>
<td>2.0</td>
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<tr>
<td>Japan</td>
<td>$112,998</td>
<td>$222,150</td>
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</tr>
<tr>
<td>Australia</td>
<td>$225,337</td>
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<tr>
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<td>1.8</td>
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<td>Malta</td>
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<tr>
<td>Belgium</td>
<td>$172,947</td>
<td>$300,850</td>
<td>1.7</td>
</tr>
</tbody>
</table>

Credit Suisse Global Wealth Databook, 2014
We can also calculate the ratio of the mean to the median wealth. At last we get to number 1. The US mean is 6 times the median, a higher ratio than in any other country in this list.

But when we focus on the median wealth, the large number of cars and parking spaces in the US is not due to our greater wealth. I think it is in large part due to our bad planning policies. But the upside of the mess that we have made is that better planning policies can greatly improve life.
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. Establish Parking Benefit Districts to spend the meter revenue in 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.
I want to discuss two linked reforms in parking policies. And I will illustrate them by discussing the success in a city that has done much of what I recommend.

The first policy is to charge the right price for curb parking to increase efficiency.

The second policy is to return the meter revenue to the metered neighborhoods to make the performance-based prices politically popular.
1. Performance-based Parking 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.

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.
SFpark is a smart parking policies that require the latest parking technology. It aims to set the price of curb parking to ensure one or two open spaces on every block, so that drivers will never have to circle the block several times before they find a parking space. It needs parking meters that can charge different prices at different times of day, and occupancy sensors in the parking spaces to measure the demand at each time of day. Fortunately, advanced meters and occupancy sensors now enable cities to manage parking demand in ways that were previously impossible, and, for most people, even imaginable.
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
Many people seem to think that charging fair market prices for curb parking require a wrenching social change, almost as cataclysmic as the Reformation, or Prohibition.

But it is really very small. A small change can achieve a big result.
SFpark:
Putting Theory Into Practice
Post-launch implementation summary and lessons learned
Parking prices and occupancy rates

- Chestnut St.
- Lombard St.

Average occupancy rates for Chestnut St. and Lombard St. over the period from July 2011 to April 2013.
Sfpark is not a plug-and-play operation that produces immediate results. It has taken patience and many small price changes to achieve the desired outcome. The first change on Lombard Street was a bit disappointing. The average price went down, and so did occupancy. But prices kept going doing and occupancy eventually crepe up. Both street started out at $2 an hour. The average price on Lombard fell by 50% and it rose on Chestnut by 75%.

This trend of occupancy toward the target range on Lombard and Chestnut is happening throughout the Sfpark zone.
Share of SFpark Blocks in Each Occupancy Range

- Under-occupied
- Target Occupancy
- Over-occupied

July 2011: 32%
October 2011: 17%
November 2011: 26%
February 2012: 10%
March 2012: 10%
April 2012: 20%
May 2012: 30%
June 2012: 40%
July 2012: 50%
August 2012: 60%
September 2012: 70%
October 2012: 73%
November 2012: 10%
December 2012: 20%
January 2013: 30%
February 2013: 40%
March 2013: 50%
April 2013: 60%
May 2013: 70%
June 2013: 80%
Parking prices in April 2013, 3 pm to 6 pm
Surprising how prices vary so much over such a short distance. But what else would you recommend if these prices simply respond to demand, and produce similar occupancy rates on most block?

People often ask me whether richer drivers will push out poorer drivers. Well, suppose you were short of money, and you wanted to park on the street in this area. Would you rather face the previous prices of $2 an hour on every block, or these prices after 10 adjustments in the first two years of Sfpark? If you are willing to walk a block or two, you could pay only 50 cents an hour. And suppose that money didn’t matter to you, and you only wanted to park in front of the address you are visiting. Would you prefer the previous system of uniform prices, or the Sfpark prices that ensured a vacancy on every block? So who is being hurt here?
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.
One big surprise in Sfpark. If you see many vacant meter spaces the price is too high.
STOP THE PARKING METER HIKE!

Make the rich pay, not the workers! Don’t squeeze workers and small business.

