



Parking

Joe Holmes & James van Hemert

The Rocky Mountain Land Use Institute

Sustainable Community Development Code

Research Monologue Series:
Urban Form, Transportation



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About the Research Monologue Series

The Sustainable Community Development Code, an initiative of the Rocky Mountain Land Use Institute, represents the next generation of local government development codes. Environmental, social, and economic sustainability are the central guiding principles of the code. Supporting research for the code is represented by a series of research monologues commissioned, presented and discussed at a symposium held at the University of Denver in September of 2007. RMLUI and the University of Denver's Sturm College of Law extend its gratitude to the authors of the papers who have provided their talents and work pro bono in the service of the mission of RMLUI and the stewardship of the creation.

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About the Authors

Joe Holmes is a third-year joint degree student in law and urban planning at the University of California at Los Angeles. While at UCLA Joe has worked with a local planning firm, Stanley R. Hoffman Associates, and has acted as a research and teaching assistant for Professor Donald Shoup.

Contact Information:

Email: jdholmes@ucla.edu

Phone: 949-231-7280

James van Hemert, AICP, is the Executive Director of the Rocky Mountain Land Use Institute at the University of Denver where he is responsible for the institute's conferences, seminars, publications, and research endeavors. He has published articles and books on urban planning, Western rural and town land use patterns, the development review process, and development impact fees. He is currently leading the Institute's Sustainable Community Development Code (Zoning) initiative. He is a frequent speaker at regional and national conferences and is the President Elect of the Colorado Chapter of the American Planning Association. James received a B.A. from Calvin College (Michigan) and an M.A. in Regional Planning from the University of Waterloo (Ontario, Canada). He has a wide range of planning and community development experience in the public, private, and nonprofit sectors and has worked in the Toronto region, the Philippines, Mississippi, and Colorado.

Contact Information:

Email: jvanhemert@law.du.edu

Address: 2255 E. Evans Ave, Suite 404, Denver, CO 80208

Phone: 303-871-697

Parking is an often overlooked factor of the urban design equation; in the typical American downtown between 30 and 40 percent of the land is consumed by parking spaces¹ According to the 1990 Personal Transportation Survey, parking is free for 99 percent of all automobile trips.¹ As a result, individuals have an incentive to make single occupancy trips at any time of day. These decisions have huge social and environmental costs that are often ignored. While each individual may be acting rationally, the collective outcome is most decidedly irrational; this evidenced in increased traffic congestion and all its attendant costs, sprawling urban environments, increased vehicle miles traveled, and dogged streets due to cruising for parking. In addition, though drivers perceive parking to be “free,” parking is actually enormously expensive. Parking expert Donald Shoup has noted that “[w]e don’t pay for parking in our role as motorists, but in all our other roles – as consumers, investors, workers, residents, and taxpayers – we pay a high price. Even people who don’t own a car have to pay for ‘free parking.’”²

The costs of parking are tremendous and go largely unnoticed. Newer, multi-level parking structures can cost well in excess of \$30,000 per space. While open parking lots are relatively inexpensive, there is an obvious opportunity cost involved: the land could be put to a more valuable use. Since there are many more parking spaces than there are cars, conservative estimates tell us that the parking supply is worth at least twice as much as the total value of the nation’s vehicle stock.³ In addition, the average price of a new parking space in a multi-level or underground structure exceeds the average price of a new car.⁴ When maintenance and construction are added together, each structure parking space costs at least \$125 a month.⁵ Additionally, it is estimated that the average structure parking space has an external cost of \$117, which comprises negative externalities like emissions and congestion.⁶ As noted above, we essentially do not pay for parking as drivers; instead these high costs dissolve into every product we buy and every place we visit.

