

Chapter 19

THE IDEAL SOURCE OF LOCAL PUBLIC REVENUE

The mode of taxation is, in fact, quite as important as the amount. As a small burden badly placed may distress a horse that could carry with ease a much larger one properly adjusted, so a people may be impoverished and their power of producing wealth destroyed by taxation, which, if levied in another way, could be borne with ease. HENRY GEORGE

Charging market prices for curb parking is not only sound transportation policy, but also sound fiscal policy. It can be related to the ideas of the nineteenth century reformer Henry George, who argued that land rent is the most appropriate source of government revenue. We rarely consider curb parking spaces to be “rented,” but they are, albeit on a small scale and for a short duration. A parking space is the smallest parcel of land commonly rented, but between 5 and 8 percent of urban land is devoted to curb parking, so charging the market price for it can yield substantial revenue.

Born in Philadelphia in 1839, Henry George received no training in politics or economics, and his formal education ended with the seventh grade. He went to sea at 16, and halfway through his second voyage around the world he left his ship to become a journeyman printer in San Francisco, which was beginning its transformation from a pioneer camp to a big city. The young George noticed that great wealth and extreme poverty were arising concurrently. Determined to explain—and remedy—this relationship, he began writing in his spare time. The result was *Progress and Poverty*, in which he contended that taxes on land are a “naturally ordained” source of government revenue for two reasons.

George’s first point was that a tax on land is fair because communities rather than individuals create land values:

The tax upon land values is, therefore, the most just and equal of all taxes. It falls only upon those who receive from society a peculiar and valuable benefit, and upon them in proportion to the benefit they receive. It is the taking by the community, for the use of the community, of that value which is the creation of the community. It is the application of the common property to common uses.¹

George's second point was that taxes on land do not reduce the incentives to construct and maintain buildings. The need to raise cash to pay taxes may even prompt owners to put their land to its "highest and best" use (*i.e.*, the one that yields the highest rent). Taxes on buildings, in contrast, do reduce the returns from investment and thus the incentives to construct and maintain buildings. Further, George argued, the added revenue from land taxes will allow cities to cut other taxes and stimulate economic growth:

To abolish the taxation which now hampers every wheel of exchange and presses down upon every form of industry would be like removing an immense weight from a powerful spring. Imbued with fresh energy, production would start into new life, and trade would receive a stimulus which would be felt to the remotest arteries.²

In the most ambitious form of his proposal, George maintained that taxes on land can produce enough revenue to replace all other taxes in the economy. The land tax would consequently become the "single tax," replacing all taxes on labor and capital. The enterprise unleashed by this shift in taxation, he argued, would produce progress without poverty.³

These ideas were not entirely new. A century before Henry George began writing, Adam Smith also endorsed land value taxation in *The Wealth of Nations*:

Ground-rents are a still more proper subject of taxation than the rent of houses. A tax upon ground-rents would not raise the rents of houses. It would fall altogether upon the owner of the ground-rent, who acts always as a monopolist, and exacts the greatest rent which can be got for the use of his ground.⁴

Henry George echoed Smith, but this did not give him credence in the economics profession. Most contemporary economists considered George a radical or even a crackpot, but his ideas attracted a huge popular following. Economic historian Mark Blaug says, "in the English-speaking world in the last quarter of the nineteenth century it wasn't Marx but Henry George who was the talking-point of all debates among fiery young intellectuals."⁵ Running as a labor candidate, George narrowly lost the race for mayor of New York in 1886, but he drew more votes than the Republican candidate, Theodore Roosevelt, who dismissed George as "an utterly cheap reformer."⁶

Regarding the contemporary economists' harsh criticism of George, Joseph Schumpeter wrote in his *History of Economic Analysis*:

Barring his panacea (the Single Tax) and the phraseology connected with it, [George] was a very orthodox economist. . . . Professional economists who focused attention on the single-tax proposal and condemned Henry George's teaching, root and branch, were hardly just to him. The proposal . . . is not *economically* unsound, except in that it involves an unwarranted optimism concerning the yield of such a tax.⁷

Many once-popular economic theories have disappeared without a trace since *Progress and Poverty* was published, but economists continue to discuss land value taxation. After first opposing George and then ignoring him, most economists now agree with his central proposition that property taxes are better placed on land than on buildings. For all his overblown rhetoric, Henry George was essentially right. Nine Nobel Laureates in economics, conservative and liberal alike, have endorsed land value taxation for the same reason that George gave: it raises public revenue without distorting private incentives.⁸ “In my opinion,” Milton Friedman said, “the least bad tax is the property tax on the unimproved value of land, the Henry George argument of many, many years ago.”⁹

Richard Arnott and Joseph Stiglitz showed that, under certain assumptions, total land rent in a city will equal the total expenditure on municipal public goods, so perhaps land rent really can finance local government, a proposal economists had previously dismissed.¹⁰ In homage to the idea’s originator, Arnott and Stiglitz dubbed their finding the “Henry George Theorem.” Despite the efficiency and revenue potential of land value taxation, however, most cities continue to levy the same tax rate on land and buildings.

CURB PARKING REVENUE IS PUBLIC LAND RENT

George died in 1897, just as the car was born, so what do his ideas have to do with parking? There are two main connections. First, the revenue from curbside parking is land rent that can be used to finance local governments. Second, underpricing creates a shortage of curbside parking, which in turn leads cities to impose off-street parking requirements for every land use, and these parking requirements act like a tax on buildings. Free curbside parking and off-street parking requirements are therefore the exact opposites of what Henry George recommended: cities fail to collect land rent from curbside parking, and they impose a heavy tax on buildings. Consequently, cities can still obtain many of the benefits of land value taxation by adopting two related policies: *charge market prices for curbside parking and remove off-street parking requirements.*

Curbside parking spaces are in fixed supply, so the revenue derived from them is pure land rent.¹¹ Demand determines the rental value of curbside spaces, which are publicly owned, and the city can use the revenue to pay for public services. Charging for curbside parking fits well with Henry George’s proposal and is actually far simpler than taxation as a way to collect land rent.

Figure 19-1 compares market prices for curbside parking and taxes on land values as ways to collect land rent for public purposes. The comparison suggests two important points, the first of which is the nature and source of the revenue. A price for curbside parking is a user fee, not a tax, and it is paid by motorists, not landowners. Nevertheless, it has the advantages George ascribed to a land tax. Curbside parking fees are paid only by motorists who occupy valuable public land and only in proportion to the time they occupy it. The revenue is a “taking by the community, for the use of the community, of that value which is the creation of the community.”¹² Spending the revenue to pay for neighborhood public services is also the “application of the common property to common uses.”

Figure 19-1

The second point is that charging for curbside parking is easier than taxing land value. What George said about taxes on land better describes market prices for curbside parking:

There is no necessity of resorting to any arbitrary assessment. The tax on land values, which is the least arbitrary of taxes, possesses in the highest degree the element of certainty. It may be assessed and collected with a definiteness that partakes of the immovable and unconcealable character of the land itself.¹³

Despite George’s optimism, assessing and taxing the value of land is not easy. Many books have been written on the difficulty of assessing land values (such as how to separate the values of land and buildings) and on the difficulty of taxing them (such as whether to tax annual rent or capital values).¹⁴ But curbside parking spaces are bare sites, identical except for location, and transacted constantly. They are like rental property with a high tenant turnover and a low transaction cost per new tenant. Curbside parking thus resembles a spot market in rented land, which makes it well suited to market pricing. Rental prices can vary by hour of the day, day of the week, and time of the year. Mispricing is immediately obvious: if the price is too high, too many curbside spaces will be vacant, while if it is too low, too many will be occupied. The solution is simple in either case: adjust the price. Curbside parking can thus become the most efficient land market in any city.

The shortage of free curbside parking fuels the political pressure for off-street parking requirements, which saddle all forms of development with increased costs and therefore increase the prices for everything except parking. Market-price curbside parking thus produces another

important fiscal benefit: it allows cities to remove off-street parking requirements, which act like a tax on buildings. Parking requirements differ from property taxes in that they are not related to the *value* of buildings, so they do not discourage investment in the quality and durability of buildings. But they do impose a burden in proportion to a building's *floor area*, and we can compare that burden with the ones imposed by impact fees and property taxes.¹⁵

Many cities require developers to pay impact fees to finance public infrastructure— such as roads and schools — that development makes necessary. Parking requirements resemble these impact fees because cities require developers to provide on-site parking spaces development supposedly makes necessary. A few cities also allow developers to pay a fee in lieu of providing the required parking; the cities then use the in-lieu revenue to provide public parking facilities. Chapter 9 explains how these in-lieu fees reveal the “parking impact fees” implicit in parking requirements. These impact fees depend on (1) the number of required parking spaces, and (2) the cost per space. Table 9-4 in Chapter 9 shows the parking impact fees for one land use— office buildings in the central business district—for a sample of 15 cities in 2002. Palo Alto, with the highest impact fee, requires 4 spaces per 1,000 square feet of floor area, and its in-lieu fee is \$50,994 per space. The resulting impact fee is \$204 per square foot of office space: developers must pay \$204 per square foot not to provide any parking ($\$50,994 \times 4 \div 1,000 = \204). The average parking impact fee for all cities in the sample is \$46 per square foot of offices. These impact fees may seem high, but they reflect only the cost of *constructing* parking spaces. Parking spaces also have operating costs for cleaning, lighting, repairs, security, insurance, and property taxes. Developers who provide their own spaces may thus pay even more than the impact fees calculated here.¹⁶

Most in-lieu fees are one-time payments not directly comparable to annual property taxes. The in-lieu parking fees in Montgomery County, Maryland, however, *are* property taxes. Montgomery County has established four “Parking Lot Districts” (Bethesda, Montgomery Hills, Silver Spring, and Wheaton), and in each district it levies a 0.28 percent surcharge on the annual property tax rate. The revenue is used to finance public parking facilities, and together the four districts provide a total of 22,000 public parking spaces. All taxable real property in a district is subject to the surtax, but owners can apply for an exemption by showing they meet the county's

minimum parking requirements; that is, properties with the required parking are exempt from the surtax, but all other properties pay it. In effect, Montgomery County has discovered how to impose parking requirements retroactively: all older buildings not meeting current requirements must pay the tax surcharge that finances public parking.

Montgomery County's general property tax rate is 0.741 percent of assessed value. The total tax rate in Parking Lot Districts is 1.021 percent ($0.741 + 0.28$), so the parking surtax raises the tax rate by 38 percent ($0.28 \div 0.741$).¹⁷ This provides a useful commentary on municipal priorities: the surtax for parking amounts to more than a third of the tax for education, health, libraries, police, social services, and transportation (property taxes are not, of course, the sole source of revenue for these public services). Still, developers pay this surtax for a simple reason: it is cheaper than providing the required parking spaces.¹⁸

Beyond providing public parking spaces, Montgomery County's in-lieu arrangement creates another benefit: it lets owners who pay the surtax convert their buildings to another use, regardless of the parking requirement for that use. As a result, parking requirements no longer freeze properties into their existing uses, and the new freedom to reuse older buildings has stimulated economic development. The county requires 25 parking spaces per 1,000 square feet of floor area for restaurants, for example, and exemption from this onerous requirement has been credited for the opening of hundreds of new restaurants in Bethesda, Silver Spring, and Wheaton.¹⁹ Anyone who opens a 1,000-square-foot restaurant would obviously prefer to pay a 0.28 percent property tax surcharge than to provide 25 parking spaces in a commercial center with high land values. Willingness to pay the in-lieu fee suggests parking requirements impose a heavier burden on enterprise than does a substantial increase in the property tax rate.

The high tax rates implicit in parking requirements explain their large effects on development. Consider the results shown in the case studies in Chapter 5. Introducing a parking requirement of one space per dwelling unit in Oakland reduced housing density by 31 percent and reduced land values by 33 percent (see Table 5-1 in Chapter 5). Parking requirements impose major costs on development and distort the markets for both land and buildings. What Henry George said about abolishing taxes on buildings can also be said about abolishing parking requirements: it will remove a burden that "presses down upon every form of industry."²⁰

Both property taxes and parking requirements place a burden on buildings, but property taxes at least provide public revenue. What do parking requirements provide? Free parking,

which skews transportation choices toward cars, adds to congestion and pollution, and plays a part in many other problems. Henry George warned that property taxes discourage investment in buildings. In effect, parking requirements impose a tax on buildings to subsidize driving, so the harm is even greater.

Although parking fees are user charges, not taxes, we can still evaluate them according to the traditional criteria for judging a tax. Economists from Adam Smith onward have recommended various ways to evaluate the tax structure, but none of their proposals differs greatly from Smith's four maxims:

I. The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities.

II. The tax each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, and the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person.

III. Every tax ought to be levied at the time, or in the manner in which it is most likely to be convenient for the contributor to pay it.

