

Moving Toward Congestion-Reducing Toll Policies at the Port Authority and Throughout the Region

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Bloustein School
Rutgers University
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Jeffrey M. Zupan
Senior Fellow
Regional Plan Association

The Trans-Hudson toll and fare increases recently approved by the Port Authority of New York and New Jersey mark a pivotal moment in the metropolitan region's history of transportation finance and traffic management. The action is the largest-scale attempt to date to manage congestion in the region with toll and fare increases that vary by time of day, and it brought the issue of value pricing to the public's consciousness in a way that no prior actions or studies have accomplished. Whether this will be remembered as a catalytic event that ushered in a series of successful innovations that won widespread public acceptance of value pricing, or as an experiment that did little to change pricing and congestion management policies, will depend in large measure on a continuing series of policy choices that will have to be made by the all of the region's transportation agencies, as well as by the political and civic leaders shape the course of these agencies.

To help understand the implications of different policy choices, this paper attempts to put the Port Authority's actions in the context of the region's history with value pricing. To further stimulate creative thinking on these choices, it also extends that history with a speculative account of what could happen if policy makers, civic leaders and transportation managers make value pricing a priority and skillfully navigate the complex political and technical issues involved in large-scale implementation. It is written from an unabashedly "pro-pricing" point of view, but acknowledges the importance of continuing debate on how to use this tools in the public's interest.

PROLOGUE: A HISTORY OF VALUE PRICING IN THE REGION

Early Prophets and National Models

The system of pricing roadways in the New York-New Jersey-Connecticut metropolitan region (New York Region) can be traced back to the theories of a Columbia University professor, William S. Vickrey, a 1996 Nobel Prize winner in Economics. In 1959 Professor Vickrey conceived of the idea of using wayside electronic transponders to record vehicles passing a point, which would enable the road operator to bill the user in proportion to the levels of congestion at the time of use. The proposal to use this technology to relieve traffic was presented to a congressional committee dealing with problems in Washington, D.C, but got nowhere at the time.¹ Almost 20 years later, in the late 1970's, during an attempt to raise tolls at their crossings, the Port Authority of New York and New Jersey examined variable pricing for the first time.² The resulting 1979 report by the Port Authority³ rejected variable pricing on two grounds: a) toll processing time would increase because the commuter discount ticket books used at the time would be eliminated, adding to process time and delays, and b) variable pricing would create safety problems and confusion at the toll plazas as drivers either held back or rushed forward to benefit from a lower toll. At that time electronic toll collection devices were not available to address either of these problems.

Variable time of day pricing had long been a fundamental part of our economy, including electric utilities, telephone service, water, the hotel industry, restaurants, and movie theaters. The concept is simple; charge more for a good or service when its supply is scarce and when it is more valuable, and when providing more of it is more costly. The corollary: if goods or services are underpriced they are overused, distorting economic and social efficiency. But throughout the 1970s and into the 1980s the idea of adjusting pricing to manage demand on highways in the United States was not considered.⁴ In 1991, in response to the increasing levels

¹ William Vickrey, Statement on the Pricing of Urban Street Use, U.S. Congress, Joint Committee on Washington Metropolitan Problems, Hearings on the Transportation Plan for the Capital Region, November 1959.

² The requirement arose because it was raised in an *amicus curiae* brief by the Environmental Defense Fund, which supported the increase over the objections of motorists' groups

³Port Authority of New York and New Jersey, Toll Pricing Study, January 1979.

⁴ Variable pricing had long been a feature of commuter rail fares in the New York Region, with higher fares charged for the occasional user in the peak period than in the off-peak

of exasperation about congestion, the Intermodal Surface Transportation Efficiency Act (ISTEA) established funding within the Federal Highway Administration (FHWA) for a limited number of local demonstration programs for “congestion pricing”. The program at first had few takers, even after the rules for funding were eased. But slowly the program gained adherents.

