Using Pricing to Reduce Traffic Congestion

In this article reprinted from the *Earth Island Journal*, author Adam Federman examines how major cities around the world have attempted to use pricing to reduce traffic congestion. While New York City recently saw its efforts to impose congestion pricing derailed by the political process, others like London and Singapore have found great success using fees to modify driver behavior, fund mass transit and lower air pollution. The article demonstrates how pricing has proved to be an effective public policy tool around the world. Adam is the editor of *The Whetting Stone* (www.thewhettingstone.com). He can be reached at adamfederman@mac.com.

Professor William Vickrey introduced the controversial idea of congestion pricing in a technical monograph published in 1955 titled, "A Proposal for Revising New York's Subway Fare Structure." In the decades that followed, Vickrey (who later won the Nobel Prize in Economics) wrote numerous articles on the subject. He also attended every transportation meeting he could to make the case that various modes of urban transit—in particular the private automobile—were vastly under-priced. "Most of us saw him as a crank," says Jeffrey Zupan, Senior Fellow for Transportation at Regional Plan Association, a tri-state think tank. "We rolled our eyes and said, this is never going to happen."

A decade after Vickrey's death congestion pricing has gone from the margins of academia to the mainstream of political discussion. For the past year, it has been the subject of heated public hearings held throughout New York City and its boroughs, and has come to define Mayor Michael Bloomberg's second term in office. Congestion pricing—which in its simplest form charges drivers a flat fee to enter the busiest parts of a city or to use highways during peak hours; and, in more sophisticated applications, varies pricing based on traffic density in real time—has consumed New York politics.

For advocates of mass transit, congestion pricing is much more than just a way to reduce traffic or to increase the efficiency of our roadways. It is a battle over the future of our cities—a way to improve air quality, reclaim street space, and raise revenue for public transportation.

At a well-attended community board hearing in lower Manhattan in January, Wylie Norvelle of Transportation Alternatives, an advocacy group for cyclists, pedestrians, and transit riders, described congestion pricing as the "holy grail of transportation reforms." A holy grail that remains out of reach, at least for New Yorkers.

On Earth Day 2007, Mayor Bloomberg put forth a 30-year redevelopment plan (PlaNYC) for the city that included congestion pricing as "part of an overall commitment to increase investment in mass transit." Although it was one of only 127 environmental initiatives, such as boosting street side tree planting and protecting wetlands, congestion pricing received a disproportionate amount of attention, and led to a lively and often fractious debate among city and state lawmakers, local residents, and urban planners. A 17-member ad hoc committee was formed to hone the mayor's plan, and dozens of community meetings were held across the city to solicit residents' views. Bloomberg made the issue a top priority, and invested a large amount of his political capital in passing the measure. But the idea ran into stiff resistance.

Opponents, particularly city council and state assembly members who represent the outer boroughs, decried the legislation as a tax on the poor and middle class, one that would turn Manhattan into a golden ghetto. It was an effective populist appeal, an argument that everyone has the right to drive, and that right should not be infringed upon even if, in the case of New York, the vast majority of commuters do not drive.

Ultimately, Bloomberg's plan, which narrowly made it through the city council, was scrapped by the New York state legislature, which often intervenes in city affairs. The demise of the plan means that New York City will lose $354 million in federal transportation aid, in addition to $500 million in projected annual revenue from the traffic fees. It is unclear when and if the idea will be revived. Many say some form of congestion pricing is inevitable, that its time has come, and that even in defeat there have been victories—transit improvements that likely would not have been made or even discussed had congestion pricing not been on the table. But there is also deep concern that New York has missed an opportunity that will be difficult if not impossible to replicate.

U.S. Transportation Secretary Mary Peters called the decision "deeply disappointing" but noted that, "New York has engaged in one of the most vigorous and significant debates about transportation policy in modern U.S. history."

