

# Building a Sound Fiscal Future for New York's Highway and Mass Transit Systems

*By Jamison Dague*

New York's transportation infrastructure is vital to the economic vitality and safety of the state. The highway system is both the chief circulatory system for people and goods within the state and primary connection between New York and the rest of the continent. Highway user fees should be sufficient to cover the cost of operating and maintaining the road and bridge network in a state of good repair and in addition should cross-subsidize mass transit. Though public transport providers should strive to deliver services more efficiently, the State currently does not raise sufficient funds from drivers benefitting from the highway system to meet these goals resulting in the poor condition of the State's highway and mass transit systems and an undesirable reliance on general tax subsidies to support both.

Moreover, the State continues to rely on fuel taxes to support highways and mass transit, accounting for slightly less than half of all highway user fees in State fiscal year 2018. But fuel taxes are only an approximation of motor vehicle usage in the state and are eroding gradually as a source of revenue. Levied on a per gallon basis, State fuel tax revenue is diminishing as the fuel efficiency of motor vehicles has increased and as electric vehicles have begun to proliferate. Since 1993 the amount of fuel tax per mile driven in New York has decreased by 17 percent.



Correcting the fiscal imbalance and putting New York's transportation infrastructure on a more sustainable path requires a restructuring of the State's motorist user charges. This brief considers New York's current transportation funding deficit and its effect on State infrastructure. The brief presents near-term options for mitigating these deficits through increases in the State's existing motorist user fees including fuel taxes, motor vehicle fees, and tolls. To address the long-term imbalance—especially as New Yorkers expend less fuel per mile driven—and to meet other transportation policy goals, including reduced traffic congestion, the Citizens Budget Commission (CBC) supports the adoption of new user fees. Introducing congestion pricing to New York City can yield significant transportation revenues with the added benefit of reducing traffic in one of the most congested street networks in North America. A statewide mileage-based user fee, also known as a vehicle-miles traveled (VMT) fee, can more accurately charge motorists for use of the highway system and will better address New York's transportation funding needs regardless of changes in fuel consumption.

Forthcoming research will focus on the functional components of a VMT fee and address the challenges in implementing such a fee. It will include a description of the options available when crafting a VMT fee program, and will explore examples of programs both in the United States and around the world. The report will conclude with guiding principles for the State to follow when developing a VMT fee program.

## **New York State Transportation Funding**

Motorists travel more than 120 billion miles annually on New York's 115,000 lane-miles of roads and 17,456 bridges. Ownership of the highway network is split between three types of entities: the State, via the New York State Department of Transportation (NYSDOT); public authorities; and local governments, primarily counties and municipalities. Approximately 43,000 lane-miles of roads and 7,891 bridges are owned by the State and are the responsibility of NYSDOT. Public authorities own specific facilities not overseen by NYSDOT, including the New York State Thruway, the Metropolitan Transportation Authority's (MTA) bridges and tunnels, and the New York State Bridge Authority's (NYSBA) bridges. Local governments are responsible for remaining lane-miles and nearly 8,800 bridges.

This brief focuses on the State-owned roads and bridges that are the responsibility of NYSDOT. The State finances the NYSDOT system primarily with motorist user fees: fuel taxes, motor vehicle fees, and other taxes on transportation businesses. But, despite collecting \$3.6 billion annually in these transportation revenues, New York State's current system for financing roads and bridges does not raise enough money to keep existing infrastructure in a state of good repair (SGR).

## Resources

New York State collected nearly \$3.6 billion in revenues in fiscal year 2018 from motorist user fees. (See Table 1.) The State collected fuel taxes totaling \$1.6 billion in fiscal year 2018 from two per-gallon taxes. The Motor Fuels Tax, an 8 cent per gallon excise tax on gasoline and diesel sales, accounted for \$512 million, and the Petroleum Business Tax (PBT), which is charged at a per-gallon rate according to fuel type and is adjusted annually based on a petroleum price index, accounted for the remaining \$1.1 billion. The State also collects motor vehicle fees on registrations, licenses, titles, and other miscellaneous uses. In fiscal year 2018 vehicle fees accounted for \$1.5 billion in revenues. Third, the State collects other motorist taxes including highway use taxes, auto rental taxes, business taxes on transportation companies, and a per-trip tax on taxicab rides in the MTA region.<sup>1</sup> In fiscal year 2018 these revenues totaled \$450 million.<sup>2</sup>