IV. Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury.²¹

Curb parking revenue excels on all four criteria. Regarding the first criterion (ability to pay), car ownership is strongly correlated with income and those who cannot afford a car do not pay anything. As for the second criterion (certainty and transparency), market prices for parking are certain rather than arbitrary, and the amount, time, and manner of payment are clear to everyone. Regarding the third criterion (convenience), motorists pay small amounts for curbside parking throughout the year as they use it, while landowners pay large lump sums once or twice a year. And curbside parking revenue also performs well when judged by the last criterion (collection costs). In some cities, the cost of collecting curbside parking revenue is only 5 percent of the gross revenue paid by motorists—the other 95 percent goes to the city.²²

Except that it is a user charge rather than a tax, market-price curbside parking is like Henry George on wheels. And because it eliminates cruising, market-price curbside parking also saves time for motorists, and reduces traffic congestion, air pollution, accidents, and fuel consumption.

These nonrevenue benefits of charging for curb parking differ greatly from the nonrevenue costs of taxes that are a drag on the economy. (Several economists have estimated that each extra \$1 raised by taxation *increases* other costs in the economy by about 30¢.²³) User charges for curb parking can thus increase efficiency in two ways: first by reducing the cost of transportation, and second by raising enough revenue so that cities can reduce taxes that distort the incentives to work, save, and invest.²⁴

We can estimate the revenue potential of curb parking in three ways: (1) per curb space; (2) as a share of total land rent; and (3) its ability to finance public improvements.

The ground beneath our wheels is quite valuable. The average parking meter in Pasadena, for example, yields (after collection costs) \$4.70 a day, which is \$1,712 a year (see Table 16-1 in Chapter 16). In comparison, the median property tax for owner-occupied housing units in the U.S. was \$1,188 in 2001.²⁵ Many houses have two curb spaces in front, so market-price parking spaces may yield more revenue than the current property tax in some neighborhoods.

The cost to construct off-street parking suggests the potential revenue from curb spaces. To pay for itself, a parking structure must earn enough to cover the cost of constructing and maintaining the new spaces. In her book *Parking Structures*, Mary Smith estimates the capital-plus-operating cost per space for an unattended aboveground parking garage is at least \$5 a day (\$150 a month, or \$1,800 a year).²⁶ Before a parking structure is built, the nearby curb spaces should therefore be able to earn at least \$5 a day.²⁷

Because a typical curb space is 160 square feet, the rent per square foot would be \$1.25 a year ($\$1,800 \div 160$), a very high value for land rent. One curb space yielding \$1,800 a year has a capital value of \$36,000 if the interest rate is 5 percent ($\$1,800 \div 0.05$); that is, if the parking space could be sold, it would be worth paying \$36,000 for the right to collect its future revenue.²⁸ A typical curb space of 160 square feet would have a value of \$225 per square foot ($\$36,000 \div 160$). To put this value in perspective, a small 5,000-square-foot residential lot valued at \$225 per square foot would sell for \$1.1 million. An acre of curb parking (272 spaces) would be worth \$9.8 million. But curb parking can be worth much more. For example, William Whyte, famous observer of city life, described the high opportunity cost of curb spaces on Lexington Avenue in Manhattan:

By giving away land to parkers, or renting it for a pittance, cities are squandering some of the most valuable real estate that they have. . . . For a clue from the marketplace, consider the case of the Korean wig seller. He used to pay a store owner on Lexington Avenue four hundred dollars a month for using 4 square feet of sidewalk for his wig stand. It wasn't the store owner's space to rent, of course; but as such charges go, it was reasonable, and the wig seller thought the business was worth it. In the curb lane adjacent, a diplomat used to park his Mercedes every weekday. And he parked it all day long. For using 180 square feet of space he paid nothing. If he had to pay at the same rate as the wig seller—one hundred dollars a month per square foot—he would have paid eighteen thousand dollars per month.²⁹

A curb parking space may not earn the same rent per square foot as a wig stand, but who would have thought a wig stand could pay so much rent? In any case, Whyte's example shows that free curb parking in Manhattan has a high opportunity cost.

Figure 19-2 (photo of Korean wig seller)

In 2002, a survey of the 28,737 curb spaces in Manhattan south of 59th Street found that only 6,904 (24 percent) were metered, so the untapped revenue potential must be immense.³⁰ At an average price of only \$1 an hour, which is below the price of off-street parking in Manhattan, these parking spaces could earn \$250 million a year.

Condominium parking spaces also show curb parking's revenue potential. In 2001, the *New York Times* wrote with amazement about the high price of these spaces in Manhattan and Brooklyn. (See sidebar.) Consider a building on Greenwich Street in TriBeCa, built in 1897 as a lantern factory that was converted into condominium apartments and parking spaces in 1996. The market prices of the parking spaces range from \$45,000 to \$80,000, and on top of that the owners pay maintenance charges of \$75 to \$130 a month. Most people are staggered by these seemingly outrageous prices because, after all, anyone can park free on the street. Small wonder, then, that Manhattan drivers cruise for curb parking: they have a chance to get, free, the most expensive space conceivable for storing a car.

Sidebar 19-1: (For Sale: Minimalist Condos, No View)

The prices for condominium spaces have been increasing. In 1979, the Brimmer Street Garage on Beacon Hill in Boston became the first freestanding condominium garage in the U.S., with an initial price of \$6,500 per space. In 2004, the *Boston Globe* reported that five of the 110

spaces in the garage had recently been sold for prices between \$144,500 and \$167,500 per space—plus a monthly condo fee of \$163 and an annual property tax of \$811. At an interest rate of 5 percent a year, these condominium parking spaces cost the owners about \$30 a day.³¹ In contrast, Boston charges residents nothing for permits to park on the street in “Resident Parking Only” districts. But the city has issued 3,933 resident permits for the 983 curbside spaces in the Beacon Hill district, so although nonresidents are excluded, residents are not guaranteed a place to park.³² The 4-to-1 ratio of permits to curbside spaces helps explain why some residents are willing to pay a high price for an off-street space even when curbside parking is free.

Figure 19-3. (Photograph of cars parked free at the curb outside the Brimmer Street Garage)

Market prices for off-street parking spaces are also high in other countries. In 1999, the London *Sunday Times* reported that a former hotel in Knightsbridge was being converted into apartments with prices ranging from £500,000 to £1.75 million. The marketing director said that one underground parking space was available for each apartment: “We’re valuing them at £35,000 and selling them separately because not everyone wants one.”³³ Small wonder, again, that not everyone wants a parking space when the price is £35,000 (\$56,000). But these garage spaces turned out to be a bargain. Reuters news service reported that an underground parking space in Knightsbridge was sold for \$177,000 in July 2003.³⁴

All these prices pale in comparison to the \$1.4 million that comedian Jerry Seinfeld spent to convert an old plumbing store into a garage around the corner from his duplex apartment in Manhattan. He bought the store in 1999, and four years of reconstruction work turned it into a 16- by 52-foot personal garage with room for four or five cars. “The truth about the garage is that I love the Upper West Side,” Seinfeld said. “I circled the block every day for the four years it was being built looking for a space. If a spot had opened up anywhere during that time I would have immediately stopped construction.”³⁵

These examples of market prices for off-street parking in Boston, London, and New York suggest that the revenue from market-price curbside parking in older cities can make a big contribution to local public finance. Many small payments, each for a short time, add up to a lot of money.

A standard curbside parking lane is eight feet wide. We can therefore compare the area of a

parking lane with the area of the land it fronts. Where property lines extend 160 feet back from the street (a deep lot), curb parking occupies about 5 percent as much space as the property it fronts ($8 \div 160$). Where property lines extend only 100 feet back from the street (a shallow lot), a curb parking lane occupies about 8 percent as much space as the property it fronts. If market-price curb parking yields the same land rent per square foot as the property it fronts, the ribbons of public parking threaded throughout all cities can generate public revenue equivalent to between 5 and 8 percent of total land rent.³⁶ And because cities can charge for curb parking in front of land exempt from property taxes (such as schools, government buildings, and churches), curb parking can yield public revenue even where the property tax cannot. Curb parking spaces might therefore yield more than 5 to 8 percent of taxable land rent.

This 5 to 8 percent estimate depends on assumptions that can lead to either an over- or under-estimate: an overestimate because not all curb space is available for parking or an underestimate because curb spaces are also available along the sides as well as the front of a block. To obtain a more accurate estimate for one location, I measured the land area devoted to curb spaces surrounding 12 blocks in Westwood Village adjacent to UCLA (see Chapter 14), and compared it with the land area (excluding sidewalks and alleys) within these blocks. The curb parking space equaled 5.1 percent of the private land area.

What share of the curb length in a typical commercial district is available for parking? Studying a random sample of 129 commercial blocks, researchers in Portland, Oregon, recorded the total curb length, the curb length where on-street parking was allowed, and the remaining curb length where parking was prohibited (driveways, bus stops, fire hydrants, loading zones, and the like).³⁷ On average, only two-thirds of the curb length was available for parking. The researchers also counted the number of marked parking spaces available on each block and estimated the number of cars that could park in the unmarked curb length available for parking. On average, there were 3.3 parking spaces per 100 linear curb feet.

We can use the Portland data to make a rough estimate of the curb parking area surrounding the average city block.³⁸ The average curb length on one side of a block was 253 feet. If a block is square (253 feet on each side), the total area inside it is 64,000 square feet, and the perimeter available for curb parking is 1,012 linear feet. At 3.3 parking spaces per 100 curb feet, 33 spaces are available on the perimeter. If each curb space is 160 square feet (20 feet long and 8 feet wide), the total curb parking area around the perimeter is 5,280 square feet, which is

8.2 percent of the area inside the block.³⁹ For every 100 privately owned blocks, then, the city owns adjacent curb parking spaces equivalent to about eight more blocks. If market-price curb parking yields the same rent per square foot as the private property that it fronts, it will yield about 8 percent of total land rent.

The revenue potential of land devoted to curb parking should be at least double that of an adjacent off-street lot. A curb space occupies about 160 square feet while an off-street space often occupies about 320 square feet (160 for the parked car and another 160 for the access aisles). Curb parking thus requires about half the land per space that a parking lot does because it uses land more efficiently; at the same revenue per space, curb parking should therefore yield about twice the revenue per square foot of off-street surface parking. Access to off-street parking also requires curb cuts that remove curb spaces and thus reduces the net increase in the total parking supply. In the extreme, a one-car garage requires a curb cut removing one curb space and yielding no net increase in the parking supply.

Although the limited data suggest curb parking can yield substantial revenue, cities now collect almost nothing. In their survey of parking policies in 20 large metropolitan areas, Kenneth Dueker, James Strathman, and Martha Bianco found that 51 percent of parking meters are located in the CBD; two cities (Houston, Texas, and Portland, Oregon) did not have meters anywhere outside the CBD.⁴⁰ Cities therefore charge for only a tiny fraction of their curb spaces, and collect only a tiny fraction of the potential land rent.

Converting the revenue per *parking space* into the revenue per *front foot* shows the surprising ability of curb parking to finance public improvements. If a block has 33 parking spaces on its 1,012-foot perimeter and each space earns \$1,800 a year, the block will earn \$59,400 a year, or \$59 a year per linear front foot.⁴¹ This revenue can pay to clean and repair the sidewalks, plant and trim street trees, and provide other important public services. We can put the buying power of this revenue in perspective by comparing it to the cost of sidewalk replacement. In Los Angeles, the cost of replacing a sidewalk ranges between \$10 and \$20 per square foot. Only one or two years of parking revenue should therefore be enough to replace a six-foot-wide sidewalk in front of every property.⁴² Because many curb spaces should be able to earn \$5 a day (\$1,800 a year), they can pay for substantial public improvements in their neighborhood.

Demand determines the rent of land, and parking spaces are no exception. Cities can

collect whatever revenue the curb spaces produce at the prices needed to manage parking demand, and the added revenue can make the difference between poor and excellent public services in the adjacent neighborhoods. Front-foot finance is particularly appropriate to pay for “linear” public investments, such as sidewalks, streets, sewers, and underground utilities. Charging the right price for curb parking and spending the revenue to provide public services is much more sensible than offering free curb parking and requiring off-street parking spaces everywhere.

Although the curb spaces that fringe almost every block amount to between 5 and 8 percent of the land within the block, cities rarely charge for curb parking. Why not? In Chapters 16 and 17, I argued that money fed into a parking meter seems to vanish into thin air: no one knows where the money goes, and everyone wants to park free. Rather than charge for scarce curb parking, cities require off-street parking because hiding a cost is much easier than charging people for it and having the money disappear. But earmarking curb parking revenue to pay for neighborhood public goods will transform the politics that produce free parking. I do not mean earmarking the revenue to pay for a citywide public purpose such as public transit, but rather to pay for public purposes within a parking benefit district. There is a world of difference between feeding a meter and never seeing the money again and having someone else feed the meter to support your neighborhood. If *nonresidents* pay to park and cities spend the money to benefit *residents*, curb parking can become a popular source of public revenue. Residents who form a parking benefit district will be taking out a license to collect land rent.

One of the biggest potential advantages of paid parking is also its biggest weakness. Drivers don’t want to pay for curb parking precisely *because* its revenue potential is so high: the more parking costs, the more drivers don’t want to pay for it. Only by creating neighborhood interest groups that want the revenue will cities be able to charge the fair- market price for curb parking. Figure 19-4 shows, in a hypothetical case, how the division of curb parking revenue between a city and its neighborhoods can affect the total amount collected. The diagonal line from the lower left to the upper right shows that total parking revenue increases as the city gives a greater share of it to the neighborhoods: increasing the neighborhood’s share of the revenue strengthens the political incentive to charge for curb parking. The two lower curves show the revenues that accrue to neighborhoods and the general fund, depending on the share of revenue

returned to neighborhoods.

