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**The University of California
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Employer-Paid Parking: The Problem and Proposed Solutions

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EMPLOYER-PAID parking is a popular fringe benefit that invites commuters to drive to work alone. Thus, employer-paid parking works at cross purposes with costly public policies designed to reduce traffic congestion, energy consumption, and air pollution. This article (1) explores the problems created by employer parking subsidies, (2) proposes a policy of requiring employers who offer an employee a parking subsidy to also offer that employee the *option* to receive, in lieu of the parking subsidy, the fair market value of the parking subsidy either as a cash commute allowance or as a mass transit or ridesharing subsidy, and (3) predicts the consequences of the policy proposal with new data derived from research on commuters to downtown Los Angeles.

EMPLOYERS' INFLUENCE ON COMMUTERS' TRAVEL COSTS

Nine out of every ten American commuters who drive to work do not pay for parking. Shoup and Pickrell used National Personal Transportation Study data to estimate that 93 percent of auto commuters parked free.¹ A 1988 survey found that 91 percent of employees in Los Angeles, Riverside, San Bernardino, and Ventura Coun-

1. D. Shoup and D. Pickrell, *Free Parking as a Transportation Problem* (Washington DC: U.S. Department of Transportation, 1980).

ties park free.² And, a 1989 survey of large SMSAs found that 90 percent of those who drive to work park free.³

Even in downtowns where parking is most expensive, many auto commuters pay nothing for parking. For example, more than half of the 114,000 office workers who drive to downtown Los Angeles receive full or partial parking subsidies; employers subsidize the full cost of parking for 47 percent of all these drivers. Only 12 percent of all commuters to downtown Los Angeles work for employers who do not subsidize any employee parking.⁴

Parking subsidies greatly reduce the relative cost of driving to work alone. The powerful influence of parking subsidies on travel costs can be illustrated in three ways. First, the offer of free parking is often worth more than the offer of free gasoline. For commuters to downtown Los Angeles in 1986, the average round trip length for those who park free was 36 miles.⁵ If their gasoline mileage is 20 miles per gallon, the round trip to work consumes 1.8 gallons of gas, and if gas costs \$1 per gallon, the cost of gas for the average round trip commute trip is \$1.80 (or \$2.70 if gas costs \$1.50 per gallon). But the average daily equivalent cost of monthly parking in downtown Los Angeles was \$3.87, far more than the cost per trip for gasoline. Free gasoline for employees who drive to work would seem a reckless offer, yet employer-paid parking is a much stronger incentive to drive to work alone.

Second, employer-paid parking subsidies dwarf the gasoline tax paid for the average commute trip. A parking subsidy of \$3.87 for a trip that consumes 1.8 gallons of gas is equivalent to a subsidy of \$2.15 per gallon of gas used. The federal gasoline tax would have to be raised from 14 cents to \$2.29 per gallon merely to offset the parking subsidies now given to over 50,000 solo drivers who park free at their employers' expense in downtown Los Angeles. Thus, even very large increases in the gasoline tax would probably decrease solo driving to work by much less than employer-paid parking already increases it.

A third way to illustrate the effect of employer paid parking is to

2. Commuter Transportation Services, Inc., *1988 Commuter Survey* (Los Angeles: Commuter Transportation Services, Inc., 1988).

3. Center for Urban Transportation Research, *Factors Related to Transit Use* (Tampa, FL: University of South Florida, 1989).

4. R. Willson and D. Shoup, *The Effect of Employer-Paid Parking in Downtown Los Angeles: A Study of Office Workers and Their Employers* (Los Angeles: Southern California Association of Governments, 1990a).

5. Ibid.

compare it to a congestion toll. If the average round-trip drive to work is 36 miles, and the average parking subsidy is \$3.87 per day, the parking subsidy is equivalent to 11 cents per mile traveled. Thus, imposing a congestion toll of 11 cents per mile traveled would do no more to discourage commuters from driving the average trip length to the Los Angeles CBD than employer-paid parking already encourages it. And employers fully subsidize parking for almost half of all the solo drivers to downtown Los Angeles.

THE PROBLEM WITH EMPLOYER-PAID PARKING

Employer-paid parking increases solo driving and employers generally restrict subsidies to parking.

Employer-Paid Parking Increases Solo Driving

Because employer-paid parking so heavily subsidizes solo driving to work, it undoubtedly increases the amount of it. Willson and Shoup assembled and summarized the existing well-documented case studies of how employer-paid parking affects travel behavior.⁶ These case studies have either: (1) examined the commuting behavior of employees *before* and *after* employer-paid parking was ended; or (2) compared the commuting behavior of matched samples of employees *with* and *without* employer-paid parking.

Table I shows how employer-paid parking affects commuters' travel behavior, measured in two ways. First, it shows the effect in terms of solo driver mode share, and reveals that ending employer-paid parking reduces the solo driver share by between 18 and 81 percent, depending on circumstances. Second, Table I translates these mode shares into a measure of the number of cars driven to work per 100 employees.⁷ This measure takes into account the number of cars used by carpools as well as by solo drivers. Because some solo drivers shift to carpools when employers eliminate parking

6. R. Willson and D. Shoup, "Parking Subsidies and Travel Choices: Assessing the Evidence," *Transportation* 17 (1990b): 141-157.

7. The number of cars driven to work per 100 employees incorporates the effect of employer-paid parking subsidies not only on the number of commuters who drive to work alone, but also on the number who carpool, ride public transit, walk, and bike to work. Most of the case studies surveyed do include information on the share of employees who carpool, but not on the average carpool size. Because most of the case studies are in Southern California, an average carpool/vanpool size of one vehicle per 2.62 carpool/vanpool commuters, derived from the 1988 *Commuter Survey* of Southern California commuters conducted by Commuter Transportation Services, Inc., was used. See Willson and Shoup, "Parking Subsidies and Travel Choices," for summaries of the studies shown in Table I.