In 1995 a 10-mile stretch of State Route 91 project in Orange County, California was widened, representing a milestone, for two reasons. First, it introduced pricing that varied by time of day, and second because it permitted single-occupant vehicles to buy their way into the added free-flowing lanes. This privately owned highway road expansion used transponders purchased in advance with the price varying by time of day. The results were highly favorable, with congestion in the general-purpose lanes eased. Those willing to pay the toll gained substantial time advantages. The I-5 toll lanes in San Diego came next. New lanes could be “bought into” by SOVs, with pricing varying dynamically, changing as often as every five minutes according to the measured congestion levels.⁵

The Early 1990s: The Region Inches Toward Value Pricing

As of the 1990s the five major toll agencies in the New York Region had collected about 45 percent of the revenue received from tolls in the United States. In the early 1990s these agencies had joined with others stretching from Virginia to Massachusetts to form the Interagency Group to establish a unified system of electronic toll collection. At first, this was seen as merely a way to reduce collection costs and increase vehicle throughput. Electronic toll lanes could process up to six times as many vehicles as staffed lanes. To work properly the agencies needed to reach agreement on a uniform technology and on accounting procedures to ensure each received the revenue it was entitled to. As time passed it would become clearer that strong penetration of electronic toll collection, eventually to be known as E-ZPass was a technological “foot in the door” for variable pricing at toll facilities, overcoming the objections at the Port Authority in the late 1970s.

⁵ For a review of these and other congestion pricing projects at the time see [Buying Time: A Guidebook for Those Considering Congestion Relief Tolls in Their Communities](#) by David Van Hattum and Maria Zimmerman, Hubert H. Humphrey Institute of Public Affairs, University of Minnesota, October, 1996

The New York State Thruway Authority was the first to introduce electronic toll collection in the New York Region, installing it at the Tappan Zee Bridge in 1993 and dubbing it E-ZPass. The pricing incentive for commuting motorists to use the system was great, since it provided the only opportunity to receive the steep commuter discount -- \$1 per eastbound trip (westbound free) versus \$2.50 for cash tolls, a 60 percent discount. At that time there was no financial incentive for the occasional user, only the convenience of not paying cash. Within a year 33 percent of all vehicles used E-ZPass, virtually all commuters.⁶ Two years later, the Thruway Authority used E-ZPass to initiate the first variable time of day pricing in the Region, although only for trucks, using E-ZPass as the technological foundation.

The Port Authority had long recognized the incongruity of the commuter discounts at its facilities, but they were difficult to remove completely all at once since the added cost for commuters would be substantial, posing political difficulties. In 1987, when the automobile toll went up from \$2.00 to \$3.00 the commuter discount had increased by one dollar from \$1.00 to \$2.00, in effect lowering the discount from 50 percent to 33 percent. In 1991, the Port Authority proposed to raise the toll to \$4.00 with the commuter price to be set at \$3.60, a discount of only 10 percent.

The outcry from the main constituency that used the Port Authority's three Staten Island bridges -- Staten Islanders -- was particularly strong. Similar complaints were heard from the George Washington Bridge constituents, mostly from Bergen County. Little was heard from the more geographically diverse users of the Lincoln and Holland tunnels. The result: the Staten Island bridges price for commuters remained at \$2.00, in effect increasing the discount to 50 percent (\$4.00 versus \$2.00); the commuter discount at the George Washington Bridge was set at 25 percent (\$4.00 versus \$3.00); the 10 percent discount (\$4.00 vs. \$3.60) proposed at the two tunnels went into effect.

⁶ In 1996 the Thruway Authority raised the toll to \$3.00 with the occasional user getting a \$0.50 break, but the commuter's discount had risen to 67 percent, with a savings of \$2.00 on a \$3.00 toll.

Meanwhile, the Port Authority had initiated new studies of variable pricing at their facilities. A 1995 study for the Port Authority by Caliper Corporation⁷ developed a simulation model that could estimate the traffic demand and the congestion effects of time of day pricing at their facilities. The model had to account for diversion to other times, to other crossings, to other modes and for not taking the trip at all. Caliper tested their model by “raising” 6am to 9am tolls from \$4.00 to both \$5.00 and to \$6.00 at the two tunnels. The higher toll produced net reductions in delays of about 30 percent. The model results appeared to be reasonable, but there is no public evidence that the Port Authority used the model for further “what-ifs.” Nevertheless, the results provoked great interest among those promoting congestion pricing in the Region at that time, some who saw the report as evidence that pricing may help to preclude the need to twin the Goethals Bridge.

In the 1996 publication of its third plan⁸, RPA laid out criteria for consideration of road pricing, although all need not be applicable. They included situations where:

- there is a serious and well known congestion problem;
- there are no expectations of significant additions to highway capacity;
- success of road pricing could reduce or eliminate the need for expensive highway construction projects;
- alternatives to single-occupant auto use exist or can be created;
- the new pricing system will either break even or generate funds for improvements in both highways and parallel transit facilities; and
- tolls are already in place.

