Reading between the Regulations: Parking Requirements, Planners' Perspectives, and Transit

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Abstract

This article reports on local planners' perspectives on metropolitan parking requirements. Workplace parking requirements, which are often in excess of demand, influence parking pricing and urban form. In turn, these affect transit demand and transit service potentials. These connections have led researchers and policy-makers to call for changes, but the perspectives of planners who create the parking requirements are not well understood. Using southern California cities as a study area, a telephone survey revealed that most parking requirements are driven by concerns about traffic mitigation, spillover parking, and risk avoidance. These factors push parking requirements in the direction of oversupply. The article proposes methods to reduce the risk of changing parking requirements and develops a typology of approaches for change. Transit agencies will benefit if they play a role in reforming local parking requirements.

Introduction

This research provides information on planners' perspectives on local parking requirements. It is intended to help transit agencies and regional authorities

work with local jurisdictions to develop transit-supportive parking requirements. Minimum parking requirements for workplaces, taken here as office, manufacturing, warehouse, and medical buildings, have been a formula-driven part of standard planning and zoning practice, largely disconnected from broader policy concerns. Parking is supplied according to standard ratios established in zoning ordinances and guidelines of the development industry. From a local perspective, a “good” project provides a generous supply of parking, great enough to meet any foreseeable peak demand, and it provides parking at no direct cost to tenants or workers. These circumstances create significant challenges for transit, because they are incentives for automobile commuting. Excess parking supply generally precludes parking pricing, and low-density development patterns make transit service more expensive to provide and less convenient.

This typical approach to workplace parking has been challenged in the last decade. Researchers find that the price of parking is positively related to transit use (Gillen 1977; Willson and Shoup 1990; Willson 1992a; Strathman and Dueker 1996; Willson 1997). The relationship between parking price and travel demand is robust and consistent. For example, Willson (1992a) found a cross elasticity of demand for transit with respect to a \$3 parking charge to be +0.41. Researchers also find that typical minimum parking requirements exceed measured levels as well as peak utilization levels reported in publications such as the Institute of Transportation Engineer’s (ITE’s) *Parking Generation Handbook* (Willson 1992b and 1995; Shoup 1995; Regional Transportation Authority 1998).

Parking supply policy, then, is an attractive tool for policy-makers concerned with transit, traffic congestion, urban form, and environmental quality (see, for example, Committee for Study on Urban Transportation Congestion Pricing 1994). Federal “planning factors” support the development of parking strategies (Shaw 1997); significantly, more than half of 71 regional plans reviewed in that research address parking. Many of those plans call for parking charges, parking cash-out, or reductions in parking requirements.

This activity suggests strong interest in the reform of parking standards. Yet parking requirements are the domain of the local governments and are subject to their concerns. The process of reforming parking requirements begins

with local zoning ordinances, real planners, and real problems. It involves many stakeholders, including planners, the development community, residents, employers, and other government agencies. For the most part, transit agencies have not been involved. This research focuses on planners because they draft the ordinances, they direct attention to problems and opportunities, and they know most about the stakeholder perspectives. Research on planning implementation shows that the political commitment of local government staff has an important bearing on the success of state mandates (Berke and French 1994). Local planners' attitudes, therefore, are an appropriate starting point for understanding local perspectives on policy (see Baldassare et al. 1995).

Methodology

This research provides survey information about workplace parking and planners' attitudes. Southern California is studied because of its size, the variety of city characteristics, and its role in influencing nationwide trends. Despite a reputation for auto dependency, the region has a long history of travel-demand management mandates and significant transit development. Mildner et al. (1997) create a scoring system to indicate the degree to which metro areas' parking policies support transit. They place the Los Angeles metro in the middle of a group of 20 metro areas, which suggests this study provides fairly typical results. In addition, parking requirements have tended to follow national standards—only recently have regional differences emerged in the context of livable community initiatives.

The research design is informed by the literature finding that parking requirements are often based on "rules of thumb" rather than actual parking utilization data (Willson 1995). A survey objective, therefore, was to systematically capture these rules of thumb. Survey questions focused on requirements for office, manufacturing, warehouse, and medical buildings.

