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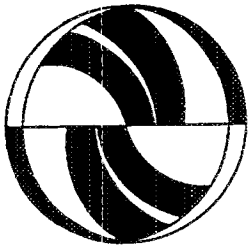
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**Employer-Paid Parking: A Nationwide Survey of Employer's
Parking Subsidy Policies**

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Employer-Paid Parking: A Nationwide Survey of Employers' Parking Subsidy Policies

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Abstract. Ninety-five percent of automobile commuters in the United States park free at work. To deal with the traffic congestion and air pollution caused by parking subsidies, California law now requires many employers to offer employees the option to cash out their parking subsidies. Similar Federal legislation has been proposed. This nationwide survey found that employers in the United States offer employees 84.8 million free parking spaces. Employers own 65.3 million of these free parking spaces, and rent the other 19.5 million. Employers of fewer than twenty employees provide more than half of all employer-paid parking spaces.

1 Few Commuters Pay for Parking at Work

At least nine out of ten American automobile commuters park free at work. The 1990 Nationwide Personal Transportation Survey (NPTS) asked 48,400 respondents "Do you pay for parking at work?" Nationwide, 95 percent of all automobile commuters said they parked free at work. Table 1.1 shows the responses to this question, arranged according to the commuter's gender, race, age, income, education, and residence. The only commuters with less than a 90 percent probability of parking free at work seem to be the rich, the highly educated, and those living in Cincinnati.¹

Other surveys confirm that most commuters park free. The 1977 NPTS found that 93 percent of automobile commuters parked free at work (Shoup and Pickrell, 1980). A 1984 survey of trans-Hudson commuters found that 54 percent of auto drivers bound for the Manhattan CBD during the morning peak received employer-paid parking (Port Authority of New York and New Jersey, 1984). A 1989 survey

¹This finding does not necessarily imply that higher-income commuters are less likely to be offered free parking at work, other things the same. An alternative explanation is that higher-income commuters are more likely to work in central areas where employers are more likely to charge for parking. Another explanation is that higher-income commuters are more likely to drive to work even if they do have to pay for parking. Table 1.1 shows all the MSAs for which the NPTS reported results.

2 Employer-Paid Parking as a Transportation Problem

Although employer-paid parking is a generous fringe benefit, it is also an invitation to drive to work alone. Therefore, employer-paid parking works at cross purposes with costly public policies designed to reduce traffic congestion, energy consumption, and air pollution. The 1990 NPTS found that 91 percent of work trips in the United States were by automobile (up sharply from 78 percent in 1983), and the average vehicle occupancy rate for work trips was 1.1 persons per vehicle (down from 1.3 in 1983). These figures imply that 83 vehicles were driven to work per 100 employees in the United States in 1990, an extraordinary automobile dependency.

How strongly does employer-paid parking encourage solo driving? For commuters to downtown Los Angeles, employer-paid parking subsidizes automobile travel by an average of 11 cents per mile driven. The average employer-paid parking subsidy is sixteen times greater than the federal gasoline tax for the commute trip. Finally, the average commuter parking subsidy in downtown Los Angeles is almost 50 percent greater than the total cost of gasoline for the average commute (Shoup, 1992).

To deal with the problems caused by employer-paid parking, the State of California in 1992 enacted legislation requiring that firms of fifty or more employees who subsidize employee parking must also offer a parking cash-out program. As defined in the law,

“Parking cash-out program” means an employer-funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space. . . . “Parking subsidy” means the difference between the out-of-pocket amount paid by an employer on a regular basis in order to secure the availability of an employee parking space not owned by the employer and the price, if any, charged to an employee for the use of that space (California Health and Safety Code Section 43845).

By requiring firms to offer the option to choose cash in lieu of a parking subsidy, the California legislation effectively prohibits affected firms from offering employees the choice between a parking subsidy or nothing. (The words “firm” and “employer” are used interchangeably; the word “firm” does not imply that an “employer” is private rather than public.)

