The Economics of Curbside Parking
Should It be Free?

1. Introduction
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1. **Introduction**

- I’m a theorist not a policy practitioner.
- My expertise is urban economics, and in recent years I’ve been specializing in the economics of urban transportation.
- At UCR I will be involved in a project forecasting land use, transportation, and pollution in the LA Metro Area.
- I became interested in the economics of downtown parking when I moved to Boston from Kingston, Canada in 1988. I read an article in the local newspaper, which reported that the (asset) price of a covered parking space on Beacon Hill was $180,000, and claimed that half the cars on downtown streets during the business day were cruising for parking.
- Urban economists had previously ignored downtown parking.
- I will be the proverbial two-handed economist. I’m not going to provide concrete policy recommendations. For one thing, I don’t know enough about the Riverside situation. But I hope to provide a structured way of thinking about the issues.
- My work complements that of Donald Shoup. *The High Cost of Free Parking*. He is more of a practitioner than I, and also more of a zealot.
2. Economic Theory of Downtown Parking

General Principles

• A fundamental principle of economics is that people make efficient choices when they derive the full benefit from their actions and bear the full costs associated with them.

• One example is economists’ advocacy of congestion pricing. When you drive on the freeway, you add to congestion and slow people down. Since you are imposing a cost on others but are not paying for it (an externality), you have an incentive to drive more than the socially optimal amount.

• Microeconomists distinguish between two types of policy analysis: first-best and second-best. In first-best policy analysis, economists ask “What is the best policy taking into account only scarcity constraints?” In second-best policy analysis, economists ask “What is the best policy taking into account not only scarcity constraints but also inefficiencies that cannot be altered?”

• First-best policy analysis is “easy”, entailing the consistent application of basic economic principles.

• Second-best policy analysis is much more difficult but also more practical, and the policy recommendations are more sensible and credible. Bus fares with underpriced car travel.
First-best Analysis of Downtown Parking

• Transportation economists assume that individuals receive the full benefits from their transportation actions. Their analysis therefore focuses on getting individual to face the full social costs associated with their transportation.

• The application of this principle to parking is straightforward. *All parking should be cashed out.*

• Space that is used in parking has a value in alternative uses, which is termed its *opportunity cost.* Thus, space used in parking should be priced at its value in “the highest and best alternative use.”

• The average parking space is 350 sq. ft. There are an average of between 4 and 6 parking spaces for every car – say 5. If all parking is on surface lots, the average car uses up 1750 sq. ft. of land. The rent on land varies enormously over a city. Let us be conservative and assume that the average price of land used in parking in Riverside is $2 million dollars per acre. Then the value of land used up by one car is about $82000 dollars. Amortized at 7%, this comes out to an annual cost of about $5750. This is the social opportunity cost of one car’s parking. Not paying for this parking amounts to a huge subsidy to car drivers, and distorts individuals’ travel decisions. They choose to travel by car when it would be efficient for them to travel by mass transit, and they travel too much.
• The situation for curbside parking is a bit different. There the social cost is the increase in the costs of congestion due to curbside parking taking up street space and due to cars entering and exiting from curbside parking spaces. But if the optimal amount of space is allocated to streets, the same result applies – the rent on land in parking equals the rent on land in other uses.

• If there is garage parking as well as curbside parking, the same principle applies to garage parking – garage parking space should be priced at its social opportunity cost, which includes amortized land and garage construction costs. Furthermore, since in an efficient allocation the opportunity cost of a curbside parking space is a garage parking space, curbside parking should be priced about the same as garage parking.
The Costs of Not Efficiently Pricing Curbside Parking

- **No garage parking**
- Consider first a situation where there is no garage parking.
- Turn to Figure 1. It plots the demand for curbside parking against the social cost of an extra curbside parking space. The demand curve is the social benefit curve and is downward sloping. The social cost curve is upward sloping since the 100th curbside parking spot adds more to congestion than does the 50th.
• The optimum occurs where curbside parking is added until the social benefit from the last curbside parking space equals its social cost. This occurs at P*. The first-best optimal parking fee is f* and equals the social cost of the marginal parking space, evaluated at the optimum.

