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Putting Parking into Reverse

Professor's Theories Influence Cities to Reconsider Pervasive Free Parking

By Josh Stephens



Donald Shoup
Professor Donald Shoup rides his bike to work at UCLA.

By some estimates, the only thing Ferraris, Hummers and Priuses have in common is that 95 percent of the time they're all going nowhere. Though idleness would seem to be the most benign aspect of America's automotive fleet, UCLA Planning Professor Donald Shoup has written 733 pages that say otherwise. Because when cars aren't going, they are parked somewhere, and when they are parked in one place, an average of six spaces per car nationwide stand vacant. Shoup considers the proliferation of parking spaces to be a plague on American cities, and because the vast majority lie open for the taking, they represent the largest devaluation of real estate short of the subprime

mortgage crisis.

Published in 2005, Shoup's *The High Cost of Free Parking* amounts to an unwieldy volume full of data, regressions, and intricate analysis of these most overlooked squares on the grid of American cities. If America's streets were a Monopoly board, it would be a dull contest indeed, with almost every space "Free Parking." Each of the country's roughly 200 million vehicles typically demands spaces at home and work, with shares of countless spaces at the market, restaurant, post office, mall and every other imaginable destination. Eighty-seven percent of all trips are made by personal vehicle and 99 percent of those trips arrive at a free parking space.

Many of these spaces stem from carelessly planned street parking schemes and arbitrary minimum parking requirements, by which cities dictate the number of spaces that different types of land uses must provide for tenants and customers. The result is a land use that is as ubiquitous as it is vapid and that, according to Shoup, "disfigures the landscape, distorts urban form, damages the environment, and wastes money that could be spent more productively elsewhere." Shoup estimates that the total annual subsidy of free off-street parking exceeds \$300 billion per year.

Car Culture "Ruined the City"



Published in 2005, The High Cost of Free Parking has begun to influence planners and policymakers in cities across the country.

Dr. Shoup Prescribes .

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- "Performance pricing" of street parking according to the "85 percent rule," so that it is expensive enough to promote frequent turnover and keep 15 percent of spaces empty at all times.
- "Parking benefit districts" which invest meter revenues in sidewalks, street trees, repairs and other public amenities.
- Shared/community parking.
- Parking maximums,

Because most requirements call for on-site parking, the cart often comes before the horse as developers design their sites. At restaurants, parking often takes up more space than the eateries themselves. Office buildings look like spires perched on blocks of concrete. Suburban malls look ready to signal mayday lest they spring a leak. Meanwhile, free parking affects driver behavior by making driving artificially inexpensive. At its most ironic extremes, Shoup's research contends that drivers can circle blocks endlessly in search of cheap street parking while burning more gas money than they would save by going directly to private lots.

At the metropolitan scale, according to Shoup, all of these requirements have caused cities to bloat according to a vicious cycle. As parking requirements facilitate the use of cars, total travel increases, public transit use decreases, buildings scoot farther away from each other, density diminishes, central cities go into tailspins and sprawl increases—all of which, in turn, increases the need for more parking. The result is pockmarked cities, wasted money and an archipelago of literally billions of spaces that, collectively, take up more land than many countries.

"They've ruined the city," said Shoup, who often rides his bicycle to work at UCLA. "People don't know why the city looks so ugly and why there are shopping centers in the middle of a giant sea of parking."

One would think that such a massive investment on the part of homeowners, businesses and cities would depend on careful study and rational planning, which would determine precisely the amount of parking that each particular use requires and analyze the attendant costs and benefits. Instead, Shoup contends that the single biggest blight on American cities is also the least-studied and most poorly understood, even as recent planning trends have been calling for the revitalization of urban centers.

"I'm really saying that cities are doing everything wrong, when it comes to parking," Shoup said. "I firmly believe that. For 75 years we've made terrible mistakes with nobody noticing."

"I think building cities around cars is the great, unaddressed issue," said Rick Cole, city manager for Ventura, Calif. "Parking is the most glaring example of how we have systematically subsidized an auto-driven landscape and systematically devalued the pedestrian landscape."

How anyone managed to miss over 3 million acres of garages, lots, aprons, lanes and carports is anyone's guess, as planners have placed as much value on studying parking as Americans have on paying for it.