**Table 1: New York State Transportation Revenues, FY 2018**  
(dollars in millions)

	<u>Dedicated to Highways</u>	<u>Dedicated to Mass Transit</u>	<u>Dedicated to General Funds</u>	<u>Total</u>
<b>Motor vehicle fees</b>	\$833	\$414	\$252	\$1,499
<b>Petroleum business taxes</b>	607	485	0	1,092
<b>Motor fuel taxes</b>	403	109	0	512
<b>Corporation and utility taxes</b>	14	164	0	178
<b>Auto rental taxes</b>	78	45	0	123
<b>Highway use taxes</b>	91	0	2	93
<b>Metropolitan Commuter Transportation District taxicab tax</b>	0	56	0	56
<b>TOTAL</b>	<b>\$2,026</b>	<b>\$1,273</b>	<b>\$254</b>	<b>\$3,553</b>

Source: New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019).

A share of the nearly \$3.6 billion in user fees from New York motorists cross-subsidizes mass transit and is dedicated to statewide mass transit funds, regional mass transit funds, and the MTA directly. In fiscal year 2018 this cross-subsidy was nearly \$1.3 billion and included \$594 million in fuel taxes, \$414 million in motor vehicle fees, and \$265 million in other motorist taxes and fees. In addition \$252 million of motor vehicle fees and nearly \$2 million in highway use taxes are dedicated to other State funds to support the State Police and other administrative functions related to the road and bridge network.<sup>3</sup>

The nearly \$1.3 billion in motorist cross-subsidies to mass transit does not include taxes and subsidies dedicated to transit from sources not generated from motor vehicle use. In fiscal year 2018 more than \$3 billion in this non user fee revenue supported mass transit including the Payroll Mobility Tax, sales tax, and various business taxes levied on employers and businesses in the MTA region.<sup>4</sup>

## Expenditures

In fiscal year 2018 New York road and bridge expenses were \$3.6 billion. (See Table 2.) More than \$1.7 billion was expended on direct operations at NYSDOT and the State Department of Motor Vehicles (DMV). NYSDOT operations include maintenance and planning for the improvement and expansion of the state's road and bridge network. DMV operations' expenditures support motor vehicle and driver related services, issuance of identification documents, and administration of motor vehicle laws.<sup>5</sup> The State also expended \$1.8 billion on costs necessary to preserve or maintain the network of roads and bridges at or above an established condition level and on interest expense related to road and bridge borrowing. In fiscal year 2018 maintenance and preservation costs were \$1.1 billion for roads and \$256 million for bridges.<sup>6</sup> Debt service on Dedicated Highway and Bridge Trust Fund bonds for State projects was \$800 million, of which an estimated 53 percent (\$424 million) was interest expense, and an estimated \$32 million was spent on interest expense for general obligation borrowing related to roads and bridges.<sup>7</sup>

**Table 2: New York State Road and Bridge Expenditures, FY 2018**  
(dollars in millions)

<b>Department of Transportation Operations</b>	1,457
<b>Department of Motor Vehicles Operations</b>	297
<b>Maintenance and Preservation Costs</b>	1,390
<b>Interest Expense</b>	457
<b>TOTAL</b>	<b>3,601</b>

Sources: New York State Division of the Budget, Open Budget (accessed January 2019), Budget & Actuals, *FY 2020 Capital Program and Financing Plan* (January 2019), p. 352; and Office of the New York State Comptroller, *State of New York Basic Financial Statements and Other Supplementary Information For Fiscal Year Ended March 31, 2018* (July 2018).

