

## Bridge Tolls: Who Would Pay? And How Much?

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### SUMMARY

Currently there are no tolls on the four East River Bridges and nine Harlem River Bridges owned and maintained by the city. Discussions about tolling motorists who use these bridges have come and gone with varying degrees of intensity over the past few decades. Sometimes the prime motivation has been traffic congestion, other times—such as the Bloomberg Administration’s proposal last year—it has been fiscal.

In this report IBO focuses on three specific questions in regard to tolling the city’s free bridges: how much revenue would be collected; who would pay both in terms of place of residence and household income; and what are some of the options for exempting city residents from tolls, and if this is done how much revenue would be lost. Among our findings:

- IBO estimates that tolling the city’s bridges would generate \$693 million in annual revenue—\$502 million from the East River Bridges, and \$191 million on the Harlem River crossings.
- The majority of drivers who use the free crossings reside in New York City. Overall, 55 percent are city residents. The proportion of city residents is higher on the four East River crossings—57 percent—than it is on the Harlem River bridges—49 percent.
- City residents who drive across the free bridges have higher average incomes than city residents who enter Manhattan via subways and buses. In contrast, suburban residents who enter Manhattan by mass transit are generally more affluent than suburban drivers. It is moderate- and middle-income suburbanites who are more likely to drive than to take transit.
- City residents who use the free bridges have lower incomes than non-city users. Sixty-two percent of non-city residents reported household incomes over \$50,000, compared with 45 percent of city residents. Only 18 percent of non-city residents reported incomes under \$50,000, compared with 35 percent of city residents. (About 20 percent of respondents did not report their incomes.)
- Exempting city residents from tolls would reduce the annual revenues to a combined \$308 million—\$210 million from the East River bridges and \$98 million from the Harlem River crossings.

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## BACKGROUND

The New York City Department of Transportation (DOT) has jurisdiction over four East River and nine Harlem River bridges. These bridges are currently free to motorists, but the idea of tolling them—particularly the East River crossings—has come to the fore several times in recent decades. The prime motivation for tolling has sometimes been environmental, sometimes economic. Not surprisingly, revenue considerations have dominated in recent years, as the city has faced large budget shortfalls.

Governor Nelson Rockefeller proposed tolling the East River bridges as part of his 1973 plan to comply with the Clean Air Act. In 1986, Mayor Koch presented a plan that involved tolls in the morning peak, again as part of a clean air strategy. In both cases, strong public opposition and the loosening of federal air quality requirements led to the proposals not being adopted (Zupan, 1994).

In the early 1990s the focus of tolling proposals shifted to revenue generation. In 1991 the city Department of Transportation released a detailed study of how bridge tolling would be done, and how much revenue could be collected. The DOT study concluded that over an initial 10-year period, toll revenue from the East River *and* Harlem River bridges together would be more than sufficient to pay all of the operating and capital expenses for city bridges, plus all traffic and street funding needs remaining after subtracting out projected state and federal aid.<sup>1</sup> A 1993 report prepared for former-Mayor David Dinkins by Kummerfeld, Forsythe, and Gray relied heavily on the DOT study to show how tolls could help close the city's projected budget gaps.

The economic boom that began in the late 1990s was accompanied by rising levels of congestion on the city's streets and bridges. According to the New York Metropolitan Transportation Council, the region's transportation planning council, vehicular crossings on all East River bridges and tunnels increased 4.8 percent between 1997 and 1999. Metropolitan Transportation Authority (MTA) reports indicate that crossings on the agency's bridges and tunnels increased 8.6 percent between 1997 and 2000. While the increases in vehicular traffic were far outpaced by the growth in public transit ridership, they added to the already significant delays that drivers were experiencing.

Against this backdrop of economic prosperity and rising traffic levels, charging fees to use the four untolled East River bridges was increasingly thought of more as a congestion management tool than as a mechanism for raising revenue. Discussion of tolls frequently centered on the concept of *congestion* or *value pricing*. Congestion pricing refers to charging higher prices for a facility or service during periods of peak demand. Because these charges are expected to divert demand from the peak, transportation

planners have long advocated congestion pricing as one remedy for overcrowded roads and bridges.