A telephone survey allowed a large sample size and made it possible to follow up on open-ended questions. Open-ended questions provide planners' thoughts unbiased by suggested response categories. The surveyors contacted all local jurisdictions in southern California in the fall of 1995 and completed surveys for 138 of 150 possible local jurisdictions. The average 1990 popula-

tion of the cities surveyed is 85,255, so perspectives from a wide range of jurisdiction sizes are included. (The average population is 59,458 if the City of Los Angeles is excluded.) The survey was directed to planning directors and senior planning managers who are familiar with planning and parking issues. The respondents were planning directors/community development directors (20%), senior planners/planning managers (30%), associate/assistant planners (32%), and others (17%).

Analysis of Survey Responses

The interpretation of the survey results used knowledge gained in a series of parking management demonstration projects conducted in a variety of southern California cities from 1996 to 1998. These projects were conducted under the Mobile Source Reduction Program of the South Coast Air Quality Management District. Presentations, interviews, and focus groups with local agencies produced insights into the issues and motivations of those involved in parking policy.

Survey questions asked about frequent workplace parking issues, the rationale for establishing minimum parking requirements, the frequency with which requirements are modified, and sources of information about parking demand. The survey concluded with a series of questions designed to identify attitudes that affect the prospects for reforming minimum parking requirements.

Workplace Parking Issues

Table 1 shows that the most common response to a question about workplace parking issues was that there were *no* important issues. The next most frequent response was parking *undersupply*. Taken together, these responses suggest that calls to reduce excessive minimum parking requirements may not resonate in many local communities.

The concern with workplace parking undersupply is surprising since other research points to oversupplies of parking. In reviewing comments made by respondents, these undersupply issues occurred in older areas, such as downtowns or areas with legal nonconforming uses, areas where shifts in use or intensity of use have occurred, and areas where different uses compete for parking (e.g., beach parking versus retail parking). Most of these concerns per-

Table 1
Workplace Parking Issues^a

Question: What are the most important workplace parking issues in your community?

	<i>Number of Times Ranked 1st, 2nd, or 3rd</i>		<i>Number of Times Ranked 1st</i>	
No parking issues	30	(20%)	30	(26%)
Parking undersupply	27	(18%)	22	(19%)
Determining appropriate number of spaces	16	(10%)	15	(13%)
Overspill into neighborhoods	15	(10%)	10	(9%)
Land-use intensification	11	(7%)	8	(7%)
Other	54	(35%)	27	(23%)
Multiple unranked answers	N/A		4	(3%)

^a N = 116.

tain to past development patterns and/or parking management, not parking for new projects.

The remaining responses include determining the appropriate number of spaces, overspill issues, and land-use intensification. The “other” category includes a wide variety of responses, such as parking space size, circulation, safety, convenience, cost, access/egress, handicap parking, and parking oversupply. *Only three respondents identified parking oversupply as an issue.*

The apparent satisfaction with workplace parking conditions is further indicated in responses to the question: “Do current minimum parking requirements result in an appropriate level of parking for workplaces?” Using an answer scale of “almost always,” “most of the time,” “about half the time,” “sometimes,” and “seldom,” 44 percent of respondents said “almost always” and 46 percent said “most of the time.” Only 10 percent of the respondents expressed dissatisfaction with their current requirements.

Two issues should be noted in interpreting these results. First, no respondent offered evidence from postoccupancy studies to back up their answer, so these ratings are based on perceptions, not empirical study. In a previous study, the author noted that the impression gained in driving by a site is that parking utilization is greater than that determined in actual utilization counts (Willson

1992b). This occurs because the most visible spaces are generally those that are the most highly utilized. In addition, response questions are based on the respondent's judgment of "appropriate," which may vary from a transit service or regional perspective on that issue.

Rationale for Minimum Parking Requirements

Understanding planners' *reasons* for establishing minimum parking requirements provides a basis for designing effective parking reform programs. Table 2 shows that the most frequent reason for establishing minimum parking requirements for workplaces was to "ensure an adequate number of spaces." This tautological response indicates that many planners do not articulate the public objectives that underlie having "adequate spaces."