While congestion pricing largely remains a matter of debate in the U.S., it's a reality in many other countries. The first large city to adopt some form of William Vickrey's idea was Singapore, which in 1975 imposed a $3 charge on cars entering the central business district during morning rush hours. More than 30 years later, the system has become a model of flexibility, as toll rates at various locations change throughout the day; and, in the process, help regulate traffic flow. The city's congestion pricing has helped reduce auto traffic by some 45 percent, while at the same time boosting the use of mass transit.

For many years, the Singapore system was one-of-its-kind. But recently fears of global warming and a diminishing global oil supply have created a sense of unease about the future of the automobile. In 2003, London Mayor Ken Livingstone introduced congestion pricing for his city's often-jammed financial center. By most measures, the London plan, which charges motorists £8 (currently about $15) to enter the business district, has been a success. Traffic has been reduced by about 25 percent, and London's air quality—the worst in Britain—is improving: CO2 and NOX emissions are down by a fifth. At the same time, bus ridership and the use of bicycles has risen dramatically.

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Separate from the congestion fee, the heaviest polluters (very large trucks) pay an additional £200 (currently about $390) while so-called green vehicles are exempt—a thinly veiled way of saying that certain vehicles should no longer be on the road, at least not in crowded cities. According to one survey, 78 percent of drivers who pay to enter the financial district are happy with the system, which has raised millions of pounds for the city's buses and subways.

The London experience has prompted other European cities to embrace some form of congestion pricing. In 2006, Stockholm put in place a traffic fee for its city center, and three Norwegian cities, including Oslo, charge drivers to enter their downtowns, and use the extra revenues to fund bike sharing programs and bike path expansion.

Germany has introduced similar regulations in the form of badges that indicate the amount of pollution a vehicle emits. Starting this year, drivers of private vehicles in Berlin, Cologne, and Hannover must have an "Umweltplakette" (environmental badge) in order to drive into certain parts of the city. If they do not have a badge—and high emission vehicles will not receive one—they will be fined 39 euros ($60). Milan—one of Europe's most heavily polluted cities—now charges 10 euros ($15) to enter what it has dubbed an eco-pass area in the center of the city. Hybrid and electric cars will not be charged and revenue will be invested in mass transit, bicycle paths, and green vehicles.

New York's congestion pricing plan was an attempt to bring such successful experiments across the Atlantic. But like the Smart car—introduced in Europe in 1997 and put on the market in the U.S. only this year—congestion pricing ran into a major roadblock: Americans' love affair with the automobile.

"Not to wrap ourselves in the flag," says Robert Sinclair Jr., manager of media relations at AAA New York, "but many look upon it [congestion pricing] as an intrusion on the freedoms that are guaranteed to Americans, to be able to have freedom of movement to go anywhere you might want to go." AAA, which believes in an intermodal approach to transportation but opposes congestion pricing, argues that the policy places an unfair burden on motorists, most of whom, they say, already pay enough in tolls and other fees.

Bloomberg's final plan would have charged drivers $8 a day to drive into the Central Business District (CBD) below 60th street. The proposal was intended to address Manhattan's daily gridlock, which has become a financial burden and a public health risk. In a 2006 report, the Partnership for New York, an organization of the city's top corporate, investment, and entrepreneurial firms—using what they describe as "very conservative assumptions"—estimated that the city loses roughly $13 billion a year due to congestion, in addition to tens of thousands of lost jobs. The costs are attributed to lost time and productivity, wasted fuel, vehicle operating costs, and lost business revenue. \

As the European experiences have shown, congestion pricing is one of the most effective ways of easing daily traffic jams. "I think we've tried everything else and nothing else works," says Donald Shoup, a professor of urban planning at UC Davis and the author of *The High Cost of Free Parking.* "Most economists think that nothing else will work except congestion pricing. Nothing."