In the early months of 2002, as the Bloomberg Administration grappled with the prospect of large budget deficits in fiscal year 2003 and beyond, tolling the East River bridges again received attention as a revenue source. Documents accompanying the city's Executive Budget for fiscal year 2003 proposed a "value pricing system" of user fees for the city's bridges and streets. While the proposal was not highly specific, budget documents suggested that the scheme would involve tolls on the East River Bridges, differentiated by time of day. Elsewhere in the Executive Budget documentation, the proposed measures were labeled "congestion pricing, E-ZPass initiatives," and were projected to reduce the city's budget gap by \$100 million in fiscal year 2004, \$500 million in fiscal year 2005, and \$800 million in fiscal year 2006.

The city's Executive Budget for fiscal year 2004, presented in April 2003, proposed a series of "Regional Transportation Initiatives" to reduce its budget gap by \$200 million in fiscal year 2004, \$600 million in fiscal year 2005, and \$800 million in fiscal year 2006. The main components of this proposal were the elimination of the city's subsidy to private buses, the transfer of this bus service to the MTA, and the tolling of now-free bridges—presumably the East River bridges only.

The city currently spends around \$800 million per year of its own funds to support the programs of DOT, including roughly \$300 million on the city's waterway bridges.<sup>2</sup> Proponents of bridge tolls argue that tolls will provide a large amount of revenue for transportation infrastructure or general budget relief, and will have a negligible fiscal impact on most low-income city residents. In addition, tolls will reduce congestion on the bridges, and provide faster travel times for drivers who continue to use them. Toll opponents emphasize that even if the *average* burden of tolls is light, the cost to an individual who regularly drives into Manhattan will be high. Many opponents object in principle to charging drivers for travel within the city, and believe that tolls will significantly reduce business activity. Other opponents are willing to accept tolls if they are charged only to non-residents of the city.

The Independent Budget Office has prepared this fiscal brief to answer three questions regarding tolls on the city's free bridges:

1. How much revenue would be collected?
2. Who would pay? Who would bear the burden of tolls, by place of residence and household income?
3. What are the options for exempting city residents? How much revenue would be foregone if city residents were exempt?

While public debate has centered primarily around tolling the free East River bridges (Brooklyn, Manhattan, Williamsburg,

and Queensboro), this report also analyzes tolls on the city's Harlem River crossings. We do not examine congestion pricing alternatives or look at the effect of tolls on traffic. Reports by other organizations include these issues among their primary focus (for example, *East River Bridge Tolls: Revenue, Traffic, Mobility and Equity Impacts*, Schaller Consulting, September 2003; and *East River Bridge Tolls: Who Will Really Pay?* Charles Komanoff, March 2003).

## REVENUE ESTIMATES

IBO estimates that tolling the four East River bridges would generate \$502 million in revenue annually, while tolling the Harlem River bridges would provide \$191 million.<sup>3</sup> These estimates were calculated assuming tolls of \$7 on the East River facilities—equivalent to currently discounted E-ZPass tolls on MTA bridges and tunnels—and \$3 on the Harlem River crossings, charged only on vehicles entering Manhattan. These charges are equivalent to the current round-trip toll for automobiles on competing MTA facilities—the Henry Hudson Bridge over the Harlem River and the Brooklyn-Battery and Queens-Midtown Tunnels under the East River.

According to a study by the city's Department of Transportation released in 2001, on a typical weekday in calendar year 2000 there were 255,003 vehicle crossings into Manhattan on the free East River bridges, and 288,099 crossings into Manhattan on the free Harlem River bridges. We subtract bus crossings from this total, under the assumption that buses will not be tolled.<sup>4</sup> The imposition of tolls on previously free bridges is expected to reduce the amount of traffic on these facilities. Some individuals will cancel their trip or switch to public transportation, while others will find it more convenient to use the MTA bridges and

bridges. Based on discussions with local transportation specialists, IBO assumed that annual traffic volumes would equal 350 times the average weekday volume. This assumption yields an annual tollable volume of 71.7 million vehicles on the East River crossings and 63.7 million on the Harlem River facilities. Estimated toll revenue is thus 71.7 million trips times \$7, or \$502 million on the East River and 63.7 million trips times \$3, or \$191 million on the Harlem River, for a combined total of \$693 million.

