



An Evaluation of Alternatives to the New York City Congestion Pricing Plan

Jeffrey M. Zupan, Senior Fellow for Transportation
Regional Plan Association

with

Allison L. C. de Cerreño, Director
Rudin Center for Transportation Policy and Management
New York University Wagner

And

Robert E. Paaswell, Director
University Transportation Research Center at CUNY

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Introduction: Goals for Congestion Pricing

In April Mayor Bloomberg presented for public consideration 127 initiatives designed to improve New York City's land use, water, transportation, energy and air. Sixteen recommendations covered transportation, including the proposal for congestion pricing, which has by far received the most attention and discussion. The proposal calls for charging an \$8 fee for passenger cars entering or leaving Manhattan south of 86th Street between the hours of 6am and 6pm weekdays, with a charge of \$21 for trucks. It also calls for a charge of \$4 for passenger cars that move about this area during that period and begin and end their trip in the zone.

This congestion program seeks to address multiple problems affecting the region's economy, public health and quality of life. These can be summarized in three goals that provide a benchmark for evaluating both the congestion pricing program and suggested alternatives.

1. *Relieving Traffic Congestion:* The streets of Manhattan are intolerably congested. Similarly, the approaches to Manhattan are congested; in the morning peak period traffic backs up onto the streets and highways of Brooklyn, Queens and New Jersey, the Henry Hudson Parkway, the FDR Drive and the north-south avenues in Manhattan; this situation is exacerbated in downtown Brooklyn, Williamsburg, and Long Island City as many drivers seek the four free bridges instead of more direct routes through the MTA tolled crossings. Spillover into residential neighborhoods streets is often the result. Congestion in the evening reverses that pattern, clogging Manhattan streets and the highways leading outbound. This congestion wastes enormous amounts of time and is a burden on those driving into and within this core area; these losses in time, which are compounded by the reduced reliability and increased stress that congestion brings, translate into higher costs of

doing business, not only in New York City but throughout the metropolitan region. In light of the growth in population and employment expected in the next 25 years, this traffic congestion problem will only get worse and must be addressed if New York City and the region are to thrive.

2. *Improving Air Quality.* Second, this excessive traffic creates huge amounts of tailpipe emissions that are injurious to the health of New Yorkers and that contribute to greenhouse gas production. Asthma and other lung diseases are caused by air pollution that is closely tied to exhaust emissions, particularly from trucks. These emissions contribute to asthma rates that are over four times the national average in many New York City neighborhoods. Further, congestion-related emissions are also a major component of New York's greenhouse gases that cause climate change. New York City will never be able to meet its climate goals without a reduction in these emissions.

3. *Funding Transit Needs.* Third, the funds collected from the congestion fee would be used to provide both short- and longer-term transit improvements. The short-term focus would be on improvements in bus and ferry options, particularly providing substantially more frequent and widespread express bus service, with focus on those areas of New York City where subway service is not close by. In the long term, the funds would be used to support a series of major transit investments that will provide more capacity and divert drivers to transit. Many of these projects are at best only partially funded. The congestion fee would be used to close this funding gap.

Proposed Alternatives

In the period since the congestion pricing concept was proposed, a number of alternative ways of addressing traffic congestion have been suggested in an attempt to forestall the need to establish the congestion charge, arguing that the goal of substantially reducing congestion could be achieved without the congestion fee.

These alternatives strive to find other ways to reduce traffic congestion, either by barring some vehicles on some days based on their license plate numbers, by reducing the volume of trucks on City streets, by better traffic enforcement, or through better transit options, or with combinations of these. Yet, even those who have expressed concerns about moving forward with congestion pricing have embraced the larger goals of reducing congestion, improving air quality and funding transit capital investments. It is therefore reasonable to ask whether the proposed alternatives can achieve these three goals.

The suggested alternatives can be classified in three categories:

- License-plate rationing concepts
- Truck-reduction strategies
- A variety of incremental measures, such as strengthened enforcement, targeted street and highway improvements, and new transit options

Two sets of proposals aim to reduce traffic volumes. The first of these is designed to ban some vehicles on any given day to reduce traffic congestion and pollution by reducing the volume of traffic. In this report these schemes are examined carefully to see to what extent they could achieve the goals of traffic congestion relief, and whether their implementation and operation are workable. They do not address the issue of transit funding.