Traditionally, planners have developed and codified parking requirements. However, such rigid requirements often lead to increased sprawl, stifled redevelopment, and general degradation of urban design. Traditionally, parking requirements are often copied by other cities or calculated based on peak occupancy demands as spelled out by the Institute of Transportation Engineers. In both cases, the underlying assumption of free parking remains. The process of planning for free parking has evolved into a vicious circle: transportation engineers generate rates based on peak demand; minimum parking requirements are set; since these minimum requirements are based on peak demand, there is always an abundant supply of free parking; transportation engineers then survey transportation behavior and calculate trip generation rates based on the assumption of free parking and little to no public transit access; since parking supplies are adequate, public transit is often seen as unnecessary or in low demand; urban sprawl results; and we are then back at attempting to estimate parking generation requirements.⁷ Furthermore, rigid adherence to parking requirements can create barriers to redevelopment. For instance, if a previous commercial tenant required less

parking than a proposed new tenant, the possible tenant would be blocked from entering due to an inadequate parking supply.

Some cities have successively broken this vicious circle. For example, San Francisco, California and Orlando, Florida give developers the option of paying a fee in lieu of providing the required parking spaces.⁸ The revenue generated from these fees is then used to provide public parking spaces that developers would have otherwise been required to provide. Another strategy is to reduce the demand for parking by increasing access to public transportation. Several transit agencies, such as those in Dallas, Denver, Salt Lake, and San Jose, allow employers to provide employees with transit passes in lieu of parking spaces. While parking spaces are obviously still required, employer-paid transit passes or Eco passes can reduce the demand for parking by nearly 20 percent.⁹ A similar approach is to offer commuters the option to “cash out” their employer-paid parking subsidies. Allowing commuters to choose between free parking and its monetary equivalent illustrates that there is indeed a cost associated with free parking – the foregone cash.¹⁰

A major problem that can be seen in nearly all urban areas is a discrepancy in the price of on-street parking and off-street parking. These incongruent prices often lead drivers to cruise for on-street, curb parking. When on-street parking is notably cheaper than off-street parking, drivers have an incentive to search for these coveted curb spaces. By circling the block in search of cheap parking, drivers unconsciously clog traffic and waste gasoline. In the Midtown and West Side areas of New York, for example, it is estimated that approximately 8 percent of traffic is made up of cars cruising for curb parking.¹¹ The most obvious solution to this cruising problem is to eliminate the discrepancy in parking prices. By charging the same price for on-street and off-street parking, drivers will have no incentive to cruise for parking, thus helping to reduce congestion.

Thus, the question then becomes what is the right price? Traffic engineers recommend that about 15 percent of curb spaces remain vacant at anytime; such a vacancy rate ensures that drivers are able to find a curb parking space at their destination.¹² In order to achieve this 15 percent occupancy rate, cities should charge market prices for curb parking. As with any commodity, if the price of the good goes up, demand will go down. Thus, by raising on-street parking prices to the market price that ensures roughly 15 percent vacancy, drivers will be able to make trips knowing that parking will be available. Additionally, charging market prices will save time, reduce traffic, conserve energy, improve air quality, and reduce housing costs.¹³ Newer parking meters allow prices to fluctuate throughout the day to correspond with demand for parking at different times of day. Thus, parking may be more expensive at peak times, but may be relatively cheap or free at off-peak times. There are a number of ways drivers can economize on parking to deal with the increased costs of curb parking. For example, drivers can reduce the time they park, carpool and split parking costs, park off-street, divert non-essential trips to off-peak hours, and make more trips by public transportation, cycling, and walking.

While higher parking prices may seem politically unpopular and consequently difficult to implement, keeping the earnings locally has led to community willingness to charge market prices for curbside parking. When increased meter revenue goes into a large generally fund not solely set aside for the local community, improvements go unnoticed and hostility towards increased prices will likely persist.¹⁴ However, if the community has some guarantee that the revenue will stay in the immediate area, resistance to increased prices is likely to subside. The creation of parking benefit districts would help keep funds in local neighborhoods and Business Improvement Districts.

If meter revenue goes to local improvements such as repaved walkways and street beautification, local residents are likely to support the increased parking prices. Old Pasadena, now one of Southern California's most popular shopping and entertainment destinations, used to be an uninviting and decaying urban environment.¹⁵ One of the essential components to the community's redevelopment was the creation of parking benefit districts. Local retailers were wooed into charging market prices for curbside parking by the promise that the meter revenue would stay in the immediate area and go towards public improvements.¹⁶ As a result, Old Pasadena has flourished into an attractive destination for Southern Californians.