The cash-out law applies only to firms that have parking-space leases that are separate from their office-space leases. Firms with parking spaces that are leased but “bundled” into their office leases (at no extra cost) are exempt from the cash-out law. Because a firm must offer the cash option only if it pays out-of-pocket cash to subsidize the employee’s parking in a space not owned by the firm (and can

Table 1.1. Share of Automobile Commuters Who Park Free at Work by Characteristics of Commuter and Location of Commuter's Residence

Characteristics of Commuter	Park Free	Location of Commuter's Residence	Park Free
<i>Sex</i>		<i>Metropolitan Statistical Area</i>	
Male	96%	In MSA, in Central City	93%
Female	95%	In MSA, outside Central City	95%
All	95%	Not in MSA	98%
<i>Race</i>		<i>MSA Size</i>	
White	95%	Less than 1,000,000	95%
Black	93%	1,000,000 - 3,000,000	94%
Other	95%	3,000,000 or more	94%
<i>Age</i>		<i>Consolidated MSA</i>	
16 - 30	96%	Hartford	98%
30 - 50	94%	Portland	97%
50 - 70	96%	Detroit	96%
Over 70	98%	Los Angeles	96%
		Miami	96%
		Philadelphia	96%
		Boston	94%
		Chicago	94%
		Cleveland	94%
		New York	94%
		Seattle	94%
		Dallas	93%
		Houston	93%
		Milwaukee	93%
		Pittsburgh	93%
		San Francisco	93%
		Buffalo	92%
		Cincinnati	88%
<i>Income</i>			
Less than \$20,000	97%		
\$20,000 - \$40,000	96%		
\$40,000 - \$60,000	95%		
\$60,000 - \$80,000	93%		
\$80,000 or more	89%		
<i>Education</i>			
High School	97%		
College, 4 Years	93%		
Graduate School, 2+ Years	88%		

Source: Shoup (1995). Calculated from data in the 1990 *Nationwide Personal Transportation Survey*. Percentages refer to the 21,051 automobile commuters who responded to the question: "Do you pay for parking at work?"

of large metropolitan areas found that 90 percent of automobile commuters park free at work (Center for Urban Transportation Research, 1989). Williams (1991) found that 82 percent of all commuters' automobiles park free at work in the Washington, D.C. metropolitan area. A 1994 survey of 2,625 commuters in Southern California found that 92 percent of automobile commuters park free at work (Commuter Transportation Services 1994).

therefore reduce the number of leased parking spaces when employees cash out), the firm clearly saves the parking subsidy when the employee takes the cash.

As part of its Climate Change Action Plan to reduce greenhouse gas emissions, the Clinton Administration announced that it will introduce similar cash-out legislation at the federal level. The federal version would apply to firms with twenty-five or more employees.

Predicting the results of cashing out parking subsidies in leased parking spaces is difficult because no one knows how many firms subsidize employee parking by leasing parking spaces. The survey information from the NPTS and other sources summarized earlier show that at least nine out of ten automobile commuters park free at work, but they do not reveal how many commuters receive employer-paid parking (rather than park on the street), or what share of the employer-paid parking is provided in spaces that employers lease rather than own.

3 A Survey of Parking Subsidy Policies

In Spring 1994 we conducted a nationwide survey to estimate how many parking spaces firms own or lease to provide for their employees use. Standard and Poor's drew a stratified random sample of 1,200 firms from their "Plus" Database of 10.6 million firms. This database includes all employers in the United States (private, public, and non-profit), and our sample weighted each firm's probability of being selected by its number of employees. For example, the probability of being selected was ten times greater for a firm with 1,000 employees than for a firm with 100 employees. Therefore, every employee in the nation had an equal chance of having his or her employer selected for the sample. The sample thus allows us to estimate parking subsidies provided to the entire employed population of the United States.

The telephone survey asked firms whether they lease parking spaces for use by employees, how many spaces the firm leases for use by employees, and whether employees pay anything for parking in these spaces. We also asked the same questions about employer-owned parking spaces used by employees. Of the 1,200 firms in the sample, 778 responded to the survey, a 65 percent response rate.

4 Details of the Survey Findings

4.1 Who Provides Parking Spaces?

Table 4.1 shows the share of firms who lease and/or own parking spaces used by commuters. Thirty-one percent of firms lease parking for use by their employees, and 47 percent of all firms own parking spaces for use by their employees. The larger the firm, the smaller the share who lease parking spaces, but in every size class more firms own than lease parking spaces.