TABLE I—HOW EMPLOYER PARKING SUBSIDIES AFFECT COMMUTER MODE CHOICE

<i>Case Study and Type</i>	<i>Solo Driver Mode Share</i>			<i>Autos Driven per 100 Employees</i>			
	<i>Employer Pays for Parking</i>	<i>Driver Pays for Parking</i>	<i>Decrease in Solo Share</i>	<i>Employer Pays for Parking</i>	<i>Driver Pays for Parking</i>	<i>Decrease in Auto Trips</i>	<i>Price Elasticity of Demand</i>
Mid-Wilshire, Los Angeles (before/after)	42%	8%	-81%	48	30	-38%	-0.23
Warner Center, Los Angeles (before/after)	90%	46%	-49%	92	64	-30%	-0.18
Century City, Los Angeles (with/without)	92%	75%	-18%	94	80	-15%	-0.08
Civic Center, Los Angeles (with/without)	72%	40%	-44%	78	50	-36%	-0.22
Downtown Ottawa, Canada (before/after)	35%	28%	-20%	39	32	-18%	-0.10
Average of case studies	66%	39%	-40%	70	51	-27%	-0.16

subsidies, the number of autos driven to work does not decline by as much as the number of solo drivers, but the decline is still very impressive, ranging from 15 to 38 percent. The final column in Table I shows the parking price elasticity of demand for automobile commuting.⁸ This price elasticity of demand ranges from -0.08 to -0.23, with an average of -0.16.

Employers Generally Restrict Subsidies to Parking

Employer-paid parking is often a take-it-or-leave-it offer. That is, employees are usually not offered any alternative benefit of equivalent value if they do not take the parking. Therefore, some employees who value the parking at less than it costs the employer to provide it will nevertheless take the parking subsidy rather than nothing. For example, suppose the market price of parking at your work site is \$50 per month. Suppose also that at any parking price less than \$30 per month you would choose to drive to work alone, but if you had to pay anything more than \$30 per month to park at work, you would instead choose to commute by bus or bicycle. Thus, if your employer offers you free parking at work (by paying the \$50 a month parking

8. If the number of cars parked at work equals the number of cars driven to work, the parking price elasticity of demand for automobile commuting should also give the parking price elasticity of demand for commuter parking.

charge for you), you would drive to work alone. If, however, your employer offered you the choice between either the free parking space or the \$50 it costs your employer to provide it, you would take the \$50 in cash, and then ride the bus or bike to work.

In the situation just described, the offer of employee-paid parking (without the option to choose its cash value instead) has two undesirable consequences. First, it is privately wasteful, because you take a parking space that you do not think is worth what it costs. Your employer is paying \$50 a month to provide you with something that is worth only \$30 a month to you. That represents a net loss of \$20 per month in income to you, compared to the alternative of taking the \$50 parking subsidy in cash instead.

Of course, if you choose to drive to work even when parking costs you more than \$50 a month, the offer of employer-paid parking does not alter your commute decision, and is therefore not privately wasteful in the sense just argued. The subsidy is worth as much to you as it costs your employer. But all the studies cited earlier clearly show that many employees do not think their parking spaces at work are worth what it costs their employers to provide them, because when commuters have to pay for their own parking, many of them do stop driving to work alone. As one example, consider the results found in the Mid-Wilshire Los Angeles case study cited earlier, where an employer ceased offering to pay for parking at work for solo drivers.⁹ Of the 42 solo drivers who had previously received free parking, only one solo driver chose to pay the market price of \$57.50 a month to continue parking in the previously free spaces. That is, 98 percent of all employees who drove to work alone when their parking was free felt that the parking spaces were not worth the \$57.50 per month that their employer had been paying for them. This suggests the potential for a considerable amount of private waste involved in offering parking subsidies that are worth less to employees than they cost the employer.

In addition to the private waste it entails, employer-paid parking is publicly harmful, because it needlessly increases the number of cars driven to work. On average, the case studies summarized in Table I suggest that ending employer-paid parking decreases the number of cars driven to work by 27 percent. Conversely, offering

9. M. Surber, D. Shoup, and M. Wachs, "Effects of Ending Employer-Paid Parking for Solo Drivers," *Transportation Research Record 957* (Washington DC: Transportation Research Board, 1984).Research

employer-paid parking increases the number of cars driven to work by 37 percent. Thus, employer-paid parking subsidies clearly contribute to the already serious urban problems of traffic congestion and air pollution.

Tax-exempt fringe benefits are usually justified on the grounds that they encourage socially desired behavior, and help to further important public objectives. For example, employer-paid medical insurance is intended to improve employees' health. Employer-paid pension contributions are intended to provide retirement income in old age. But employer-paid parking is altogether different, because it strongly encourages the very behavior—solo driving—that other subsidies and public policies are meant to discourage. Market parking prices encourage commuters to rideshare, but employer-paid parking shields commuters from these market signals and skews commuters' choices toward driving to work alone.

WHY DO EMPLOYERS SUBSIDIZE PARKING SPACES RATHER THAN PEOPLE?

Given the ample and growing body of evidence that employer-paid parking is both privately wasteful and publicly harmful, what explains its ubiquity? Why don't employers instead offer their employees an equivalent cash commute allowance that employees could use as they choose? The cash commute allowance would not be privately wasteful, because it would not tempt employees to park in spaces they don't think are worth the cost, and it would not be publicly harmful, because it would not induce commuters to drive to work alone.