Figure 19-4

First, consider the lower left corner, which represents the current situation in almost every city: all curb parking revenue goes into the general fund, and nothing goes to the neighborhoods. Paying for parking seems like paying rent to an absentee landlord. Because everyone objects to paying for parking, and no one sees a direct benefit from the revenue, no one supports the idea of charging for curb parking. Instead, everyone wants the city to require off-street parking for every land use so that spillover does not create parking shortages. In some areas the city sets limits on curb parking duration to create turnover, but strict enforcement is difficult and unpopular. If the city keeps all curb parking revenue for the general fund, it collects almost nothing because most people oppose parking meters. Cities in the U.S. collected only \$1.43 per capita in net parking revenues in 1997—less than $\frac{1}{2}\text{¢}$ per person per day—a small share of the enormous potential land rent from curb parking in a nation with 208 million motor vehicles.⁴³ Taking all curb parking revenue for the general fund is, from the neighborhood's point of view, a 100 percent tax rate that removes the incentive for residents to support charging for curb parking, so it yields almost no revenue. "High taxes, sometimes by diminishing the consumption of the taxed commodities," Adam Smith said, "frequently afford a smaller revenue to the government than what might be drawn from more moderate taxes."⁴⁴ So too with curb parking.

Now, consider the upper right corner, which represents the situation where cities return all curb parking revenue to the neighborhoods that generate it. No one wants to pay for parking—that will never change—but residents begin to think like landlords, not tenants, and they agree to form parking benefit districts that charge nonresidents for parking. Business owners also form Business Improvement Districts that use the curb parking revenue to finance public improvements in commercial areas. Because neighborhoods receive the revenue, citizens demand market prices for their curb parking, which in this example yields \$100 million a year in new public revenue.⁴⁵

Most curb parking is free because we are to the left side of the figure: all curb parking revenue goes into the general fund, and voters think like tenants, not landlords. Obviously, the curves are only an illustration, and cities do collect a small amount of curb parking revenue

(mostly in the CBD), even if they deposit all of it in the general fund. Likewise, cities need not earmark *all* revenue for neighborhoods to generate the political support necessary for curb parking fees. How much cities can take for the general fund without significantly reducing the incentives to charge for curb parking is more a matter of politics than economics.⁴⁶ Nevertheless, the record in Pasadena (which returns all revenue to neighborhoods) shows that curb parking can yield substantial new revenue if the city returns it to the neighborhoods generating it.⁴⁷

By itself, analysis that supports charging for curb parking will not go far. Everyone wants to park free, and rational arguments to the contrary are futile. The transportation benefits of market-price curb parking are simply not enough to justify the higher prices that drivers would have to pay. But another major benefit of market-price curb parking is government revenue. Unless the revenue benefits a group who can insist drivers should pay market prices for curb parking, the politics of parking will not change.⁴⁸ As Henry George said about the opposition to land value taxation, “It is not ignorance alone that offers opposition, but ignorance backed by interest, and made fierce by passion.”⁴⁹ The same holds true for opposition to paying for parking. Nevertheless, returning revenue to the metered neighborhoods will create a countervailing interest and incite a passion to charge for parking.

Many cities use special assessments to finance neighborhood public services. Residents typically petition the city to form assessment districts to pay for sidewalk repairs or street lights, for example, and property owners commonly pay in proportion to their street frontage. Similarly, residents can petition the city to form parking benefit districts to finance neighborhood public services, and curb parking will produce revenue in proportion to street frontage. One big difference between a parking benefit district and a special assessment district is who pays for it: property owners pay special assessments, while nonresident motorists will pay for curb parking.

Special assessment revenues in the U.S. totaled \$3.5 billion (\$13 per capita) in 1997.⁵⁰ One simple use for curb parking revenue is therefore to pay existing special assessments, relieving property owners of the tax burden while continuing to provide public services that have already passed the test of a neighborhood's willingness to pay. Cities have the accounting systems necessary to allocate special assessment revenue for neighborhood public services, so these districts are ready-made recipients for curb parking revenue and would require no changes in cities' standard operating procedures. In effect, a parking benefit district is a kinder, gentler special assessment district.

Special assessment districts are formed only after a community has decided it wants a public service enough to pay for it. The demand for a public service comes first, and the special assessment then finances it. Parking benefit districts lower the bar on a community's willingness to pay because everyone is eager to solve problems at someone else's expense. And even if a community has not yet identified a specific service it wants to finance, it may form a parking benefit district because once the money comes in, the residents can then decide how to spend it. Unlike special assessment districts that are organized around a common desire for a specific public expenditure, parking benefit districts are based on the common ownership of valuable land. The curb parking stays in public ownership, but the city establishes smaller communities to manage their common land. Because all the resulting revenue pays for local public services, these communities are more motivated to manage their land effectively. The city as a whole also benefits if curb parking pays for neighborhood public services because general revenue can instead pay for general public purposes.

By solving the curb parking problem and financing public investment, parking benefit districts will improve neighborhoods and increase property values. Even for residents who don't have a parking problem and who don't place a high value on the added public services (such as street trees), the increased property values are an incentive to petition for a parking benefit district. In *The Homevoter Hypothesis*, Dartmouth College economics professor William Fischel says residents tend to "vote their homes" in the sense they consider the effect on the value of their homes when voting on municipal taxes and services. For most homeowners, the equity in their home is their largest asset, so even those who think curb parking should be free may vote to form a parking benefit district if they think the added public services will increase their property

value.

Fischel points out that only about a third of American households have any children in public school, yet they vote to tax themselves to support the public schools, in part because good schools increase property values. Homeowners should be even more willing to vote for a parking benefit district because they won't have to pay anything.

Market prices for crowded curb parking resemble congestion tolls for crowded freeways because both are needed when demand would otherwise exceed the available capacity. But skeptics often view congestion tolls as a heavy-handed attempt to discourage people from driving during peak periods, and at first glance the tolls do seem unfair because many people have no choice but to drive roads in rush hours. After explaining the transportation advantages of congestion tolls, Berkeley planning professor Martin Wachs summed up their poor political prospects in a celebrated quote: “In addition to professors of transportation economics and planning—who hardly constitute a potent political force—I can think of few interest groups that would willingly and vigorously fight for the concept.”⁵¹ In their analysis of transportation pricing strategies for California, Elizabeth Deakin and Greig Harvey explain the lack of political support for congestion tolls:

The political acceptability of a transportation pricing measure will depend in large part on who supports it, who opposes it, and how strongly the respective groups feel about it. . . . The beneficiaries of pricing often will be harder to mobilize politically than the losers; for example, those who would share the benefits of toll revenues may be a large group but individual benefits may be fairly small. Travelers who place a high value on time may benefit greatly, but these benefits are, at least in advance of tolling, somewhat speculative. Many of the losers, by contrast, will see that they have an obvious and significant stake in opposing tolling, and their numbers may be large.⁵²

Congestion tolls may be our single greatest opportunity to increase urban productivity, and their benefits can greatly exceed their costs, but motorists do not receive all the benefits. British transportation economist Philip Goodwin explains that if tolls raise the price of driving and reduce the traffic flow, drivers suffer a net loss:

There are two groups of drivers—those who are paying more money, only partly offset by extra speed, and those who are now not enjoying a previously uncharged activity. So where is the benefit? The benefit only arises from the revenue which is collected. When it is spent sensibly, it can always generate greater benefit than that sacrificed by the drivers.⁵³

Likewise, transportation economists Kenneth Small, Clifford Winston, and Carol Evans say that, aside from the collection costs, the tolls are “simply a transfer of purchasing power with negligible loss of resources.”⁵⁴ In this transfer of purchasing power, drivers pay the tolls and get speedier travel, but if the government has not yet spent the toll revenue, the full consequences of the tolls *and* the resulting public benefits paid for by the tolls are not yet revealed.

The tolls are a transfer rather than a use of resources, but from the drivers’ point of view they are a real cost. On the *receiving* end of this transfer, the toll revenue must provide real benefits to specific groups before anyone will actively support the tolls. If the potential beneficiaries from the toll revenue do not know who they are, they will not organize to support the tolls. To increase political support for congestion tolls, Goodwin proposes a “Rule of Three” for spending the resulting revenue: one-third for public transport improvements, one-third for road improvements, and one-third to increase general public spending or reduce taxes.⁵⁵ This proposed distribution of the revenue can create political support because, Goodwin argues, many of the benefits of congestion charges are “locked up” in the revenue collected and are realized only when the revenue is spent, just as many of the benefits of parking charges are realized only when the revenue is spent.⁵⁶

Parking benefit districts suggest a politically promising use for congestion toll revenue. Parking benefit districts create *place-based* voting blocs of residents who want revenue to improve their neighborhoods. In a parking benefit district, the politically important people are the residents who *receive* the revenue, not the drivers who pay it. If neighborhoods retain the revenue they generate, *voters* will want to charge for curb parking. Parking benefit districts thus suggest a “Rule of One,” because all parking revenue is spent in the neighborhood that generates it. Can a similar distribution of the revenue create political support for congestion tolls?

Suppose a state charges tolls on all congested freeways and returns the revenues to the cities through which the freeways pass. With this pattern of revenue distribution, elected officials will want to charge nonresidents for driving through their cities, and the revenue recipients can become a political voice for more efficient transportation pricing.⁵⁷

Consider how this proposal might work in Southern California. If cities receive revenue from the tolls collected within their borders, they will become powerful placebound political voices demanding congestion tolls. Cities already have strong lobbies in state legislatures, while many of the older, poorer cities bisected, trisected, and eviscerated by congested highways are in

desperate fiscal plights. In Los Angeles County, the average per capita income in the 66 cities *with* freeways is \$20,100 a year, and in the 22 cities *without* freeways is \$35,100 a year, so congestion tolls will transfer money from richer cities to poorer ones (see Appendix J for a discussion of the distributional effects of congestion tolls). Consider the per-capita incomes in some cities *without* freeways: Beverly Hills (\$65,500), Hidden Hills (\$94,100), and Rolling Hills (\$111,000). And consider the per-capita incomes in some cities *with* freeways: Compton (\$10,400), Lynwood (\$9,500), and Maywood (\$8,900).⁵⁸ Congestion tolls can become an efficient, fair, and progressive source of public revenue for the benefitted cities.

Freeways are an appropriate source of public revenue. Many cities already receive considerable revenue from land uses, such as auto dealerships and big-box retailers, that generate high sales taxes. Particularly since Proposition 13 was passed in California, fiscal considerations strongly influence land-use planning. Because property taxes are limited, cities strive to attract land uses that generate sales tax revenue. Dean Misczynski, Director of the California State Library Research Bureau, coined the term “fiscalization of land use” to refer to the practice of making zoning decisions based on the resulting tax revenues and public service costs.⁵⁹ Cities rezone land to attract these tax generators—often at the expense of housing, manufacturing, and other land uses that do not generate significant tax revenues.

The toll revenue will not lead cities to compete for new freeways but will instead create political support to charge congestion tolls on the existing freeways. Although most transportation experts believe tolls are the only way to significantly reduce traffic congestion, little progress has been made toward adopting them. For example, University of California economist Charles Lave says, “It has been a commonplace event for transportation economists to put the conventional [congestion toll] diagram on the board, note the self-evident optimality of pricing solutions, and then sit down waiting for the world to adopt this obviously correct solution. Well, we have been waiting for 70 years now, and it’s worth asking what are the facets of the problem that we have been missing? Why is the world reluctant to do the obvious?”⁶⁰ Likewise, Belgian transport economists Edward Calthrop and Stef Proost explain the advantages of pricing strategies in urban transportation but conclude, “Despite clear efficiency advantages, environmental taxes are rarely adopted in the transport sector. This seems strange: if the efficiency gains are waiting to be enjoyed, why do politicians so rarely seem to pursue them?”⁶¹ The answer to this question, I would argue, is that the revenues need effective political claimants,

and returning the toll revenue to cities with freeways can create these claimants.

As it turns out, most cities with freeways also have many low-income residents. This is no accident, in part because higher-income residents are successful at fending off noxious land uses. In 1965, for example, California approved the 9.5-mile Beverly Hills Freeway connecting the I-101 in Hollywood to the I-405 in Westwood and running straight through the heart of Beverly Hills. Construction was scheduled to begin in 1975 but never began at all, mainly because the City of Beverly Hills fought the project relentlessly. Prosperous cities that successfully push freeways into other cities will have a tenuous claim on the congestion toll revenue. Distributing the revenue to cities with freeways will compensate those who suffer from air and noise pollution, improve public finance in low-income cities, and create political support for congestion tolls. Instead of fiscalizing land use, we can fiscalize the freeways.

Congestion tolls cannot be implemented all at once, but they can be introduced in stages. High Occupancy/Toll (HOT) lanes already allow solo drivers to pay to use HOV lanes, and the two HOT facilities in Southern California show the policy is a great success (see Chapter 11). The European Union is planning to use satellite technology to charge congestion tolls on any kind of congested road. If the technology is successful, tolls can be introduced on freeways and surface streets one lane at a time.⁶² Congestion tolls — the lowest price that will keep traffic flowing freely — can become a necessary pay-as-you-go fiscal resource for cities.