## Inadequate Resources

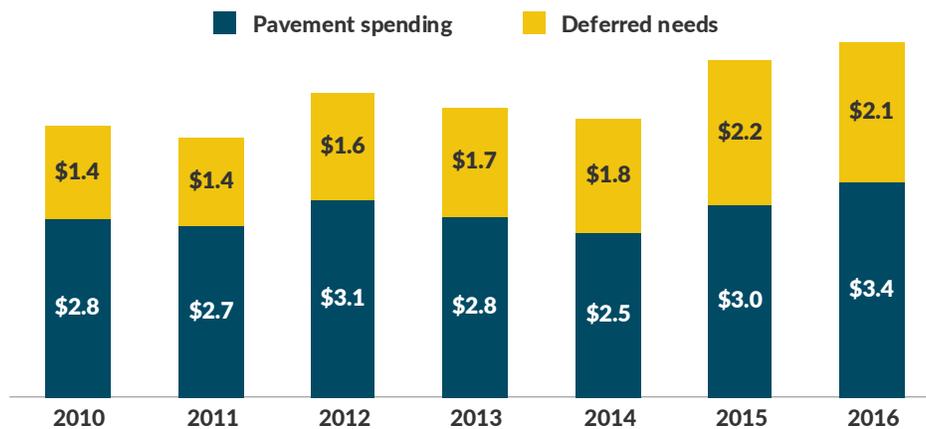
Agencies should strive to deliver public services as efficiently as possible. NYSDOT, DMV, and the state's mass transit systems are no exception. A public transport network as substantial as New York's requires significant expenditures to operate and to maintain. Motorist user fees should be sufficient to meet two funding requirements. First, user fees should cover the expenses related to roads and bridges, including both direct operating costs of the highway system and repair or replacement of roads and bridges at appropriate points in these assets' lifecycles. Second, motorist user fees should cover between 20 percent and 25 percent of mass transit expenditures. Requiring motorists to pay user fees that exceed the cost of the highway system compensates for the negative externalities that their driving imposes on society in the form of pollution and congestion. Dedicating a premium on motorists to alternative transportation options reimburses mass transit for making their rides less congested.<sup>8</sup>

New York’s motor vehicle user fees fall short on both counts. In fiscal year 2018 annual road and bridge expenditures were \$3.6 billion while motor vehicle user fees dedicated to road and bridge operations were approximately \$2 billion. In addition, despite dedicating approximately \$1.3 billion in motorist user fees to mass transit, these cross-subsidies, when combined with other toll revenue contributions accounted for less than 15 percent of mass transit expenditures. By falling short of these funding goals motorists do not bear the full cost of their driving. This undercharging not only leads to the physical degradation of roads and bridges, but also encourages excessive use.<sup>9</sup>

## State Highway System, Mass Transit Not in State of Good Repair

Shortfalls in user fee revenues have led the State to underinvest in its highway system, and as a result, the cost of SGR needs at NYSDOT has grown. In 2016, the latest year for which data are available, these needs had reached \$5.5 billion, up from \$4.2 billion in 2010, and the State continues to defer regularly SGR work. From 2010 to 2016, NYSDOT deferred more than one-third of needed investments to bring statewide pavements to SGR.<sup>10</sup> (See Figure 1.)

**Figure 1: Investments to Bring NYSDOT Pavement to State of Good Repair, 2010 to 2016**  
(dollars in billions)



Sources: New York State Department of Transportation, *Pavement Condition Report* (annual editions 2010 to 2016).

These deferrals have left New York’s roads and bridges in disrepair. In 2015 the American Society of Civil Engineers graded New York bridges a D+ based on their age and the number of structurally deficient spans, and it graded New York roads a D- based on the share of major highways in poor or fair condition and the amount of time New Yorkers sit in traffic congestion every year.<sup>11</sup> According to data compiled by the Federal Highway Administration (FHWA), a greater portion of New York’s share of the National Highway System has pavement considered “Rough” or “Very rough” than the rest of the country, 18.5 percent to 10.3 percent, respectively.<sup>12</sup> More of New York’s travel is likely to occur on these rougher roads: 21.8 percent of travel occurs on “Rough” or “Very rough” roads in New York compared to 10.5 percent nationally.<sup>13</sup> (See Table 3.)

**Table 3: Selected Pavement and Bridge Condition Measures, 2017**

	<u>New York</u>	<u>Rest of the United States</u>
<b>Pavement conditions</b>		
Share of miles rated "Rough" or "Very rough"	18.5%	10.3%
Share of daily traffic on lane-miles rated "Rough" or "Very rough"	22.3%	10.5%
<b>Bridge conditions</b>		
Share of structurally deficient bridges	10.5%	8.8%
Share of bridge deck area of structurally deficient bridges	4.2%	2.4%

Source: U.S. Department of Transportation, Federal Highway Administration, *National Bridge Inventory 2017* (2018), and *Highway Statistics 2017* (December 2018), HM-47 and HM-47A.