Table 4.1. Share of Firms Who Lease and/or Own Parking for Employees

Firm Size	Lease Parking	Own Parking	Both Lease and Own Parking	Neither Lease nor Own Parking
(1)	(2)	(3)	(4)	(5)
1 - 19 Employees	32% (4.5%)	45% (4.8%)	2% (1.3%)	25% (4.2%)
20-49 Employees	26% (9.1%)	67% (9.7%)	1% (2.2%)	9% (5.9%)
50 or more Employees	21% (4.9%)	78% (4.9%)	5% (2.7%)	8% (3.2%)
ALL FIRMS	31%	47%	2%	24%

Note Figures in parentheses under each estimate represent the margin of error (plus or minus) for the estimate at the 95% confidence level. There were 415 firms with 1-19 employees, 90 firms with 20-49 employees, and 273 firms with 50 or more employees. A Chi-square test shows that there is less than one percent chance that the differences in behavior among the three size categories were observed by chance.

Only two percent of all firms both lease and own parking spaces. This finding is important because some critics have argued that it will be unfair for a firm that both leases *and* owns parking to offer cash in lieu of parking only to employees who park in leased spaces. Since only two percent of firms both lease and own parking spaces, the alleged difficulty of dealing with this situation is not a serious objection to cashing out leased parking.²

Finally, 24 percent of firms neither lease nor own parking spaces for use by their employees. When we asked these firms how their employees get to work, their responses suggested that their employees either ride transit or find alternative parking spaces near the work site. Riding transit is particularly common in large

²Note that the two percent of employers who both lease *and* own parking spaces (shown in Column 4) are included as employers who lease parking spaces (shown in Column 2) and also as employers who own parking spaces (shown in Column 3). The share of employers who lease and/or own parking spaces is the share who lease plus the share who own, minus the share who both lease and own, because some employers are included in both categories. Therefore, 76 percent of all employers lease and/or own parking spaces for use by their employees ($76 = 31 + 47 - 2$). Similarly, to obtain the share of employers who *only* lease parking spaces, the share of employers who both lease *and* own parking spaces must be deducted from the share of employers who lease parking spaces. While 31 percent of employers lease parking spaces, 29 percent of employers only lease (and do not own) parking spaces.

urban areas such as Chicago and New York. The most common alternative parking place is in public alleys. Other responses include parking in open industrial land near the work site, in church parking lots, in on-street parking spaces, in parking spaces designated for nearby stores that are closed or unoccupied, or in shopping malls. One Amish employer asked us whether his three hitching posts should count.

4.2 Who Offers Free Parking?

Table 4.2 shows that 98 percent of firms who lease spaces offer them free to their employees, and 97 percent of firms who own spaces offer them free to their employees. Because almost all firms who pay to lease spaces offer them free to employees, they are in an excellent position to offer employees *either* free parking *or* what it costs the firm to lease that parking.

Table 4.2. Share of Firms Leasing or Owning Parking Spaces Who Offer Free Parking to Employees

Firm Size	Offer Leased Parking Free	Offer Owned Parking Free
(1)	(2)	(3)
1 - 19 Employees	98% (2.7%)	97% (2.7%)
20 - 49 Employees	100% *	100% *
50 or more Employees	96% (5.2%)	93% (3.9%)
All Firms	98%	97%

Note: Figures in parentheses under each estimate represent the margin of error (plus or minus) for the estimate at the 95% confidence level. A * indicates that all firms in the subsample offered free parking.

4.3 How Many Firms Offer Free Parking?

Table 4.3 shows that approximately 3.25 million firms, or 31 percent of all firms in the country, lease parking spaces and offer them free to employees. If firms with fewer than twenty-five employees are exempted, cashing out will potentially affect fewer than 223,000 firms nationwide, or about 2 percent of all firms.