An attack is underway, in San Francisco to push the burden of the economic crisis onto the workers. Transportation officials are attempting to extend metered parking to midnight and Sundays.

In Oakland, a popular movement of small business owners and workers stopped the city’s plans to raise parking rates. We can fight back and win!

With this proposal, for almost 24-hours a day your car will be subject to heavy fines. Parking tickets are already astronomical.

THIS IS A TAX ON THE PEOPLE!

It’s time to organize and defeat the parking meter robbery!

Join the campaign! Call the ANSWER Coalition at 415-821-6545
www.ANSWERsf.org • ANSWER@answersf.org

UNA ATACA ESTÁ OCURRENDO EN SAN FRANCISCO, PARA PONER EL PESO DE LA CRISIS ECONÓMICA SOBRE LOS TRABAJADORES. OFICIALES DE TRANSPORTE ESTÁN INTENTANDO EXTENDER LAS HORAS DE LOS PARQUÍMETROS HACIA MEDIANOCHE Y LOS DOMINGOS.

En Oakland, un movimiento popular de las comunidades, de los trabajadores y de los negocios pequeños detuvieron gran parte de los planes de esa ciudad para aumentar las tarifas de los parquímetros. ¡SI PODEMOS Luchar Y ganar! Con esta propuesta, por casi 24-horas al día su coche será sujeto a tarifas altísimas. Multas ya son astronómicas.

¡ESTO ES UN IMPUESTO ILEGAL A LA GENTE!

¡Es la hora para organizarnos y derrotar el robo por los parquímetros!

¡Únete a la campaña! Llame a la Coalición ANSWER al 415.821.6545
www.ANSWERsf.org • ANSWER@answersf.org
It sounds even more dramatic in Spanish, with many more exclamation points.
They oppose foreign wars for oil but demand free parking at home.
No wars for foreign oil, but free parking at home. 30% of San Francisco’s households don’t own a car, probably because most of them can’t afford a car. And all the parking meter revenue goes to support public transit. So, many of the city’s poorest residents ride buses that are mired in traffic caused by richer drivers hunting for underpriced curb parking.

Is charging for curb parking really going to harm poor people? I argue that it will help them, and that if you are advocating for the rights of the poorest citizens, you should support SFpark.

Policies that subsidize cars over all the alternatives are not a good way to help the poor.

Free parking for everyone reduces public revenues and therefore public services. Poor people are less able to replace public services with private purchases the way rich people can.

Cities have a limited amount of money to spend on helping poor people. Is subsidized parking for everyone the best way to spend this money, when many poor people don’t own a car and most rich people have several cars.

If you have some money to help poor people, spending it provide free parking for everyone who is rich enough to own a car is unwise.
Average cruising time before parking declined by 43%
Researchers measured the time it takes to find an open spaces, and it fell by from about 11 minutes to about 6 minutes after 10 price adjustments.
Daily cruising travel per meter declined by 30%
Before SFpark, drivers cruised about 3.7 miles before cruising at a meter per day, and after ten price adjustments, this cruising fell by about 1 mile per day. Sfpark did’n eliminate cruising, but reduced it significantly.
Total vehicle travel for cruising declined by about 2,400 miles per day in the pilot area.
Vehicle miles traveled for cruising in the pilot area fell by 30%.
Vehicle travel and greenhouse gas emissions declined by 30%
Greenhouse gas emissions from cars in the pilot area fell by 30%.
Number of parking tickets declined by 23%
23% fewer citations at meters because it is easier to pay with credit cards and by cell phones. 12% fewer citation in control area.
Double parking declined
Double parking declined because you don’t need to double park if there are open spaces at the curb. This graph shows the number of double-parked cars on the vertical axis as a function of the occupancy rate on the horizontal axis.
Change in sales tax revenue, FY2006–2013