The strongest explanation for the prevalence of employer-paid parking is that federal and state income tax laws exclude the value of employers' parking subsidies from employees' taxable income. The favored income tax treatment of employer-paid parking subsidies makes it "tax-efficient" for employers to pay for their employees parking at work. Table II shows, for each taxable income bracket, how much an employer in California would have to pay an employee in taxable cash income to equal the value of \$1 of tax-exempt parking subsidy. For example, for an employee whose taxable income is \$45,000 per year, an employer would have to pay the employee \$1.69 in taxable cash income to yield, after federal and state income and social security taxes, the after-tax equivalent of a \$1 tax-exempt

TABLE II—TAXABLE CASH EQUIVALENT
OF A TAX-EXEMPT PARKING SUBSIDY

<i>Taxable Income</i>	<i>Marginal Tax Rate</i>	<i>Cash Equivalent of \$1 Parking Subsidy</i>
\$19,056–\$30,070	26% ^a	\$1.35
\$30,071–\$32,450	27% ^a	\$1.37
\$32,451–\$41,746	40% ^a	\$1.67
\$41,747–\$52,760	41% ^a	\$1.69
\$52,761–\$78,400	35%	\$1.53
\$78,401–\$185,730	39%	\$1.65
over \$185,731	35%	\$1.53

The marginal rate is the combined federal and California marginal income tax rate for a married couple filing jointly, based on 1990 federal and state tax brackets and personal exemptions.

a. Includes 7.65 percent Social Security tax rate on incomes up to \$51,300 per year.

parking subsidy. Thus, the offer of employer-paid parking as a tax-exempt fringe benefit is worth 69 percent more than a taxable cash commute allowance equal to the cost of a parking space at work. The “tax efficiency” of employer-paid parking is thus a strong incentive for employers to subsidize employee parking. Far from being irrational or irresponsible in subsidizing employees’ parking, employers are simply doing what the U.S. tax code encourages them to do.¹⁰

Ridesharing and mass transit advocates have argued for many years that the tax treatment of parking and other transportation benefits should be revised to end the bias in favor of employer-paid parking. But it is very difficult to eliminate a tax exemption that benefits so many workers, at all income levels. Although the tax exemption provides the greatest benefits to those in higher income tax brackets, eliminating it would affect many low-wage employees as well. Thus, no matter how strongly one believes that it is a good idea, it seems unrealistic, even quixotic, to recommend simply eliminating the income tax exemption of employer-paid parking. Quite aside from the money involved, parking privileges are intimately related to one’s status within an organization, so any proposal to reform parking subsidies must be approached gingerly.

10. Although the tax-exemption of parking subsidies makes it “tax efficient” for an individual employer to subsidize parking, the tax-exemption of parking subsidies makes the tax system itself less efficient because it reduces tax revenue, encourages socially undesired behavior, and reduces the effectiveness of a host of other public policies designed to reduce congestion, pollution, and energy consumption. Thus, “tax efficiency” for the individual employer does not imply efficiency of the tax system itself.

LOCAL ACTION TO REMOVE DISTORTIONS CAUSED BY THE
TAX-EXEMPTION OF EMPLOYER-PAID PARKING

Given the extreme sensitivity of the issue, is there any possible public policy that can achieve the benefits of ending employer-paid parking, without provoking the inevitable strong opposition to taking away the substantial subsidies now given to so many commuters? We believe there is, and that a good example of it exists in the City of Los Angeles' year-old employee transit subsidy ordinance. This ordinance requires that:

*Each employer in the City that offers free or subsidized parking to any employee . . . shall offer a \$15 (fifteen) per month transit subsidy to each of its employees for their use in commuting to and from the employer's work-site. . . . (Section 85.05 of the Los Angeles Municipal Code.)*¹¹

This ordinance has aroused no significant opposition, but because the required transit subsidy is only \$15 per month, and because parking subsidies are often far higher than that, the offer of a \$15 transit subsidy in lieu of a parking subsidy may have only a slight effect on mode choice.¹² Nevertheless, the required transit subsidy is a sensible, sensitive, and minimally intrusive public policy that is intended to counteract the harmful effects of parking subsidies by expanding the commuter's options beyond the usual choice between a parking subsidy or nothing.

The precedent set by Los Angeles' transit subsidy requirement suggests a logical next step to further expand the commuter's options. Building on what the City of Los Angeles has already done, and using the language of its ordinance, any city could require that:

Each employer in the City that offers free or subsidized parking to any employee shall offer that employee the option to receive, in lieu of the parking, the fair market value of the parking subsidy, either as a cash commute allowance or as a mass transit or ridesharing subsidy.

This proposed policy of requiring employers who offer parking subsidies also to offer the cash equivalent to employees has several

11. The Los Angeles ordinance restricts the transit subsidy requirement to employers with 100 or more employees at a single work site, but this does not seem to be a necessary feature of the policy.

12. The figure of \$15 per month was chosen for the Los Angeles ordinance because it was the maximum transit subsidy that was exempt from federal income tax at the time. Any transit subsidy greater than \$15 per month was taxable, including the first \$15 of the subsidy. This federal tax exemption for transit subsidies was raised to \$21 per month in 1991.

important advantages that deserve serious consideration by employers, by employees, and by public policy makers.

1. First, and politically very important, no employee would be faced with the loss of any existing parking subsidy as a result of this policy. Instead, employees would receive a new option, the cash alternative. Employers could continue with any existing parking subsidy arrangement, so long as they broaden the offer to include the option of using the cash value of the parking subsidy for any other purpose the employee prefers.

2. Any employee who does choose the cash rather than the parking must, by definition, be better off as a result of the choice. If employees do not consider themselves better off as a result of choosing the cash, they won't choose it because they can, if they wish, continue to take the parking subsidy. Rather than restricting an employee's options, the proposed requirement adds a new option the cash alternative for many employees who now face a take-it-or-leave-it choice between a parking subsidy or nothing.

3. The lowest paid workers would gain the most after-tax cash from a cash option requirement, because they are in the lowest tax brackets. Also, the cash option would be larger in proportion to a lower income, and would, therefore, clearly improve the relative well-being of the lowest paid workers.

4. Employers are no worse off if an employee chooses the cash and gives up the parking subsidy because the cash option is no more costly than the parking subsidy. Further, employers might be much more willing to offer the cash option if they know that all similarly situated employers are required to make the same offer, so there can be no question of any employer's being put at a competitive disadvantage.

5. Finally, and most important of all, offering commuters the option to choose between a free parking space and cash makes it clear that parking is not free. Therefore, even employees who are offered free parking at work would begin to behave as though they paid for parking. The option of cash in lieu of a parking subsidy would most tempt those auto commuters who now receive employer-paid parking in locations where parking prices are highest. Because parking is usually most expensive in the most congested areas, the option to take cash instead of a parking subsidy would automatically target the incentive to stop driving to work alone exactly where this incentive is most needed. And because an employee can always use cash to pay

for non-transportation expenses, the required offer of cash also rewards the most benign forms of commuting—walking and cycling—as alternatives to driving.