The Late 1990s: The Pace Accelerates

By the late 1990s the pace of E-ZPass deployment and use picked up. By 1994 the Thruway had installed E-ZPass at all of its toll facilities. In 1995 the Metropolitan Transportation Authority’s Bridges and Tunnels unit began the installation of E-ZPass at its nine water crossings, and the Port Authority quickly followed at all six of its crossings connecting New

⁷ Caliper Corporation, Regional Transportation Economics Study: Auto Pricing Demand Simulation Model, June 5 1995.

⁸ Robert D. Yaro and Tony Hiss, A Region at Risk, A Third Regional Plan for the New York-New Jersey-Connecticut Metropolitan Area, Island University Press, 1996

Jersey and New York in 1996. Its convenience made it very popular and its market penetration approached 70 percent by 2000.

In 1996, the Thruway Authority, in response to local concerns of rising truck traffic through Rockland County, doubled truck tolls at the Tappan Zee Bridge, but kept them constant for E-ZPass off-peak truckers, thereby creating an incentive to use E-ZPass and to shift the time of day simultaneously. The change had the desired result with peak truck use dropping significantly; E-ZPass use by trucks rose to over 50 percent by 2000. The impacts are documented elsewhere.⁹

With E-ZPass in place at all the tolled water crossings in the New York Region, the stage was set for consideration of variable time of day tolls. The awarding of the Nobel Prize for Economics to William Vickrey in October 1996 gave him an instant pulpit to promote road pricing. Unfortunately, he died just three days after being notified of the prize. The following April a colloquium co-sponsored by Columbia University and RPA honored his work by promoting congestion pricing in the New York Region.

Variable time of day pricing was beginning to be seriously discussed, in large part because of the introduction and almost immediate success of E-ZPass. The concept appeared to receive a boost when in 1996 Rudy Washington, a Deputy Mayor in the Giuliani Administration, who was also a member of the MTA Board, called for lower tolls at night for truckers. The MTA considered studying congestion pricing on two occasions, but stopped short both times, as the Board balked.. The public reason given for the rejection at that time was the need to first coordinate with the Port Authority, a laudable objective. However, over the next three years, efforts for the two agencies to work together on toll policies were for naught. Lurking in the shadows was the real concern, that if tolls went up in the peak on the tolled East River crossings, drivers would shift to the free East River bridges, and pressure would mount to toll them, an unpopular measure at the time.

⁹ Jeffrey M. Zupan, Truck Tolls in the New York Region, August 1999

Tolling the four free bridges had long been a contentious issue. On at least four occasions from the late 1960s to the early 1990s it was raised by three different city administrations.

Opposition was particularly strong in Brooklyn and Queens. Aside from the opposition to paying more, there were technical problems. Toll plazas would be difficult and expensive to construct. And queuing at the barriers would create added carbon monoxide-related emissions. In the 1990s it was arguing that the toll revenue raised could be used for repair of the four bridges plus many others in the City, which required huge investments to overcome years of deferred maintenance, and for public transit. The idea went nowhere, despite the rising success of E-ZPass at the MTA tolled crossings.

Meanwhile, in 1996 at the urging of transportation reform groups¹⁰ and transportation planners on both sides of the Hudson River¹¹, and with the support of the County Executives of Rockland and Westchester, the Thruway Authority initiated its own congestion pricing study for the Tappan Zee Bridge. With FHWA funding through the *value pricing* program¹², it hired Resource Systems Group and Wilbur Smith and Associates to develop a “stated preference”¹³ model to test the vehicular demand, congestion and revenue implications of various pricing scenarios. By 1999 the model was in place and testing toll scenarios, with the goal of keeping them revenue-neutral. It showed, for example, that a \$2.50 toll in the 7am-9am peak, with \$2.00 in the shoulder hours and \$1.50 at other times would reduce peak period volumes on the bridge by 11 percent in a revenue-neutral fashion. At that time the cash toll was \$3.50, E-ZPass occasional user toll was \$3.00, while the E-ZPass commuter paid only \$1.00.

But by then Governor Pataki of New York had formed a Task Force to examine possible congestion relief measures in the Interstate 287 corridor from Suffern in Rockland County to Port Chester in Westchester County, in the wake of his rejection of construction of a high

¹⁰ The reformers were under the umbrella of the Tri-state Transportation Campaign and included the Federated Conservationists of Westchester, Scenic Hudson, Environmental Defense Fund, and Regional Plan Association.