Table 4.3. Employers Who Lease Parking Spaces and Offer Free Parking to Employees

Firm Size (# of Employees)	Number of Firms in U S	Share of Firms Who Lease Parking	Number of Firms Who Lease Parking	Share of Leasers Who Offer Free Parking	Number of Firms Who		Distribution of Firms Who Offer		Total Firms Who Offer Leased Parking Free	Share of Firms Who Offer Leased Parking Free
					(4)=(3)x(2)	(5)	Leased	Parking Free		
(1)	(2)	(3)	(4)=(3)x(2)	(5)	(6)=(5)x(4)	(7)	(8)	(9)=(3)x(5)		
1 - 19	7,905,400	32%	2,529,728	98%	2,479,133	93%	3,030,142	31%		
20 - 49	524,900	26%	136,474	100%	136,474	5%	166,806	26%		
50 or more	226,700	21%	47,607	96%	45,703	2%	55,861	20%		
Unreported	1,947,000	31%	603,570	98%	591,499					
All Firms	10,604,000	31%	3,317,379	98%	3,252,809	100%	3,252,809	31%		

Note. Firms who did not report their number of employees are assumed to be otherwise similar to firms who did report their number of employees. Thus, the distribution in Column 7 refers to the distribution of firms who did report their number of employees, and Column 8 distributes the total number of firms (including those who did not report their number of employees) according to the percentages shown in Column 7.

Column 7 shows that 93 percent of reporting firms who lease parking spaces and provide them free to employees have fewer than twenty employees³. Thus exempting these small firms from cashing out would exempt at least 93 percent of all firms who lease parking spaces and provide them free to their employees.

Column 9 shows that the larger the firm, the smaller the share who lease parking spaces and offer them free to employees. Thirty-one percent of all small firms lease parking spaces their employees use free, while only 20 percent of large firms do.

Table 4.4 shows that approximately 4.85 million firms, or 46 percent of all firms in the country, own parking spaces and offer them free to employees. The larger the firm, the larger the share who own parking spaces and offer them free to employees. When both leased *and* owned parking spaces are considered, 74 percent of all firms in the United States provide free parking for their employees.

4.4 How Many Parking Spaces are Offered Free?

Table 4.5 shows that firms lease 19.5 million parking spaces that are offered free to employees. Small firms provide 67 percent of the employer-paid parking in leased parking spaces, or approximately 13 million leased spaces. It seems reasonable that smaller firms provide a larger share of their employer-paid parking in leased spaces because many small firms do not own the property in which they are located. These figures suggest that exempting firms with fewer than twenty-five employees from cashing out employer-paid leased parking would exempt over two-thirds of the leased parking spaces that firms offer free to their employees.

Table 4.6 shows that firms own 65.5 million parking spaces they provide free to employees. All these parking spaces would be exempt from the federal cash-out requirement.

Table 4.7 summarizes our findings. When the 19.5 million leased parking spaces are added to the 65.5 million owned parking spaces, it appears that firms provide 85 million employer-paid parking spaces to their employees in the United

³Standard and Poor's "Plus" Database includes 10,604,000 firms, of whom 1,947,000 did not report their number of employees, and who thus cannot be allocated to any size class. Because our sample was selected so that each firm's probability of being selected was weighted by its number of employees, the sample excludes firms who did not report their number of employees. To estimate the parking policies of these nonreporting firms, who are 19 percent of the total number of firms, we have assumed them to be otherwise similar to firms who did report their number of employees. Therefore, the share of nonreporting firms who lease parking is assumed to be the same as for all reporting firms (31 percent), and the share of nonreporting firms who offer their employees free parking is assumed to be the same as for all reporting firms (98 percent). These assumptions regarding firms who did not report their number of employees seem justified because neither percentage varied greatly by firm size among the firms who did report their number of employees.

Table 4.4. Firms Who Own Parking Spaces and Offer Free Parking to Employees

Firm Size (# of Employees)	Number of Firms in U S (2)	Share Who Own Parking (3)	Number of Firms Who Own Parking (4)=(3)x(2)	Share of Owners Who Offer Free Parking (5)	Number of Firms Who Offer Owned Parking Free (6)=(5)x(4)	Distribution of Firms Who Offer		Total Firms Who Offer Owned Parking Free (8)	Share of Firms Who Offer Owned Parking Free (9)=(3)x(5)
						Owned Parking Free (7)	Owned Parking Free (7)		
1 - 19	7,905,400	45%	3,557,430	97%	3,450,707	87%	4,222,853	44%	
20 - 49	524,900	67%	351,683	100%	351,683	9%	430,377	67%	
50 or more	226,700	78%	176,826	93%	164,448	4%	201,246	73%	
Unreported	1,947,000	47%	915,090	97%	887,637				
All Firms	10,604,000	47%	5,001,029	97%	4,854,476	100%	4,854,476	46%	

Note: Firms who did not report their number of employees are assumed to be otherwise similar to firms who did report their number of employees. Thus, the distribution in Column 7 refers to the distribution of firms who did report their number of employees, and Column 8 distributes the total number of firms (including those who did not report their number of employees) according to the percentages shown in Column 7.