The research summarized in Table I clearly shows the cost of parking, previously hidden from many commuters by parking subsidies, profoundly influences commuters' mode choices. The available option of cash in lieu of a parking subsidy would be a strong incentive to rideshare, ride transit, bicycle, or walk to work. By allowing market prices to influence choices, a regulation requiring employers to offer employees the option of the equivalent cash value of any parking subsidy would reduce traffic congestion, air pollution, and gasoline consumption, and would do all this only by bringing commuters' travel choices more in line with their own preferences about how they wish to spend their income.

In making the choice between a parking subsidy or its cash equivalent, employees would, of course, have to consider that the cash is taxable, while the parking subsidy is not. Many employees, however, might still prefer the the after-tax value of the cash alternative to an untaxed parking subsidy. For example, an employee who is offered the choice between the free use of a parking space that costs \$50 per month, or \$50 per month extra in before-tax income, might well prefer to take the taxable cash. For an employee with a taxable income of \$40,000 per year and in the 40 percent marginal tax bracket, the after-tax value of an extra \$50 per month in cash income is \$30 per month, which might be worth more to the employee than a parking space.

The taxability of a cash payment in lieu of a parking subsidy reduces, but by no means eliminates, the effectiveness of offering the cash option as an incentive to rideshare. The problem that cash is taxable but a parking subsidy is tax exempt is not an argument against the proposed requirement that employers who offer parking subsidies should also offer the cash option. Indeed, if an employee does choose the taxable cash alternative, the choice proves beyond doubt that the parking subsidy is worth considerably less to the employee than it costs the employer, and is thus not only socially harmful but also privately wasteful.

Although any employer can, acting independently, offer employees cash alternatives to parking subsidies, federal and state income tax laws clearly stack the deck in favor of offering parking subsidies. Most employers do not recognize the benefits of offering a cash

option, and their employees, the majority of whom drive alone and park free, are unlikely to pressure for change. The explicit tax bias in favor of employer-paid parking is entirely inappropriate, especially in central cities where employer-paid parking greatly underprices car trips to the very places where public transit is most available, traffic is most congested, and the air is most polluted.

Naturally, a local government cannot change the federal and state tax exemption of parking subsidies. However, a local government can require that employers who offer parking subsidies must also offer the option of cash. The Los Angeles transit subsidy requirement provides a strong legal and practical precedent.

FEDERAL ACTION TO REMOVE DISTORTIONS CAUSED BY THE TAX-EXEMPTION OF EMPLOYER-PAID PARKING

When anyone voluntarily chooses taxable cash rather than a tax-exempt parking subsidy, federal and state income tax revenues increase. This increase in revenue does not result from any increase in tax rates, or from any taxation of previously tax-exempt parking subsidies, but rather it results from voluntary cashing out of inefficient parking subsidies that are worth considerably less to the employee than they cost the employer. The resulting federal and state income tax revenue bonus thus is funded solely by reducing the private waste initially induced by the parking subsidy tax exemption. Further, the tax revenue bonus is an additional benefit above and beyond any reductions in air pollution, traffic congestion, and energy consumption that result when commuters choose taxable cash rather than a tax-exempt parking subsidy.

The potential for increased federal and state tax revenue suggests that, in addition to their interest in reducing congestion, pollution, and energy waste, federal and state governments also have a strong financial interest in seeing that employers offer their employees the option to elect taxable cash in lieu of a tax-exempt parking subsidy. Paragraph (4) of section 132(h) of the Internal Revenue Code of 1986 is a special rule that classifies parking provided to an employee as a tax-exempt "working condition fringe," even though the definition of a tax-exempt "working condition fringe" in the code is an item provided to an employee that would be tax deductible by the employee if the employee paid for it. Because an employee's payment for parking at work is not tax deductible, this special rule

was thus necessary to classify employer-paid parking as a tax-exempt working condition fringe.

To encourage employers to offer their employees the option to choose taxable cash in lieu of a parking subsidy, the special rule for parking in Paragraph (4) of Section 132(h) could be amended as follows:

The term "working condition fringe" includes parking provided to an employee on or near the business premises of the employer *if the employer offers the employee the option to receive, in lieu of the parking, the fair market value of the parking subsidy, either as a cash commute allowance or as a mass transit or ridesharing subsidy.*

The unitalicized portion is the full text of the existing special rule for parking, and the italicized portion is the proposed change.

Changing the Internal Revenue Code's special rule for parking to require the option of cash in lieu of parking subsidies would obviate the need for thousands of local governments to enact their own individual ordinances to require the cash option. The federal income tax exemption for parking subsidies creates the incentive for employers to offer free parking, so it should not be left to all local governments to design and implement individual policies that are all directed solely toward countering this inappropriate tax incentive. Also, the argument for requiring employers to offer their employees the option to elect taxable cash in lieu of any tax-exempt parking subsidy offered is even stronger at the federal and state level than it is at the local level, because any resulting increase in income tax revenue would accrue to the federal and state governments.¹³

The following calculations suggest the revenue potential of the taxable cash option requirement. There were 110 million employees on civilian nonagricultural payrolls in the United States at the end of 1989.¹⁴ Eighty-six percent of the American work force commutes to work by car,¹⁵ and, as cited earlier, 90 percent of auto commuters

13. An alternative method of inducing employers to offer a cash commute allowance is to eliminate the employer's allowable deduction as a business expense for the cost of providing parking subsidies to employees unless the cash alternative is offered. A disadvantage of this employer-focused approach is that it does not apply to public or non-profit employers who do not pay income taxes. Also, it would be difficult for many employers to separate out their expenses incurred to provide employee parking, especially if the employer already owns its parking spaces, or is provided without separate charge in a lease for office space.

14. *Economic Report of the President* (Washington, DC: U.S. Government Printing Office, 1990).