The second is aimed at reducing truck volumes, targeting all three goals by reducing peak truck use during peak times, since trucks cause a disproportionate amount of vehicle emissions, while including one element that would collect additional tolls from trucks to help fund transit. The ability to achieve these goals is examined in this report.

Traffic enforcement strategies, it is argued would address much of the problem of traffic and pollution by making the streets work better through incremental improvements to the way we manage the City's streets. These measures do not address the issue of transit funding.

Finally, transit improvements, including ferries, bus rapid transit and new and better used commuter rail stations in the City, are seen as means to shift drivers and lower traffic volumes, congestion and pollution. Virtually every serious comment on PlaNYC agrees that transit improvements are necessary, but the issue is whether such measures are sufficient. Yet, these strategies require both operating and capital funds, for which suggested funding substitutes for the congestion fee proposed by the City are not mentioned.

Each of these alternatives are discussed and evaluated against the three goals in the next section.

License Plate Rationing

This proposal would "ration" the number of vehicles that could enter the Manhattan Central Business District on any given day by prohibiting cars with particular license plates. Two basic options have been proposed. In the first, the last digit of a license plate would be keyed to the last digit of the day in the month. If they match, then that vehicle could not be used to drive into or within the zone. For example, if a vehicle's license plate ended in "2" the vehicle would be barred from entering or driving within the zone on days of the month ended in "2", i.e. the 2nd, the 12th, and the 22nd. Nominally, the effect would be to reduce the eligible amount of vehicles that could be driven in or into the zone by 10 percent. A second option would have the license plates color coded with each weekday having a different color corresponding to a day when that vehicle would be prohibited from the zone. This would have the apparent effect of barring 20 percent of the vehicles from driving into or in the zone. In addition to the question of how well this approach would reduce congestion and improve air quality, it also raises a number of other problems.

1. Fairness. By the luck of the draw, a large share of households, typically more affluent ones, would hardly be affected. In the case of the digit-based system most multiple-vehicle households by chance would not have plates ending in the same digit, making it possible for household members to switch vehicles to use the one not banned on a given day. For two vehicle households, the chances are only one in ten that both of their vehicles would end in the same digit; for the color-based scheme, the chances would be one in five.

This ability to avoid the ban with multiple plates discriminates against lower and middle income households. In New York City, households with only one vehicle, who could not benefit from multiple plates, have considerably lower incomes; the average income of one-vehicle households in New York City is 35 percent lower than it is for two-vehicle households. In the suburbs the disparity is still greater; one-vehicle households average as little as 43 percent of the income of two-vehicle households.¹

In New York City 28.6 percent of all households own multiple vehicles among those who own vehicles.² Thus, the impact of this scheme would be reduced by about 26 percent (90 percent of 28.6 percent) for the digit-based scheme and about 23 percent for the color-based scheme (80 percent of 28.6). In the suburbs the impact would be much greater -- 67 percent of suburbanites with vehicles own two or more. Thus, the ability to avoid the digit-based ban among suburban households would be about 67 x (1-0.90) or 60 percent. For the color-based scheme it would be about 54 percent. Meanwhile, households with only one vehicle, unlike multi-vehicle households would have no way to avoid the ban if their number or color came up.

The regressive nature of this program could be eliminated by making all plates in the same household have the same number (or color). But this would require a program to match up plates in the same household, no small undertaking. Households with more than one vehicle would have to have their plates changed if they had different digits or colors to prevent them from switching cars from day to day to avoid the ban. Therefore, unless a complex program of re-issuance of license plates by household was undertaken, a large percentage of the targeted households would be unaffected (or hardly affected) by the ban, based only on affluence and chance. And without the license plate re-issuance to prevent most multi-vehicle households from avoiding the ban, these schemes would be highly regressive.

Another more minor yet real source of unfairness would be that for those owning plates ending in "1," the ban would be four times a month for seven of the twelve months, unless the 31st of the month had no ban.