• Now suppose that curbside parking is provided free. City officials have to decide how much curbside parking to allocate. Suppose they decide on P*. Since curbside parking is free, there is excess demand for curbside parking. This excess demand is rationed by cruising for parking. The amount of cruising for parking adjusts until the full price of parking, which includes the cost of cruising for parking equals f*. The area 0ACP* measures the social cost of free curbside parking in this situation.

• Suppose instead that City officials decide to provide enough curbside parking to satisfy demand when it is provided free, P’. The social cost of free curbside parking in this situation is given by the area P*CHP’. Explain.
• **Garage parking**

  When there is garage parking as well as curbside parking, a driver has the choice between which to use. He will choose whichever has the lower full price, and in equilibrium the full prices of both will be equalized. *Thus the stock of cars cruising for parking increases until the full price of curbside parking equals the full price of garage parking.*

• In downtown Boston the parking meter rate is $1.00/hr. while the cost of parking in a garage averages about $7.00/hr. for the first hour or any fraction thereof. This money price discrepancy potentially gives rise to a strong incentive to cruise for parking.

• The amount of cruising for parking is kept down by imposing time limits. In fact, the curbside parking time limit can be reduced to the point where the cruising for parking is eliminated.
Second-best Analysis of Downtown Parking

The second-best analysis of downtown parking takes into account other distortions with respect to parking and travel generally.

There are four principal distortions that need to be taken into account:

- Not charging cars for the congestion they cause.
- Shopping centers away from downtown providing free parking.
- Employers not charging their employees for the social cost of parking at work.
- Urban centers being underutilized because of the failure to internalize agglomeration externalities.

All these distortions encourage excessive travel by car and insufficient travel by alternative modes. One way to reduce these distortions is to increase the price of parking.

But shopping centers providing free parking provides an argument for pricing downtown parking below its social opportunity cost, and perhaps even for providing free parking downtown.

The last distortion too provides an argument for subsidizing downtown parking. Everyone in Riverside would benefit from having a more vibrant downtown area.
3. **Economic Theory of Downtown Parking**

I don’t know enough about the situation in downtown Riverside to provide informed policy advice. But let me make a couple of general points.

1. Applying first-best economic analysis to the problem leads to the recommendation that all parking be “cashed out” – be priced at its first-best opportunity cost.

2. But using second-best economic analysis, I can make a plausible case for cheap or even free curbside parking, if it is accompanied by sound policy with respect to parking garages.

3. The shopping centers have sucked away retail from downtown, partly through the provision of free parking. To make downtown shopping competitive and to encourage retail to return to downtown, downtown parking should be free or at least priced substantially below the first-best level.

4. Actually, on the basis of experience elsewhere, I don’t think it’s reasonable to expect downtown to re-achieve its position as a major general retail center. But I do think it has a potential niche at the top end of the market – restaurants, live entertainment, art galleries, high-end salons and boutiques. Like Newbury Street in Boston.
• Rick Peiser is a professor at the Graduate School of Design and was formerly at USC. He and I had a conversation about downtown Riverside. His view is that the redevelopment plans have been too conservative, and I agree. A wide variety of activities have to be provided to make it interesting to visit downtown for a day or half-day. Providing free or subsidized parking will help induce people to visit downtown but by itself it isn’t nearly enough.

• Cruising for parking is a potential problem. Getting stuck in traffic due to cars cruising for parking, and then having trouble finding a parking space is frustrating. Perhaps garage capacity should be expanded. Perhaps garage parking should be subsidized. If there is enough garage space, cruising for parking can be eliminated by reducing time limits for curbside parking.

• The argument that parking rates should be raised to encourage people to take mass transit is appropriate in Boston, New York, and cities elsewhere. But the mass transit modal share in Riverside is so low that this consideration is quantitatively unimportant.