15. A.E. Pisarski, *Commuting in America* (Westport, CT: Eno Foundation for Transportation, 1987).

park free at work. If the average cost of providing this parking is \$30 per month, and if 20 percent of existing auto commuters who now get free parking choose the taxable cash option (or a taxable mass transit or ridesharing subsidy), taxable income would increase by \$6.1 billion per year. If the effective marginal tax rate on this income is 20 percent, the increase in tax revenue would be \$1.2 billion per year. This revenue increase would occur without increasing any tax rates, and without removing the existing tax exemption of employer-paid parking. As argued earlier, this revenue increase would result from the voluntary choices of employees who prefer the taxable cash value of the tax-exempt parking subsidies they now receive.

In this calculation, the assumed market parking price of \$30 per month is above the price of many commuter parking spaces, but those who now get the biggest parking subsidies would be the ones most tempted to take the cash alternative. Thus, the taxable cash alternative received by those who do choose to cash out their parking subsidies could well be significantly above the average parking subsidy for all workers. The assumption that 20 percent of those who now park free would give up a parking subsidy to choose the cash is less than the average 27 percent reduction in auto trips to work found in the case studies comparing auto use between commuters who do and commuters who do not pay for parking at work. Finally, the assumed 20 percent combined federal and state income tax and social security tax rate is a conservative estimate of the marginal tax rate faced by those employees who would choose the taxable cash because most employees pay a marginal tax rate significantly above 20 percent (see Table II). For all these reasons, the revenue estimate of \$1.2 billion per year is quite conservative.¹⁶

QUESTIONS ABOUT REQUIRING THE OFFER OF A TAXABLE CASH OPTION

Five important, interrelated questions regarding any requirement that employers offer their employees the option of taking a parking subsidy in cash are (1) how is the equivalent cash value of a parking subsidy defined, (2) how will employers find the money to pay the cash equivalent, (3) how will the cash equivalent requirement

16. It might be argued that the additional taxable income paid to employees would be offset by reduced taxable income for the employers who pay the new cash travel allowances. But to the extent that employers fund the cash travel allowances by reducing parking subsidies, the employer's taxable income is unaffected.

be enforced, (4) why not instead eliminate the tax exemption for parking subsidies, and (5) why not instead increase the income tax exemption for ridesharing subsidies?

What is the Equivalent Cash Value of a Parking Subsidy?

In regard to the first question of how a parking subsidy is defined, consider the situation where there is an active market for off-street parking, as there is in most downtown areas. Then, the equivalent cash value of an employer-paid parking subsidy is the difference between (1) the market price of the parking spaces offered to employees, and (2) the price that employees pay for parking in these spaces. For example, suppose the market price of commuter parking is \$50 per month in the vicinity of the worksite, and the employer offers free parking to employees. Then the equivalent cash value of the parking subsidy is \$50 per month. Similarly, if the market price of parking is \$70 per month, and the employer offers the spaces to employees for \$20 a month, the equivalent cash value of the parking subsidy is also \$50 a month. And in each case the offer of \$50 a month in taxable cash costs the employer no more than the offered parking subsidy.¹⁷

Suppose, however, the worksite is in an area where parking is so abundant that the market price is zero. In that case, the required cash option would also be zero because there is no market for any parking spaces that employees do not use. However, an employer who buys or constructs new parking spaces to offer free to employees would have to offer those employees the monthly equivalent of the cost of constructing, maintaining, and operating those new spaces as the cash value of those new spaces; otherwise, the cost of the new spaces would constitute a subsidy to drivers for which no equivalent cash option is made available to nondrivers. Thus, before an employer decides to construct new parking spaces, if enough existing auto commuters elect to take the alternative cash value of the proposed spaces, it could eliminate or at least reduce the demand for new spaces.

17. However, for employees who are subject to Social Security taxes on additional income, the employer would have to pay an extra 7.65 percent Social Security payroll tax, plus any other applicable local payroll taxes levied on employers, on any tax-exempt parking subsidy that is converted to a taxable cash allowance. If the burden of payroll taxes levied on employers is considered a serious objection to this proposal, the objection can be met by defining the equivalent cash value of a parking subsidy as the cash value that, when the employer's payroll taxes on that cash value are added, equals the fair market value of the parking subsidy.

How Will Employers Find the Money to Pay the Cash Value of Parking Subsidies?

In regard to the second question of how employers will find the money to pay employees the cash equivalent of the parking subsidies not taken, the situation is simplest in the case where the employer rents parking spaces from a building landlord, and makes the parking spaces available to employees for free. Then, if an employee who now drives to work when parking is free elects to take the cash value of the parking space instead, the employer saves on parking exactly what the employee is paid in cash. The cash option requirement might create temporary costs for some employers if their lease arrangements commit them to take parking spaces for employees with no possible alternative use of the parking spaces. This temporary cost would end, however, when employers renegotiate their leases. And in the long run the burdensome off-street parking requirements in zoning ordinances should be revised downward to reflect the reduced demand for commuter parking if employers offer to cash out their parking subsidies.

Employers may also face a problem with employees who are now offered parking subsidies but do not take them. For example, employees who now turn down the offer of a parking subsidy and, say, bicycle to work, cost their employers less than do otherwise similar employees who do take the offer of a parking subsidy. If these employees who now turn down parking subsidies become eligible for the equivalent cash value of the parking subsidies they already don't take, these current nondrivers would begin to cost their employers the same as drivers who do take the parking subsidies. This cost increase would be small, however, because, as cited earlier, only 14 percent of all workers now do not drive to work, and many of these nondrivers presumably are not offered a parking subsidy. Naturally, any current driver who now receives an employer-paid parking subsidy and who chooses the cash value of the subsidy instead would not raise an employer's subsidy cost at all, because the cash offer is entirely funded by the avoided parking subsidies.