Food product, general retail and miscellaneous; chain stores excluded
Most important. How did the variable parking prices affect the businesses in the pilot area. The program began in 2010, just as the country was beginning to come out of the recession that began in 2008. Sales tax revenue measures the taxable sales in the districts. Business improved faster in the pilot area than in the control area, which is what I expected. If everyone can easily find an open curb space, and if no block has many vacant spaces, you would expect the businesses to prosper. No one will say it’s hard to find a curb space.
Will charging for curb 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.
Some people who don’t want to pay for parking push poor people out in front of them like human shields, saying that cities can’t charge for parking because it will hurt the poor. Even people who can’t afford a car or choose not to own one still have to pay for parking. But they can benefit from the public revenue that meters can generate. I think it’s much fairer if I pay for my parking, and you pay for yours. Someone who is too poor to own a car shouldn't pay for anyone's parking. If someone objects that some poor people won’t be able afford it, they seem to expect the automatic response, “Well, OK, we won’t do that.” It’s a conversation stopper, and even a thinking stopper. Nobody wants to pay for parking, including me, but we shouldn’t take seriously drivers who attempt to camouflage their own selfish motives as altruism and a concern for “the poor.”
A common argument against toll roads and parking charges is that we risk drowning in a sea of small charges every time we park. Transportation economists rightly dismiss critics who complain that toll roads would create congestion as drivers fumble for coins at toll booths. The critics are sadly out of date because electronic toll collection has eliminated the need for toll booths. The technology of charging for parking is advancing just as rapidly as the technology for toll collection. Complaining about the need for millions of meter readers is just as out of date as complaining about toll booths on freeways. But when most Americans think about charging for parking, they think about their grandfather’s parking meters.
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 21133A CVSC
Hi-tech parking meters are common in other countries, but most Americans don’t understand how much better the new meters are. They accept payment by coins, bills, credit cards, smart cards, and cell phones. Drivers thus don’t need to carry exact change to feed the meters. They can charge different prices by time of day or day of the week, depending on parking demand. Parking officials can remotely reconfigure the price schedule in any neighborhood, and the new rates are sent wirelessly to all the meters in the neighborhood. can show information on a large, interactive graphic screen, so they can convey complex information. They can be multilingual, show graphics, and guide the user through transactions, displaying messages such as “Please insert your card other side up.” Here is one on the UCLA campus.
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

<table>
<thead>
<tr>
<th>Number of open spaces</th>
<th>Percentage of observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>7%</td>
</tr>
<tr>
<td>1</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>27%</td>
</tr>
<tr>
<td>3</td>
<td>7%</td>
</tr>
</tbody>
</table>

0% 0% 0% 0% 0% 0% 0% 0%
At a price of $1.25 an hour at every meter, and free everywhere else, does the curb parking supply in Boston work as well as this in delivering customers to stores and restaurants and everything else that Boston has to offer? Or does Boston’s policy create a lot of dissatisfaction, as suggested by the cover of this guidebook to parking in Boston.
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.”
Do you think the price of parking in the spaces I photographed at UCLA was too high? Or to low? Or just right. The right price of curb parking is a bit like the Supreme Court’s definition of pornography. “I know it when I see it,” And that’s really the only way to set the right price for curb parking. Most cities rely on emotions and feelings, not on analysis and facts, when it comes to setting the rate for parking meters, if the city even has parking meters.

I am not saying that $3 an hour is the right price for parking. I am saying that $3 an hour is the right price at this time in this place. After you have seen these results, what would you say? Like the Supreme Court’s definition of pornography.
Information wants to be free.

Parking wants to be paid for.
Information will help drivers to get the best bargain. If you are in a hurry and see that prices are high near your destination, you may be willing to pay a high price to park right near the front door. If you are a poor student and see that prices are low a few blocks away, you may be willing to walk a few blocks from your car to the front door.
Cruising for Parking
Urban problems often become widely recognized only after solutions are available, and I’d like to talk about a problem for which there now seems to be a solution. The two other speakers today will explain the solution, and I would like to talk about the problem of cruising for parking.
Off-street: $20/hour
On-street: $1/hour