2. Plate Reissuance. How might this reissuance of license plates be accomplished? In an attempt to make the systems fairer, where digits were not identical within a household, the second (or third or fourth) vehicle's plates would have to be reissued. This assumes that it is possible to match household occupants and ownership. But many vehicles are registered to business which would make it impossible to match the plates to households. Others are registered outside of New York State. Even within households, it is not always possible to match vehicles registered to the same household or family unit. For the color-coded scheme, every license plate would have to be reissued, while simultaneously trying to match colors within households. The residential / business match problem and the household / family problem would remain. Out-of-state and upstate plates would have to be altered too at great expense, or else the loopholes would remain. Yet, other states would have little incentive to cooperate with this costly program. If they did not cooperate, many out-of-state commuters and others traveling by car into Manhattan would be able to avoid the ban. For the digit-based scheme, vanity plates would also require replacement.

1 United States Census 2000

2 United States Census 2000

3. Detection. Unlike PlaNYC which would rely mostly on the E-ZPass system, for the digit or color-based systems all vehicles would have to be checked for enforcement purposes, either manually in the field or with cameras. Since manual enforcement is very labor intensive, it is more likely that control would be exercised through photographs of all vehicles, or at least enough to deter violations. For the City's congestion pricing plan only the vehicles without an E-ZPass account would have to have their license plate photos retained, likely to be less than 20 percent of all vehicles, given current use and the built-in financial incentive to acquire an E-ZPass account.³

4. Privacy Concerns. The fact that either license-plate rationing schemes or the City's plan requires the taking of photographs of some license plates raised concerns about privacy and civil liberties among some observers. While understandable, these concerns are misplaced since records will be destroyed as soon as the fee is paid, as is done in London. The reality is that the mere presence of a license plate makes it possible to record and identify vehicles today. More to the point for this analysis, a license-plate rationing scheme, as highlighted above, would likely be more reliant on cameras than congestion pricing. A more effective way to address these legitimate privacy concerns is to incorporate reasonable safeguards, such as the prompt and regular destruction of records, into the design of any program.

It should also be noted that the use of video cameras to identify suspects for the recent attempted car bombings in London underscores the importance of video cameras for anti-terrorism security efforts. If car bombing terrorism becomes a greater concern in New York, the need for increased video surveillance may balance or outweigh these privacy concerns.

5. Command-and-control versus market forces. The single biggest flaw in the license-plate rationing schemes is its coercive nature. It curtails people's freedom to choose – to be able to travel when they want by the means they want. In contrast, PlaNYC allows people the freedom to choose, albeit at a price, but a price

designed to ease traffic and improve the environment. The limitations rationing puts on people can go beyond onerous. For example, suppose a family living in the zone leaves the zone for a long weekend and plans to return on a Monday during the restricted period. What are they to do if their license plate bans their entry? Worse, if their plate is color-coded for a Monday ban, does this suggest they are barred from ever taking an extended weekend trip ending on Monday? If color-coded for a Wednesday, does that preclude ever driving in for a Broadway matinee performance? For service businesses, the rationing could be the difference between profit and loss if they are barred from traveling to work sites for 10 or 20 percent of all workdays. Is the plumber supposed to say, "It is Monday the 1st, my license plate is green or ends in a "1," so find someone else to fix the flood in your bathroom." It can be expected, should this scheme ever come to pass, that hardship pleas for exemptions would be widespread, along with arbitrary decisions, complex rules and time-consuming adjudication.

6. Unintended Consequences. In other locations where license plate schemes were tried, most notably in Mexico City and Athens, there was an increase in vehicle ownership to raise the chance that a household would be able to avoid the ban. Higher auto ownership leads to more driving, and an increase in congestion throughout the region. Taxi usage increased also, offsetting traffic reduction gains.

7. Fraud. The license-plate rationing scheme creates an incentive to alter license plates to avoid the ban. There would be less incentive to do this with PlaNYC since the "reward versus penalty" is saving \$8 versus a hefty fine. In contrast, there would be a stronger incentive to avoid the ban. Also, with fewer vehicles – perhaps 20 percent not having E-ZPass – the City would have an easier time finding illegal plates than if the full universe of plates might contain fraudulent plates.