The city of San Diego provides another successful example. There, small business improvement districts struck a deal with the larger city council to split increased revenues between the business districts and the City's general fund.¹⁷ Such a balance can help persuade city officials to allow increased parking prices. The essential character of a parking benefit district is that it must be small enough to create the incentive to charge for curbside parking but large enough to spend the revenue efficiently and fairly.¹⁸



"Smart Meters" allow prices to fluctuate throughout the day, while also allowing drivers to pay for the exact amount of time they are parked at their destination – this helps to ensure quick turnover.

<http://www.marketingshift.com/2005/7/smart-parking-meters-city-life-worsens.cfm>

Another effective way to reduce the use of land for parking is to “unbundle” parking from housing costs. In nearly all cities, apartments and condominiums are required to provide a certain number of parking spaces per unit. Because parking is seen as free, tenants have an incentive to occupy these parking spaces. As noted above, the costs of parking spaces are huge. When landlords are required to provide a certain number of parking spaces per housing unit these large costs melt into the cost of housing. Renting apartments and parking spaces separately will make housing cheaper for those who think a second parking space (or even a first one) is not worth the extra costs.²⁰ By unbundling the costs of parking and housing, tenants and condominium owners are left with more options and are opened up to markets they may have previously been excluded from based on price.

“Free” parking, upon close scrutiny, has a very high hidden cost, and much of that has been driven by ill conceived and arbitrary off- street parking regulations. Thoughtful reform is needed and includes innovative regulations and practices such as “unbundling” of off-street parking requirements, employee parking cash out programs, public transit “eco” passes, demand based meter pricing and parking benefit districts.

Potential sustainability measures:

1. The percentage of traffic on city streets that is cruising for parking
2. Total number of new parking spaces approved or required in a city per year
3. The discrepancy in pricing between on-street and off-street parking
4. Average vacancy rates of curb parking at different times throughout the day
5. Usage rate of inventory
6. Percentage of land in a given area consumed by parking
7. Extent of reduced parking requirements in mixed use environments

Land Use Code Strategies

Removing Obstacles

1. Set parking requirements based on actual local surveys of average occupancy rather than on peak demand
2. Give developers the option of paying in lieu fees instead of building required parking spaces
3. Gradually eliminate minimum off-street parking requirements
4. Unbundle parking from housing and real estate costs

Incentives

1. Create parking benefit districts that are small enough to create the incentive to charge for curb parking but large enough to spend the revenue efficiently
2. In larger cities, allow part of the increased meter revenue to stay in the parking benefit district but also allow part of the revenue to go into the City’s general fund
3. Cities can work with transit agencies to allow employers to provide transit passes in lieu of parking space

Regulations

1. Set maximum, rather than minimum, parking requirements
 2. Require landlords to unbundle parking from housing costs
 3. Eliminate price discrepancies between on-street and off-street parking
 4. Charge market rates for curbside parking
 5. Encourage the creation of parking benefit districts
 6. Give employers in lieu options to providing required parking spaces (in lieu fees, transit passes, and parking cash out)
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Notes

1. John Gibbons, NonPoint Education for Municipal Officials, Vol. 5, available at http://nemo.uconn.edu/tools/publications/tech_papers/tech_paper_5.pdf
2. The 1990 Nationwide Personal Transportation Survey, <http://npts.ornl.gov/npts/1990/index.html>
3. Donald Shoup, The High Cost of Free Parking (Chicago, IL: APA Planners Press, 2005), p. 2.
4. Ibid., 209.
5. Ibid., 210.
6. Ibid., 191.
7. Ibid., 197.
8. Ibid., 58.
9. Ibid., 230.
10. Ibid., 252.
11. Ibid., 262.
12. Ibid., 287.
13. Ibid., 297.
14. Ibid., 379.
15. Ibid., 418.
16. Ibid., 403.
17. Ibid., 406.
18. Ibid., 419.
19. Ibid., 447.
20. Ibid., 560.