The imposition of tolls on DOT's East River and Harlem River bridges would also increase revenues collected by the MTA on its bridges and tunnels. Because all crossings in a particular corridor would now be tolled equally, drivers would choose their crossing on the basis of convenience alone. DOT estimated that traffic would increase substantially on the MTA's facilities—26 percent on the Queens-Midtown Tunnel, 27 percent on the Triborough Bridge, 37 percent on the Henry Hudson Bridge, and 53 percent on the Brooklyn-Battery Tunnel. This increase in traffic was projected to generate an additional \$91 million in annual toll revenue for the MTA, increasing to \$106 million when tolls were raised to the levels assumed in this paper.<sup>6</sup> (It is not clear that these crossings could necessarily handle that great an increase in volume today, however.)

DOT's 1991 study acknowledged that if tolling were instituted on previously free city bridges, collection costs, enforcement costs, and losses from fare-beating would be substantial. DOT also concluded that revenue from fines could make up for these losses. One option for toll collection on the currently free bridges would be to use a gantry-mounted camera system like those used in Toronto or London. Drivers registered with the system would have pre-paid accounts or could be billed at

regular intervals, while other drivers outside the system would be sent a bill after each crossing. Toll evasion among unregistered users—particularly among drivers from outside the metropolitan area—would likely be higher under this collection system than with toll

Estimated Revenue from Bridge Tolls					
	Average Daily Crossings	Less Buses	Diversion Factor	Less Diversion	Annual Revenue (millions)
East River	255,003	253,128	-19%	205,034	\$502
Harlem River	288,099	284,488	-36%*	182,072	\$191
<b>Total</b>	<b>543,102</b>	<b>537,616</b>	<b>-28%</b>	<b>387,106</b>	<b>\$693</b>

SOURCE: IBO.  
NOTE: \*The high average diversion rate for Harlem River bridges results from excluding from tolls users of the Alexander Hamilton Bridge. The average diversion rate for the other Harlem River bridges combined is 13 percent.

tunnels that have always been tolled. IBO has used the diversion factors contained in DOT's 1991 study to estimate the decline in crossings due to tolls. Overall, traffic on the city's four East River bridges is expected to decline around 19 percent if tolls are imposed. Traffic on the now-free Harlem River bridges is expected to decline overall by 36 percent.<sup>5</sup>

After applying the diversion factors, the tollable traffic volumes into Manhattan on a typical weekday are 205,034 vehicles on the East River bridges, and 182,072 on the Harlem River

booths.<sup>7</sup> But there would be substantial time and money savings from not building and maintaining booths.

## WHO WOULD PAY?

IBO analyzed the impact of bridge tolls on different population groups using data from the Regional Travel-Household Interview Survey (RT-HIS), conducted over a 13-month period from May 1997 through May 1998. The survey was carried out under the auspices of the New York Metropolitan

Transportation Council and the North Jersey Transportation Planning Authority, two of the federally sanctioned Metropolitan Planning Organizations in the New York-New Jersey-Connecticut metropolitan area. The survey included 11,264 households (27,369 persons) in the New York City metropolitan region. Each household was asked to keep a diary containing detailed information on all personal trips it made during a specific 24-hour period. The survey excluded trips made during the workday as part of a work routine, such as deliveries and service calls, but did include commutes to workplaces. The total number of trips reported in the survey was 90,764. The survey data is weighted to allow the sample results to be extrapolated to the entire population. When the data are thus extrapolated, the result is a total of 59 million personal trips in the metropolitan area on an average weekday. Respondents recorded their place of residence, and were also asked to provide data on their household income.

Because the RT-HIS is a self-reported survey, its results are subject to both sampling and measurement error. The sampling error may be particularly large for certain population subgroups—the number of households surveyed in Queens, for example, is less than one-fifth the number surveyed in Manhattan. Measurement error can occur if survey respondents do not recall their travel behavior with accuracy, or do not answer some questions.

**Characteristics of Manhattan-bound Travel.**

For each trip recorded, the RT-HIS identifies the county or borough of origin, the county or borough of destination, and the mode of transportation, including transit, automobile, and other. For automobile trips, the survey distinguished between drivers and passengers, as well as whether or not a toll was paid. This allows us to separate out those persons who currently drive into Manhattan on the free bridges, and would be affected by the imposition of tolls on those crossings.<sup>8</sup> The expanded RT-HIS data record an average weekday daily total of 2.26 million untolled trips across the East and Harlem Rivers

into Manhattan, by all modes. Around 69 percent of untolled trips crossed the East River, and 31 percent the Harlem River. Three-fourths of the trips terminated in Manhattan; the rest were bound for destinations in other boroughs, upstate counties, New Jersey, or elsewhere.