Other responses include avoiding parking spillover onto adjacent streets, maintaining traffic circulation, and avoiding parking spillover onto adjacent properties. The response "ensuring the economic success of the project" indicates that some planners replace the developer's judgment of market feasibility with their own, claiming a longer term perspective. The "other" response includes factors such as consistency with regional and national standards, land-use planning issues, safety, convenience, and aesthetics.

Table 2
Rationale for Minimum Parking Requirements^a

Question: : Why does your jurisdiction establish minimum parking requirements for workplaces?

	<i>Number of Times Ranked 1st, 2nd, or 3rd</i>		<i>Number of Times Ranked 1st</i>	
Ensure an adequate number of spaces	65	(38%)	52	(39%)
Avoid spillover parking on local streets	50	(29%)	31	(23%)
Maintain traffic circulation	21	(12%)	9	(7%)
Avoid spillover parking on adjacent properties	14	(8%)	5	(4%)
Ensure economic success of project	4	(2%)	3	(2%)
Other	18	(11%)	16	(12%)
Multiple unranked answers	N/A		18	(13%)

^a N = 134.

These issues describe a problem-avoiding, impact-mitigating perspective. Planners fear that if a project is undersupplied with parking, there will be public problems (in neighborhoods and increased traffic) or that the city may have to provide additional parking facilities. This concern is valid when on-street parking is not properly regulated and/or priced, although there are many methods for addressing these potential impacts, such as parking permit programs, parking meters, access and/or pricing controls for off-street parking, and enforcement of parking regulations. If not resolved through innovative programs, the impact mitigation perspective will continue to dominate parking policy.

Parking requirements can act as an indirect form of density and growth control. In this study, the researchers hypothesized that this would be a hidden agenda for minimum requirements. Planners were asked: "Do minimum parking requirements have the effect of limiting project density (as opposed to FAR, building coverage, or setback requirements)?" The majority of respondents said yes: 57 percent said "almost always" or "most of the time." Parking requirements, therefore, fulfill dual functions—requiring the provision of parking and limiting density. If parking requirements limit density to less than the permitted FAR, they represent a "hidden" FAR policy.

Modification of Requirements

Slightly more than half of the survey respondents had revised some aspect of their workplace parking requirements in the last five years (52%, $n = 133$). This is a sizable proportion, but the changes are not usually comprehensive revisions. In a separate question, a smaller, but significant, proportion of respondents (37%) had required, commissioned, or conducted parking demand or utilization studies in the last five years.

To understand whether parking requirements are implemented as mandated in the code, respondents were asked if developers sought four types of parking changes: (1) supplying more than code requirements, (2) reductions based on shared parking, (3) reductions without shared parking, and (4) fulfilling code requirements with off-site covenants. Most respondents said that their jurisdictions deal with all four categories of changes on some occasions. A small group (between 3% and 14%, depending on the type of change) said they

never deal with changes. The most frequent modification was using off-site covenants, followed by reductions based on shared parking.

Sources of Information on Parking Demand

Shoup (1995) criticizes planners for unscientific methods of determining parking requirements and their failure to recognize the effect of price on demand. The survey results support his criticisms—they indicate that the common practice is to collect information on neighboring cities' parking requirements. This strategy is inexpensive and avoids veering far from norms. However, this is a faulty strategy if neighboring requirements are out of line with actual parking demand characteristics. Table 3 summarizes the information sources planners use.

Fifty-five percent of the respondents consult more than one type of information, so nearby cities' requirements are not the only influences. Publications by the ITE, American Planning Association (APA), and Urban Land Institute (ULI) are commonly used. Unfortunately, these sources usually provide national averages that may not be applicable to local conditions. Ratios are based on measurements of utilization where parking is usually free and transit

Table 3
Modification of Requirements^a

Question: What sources of information do you normally use to set minimum requirements for workplaces?