Employer-paid parking is, in effect, a form of wage discrimination in favor of employees who drive to work. The economic motivation for this wage discrimination is, presumably, that employees who drive to work can choose among a large number of employers within commuting distance, while nondrivers have a more limited commuting area in which to seek employment. If an employer did not offer a

parking subsidy to drivers, they would be more likely to work elsewhere, because they can choose among a larger number of potential employers within auto commuting distance. The employer doesn't have the same incentive to offer nondrivers an equivalent subsidy because the nondrivers have fewer choices among alternative employment options.¹⁸

This wage discrimination in favor of drivers who have a wider option among employers is a rationale for offering employer-paid parking that is separate from and additional to the tax-efficiency rationale created by the tax exemption of employer-paid parking. But it seems particularly inappropriate for federal tax policy to encourage employers to discriminate among their employees in favor of those who are most mobile, by offering employer-paid parking, and against those who are least mobile, by not offering an equivalent benefit. Thus, the proposed requirement to offer employees the option to take the cash equivalent in lieu of a parking subsidy would make it difficult for employers to argue that they should be allowed to continue any existing discrimination against employees who don't drive to work. If the employer wanted to keep its parking subsidies tax-exempt for employees, it could not discriminate against employees who normally would not require a parking space. The proposed cash alternative requirement would not, however, interfere with any ridesharing subsidy, such as free bus passes, that the employer may continue to offer.¹⁹

How Would the Cash Option Requirement be Enforced?

Parking subsidies are unique among tax-exempt fringe benefits in that both their cost to employers and their value to employees are unreported and largely unknown. The employer's cost of other tax-exempt fringe benefits, such as health insurance premiums, are reported both to the employee and to the IRS. Thus, a simple way to implement and enforce the requirement to offer employees the option of taxable cash in lieu of a tax-exempt parking subsidy would be to require employers to report any tax-exempt parking subsidies

18. In labor economics terminology, the supply of employees who drive to work is more elastic to the employer than is the supply of employees who walk, bicycle, or ride transit to work. Thus, the employer gains by discriminating among employees according to their elasticity of supply, paying a lower wage to the employees whose labor supply is more inelastic.

19. For example, if an employer now offers employees either a parking subsidy or a bus pass, the proposed legislation would require the employer to add the option of the parking subsidy's cash equivalent to the menu. And some employees might choose the bus pass in preference to either the parking subsidy or its cash equivalent.

on their employees' payroll forms in the same way they already report other tax-exempt fringe benefits.

This proposed parking subsidy reporting requirement would not only provide the basis for each employee's cash option, but would also provide previously unobtainable data on the extent of total employer-paid parking subsidies, both regionally and nationally. Further, the reporting requirement would make explicit—to employers, to employees, and to policymakers—what parking subsidies go to whom. This “daylight” feature would also focus attention on devising fairer and more efficient commuter travel subsidy policies.

Employers who provide free or below-market parking for their employees could document the size of the implicit subsidy by reference to a standard IRS-provided estimate of the market price for parking in major employment areas, or by a survey of nearby commercial parking prices. To discourage underreporting of tax-exempt parking subsidies, employers who are found to have underreported their parking subsidies—and who are thus found to have offered their employees an insufficient cash alternative to the parking subsidy—could be held liable to make restitution to those nondrivers whose cash payments were smaller than they should have been. This would give employees an incentive to take an interest in the accuracy of their employers' estimates of any parking subsidies offered.

Why Not Just Eliminate the Income Tax Exemption for Employer-Paid Parking Subsidies?

Since the tax-exempt status of parking subsidies makes it tax-efficient for employers to subsidize their employees' parking, the special rule for parking in the Internal Revenue Code is clearly the root of the employer-paid parking problem. But it is politically difficult to begin taxing a fringe benefit that so many commuters enjoy. As mentioned earlier, 86 percent of the 110 million civilian nonagricultural employees drive to work, and 90 percent of them park free at work, so perhaps as many as 85 million commuters receive some form of parking subsidy. Although small parking subsidies would presumably not be taxed, still it would be hard to deal with the public outcry against taxing a traditional tax-exempt fringe benefit, especially since so many influential decisionmakers in the highest tax brackets now enjoy large parking subsidies. It would be preferable, both as transportation policy and as tax policy, to end the

tax-exemption of employer-paid parking altogether, but that course has been urged for many years, to no avail. The intermediate step proposed here—requiring employers to offer their employees the option to take the taxable cash equivalent of any offered parking subsidy—is at least a transitional measure in the direction of eliminating parking subsidies altogether. Towards this end, the daylight feature of requiring employers to report tax-exempt parking subsidies both to their employees and to the IRS might force employers to rethink their parking subsidy policies, and would reveal the size of these subsidies, which can now be only roughly estimated. Further, the required reporting of employer-paid parking subsidies will increase the information available for future policy debates about ending the tax exemption of employer-paid parking.

Why Not Just Increase the Income Tax Exemption for Ridesharing Benefits?

If employer-paid parking subsidies are to remain tax-exempt, mass transit and ridesharing advocates have long recommended a compensating increase in the tax exemption for employer-provided transit passes and ridesharing subsidies. Currently, transit and ridesharing subsidies are tax exempt from federal income tax only up to a value of \$21 a month, and if the subsidy exceeds \$21 a month the entire value is taxable. An increase in this tax exemption would make it tax-efficient for employers to offer larger mass transit and ridesharing subsidies to counteract the harmful effects of the parking subsidies they also offer. There are, however, two disadvantages to this recommendation: it would reduce federal and state income tax revenue and, based on previous research, it would do little to counteract the influence of parking subsidies. In some of the case studies cited earlier the employer tried to encourage alternatives to solo driving by subsidizing carpools, vanpools and transit use. Only when parking subsidies were eliminated, however, did significant numbers of solo drivers shift to other modes. Increasing the tax exemption of transit and vanpool subsidies also continues the bias toward motorized commuting, and retains, even strengthens, the bias against walking or bicycling to work. If desired, however, the substantial revenue generated by income taxes on the voluntarily chosen cash payments in lieu of parking subsidies (estimated above at \$1.2 billion per year) could be used to fund an increase in the tax exemption for employer-provided mass transit and ridesharing subsidies.

HOW WOULD THE REQUIRED CASH OPTION AFFECT COMMUTERS'
TRAVEL CHOICES?

To evaluate the effects of a required cash option the results of a new multinomial logit analysis of downtown Los Angeles commuter mode choice were used.²⁰ Disaggregate models of personal travel behavior, such as logit models, are the most appropriate tool for examining the effect of parking subsidies in cross-sectional samples because they can accurately reflect variation in parking subsidy policies and can control for other factors affecting mode choice.

