The University-as-Monopolist: Why Parking Problems Persist at University Campuses

Bill H. Schmidt
Jacksonville State University

Christopher Westley
Jacksonville State University

A common problem at major university campuses in the United States concerns persistent parking space shortages. While such a situation reflects an inadequate pricing mechanism for parking, it also reflects a result consistent with monopoly providers of parking services. In this paper, we analyze the parking problem from this perspective, utilizing a cost-benefit approach that explains why the incentive structure that exists at American universities makes such problems likely.

INTRODUCTION

A persistent complaint on college campuses today centers on the issue of parking. Parking space is either insufficient for drivers' demand, poorly allocated, or both. The question, "Did you have a hard time finding a parking spot?" is asked as often as, "Did you go to the library last night?" In our experience at educational institutions, for parking not to be a problem at a major university campus, especially when compared to most private sector alternatives, would be the exception rather than the rule.

Part of the problem lies in the value of an individual parking space. Shoup (2005) calculates that a new parking space in the United States cost 17 percent more than a new car, and that in most cases, parking spaces cost more than the cars parked in them, in part because cars depreciate in value faster than parking spaces do. If this applies to urban areas in general, how much more would this apply to university properties in particular, which are bounded and often a small portion of a greater metropolitan area? The marginal value of parking spaces on university property is likely much higher.

That university parking problems constitute a special case probably explains why this particular issue has escaped much of the recent literature of the economics of parking (Shoup, 2006; Roth, 2004; Cathrop, 2002-2003). Historically, parking did not become an administrative problem until the post-war boom in college enrollments (Kinne, 1961). By the 1960s and 70s, many major universities begrudgingly allowed for the construction of mammoth parking garages

situated as close as possible to the main campus areas. While schools have adjusted to the evolving parking demands, they always seem to be one or two steps behind the demand. The case of Auburn University (in Alabama) is typical. In 1978, it published the results of a study, entitled "A 1995 Traffic and Parking Plan for Auburn University." (Grove/Slade Associates, 1995) This report came at a time when enrollment was 18,100 and the University had 8,512 parking spaces. By 1993, enrollment had increased to 21,363 while the number of parking spaces increased to 10,253. This occurred in spite of the report's "Key Recommendations" considered necessary for the university to meet the parking demand in 1995:

- The addition of three, multi-level parking structures.
- The provision of 7,206 new parking spaces to give a total parking system of about 12,140 parking spaces.
- Establishment of a shuttle transit system involving 10 to 14 buses to carry University-affiliated persons around the core area of campus as well as to and from outlying on-campus parking.
- Widening of some campus streets and intersection improvements at three locations.

None of the above recommendations were implemented. In fact, the supply of on-campus parking spaces at that time was 2,000 spaces short of the projected need at the time of the study's projected target date. Furthermore, the actual enrollment in 1995 exceeded projections for the year 2000, which were prepared as part of the 1988 Auburn University Facilities Master Plan.

Auburn is not unlike many universities in its feeble efforts at satisfying motorists' parking demand. That most universities can be characterized as providing insufficient parking has become a given. These problems, as we shall see, have less to do with a lack of resources than with the incentives accruing to universities acting as profit-maximizing monopolists. Section II discusses the damage, inconvenience, and utility that results from the decision to violate parking regulations in terms of the punishment that perpetrators are likely to bear. Section III considers the cost and incentive structure that is likely to prevail in both the public sector (in which universities operate) and the private sector (in which off-campus businesses operate), and section IV offers some concluding remarks.

PUNISHMENT

A common complaint related to the university parking monopoly regards a perceived lack of enforcement of existing rules. If the existing regulations were enforced, those who attempted to comply with the rules would be more likely to find spaces. However, as monopolists, universities have the incentive to *encourage* violations, since violations maximize revenue. For example, Auburn University in 1995 issued 13,678 C-zone (general student) permits while providing only 6,939 C-zone spaces, a practice which can only lead to further violations. During this period, Auburn averaged $641,441 per year in revenue from the enforcement of parking violations while earning $364,526 per year (average) from the issuing of permits. These funds, to borrow a term from marketing, represent a cash cow to the university. The average cost of operating a parking lot is low, so it can be inferred that the monopoly profits will be high.

While punishment has proven to increase revenues, it is not clear that it is fulfilling its ostensible purpose: the deterrence of violations. That many members of the university community would be hampered in carrying out duties absent regulations is the reason (or should

be the reason) those regulations exist in the first place. The amount of inconvenience for violators would increase with the increased issuance of permits (assuming a constant supply of homogeneous parking spaces), as in

$$I = I(P) \text{ with } I' = \frac{\partial I}{\partial P} > 0$$

where I is a measure of the inconvenience to the university community and P is a measure of parking permits issued without a reasonable level of parking spaces provided.