"I think we've been more aware of the problem of moving in automobiles, traffic flow, traffic congestion . . ." said John Jakle, co-author of *Lots of Parking: Land Use in a Car Culture*. "But we really haven't thought seriously about storage problems."

Origins of Free Parking Policies

What began as an amenity for businesses turned into a requirement as cities insisted that private establishments provide parking to lessen the load on city streets. Minimum parking requirements spread across the urban frontier like wildfire, and by the middle of the 20th century nearly all urban and suburban land uses fell under their sway.

not minimums.

- More rational estimates of parking demand.
- Off-site parking for both commercial and residential.
- Use of smart technology, such as in-pavement sensors and meters with rates that vary according to demand.
- Adaptive reuse of mall and big box parking lots.



University of
Minnesota
Metropolitan Design
Center

*Parking lots tend to
push
neighborhoods
apart, disturbing
the continuity of
cities and
downtowns,
according to Shoup.*

The underlying problem, according to Shoup, is that the requirements themselves were based on a combination of poor data, mimicry and sheer whimsy. At their most scientific, they account for annual peak demand—the maximum number of cars on the busiest day of the year—rather than something that could be construed as an average. A “pseudoscience” was created out of assigning precise requirements to everything from convents to batting cages, and couching them in terms of “requirements” implied that they

must be provided free of charge.

They gave planners a ready tool with which to prescribe ideal minimums for all imaginable uses and according to arcane measurements: typically, barbershops must have two spaces per barber; rectories, three spaces per four clergymen; bicycle repair, three spaces per 1,000 square feet (oh, the irony); office buildings, 2.79 for every 1,000 square feet; large shopping centers require five spaces for every 1,000 leasable square feet; and even apartments often have a minimum of two spaces. In new developments, these requirements equate to thousands of dollars of added cost, even just for surface lots. Meanwhile, fitting in parking spaces means that all other elements of the urban fabric are pushed away from each other, leading to the vicious cycle that Americans know as sprawl.

“We do things in this country and in other places because we think they make sense and then over time, they make less and less sense,” said former Massachusetts Gov. Michael Dukakis, an outspoken proponent of Shoup’s ideas.

But Shoup notes that the absence of a price does not equate to an absence of cost. As “perhaps the most spatial of economic activities”—because it trades in nothing but space itself—parking imposes costs that factor into everything from rents to Big Macs. And the demand data on which planners rely reflects the demand for free parking—as opposed to parking that is priced like any other good or service.

“There is a cost for parking,” Jakle said. “We just have obscured it and passed it along in various ways under this notion that everybody ought to have a right to park, free of charge.”

Shoup contends that many parking requirements are, at best, based on the demand for free—as opposed to rationally priced—parking. Others rely on little more than tradition, myth and the sort of foolish consistency that Emerson warned of while he was strolling about the woods. The rest comes from sources such as the Institute for Transportation Engineering’s *Parking Generation*, which relies on parking data gathered largely from suburban, single-use sites and that is difficult to interpret for all but the savviest statisticians.

“If you take any of this data out of context . . . you’re doing somebody a disservice,” said Kevin Hooper,

technical editor of *Parking Generation*. “Everybody has a different perspective on what this data might mean.”

“[Old parking manuals] give you numbers as if Moses wrote them,” said Jose Gomez-Ibanez, professor of planning at Harvard. “Now they give you a range and show you how many studies they came from. It’s all from [Shoup’s] criticism about how arbitrary they are.”

The result of relying on those numbers was the viral proliferation of convenient but nearly baseless parking minimums in city after city.

“It was reactive, they copied each other,” Shoup said. “Students have learned nothing in their graduate education, because the professors had nothing to teach them, and didn’t want to anyway.” Planners were doing the opposite of what the field implies—“just winging it.”

Changing Minds

Shoup’s response is a systematic collection of criticisms and policy recommendations aimed at breaking America’s addiction to free parking. He is not fighting with ideology, he said, but with hard, cold logic.

“It isn’t just opinion,” he said. “I wanted to really demolish what the current practice is and make it indefensible. I think I’ve done that.”