New York City
Cheap curb parking creates the incentive to cruise. Here are the prices of parking at the curb and in a garage on 26\textsuperscript{th} street in Manhattan. Drivers often compare the prices of parking at the curb or in a garage and decide that the price of garage parking is too high, but in fact the reverse is true. The price of curb parking is too \textit{low}. Underpriced curb spaces are like rent-controlled apartments: they are hard to find, and once you find one you’d be crazy to give it up. This makes the spaces even harder to find, and increases the time costs (and therefore the congestion and pollution costs) of looking for them. Like rent-controlled apartments, curb spaces go to the lucky more than to the deserving. One person might find a curb space and park there for hours, while others who are late for a meeting or a doctor’s appointment are left to circle the block, making themselves—and other drivers—miserable.
Cruising for underpriced curb 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 curb 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 curb 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 curb parking should cost $20/hour.
If the city set performance-based prices for on-street parking, that would be the lowest price that yields one or two open spaces on each block. That competition would bring down the price for the first hour of off-street parking. Garages can charge such a high price because there are no open curb spaces. If performance prices are the solution, what is the problem. Well, the difficulty of finding underpriced curb parking is a problem that leads to cruising. If curb parking is cheaper than adjacent off-street parking but all the curb spaces are occupied, we are all tempted to cruise around in search of a space being vacated by a departing car.
<table>
<thead>
<tr>
<th>Year</th>
<th>City</th>
<th>Share of traffic cruising (percent)</th>
<th>Average search time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1927</td>
<td>Detroit</td>
<td>19%</td>
<td>34%</td>
</tr>
<tr>
<td>1927</td>
<td>Detroit</td>
<td>34%</td>
<td>34%</td>
</tr>
<tr>
<td>1934</td>
<td>Washington</td>
<td>8%</td>
<td>8.0</td>
</tr>
<tr>
<td>1962</td>
<td>New Haven</td>
<td>17%</td>
<td>8.0</td>
</tr>
<tr>
<td>1965</td>
<td>London</td>
<td></td>
<td>6.1</td>
</tr>
<tr>
<td>1966</td>
<td>London</td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>1966</td>
<td>London</td>
<td></td>
<td>3.6</td>
</tr>
<tr>
<td>1977</td>
<td>Freiburg</td>
<td>74%</td>
<td>6.0</td>
</tr>
<tr>
<td>1984</td>
<td>Jerusalem</td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td>1985</td>
<td>Cambridge</td>
<td>30%</td>
<td>11.5</td>
</tr>
<tr>
<td>1993</td>
<td>Cape Town</td>
<td></td>
<td>12.2</td>
</tr>
<tr>
<td>1993</td>
<td>New York</td>
<td>8%</td>
<td>7.9</td>
</tr>
<tr>
<td>1993</td>
<td>New York</td>
<td>8%</td>
<td>10.2</td>
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<tr>
<td>1993</td>
<td>New York</td>
<td>8%</td>
<td>13.9</td>
</tr>
<tr>
<td>1997</td>
<td>San Francisco</td>
<td></td>
<td>6.5</td>
</tr>
<tr>
<td>2001</td>
<td>Sydney</td>
<td></td>
<td>6.5</td>
</tr>
<tr>
<td>2005</td>
<td>Los Angeles</td>
<td>68%</td>
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<tr>
<td>2007</td>
<td>New York</td>
<td>28%</td>
<td>3.3</td>
</tr>
<tr>
<td>2007</td>
<td>New York</td>
<td>45%</td>
<td>3.3</td>
</tr>
<tr>
<td>2008</td>
<td>New York</td>
<td>18%</td>
<td>3.8</td>
</tr>
<tr>
<td>2011</td>
<td>Barcelona</td>
<td></td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td><strong>34%</strong></td>
<td><strong>7.5</strong></td>
</tr>
</tbody>
</table>
21 studies in 13 cities on four continents. On average, the research found that about a third of the cars in traffic were cruising for parking, and that it took 7.5 minutes to find a curb space. This does not represent all cities, because researchers looked for cruising in congested districts where they expected to find it.
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 PM TO 9:30 PM - THURSDAY, MARCH 30, 1939

OBSERVED 6 TIMES

OBSERVED 6 TIMES

OBSERVED 7 TIMES

OBSERVED 8 TIMES

OBSERVED 9 TIMES

OBSERVED 11 TIMES

LEGEND: ★★ POINT OF OBSERVATION

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
Chicago
Probability of finding parking space