But let's get back to fiscalizing curb parking. The place-based nature of curb parking revenue helps explain why meter rates are unusually high in London (up to £4 an hour in 2004). The 33 boroughs of London, not the citywide Greater London Authority, receive all curb parking revenue, and these boroughs act like neighborhoods that collect money from outsiders. Residents can park free in their own permit districts, but outsiders must pay to park at the meters. The borough of Westminster in central London, for example, collects more revenue from parking than from property taxes.⁶³ Similar reasoning may also explain why London was the first large city in Europe to impose congestion tolls on motorists who drive into the center: commuters and visitors pay a toll of £5 a day, while those who live in the city center receive a 90 percent discount.⁶⁴ Many of the drivers who pay the toll do not live (or vote) in London, but the city keeps all the revenue, which is a powerful incentive for charging the tolls. If the toll revenue went to the national government rather than to the city, London would undoubtedly still have free, congested roads. Similarly, if curb parking revenue went to the Greater London Authority

rather than to the 33 boroughs, London would still have cheaper but overcrowded curb parking.

Roads and parking spaces are not the only public property that, through mismanagement, fails to produce significant revenue. Most people are aware of this problem, or at least of its symptoms, because newspapers occasionally report stories about how poor management of a public resource has made some special interests horribly rich. Radio and television stations pay nothing to use the broadcast waves; ranchers pay almost nothing to graze their cattle on federal land; and mining companies extract gold, silver, and other minerals from federal land without paying royalties to the government.⁶⁵ No one in particular has a strong incentive to devote time and effort to raising the prices charged for the radio spectrum, grazing lands, or mineral resources because the revenue simply disappears into the federal budget. But the special interests—broadcasters, ranchers, and miners—who directly benefit from underpricing have a strong incentive to lobby in Congress, so the public prices stay low.

Suppose, however, the federal government offered to share revenue from auctioning the radio spectrum with states in which broadcasters are located. Members of Congress would suddenly have a new incentive to charge broadcasters fair-market prices for using the spectrum. The revenue would create effective public claimants willing to fight for auctioning the spectrum because Senators and Representatives could take credit for bringing billions of dollars home to their states. Similarly, the federal government could share the public revenue from grazing and mining with the states and counties where the activities take place. Again, Senators and Representatives would have an incentive to support charging fair-market rents and royalties for using federal land because their own districts would receive a large benefit. This rent-sharing policy will lead state and local representatives to demand more money. In representing the interests of their constituents, members of Congress would see the advantages of market-rate prices, and the federal government's share of the new revenues would also increase.

The rents earned by public resources—from parking spaces to freeways to the radio spectrum—need the right recipients who will demand price reforms, and these right recipients are those for whom the benefits of efficient management are concentrated rather than dispersed. To use a much-maligned term, efficiency requires a special interest. Sharing federal public resource rents with states, counties, and neighborhoods will turn the residents into special interests, who will in turn become political advocates. They will champion public prices to serve the public interest rather than a private interest. As University of Chicago economist Henry

Simons put it, “There is nothing seriously wrong with our institution of property or our institutional system save our proclivity to waste time in attacking or defending it and to neglect proper tasks of changing it continuously by wise collective experimentation.”⁶⁶ If we experiment with sharing the rents from public resources among the right recipients, we can create the necessary political support for price reforms.

Rent sharing among levels of government may at first glance seem to take money away from the level that now receives it. To return to the case of parking, cities now receive all the meter revenue, and they are understandably reluctant to share it with anyone else. Where curb parking is now free, however, offering to return meter revenue to neighborhoods will not take any existing revenue from the general fund. This helps explain why Pasadena was willing to return all the revenue to Old Pasadena: the city previously had no parking meters anywhere, so it lost nothing. Where cities do charge for curb parking and keep the revenue for the general fund, however, returning any of it to neighborhoods can siphon away money the city is accustomed to receiving. This helps explain why San Diego returns only 45 percent of meter revenue to the neighborhoods: because it already had more than 5,000 meters in the city, sharing the revenue created a short-term loss for its general fund. San Diego’s City Manager acknowledged this loss but argued the revenue sharing would encourage neighborhoods to install more parking meters to obtain more revenue for themselves and would eventually increase total revenue to the city (see Chapter 16).

Even the prospect of a short-term loss to the general fund may deter some cash-strapped cities from returning any meter revenue to the neighborhoods that generate it. In this case, is there any way a city can create parking benefit districts without a cost to the general fund? Yes, if the city returns to neighborhoods only the *increment* in meter revenue—the amount above and beyond the existing meter revenue—that occurs after a parking benefit district is formed. We can call it “parking increment finance.”

Parking increment finance closely resembles tax increment finance, which is a popular way to pay for public investment in redevelopment projects: cities allocate to local redevelopment agencies the increment in property tax revenue resulting from the increased property values in their project areas. Similarly, cities can allocate to BIDs the increment in parking meter revenue resulting from increased business activity in their districts.⁶⁷ If BIDs receive only the increments in their parking meter revenue, the city will keep all the meter

revenue it already collects. BIDs will receive added public services without costing the city or themselves anything, while the guarantee of existing revenue to the general fund can reduce political concerns about assigning revenue to BIDs. Securing agreement to create a BID will be much easier if businesses know every additional dollar of curb parking revenue generated in their district will be reinvested in the area to finance its revitalization. If the parking revenue increment in a district is enough to finance the district's total expenditures, both businesses and the taxpayers will receive a free BID.

Parking increment finance will give BIDs a clear incentive to support installing meters, charging market rates, operating the meters for longer hours, creating more curb spaces with diagonal parking, and ticketing illegally parked cars. Better enforcement alone can substantially increase parking revenue. In a study of parking meter collections, management consultants Buxton Williams and Jon Ross found that, in a typical downtown case, cities collected only 41 percent of the charges that drivers should have paid for the time they spent at parking meters; 59 percent of the total potential revenue was not collected.⁶⁸ Broken meters accounted for the loss of 8 percent of potential revenue, while drivers simply failed to pay for 51 percent of the time they were parked at meters. In this case, stricter enforcement and better maintenance of the existing meters could more than double the curb parking revenue.

Parking increment finance differs from tax increment finance in one key aspect: critics argue that Tax Increment Finance diverts to redevelopment districts money that should go to the general fund, or as economist Mason Gaffney put it, "certain favored groups get the increment while everyone else gets the excrement."⁶⁹ Parking increment finance will clearly generate additional revenue, rather than divert existing revenue that would have accrued to the general fund, and because cities now charge nothing for curb parking in most neighborhoods, most parking benefit districts will automatically be parking increment finance districts.

Charging market-rate prices for curb parking is economically efficient, and it may become politically feasible, but is it fair? Many people will initially say no, but they may change their minds after they think about it. After all, the complaint that charging for curb parking is unfair can be made against charging for almost anything. Motorists pay for most other costs of owning and operating a car (gasoline, tires, repairs, insurance, and the vehicle itself), but few see this as unjust.⁷⁰ If people pay rent for housing, why shouldn't cars pay rent for parking?

To judge whether charging for curb parking is fair, we can compare it with the current

alternative—off-street parking requirements that increase the prices of everything else. With off-street parking requirements, even households without cars pay for parking indirectly in the form of higher prices for everything they buy. In contrast, when curb spaces are priced at market rates, only parkers must absorb the cost. Charging for curb parking is thus fairer than imposing off-street parking requirements, especially for those who are too poor to own a car. The 2001 National Household Travel Survey found that households with incomes less than \$25,000 a year are nine times more likely not to own a car than households with incomes greater than \$25,000 a year. Similarly, households living in a rented residence are six times more likely than homeowners not to own a car.⁷¹ Because cars are unequally distributed in the population, charging drivers for the curb parking they use is fairer than forcing everyone to pay for off-street parking, even those who do not use it. Parking requirements take money from the poor to subsidize the better-off: drivers park without paying, while nondrivers pay without parking.

I am *not* saying we should pay more for parking. Off-street parking requirements already force everyone, including the carless, to pay too much for parking indirectly. I *am* saying we should pay for parking directly. Cities can *individualize*—decollectivize—the cost of parking, so that we pay less for parking if we use less. While we all want to park free, we should not elevate this wish into a social judgment that charging for curb parking is unfair, especially when we compare it with the alternative—off-street parking requirements that impose a heavy burden even on those with the least ability to pay. Almost everyone will be better off by paying only for the parking they use and *not* paying the high costs off-street parking requirements impose on everyone.

Skeptics may assume that paying for parking directly will ruthlessly segregate drivers by income and will harm the poor by reserving the best spaces for the rich. But the parking-location model in Chapter 18 shows several factors affect choices about where to park: parking duration, the number of people in the car, and the value drivers place on saving time for a specific trip. Drivers value time savings differently from one trip to another, and market-priced parking gives travelers a trip-specific, spur-of-the-moment ability to place a high value on their time. Poor people can be in a hurry, and drivers who cannot always afford to park in the best spaces can still choose to park in them on occasions when saving time is particularly important. Conversely, everyone can save on parking if they are willing to carpool, spend time walking, or ride public transit. Market prices will make curb parking spaces readily available for everyone, everywhere,

all the time, so drivers can always choose where to park. Many people get upset when they can't find a place to park even if they are willing to pay for it, so they may feel that market-rate parking is better than free parking if it means they can always find a space. Market-priced curb parking will thus serve as a safety net drivers can use when they are in a hurry and an important trip is at stake.

In a similar vein, the cruising-for-parking model in Chapter 13 shows underpriced curb parking does not automatically benefit the poor. The same factors that influence the decision of where to park also influence the decision whether to cruise. Someone who is in a hurry or has a car full of impatient people willing to split a parking fee is less likely to spend time circling the block. Again, income is only one of several factors that affect the value of saving time on a particular trip, and the same person can make different choices on different days. Because factors other than the value of time also affect the willingness to cruise for parking, cruising does not automatically allocate free curb parking spaces to poor people. In other words, free curb parking is *not* an effective way to help the poor, especially because many of the poorest people cannot afford cars. Elderly poor residents who travel very little pay for parking they don't use, while younger, richer, and more mobile residents use parking they don't pay for. Charging for curb parking may make a few of the poorest *drivers* worse off, even when the added public services financed by the revenues are taken into account, but it will make most of the poorest *people* better off.

Assuming the rich will monopolize market-priced parking spaces seems intuitive, but the fear is exaggerated. To examine how the price of curb parking affects the demography of curb parkers, Peter Clinch and Andrew Kelly at University College Dublin interviewed slightly more than 1,000 curb parkers before and after the price of curb parking was raised by 50 percent (to €1.90 per hour, which was still slightly lower than the cost of off-street parking) in the center of Dublin in 2001. One surprising change observed after the price rise was a 19 percent increase in the share of curb parkers who were women.⁷² The average parking duration fell by 17 percent after the meter prices increased, durations longer than three hours fell by 39 percent, and durations of one-to-two hours increased by 32 percent. Perhaps because the turnover rate increased, the number of curb parkers who had cruised for 11 minutes or longer before finding a curb space also declined by 28 percent. The most surprising change was a 24 percent decline in the share of curb parkers who were in the highest social class. Who took their spaces? The

upper middle class: their share increased by 24 percent.⁷³ The age profile of curbside parkers did not change at all. In summary, raising the meter rate by 50 percent reduced the number of upper class males who parked at the curb, reduced the average parking duration, and reduced the cruising time needed to find a curbside space. Who can object to these results on the grounds that charging for curbside parking is not fair?

When High Occupancy Toll (HOT) lanes were first proposed in California, critics contended they would become the exclusive province of the rich—“Lexus lanes,” as California Senator Tom Hayden dubbed them. After the HOT lanes opened, however, Fords and Chevrolets were far more common than a Lexus. A variety of people use the lanes for a variety of reasons, and most people who travel in the HOT-lane corridors think the tolls are fair. In one survey, 84 percent of respondents said the HOT lanes are fair to the drivers who use them, and 80 percent said they are fair to those who do *not* use them.⁷⁴ Another survey showed the Lexus-lane concerns are not widely shared: 91 percent of those surveyed think the time-savings options provided by the HOT lanes are a “good idea,” and 66 percent of drivers who do not use them support them. Eighty percent of the lowest-income motorists using the HOT lanes agreed with the statement, “People who drive alone should be able to use the I-15 Express Lanes for a fee.”⁷⁵ The lowest-income users were more likely to support this statement than were the highest-income users, which suggests “Lexus liberals” are the ones who worry most about Lexus lanes. By extension, if neighborhoods can keep the curbside parking revenue they generate, people of all incomes will probably agree that charging nonresidents the market price for curbside parking is also fair.