Most trips into Manhattan across the East and Harlem Rivers are made by public transportation. Overall, 59 percent of trips are on transit, compared with 24 percent auto drivers, 11 percent auto passengers, and 6 percent other modes (for example, by bicycle or on foot). For trips that terminate in Manhattan, the transit share is much higher: 71 percent in the East River corridor, 64 percent in the Harlem River corridor, and 69 percent in both corridors combined.

City residents made 73 percent of the personal trips across the East and Harlem Rivers. The remaining trips are made by residents of suburban New York counties, Connecticut, and New Jersey. The share of trips made by city residents is higher in the East River corridor (76 percent) than in the Harlem River corridor (65 percent).

People who travel the Harlem River corridor have a somewhat lower household income than those who cross the East River.

<b>Analysis of Untolled East and Harlem River Crossings</b>						
<i>By destination, place of residence, mode of transportation, and household income</i>						
	Total		East River		Harlem River	
Total Untolled Trips	2,263,922		1,551,176	69%	712,745	31%
<i>By final destination</i>						
Manhattan	1,717,299	76%	1,227,998	79%	492,203	69%
New Jersey	107,633	5%	72,653	5%	34,980	5%
Bx, Westch., and north	167,642	7%	167,642	11%	0	0%
Sl, Bklyn, Qns, LI	185,562	8%	0	0%	185,562	26%
Other	82,884	4%	82,884	5%	0	0%
<i>By residence</i>						
NYC residents	1,643,635	73%	1,177,334	76%	466,301	65%
Non-NYC residents	620,287	27%	373,842	24%	246,445	35%
<i>By mode</i>						
Auto driver	541,752	24%	345,467	22%	196,285	27%
Auto passenger	240,318	11%	155,292	10%	85,026	12%
Transit	1,332,249	59%	947,877	61%	384,372	54%
Other	149,603	6%	102,540	7%	47,063	7%
<i>By annual household income</i>						
Less than \$25,000	327,877	14%	202,041	13%	125,836	18%
\$25,000 to \$50,000	464,950	21%	322,699	21%	142,251	20%
\$50,000 to \$100,000	592,357	26%	444,674	29%	147,683	21%
\$100,000 or more	407,430	18%	284,476	18%	122,954	17%
Don't know/Did not answer	471,306	21%	297,285	19%	177,021	24%
SOURCES: IBO; Regional Travel-Household Interview Survey.						

Eighteen percent of individuals who used the Harlem River crossings reported household income under \$25,000, compared with 13 percent of persons who traveled via the East River corridor. In contrast, 47 percent of households crossing the East River had incomes of \$50,000 or more, compared to 38 percent of those crossing the Harlem River.

**Characteristics of Drivers Who Currently Use Untolled Bridges.**

Since our interest is in the population of drivers who currently use the untolled East and Harlem River bridges, we now focus on characteristics of drivers in the RT-HIS who crossed the East or Harlem Rivers into Manhattan and did not report paying a toll. The RT-HIS data give an estimated total of 541,752 auto drivers who used the free crossings—64 percent across the East River, and 36 percent across the Harlem River. Fifty-seven percent of the trips terminate in Manhattan. Another 18 percent of trips terminate elsewhere in New York City, and the remaining 25 percent of trips across the untolled bridges are headed to points outside the city—New Jersey, upstate New York, Connecticut, or elsewhere.

The total number of untolled vehicle crossings into Manhattan estimated from the RT-HIS is very close to the actual number of vehicle crossings counted by DOT on the free East River and Harlem River bridges. On the East River corridor the RT-HIS number is considerably higher than DOT’s count, however, while on the Harlem River the RT-HIS number is lower than DOT’s. In reality, one would expect the RT-HIS to *undercount* the number of bridge crossings to a significant degree, since the survey excludes trips made by non-residents of the region, as well as deliveries, service calls, and other trips made during the workday as part of a work routine.

A closer look at the data suggests that a substantial number of auto trips reported as untolled probably did involve paying a toll. This misclassification may have occurred simply because the driver did not remember paying, or because payment was made electronically, using E-ZPass. Because some tolled auto trips may have been wrongly classified as untolled, the results reported here must be interpreted with caution.

However, we believe that by removing trips *reported* as tolled from the analysis, we obtain a more accurate picture of the individuals who would be affected by new tolls, than if we used all auto driver trips.