The utility accruing to members of the university community who violate the regulations would tend to decrease as more permits are issued, as in

$$U = U(P) \text{ with } U' = \frac{\partial U}{\partial P} < 0$$

The likelihood of conviction falls as the number of violations rise (assuming that violations occur at a faster rate than tickets are issued), while the number of convictions stay fixed at the profit maximizing level. Therefore, the damage D to the university, also a function of permits, can be measured as the difference between inconvenience and utility to violators, as in

$$D(P) = I(P) - U(P)$$

Economic theory would suggest that the university community receives diminishing marginal utility and increasing marginal inconvenience from additional issuances of permits. The rate at which the university is inconvenienced is greater than the rate at which the violator's utility increases with increases in P. I'' is negative and U'' is positive, and $D'' = I'' - U''$ is greater than zero. The region where D' is positive is the region providing the strongest justification for outlawing an activity. This demonstrates that, if violator actions do not inconvenience the university community, then there is little need for parking regulation beyond its role as a possible revenue source.

COSTS AND INCENTIVES

Assume that a student, in good faith, pays for the general undergraduate-class parking permit. It is reasonable to assume that he might expect to find a legal parking space in return. The cost of violating the existing regulations by (say) illegally parking in a faculty or staff parking space must be measured by more than the explicit cost of a fine. This student, holding this general permit, would balance the cost and likelihood of being caught with the utility that would result from violating the law. If the utility is greater than the expected cost, then the student will choose to violate the law. The likelihood of a willful violation would decrease if the chances of getting caught increase or if the cost of getting caught rises to a high enough level.

As parking monopolists, universities' first priority is to earn the maximum profit possible from its market. Thus, it would not be in their best interest to provide enough spaces to deter all parking violations, nor would it serve their interest to enforce all parking regulations by ticketing all violators. From the standpoint of revenue maximization, it is far better to enforce regulations only to the extent that violators continue to gamble that they will not receive punishment instead

of deterring the vast majority of violators. Substantial deterrence would result in a loss of long-run economic profit. This suggests why many universities have been slow to expand the supply of parking spaces as well as why many parking violations seem to go without conviction. Increasing the expected cost of a violation, in this case, is not in the monopolist's best interest.

In contrast to the university acting as a monopolist, parking violations at local business firms near campus tend to carry considerably higher costs to their owners. Adequate parking space is often more scarce in these areas, and the resulting loss in long-run economic profit can force many of these firms to exit the market. However, the owners of these spaces, who do not benefit from violations, tend to impose significantly higher costs on violators. Some firms may go so far as to hire private enforcement agents to place wheel locks on cars that are illegally parked on their properties, while others may have vehicles towed away. While demonstrating the different incentives that more competitive firms have in dealing with parking problems, such policies also have the effect of increasing the incentive to park illegally on the adjacent college campus as they lower the relative cost of campus violations.

If the probability of getting caught is high, then the net utility accruing to violators would decrease. A measure of this likelihood would be the number of violations that result in conviction. This could be expressed as

$$r = \frac{C}{V}$$

where C is a measure of convictions, V is a measure of violations and r is a ratio of both. The closer r is to one, the more likely violators are paying a cost for their actions. The value of r will differ for different off-campus businesses, depending on their individual situations. During off-peak hours, they may not enforce their parking rules, and r would be relatively lower than during peak business hours. When profit-maximization requires that parking spaces turnover frequently, then they may be more stringent in parking enforcement, and r would be higher. Whatever policy is chosen would reflect the desire to maximize the social value of their property. Universities, which profit from parking violators, have a long run interest in not deterring violations. Therefore, it has an interest in reducing r to a long run, profit maximizing level. The difference between the two outcomes reflects the different property rights institutions that exist on the different sides of university boundaries. For parking problems to become alleviated in university settings, policies should incorporate property rights to owners of parking spaces. Such solutions would not necessarily require turning over parking space ownership to private, profit-maximizing firms, although one can think of instances in which such arrangements would work. Rather, partial ownership of parking spaces could be given to private non-profit organizations comprised of those individuals—primarily faculty, staff and students—who demand parking and who stand to lose if parking space management does not maximize its social value. The point of such an ownership scheme would be to change the incentive structure faced by rule enforces so as to promote a more efficient use of scarce resources.

CONCLUSION

The perceived parking problems at college and university campuses will not be solved until parking suppliers relinquish their monopoly control. To do so would require that suppliers give up the revenue that the current system affords; an action that is unlikely to occur without the

intervention of the legislatures. Until the cost of maintaining the current system of parking exceeds the benefit that universities receive from it (in monopoly profits), administrators will have no incentive to institute reforms that more competitive institutions routinely follow.

REFERENCES

Cathrop E. (2002-2003) Evaluating On-street Parking Policy. Center for Economic Studies, Energy, Transport & Environment Working Paper, Series 31.

Grove/Slade Associates, Inc. (1995) Auburn University Transit Feasibility Study Final Report, Grove/Slade Associates, Inc., Birmingham, Alabama.

Kinne W.S. (1961) Parking Programs for Universities. University Facilities Research Center, Madison, Wisconsin.

Roth G. (2004) An Investigation into Rational Pricing for Curbside Pricing, Columbia University Masters Thesis.

Shoup D.C. (2006) Cruising For Parking, Transport Policy, 13, 479-86.

Shoup, D.C. (1997) The High Cost of Free Parking, Journal of Planning Education and Research, 17, 3-20.