8. Traffic congestion relief effectiveness. It is very unclear how effective the rationing schemes would be to reduce traffic. It would appear at first glance, that the digit-based scheme would reduce traffic by 10 percent and the color-coded scheme by 20 percent. But the reality is that people would be forced to adjust their daily

³ Today, 74 percent of vehicles crossing the Hudson and East Rivers use E-ZPass, based on Port Authority and MTA data.

schedules to avoid the banned days. Many who are occasional drivers would adjust with no reduction of driving. For example, suppose someone typically drives into the zone about 100 times a year over the 250 weekdays in the year. With rationing, they might choose to come in the same number of days – 100 – but select them to avoid the ban associated with their license plate. In that case there would be no reduction in the total amount of driving for them, but they would still have their choice restricted, which could be a business or personal hardship.

How much of driving into Manhattan is done regularly, that is on most business days versus occasionally, which could give the driver the flexibility of staying home on their banned day? A survey of parking garage users in Manhattan sheds some light on this issue, at least indirectly.⁴ It found that 82 percent paid the daily rate. This suggests that many drivers have a high degree of flexibility of when they drive and would select the days they would drive when their vehicle was “legal.” It may be true that some of the frequent daily drivers pay daily rather than monthly rates and the data from the parking garages may not be fully representative of all who drive into Manhattan, but the data does suggest that rationing would have a limited impact in driving and traffic volumes. And among drivers in multiple vehicle households, the rationing share would be reduced still further, by about 23 to 26 percent among New York City residents and by 54 to 60 percent among suburban residents, based on the vehicle ownership data presented earlier.

9. Neighborhood Traffic Patterns. Whatever the traffic reduction value might be for the license plate schemes, unlike PlaNYC, they would not create any incentive for changing the toll avoidance traffic patterns found at the East River crossings. Currently, the free bridges are a magnet, polluting the air and clogging the streets in the neighborhoods nearest the free bridges and the connecting roads to them. This would not change under the license rationing scheme. In contrast, the City’s congestion pricing plan would remove the incentive to use the free bridges, evening out traffic and lowering volumes on local streets leading to those bridges.

4 Communication with NYC DOT on results of parking garage survey.

10. Financing Transit. The license-plate schemes are not designed to raise funds for transit. Under the license-plate rationing schemes no funds would be raised to fund transit alternatives for those days when the driver is banned from driving, leaving him with reduced mobility on those days. In contrast, PlaNYC uses much of the funding to the target those places where transit options are now inadequate.

Conclusion – license-plate rationing

License-plate rationing has many drawbacks including unfairness, regressivity, enforcement difficulties, increased likelihood of fraud, and potentially the creation of complex systems to reduce unfairness by establishing exemptions and exceptions. Moreover, such a system would create hardships for many businesses and households, and in a largely arbitrary way, which would no doubt build resentment.

Most importantly, the rationing schemes do not meet any of the two of the goals on which there is universal agreement – congestion relief and pollution reduction – nearly as effectively as congestion pricing, and do not meet the financing transit goal at all.

Truck Reductions Strategies

The following program for reducing the volume of trucks and their impacts on City streets and highways has been proposed.

- Increase truck tolls during peak hours
- Create incentives for night-time truck deliveries
- Implement NYC DOT recommendations for NYPD training and trucker education
- Build a cross-harbor rail freight tunnel
- Build self-financing truck-only lanes on highways
- Increase street-level enforcement

There is no doubt that the growth of truck traffic is a serious problem, both in the Manhattan Central Business District and much of the rest of the City, and the package of truck-related measures is intended to reduce truck use on both Manhattan-bound roadways and in the rest of the City. However, unlike the occupants of passenger cars who, for the most part have transit options, there are few alternatives to truck-use in New York City today, particularly for deliveries

to retail establishments, restaurants, overnight packages, and for service vehicles. To reduce the number of trucks requires either making their payloads larger with larger trucks – not a reasonable option for most truck deliveries—or accepting fewer trucks. The latter would certainly have a negative economic impact, especially on retail and restaurant businesses by making their movements more costly, resulting in a decline in business or higher prices passed on to the consumer, or both.