Table 4.5. Leased Parking Spaces Offered Free to Employees

Firm Size (# of Employees)	Number of Firms Who Offer Leased Parking Free	Average Number of Leased Spaces Offered Free	Total Number of Leased Spaces Offered Free	Distribution of Leased Spaces Offered Free
(1)	(2)	(3)	(4)=(2)x(3)	(5)
1 - 19	3,030,142	4 3	13,029,611	67%
20 - 49	166,806	19 2	3,202,657	16%
50 or more	55,861	58 8	3,284,627	17%
All Firms	3,252,809	6 0	19,516,913	100%

Table 4.6. Owned Parking Spaces Offered Free to Employees

Firm Size (# of Employees)	Number of Firms Who Offer Owned Parking Free	Average Number of Owned Spaces Offered Free	Total Number of Owned Spaces Offered Free	Distribution of Owned Spaces Offered Free
(1)	(2)	(3)	(4)=(2)x(3)	(5)
1 - 19	4,222,853	7 3	30,615,684	47%
20-49	430,377	24 5	10,544,237	16%
50 or more	201,246	120 2	24,189,769	37%
All Firms	4,854,476	13 5	65,349,690	100%

Table 4.7. Employer-Paid Parking Spaces in the United States

Firm Size (# of Employees)	Total Number of Leased Spaces Offered Free	Total Number of Owned Spaces Offered Free	Total Number Of Parking Spaces Offered Free	Share of Employer- Paid Parking in Leased Spaces
(1)	(2)	(3)	(4)	(5)=(2)/(4)
1 - 19	13,000,000	30,600,000	43,600,000	30%
20 - 49	3,200,000	10,500,000	13,700,000	23%
50 or more	3,300,000	24,200,000	27,500,000	12%
All Firms	19,500,000	65,300,000	84,800,000	23%

States Small firms lease 30 percent of their parking spaces, while large firms lease only 12 percent of their parking spaces In total, 23 percent of all the parking spaces provided free to employees are leased

5 Summary of the Survey Findings

Firms provide 85 million employer-paid parking spaces in the United States Small firms (with fewer than twenty employees) provide over half of this employer-paid parking, in 44 million free parking spaces (see Figure 5.1).

Firms lease 23 percent of the parking spaces they provide free to employees Small firms lease 30 percent of the parking spaces they offer free to employees, while large firms lease only 12 percent of the parking spaces they offer free to employees.

Firms lease 19.5 million parking spaces to provide free to employees, and small firms lease two-thirds of these parking spaces Small firms lease 13 million parking spaces to offer free to employees, while mid-size firms (of 20 to 49 employees) and large firms lease only 6.5 million parking spaces to offer free to employees.

Requiring firms with twenty-five or more employees to offer a parking cash-out option for leased parking spaces will potentially affect only 2 percent of all firms. These firms offer free parking in approximately six million leased parking spaces, or in approximately one-third of all leased parking spaces.

The California cash-out legislation requires a firm to offer cash in lieu of a parking subsidy only if the firm pays out-of-pocket cash on a regular basis to lease