¹¹ The forum for this was the Pricing sub-committee of the Mobility Advisory Committee, under the auspices of the Mid-Hudson Transportation Coordinating Committee, part of the New York Metropolitan Transportation Council.

¹² The federal program known previously as the Congestion Pricing was renamed to reflect a broader range of pricing measures, including high occupancy/toll lanes, fair lanes, barrier-free tolling and other pricing mechanisms.

¹³ A stated preference model is constructed from statistical evidence collected from potential users of a product by asking them to choose among combinations that trade-off offsetting attributes, e.g. time and cost.. On that basis, the probabilities of markets taking a particular action are determined.

occupancy lane on I-287 in Westchester. This held up any action on toll changes while the Task Force hired a consultant, studied many alternatives in the corridor, and eventually issued a report in 2000. The I-287 Task Force report included references to congestion pricing at the Tappan Zee Bridge, but played down its long-term value in light of the broadening of the peak and the inexorable growth in traffic volumes. The most dramatic finding in the report was the need to consider replacement of the Tappan Zee Bridge due to its physical deterioration, which garnered almost all of the attention. The report also suggested the possibility of placing fixed-guideway transit on the new bridge.

In 1999, Robert Kiley, former MTA Chairman, and President and Chief Executive Officer of the New York City Partnership, frustrated by the inability of the MTA and other transportation providers to simultaneously raise enough funds for both needed infrastructure repair and transit expansion projects, began to promote the pricing of un-tolled facilities in the Region. This echoed an RPA theme from its Third Plan, which had playfully asked, “Psst! Want to buy a bridge?”¹⁴ RPA suggested that tolls be installed at the four free East River bridges in exchange for their maintenance and repair, the design and building of parallel transit facilities like the Second Avenue subway, and selected major highway replacement projects like the Gowanus Tunnel. Kiley’s efforts in New York City were interrupted by his departure for London, where he became the transportation “czar” with the objective of overcoming years of neglect of its Underground and to install pricing mechanisms to limit vehicular use in its core.

2000-2001: Breakthroughs for Implementation

By 2000, although little in the way of variable pricing had been in place, the climate for change was in the air. Then, in dramatic fashion, the New Jersey Turnpike Authority, eschewing studies (at least none acknowledged publicly) announced that it was raising its tolls simultaneously with the introduction of E-ZPass on their entire system, and that it would vary the increase by time of day and by use of E-ZPass.¹⁵ Though the differentials were modest – E-

¹⁴ See *A Region at Risk*, page 174.

¹⁵ In August 1998 the New Jersey Turnpike Authority had installed a 15 percent discount for trucks in off-peak hours in response to concerns in many communities around the state that had become corridors for trucks

ZPass peak tolls went up 8 percent and E-ZPass off-peak tolls increased not at all – this was the first time in the New York Region that the tolls for automobiles were varied by time of day. To encourage E-ZPass, cash-payers would pay a 20 percent increase. Meanwhile, the New Jersey Highway Authority, operator of the Garden State Parkway, completed the phase-in of E-ZPass at its toll barriers throughout 2000, but did not offer any variable pricing by time of day or E-ZPass use.

By late 2000 all of the major toll authorities in the New York Region had E-ZPass in place, and the New Jersey Turnpike and the New York State Thruway (only at the Tappan Zee Bridge and only for trucks) varied prices by time of day. The Port Authority, the MTA and the Thruway Authority had each flirted with the idea, but nothing more. The tolls in place at the Region's water crossings, operated by these two agencies were inconsistent; varying by size of toll, by commuter or bulk discount levels and even by direction of collection, as illustrated by Table 1.

The stage was set when in December 2000, the Port Authority proposed a nuanced toll increase, with cash tolls to be set much higher than E-ZPass tolls and peak E-ZPass tolls set higher than those off-peak. The commuter discount would be eliminated. E-ZPass tolls would be lower for those crossings where transit options were less available. The Port Authority explained that the increase was needed to contribute to the \$15 billion of capital investments throughout the region, for both transportation facilities it owned and operated and those in the control of others. Strong protests over the size of the increase were heard from New Jersey and Staten Islanders. The toll was to rise by 75 percent to \$7.00 for non-E-ZPass peak auto users, and this gained most of the attention and enmity of the public, despite the fact that 60 percent of the motorists already used E-ZPass.