Russianoff, the attorney for the Straphangers campaign who has lobbied on behalf of transit riders for nearly three decades, says that there is a "realization that the city cannot afford to subsidize the automobile." In 30 years, New York's population is expected to increase by one million, and the city will add an estimated 750,000 new jobs, placing further strains on what is one of the world's biggest mass transit systems. In terms of track mileage, New York City has the largest subway system in the world, and the M15 bus, which runs along First and Second Avenues in Manhattan, is the most heavily used bus in the Western hemisphere. Meeting current and future transit needs will require enormous resources. In just the next five years, the MTA will spend $30 billion on capital improvements.

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Congestion pricing would have paid, in part, for those upgrades. But there was deep skepticism among the public that the revenue raised from congestion pricing would actually be used to improve buses and subways, despite the creation of a "lock box" to guarantee that the money would not be hijacked for other purposes. This was less an argument against congestion pricing per se than it was a reflection of public mistrust of government.

"Among the political weaknesses of the plan is that all the money went into the MTA capital plan, which is a complete black hole. And that's a political-tactical error," says John Kaehny, a transportation policy consultant and former director of Transportation Alternatives. At the same time, a subway fare hike in March did not inspire confidence that congestion pricing would ease the burden on transit riders. In fact, some speculate that congestion pricing died the day Mayor Bloomberg supported the fare hike. "A fare going down or staying the same, people understand that with their pocketbook," Russianoff says. "They see it. I would have tied that very explicitly to congestion pricing." In London, for example, bus service was improved—82 new bus routes have been added since 2002—and fares were lowered before congestion pricing went into effect.

Tying congestion pricing to improvements in mass transit might have been key, given that very few New Yorkers actually drive cars. New York has the lowest number of cars per household of any city in the United States, and its commuters rely primarily on public transit. Only five percent of the workforce drives into the Central Business District, and those who do are relatively affluent; a study published by the city's Independent Budget Office in January found that the median annual income of those who drive into Manhattan exceeds the earnings of other commuters by 30 percent.

That reality, however, seemed to matter little to some elected officials, who argued that congestion pricing would hurt the poor and the middle class. The populist backlash suggests that the furor over congestion pricing is about much more than a simple fee, or a "tax," as opponents of the plan call it. The vociferous, though narrow, opposition to congestion pricing reveals the excesses of a car culture that dominates our urban landscapes. We've ceded so much space to the automobile at such a low price that rewriting the rules of driving is incredibly difficult. As Shoup puts it, imposing a fee on drivers is "like taking a bone from a very big dog. You've given them something and it is hard to get it back."

The automobile, whatever its costs, is an enormous convenience, a luxury that most Americans are unwilling to give up.

One likely explanation for congestion pricing's demise is that it would have limited the privileges of assembly members and other municipal employees, particularly police officers and firefighters, who drive often and park for free. They have what Kaehny describes as a windshield perspective, "a deep and abiding and exceedingly counterfactual, near mythical belief … that everyone in New York drives everywhere. And that's because *they* do, because they have parking placards, and they can get out of tickets. The mythical massive motoring middle class is them. It's in their heads, but it's them."

In some ways the fact that congestion pricing is even under consideration marks a qualitative shift in how Americans view the automobile. That is not to say that drivers are ready to give up their cars and ride the bus or subway to work since, outside of the big cities, 90 percent of Americans commute to work by car. But many people are beginning to recognize the negative side effects—what economists refer to as "externalities"—of driving.

Once hailed as a symbol of freedom and the wide-open future, the car is now a symbol of excess (the SUV), entrapment (the hours-long commute or traffic jam), and the past (the carbon-intensive economy). It has outlived its golden age and is now viewed by a growing number of people as a menace, a destructive force responsible for our polluted skies, our crowded streets, and our dystopian suburban landscape, ever widening into mega-regions that connect cities and suburbs in a kind of galactic sprawl.

Gridlock has become a national nightmare. According to the Texas Transportation Institute's 2007 Urban Mobility Report, the nationwide cost of traffic congestion is $78 billion. The report opens ominously with the observation that congestion is "getting worse in regions of all sizes," not only the nation's largest urban areas.