	<i>Number of Times Ranked 1st, 2nd, or 3rd</i>		<i>Number of Times Ranked 1st</i>	
Survey nearby cities	82	(36%)	58	(45%)
Institute of Transportation Engineers handbooks	46	(20%)	19	(15%)
American Planning Association/Urban Land Institute publications	26	(12%)	9	(7%)
Commission parking studies	8	(4%)	4	(3%)
Use current standards	7	(3%)	6	(5%)
Traffic engineer	7	(3%)	1	(1%)
Other	44	(19%)	23	(18%)
Don't know	6	(3%)	6	(5%)
Multiple unranked answers	N/A		3	(2%)

^a N = 129.

service is limited. Without local studies, planners have little information with which to judge whether national averages are appropriate. "Commission parking studies" was an infrequent response, suggesting that local parking demand data are rarely used in setting parking requirements.

The survey also asked planners a series of questions about trends that affect parking demand. The top responses were ridesharing (20%) and transit development (20%), suggesting some awareness of the relationship to transit and other nonsingle-occupancy vehicle modes. Although planners recognized that parking requirements might change as a result of increases in nonautomobile commuting, there was little recognition of the other direction of causality; namely, using parking policy to support increases in transit use. Local planners prefer to wait for more extensive transit service, rather than change their policies in ways that would support the development of transit markets, and therefore lead to more service.

Attitudes

Planners' attitudes help explain their involvement in defining issues, initiating policy studies, and implementing local parking regulations. This does not discount the role that the city council, developers, community groups, and other stakeholders have on policy, but planners shape how issues are studied, presented, and adopted as policy (Dalton and Burby 1994). The survey included six statements to which respondents indicated "strong agreement," "agreement," "neutrality," "disagreement," or "strong disagreement." Table 4 summarizes the number of responses agreeing or disagreeing with the statements.

There is agreement that parking charges reduce parking demand. This is a significant shift from 10 or 20 years ago when the view was that commuters would drive no matter what the cost of parking. However, many planners also see free parking as a right of employment. Planners with this perspective are not likely to support parking pricing or reductions of minimum parking requirements even if they acknowledge the potential effectiveness of these policies in reducing demand.

There was significant agreement that developers should be allowed to use

Table 4
Survey Responses to Attitudinal Questions^a

	<i>Agree or Strongly Agree</i>		<i>Disagree or Strongly Disagree</i>	
A. Parking charges reduce the level of solo driving and parking at a workplace	93	(69%)	30	(22%)
B. Developers should be allowed to fulfill some of their parking requirement by using underutilized parking in developments that are close by	84	(62%)	32	(24%)
C. Free parking at workplaces is a right of employment	72	(53%)	34	(25%)
D. On-street parking should be priced to manage its use	64	(47%)	42	(31%)
E. Current parking policies require developers to oversupply parking	49	(36%)	63	(47%)
F. Developers should determine the amount of parking to be provided in projects	14	(10%)	114	(84%)

^a N = 135. Note: Row totals do not sum to 135 and percents do not total to 100 because they exclude responses of "neutral" or "don't know."

adjacent underutilized parking; many cities already permit this. This is a shift from the view that parking should be considered on a site-by-site basis. There was partial agreement that on-street parking should be priced. This is significant because on-street pricing is an effective tool for avoiding spillover parking from off-street facilities.

Planners disagreed with the statement that current policies require an oversupply of parking. Future studies could focus more specifically on what types of workplaces lack parking because other research shows that office buildings are generally oversupplied with parking.

Planners strongly disagreed with the statement that developers should be allowed to determine the supply of parking. Survey respondents do not trust developers to provide the correct amount of parking even though developers bear the economic consequences of creating a building that does not meet market demands for parking.

Prospects for Change

The survey findings present a challenge for policy-makers and transit agencies wishing to encourage local governments to reform their parking requirements. Many local planners are satisfied with current requirements. Some disagree with the premise of recent policy initiatives. Their perspectives might change, however, if they learn more about the unintended consequences of excessive parking requirements and the availability of management tools to deal with specific parking problems.

The local planner's perspective could be looked at in terms of a balancing act between requiring too little parking and requiring too much parking. Figure 1 provides a diagram of this balancing act. The risks of requiring too little parking are perceived more strongly than the risks of providing too much parking. Furthermore, the availability and effectiveness of parking management techniques for addressing undersupplied parking are not well understood. Finally, the risks of requiring too much parking are not prominent in local government priorities.