After public hearings, the outgoing Governor of New Jersey, Christie Whitman, who was on her way to Washington to head President Bush's Environmental Protection Agency, agreed to the toll changes, but only if they would be modified to lower the highest toll. The revised plan shaved the cash toll to \$6.00 at all crossings, and most importantly reduced the gap between

avoiding the substantial toll increase in. This was done prior to the introduction of E-ZPass on the Turnpike. The effect of the discount was minor.

peak and off-peak for E-ZPass users from \$1.50 at George Washington Bridge and the three Staten Island bridges and \$2.00 at the two tunnels to \$1.00 at all crossings. Governor Pataki of New York agreed to accept the toll changes too, but only after the discount for the Staten Island bridges was retained, more than negating the time of day differential for commuters. Truck tolls were also shaved, but the price differential by time of day for E-ZPass users was slightly increased, and three time periods rather than two were established. In essence, the concept of road pricing was substantially compromised and eviscerated at the Staten Island bridges.¹⁶ For trucks road pricing was strengthened. The full picture is shown in Table 1. Despite the watering down of the value pricing aspects of the toll changes, they represented a breakthrough for the toll agency that collects the second most toll revenue in the nation.

EPILOGUE: A SPECULATIVE FUTURE FOR THE COMING DECADE

The following discussion is one way the history beyond February 2001 may eventually unfold. But for something approaching this highly optimistic scenario to take place, many issues revolving around public acceptance, financing policies and technical issues would need to be resolved. It is these issues, highlighted in the cover memorandum and detailed in the attachment to it, that are to be the focus of the roundtable discussion for which this paper was written.

The Port Authority toll changes were put in place on March 25, 2001. To monitor and evaluate the impacts of the toll changes at both the Port Authority facilities and on the New Jersey Turnpike, a steering committee with wide representation was created.¹⁷ Technical support was provided from both within and outside the two authorities, funded by the *value pricing* program at the FHWA.

¹⁶ This also had the effect of weakening the impact of experimentation with pricing changes that could dampen the peak demand at the Goethals Bridge, affecting the debate over a “twin” to it.

¹⁷ Representation included both authorities, both state DOTs, the transit providers, New York City (with special representation from Staten Island), the two metropolitan transportation organizations, environmental groups, the Auto Club of New York, and trucking organizations.

Breakthrough at the Tappan Zee Bridge

Meanwhile, the Port Authority's toll changes had engendered concern at the Thruway Authority and in Rockland County, where there was fear that the \$4.00 toll differential would cause a diversion of traffic from the George Washington Bridge to the already overcrowded Tappan Zee Bridge. As feared, the almost simultaneous toll changes and the start of reconstruction of Exit 8 from the Thruway to the Cross Westchester Expressway led to traffic chaos, and the subsequent outcry from Westchester businesses and Rockland public officials.

The idea of increasing the Tappan Zee Bridge toll substantially in the peak – commuters had long been paying an incredibly low \$1.00 round-trip to cross the Hudson – was a hard sell. Public discussion was intense. The Governor and local officials were finally convinced that pricing should be tried after a helicopter ride over the Tappan Zee Bridge and I-287 on an early fall morning. The end of summer vacations had brought back most of the commuters to the roads, and the officials' viewed 17-mile back-ups from Elmsford to Suffern, with entrance ramps clogged back onto Route 59 and other local roads.

The Thruway Authority instituted the agreed upon toll increase as a demonstration, with the FHWA's value pricing funds used to monitor the situation, as was being done at the Port Authority facilities to the south. The peak toll was set at \$4.00 and at \$2.00 at other times for E-ZPass users. Those without E-ZPass paid \$1.00 more. This was in contrast to the \$1.00 E-ZPass commuter discounted toll. The added funds and the savings from higher E-ZPass use were put in a "lock-box" to be used to pay for the operating cost of peak period bus services, van services and transportation demand management incentive programs, and most importantly for the contribution by New York State for the restoration of West Shore commuter rail service. The representation on the Port Authority/NJ Turnpike steering committee was enlarged to include Tappan Zee Bridge related constituencies, and the technical work expanded accordingly.