That inescapable fact is now driving federal, state, and local transportation policy. Although congestion pricing has died in New York, other cities are pursuing it in various forms as a solution. Throughout the 1990s, since the passage of the Intermodal Surface Transportation Efficiency Act, the federal government has encouraged states and regions to develop pilot pricing programs. And last year, as part of the U.S. Department of Transportation's Urban Partnership Program, five cities out of a total of 26 that applied were awarded federal funding to fight traffic using some form of congestion pricing. The $354 million that NYC would have received will now be passed along to other cities. Miami, Minneapolis, San Francisco, and Seattle have also received funding as part of the partnership. Now that New York is out of the picture, San Francisco's congestion pricing plan is by far the most ambitious. Planetizen, a Web site and public forum devoted to issues of urban development and design, named congestion pricing the number one urban planning issue of 2007.

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Atlanta, the fastest growing metropolitan area in the U.S., is conducting a research project that will assess the impact of congestion pricing on the region and offer recommendations to the Georgia Department of Transportation before the end of the year. The hope is to convert existing High Occupancy Vehicle (HOV) Lanes, which are underutilized, into High Occupancy Toll (HOT) Lanes during peak hours. Thus, lanes now reserved for vehicles with two or more passengers—carpool lanes—will be opened to single occupancy vehicles for a fee. This is similar to a successful effort in Minneapolis, which opened its first HOT lane in May 2005.

Dr. Catherine Ross, the principal investigator on the Atlanta project and the director of the Center for Quality Growth and Regional Development at Georgia Tech, says that some form of congestion pricing is imminent. "We can't pay for what we have," she says. "We have huge infrastructure needs that I don't know how else to pay for unless we start pricing travel at the rate at which it occurs. We've undervalued it, underpriced it for years."

That is the argument that proponents of congestion pricing have been making for more than four decades. Travel is a cost and it should come with a price tag. In a statement before the Joint Committee on Washington, D.C. Metropolitan Problems in 1959, William Vickrey noted that, "It is instructive to bring out explicitly just what the magnitude of the appropriate charges would be if the costs of urban traffic are to be brought home to the individual user."

While welcoming the attention given to congestion pricing and the conversation it has sparked, some longtime transit advocates and urban planners say the current proposals don't go far enough. Much bolder action is necessary, they say, if we are to address the threat of climate change.

Brian Ketcham, an engineer and community consultant in Brooklyn who estimates that the region-wide cost of congestion in New York City is $24 billion a year (significantly higher than the Partnership's estimate), has calculated that the average automobile trip costs drivers in the city about $10 and the public an additional $14 in delays, accidents, air pollution, and other indirect costs. Ketcham concludes that the real cost of auto travel is roughly four times higher than public transit. Thus, Bloomberg's proposed $8 fee was "only a modest step to redressing the public burden of auto and truck travel in the region."

Although he applauds the mayor for bringing congestion pricing to the fore, Ketcham has contributed to an alternative plan that proposes a more radical solution to the city's transit crisis. The Kheel Plan proposes a fee of $16 for vehicles entering Manhattan at all times. In return, mass transit is free, an incentive that the authors argue will win over public support. Even Bloomberg has acknowledged that "from a public policy point of view," mass transit should be free. The authors of the plan estimate that traffic in the CBD will be reduced by 25 percent (under the mayor's plan, traffic reduction was closer to seven percent) and that $500 million in revenue will be raised annually to improve mass transit.

Ketcham has been actively fighting for congestion pricing since the late 1960s. He authored the nation's first transportation control plan to meet clean air standards under a previous New York City administration; and, in 1975 (the same year that Singapore adopted congestion pricing) testified with Vickrey before the Port Authority, urging them to adopt congestion pricing on Hudson River crossings. As was so often the case, their pleas were met with silence.

"It wasn't just clean air that I was concerned about. It was congestion, the accidents, all the environmental damages," Ketcham says. In the 1970s and 1980s, congestion pricing was largely billed as a way of raising revenue, and not directly tied to improving transit. "Only recently have we really discussed congestion pricing as a means of changing travel behavior and encouraging the use of public transit."