The FHWA also compiles ratings of bridge elements to determine overall condition. In 2017 1,837 New York bridges, or 10.5 percent of all state, local, and authority bridges, were structurally deficient, meaning one or more of the bridge deck, structure, or foundation are considered in "Poor Condition" due to deterioration, missing segments, or significant breaks in materials.<sup>14</sup> This is a greater share than the rest of the United States, 8.8 percent. The FHWA measures bridge deck area, which is an indicator of the size of a bridge, and when measuring bridge condition by deck area a greater share of New York's are considered in "Poor Condition" than the rest of the country, 4.2 percent to 2.4 percent.<sup>15</sup>

Underinvestment has not been a highways-only phenomenon. The State's mass transit systems, particularly the MTA, have postponed SGR work and fallen behind schedule in implementing capital investment programs.<sup>16</sup> According to the MTA's 2019 Final Proposed Budget, November 2020-2022 financial plan, the agency faces a structural budget imbalance. Despite planned biennial fare and toll increases, recurring savings targets, and a growing economy, the MTA expects to sustain cash deficits beginning in 2020, and growing to more than 5 percent of the agency's budget by 2022.<sup>17</sup> These deficits do not include the added costs of funding the MTA's next five-year capital plan, which is expected to be a costly endeavor.

## **Fuel Taxes: A Declining Revenue Source**

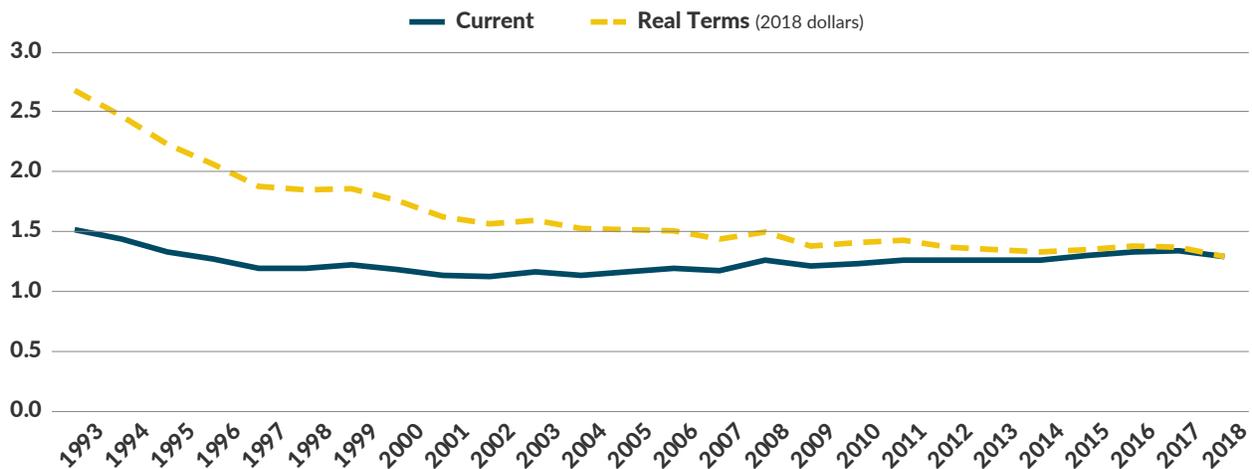
In fiscal year 2018 the State financed 45 percent of its transportation spending with fuel taxes. Per-gallon fuel taxes are a valid method for compensating for the environmental costs of emissions from motor vehicle use and serve as a proxy for actual road use, though this correlation varies according to fuel type and vehicle fuel efficiency. Since the State receives receipts from a limited number of fuel distributors and not individual drivers, fuel taxes are extremely efficient: collection costs are estimated at less than 1 percent of gross receipts.<sup>18</sup> However, while a good measure of emissions, they are a poor measure of road wear and tear, which is more closely related to distance traveled and weight per vehicle axle.<sup>19</sup>

From a fiscal perspective fuel taxes have two other inherent drawbacks. First, they are levied on a per-gallon basis with limited adjustment for inflation. Though PBT rates have increased slightly from 14.84 cents per gallon in 1993 to 17.7 cents per gallon in 2018, the motor fuels tax has remained 8 cents per gallon. If the combined 1993 PBT and motor fuels tax rate of 22.84 cents per gallon had kept up with inflation the rate would now be 39.9 cents per gallon, 55 percent greater than the current combined rate of 25.7 cents per gallon.<sup>20</sup>