The combination of E-ZPass and time of day differential tolls were highly popular with motorists and had the desired effect of easing, but not eliminating congestion. The Thruway Authority had anticipated that congestion at the Tappan Zee Bridge would shift to the

construction site downstream at Exit 8. Consequently, it was willing to try a demonstration of a high occupancy and toll buy-in lane for single-occupant vehicles on the fourth reversible lane on the bridge, extending it to and through the construction site onto the Cross Westchester Expressway. This led to higher bus use and ridesharing, plus added revenues. Much to the surprise and delight of the Thruway Authority the fourth lane as a HOT lane worked well. The success of the package of changes earned an extension of the pricing demonstration and eventually led to its being made permanent.

At the Port Authority Facilities

At the Port Authority's two tunnels and the George Washington Bridge the variable pricing set in place in March 2001 had only partially met its E-ZPass participation and congestion relief objectives. The small differential for peak use and the reduced peak toll in the morning had left E-ZPass shares lower than had been hoped, particularly at the two tunnels. Variable pricing was also hindered by the fact that tolls were only collected one-way, diluting the potential for changes to commuting hours. However, value pricing for trucks had helped the George Washington Bridge and the Holland Tunnel and public transit improvements put in place at about the same time had had a positive effect, as will be discussed below.

The biggest success was seen at the Palisades Interstate Parkway (PIP) approach to the George Washington Bridge, where peak E-ZPass use exceeded 85 percent. This approach onto the George Washington Bridge moved the best, except when the notorious Cross Bronx Expressway was backed up because of incident-based rather than volume-based traffic conditions.

Fine-Tuning the Tolls

By mid-decade the partial congestion gains at the three Port Authority Hudson River crossings began to erode. Congestion grew rapidly in the 9am to 10am period as motorists shifted to avoid the higher peak period tolls.¹⁸ Motorists began to shift back in to the 6am to 9am period to avoid the 9am-10am hour, although it was less expensive. By then, a new, smaller fine-tuning

¹⁸ The Port Authority had originally considered including 9am to 10am as part of the peak period but decided that there was a danger that some drivers might stop by the road near 10am waiting for the rate to change, which wouldn't be the case if the peak ended at 9am, when there still was congestion.

toll increase was in the offing, backed by the steering committee after careful analysis by the technical team.¹⁹ It called for increasing the amount of the peak / off peak price differential, an expansion of the morning peak period to 10am, and shaving of the peak time on weekends to 2pm to 8pm.

Public Transit Breakthrough

The technical work of the steering committee also had determined that the earlier gains at the George Washington Bridge and Lincoln Tunnel were, to a significant degree the result of the diversion to rail created by the Secaucus Transfer, which had opened in August 2002.

Substantial numbers of auto drivers, particularly in Bergen and Rockland counties who had been using the George Washington Bridge shifted to rail transit.

The agreement to use the added “fine-tuning” tolls to fund transit projects in New Jersey was reached because of the success of the Secaucus Transfer, the Montclair Connection that had opened in 2001, and of the light rail extensions from Hudson County into Bergen County. The Secaucus project had created standee conditions on the trains into Penn Station, despite the arrival of double-decked rail cars paid for by the 2001 toll increase. This raised the call for new rail capacity under the Hudson River.²⁰ Attitudes about transit among New Jersey residents had been galvanized. The governor was sold on the toll changes, provided the funds were used toward a rail program that increased capacity and expanded transit’s reach in a cost-effective way. The program negotiated with the governor of New York, built upon the success to date, targeted:

- a down payment on a new rail tunnel under the Hudson River;
- adding light rail transit cost-effectively in Bergen, Hudson, Essex, and Union counties;
- restoration of West Shore rail service;
- creation of more transit friendly environments near rail stations in New Jersey and in New York (west-of-the-Hudson);
- parking expansion at strategically located rail stations, and

¹⁹ The Port Authority Board had authorized the Executive Director to fine-tune the hours identified with each toll level in 2001.

²⁰ Standees had become a regular feature of the commuter trains in and out of Penn Station during peak periods.

- funds for incident management and pull-off shoulders on the Cross Bronx Expressway.

Breakthrough on Staten Island

Reduction of the discount at the Staten Island bridges, replacing it with a peak / off peak differential also was part of the fine-tuning. On Staten Island those opposed to the Goethals Bridge twin and a widened Staten Island Expressway had seen their support eroding because peak traffic in that corridor had grown faster than at other Port Authority facilities, not helped by either pricing or better transit. After making the connection between pricing, capacity expansion, and transit service, Staten Islanders were willing to support the toll changes, with conditions. The conditions required that the portion of the toll increase “assigned” to New York be used exclusively for an improved transit system for Staten Island, including exclusive rights-of-way for express buses, more frequent and faster SIRT service, high-speed ferries, and strategically placed park and ride lots.