- Car in front of you: 100%
- You: 0%
- Car behind you: 100%
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
My second recommended reform is to use the revenue to pay for public investment on the metered streets. This use of the revenue should create political support for the policy of Goldilocks prices of curb parking. To show the benefits of spending meter revenue on the blocks that generate it, I’ll describe how this policy has worked out in practice in Pasadena, California.
“Take away a few more parking spaces.”
And this is how many citizens probably see transportation planners. Even people who don’t own a car often oppose charging market prices for parking. It’s a form of Stockholm Syndrome.
Some people say that charging for curb parking is Un-American. Well, I think it’s very American. Here is a scene in the residential neighborhood surrounding the Los Angeles Coliseum during the 1984 Olympic Games. During any big event at the Coliseum, the residents park their own cars on the street and charge spectators to park in their driveways. It would be easier for the city to charge spectators for curb parking, and to spend the revenue for public improvements in the neighborhood.
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.”
Those who have been to Old Pasadena lately might find it hard to believe that it was once a Skid Row. Here are some comments from the City’s Plan for Old Pasadena. The area as seedy, unkempt and unsafe. The main land uses were pawn shops, porn theatres, and tattoo parlors.
This is what it looks like now. What explains the change during the last 25 years?
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.
Debates about the meters dragged on for two years before the city compromised with the merchants and property owners. To defuse opposition, the city offered to spend all the meter revenue to pay for public investments in Old Pasadena. The business and property owners quickly agreed to the proposal because they saw that they would directly benefit from it, and the desire for public improvements soon outweighed the fear of driving customers away. Businesses and property owners began to see the parking meters in a new light—as a source of revenue. They agreed to an unusually high rate of $1 an hour for curb parking, and to the unusual policy of operating the meters in the evenings and on Sunday. The city liked the arrangement because it wanted to improve Old Pasadena. The city needed $5 million to finance the ambitious plan to invest in Old Pasadena’s streetscape and to convert its alleys into walkways with access to shops and restaurants, and the meter revenue would pay for the project.
Old Pasadena. We’ve come a long way. This might seem silly to some people, but if not for our parking meters, it’s 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
The city worked with Old Pasadena’s Business Improvement District to establish the boundaries of the Old Pasadena Parking Meter Zone (PMZ) where the parking meters were installed. Only the blocks with parking meters benefit directly from the meter revenue. The city also established the Old Pasadena PMZ Advisory Board, consisting of business and property owners who recommend parking policies and set spending priorities for the zone’s meter revenues. Connecting the meter revenues directly to added public services, and local control, are largely responsible for the parking program’s success.
Turning Small Change into Big Changes
Note the new street trees and historic street lights. Paid for from meter revenue.
Note the new street trees, and the restored brick façade on the corner.
This was formerly an abandoned tire warehouse, now a department store. Saks Fifth Avenue has since closed, but it will no doubt open with a new use. The closing of Saks doesn’t mean that Old Pasadena can’t support high-end retail, because a new Tiffany store has opened less than half a block away.
The alleys were dumps, like so many alleys in American cities. Now, they are used for stores and sidewalk cafes.
Remember, this was a slum 30 years ago. Parking meters with revenue return contributed greatly to remaking Old Pasadena.
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 meters have a natural source of opposition—the drivers who pay for curb parking. That’s why it’s so important to create support for the meters by spending the meter money on local public investments. If residents and merchants and property owners can see the public improvements on the metered streets, they form natural source of support for the meters. Without this local public spending financed by the meters, it’s harder to see the meters’ benefits. Drivers who have an easier time finding a curb space don’t know it’s because of the meters. Drivers who suffer less traffic congestion don’t know it’s because there is less cruising for free parking. People who breath cleaner air don’t know it’s because less cruising produces less pollution. And so on. You have to show the meter money at work to convince most people that parking meters are a good idea. Free Wi-Fi gives instant gratification. Don’t have to promise that things will be better.
Ventura parking ordinance

A program of managing on-street and off-street parking to achieve a 15% vacancy rate. Using metered parking to achieve a vacancy rate of 15% eliminates the need for time restrictions on those metered parking spaces.