The challenge in moving parking policy forward is reconciling the differences in priorities among the parties concerned with parking. Policy-makers at the regional, state, and federal levels think about parking policy in the context of transportation, environmental quality, and urban form. Their reform initiatives come from that tripartite view and support transit agencies' concerns with efficiencies in service provision, fiscal health, and an expanded ridership base. Local jurisdictions, on the other hand, think about impact mitigation, traffic circulation, neighborhood disruption, and economic development (see Kendig 1987; Reed 1984).

Status quo parking policies *do* address many local planners' concerns, albeit in a way that exacerbates problems at the regional scale. For example, if a city lowers development density through excessive parking requirements, it reduces total development and trips generated per square mile in that city. Paradoxically, however, it may increase regional vehicle miles traveled (VMT) because lower-density regions generally have greater automobile dependence. Transit service becomes more difficult to provide. The city that limits density may also experience an increase in through traffic. This logic, however, is gen-

Figure 1. Status quo in the parking requirement balancing act

erally not persuasive to local decision-makers. Therefore, local perspectives on parking requirements must be addressed, and local problems must be solved before progress will be made on local reform. The sections that follow discuss three issues that must be addressed: risk, revenue and fiscal solvency, and education. The article concludes by presenting strategies for supporting parking requirement reform efforts.

Risk

Current parking requirements reduce the risk of undersupplying parking, which avoids creating a municipal responsibility for solving a potential parking problem. This risk can be minimized by adopting strategies for responding to more intense future uses of a development. Such uses might lead to spillover parking, for example, but residential permit parking and off-street parking controls can address that issue. Innovative development agreements can include performance requirements for future property owners/tenants and require remedies if parking spillover occurs. Finally, parking pricing and cash-out can alter parking demand and shared-parking strategies can balance differences in parking demand among individual developments.

Municipal Concerns about Revenue and Fiscal Solvency

It is an understatement to say that any policy that affects tax revenues receives great scrutiny. Parking policies that are different than the “norm” raise concerns about competitive positions with neighboring cities. Regional or sub-regional cooperation on this issue can reduce this risk. Planners also want parking regulations that are inexpensive and simple to administer. They may be reluctant to adopt more complex agreement provisions that run with the land. Paradoxically, even though planners are very concerned with revenues, they do not appear to have linked that concern with the effect that excessive parking requirements have in lowering density, and therefore lowering tax revenues.

Need for Education

There is a strong need to educate planners, planning commissions, neighborhoods, business groups, developers, and lenders about parking policies. Rules of thumb have become ingrained. Education efforts should challenge the notion that extensive transit service is a precondition for changes in local parking requirements. Research shows, for example, that pricing strategies to reduce parking demand are successful even if extensive transit service is not available (Willson 1997). These reductions in parking demand are needed to create a ridership base that will support more extensive transit service.

Strategies for Reform

Planners need information on easily adopted and modified sets of parking reform policies. “Toolbox”-type documents, workshops, and incentive grants can garner local support for parking studies. Bringing stakeholders together is a time-consuming but necessary process of considering new parking policies. Regional agency and transit agency funding of local parking utilization studies and policy development can move parking issues up on local governments’ priority lists (Michael R. Kodama Planning Consultant et al. 1996).

There are differences among city characteristics and planners’ attitudes that affect the type of strategy used to modify parking requirements for a specific city. Population density and attitudes about parking charges provide a useful way of organizing the different circumstances. Table 5 groups the sample cities in a two-by-two matrix, with each quadrant showing the number of cities

from the study sample. The quadrants labeled “high density” are cities with a population density greater than the 66th percentile (6,812 persons per square mile). The quadrants labeled “conservative” are cities whose planners indicated “strongly agree” or “agree” with the statement that free parking is a right of employment.

The text in each quadrant suggests high-potential strategies and key arguments for initiating parking requirement reform in each context, assuming that a public agency (usually the city) is taking the lead. The strategies used in any particular city must be carefully tailored to local conditions, of course, so local studies and policy processes should be carried out. All scenarios should include education activities that increase stakeholder awareness of the opportunity cost of status quo parking policies.