Second, as vehicle fuel efficiency continues to improve and the number of all-electric vehicles continues to rise, fuel tax receipts have increasingly decoupled from distance traveled. The result has been lower yields in fuel taxes per mile driven since the early 1990s. (See Figure 2.) In 1993 the State raised 1.51 cents per VMT; by 2018 that figure had been reduced to an estimated 1.28 cents per VMT, a 15 percent decrease. In real terms fuel tax receipts per mile driven have decreased 51 percent over this period.<sup>21</sup> As these tax receipts have failed to grow at a rate sufficient to cover the costs of operating the highway system, the State has compensated by introducing new user fees and general subsidies and invested less than is needed to keep the system in SGR.

Fuel efficiency gains are not likely to reverse. To the extent the State retains its current fuel tax rate structure, New York ought to prepare for the continued erosion of revenues, and it should consider user fees that supplement fuel taxes. As VMT and fuel efficiency increase, fuel taxes will yield less revenue for each mile traveled.

**Figure 2: New York State Fuel Tax Receipts per Vehicle-mile of Travel, 1993 to 2018**  
(cents per VMT)



Note: 2018 VMT estimated to be 101 percent of 2017 VMT.

Sources: New York State Department of Taxation and Finance, 2017-18 *New York State Tax Collections, Statistical Summaries and Historical Tables* (July 2018), Table 9: Article 13-A Petroleum Business Tax, Taxable Gallons by Type of Fuel - Fiscal Years 1992-2018 and Table 11: Motor Fuel Tax - Net Collections and Taxable Gallons by Type of Fuel - Fiscal Years 1989-2018; and U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (annual editions 1993 to 2017), VM-2.

## Options for Raising Additional Revenue from User Fees

New York's current transportation financing system leaves both highway and mass transit systems without the resources needed to operate and maintain vital infrastructure. Increasing current motor vehicle user fees can yield significant resources but must be balanced with maintaining the state's competitiveness. On a long-term basis New York should pursue other ways to price the use of the state's roads and bridges, ways that both have the potential to raise significant funds and discourage excessive use of the network.

### Existing Sources

The State has two primary ways of charging individual motorists for use of the road and bridge network: fuel taxes and motor vehicle fees. In addition, the State, through its highway and bridge public authorities, also charges individuals tolls for using authority-owned bridges, tunnels, and expressways. Though increasing existing fees is the most expedient method for raising transportation revenue, remaining competitive with other neighboring states will limit yields to less than what is needed to support fully New York's transportation network. Revenue increases are limited by the public's willingness to pay for use of the network and by user fees that are perceived as onerous.

#### Fuel taxes

Assuming purchases remain constant, a 1 cent per gallon increase in the Motor Fuels Tax would raise approximately \$66 million annually.<sup>22</sup> Though large rate increases would likely reduce consumption as individuals drive less or purchase fuel outside the state, a modest increase may be prudent. Recent increases to fuel tax rates of other states including New York's neighbors New Jersey, Connecticut, and Pennsylvania have left New York in a more competitive position.

At a combined State rate of 33.7 cents per gallon—including the motor fuels tax, the PBT, and State sales tax—New York's rate is 10th highest amongst U.S. states. Increasing rates to the level of New York's neighbors with higher rates—New Jersey, Connecticut, and Pennsylvania—could raise between \$369 million and \$1.6 billion assuming consumption remains constant.<sup>23</sup> Under current distribution of combined PBT and motor fuels tax receipts this would raise between \$232 million and \$993 million for highways and \$137 million and \$584 million for mass transit.

#### Motor vehicle fees

Unlike fuel taxes, motor vehicle fees do not measure cumulative use of the highway system. Individuals must be licensed to operate motor vehicles, and vehicles must be registered. The State collects registration fees based on a vehicle's weight, which serves as a way of measuring the costs of wear and tear that a vehicle imposes when paired with fuel taxes; however, motor vehicle fees are a blunt tool to measure use of roads and bridges. In addition, they are costly to collect.<sup>24</sup> Motor vehicle fees vary by vehicle and by region, but at \$164 in motor vehicle receipts collected per

publicly registered vehicle, New York ranks 16th among all U.S. states, behind two of its neighbors, New Jersey (\$216) and Vermont (\$317).<sup>25</sup> Increasing motor vehicle fees per registered vehicle to a rate equal to New Jersey or Vermont could raise an additional \$568 million or \$1.7 billion annually. Under current distribution of New York's motor vehicle fees this increase would raise between \$315 million and \$940 million for highways, \$157 million and \$468 million for mass transit, and \$95 million and \$285 million to other State funds.