Increase truck tolls during peak hours. To discourage truck traffic from passing through the City at peak hours, it has been proposed that peak-hour truck tolls be increased on the City river crossings that now have tolls. This proposal would apply only to the two tunnels under the East River, both now tolled. To shed light on this proposal, Table 1 shows the 2006 truck and all vehicle volumes inbound to

Manhattan south of 60th Street for the morning peak period (6am to 10am), the 12-hour daytime period and for 24 hours by sector. On an average weekday, some 843,000 vehicles enter the Manhattan zone south of 60th Street. Of these, 3.1 percent or less than 26,000 are trucks, where trucks are defined as commercial vehicles 7,000 lbs or more, consistent with the definition used by the City for the congestion pricing proposal. In the four-hour morning peak only 8,200 trucks enter that zone. The proposed truck pricing scheme – peak hours on tolled City crossings – would affect only a fraction of these, some 650 trucks, i.e. those using the currently tolled City crossings – the Brooklyn Battery Tunnel and the Queens-Midtown Tunnel.

Table 1
Trucks Shares Inbound to Manhattan Central Business District - 2006

	6am to 10am		
	Trucks	All Vehicles	% Trucks
East River Tolled	650	25,233	2.58
East River Free	2,686	62,335	4.31
60th - 5th Avenue to FDR Drive	1,759	40,420	4.35
CP South to Henry Hudson Parkway	1,262	46,705	2.70
Lincoln and Holland Tunnels	1,798	30,950	5.81
TOTAL	8,155	205,643	3.97
	6am to 6pm		
	Trucks	All Vehicles	% Trucks
East River Tolled	1,331	57,523	2.31
East River Free	6,615	165,574	4.00
60th - 5th Avenue to FDR Drive	4,999	128,955	3.88
CP South to Henry Hudson Parkway	3,563	120,315	2.96
Lincoln and Holland Tunnels	3,432	73,289	4.68
TOTAL	19,940	545,656	3.65
	All Day		
	Trucks	All Vehicles	% Trucks
East River Tolled	1,660	74,030	2.24
East River Free	7,993	264,875	3.02
60th - 5th Avenue to FDR Drive	6,621	212,786	3.11
CP South to Henry Hudson Parkway	4,524	181,326	2.49
Lincoln and Holland Tunnels	5,046	109,973	4.59
TOTAL	25,844	842,990	3.07

Source: New York Metropolitan Transportation Council and Port Authority of New York and New Jersey

Since the Port Authority already offers an incentive for trucks to enter Manhattan before 6am, the trucks using the two Hudson River tunnels would not be included in this new proposal. The results from the Port Authority's current incentive – approximately a 40 percent discount for crossing before 6am – have resulted in a sizeable shift to just before 6am, when the toll increases. Although the Port Authority has not quantified the shift to the early hours, if a generous assumption is made of a 25 percent shift, then one might expect that about 170 (25 percent of 650) fewer trucks might travel in the morning peak through the Brooklyn-Battery and Queens-Midtown tunnels. Clearly, this change would be inconsequential, just over 2 percent of the morning peak period's truck traffic and about one in every 1,200 of the 206,000 vehicles entering the core during the morning peak.

Of course, this shift could be increased with more widespread tolling of trucks, as PlaNYC does. For example, if peak-period truck tolls were applied to all 2,700 trucks entering at the free East River bridges and the 3,000 trucks entering at the northern border of the zone, then almost 10 times as many trucks might be affected. If applied to the 12-hour 6am-to-6pm day, still more trucks could be affected. Then the proposal would more closely match the truck portion of the PlaNYC congestion pricing plan which calls for a fee on all trucks entering the zone in those 12 hours. If this were done, the trucks subject to the fee would be about 16,500 – the 12-hour truck entries less those using the Port Authority Tunnels. In that case, however, the assumed 25 percent shift would be much too high since many of these vehicles enter in midday and would be less likely to be able to shift to before 6am or after 6pm. If a 15 percent diversion was assumed then about 2,400 trucks would be diverted, less than one-half of one percent of the 545,000 vehicles entering in the 12 hours, a small fraction of the reduction expected from the City's congestion pricing plan impact. This suggests that pricing to lower trucks volumes, while helpful is small compared to PlaNYC which impacts both trucks and passenger cars.