*Most of the drivers who use the free crossings reside in New York City.* Overall, 55 percent are city residents. The proportion of city residents is higher on the four East River crossings—57 percent—than it is on the Harlem River bridges—49 percent.

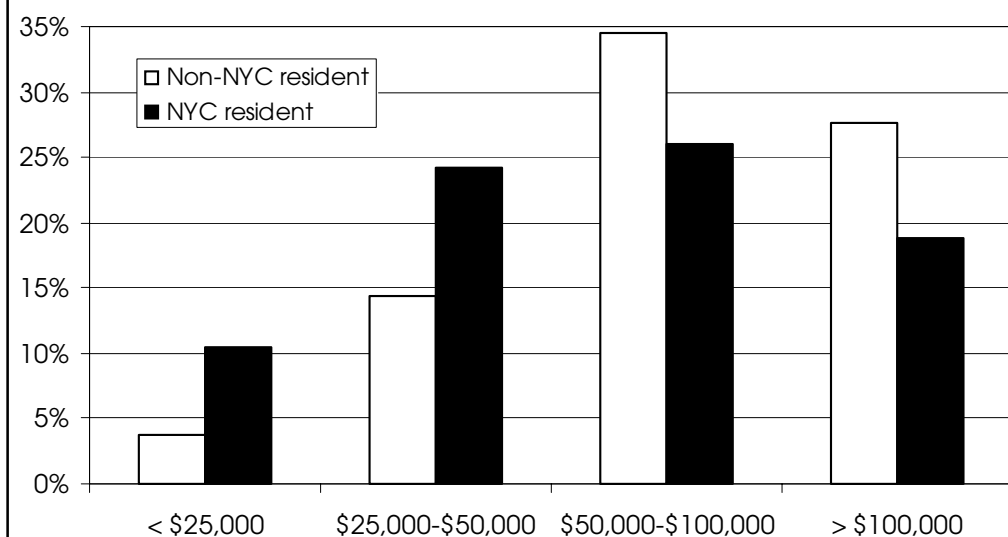
*City residents who drive across the free bridges are more affluent than city residents who enter Manhattan via transit.* Nineteen percent of city drivers who used the free crossings into Manhattan reported a household income over \$100,000, compared with 12 percent of all city residents, and only 9 percent of city residents who entered Manhattan by transit. At the other end of the income spectrum, 10 percent of city drivers who used the free crossings reported a household income under \$25,000, while the percentage among city transit users who entered Manhattan was 19 percent.

*In contrast, suburban residents who enter Manhattan by transit are more affluent than suburban drivers.* A very high percentage—

<b>Characteristics of Transit Users and Drivers Crossing East and Harlem Rivers</b>					
<i>Percent of total respondents</i>					
	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$100,000	More than \$100,000	Don't Know/No Answer
<i>East River</i>					
NYC residents auto drivers	10%	26%	26%	17%	21%
Non-NYC residents auto drivers	5%	14%	34%	28%	19%
NYC residents transit users	18%	23%	28%	10%	21%
Non-NYC residents transit users	2%	7%	33%	42%	16%
<i>Harlem River</i>					
NYC residents auto drivers	13%	21%	25%	22%	19%
Non-NYC residents auto drivers	3%	17%	29%	22%	29%
NYC residents transit users	25%	26%	13%	6%	30%
Non-NYC residents transit users	11%	7%	20%	37%	27%
<i>East and Harlem Rivers combined</i>					
NYC residents auto drivers	10%	24%	26%	19%	21%
Non-NYC residents auto drivers	4%	14%	35%	28%	19%
NYC residents transit users	19%	24%	25%	9%	23%
Non-NYC residents transit users	5%	7%	28%	39%	21%
All NYC households	19%	21%	27%	12%	21%
All Non-NYC households	9%	17%	33%	21%	20%
SOURCES: IBO; Regional Travel-Household Interview Survey.					

## Non-City Resident Drivers Are More Affluent than City Drivers

Percent of total trips across untolled bridges into Manhattan



SOURCES: IBO; Regional Travel-Household Interview Survey.

39 percent—of suburban transit users who crossed into Manhattan via the East or Harlem Rivers reported a household income over \$100,000. Only 28 percent of suburban drivers who entered Manhattan on the free bridges were in the highest income category. The share of suburban drivers in the under-\$50,000 income categories (18 percent) was slightly higher than the share of suburban transit users in these groups (12 percent).