## Tolls

New York's public authorities charge tolls for use of their facilities. Some tolls measure distance while others measure use of a particular crossing, and rates vary by class of vehicle. For much of the authority-owned highway infrastructure, tolls have been resilient even as rates increase, but tolling has limitations. Imposing new tolls on existing federal-aid highways requires federal approval.<sup>26</sup> Tolling also entails high collection costs including expenditures to operate and maintain tollbooths and electronic tolling capabilities, customer account management, and payment processing.<sup>27</sup> Drivers accustomed to toll-free driving also may avoid tolled roads and bridges leading to traffic volume reductions and diminished revenues. In instances where alternatives exist, introducing new tolls may distort travel patterns and require other policy changes to adjust.<sup>28</sup>

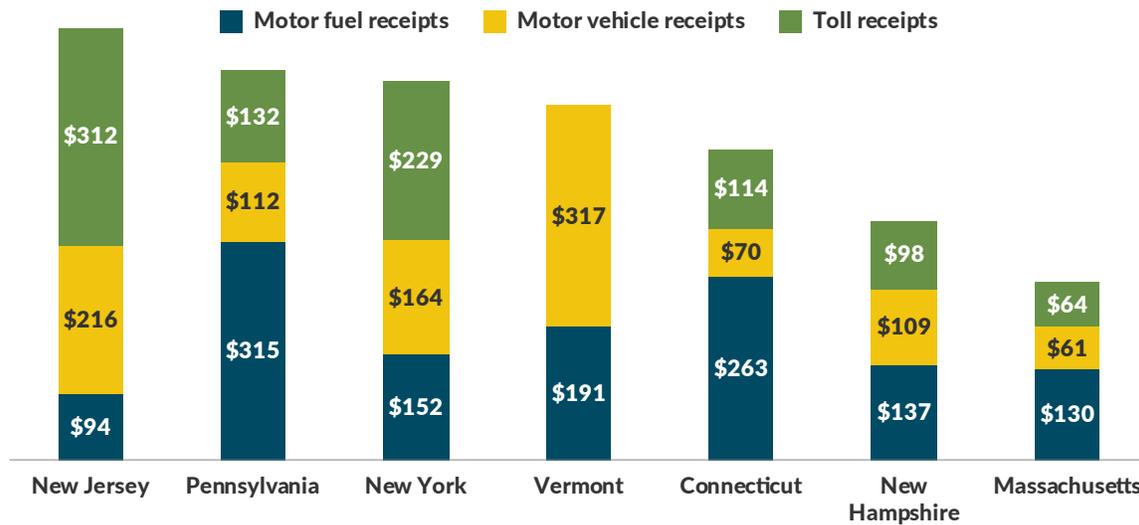
Tolls have increased significantly since 2008 at the MTA's bridges and tunnels, and the authority plans future biennial toll increases to match inflation. Toll rates for the New York State Thruway Authority (NYSTA) facilities are relatively low and have not changed much in recent years. For example, NYSTA's average toll collection of \$2.73 per vehicle is less than turnpikes in New Jersey (\$4.43) and Pennsylvania (\$5.57). NYSTA also collects less toll revenue per revenue mile—8.7 cents—than Pennsylvania (20 cents) and Delaware (23 cents).<sup>29</sup> In aggregate New York State tolling authorities collect less per registered vehicle than New Jersey, \$229 to \$312; increasing statewide tolls per vehicle to New Jersey's level would raise an additional \$919 million annually.<sup>30</sup>

## Maintaining Competitiveness

By increasing all three user fees New York State could raise up to \$4.2 billion annually; however, doing so may be politically difficult and could harm the state's competitiveness. (See Figure 3.) According to the latest available data New York State and its public authorities raised \$545 per publicly registered vehicle in fuel taxes, fees, and tolls. Though this is the fifth highest among all U.S. states, it ranked third among New York and its neighbors, behind New Jersey and Pennsylvania. Matching per vehicle revenue totals of New Jersey or Pennsylvania could raise between \$154 million and \$854 million annually and may be a more realistic ceiling on increases from existing sources.