Even egalitarians should recognize that equality does not mean parking should be free. Gasoline is a basic necessity for cars, but this does not mean gasoline should be free. Filling stations offer different grades of gasoline (with both self service and full service) at different prices, and this is not unfair. Parking spaces differ from one another chiefly in location, and different prices in different locations are likewise not unfair. Parking is a basic necessity for cars, but drivers who cannot find a free parking space do not deserve the same sympathy as the homeless. Hotel rooms are a basic necessity for tourists, but this does not mean cities should require free hotels everywhere. If cities established minimum hotel requirements to meet the demand for free hotel rooms, they would soon need the help of tourism demand management consultants. Camping or staying with relatives would come to be called “alternative

accommodation,” just as walking and cycling are now called “alternative transportation,” without the need for anyone to ask “alternative to what?” Because solo driving is the norm, anything else is alternative — deviant? — transportation.

Minimum hotel requirements and free rooms are absurd, of course, because it is hard to imagine hotels could operate satisfactorily without charging guests. If cities priced parking spaces like hotel rooms, the parking industry would come to resemble the hospitality industry. Parking prices would vary by time and location, and the similarity doesn’t end there. Many cities impose “transient occupancy taxes,” a euphemism for taxes on hotel guests. These are politically popular taxes for good reason. Any tax paid by nonresidents is popular with voters, and nonresident curb parkers are the ultimate transient occupants. If transient occupancy taxes are fair for tourists, they should also be fair for motorists.

The economic, environmental, and equity implications of charging market prices for curb parking are even clearer in developing countries where the parking problems are more severe and most car owners are affluent. In Istanbul, for example, the *Chicago Tribune* reports:

This city of 15 million has nearly doubled in population in the past decade and has an oversupply of honking horns and a shortage of parking spaces to go with it. Drivers desperately seeking a place to park leave their cars in other people’s yards, at bus stops and sometimes, when the search becomes too much, right in the middle of a busy street. People try gamely to protect parking spots with ramshackle chairs and removable steel posts. The problem has created a whole cottage industry, something residents call “the parking mafia.” Affluent people hire guards to patrol the street in front of their villas and apartment buildings. Any business hoping to succeed—from a grocery store to a tanning salon to a tea garden—provides valet parking through the parking mafia. Such is the demand for slots in this overcrowded city that authorities say ad hoc parking barons have begun systematically burning buildings, claiming large numbers of the distinctive Ottoman-era wooden houses that provide character to residential areas.⁷⁶

Market prices can certainly be used to manage curb parking demand and tame traffic in cities like Istanbul. Spending the revenue to provide basic public services, such as piped water, sewers, and sidewalks, will produce great benefits, largely at the expense of the car-owning elite. Because cities can borrow against the future stream of curb parking revenue, they can finance major public improvements in a short time.⁷⁷

Regardless of a nation’s income and culture, the politics of charging for curb parking seem similar all over the world. Taraknath Mazumder of the Indian Institute of Technology says, “Most of the present decision-making regarding on-street parking in India relies on intuition and public opinion.”⁷⁸ This situation may never change in India or anywhere else, but parking benefit districts will create new economic incentives that can change both intuition and public opinion

because residents will see they personally benefit from market-priced curb parking. The changes in public opinion can then lead to better public policies for parking and transportation.

To ensure equity in curb parking, cities can offer “lifeline” credits for lower-income households, similar to the existing lifeline pricing arrangements for electricity and telephone service. For example, cities may choose to give each low-income citizen a minimum parking credit without charge.⁷⁹ These credits will guarantee at least a minimum level of access, and those who don’t own a car can use their credit to pay for parking when drivers offer them a ride. Because the city will charge for curb parking that was formerly free, the lifeline credits will not require a cash outlay. Instead, they will transfer income from those who own cars to those who don’t. Charging market prices for curb parking and offering lifeline credits to the poor is fairer than requiring off-street parking everywhere.

Cities can also give lifeline credits to help disabled drivers who need to park close to their destinations. By creating a few vacancies everywhere, market-priced curb parking will improve access for the disabled because able-bodied drivers will never “need” to park in spaces reserved for the disabled. Because business owners and residents in a parking benefit district will lose revenue when a driver misuses a disabled placard to park free at the curb, they will actively support ticketing for this despicable behavior. As it is now, disabled placards are so widely misused, and detection of a violation is so difficult, the chance of actually getting a ticket is so low that even high fines for violations do not prevent misuse. In parts of Los Angeles, for example, so many disabled spaces are fraudulently occupied that legitimate users of disabled placards cannot find a parking space.⁸⁰ Reducing illegal parking in disabled spaces thus represents yet another advantage of charging the right price for curb parking and returning the revenue to neighborhoods.

Charging for curb parking is fairer than requiring off-street parking, but will the resulting pattern of public spending also be fair? Suppose a rich neighborhood earns considerable curb parking revenue from nonresidents, while a poor neighborhood in the same city cannot earn anything because few nonresidents want to park there. The rich neighborhood will have plenty of money to spend on its public services, but the poor neighborhood will get nothing. This seems unfair, but it may also be uncommon, because the rich usually live far from land uses that create spillover parking. Still, many poor families also live in neighborhoods with no prospect of

earning much curb revenue, and some rich people live at high densities on streets (such as Fifth Avenue or Wilshire Boulevard) that can earn substantial revenue. In these cases, a form of revenue sharing can counteract the potential for inequities in spending patterns. As described in Chapter 17, the city of San Diego shares parking meter revenue with its neighborhoods: 55 percent of the revenue goes to the city's general fund, and 45 percent goes to the neighborhoods that generate it. Revenue sharing can thus be used to redistribute income without breaking the link between curb parking and public services in a neighborhood. All neighborhoods will have an incentive to charge market prices for curb parking, but even the neighborhoods that cannot earn sufficient revenue will benefit.

Charging for curb parking that was formerly free may seem to be a "taking" by the community, but this is unfair only if motorists are assumed to have a private right to public property without payment. Motorists have not earned a right to park free, so it is more appropriate to think of free parking as a "giving" than of charging for parking as a taking. The giving, not the taking, needs justification. Why should the community give public land to motorists for their private use without any payment? Motorists pay gasoline taxes for the roads, but only when their cars are moving, not when they are parked, and motorists pay less in gasoline taxes the longer they park.

Charging for curb parking is less controversial than taxing land. The argument for taxing land rests on the idea that increments in land value are created by the community rather than by individuals, and therefore represent a less-than-legitimate source of private income. Charging for curb parking, in contrast, does not require an assertion of public rights in private land. On the contrary, it merely requires a reassertion of public rights (as opposed to private motorists' rights) to public land. Cities own curb parking and have the right to collect its full rental value, just as the owner of a private parking lot has the right to collect its full rental value. This is not to say Henry George was wrong in his views that the public should tax private land values, but rather that charging for curb parking is much easier to explain and defend. San Francisco State University political scientist Louis Wasserman says:

The full single tax is not a serious fiscal proposal today, if only because there are no political prospects for its adoption anywhere on a national scale. But George's central principle—that the incidence of taxation should bear on the value of land rather than upon productive enterprise and improvements—remains a lively issue of fiscal reform. . . . What is typically sought by land taxers today is a modest advance along Georgist lines.⁸¹

A community can legitimately charge motorists who park their cars on scarce public land, and the result will be a modest advance along Georgist lines.

Most arguments in favor of market-price parking stress efficiency rather than equity. British transportation economist Gabriel Roth, for example, meticulously explained how market prices can efficiently allocate curb parking in his 1966 monograph, *Paying for Parking*. One would expect other economists to appreciate this point, but an unsigned review in the *Economic Journal* revealed a visceral prejudice against the idea:

A solution to the parking problem, which is part of the wider urban road traffic congestion problem, is seen in terms of the free operation of the price mechanism without subsidy from local authorities or any other public body. No element of collective need is recognised; the doctor has to outbid all comers for a space to park outside his own surgery and, presumably, outside his patients' houses whenever the need arises. Consideration is not given to social costs and benefits, nor is it suggested that any should be given.⁸²

This haughty, self-righteous dismissal of market-priced curb parking was written so long ago that doctors still made house calls “whenever the need arises,” but is timeless in its easy assumptions that the “social costs and benefits” preclude using the “price mechanism” and the “collective need” for parking automatically justifies a “subsidy from local authorities.” But free curb parking creates huge social costs in the form of traffic congestion, air pollution, and energy consumption. Free curb parking also creates the political demand for off-street parking requirements that increase prices, reduce density, and degrade urban design. Market-priced curb parking will reduce these social costs and will produce public revenue rather than require a public subsidy. Efficiency *and* equity are thus both good reasons to charge for curb parking.

Most arguments for free parking probably stem more from unenlightened self-interest than from a concern for social justice. In *Great Cities and Their Traffic*, J. Michael Thomson explained how unacknowledged self-interest can lead to a biased analysis of urban transportation problems:

When approaching the subject of urban transport there is a danger of starting off with preconceived ideas and unconscious value judgments. Anyone concerned with the subject will have had years of personal experience as a *user* of urban transport; he will have acquired his own angle or viewpoint which, if not recognized, may lead to a biased analysis and assessment of the problem.

Most of the people professionally responsible for urban transport are car owners and drive to their offices every day. The most powerful transport authorities are usually highway engineering departments occupying premises provided with free parking space to which most of the senior staff commute by car. The senior managers of public transport companies are more likely to arrive by car than by any one of their buses. And one of the first tasks of a team of consultants engaged to undertake an urban transport study is to acquire a fleet of private cars. It is beyond

dispute that most important decisions affecting urban transport are made by people whose personal viewpoint of the problem is largely behind the wheel of a car.⁸³

Drivers rarely think parking is too cheap or too plentiful, and if policy makers view the parking problem from behind the wheel of a car, what looks good for drivers probably looks good for society as well. Because motorists make most of society's decisions about transportation and land-use policy, "collective need" somehow justifies free parking. Policy makers have had years of personal experience as *users* of parking; they have acquired their own personal viewpoint that can lead to a biased analysis of the parking problem and to bad public policy.

Charging for curb parking may seem like a radical way to pay for public services, but other fiscal reforms once considered radical now seem only commonsense. Consider the precedent of deducting income taxes from workers' paychecks. In *Washington Goes to War*, David Brinkley relates the strong liberal opposition to payroll withholding of income taxes. Before World War II, people paid taxes in quarterly installments on the income they had earned during the previous year. After the war began, income tax rates rose dramatically, but revenues lagged a year behind. The Chairman of the New York Federal Reserve Bank, Beardsley Ruml, conceived a solution: "pay as you go" he called it. Workers would pay taxes on income as they earned it, with the money deducted from their paychecks before they ever saw it. A problem with this scheme, however, disturbed liberals: "To begin a new year cleanly with a pay-as-you-go system," Ruml argued, "it would be necessary to forgive taxes for the previous year. Otherwise, people would have to pay two years of taxes in one year, an impossible burden for many."⁸⁴ But liberals believed that giving rich people a year's tax amnesty was unconscionable, especially in wartime. Brinkley explains the strong opposition:

Liberals continued to balk. "The true content of the proposal," one opponent claimed, was simply to "make the rich richer and the poor poorer." And the president continued to promise to veto any bill that contained a tax-forgiveness clause. . . . Everyone agreed that the tax system was not working. Everyone (including the president) agreed that the pay-as-you-go system would work better. But bitter disagreements over a one-time (and largely imaginary) "windfall" for the wealthy had brought the whole process to a halt. Finally, Congress produced a bill that included a year's forgiveness for lower-income people, and only a partial forgiveness for the wealthy. The president did not mind that at all. He signed it. It took effect on July 1, 1943.

The prolonged battle over the immediate effects of the plan had, apparently, prevented anyone from looking closely at the potential long-range results. For Beardsley Ruml . . . had produced a revolution in American public finance. When people became accustomed to paying taxes as they had always paid for automobiles—on the installment plan—Congress and the president learned, to their pleasure, what automobile salesmen had learned long before: that installment buyers

would be induced to pay more because they looked not at the total debt but only at the monthly payments. And in this case there was, for government, the added psychological advantage that people were paying their taxes with money they had never even seen. The term “take-home pay” now entered the language.⁸⁵

Payroll withholding of income taxes is now so ingrained that the early opposition on the grounds it would harm the poor seems almost unbelievable. In the same way, once communities have begun to enjoy public services paid for by curb parking, opposition to charging for parking on the grounds it would harm the poor may in the future seem just as unbelievable. “Pay as you park” is fairer than our current system of paying without parking and parking without paying.

Governments typically follow one of two approaches toward pricing public services: (1) price at cost, regardless of the market, or (2) price at market, regardless of the cost.⁸⁶ Free curb parking exemplifies the first approach because there is no obvious cost to cover. Market-price curb parking exemplifies the second approach: the price is determined by demand, not by cost. Curb parking can generate considerable revenue for a city because the market price of parking can greatly exceed the cost of collecting the revenue and maintaining the spaces. The cost of collecting the curb parking revenue does not increase the market price of curb parking but is instead subtracted from the gross revenue to yield the net revenue.