All moneys collected from parking meters in this city shall be placed in a special fund, which fund shall be devoted exclusively to purposes within the geographic boundaries of the parking district from which the revenue is collected.
For installation and maintenance of alternative mode programs, landscaping, pedestrian linkages, sidewalk cleaning, street furniture, wayfinding systems, and traffic-control devices and signals.

For construction and maintenance of public restrooms that enhance parking facilities.

Revenues from residential parking permits may, in addition to the foregoing, be used for sidewalk, landscaping and other transportation, pedestrian or bicycle enhancements on streets where the residential permit parking is provided.
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.
Parking benefit districts. A city can install parking meters and tell everyone that the City Council knows best how to spend the money. Or the city can offer to install parking meters and ask the residents how they would like to spend the money the meters generate in their neighborhood. That is the city can simply take all the revenue for the general fund, or offer to spend some of the incremental revenue on a neighborhoods highest priority. Which policy do you think will lead a neighborhood to ask for parking meters, or to ask to run the meters later at night, or on Sunday. The usual policy is for the city to take the increment, and the metered neighborhood gets the excrement.

Boulder uses the parking meter in its downtown to pay for free transit passes for everyone who works downtown. AEcoPass
3. Remove Off-street Parking Requirements
Manhattan is, of course, unique. I’d like to end where I began, in the suburbs. Too much of America is devoted to parking, by law. Parking requirements shift scarce land and capital from housing for people to housing for cars. Zoning requires several homes for every car, but ignores homeless people. By increasing the cost of housing, parking requirements make the real homelessness problem even worse. In city planning, free parking has become more important than affordable housing. How can we get out of the mess we are in?
The natural setting is quite beautiful, but only cars can enjoy it. What might this parking lot look like if we could convert some of it to housing?
Well, how about this? Talk about jobs/housing balance! I used Photoshop to transplant these buildings from London to California but they may not be realistic here.
So I tried some apartment buildings from Los Angeles, which may be a more likely outcome. They show that much land now devoted to parking can be developed as housing, once cities remove off-street parking requirements. Employees who live in these buildings could walk across the parking lots to work. The housing can built without parking, greatly reducing its cost, and the existing parking spaces can be shared between the offices and the apartments. Residents who live here and work elsewhere can share the parking spaces with employees who live elsewhere and work here. So the upside of our current mess is that we have an accidental land reserve for housing right where we need it most.
And if the first apartment buildings work out well, the landowner can add another. The land may become so valuable that underground parking may become economical, and some of the surface parking can disappear. How will removing off-street parking requirements affect employment in the area? We can import housing. If you were a carpenter, an electrician, a plumber, or a day laborer, would you like to see this happening, not on just one site but on many sites? What are the effects on wages, on unemployment?
Could be any kind of buildings. Shops, garden apartments, restaurants, single-family houses.
The solution is in the site.
Building housing on formerly required parking lots will help to solve many problems. Cars and fuel are often imported, but apartment houses are made in America, so shifting land from parking to housing will increase employment. The land is already assembled in single ownerships, and the sites are cleared for construction. But to get this result we have to do three things. First, remove off-street parking requirements in zoning ordinances to make housing construction possible. Second, charge for curb parking to prevent spillover. And third, spend the revenue on neighborhood public services to make these prices politically acceptable. The results would address many important problems Americans now face.

One writer commented that building infill housing on parking lots would be the world’s largest land-reclamation project outside the Netherlands.

This is not gentrification, and it does not displace anyone because no one lives there now.
Effects of removing parking requirements and building job-adjacent housing on former parking lots

Create jobs
Increase the housing supply
Reduce time spent commuting
Reduce spending on cars and fuel
Reduce traffic congestion and air pollution
Increase the demand for smart parking technology
Slow climate change
Consider these common complaints: Long commutes; traffic congestion; air pollution; energy consumption; oil dependence; high housing costs; and global warming. Getting rid of off-street parking requirements will contribute to solving every one of these problems. These reforms will:

We *can* have lower housing costs, less traffic, a healthier economy, a cleaner environment, and a better jobs/housing balance if we change our unwise planning for parking.