Moreover, to the extent such increases rely on per gallon fuel tax increases the yield may not be sustainable. Looking beyond existing user fees will be necessary to find a long-term solution to financing the state's highway and transit networks.

**Figure 3: Motor Fuel, Vehicle Fee, and Toll Receipts per Vehicle, New York and Neighboring States, 2016**



Note: Toll receipts do not include tolls received by bi-state tolling authorities including the Port Authority of New York and New Jersey.

Source: U.S. Department of Transportation, Federal Highway Administration, 2016 Highway Statistics (June 2018), SDF: Disposition of Receipts from State and highway-user imposts, including tolls and MV-1: State motor-vehicle registrations.

## Congestion Pricing

Congestion pricing charges motorists for use of heavily trafficked zones in a region, and is typically achieved by levying a fee or toll on vehicles traveling into or within a cordoned area or by a particular route. These charges are designed primarily to reduce traffic within a selected area, as well as provide the associated benefits of reduced motor vehicle use such as lower levels of air pollution, safer streets, and improved pedestrian environments. Cities that employ congestion pricing typically dedicate revenues in excess of related operating and capital expenses to bus and rail services as demand for these modes increases.<sup>31</sup>

Previous efforts to put congestion pricing into practice in New York City have failed to garner State approval; however, the FY 2020 Executive Budget includes a proposal to raise approximately \$1 billion in net revenues to support MTA capital investments based on recommendations from multiple work groups composed of representatives of the Governor, City officials, State legislators, MTA staff, and research organizations.<sup>32</sup> Vehicles entering Manhattan south of 60th Street—with the exception of taxicabs, for-hire vehicles, and emergency vehicles—would pay a congestion charge; however, the FDR Drive between 60th Street and the Brooklyn Bridge would remain outside the congestion zone. According to the Executive Budget, this congestion pricing would go into effect by 2021 and would be designed, constructed, operated, and maintained by the MTA.

Though this proposal would be the first of its kind in the United States, congestion pricing has taken hold in other cities around the world. Each policy has different goals and methods of implementation. Two lessons from the experience of three congestion pricing systems—Singapore, London,

and Stockholm—warrant mention. First, traffic reduction goals are almost always achieved. Singapore's congestion pricing system, introduced in 1975, has kept traffic nearly flat over the nearly 45-year period. Upon adoption in London, the number of private cars in central London was reduced by 27 percent, and all-day average network travel speeds increased 17 percent. Stockholm's system has reduced traffic by more than 20 percent and significantly improved travel time reliability.<sup>33</sup>

Second, projected revenues do not always come to fruition. Congestion pricing in London was projected to generate £270 million to support mass transit, but actual net revenues in the first full year were £97 million. This was owing partially to the success of reduced traffic, but greater than expected evasion and operating costs also ate into revenues for mass transit. In fiscal year 2018 London's congestion fees totaled £230 million (\$322 million), but only netted £156 million (\$219 million) for mass transit services.<sup>34</sup> Stockholm's congestion tax fell short of projections by 14 percent, partially owing to greater than anticipated traffic reduction, but largely owing to the high number of exempted vehicles entering the congestion zone.<sup>35</sup>

Congestion pricing in New York City can be an effective tool for reducing traffic in the Manhattan Central Business District and for raising revenue for the transportation system. The Executive Budget proposal provides the contours of a system but has made its details subject to legislative negotiations. Given the current funding shortfall and poor condition of the State's transportation assets, the Governor and legislature should develop and advance a comprehensive proposal this year, one that raises sufficient revenues to reduce transportation funding shortfalls and to support additional mass transit service to meet the needs of those drivers who choose to switch modes.

## Vehicle-miles Traveled Fee

VMT fees are charges assessed to motorists according to distance traveled. By charging based on distance, a VMT fee more accurately measures travel than a fuel excise tax, which is affected by fuel efficiency. Moreover, a fee can be structured to charge rates that vary according to the weight or class of vehicle, which accounts for wear and tear on road and bridge infrastructure, or to the time or location of travel, which can help reduce traffic congestion. For example, heavy trucks traveling through more congested urban areas may be charged higher per-mile rates than passenger vehicles driving through less congested, rural areas.