These results contrast with the perception that suburban residents who drive into Manhattan are overwhelmingly affluent. The data indicate that many suburban drivers are middle-income workers. They may drive because they need their vehicles on the job, or because they enter Manhattan when free or low-cost parking is available.

*City residents who use the free bridges have lower incomes than non-city users.* Despite the fact that suburban residents who drive into Manhattan have lower incomes than their counterparts who take transit, they are still more affluent than city drivers. Sixty-two percent of non-city residents reported household incomes over \$50,000, compared to 45 percent of city residents. Only 18 percent of non-city residents reported incomes under \$50,000, compared to 35 percent of city residents.

### WHO WILL PAY?

On a per capita basis, the number of drivers making personal trips into Manhattan on the free crossings is quite small. According to the RT-HIS, the roughly 8 million residents of New York City

make only 296,168 of these trips on a typical weekday—about 3.7 trips per 100 residents. The ratio of Manhattan-bound auto trips to population is lower in the rest of the metropolitan region. These results suggest that if the currently untolled city bridges into Manhattan were tolled, only a small proportion of the area's population will be subject to the charges on any given day. While this means that most residents will not have to pay tolls on a regular basis, it also implies that the financial burden of tolls will be much more concentrated than if an equivalent amount of revenue were raised through a broad-based tax such as the income or sales tax.

Low- and moderate-income city residents (those with annual household incomes below \$50,000) currently comprise around one-fourth of the users of the city-owned East and Harlem River bridges (counting only those who reported household income). Together with middle-income city residents (\$50,000 to \$100,000 in household income), they make up 42 percent of the drivers who use the free crossings. An additional 30 percent of drivers are low- to middle-income, non-city residents. Only 16 percent are upper-income, non-city residents.

### EXEMPTIONS

Some have proposed an exemption for city residents from bridge tolls. We consider two possible exemption plans. The first would exempt only personal (non-commercial) vehicles registered to New York City residents. The second would add commercial vehicles registered in the city. As an alternative to these exemptions, we also consider a proposal to charge a flat daily fee to use the bridges, independent of the number of crossings made.

*Exempting NYC-registered Personal Vehicles.* Exempting all personal vehicles registered in the city would significantly reduce

Distribution of Current Bridge Users by Income Category and Place of Residence					
Share of personal trips made by drivers using untolled East River and Harlem River bridges					
Household income:	Less than \$25,000	\$25,000 to \$50,000	\$50,000 to \$100,000	More than \$100,000	Total
NYC residents	7%	17%	18%	12%	54%
Non-NYC residents	2%	8%	20%	16%	46%
<b>Total</b>	<b>9%</b>	<b>25%</b>	<b>38%</b>	<b>28%</b>	<b>100%</b>

SOURCES: IBO; Regional Travel-Household Interview Survey.  
NOTE: Includes only households that reported their income category.

potential toll revenue, and could substantially limit any congestion-reducing impact of tolls. On the other hand, the exemption might reduce the incidence of city residents who register their vehicles outside the city, in order to save on insurance. An increase in city vehicle registrations would bring in more revenue from the auto use tax, although at \$15 per vehicle per year, this does not come close to compensating the loss of toll revenue. Another potentially important benefit of having more vehicles registered in the city would be a reduction in the number of uninsured vehicles and drivers.

**Exempting NYC-registered Commercial Vehicles.** Adding a toll exemption for commercial vehicles would decrease revenue even further. However, this exemption would address the concern that tolls would place an unreasonable burden on some businesses, particularly businesses with service and delivery vehicles that must cross the East or Harlem Rivers multiple times per day.

To approximate the amount of revenue that would be forfeited under a resident exemption, IBO uses the share of untolled “auto driver” personal trips currently made by city residents, as estimated by the RT-HIS. These shares are 58 percent for the East River bridges, and 49 percent for the Harlem River bridges. Based on these shares, IBO estimates that an exemption policy for city residents would reduce annual toll revenues by

55 percent—from \$693 million to \$309 million. For the East River bridges alone, the reduction is slightly larger—58 percent, or from \$502 million to \$210 million—because the share of crossings made by city residents is more than on the Harlem River bridges. These figures should be interpreted as a rough estimate, because they are based on household survey data that exclude non-personal trips and may therefore not be representative of bridge traffic as a whole.