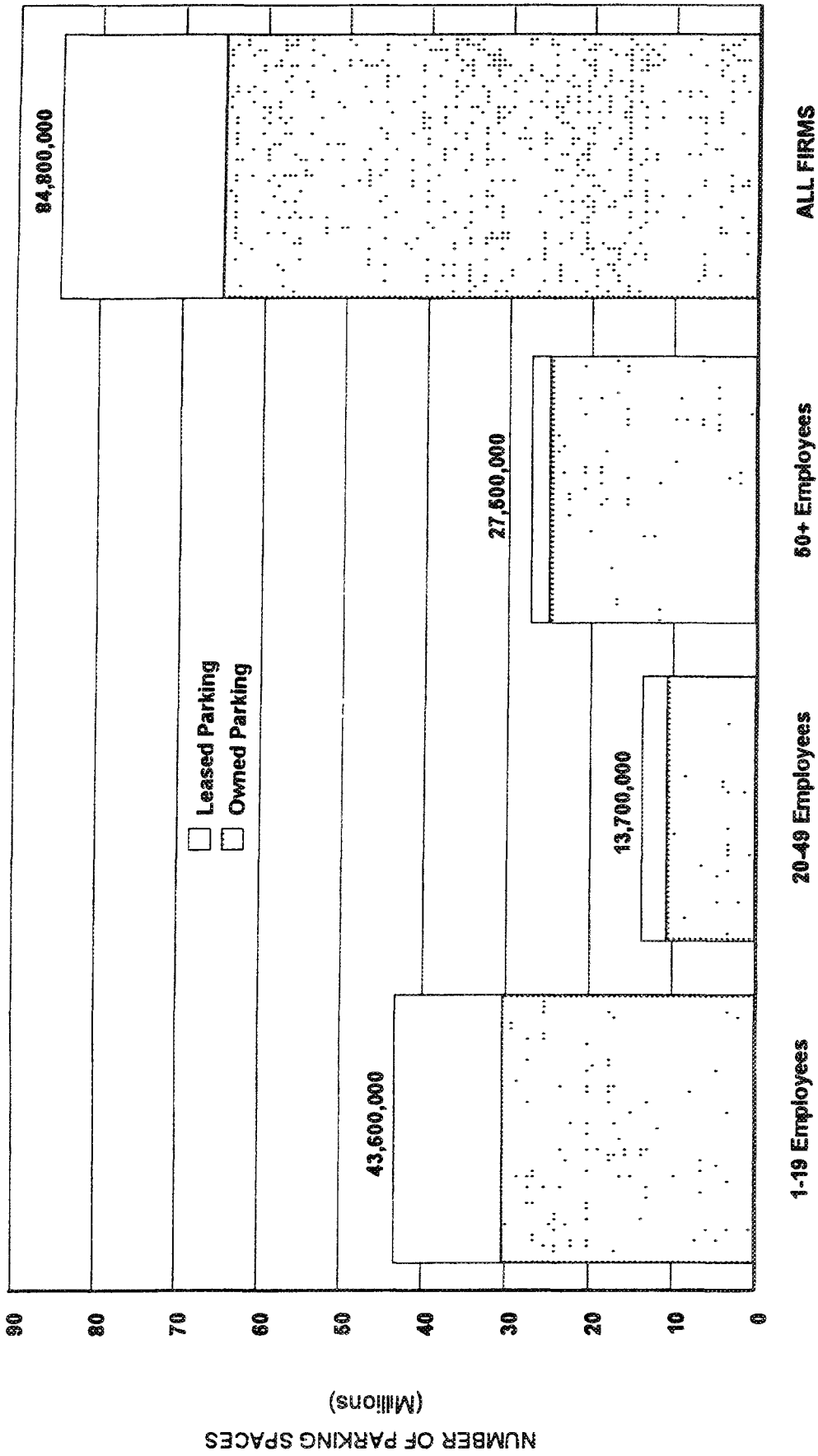


Fig. 5.1. Employer-paid parking spaces in the United States

parking for employees' use (the proposed federal legislation is similar). A firm is not required to offer cash in lieu of parking if its leased spaces are "bundled" in the rent for its leased premises, with no separate payment for the parking. The estimate that there are 19.5 million employer-leased parking spaces includes both "bundled" spaces that are provided at no extra charge in the lease for a firm's premises, and "unbundled" spaces for which a firm pays out-of-pocket cash to lease for employees' use. Therefore, the cash-out requirement would not affect all of the 19.5 million parking spaces that employers lease.