Money and time now spent on cars and fuel will be available for something else.

I understand that many residents of Florida worry that rising sea levels may flood much of the state. If carbon emissions from cars accelerate the rise in sea level, do you think Florida might be safer if all the cities on earth adopt the parking policies I recommend? Or do you think Florida would be safer if all the other cities on earth instead adopt Florida’s parking policies of free or cheap curb parking and high off-street parking requirements? And if Florida won’t change its own parking policies, should the rest of us worry about flooding in Florida? I understand that Florida is working to strengthen its coastal infrastructure to protect against rising sea levels, but it is smart to build dikes around free parking? Charging for parking could generate funds needed for coastal infrastructure.
Pan-Ideological Support for Market-Priced Curb Parking
Experience is showing that both the left and the right can agree on SFpark.
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.
All parking is political, and the prospects for parking reform depend on what the political context allows. Diverse interests from across the political spectrum can for different reasons support a shift from minimum parking requirements to performance parking prices.
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.
If climate change raises the sea level, Florida will be one of the first places to suffer. Would you like to see the rest of the world adopt the parking policies I recommend? Reduce cruising and reduce subsidies for parking? If you would like to see the rest of the world adopt these policies, I think cities in Florida should adopt these policies.

The one thing that all these diverse groups can probably agree on, however, is that no one wants to pay for parking. That is why I emphasize so strongly that cities have to spend the meter revenue on the metered blocks so that local stakeholders will want to charge for curb parking. The current system of planning for parking does so much harm that the right reforms can benefit almost everyone.
What will be do with all the cars we won’t heed? Here is a suggestion. It’s a 1982 sculpture in France called Long Term Parking. The combination of 60 cars and 1,600 tons of concrete won a place in the Guinness Book of Records as the art sculpture containing the most whole cars. The sculptor, Arman, formerly taught at UCLA and he was famous for his accumulation art.
We’ll have to find new uses for all the gigantic parking structures we’ve saddled ourselves with.
Here’s one suggestion of what to do with them. The photographer Spencer Tunick gets thousands of people to congregate nude in various locations. Maybe you could invite him to photograph one your own garages here in Sacramento.
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 aren’t a wealthy country because of what you and I have done. We live in a wealthy county because we were born here, and we owe a lot to the past. I hope I’ve helped you to think about ideas for making some planning gifts to the future.

But no matter what we do, I realize the parking problem will always be with us, unless, perhaps, General Motors succeeds with a technology they are secretly working on. Here is a grainy film that I found on Wikileaks.
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
And here is another part of President Eisenhower’s famous military-industrial complex speech. We now seem to be plundering the resources of tomorrow at a rate that President Eisenhower could not have imagined.
As our case is new, so must we think anew, and act anew.

Abraham Lincoln
I think our case is new, and it’s time to think anew about parking, and to act anew

You probably don’t often hear a professor ending a lecture with quotes from two Republican presidents, but I suspect that all our presidents would agree with Eisenhower and Lincoln. Despite all the institutional inertia in urban planning, reforms are sprouting. Paradigm shifts in urban planning are often barely noticeable while they are happening, and afterward it is often hard to tell that anything has changed.

But the parking problem will always be with us, unless, perhaps, General Motors succeeds with one promising strategy that it is working on. If this technology pans out, it can restore the leadership of the American auto industry, although I suspect that some of the parking lot owners may not be pleased. Here is some grainy footage of their experimental prototype.
Smart Parking
But the parking problem will always be with us, unless, perhaps, General Motors succeeds with one promising strategy that it is working on. If this technology pans out, it can restore the leadership of the American auto industry, although I suspect that some of the parking operators and equipment manufacturers here may not like it.
Reform depends on leadership from all of you.
Parking is free for cars, but housing is expensive for people, and we have our priorities exactly the wrong way around. Cities have made great mistakes in planning for parking, and you can help to correct it. Reform depends on leadership from all of you.

Well, that’s about all I know, so I’d better stop. Thank you for giving me the opportunity to speak to you today. I look forward to hearing your comments and questions.