Donald Shoup

Shoup contends underused parking towers are a blight on cities such as Los Angeles.

Though Shoup himself gives only the occasional informational lecture and admits that his book is nearly unreadable in its entirety, it has turned into a manifesto for a growing movement of planners, public officials and other loyal revolutionaries who decry the degradation of the urban landscape. These self-styled “Shoupistas” (yes, there is a Facebook group) have created a cult of personality and rationality around Shoup and his straightforward, elegant approach to healing American cities.

It’s so simple, in fact, as to be nearly obvious. Rather than focus on the supply side of the parking equation, Shoup focuses on the demand side and on the heretical notion that, even in a consumerist society, it might be all right to implement policies that would reduce demand.

“I think what he’s doing is basically forcing us all to fundamentally change our ideas about how you deal with cities . . . and how you use public policy to make a real difference in what those cities are like,” Dukakis said.

“I credit him more than anybody else with changing planners’ attitudes towards parking standards,” Gomez-Ibanez said. “He makes them realize that parking standards may be arbitrary and perhaps unwise.”

Shoup lays out a range of ways to re-conceptualize and rationalize cities’ approach to parking policy. He recommends that real estate that costs between \$10,000 and \$50,000 depending on location should be neither mandated nor given away.

Discouraging Drivers by Price

Shoup describes an array of solutions that, while they would not singlehandedly replace surface lots with parks or quaint new urbanist townhouses, would express parking spaces’ true value and thereby discourage driving while potentially generating revenue for cities.

The fundamental change that cities need to make, according to Shoup, is to charge a price for metered parking that would be expensive enough to create roughly a 15 percent vacancy rate. At that rate, Shoup

said, many drivers will either park in private lots or use other means of transportation, and those drivers who want to park on the street will find readily available spaces without “cruising” endlessly. Indeed, one of Shoup’s studies claimed that in a variety of high-traffic areas in Los Angeles, curb parking was always cheaper than pay parking, by as much as a factor of 10. In Westwood Village alone, this disparity leads to “cruising” that “creates enough vehicle travel to make 38 trips around the earth.”

“Once you manage the curb parking then you can really think about removing off-street parking requirements, or reducing them at the very least,” said Shoup. As for the seemingly arbitrary 85 percent, Shoup said, “When you explain this to people you ask, do you have a better rule? And they’re just speechless.”

One group likely to raise protests, though, are businesses owners who may fear that higher prices will drive away patrons. In fact, Shoup contends that higher turnover (prompted by higher rates) will benefit some businesses, and he ensures that the benefits will be more than just theoretical. Shoup proposes “parking benefit districts” by which revenue at the meters would be re-invested in the immediate neighborhood for upgrades such as sidewalk improvements, signage and other amenities that would make the areas more comfortable for pedestrians and less comfortable for cars.

“Obviously merchants are nervous about anything that costs anything that their customer is going to have to pay for, or that they’re going to have to pay for,” Cole said. “But there’s also a recognition that right now we’re giving away something of value, and by recapturing that value, if we return that value to the customers and the businesses, they’ll end up on the positive side.”

Subtleties of this sort of pricing scheme would include variable rates depending on the day of the week and time of day. With the help of sensors and the latest generation of meter technology, cities could even adjust rates according to real-time data.

Additional reforms that Shoup promotes include bundled parking, in which businesses or even residences can fulfill their parking requirements by using collective off-site lots and, ultimately, trading parking minimums for parking maximums. He recommends that cities “let the prices do the planning.”

Cities Get on Board

The Shoupista movement has already made its way into the halls of power in a number of cities. Pilot projects to reform parking are underway in a number of major cities, and still others are keeping an eye out. The Los Angeles Planning Department is rolling out “Parking Management Districts,” in which community planners can choose from a variety of strategies meant to respond to local conditions.

Chicago is auctioning off concessions to manage its 36,000 citywide parking meters, and presumably whoever wins the concession will adopt rates that will make the investment worth it. Washington, D.C., has imposed higher rates around its new baseball stadium, and a bevy of small California cities are catching on, while Pasadena used bundled parking to revive its downtown long before Shoup’s book was published.