Aside from the cost of collecting the revenue and maintaining the road space, curb parking has an opportunity cost—the other possible uses of the space devoted to idle cars. Both sides of every road need not be used for parking, and many constituencies vie for the land. Pedestrians want wide sidewalks. Cyclists want bike lanes. Drivers want road space. Residents want street trees. Restaurants want sidewalk tables. Curb parking competes with all these other uses, so it can have a high opportunity cost. Cities take this into account when they prohibit curb parking on some streets during peak traffic hours because the roadway is too valuable to use as a parking lane.⁸⁷ Market prices for curb parking will reveal how much drivers think the curb spaces are really worth and will therefore help cities compare the value of a parking lane with the value of a wider sidewalk or an additional lane for cars or bicycles. As William Vickrey said, “The only objection to the use of a given space by a given individual is that he may thereby be depriving someone else of the privilege of using it.”⁸⁸ The market-clearing price of parking reveals one opportunity cost of a parking space—the price other motorists are willing to pay for it. If cities charge market-clearing prices for their curb parking spaces—prices just high enough to create a few vacancies on every block at all times—these prices will show the value of a curb

parking space. Knowing the value of the curb spaces can then help cities make informed judgments about the highest and best use of their valuable real estate. Cities may choose to eliminate a few parking spaces in popular pedestrian precincts, widen the sidewalks, and add room for sidewalk cafés or even wig stands. Palo Alto, California, for example, plants street trees in the parking lane rather than on the sidewalks, and widens the sidewalks at the intersections to make pleasant seating areas. A few curb parking spaces are lost, but the sidewalks are more inviting and pedestrian crossings at the intersections are easier.⁸⁹

Figure 19-5, Photographs of sidewalks and street trees in Palo Alto

Beyond their effects related to efficiency and equity in the transportation sector, parking benefit districts will also shift final demand from private consumption to local public investment, and this shift will alter the demand for different kinds of labor. Public spending for neighborhood public goods will create more jobs in the local economy than does private consumption because more of the goods and services that go into local public investment are produced locally rather than imported from outside the region.

To investigate this question, I have used a model of the Southern California economy to estimate how parking benefit districts will affect local employment and income. The Southern California Planning Model (developed by the Lusk Center Research Institute of the University of Southern California) is a 515-sector input-output model of the economy of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties.⁹⁰ The model estimates not only the direct effects created by final demand, but also the indirect and induced effects created by intersectoral linkages. The model thus makes it possible to estimate the net effects of reducing private consumption and increasing public investment.

Spending money to repair sidewalks, for example, will divert resources from local private consumption to investment in local public infrastructure. Suppose parking benefit districts spend \$1 million a year to repair their sidewalks, and motorists who pay for parking correspondingly reduce their other private consumption expenditures by \$1 million a year. The effect of reducing private consumption is estimated by reducing the final demand for each consumption category in proportion to its share of consumption found in the Consumer Expenditure Survey conducted by the Bureau of Labor Statistics. The effect of increasing public investment in sidewalks is a bit

more difficult to estimate because the input-output matrix, although highly disaggregated, does not have a specific category for spending on sidewalks. The closest analogy in the matrix is spending on roads, which seems similar in its labor and material demands to spending on sidewalks. The effect of increasing investment in sidewalks is therefore approximated by increasing the final demand for roads.

Table 19-1 shows the results of shifting \$1 million a year from local private consumption to local public investment. The first row shows private consumption and public investment change by equal and opposite amounts, so there is no net change in final demand.

Table 19-1

The second row shows raising public investment by \$1 million a year will increase local wages by \$840,000 a year, while lowering private consumption by \$1 million a year will reduce local wages by only \$446,000 a year. Shifting final demand from private consumption to public investment will therefore increase total local wages by \$394,000 a year ($\$840,000 - \$446,000$). Why is the net increase in local wages so dramatic? Local workers construct sidewalks, while many private consumption goods—such as cameras, cars, and clothes—are imported from outside the region, or even the country. Almost all the new jobs created for sidewalk construction will therefore be local, while many of the jobs lost from reduced private consumption will be offshore.⁹¹

The third row shows reducing private consumption by \$1 million a year will eliminate 18 local jobs but increasing public investment by \$1 million a year will create 22 local jobs. Therefore, the shift in final demand from private consumption to public investment will create four new local jobs. Why does the spending shift increase total wages by \$349,000 a year but create only four new jobs? As the fourth row shows, the jobs eliminated as a result of reducing private consumption pay an average wage of \$24,900 a year, while the jobs created by increasing public investment pay an average wage of \$39,100 a year. In other words, not only does the shift from private consumption to public investment create 20 percent more jobs than it eliminates, but the created jobs also pay an average wage that is 57 percent higher than the eliminated jobs.⁹²

The last row shows that local tax revenue will increase by \$33,000 a year. This occurs because the shift in final demand toward local production stimulates taxable economic activity in

the five-county region. Therefore, in this example, parking benefit districts will increase local tax revenue by 3 percent of the final demand they divert from private consumption to public investment.

These figures are rough approximations rather than precise estimates, and the results will vary depending on the specific public spending parking benefit districts choose to finance. Nevertheless, the logic is clear. By shifting demand from private consumption to public investment, parking benefit districts will make cities more prosperous.

In addition to improving the economies of cities, removing off-street parking requirements and increasing the price of parking can improve the national economy as well. We don't import parking spaces, but free parking increases the domestic demand for our two biggest imports: cars and fuel. In 2001 the U.S. imported \$293 billion of motor vehicles and petroleum, accounting for 26 percent of total imports.⁹³ Because higher prices for parking will reduce the demand for cars and gasoline, they can significantly reduce both imports and the trade deficit. Quite aside from this financial benefit, reduced gasoline consumption will reduce our national insecurity related to dependence on foreign oil.

Children first learn about free parking, city planning, and the economy when they play *Monopoly*. After throwing the dice, players move around the board and buy property, build hotels, go to jail, or park free. The players learn about being tenants when they land on another player's property and have to pay rent. They learn about being landlords when another player lands on their property and they collect rent. They learn about being owner-occupiers when they land on a property they have bought. They learn about investing when they take out mortgages to build houses. They learn about urban renewal when they remove houses to build hotels. And finally they learn about bankruptcy because the game ends when every player but one is bankrupt. But *Monopoly* misleads its players about two important features of the economy and city planning. The first is inflation because *Monopoly's* prices have remained the same since 1935. The second is off-street parking requirements because *Monopoly* doesn't have them.

Off-street parking requirements have a history similar to that of *Monopoly*, which ended up wholly different from how it started out. According to legend, Charles Darrow, an unemployed engineer in Philadelphia, invented *Monopoly* during the Great Depression. He sketched the game on his kitchen table, named the properties after streets in Atlantic City, made the houses and hotels from scrap lumber, used colored buttons for the tokens, and later sold the

game to the Parker Brothers company for a fortune. But *Monopoly* has a much longer history, with links to Henry George! Elizabeth Magie, a single-tax advocate, patented a game similar to *Monopoly* in 1904. Called *The Landlord's Game*, it was meant to show the evil of land monopolies and was avidly played in the economics departments at Ivy League universities. In her patent renewal in 1924, Magie stated:

The object of the game is not only to afford amusement to the players, but to illustrate to them how under the present or prevailing system of land tenure, the landlord has an advantage over other enterprises and also how the single tax would discourage land speculation.⁹⁴

The Landlord's Game was more political and educational than fun, but players gradually changed its rules, abandoning the high-minded focus on land value taxes and instead emphasizing the thrill of land monopolies. By the time Darrow patented *Monopoly* in 1935, the game's purpose had shifted dramatically. Far from being an indictment of land monopolies, it now celebrated them; what had been condemned somehow became the goal. Along the way, the Georgist rhetoric in Magie's game was purged as well. The starting corner changed from "Labor upon Mother Earth Produces Wages" to "GO," while the corner opposite it changed from "Public Park" to "Free Parking." These changes from *The Landlord's Game* to *Monopoly* during the early twentieth century mirrored the decline of interest in land value taxation and the shift of interest from public parks to parking lots. People wanted free parking more than they wanted the single tax.

Figure 19-6 (Patent applications)

Monopoly looks nothing like what Elizabeth Magie intended, and in accepting what we have, we rarely stop to think about what we've lost. The same is true of free parking, which was originally intended to help cities but is now seen as an inalienable right around which we plan our cities at the expense of everything else. Because motorists don't pay for parking, society at large must pay for it in other ways—traffic congestion, air pollution, energy consumption, degraded design, urban sprawl, and the high opportunity costs for land. Every place we have to put a car is a place we could have put something else. When it comes to parking, we've forgotten land is not free.

Cities missed a great opportunity to collect land rent when cars created the demand for curb parking. The parking meter was invented in the same year *Monopoly* was patented (1935)

so the means to charge for curb parking have long been available. But even reformers who demand confiscatory taxes on land do not want to pay for parking. At a Georgist conference, I once recommended market prices for curb parking as a way to collect land rent, and a prominent single-taxer wrote to me: “I hate to pay for parking.” But Georgists don’t need to advocate market prices for curb parking in order for the idea to succeed. If neighborhoods retain the curb parking revenue they generate, the *voters* will advocate market prices for curb parking.

Charging for curb parking is a modest reform compared with taxing all land rent, and this is an advantage. Williams economics professor Roger Bolton argued land value taxation failed to gain acceptance because Henry George was too extreme:

George’s excessive enthusiasm in two respects—that all rent should be taxed and that governments should trust completely to a single tax on land—got in the way of his acceptance by professional economists. They also helped blind later generations to the possibilities of a modest increase in rent taxes as a substitute for other more objectionable taxes.⁹⁵

Similarly, Robert Andelson and Mason Gaffney explained that much contemporary criticism of Henry George was “directed against the *single* tax, not against land-value taxation as merely one component of a public revenue system.”⁹⁶ Charging for curb parking is a modest rather than a sweeping proposal, and if cities spend the resulting revenue to pay for neighborhood public goods, residents will see that charging market-rate prices for curb parking can improve transportation, land use, and public finance.

Free curb parking creates a classic commons problem, with many resulting pathologies. The “shortage” of curb parking causes cruising and creates the demand for off-street parking requirements, which then distort the markets for both transportation and land. In contrast, market-priced curb parking will reduce traffic congestion, air pollution, and energy consumption caused by cruising, and also make curb parking more convenient. Eliminating the need for off-street parking requirements will, in turn, reduce development costs, make the land market more efficient, and improve urban design. Finally, the revenue from curb parking will either improve public services or reduce taxes that distort the economy, or perhaps both.⁹⁷

With all these potential dividends, why is curb parking an insignificant source of public revenue? I offer two reasons. First, because off-street parking requirements hide the cost of parking in higher prices for everything else, most people have been fooled into thinking free parking really is free. Second, because no one seems to receive the money drivers put into parking meters, market-price curb parking lacks a political constituency. Planners and politicians

therefore find it easier to require off-street parking than to charge for curb parking.

Cities can create the necessary political support for market-price curb parking if they return the resulting revenue to the neighborhoods—the parking benefit districts—that generate it. Every city has a few neighborhoods that are obvious initial candidates for parking benefit districts, and the idea can spread by example. When one neighborhood begins to finance public improvements from curb parking revenue paid by nonresidents, other neighborhoods will see the advantages and can petition for a similar arrangement. Cities can thus convert parking problems into public revenue. As Henry George predicted for land value taxation, market-priced curb parking can contribute to progress and help reduce poverty.

Parking benefit districts cannot, by themselves, completely solve the parking problem nor should we expect them to. No single proposal can solve a problem that creates so many conflicting interests and opinions. Staunch conservatives often become ardent communists when it comes to parking, and rational people quickly turn emotional. Nevertheless, parking benefit districts offer a practical strategy to improve transportation and land use and to generate substantial public revenue. Curb parking will remain community property, but each community will be small enough to encourage efficient management. Market-price curb parking will also allow cities to remove the off-street parking requirements that place a heavy burden on all real estate development, a burden ultimately passed along to consumers in the form of higher prices for everything but parking.

If we continue to do what we've always done with curb parking, we will continue to get what we now have—the “parking problem,” with all its ramifications. Fortunately, we can resolve this problem if we (1) charge market prices for curb parking; (2) return the revenue to finance neighborhood public improvements; and (3) remove off-street parking requirements. No other source of public revenue can so easily bring in so much money and simultaneously improve transportation, land use, and the environment. All things considered, land rent from market-priced curb parking is an ideal source of local public revenue.