Incentives for night-time deliveries. A related proposal would create an incentive for establishments to receive night-time deliveries. Incentives would be required because of added

labor costs associated with receiving goods during the night time. A survey of restaurant owners suggests that a \$10,000 tax credit could induce 20 percent of them to shift to off-peak deliveries.⁵ The Port Authority survey of commodities at their crossings indicates that 27 percent of trucks carry food. Assuming generously that all food carrying trucks were bound for restaurants and that 20 percent of restaurants were willing to accept night-time delivery then $0.27 \times 0.20 = 5.4$ percent of trucks would switch if that incentive were put in place. It might be possible to encourage other industries to switch too. Even assuming all industries would be as willing to switch as restaurants, this would only shift 20 percent of the trucks, or $0.2 \times 7,200$ or 1,440 trucks, still less than one percent of peak period vehicle entries. But even this level of effectiveness would require all of the truckers' customers on a given day to take part, otherwise the reduction in truck volumes may not materialize.

Not accounted for in this proposal is the potential negative impact that could be associated with early morning deliveries in neighborhoods. The difficulty of enforcement, i.e., businesses being monitored to see if they qualify for the tax credit, would make the tax credit concept problematic. Still, a small pilot program where neighborhood impacts would be minimal could be tried with businesses who might find it in their interest to receive earlier and more reliable deliveries. However, the number of trucks affected is likely to be small even if the concept is a success, and is no substitute for a widespread program of vehicle reductions in the core area.

Implement NYC DOT's recommendations for NYPD training and trucker education. This is one of 20 recommendations found in a recent New York City study on truck management.⁶ Most of these recommendations revolve around getting better information to truckers to encourage them to use truck routes within and around the City and on enforcing existing laws and regulations.

5 Potential for Off-Peak Freight Deliveries to Congested Urban Areas, Jose Holguin-Veras, Rennselaer Polytechnic Institute

6 Truck Management and Community Impact Reduction Study, March 2007. To date, 16 have been implemented. The full list is found in a technical memorandum at <http://www.nyc.gov/html/dot/pdf/tm4eduprog.pdf>.

Among the most relevant are:

- *Improved Resources and Media* – 35,000 new truck route maps have been distributed by New York City since March, 70,000 more are currently being printed.
- *Web-Based “One-Stop Shop” for Truck Information* – Website was launched in March – the most comprehensive website for all truck-related information is available on www.nyc.gov/trucks.
- *Partnership with Map Companies* – New York City is working with Hagstroms to include truck routes on their glossy atlases.
- *Online Mapping Program* – Working with several companies, New York City is testing some technology to develop online mapping resources
- *Public Agency Information* – New York City has met with other agencies to make them aware of the truck-related resources and developments.
- *Trucking Industry Association Partnership* – Working relationships between New York City and numerous trucking associates have been established. Several freight forums and seminars have been held to nurture these relationships.
- *NYPD Education* – New York City is in the midst of a four-precinct pilot program that provides officers with miniature truck route placards to increase their awareness of truck routes and help facilitate enforcement. They have also worked with the Police Department to make them more aware of truck-route issues. As a result, the number of truck-route summonses being issued citywide has gone up by about 650% (from August to April) and are expected to continue to increase.
- *Administrative Law Judge Education* – New York City has met with Chief of Administrative Law Judges to discuss general truck issues, highlight the study, review laws and what the courts are seeing and discuss ways to improved truck traffic.
- *Update Maps on a Regular Basis* – A second edition of this resource is in preparation.

- *Trucker Workshops* – New York City has begun to discuss ways of increasing driver education with trucking groups and associations.

These activities represent an unprecedented and welcome attempt by New York City to address the impacts of the growth of truck traffic. If successful, they will heighten awareness of the growing problem and mitigate some of the more egregious impacts of trucks in New York City. However, as successful as they might be, they are not likely to reduce truck volumes into and within the Manhattan Central Business appreciably, and it has been noted above that the volume of trucks traveling into the core is relative small. But there value in addressing impacts of trucks in neighborhood is substantial and this program should be supported.

Build cross-harbor rail freight tunnel. This project would provide a rail alternative for freight crossing the Hudson River, and funding has recently been secured to begin an Environmental Impact Statement. While there are valid economic and environmental reasons for this study to proceed, including the potential to reduce through-travel by trucks across Manhattan and the other boroughs, the multi-billion cost remains unfunded. Any relief to traffic this project could provide by diverting trucks traveling between Long Island and New Jersey is many years away.