Universal Barrier Freedom

The Thruway Authority had long been contemplating the installation of barrier free tolls, with vehicles traveling at full speed, at the Tappan Zee Bridge. The strong incentives to use E-ZPass at the Tappan Zee Bridge had led to 90 percent peak E-ZPass use, the necessary threshold to install the barrier-free tolls, with only three of the 13 lanes reserved for cash. Similarly, at the PIP approach to the George Washington Bridge, the Port Authority felt comfortable with installing barrier free tolls, which would enable vehicles to pay the tolls without slowing. Only one lane was retained for cash customers. High public acceptance and further congestion relief was the result.

The continued expanded use of E-ZPass led to a widespread installation of barrier free tolls. Drivers were particularly taken with the barrier free toll collection system, which was dubbed “freedom” tolls by the media.²¹ These systems were completed at the other approaches to the George Washington Bridge and installed at the Lincoln and Holland tunnels, and the Staten Island bridges.

²¹ The Star-Ledger who had ten years earlier successfully campaigned for the elimination of the HOV lanes on I-287 and I-80 were especially vocal and influential.

In New Jersey, the new Governor had run on a plank of “freedom” from the reviled barriers on the Garden State Parkway, whose E-ZPass shares hovered at 70 percent. Since the New Jersey Highway Authority needed a toll hike anyway after years holding the line and the concomitant maintenance deferral, tolls were tripled for non-E-ZPass users, doubled for peak E-ZPass users and remained the same for off peak E-ZPass users. Garden State drivers were now barrier free – even if their roads were not free!

In New York City

Meanwhile, the MTA was faced with growing lines and stagnant E-ZPass participation rates in the peak (below 80 percent) at all five of their toll facilities across the East River. And daily congestion on the approaches to the four free bridges was backing up onto the Brooklyn-Queens Expressway. New Yorkers were looking back across the Hudson and saying, “why can’t we do that here?”

Simultaneously, the added political strength in the Brooklyn waterfront communities was being noticed. In an act of political courage, the two new borough presidents in Brooklyn and Queens jointly held a press conference laying out a ten-point program of congestion relief with variable tolls at tolled bridges and new tolls on the free bridges equal to the proposals at the tolled bridges as the centerpieces. The proposal called for one-way toll collection, freedom tolls, and a lower average toll for those currently using the tolled crossings. The added revenues would be used to fix the four free bridges, the two dozen local bridges in the two boroughs that were closed or weight restricted, and for new transit expansion proposals.

Initially, these ideas received a mixed reception. Naturally, citizens liked how the revenue would be used and the toll collection features, but not the toll on the free bridges. As usual, the media emphasized the toll hike, not the benefits. The momentum for the program was not enough. The two borough presidents barely won re-election. But traffic continued to build with serious impacts on the revitalizing Brooklyn waterfront neighborhoods.

Meanwhile, funding for transit and highway infrastructure was becoming a major political issue, particularly downstate. A package that included revenue from new tolls on the free bridges began to be discussed, but still there was not enough movement to make it happen.

The traffic would not go away. Pressure built. The expansion of Long Island City and of Downtown Brooklyn, so critical to New York City's continued economic revival was shown by an independent study to be jeopardized by road congestion and crowded subways. The economy of New York City began to slide, while the nation prospered. Editorial support to simultaneously vary prices by time of day, toll the free bridges and install barrier free tolls was unanimous, which even found its way into the news coverage, so negative in the past. Eventually, the Governor and the Mayor, representing both major political parties, the two houses of the state legislature and the borough presidents of Brooklyn, Queens and Manhattan developed the East River Compact, including the statewide funding mechanisms. The package included:

- the imposition of tolls on the four free East River Bridges;
- introduction of barrier freedom at all the bridges;
- variable tolls introduced to match the updated Port Authority toll schedule;
- a more equitable redirection of the MTA toll revenue formula;
- one-way westbound toll collection at all East River facilities; and
- guaranteed use of the added funds toward projects related to the two boroughs.