1. George (1879 [1938], 421).
2. George (1879 [1938], 434).
3. Most economists at first opposed George's ideas. Edwin Seligman of Columbia University declared, "Neither the American people nor the scientific student of finance will ever accept a scheme which is palpably unjust . . . and which seeks to put the burdens of the many on the shoulders of the few" (Cord 1965, 30). Seligman's argument assumes that only a few people own land, or at least that a large share of total land value is concentrated among the few. George considered the disdain he received from economists to be less an indictment of his ideas and more an illustration of their profession's failings. In his last book, *The Science of Political Economy*, he argued that economists opposed land value taxation because they were biased toward the interests of the rich and were increasingly influenced by schools of thought "admirably calculated to serve the purpose of those powerful interests dominant in the colleges . . . that must fear a simple and understandable political economy, and who vaguely wish to have the poor boys who are subjected to it by their professors rendered incapable of thought on economic subjects. . . . It is to this state that political economy in the teachings of the school, which profess to know all about it, has now come" (George 1898, 189).
4. Smith (1776 [1937], 795). John Stuart Mill (1965, 825) made a similar observation: "A tax on rent falls wholly on the landlord. There are no means by which he can shift the burthen upon anyone else. . . . A tax on rent, therefore, has no effect, other than its obvious one. It merely takes so much from the landlord, and transfers it to the state."
5. Blaug (1992, ix).
6. Cord (1965, 36) says, "Some well-known historians, such as John R. Commons, felt that the corrupt Tammany machine then in power used bribery and their control of the election machinery to deny him an election [George] actually won." See also Birnie (1939, Chapter XI).
7. Schumpeter (1954, 865), italics in the original. Schumpeter also noted that the French economist François Quesnay (1696-1774), who developed a system of analysis termed Physiocracy, proposed that taxes should be levied exclusively on the net rent of land—his proposed *impôt* [tax] *unique* was the original single tax. Adam Smith wrote that one of Quesnay's followers, the Marquis de Mirabeau, accounted the discovery of the Physiocratic system equal in importance to the invention of writing or the displacement of barter by money (Smith 1776 [1937], 643).
8. James Buchanan, Milton Friedman, Franco Modigliani, Paul Samuelson, Herbert Simon, Robert Solow, Joseph Stiglitz, James Tobin, and William Vickrey (see *Incentive Taxation*, November 1991, 1). Prest (1981) summarizes the history of economic thought on land value taxation. He says, "The first observation about urban land tax policy during the last century or so is . . . it survived. Whereas many other ideas in tax policy have come, gone, and been forgotten, we find the enormous interest taken in these matters in one form or another in the 1890s is in some ways paralleled in the 1970s" (Prest 1981, 105). Cord (1965) and Whitaker (1997) explain how and why contemporary economists criticized *Progress and Poverty*.
9. Blaug (1992, x).
10. Arnott and Stiglitz (1979). George argued the single tax could replace all other federal, state,

and local taxes, while Arnott and Stiglitz found it might replace all other local taxes.

11. In economics, rent is a payment that is necessary to ensure efficient allocation of a resource among all potential users, but is not necessary to draw the resource into use. In the short run, market prices can ensure the efficient allocation of curb spaces, but no payment is necessary to draw the curb spaces into use. The long-run supply of curb parking is not perfectly inelastic, however, because cities can create more curb spaces by converting parallel parking to diagonal parking and thus converting more of the roadway from moving to parked cars. Nevertheless, the curb parking supply is fixed in the short run and the supply curve is a vertical line at the 85 percent occupancy rate.

12. C. Lowell Harriss (1972, 296) says about the incidence of taxes on land values, “In effect, the owner at the time of each jump in the tax rate will have suffered a loss of capital value—except as the spending of the funds adds offsetting benefits which enhance the demand for the property.”

13. George (1879 [1938], 418) was unduly optimistic, but as Robert Andelson (1979, 387) pointed out, we should think of Henry George as a “perceptive guide rather than as an infallible oracle.”

14. See, for example, Holland (1970). Pittsburgh, Pennsylvania, levied a higher tax rate on land than on improvements from 1913 until 2001, when a dispute over reassessments led the city to revert to a uniform tax rate on land and improvements.

15. Pollock and Shoup (1977) and Shoup (1978) present case studies to estimate how property taxes reduce investment in buildings. Fischel (2001b), Nechbya (2001), and Zodrow (2001) explain the uncertainty in estimating whether and how property taxes reduce investment in buildings. Parking requirements differ from property taxes in that they apply specifically to buildings, not to land, while property taxes apply to both land and buildings. Like the property tax on buildings, however, parking requirements can, by reducing the incentives to construct improvements, also reduce land values.

16. There is another way to calculate impact fees implicit in parking requirements. Chapter 7 explained that the construction cost of a parking space is about \$13,000 if aboveground and about \$25,000 if underground. Because the most common parking requirement for an office building is 4 spaces per 1,000 square feet of floor area, the required parking therefore costs \$52 per square foot of office space if the parking is aboveground, and \$100 per square foot of office space if the parking is underground. The average construction cost of an office building in Los Angeles, excluding the cost of parking, is about \$150 per square foot. Providing the required 4 parking spaces per 1,000 square feet therefore increases the construction cost of the office space by 35 percent ($\$52 \div \150) if the parking is aboveground and 67 percent ($\$100 \div \150) if below ground.

17. The tax base for these tax rates is the “full cash value” of real property. These rates apply to Fiscal Year 2002. This information is available on Montgomery County’s website at www.co.mo.md.us/. This parking surtax understates the tax rate on buildings alone, because the parking surtax applies to both buildings *and* land. Suppose the assessed value is 50 percent land value and 50 percent building value. If an owner chooses to pay the 0.28 percent surtax on total assessed value in lieu of providing the parking spaces required for the building, this amounts to a 0.56 percent surtax on the value of the building because no parking is required for the land alone. Any building (new or existing) that does not provide the required parking must pay the surtax.

18. When businesses provide on-site parking rather than pay the in-lieu fee, they do get the benefit

of the parking spaces. They will pay the in-lieu fee only when it is less than the net loss (benefits minus costs) of the required parking spaces. Because parking spaces are worth something, the cost of the required spaces must be significantly greater than the in-lieu fee before a business would pay the fee (see Chapter 9).

19. Sec. 59-E-3.7 of the Montgomery County Zoning Ordinance: “Twenty-five parking spaces for each 1,000 square feet of floor area devoted to patron use within the establishment and 15 parking spaces for each 1,000 square feet of ground area devoted to patron use on the property outside the establishment.”

20. David Segal (1977, 198-199) explains that in some cases property taxes alone can increase the parking supply. When developers have assembled the site for a new building, they must often wait several years before construction begins. Developers have a tax incentive to demolish existing buildings and convert the site to a parking lot while waiting to begin construction because the property taxes on a parking lot are lower than on a building. This phenomenon further increases the parking supply and creates more gaps in the urban fabric.

21. Smith (1776 [1937], 777-78).

22. A 1995 survey of parking meter costs (for collection, repairs, maintenance, and installation) and revenues in California found that the ratio of cost to revenue was 5 percent in both Santa Monica and West Hollywood, 9 percent in San Diego, 10 percent in San Luis Obispo, 11 percent in Beverly Hills, 19 percent in Sacramento, and 20 percent in San Jose (City of San Diego 1995). Since the highest meter rate was only \$1 an hour, raising the meter rates to the market level would produce more revenue with no additional collection costs, and the ratio of cost to revenue would be even lower.

23. Drèze (1995, 114) explains the “marginal cost of public funds.” Taxes that distort prices reduce efficiency and create a “deadweight” loss, which increases the cost of the tax revenue to the economy. The marginal cost of public funds is greater than an extra dollar of tax revenue because it includes the estimated deadweight loss associated with the higher tax rate. Different taxes, of course, have different deadweight losses. Hamond *et al.* (1997) describe the double dividend created by shifting the tax burden from “goods” like work and saving, and onto “bads” like pollution and waste.

24. This rationale for market-price curb parking is similar to the one that William Vickrey (1967, 136) offered for congestion tolls: “Given the serious financial plight of many urban governments, it would perhaps be desirable to use added charges on urban vehicular users to provide an appropriate source of additional funds. This would on the one hand be free of the baneful economic impact of most other revenue sources, such as taxes on property improvements or sales taxes, and on the other constitute a local resource more conducive to economical use of the proceeds than grants from larger jurisdictions, the spending of which is more often decided upon without adequate consideration of the tax consequences.”

25. Property tax revenues are reported in the *American Housing Survey for the United States: 2001*, Table 1A-7, “Financial Characteristics—All Housing Units” (United States Census Bureau (2001a)).

26. Smith (2001, 24, 27) shows structured parking is cheaper than surface parking only when the price of land is more than \$30 per square foot.

27. If curb spaces earn much *more* than \$5 a day, the revenue should justify constructing adjacent off-street spaces. The cost of constructing off-street parking should, in the long run, limit the price of curb parking. In turn, the availability of curb parking at market rates should limit the price of short-term off-street parking. In part because of the lack of curb vacancies, the price of the first hour of off-street parking is often 25 percent or more of the all-day rate, and this ratio should decline if curb parking is readily available. The current price of most curb parking understates its full revenue potential because minimum parking requirements have increased the off-street parking supply. The ability of curb parking to produce public revenue can therefore be seen only in cities that have never required off-street parking.

28. This is the net present value of a curb space. Because it is land value, there is no depreciation, and the time horizon is effectively infinite, so the capital value is the annual revenue divided by the interest rate. If parking prices increase at the inflation rate, the real interest rate should be used to discount future revenues. Five percent is a high estimate of the real interest rate and leads to a conservative estimate of the present value of a curb parking space.

29. Whyte (1988, 73-74).

30. New York City Department of Urban Planning (2002, Table 10). The area includes all of Manhattan from 59th Street to the Battery, between the Hudson and East Rivers.

31. “Value Soars on Choice Hub Parking Spots,” *Boston Globe*, April 14, 2004. At 5 percent, the annual interest on \$167,500 is \$8,375. When the condominium fee of \$163 a month and the property tax of \$811 a year are added, the total cost is \$11,142 a year, or \$30.53 a day. As recently as 1998 one space sold for only \$27,000, so the price per space increased by 620 percent in six years. The Brimmer Street Garage does not allow vehicles like Chevrolet Tahoes, Ford Expeditions, and Hummers because they are too big. CNN reported that in 2004 the prices for condominium parking spaces ranged up to \$250,000 in New York, \$200,000 in San Francisco, and \$80,000 in Chicago (“Boston Parking Spot Sold for \$160,000,” April 27, 2004).

32. Boston Transportation Department (2001, 63, 66). Despite the four-to-one overissuance of free resident parking permits, the Boston Transportation Department concluded, “Pricing strategies, such as higher fees for multiple stickers are not recommended as tolls to manage auto ownership because high fees would not affect auto ownership decisions in comparison to the high operating and insurance costs paid by Boston residents” (Boston Transportation Department 2001, 68). This argument for free parking is, of course, a flimsy pseudo-economic excuse probably intended to justify a political decision that had already been made. The high prices for off-street parking suggest that market prices for permits (to equate demand with supply) would reduce cruising, improve traffic, and produce substantial public revenue.

33. *Sunday Times*, December 12, 1999. The project is Harrods Mansions at No. 1 Hans Crescent in Knightsbridge.

34. Reuters, February 24, 2004. Another parking space in the same garage was bought by a mother for her three-year-old son for when he can drive.

35. “Park Avenue?” *Los Angeles Times*, June 7, 2004. The city gave Seinfeld—as to everyone else with off-street parking—a curb cut to access his new garage, thus eliminating an on-street parking

space. The cost of Seinfeld's garage illustrates how the economics of car ownership in Manhattan resemble those in Hong Kong. In his study of how land use affects mode choices, Ming Zhang (2004, 357) says, "In Hong Kong, the after-purchase costs of owning and using private automobiles are among the highest in the world. . . . Many in Hong Kong can afford to buy a car but cannot find or afford a place to park it."

36. Naturally, curb parking can earn either more or less rent per square foot than the adjacent land use does.

37. Portland Metro Regional Transportation Planning (1995).

38. Block length was defined by the property lines within the block, excluding the sidewalk.

39. Parking meters are typically 20 feet apart, but this varies. In Phoenix, for example, the standard length is 22 feet, with only 17 feet for the first and last spaces in rows of multiple meters (de Cerreño 2002, 16). Among rectangles of the same area, a square has the lowest ratio of perimeter to area. If blocks are not square, the ratio of parking area to area within the block will therefore be more than 8 percent. For example, if the block is 100 feet on the short side and 640 feet on the long side, it will still be 64,000 square feet, but its perimeter will be 1,480 feet, or 46 percent longer than the perimeter of the square block. The curb parking space would be 12 percent of the area of the block. Among square blocks, the ratio of perimeter to area declines as the area increases.

40. Dueker, Strathman, and Bianco (1998, 28).

41. $\$1,800 \times 33 = \$59,400$ and $\$59,400 \div 1,012 = \58.70 .

42. If a sidewalk is six feet wide and the cost of sidewalk replacement is \$10 per square foot, curb parking revenue of \$59 per front foot would be enough to replace the sidewalk every year.

43. See U.S. Census Bureau (2000d, Table 45) for local government revenue and expenditure for parking in 1997. The U.S. Department of Transportation, Federal Highway Administration (1997b, Tables MV-1 and DL-1C) reported there were 207,753,660 registered motor vehicles and 182,709,204 licensed drivers in 1997.

44. Smith (1776 [1937], 835). The lower curve in Figure 19-4 is sometimes called a "Laffer Curve" after the economist Arthur Laffer, who is reputed to have sketched it on a cocktail napkin in 1974. See Monissen (1999) for a discussion of the Laffer Curve.

45. The \$100 million of revenue is hypothetical. If, however, curb spaces yield \$1,800 a year, a city with 56,000 curb parking spaces will earn a total revenue of \$100 million per year. As the neighborhoods' share increases up to 50 percent, the revenue to the general fund also increases (revenues to the general fund are maximized at the 50 percent share if the total parking revenue curve is a straight line, which it need not be). If the city and its neighborhoods split the revenue equally, they each get \$25 million a year. As the neighborhoods' share further increases to 100 percent, the revenue to the general fund declines to zero (the lower right corner) and the revenue to the neighborhoods increases to \$100 million a year (the upper right corner).