Build self-financing truck-only lanes on highways. PlaNYC also suggests that building truck-only lanes self-financed by truck tolls should be explored. Truck-only toll lanes have not yet been successfully implemented in the United States. The Reason Foundation, a strong proponent of the concept, has highlighted numerous places in the nation where they might prove successful. These locations are characterized by long stretches of highway with separate rights-of way largely for the purpose of shielding heavy multi-unit trucks from passenger car traffic. They are seen, even by proponents, as primarily a remedy only when truck volumes exceed 20 to 30 percent of the traffic, a condition not found on New York highways. Yet, it has been suggested that in New York City the Van Wyck, Cross-Bronx, the Staten Island and Brooklyn-Queens Expressways may be candidates by using either medians or service

roads to create truck-only lanes. Such space is largely non-existent on these highways, and even if space were available, the lanes would consume space now used by passenger cars, creating more, not less traffic congestion.

One way out of this dilemma, as proposed by PlaNYC, is to allow high-occupancy vehicles and low-occupancy vehicles willing to pay to use it to drive in the truck lane. Without these added vehicles, a truck-only lane may not be feasible. In one study of Interstate 81, as described by Darrin Roth of the American Trucking Association, it was found that the toll rate to break even was 25 cents per mile. But trucks typically have a profit margin of 2 to 4 cents per mile, a disparity that would lead to large diversions from truck-only toll lanes, burdening local arterials and adding to congestion unless the cost is shared more widely. Still, the concept should be explored, as PlaNYC suggests, but its implementation, even if studies show its value, is many years off. Moreover, these lanes would do little to lower the volume of Manhattan-bound truck requiring entry to carry out their business.

Increase street-level enforcement. The proposal to increase traffic officers and cameras in the context of reducing delays from trucks will be discussed in the next section on traffic enforcement and related measures.

Conclusion - Truck Reduction Strategies

The six measures proposed in this group fall into three categories. The first includes peak truck tolls and night-time truck delivery strategies intended to reduce truck traffic. But in relation to the traffic volume, their traffic reduction impacts are likely to be inconsequential.

The second group consists of truck management techniques such as trucker training and more concentrated enforcement with traffic officers and cameras. These strategies, many of which are now underway, can be helpful but on a limited scale and are sustained with great difficulty, even with the best of intentions.

The third category includes the Cross Harbor Freight Tunnel and truck-only toll lanes, initiatives with potential for reducing truck traffic, but both are many years away from implementation.

Unlike license-plate rationing, there are good reasons for many of these measures to be implemented as part of a comprehensive congestion reduction program, but they do not represent a substitute for congestion pricing. As measured against the three goals of congestion relief, air quality improvement and transit funding, these proposals fall well short of the PlaNYC congestion pricing program. Even if all these measures were successfully implemented, they would affect only a small fraction of vehicles and would have only a marginal impact on reducing congestion. Although trucks cause a disproportionate portion of vehicle emissions, reducing truck traffic alone will not reduce emissions nearly as well as a comprehensive program that includes both autos and trucks. Nor would any of these measures raise funds for additional transit services or projects.

A Variety of Incremental Measures

A wide variety of proposals have been made to improve traffic flow or reduce traffic volumes. These include: a) greater enforcement of measures against existing traffic violations such as double parking, block the box, taxi pickups in roadways, and truck loading time limits; b) traffic signalizations improvements; c) more extensive use of information technology; d) targeted street and highway improvements; e) influencing development patterns, f) providing new transit options, and g) making New York more bicycle-friendly.

Traffic enforcement measures are addressed in the PlaNYC, which includes the hiring and deployment of 800 traffic enforcement agents (TEAs), the streamlining of ticket writing for blocking the box with a law that allows more TEAs to write tickets, and the more widespread use of traffic enforcement cameras. These enforcement measures can be especially useful at troublesome locations.

Signalization improvements are suggested to ease traffic flow, but the improvements are admitted to only hold out “some room for improvements” when balanced against pedestrian traffic and safety concerns.

More extensive use of information technology is seen as a means to respond in a more coordinated way to local emergency conditions. Much of this requires much more extensive use of video

cameras and sensors. The City has begun an initiative in Lower Manhattan and eventually could extend it to other localities.