**Daily Entry Fee.** One group of drivers that would experience a very significant impact from tolls consists of those who enter and leave Manhattan several times per day, in order to make deliveries or service calls. The RT-HIS data explicitly exclude these trips, and the DOT data do not separate them out from the trip totals. As a result, there is no good estimate for the number of drivers who fall into this category, or the number of crossings that they make. However, it is unlikely that many drivers would make more than two trips into Manhattan on a given day, unless it were part of their work routine. Setting the maximum daily toll payment at one or two times the base toll would limit the financial burden on multiple daily users. The traffic pricing scheme recently instituted in London follows this pattern: drivers may enter and leave the central zone as many times in a day as they wish, for one flat fee.

*Written by Alan Treffeisen*

## SOURCES

New York City Department of Transportation (DOT 1991): *Long-range planning: infrastructure needs & financing: funding the capital & operating needs of New York City's bridges and streets*. October 1991. (Available at <http://www.bts.gov/ntl/DOCS/fco.html>)

New York City Department of Transportation (2001): *2000 Manhattan River Crossings*. December 2001.

Kummerfeld, Donald D., Dall W. Forsythe, and William H. Gray, III (1993): *Presentation to the Mayor on Eliminating the Structural Budget Imbalance*. December 1, 1993.

Zupan, Jeffrey M. (1994): “The New York region: first in tolls, last in road pricing?” In National Research Council: *Curbing gridlock: peak-period fees to relieve traffic congestion*. Vol. 2, Commissioned Papers. Washington, DC: National Academy Press, pp. 200-215.

## END NOTES

<sup>1</sup> The DOT study projected net revenue from tolls of \$685 million in 1994, rising to \$890 million by 2003. The per-vehicle toll was assumed to start at \$3.00 in 1994, and increase to \$3.50 in 1997 and \$4.00 in 2001. Current tolls on MTA bridge and tunnel East River crossings are \$4.00 using cash and \$3.50 with E-ZPass.

<sup>2</sup> The city-funded portion of DOT’s fiscal year 2004 operating budget is \$287 million, including \$60 million for the Bureau of Bridges (which has responsibility for both waterway and highway bridges). In fiscal year 2002, the last year for which complete data are available, DOT’s capital expenditures totaled \$514 million, including \$230 million for the waterway bridges.

<sup>3</sup> IBO’s current estimate of \$693 million as the amount of revenue generated by tolling the East and Harlem River bridges compares with an earlier estimate of \$520 million. The higher estimate uses updated traffic volumes, an upward revision of weekend traffic, a lower (and more reliable) figure for bus crossings, and tolls adjusted upward to match the MTA’s new toll schedule. Charging higher tolls for trucks, as is currently done on other tolled bridges in the region, would of course increase revenues further.

<sup>4</sup> IBO has multiplied the DOT figures for bus crossings by 1.25, since the DOT numbers only cover the period from 7am to 7pm.

<sup>5</sup> The Alexander Hamilton Bridge is a special case. The overwhelming majority of vehicles that enter Manhattan on this bridge continue over the George Washington Bridge to New Jersey. The 1991 DOT study proposed tolling only those vehicles on the Alexander Hamilton that exit onto city streets, estimating that the number would be equal to 13 percent of the total pre-toll volume using the bridge.

Excluding the Alexander Hamilton Bridge, the percentage of drivers who would be “tolled off” the Harlem River bridges is 13.2 percent in the DOT study.

<sup>6</sup> A share of the surplus toll revenues on MTA bridges and tunnels, after deducting operating expenses and debt service, goes to support the operating expenses of New York City Transit.

<sup>7</sup> During the first three months of London’s scheme, around 2 million regular charges were paid, and 250,000 penalty charge notices issued. However, a third or more of these penalty notices may have been issued in error. (Source: *Central London Congestion Charging Scheme—Three Months On*. Transport for London, June 2003.)

<sup>8</sup> A closer examination of the data suggests that a substantial number of drivers who paid tolls neglected to note this fact in their travel diary. One factor that could lead to the underreporting of tolls is the use of E-ZPass, which allows drivers to enter a tolled facility without physically making a payment. Because of toll underreporting, the group of untolled drivers analyzed in this paper probably includes a significant number of drivers who actually *did* pay tolls. Nevertheless, by excluding at least *some* of the tolled drivers, we gain a clearer picture of who would be affected by the new tolls than if we looked at all drivers.