The population density distinction relates to the cost of land and parking facilities. The higher density the city, the more likely that pricing can be used as a management tool and that cost-driven private interests in reforming parking requirements will emerge. The conservative/progressive distinction has a bearing on the degree to which arguments for parking reform can be based on linkages to broad community development strategies. For cities that have a conservative approach to parking, the strongest arguments relate to efficiency of land utilization and avoiding the wastefulness of excessive parking. For cities that have progressive views on parking, the same arguments have merit, but additional arguments about reducing automobile dependence and achieving sustainable land use and community development may be effective.

The reform of minimum parking requirements is needed, indeed overdue, if the land-use and transportation goals of regional agencies and transit providers are to be achieved. Transit providers face a great challenge if they must compete with free parking and provide service in low-density areas dominated by surface parking lots. Regardless of the logic of the case for changes in parking requirements, however, proposals must address the issues that matter most to local governments, such as traffic mitigation, spillover parking, and risk avoidance.

The development community may lead efforts to reform parking requirements in high-density, high-cost areas, but local governments in all types of

Table 5
Suggested Parking Policy Approaches, by City Characteristics

		Attitude toward Parking Pricing	
		Progressive ←	Conservative →
City Density Low → High ↓	Low	<p>Quadrant 1: Low Density, Progressive (n = 44)</p> <p><i>Transitioning to a priced environment</i> <i>Strategies</i></p> <ul style="list-style-type: none"> • Revise local ordinances to require a parking level equal to average demand; use shared parking to address land uses with high parking demand. • Price on-street parking. • Create urban design guidelines that facilitate shared parking. • Develop land-use and transportation plans for the transition to higher density community and a priced parking environment. <p>• <i>Key arguments: link parking policy to environmental and community development goals.</i></p>	<p>Quadrant 2: Low Density, Conservative n = 49</p> <p><i>Land-use efficiency and parking management</i> <i>Strategies</i></p> <ul style="list-style-type: none"> • Revise local ordinances to require a parking level equal to peak demand for specific land uses. • Implement on-street parking restrictions to limit spillover parking (time limits and meters). • Monitor parking utilization in key districts. • Develop site-specific shared-parking programs. <p><i>Key arguments: identify tax revenue forgone when excessive parking requirements lower density of development; emphasize efficiency issues.</i></p>
	High	<p>Quadrant 4: High Density, Progressive n = 22</p> <p><i>Markets and agreements replace regulation</i> <i>Strategies</i></p> <ul style="list-style-type: none"> • Lower or eliminate minimum parking requirements; use development agreements with performance clauses to address parking issues. • Facilitate shared-parking arrangements between property owners. • Price on-street parking. • Engage private sector interest and initiative in supplying and managing parking. • Form parking districts to use and manage shared pools of parking. <p><i>Key arguments: as above, plus emphasize the links between parking policy and transit use, lowering of development costs, environmental and community development goals. Make part of Smart Growth/livable community agenda.</i></p>	<p>Quadrant 3: High Density, Conservative n = 23</p> <p><i>Sophisticated development regulation and parking management</i> <i>Strategies</i></p> <ul style="list-style-type: none"> • Revise local ordinances to require a parking level equal to peak demand for specific land uses. • Price on-street parking. • Develop site-specific and districtwide shared-parking arrangements. • Create development agreement provisions that require property owners to remedy parking deficiencies. <p><i>Key arguments: as above, plus emphasize the economic advantages of devoting capital to buildings rather than parking structures, ability to create economically feasible brownfield development projects.</i></p>

circumstances will need encouragement and support if they are to develop the next generation of local parking requirements and policies. Transit agencies can play an important role in supporting that activity. They may support the efforts of transportation management organizations, regional entities, or cities, or they may undertake such initiatives on their own. Although many transit planners have been concerned about these issues for decades, taking a more proactive role in parking policy requires a paradigm shift among managers and their boards. This broadening of perspective, from concern with service and operations to concern with the land-use and transportation conditions that affect the market for transit, can yield great benefits for transit.

Linking parking requirements to transit policy is an effective way of harnessing some of the current interest in Smart Growth/livable community concepts. With broad support, hopefully the next generation of parking requirements will be set in a broader framework that reflects land-use, community development, environmental, and transportation goals. Transit-friendly parking requirements are long overdue.

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