“His ideas have been tested out in only a few areas, but where they’ve been tested out, they’ve been working quite well,” said Paul Sorenson, operations researcher at the RAND Corp. “Theoretically, they’re quite sound, so the combination of those to me suggests that he’s really on target.” Sorenson recently led a major study on alleviating traffic in Los Angeles and included Shoup-inspired tactics in his recommendations.

Leading the pack is San Francisco, where the new SFPark program has received \$23 million in federal



University of Minnesota Metropolitan Design Center

The massive parking lots that come along with big box stores and malls could be improved if some of their spaces were filled in with apartment complexes or townhouses, according to Shoup.

funding. SFPark takes nearly the entire suite of Shoupisms to heart and is implementing them in an 18-month pilot project that will apply to 7,000 curbside and over 11,000 off-street spaces. It will rely heavily on cutting-edge meter and data-gathering technology to adjust rates and reduce congestion.

“It delivers a whole series of benefits in helping transit operate, to improve transit speed and reliability, maintain bridges and reduce greenhouse gases,” SFPark Manager Jay Primus said. “At the same time it makes driving and parking more predictable and more convenient.”

Primus noted that SFPark might not generate any extra revenue because higher meter rates may be offset by a decrease in parking citations, but he said that the other benefits outweigh considerations of revenue.

“I think one of the exciting things in San Francisco is that this is a prepaid, empirical test of a lot of [Shoup’s] concepts,” Primus said.

Though he focuses mainly on the revitalization of major downtowns, Shoup contends that small cities and even suburban commercial areas can benefit from the reforms he recommends. Indeed, Ventura Manager

Cole is pursuing an aggressively Shoupian strategy for his city of 100,000, and Redwood City, Calif., population 79,000, is considered one of the pioneers. However, suburbs and sprawling big boxes without transit service or pedestrian links to much of anything have fewer tools to choose from.

Still, Shoup’s optimism extends even to the typology that most revels in parking excess: the big box store. Convinced that urbanism can emerge in the backwash of sprawl, Shoup contends that if big boxes, malls and even strip malls were allowed to reduce their parking and replace excess spaces with something more useful, suburbanites might embark on the greatest land reclamation scheme this side of the Netherlands. He envisions apartment buildings and townhouses sprouting on the edges of malls parking lots and thereby creating nearly fully formed neighborhoods in place of vacant asphalt.

Plans “Politically Difficult”

Shoup’s reforms may not have such an easy time in other cities as they have in famously progressive San Francisco. The very notion of raising prices or restricting supply unnerves many stakeholders who are accustomed to the traditional rules.

“I think all cities should be considering it,” Cole said. “The trouble is that it’s not a political no-brainer, it’s an economic and environmental no-brainer. But it remains politically charged, which means that smart people need to enlist, need to help communities understand the disadvantages of the current mentality and the value to be gained from moving to a more rational model.”

In Washington, D.C., the opening of a 45,000-capacity baseball stadium in a dense urban neighborhood prompted City Councilman Tommy Wells to reconsider parking policies in his ward. In doing so, he had to contend with skeptical residents and downright angry bar patrons when he implemented new pricing strategies (along with other incentives for Nationals fans to use transit and bikes).

“Dealing with parking is incredibly politically difficult,” Wells said. “I used quite a bit of political capital to

change the parking rules.”

And while Shoup contends that parking’s impact on the built environment and its historical mismanagement make it perhaps the most crucial element of future reforms, others are skeptical that attention to any single element of land use can make that much difference.

“I’m always suspicious of somebody who says there’s a revealed truth because in the area of land development, there really isn’t,” said Stuart Meck, lead author of the American Planning Association’s 2002 *Growing Smart Legislative Guidebook*, which Shoup criticizes for paying scant attention to parking.

Meck added that he and Shoup are on good terms but that, regardless of Shoup’s data analysis, “the use of particular land use controls is a political decision, and when you cut away [his] research, the decision to require parking and how much to charge for it are political decisions.”

Once made, however, those decisions need not require the expense of a single dime or the pouring of a single bucket of concrete. By relying on the invisible infrastructure of pricing and legal fiat, the Shoupistas hope to change cities by changing behavior, seeking efficient use of existing resources rather than trying to build new ones, and removing constraints.

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