These funds, part of the statewide transportation package, were used to contribute to infrastructure investments that were established by determining the proportion of revenues collected from residents and workers from each county and distributing the package of investment benefits in the same proportion to each. This was accomplished through a steering committee and technical back up similar to the one established across the Hudson a few years earlier. The projects funded included:

- bridge repairs at the four previously free crossings;
- bridge repairs that enabled re-opening of two dozen bridges in the two boroughs,
- speeded up repairs of subway stations in the two boroughs; and
- the match of federal funds for:
 - the LIRR connection to Grand Central combined with new LIRR service for Queens and Brooklyn as part of the LIRR connection;
 - Queens and Brooklyn portions of the Second Avenue Subway; including a

- new subway tunnel under the East River;
- the 3rd track for the LIRR to facilitate “reverse” service from NYC to Long Island;
- a one-seat ride to Kennedy Airport;
- a new inter-borough rail line in Brooklyn and Queens; and
- the Gowanus Tunnel with a HOT lane from Staten Island to the Brooklyn-Battery Tunnel for buses and variable priced “buy-ins” by three plus vehicle.

With the artificial constraint of the free bridges gone, variable pricing could be put in place and be more creative. The East River Compact had an immediate effect at the crossings of the East River and beyond. Congestion no longer spilled back from the formerly free bridges to local streets in downtown Brooklyn and Long Island City. The Brooklyn-Queens Expressway was relieved of about 25 percent of its traffic, which previously traveled circuitously on the highway to reach a free crossing. And a bonus was the disappearance of the irritating barrier arm.

Universal E-ZPass

With so many water crossings in the New York Region using freedom E-ZPass and on toll roads in the Northeast, the transponder became mandatory in the New York Region, installed in all vehicles licensed in the northeast quadrant of the nation. Vehicles from elsewhere were required to purchase debit type transponder cards at service areas.

E-ZPass’ universality also meant it could provide highly accurate data to feed computer programs with timely traffic information that could be converted to real-time congestion level and alternative route information to the motorist. This, in turn could be coupled with dynamically set toll rates, varied not by pre-set time periods, but according to the level of congestion actually experienced, telling motorist both the amount of delay and the cost to travel through it. The Thruway Authority again took the lead establishing the toll levels at the Tappan Zee Bridge, which varied from zero to \$10. The other toll agencies were not yet ready to take that plunge.

The last toll plaza in the New York Region was retired. It was a major media event, with the usual pick-axes and shovels, ribbons and smiling politicians.

As the Decade Ended

Two-Way Tolls. The last piece of the puzzle for tolled facilities was the Verrazano-Narrows Bridge. Once all the East River and Hudson River tolls had uniform base levels, with discounts off the base varying by time of day keyed to congestion levels, and once barriers were no longer a factor in setting the direction of tolls, the two-way toll could be re-established without opposition by Staten Island residents. At about the same time it became clearer that evening peak period congestion was not being as affected by pricing as in the morning peak at the East River and Hudson River crossings, since no toll was paid then. This led to an interest in a universal two-way toll system, which was under consideration as the decade ended.

Pricing the Un-tolled Highway. The successes at the Hudson and East rivers and of the universal transponder did not go unnoticed elsewhere in the New York Region. Serious discussion began about what to do at other, un-tolled congestion points. As the decade ended, roads with long-persistent congestion problems that met most if not all of the criteria set forth by RPA in its Third Plan were identified using objective automated data that was acquired using “smart highway” roadside monitoring keyed off E-ZPass transponders. Pricing concepts were aired with the public, particularly but not exclusively for those in Queens, Nassau and Suffolk counties in New York, in Bergen and Morris counties in New Jersey, and in Fairfield County, Connecticut on I-95, where barrier tolls had been removed in 1985 because of safety problems. In each case the possibility of combining variable time of day pricing with high occupancy toll lanes either as an add-a-lane or take-a-lane was considered. A robust bus, ridesharing and transportation demand management program was also included. A variety of conclusions were reached, depending on the individual circumstances. In some cases, variable pricing was sufficient and in other cases, HOT lanes of one type or another were also built. Revenue from the newly tolled roads was dedicated to highway maintenance and transit expansion in proportion to the residence and work sites of the users of the roads, determined through surveys, similar as was done for the East River bridges.

Pricing Goes National. The success in relieving congestion in the New York-New Jersey-Connecticut metropolitan region and the concurrent ability to raise the funds to fix the highway system and expand transit was beginning to be noticed elsewhere. The New York Times

Magazine featured an essay by John Tierney called “Pricing the Nation Out of Gridlock.” The premise of the essay was that pricing currently un-tolled roads is a way out of numbing traffic congestion, while simultaneously raising revenues for the increasing backlog of road and transit repairs and transit expansion.