In low-density areas where there is "ample free parking," and where parking is often bundled at no extra cost in leases for commercial space, firms would not have to offer their employees cash in lieu of the free parking. Therefore the cash-out requirement would affect mainly high-density areas where parking is expensive, and is typically leased separately from office space. In these high-density areas employees have the best alternatives to automobile commuting, and have the strongest incentive to take cash in lieu of a parking space. Cashing out parking subsidies in leased spaces would thus target its rideshare incentive to high-density areas with the greatest potential for reducing congestion, improving air quality, and saving energy.

6 Comments on the Survey Findings

We have found that small firms provide two-thirds of the parking spaces that are leased and offered free to employees. This finding calls into question the wisdom of exempting firms with fewer than twenty-five employees from a requirement to offer the option to cash out parking subsidies.

Perhaps the threshold of twenty-five employees was chosen by a false analogy to the firm size thresholds applied in employer-based trip-reduction mandates, such as Regulation XV in Southern California and its counterparts proposed for other major cities by the 1990 Clean Air Act Amendments. But cashing out employer-paid parking is different from requiring firms to reduce the number of automobile trips their employees make. Three differences suggest that the size thresholds applied in trip-reduction regulations should not arbitrarily be applied to parking cash-out legislation.

First, requiring employers to reduce automobile commuting imposes a considerable administrative burden. The administrative burden includes requirements for firms to employ rideshare coordinators, to prepare and submit trip reduction plans, and to conduct annual employee travel mode surveys. Green (1994) studied one major firm's spending to comply with Regulation XV and found that 72 percent of this spending was for administration. Only 28 percent of the firm's spending reached employees as ridesharing subsidies. By contrast, a survey of firms who offer the cash option found that the administrators spent an average of only three minutes per employee per month to administer the cash-out

programs, and almost all of the firm's spending for cashing out reached employees as a ridesharing subsidy (Shoup, 1992, p 72).

Second, requiring employers to reduce automobile commuting imposes a significant financial cost. A 1992 survey carried out by the accounting firm of Ernst and Young (1992) found that firms spent an average of \$105 per employee per year to comply with Regulation XV. By contrast, cashing out employer-paid parking costs almost nothing. Firms simply offer employees the option to shift parking subsidies into paychecks. The cash offered to employees is financed by the firm's saving on parking subsidies. Small firms should find it especially easy to cash out leased parking spaces. Offering an employee cash in lieu of a parking space may be easier than it is to spend that same cash to lease parking spaces and assign them to employees.

Third, to encourage substantial ridesharing among its own employees, a firm must have many employees. This economy-of-scale argument is a justification for exempting small firms from employer-based trip reduction requirements. But the effectiveness of cashing out employer-paid parking does not rely on ridesharing among fellow employees of a single firm. Instead, if employees cash out their parking subsidies they can rideshare with anyone they like, not just with a fellow employee from their own firm, so having few employees should not detract from the benefits of cashing out employer-paid parking subsidies.

Cashing out employer-paid parking has economies of scale, but these economies refer to the total number of employees who are offered the cash option, not to the number of fellow employees of any one firm. Cashing out will benefit from economies of large scale because finding a carpool partner is easier when everyone else is also seeking a carpool partner. Cashing out *all* employer-paid parking in leased spaces, including spaces leased by small employers, would greatly increase the probability of finding a carpool partner because it would greatly expand the number of commuters who are interested in carpooling.

Previous research on carpooling has found either no relationship, or even a weakly negative one, between a firm's size and the propensity of its employees to carpool (Ferguson, 1991). The economies of scale in carpooling refer to the total number of commuters seeking to carpool, not to any single firm's number of employees. Therefore, including small firms will not only greatly increase the number of employees who are offered cash in lieu of parking, but will also increase the probability that those who *are* offered cash in lieu of parking will take the cash and rideshare.

In summary, the argument against exempting small firms from cashing out parking subsidies has three parts. First, small firms lease approximately 13 million parking spaces, more than two-thirds of all the employer-leased parking spaces. Therefore, eliminating the small firm exemption would more than triple the number of leased parking spaces potentially eligible for cashing out. Second, cashing out employer-paid parking in leased spaces imposes almost no financial burden on a firm because the firm's saving on leased parking subsidies finances the cash offered to employees. Third, a commuter is more likely to cash out a parking

subsidy and carpool if many other commuters are simultaneously offered the same option to cash out their parking subsidies

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