The data base used in this analysis is described in the *Los Angeles CBD Employee-Employer Baseline Travel Survey*, commissioned by the Community Redevelopment Agency of the City of Los Angeles in 1986. The survey provides information on a matched sample of 5,060 employees and their employers in downtown Los Angeles. The primary aim of the survey was to accurately measure office workers' mode choices. However, additional questions were asked about employee and employer characteristics, and transportation conditions, including parking subsidies and parking prices. The survey used a stratified, multi-stage cluster sample; each employer and up to 200 employees were surveyed at each sampled location.

Employers' responses about their parking subsidy policy are the basis for determining an employee's eligibility for a parking subsidy. Employers' responses to the parking policy question are used to select a subsample of employees whose employers' have a uniform subsidy policy for all employees. The logit sample includes all employees who work for: (1) employers who offer free parking to all employees, and (2) employers who offer no parking subsidies. Once missing values are accounted for, 713 cases are available for analysis.²¹

Table III shows the estimated coefficients for the model. The coefficient for the after-subsidy parking price is negative, indicating that as the price of parking increases, the probability of driving alone decreases. The coefficient for parking price is statistically significant at a 99 percent confidence interval. All other coefficients have the

20. R. Willson, "Estimating the Travel and Parking Demand Effects of Employer-Paid Parking." *Regional Science and Urban Economics* (1991).

21. Details concerning the sample, variable definition, alternative model specifications, end prediction procedures are provided in Willson, "Estimating the Travel and Parking Demand Effects."

TABLE III—ESTIMATED MULTINOMIAL LOGIT MODELS OF
COMMUTER MODE CHOICE (Office Workers in Downtown Los Angeles^a)

<i>Independent Variable</i> (<i>Applicable mode in parenthesis</i>)	<i>Estimated</i> <i>Coefficient</i>	<i>t statistic</i>
Daily parking cost, in cents (1-2)	-0.0029	(-6.7)
Daily running cost, in cents (1-3)	-0.0062	(-5.5)
Round-trip auto travel time, in minutes (1-2)	-0.0042	(-0.87)
Round-trip transit travel time, in minutes (3)	-0.029	(-5.9)
Annual pre-tax household in- come, in dollars (1)	0.000020	(5.4)
Employee occupation dummy (1)	0.58	(3.0)
Employer rideshare program dummy (2)	0.73	(3.2)
Flextime program dummy (2)	-0.87	(-4.0)
Auto constant dummy (1)	-1.7	(-3.8)
Carpool constant dummy (2)	-3.2	(-5.7)
Likelihood ratio index	.27	
Log Likelihood at zero	-783.3	
Log Likelihood at convergence	-572.2	

a. Mode 1, auto (solo driver); Mode 2, carpool/vanpool; Mode 3, transit.

expected sign. All coefficients but round-trip travel time are significant at a 95 percent confidence interval.

Table IV and Figure 1 show the mode choice predictions at a range of after-subsidy parking prices. These predictions use the estimated coefficients and data from free parkers in the logit sample (512 cases). The after-subsidy parking price is then varied to test response to alternative policies. The model predicts that 70 percent of commuters will drive alone when parking is free, and that 49 percent will drive alone at the average market parking price for the prediction sample (\$4.15). Thus, in downtown Los Angeles, 30 percent fewer commuters drive to work alone when they pay to park than when they park free. Converting the mode share data into cars driven to work per 100 employees indicates that paying to park

TABLE IV—SENSITIVITY OF MODE CHOICE TO PARKING PRICE

<i>Daily After-Subsidy</i> <i>Parking Price</i>	<i>Mode Share</i>		
	<i>Solo</i>	<i>Carpool</i>	<i>Transit</i>
\$0	70%	15%	15%
\$1	66%	16%	18%
\$2	61%	18%	22%
\$3	55%	19%	26%
\$4	50%	20%	30%
\$5	45%	21%	34%
\$6	39%	22%	38%

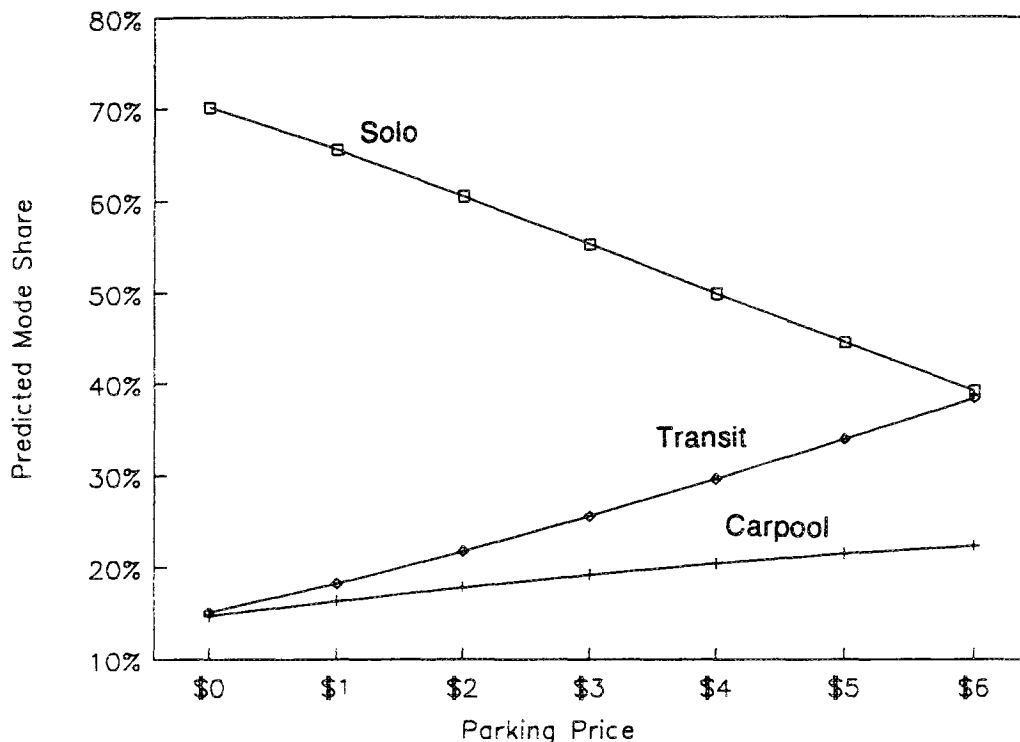


Figure 1. Sensitivity of mode choice to parking price

decreases the number of cars driven to work per 100 employees from 75 to 56, or by 25 percent.²²