Targeted street and highway improvements have only been mentioned in vague terms by those suggesting more attention in this area. PlaNYC identifies nine corridors in all five boroughs with serious traffic problems, each of which will be the subject of intensive study to identify the range of improvements needed to relieve traffic in those locations.

Influencing development patterns is identified as a long-range means of addressing congestion with focus on developing and redeveloping areas where transit already exists. Proponents of this approach acknowledge that the City is moving in this direction.

Providing new transit options, including new ferry services, bus rapid transit, and greater use of existing and the creation of new commuter rail stations in the City, have all been suggested. Every project suggested here is in PlaNYC. Some have argued that these transit improvements alone can solve our congestion problem. They certainly can help. But the widely recognized gains in transit service and quality over the last fifteen years while increasing transit use by 30 percent in the subways and 50 percent on buses has not eliminated the growth in traffic into the City's core, nor reduced the share arriving in motor vehicles.⁷ Further improvements in the transit system are absolutely necessary to prevent dramatic increases in road congestion in the future. In any case, the provision of new transit services will require additional funding. It will not be possible to make these transit improvements without it.

Making New York more bicycle-friendly is recommended. It is ironic that this step is recommended to a City Administration that has done more to promote bicycle use than any other in the City's history. There are now 440 miles of bicycle routes in the City. Cycling has increased by 75 percent since 2000, but it still accounts for less than one percent of all trips to work in New York City.

Conclusion - A Variety of Incremental Measures

Most of the proposals in this package are being carried out by the City. There is no doubt that all of these can be helpful, to varying degree, in reducing traffic congestion and improving air quality. But while all are of assistance in addressing today's traffic and air quality problems, their value is limited against the increases in traffic that New York has been experiencing. Since 1994, the increase in vehicle traffic into the Manhattan Central Business District has grown by 73,000 vehicles a day, up from 755,000 in 1994 to 843,000 today.⁸ This rate of growth, in the absence of measure to encourage travel by other means will bring us to one million vehicles entering the core area by 2025. It is simply not reasonable to expect to minimize this growth over the next twenty years, particularly in light of the expected growth in New York City population, in the absence of measures that appreciably reduce traffic volumes.

Conclusions

None of the proposals discussed in the report-- license plate rationing, truck only measures, traffic management measures, transit improvements -- would reduce congestion or improve air quality with anywhere near the effectiveness of the PlaNYC congestion pricing program.

The license plate rationing schemes would reduce traffic somewhat, but the ability to avoid the ban could be widespread; enforcement would be difficult, with the possibility of fraud. The measure would be regressive unless many license plates in multi-vehicle households could be reissued, a step fraught with difficulty. The creation of a mechanism to rule on exemptions and exceptions would be required. Hardships to businesses would be unavoidable.

Many of the truck management techniques and traffic enforcement measures are desirable, and in fact most are in some stage of study or implementation. But they would have only a marginal impact on overall congestion and

7 Hub-bound series by New York Metropolitan Transportation Council

8 Hub-bound series by New York Metropolitan Transportation Council, including as yet unpublished 2006 data.

should not be considered substitutes for congestion pricing. Nevertheless, a vigorous program of implementation of these should go forward.

Transit improvements are necessary, but insufficient for traffic and emission reductions. The programs proposed are generally agreed to by opponents of congestion pricing and the City, and most are in PlaNYC. Without these transit improvements, which would increase choices available to drivers affected by congestion reduction measures, the Region will be unable to absorb expected growth without significant damage to our economy and quality of life. Yet, all of the alternative proposals avoid the subject of funding improvements to the transit system. Only the congestion pricing program addresses the issue.

In sum, the congestion pricing program is the linchpin for the comprehensive plan of traffic reduction and transit improvements found in the PlaNYC initiative. Without it, none of the proposed alternatives can achieve the gains in public health, economic prosperity and quality of life that all sides desire.

Regional Plan Association (RPA) is an independent, not-for-profit regional planning organization that improves the quality of life and the economic competitiveness of the 31-county New York-New Jersey Connecticut region through research, planning, and advocacy. For more than 80 years, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design for the region's continued growth