46. As Richard Bird (1991, 268) says, "Tax reform is a political, not an economic, process. It

results from the interplay of interests and actors characteristic of the political process rather than the application of the ‘rational man’ (or ‘benevolent dictator’) approach that underlies the conventional analysis of tax reform.” The same is true of parking reforms.

47. See Chapter 16. If citizens believe cities will simply use the earmarked revenue to *substitute* for expenditures already made in neighborhoods rather than to *augment* these expenditures, parking benefit districts will have no appeal. Cities must therefore commit to a maintenance of effort for the services financed by benefit districts.

48. The land rent for curb parking is a transfer payment from drivers to the government. Drivers see this payment as a cost, and it should be counted as a benefit to the community. Although most drivers won’t agree that charging market prices for curb parking is a good idea, the views of those who receive the revenue must be weighed in the balance. See Chapters 23 and 25 for a discussion of the distinction between transfer payments and real costs.

49. Quoted in Cord (1965, 27). This was from an address in 1877 to the faculty and students at the University of California, where George was being considered as a candidate for a chair in political economy. He was not offered the post and was never invited to speak at Berkeley again.

50. U.S. Census Bureau (2000d, 4). Shoup (1990) explains how special assessments based on front-foot charges are used to finance neighborhood public investments. What neighborhood public purposes should be eligible for finance by a parking benefit district? One simple answer is any public purpose that can already be financed by a special assessment.

51 Wachs (1994, 16).

52 Deakin and Harvey (1996, 5-14, 5-15).

53 Goodwin (1989, 495).

54 Small, Winston, and Evans (1989, 86).

55 Goodwin (1995, 496) says “Of course, it is obvious that ‘a third’ is arbitrary . . . But it is clear, easily understood, and, I think, capable of acting as a useful base for a consensus.” Small (1992) proposes a similar tripartite division of the revenue. See Chapters 23 and 25 for a discussion of the distinction between transfer payments and real costs.

56 The desire for revenue almost certainly hastened the advent of the parking meter. The first meters were installed in Oklahoma City during the Depression in 1935 when the city was close to bankruptcy. LeRoy Fischer and Robert Smith (1969) report the city’s property tax base shrank by 29 percent between 1931 and 1934. The city manager estimated that the new parking meters would generate \$75,000 a year in their first year, equivalent to \$1 million a year in 2004. Were it not for this revenue, it seems unlikely Oklahoma City would have installed the parking meters.

57 Similarly, if VMT taxes were distributed to cities in proportion to the VMT they experience, a new constituency for VMT taxes would appear. If the congestion tolls or VMT taxes were assessed by means of satellite technology, geographic assignment of the revenue would not be difficult.

58 The per-capita incomes are from the 2000 census. When Southern Californians strike it rich, they apparently like to live on a hill far from the maddening freeways.

59 William Fulton (2001) discusses how the competition for sales tax revenue distorts land-use planning in California. Congestion tolls, of course, are user fees, *not* taxes. In many ways, congestions tolls are a better way to finance public services than property taxes are, because the congestion tolls increase the economy's efficiency while property taxes reduce it. As Henry George might have argued, congestion tolls are rent for the use of scarce space. Toll sharing among cities with freeways will lead to "toll-seeking" behavior, which will generate the necessary political support for congestion pricing.

60 Lave (1995, 465). Similarly, Small, Winston, and Evans (1989, 86) say, "Seldom has applied economics produced an idea with such unanimous professional conviction in both its validity and its political unacceptability." They also explain why no other policies can reduce urban highway congestion, because none of these other policies accounts for the latent demand for peak-period highway travel.

61 Calthrop and Proost (2003, 544).

62 Fielding and Klein (1997).

63 City of Westminster, *Facts and s 2002/2003*, available online at www.westminster.gov.uk/yourcouncil/factsandfigures/index.cfm.

64 See the website of Transportation for London at <www.transportforlondon.gov.uk/tfl>.

65 The General Mining Law of 1872 allows mining companies to extract hardrock minerals from public lands without royalty. Enacted under President Ulysses S. Grant to encourage individual prospectors, the law also offers public land for sale at \$5 an acre, perhaps the only price in the U.S. that has not increased since 1872.

66 Simons (1948, 33).

67 Casella (1985) and Johnson and Man (2001) explain Tax Increment Finance. For Parking Increment Finance, the revenue for the BID will presumably be the net increment in parking revenue after deducting the cost of collection.

68 Williams and Ross (2003).

69 Dardia (1998) explains that much of the total tax increment would in many cases occur without any redevelopment projects, and that tax increment financing therefore diverts revenue from cities, counties, and school districts to subsidize redevelopment districts. Hormann and Segal (1998) argue that California's TIF-financed Community Redevelopment Agencies have played a strong role in business districts and have stifled the growth of BIDs that rely on self-help efforts.

70 Cities charge for admission to museums and many other public services one might argue should be free, but free curbside parking is almost sacrosanct. Rather than being concerned about social equity or economic justice, most motorists probably want to keep their free lunch regardless of the social cost.

71 The 2001 Nationwide Household Travel Survey found that 20.3 percent of households with

incomes less than \$25,000 a year don't own a car, while only 2.3 percent of households with incomes greater than \$25,000 a year don't own a car; 17.6 percent of households whose residence is rented don't own a car, while only 3 percent of households whose residence is owned or otherwise nonrented don't own a car (United States Department of Transportation 2003a, 20). Using data from the 1991-1993 Surveys of Income and Program Participation, Steven Raphael and Michael Stoll (2001, 109) calculated that African-American households own 0.67 cars per adult, Latino households own 0.73 cars per adult, and Caucasian households own 1.14 cars per adult.

72 The share of curb parkers who were women increased from 36 percent before the price increase to 43 percent afterward (Clinch and Kelly 2004a, Figure 3). Perhaps this change occurred because women are more averse than men to parking in off-street garages. Amanda Nelson (1997) found that 51 percent of women said they were anxious when using parking garages after dark, while another 32 percent said they never parked in garages after dark.

73 The share of curb parkers who were in the highest social class fell from 46 percent before the price rise to 35 percent afterward; the share who were upper-middle class rose from 38 percent before the price rise to 47 percent afterward. Clinch and Kelly (2004a, 3) conclude, "arguments that shifts in parking prices could have more serious equity concerns . . . are not substantiated by these data. . . . [T]he sole change was a transfer [of parking spaces] between the upper class and the upper-middle class." The categories of social class refer to the occupation of the head of the household and are standard in Irish market research surveys.

74 San Diego Association of Governments (2000, 36). In his survey of public opinion about road pricing, John Berg (2003, 7) reports that 94 percent of transit riders and 92 percent of carpoolers thought the I-15 toll program was fair.

75 United States Department of Transportation (2003b, 30).

76 "Parking Mafias Imperil Historic Homes in Istanbul," *Chicago Tribune*, April 11, 2004.

77 As soon as Pasadena installed parking meters in the Old Pasadena Parking Meter Zone, it borrowed \$5 million against the future revenue and invested the proceeds in major streetscape and alley improvements (see Chapter 16).

78 Mazumder (2004, 2).

79 Cities can use the same lifeline-eligibility criteria for curb parking they use for other public utilities, such as telephone and electricity service.

80 That is, the share of disabled spaces that are illegally occupied approaches 100 percent!

81 Louis Wasserman (1979, 30)

82 *Economic Journal* 76, no. 301 (March 1966): 215. What Joseph Schumpeter (1942, 262) said about politics also applies to parking: "The typical citizen drops down to a lower level of mental performance as soon as he enters the political field. He argues and analyzes in a way which he would readily recognize as infantile within the sphere of his real interests. He becomes a primitive again."

83 Thomson (1977, 15).

84 Brinkley (1988, 218).

85 Brinkley (1988, 219).

86 Kenneth Button (1977, 43) says, “In practice, two quite distinct types of charging policy for parking spaces may be discerned: There is an administrative approach and an economic one. The former is concerned with cost recovery and is closely entwined with the highway engineer approach to urban traffic problems. . . . The economic way is to regulate charges in sympathy with the prevailing state of demand in the same way that other commodity prices vary. Charges are therefore based on the ‘willingness to pay’ principle.” Button explains that when cities charge a low administrative cost for curb parking, the curb spaces are allocated according to drivers’ willingness to pay the resulting search costs.

87 In 1929, the Committee on Parking Regulations of the National Highway Traffic Association concisely concluded, “[Curb] parking . . . should be allowed at all times in business districts where it does not cost the traveling public more than it saves those who park. . . . The right to move a car is superior to the right to store a car on the public ways, and when or where parking causes a net economic loss to the public through hindrance to safe and convenient travel, there should be limitation of parking, both commercial and private” (Committee on Parking Regulations of the National Highway Traffic Association (1929, 139). In his analysis of the proper prices for curb parking, British transportation economist D. H. Glassborow (1961, 26 and 29) said, “Parking charges are . . . payments for the use of resources which could be used for other purposes. Quite simply, street parking is a problem where there is some other use for the space occupied by a parked vehicle. . . . Charges for street parking should not be regarded as payment to cover the cost of administration of a system of physical rationing. . . . The revenue from parking charges, after the cost of administration has been met, should be used to relieve the ratepayers as a whole and not be reserved to finance the construction of off-street parks. Certainly it should not be used to subsidize these car parks.”

88 Vickrey (1954, 62).

89 University Avenue in Palo Alto has diagonal parking on one side of the street, and parallel parking on the other side. Roberta Gratz and Norman Mintz (1998, 95-96) describe how New Haven, Connecticut, eliminated parking spaces at the corner of Chapel and College Streets, across from Yale University, and created a pleasant public environment with trees, public seating, and a sidewalk café.

90. See Richardson *et al.* (1993) for a description of the Southern California Planning Model. I am grateful to Peter Gordon for using this model to estimate the effects of diverting final demand from private consumption to public investment.

91 Because more of the goods and services that supply local private consumption are imported, reducing local private consumption will reduce local wages by only 45 percent of the reduction in consumption. By contrast, more of the goods and services that supply local public investment are produced locally, so increasing local public investment will increase local wages by 84 percent of the increase in local public investment. Therefore, in this example, parking benefit districts will increase total local wages by 39 percent of the final demand they divert from private consumption to public investment.

92 The estimated wages of the created jobs in this example may be unusually high because roads are constructed for the public sector. In California, those who bid for work on state-financed construction projects must pay workers at the “most frequently occurring” wage rate in the region, and this is often the union scale. Private contractors who repair sidewalks may pay lower wages, but they will therefore have less incentive to substitute capital for labor. Shifting spending from private consumption to repairing sidewalks may thus create more jobs at lower wages than is estimated here for shifting the same spending to building roads. It is also worth noting, however, that most of the jobs created will be in the private sector and many of these jobs will be for workers with relatively few skills. The estimated the number of jobs lost is 17.9 and the number gained is 21.5, which are rounded in the table to 18 and 22.

93 United States Census Bureau (2002a, Exhibits 1, 6, and 9). The total (\$104 billion for petroleum and \$190 billion for motor vehicles) was equal to 82 percent of the trade deficit.

94 United States patent number 1,509,312 (September 23, 1924). After buying Darrow’s patent, Parker Brothers subsequently bought Magie’s earlier patent. *Monopoly*® is now the trademark of Hasbro, Inc. for its real estate trading game. See Orbanes (1988) for the history of *Monopoly*.

95 Bolton (1985, 11).

96 Andelson and Gaffney (1979, 284). Edwin Seligman (1931, 68) said, “a tax on land values is not necessarily a single tax. The essential feature of the single tax is the singleness of the tax.” The essential feature of a tax on land value is not its singleness but is instead its ability to raise revenue without distorting incentives. Similarly, curb parking revenue cannot replace all taxes, but cities can use it to reduce some taxes, such as property taxes. Free curb parking and onerous off-street parking requirements dramatically show that government ownership of land does not automatically capture land rent for the benefit of society.

97 Beyond these advantages of market-priced curb parking, the model of cruising in Chapter 13 suggests that if curb parking is underpriced, raising its price reduces the time-and-fuel cost of cruising by \$1 for every \$1 increase in motorists’ payments for curb parking. The charge for curb parking is thus unlike a tax that transfers revenue from motorists to the government. The *net* burden on curb parkers is zero because the public revenue equals the reduced private waste of cruising. By reducing the traffic congestion caused by cruising, raising the price of curb parking in an area also reduces the time cost of travel for motorists who are driving through it rather than trying to park in it. Using a numerical example, Arnott, Rave, and Schöb (forthcoming) estimate that raising the price of curb parking can reduce the time cost of travel for in-transit motorists (those who are traveling rather than cruising) by \$2 for every \$1 increase in curb parking revenue. Every \$1 increase in the curb parking revenue in an underpriced area thus reduces the motorists’ cost of travel by \$3: \$1 in time-and-fuel savings for drivers who are searching for curb parking in the area, and \$2 in time savings for drivers who are traveling through it. Their example depends, of course, on the amount of through traffic delayed by the cars cruising for parking.