Table IV and Figure 1 also reveal that the price of parking has a strong influence on the demand for mass transit. When employers offer free parking, the transit mode share is only 15 percent, but when employers do not offer free parking the transit mode share rises to 31 percent. This result indicates a cross-elasticity of demand between the price of parking and the demand for mass transit of +0.35, which implies that a 10 percent increase in the price of commuter parking in downtown Los Angeles leads to a 3.5 percent increase in commuter transit ridership.

Table V shows the model's predictions of travel mode shares for three scenarios. The first column shows the predicted mode shares for downtown Los Angeles office workers who work for employers who offer free parking to all employees. Since almost half of all office workers who drive to work in downtown Los Angeles park free, the table represents the behavior of a large share of all automobile

22. The number of cars driven to work per 100 employees is calculated as described in Footnote 7, but with an average carpool size of 2.92 commuters per carpool/vanpool found in the baseline survey.

TABLE V—MODE CHOICE EFFECT OF A CASH OPTION

<i>Mode Choice</i>	<i>Free Parking</i>	<i>Free Parking with Option</i>	<i>No Free Parking</i>
Solo driver	70%	56%	49%
Carpool	15%	19%	20%
Transit	15%	25%	31%
Cars per 100 employees	75	62	56

drivers. Seventy-five cars per hundred employees are driven to work under this scenario.

The second column shows the predicted mode shares for these same employees when the employer offers the cash option. Since the cash alternative to a parking subsidy would be taxable, the opportunity cost of free parking would be the after-tax value of the cash. The survey data included each commuter's family income; therefore, to predict commuters' responses to a taxable cash option, the applicable marginal tax rates in Table II were used to calculate the after-tax value of the cash equivalent of the parking subsidy for each commuter in the prediction sample. This analysis implicitly assumes that commuters react to an opportunity cost of \$1 in the same manner as to an out-of-pocket cost of \$1; that is, if a commuter forgoes the cash in favor of free parking, that commuter has in effect "spent" the cash on parking. Since the after-tax value of each commuter's parking subsidy is the "price" that commuter would "pay" for parking, the after-tax value of each commuter's current parking subsidy (taking into account each commuter's marginal income tax rate) was used as the price of parking for that commuter. The second column of Table V shows that the option of cash in lieu of parking subsidies would reduce the solo driving share from 70 percent to 56 percent, or by 20 percent. The transit share rises from 15 percent to 25 percent, or by 67 percent. These mode share changes reduce the number of cars driven to work per 100 employees from 75 to 62, or by 17 percent.

How does this result compare to what would happen if employer-paid parking were eliminated entirely? To answer this question, predictions were made from the logit model using the full market price of parking for each commuter (rather than the market price reduced by each commuter's marginal tax rate), and the last column of Table V shows the results. Because commuters face a higher effective parking price if all parking subsidies are ended, the solo share is further reduced from 56 percent to 49 percent, and the transit share increases from 25 percent to 31 percent. As a result, the

number of cars driven to work per 100 employees further declines from 62 to 56, or by another 10 percent.

Table V shows that, for this large sample of office workers in downtown Los Angeles, simply requiring employers to offer employees the option to elect the cash value of any offered parking subsidy would achieve much of the benefit of eliminating employer-paid parking subsidies altogether, but without arousing all the fierce opposition that any attempt to eliminate parking subsidies would inevitably provoke. If all the recipients of employer-paid parking subsidies in downtown Los Angeles respond to changes in parking prices in the same manner as those in the logit sample, significantly fewer cars would be driven to work in downtown Los Angeles.²³ No other transportation demand management or transit development program being considered in Los Angeles promises behavior changes of this magnitude.

CONCLUSION

The income tax exemption of employer-paid parking subsidies strongly encourages employers to subsidize their employees' parking, and thus indirectly encourages commuters to drive to work alone. To combat the harm caused by the tax-exemption for employer-paid parking, this article makes the case for a policy of requiring employers to offer their employees the option to take the taxable cash value of any parking subsidy in lieu of the parking subsidy. No employee would lose any existing parking subsidy as a result of this policy. Instead, employees would receive a new option, the alternative of choosing either cash or a transit or rideshare subsidy. Employers could continue with any existing parking subsidy arrangement, so long as they broaden the offer to include the option of using the cash value of the parking subsidy for mass transit, ridesharing, or any other purpose the employee prefers.

Because a cash payment in lieu of a parking subsidy is taxable income to the employee, offering employees the option to cash out a parking subsidy would reduce solo driving to work by less than would ending parking subsidies altogether. However, research on

23. For a discussion of possible short-term general equilibrium effects of the reduced demand for parking, see Shoup, "Cashing Out Free Parking," *Transportation Quarterly* (July 1982): 354-356. In the long term, the minimum parking requirements in zoning ordinances could be reduced or eliminated, so that the supply of parking would be correspondingly reduced, and the reduced number of auto work trips would not simply be replaced by latent demand for travel.

commuters to downtown Los Angeles shows that the taxable nature of the allowance does not seriously diminish commuters' response to a commute allowance. Our model predicts that introducing a cash option would cause a 17 percent decline in the number of cars driven to work by commuters who now receive employer-paid parking, and a 67 percent increase in transit ridership.

Requiring employers to offer employees the option to cash out their parking subsidies will reduce traffic congestion, improve air quality, cut gasoline consumption, enhance employee welfare, and increase tax revenue without increasing tax rates. All these benefits will derive simply from subsidizing *people*, not *cars*.

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