New York State already imposes a type of VMT fee on certain heavy commercial vehicles known as the Truck Mileage Tax (TMT). The TMT levies a distance and weight based direct charge, but relies on operators to self-report road use.<sup>36</sup> Selected U.S. states and research organizations have pursued pilots, demonstration projects, and volunteer programs to test VMT fees, with three key lessons emerging.

First, sophisticated VMT fees with rates that vary by vehicle type, time and day of travel, and region of travel are technologically feasible. Use of a vehicle's on-board diagnostic port can determine dis-

tance traveled, vehicle type, and fuel consumed, while global positioning system (GPS) technology can confirm distance and general location of travel. On-board units (OBU) are capable of calculating charges and sending summarized statements of travel to billing centers, aggregating and anonymizing data to maintain a driver’s privacy.<sup>37</sup> Moreover, such systems need not use GPS, but can instead tap into existing cellular networks with smartphone applications and other in-vehicle telematics systems to meter travel, albeit with a lower degree of privacy.

Second, a VMT fee program can offer motorists the option of how to meter miles. This ensures individuals choose how much information to share about their driving. Programs in Minnesota allowed volunteers the option of providing location data, charging these participants a higher rate for travel within a congestion zone and a lower rate for travel outside of the zone, while volunteers not wishing to share location data were charged the higher rate for all travel.<sup>38</sup> In Oregon’s volunteer program, OreGO, the State administers a basic plan that does not record location data while commercial account managers compete for users by providing value-added services such as pay-as-you-drive insurance, route optimization, or other system diagnostic tools.

Third, VMT fee programs can operate simultaneously with existing fuel taxes. This allows for a dual approach to motor vehicle user charges. Oregon’s on-board units, both those with and without GPS capabilities, measure miles driven and fuel consumed to calculate appropriate VMT fees and fuel taxes. In these cases motorists are credited with fuel taxes paid when they purchase fuel at an Oregon gas station.<sup>39</sup>

## Short-term and Long-term Solutions

Placing New York’s highway system on a more sound fiscal footing requires the State to pursue multiple options for increasing revenue, including increases to current user fees—fuel taxes, motor vehicle fees, and tolls—and employing congestion pricing in New York City. (See Table 4.) Increasing fuel taxes, vehicle fees, and toll rates to those of New York’s neighbors can raise significant sums in the short-term. Long-term the State should shift away from fuel taxes toward a more sustainable VMT fee. Assuming no change in miles traveled in New York State, a VMT fee charged at a rate of 1 cent per mile could raise up to \$1.2 billion.

**Table 4: Illustrative Increases to New York Motor Vehicle User Fees**

	<u>Current rate</u>	<u>Rate increases</u>	<u>Illustrative yields</u> (dollars in millions)
<b>Fuel taxes</b>	\$0.337 taxes per gallon	\$0.056 to \$0.239	\$369 to \$1,577
<b>Motor vehicle fees</b>	\$164 fees per vehicle	\$51 to \$153	\$568 to \$1,693
<b>Tolls (Statewide)</b>	\$229 tolls per vehicle	\$83	\$919
<b>Vehicle-miles traveled fee</b>	NAP	\$0.01	\$1,250

NAP=Not Applicable

Underfunding New York's transportation infrastructure has led to poor conditions for the state's pavements, bridges, and rail and bus systems. Long-term the State should seek ways to set user charges per mile driven in real terms to levels that support the operation and maintenance of the highway system. Retaining fuel taxes and the benefits derived from these revenues and encouraging more fuel efficient vehicles is vital; however, looking to new charges that better measure the physical and social costs imposed by motor vehicle travel are necessary to ensure the state's transportation funding approach is sustainable.

A second brief will provide detailed consideration of the different types of VMT fees currently in place. It will present options for the State to consider when pursuing a similar type of user charge including pricing policies, technologies, and administrative practices necessary to roll out a comprehensive charging system. Perceived challenges to implementing a VMT fee are being overcome by advancements in technology and developments in management processes. Crafting a VMT fee that meets New York's funding needs will require the State to build expertise in a new area of revenue generation. A phased approach may be appropriate, but the State needs to begin the thoughtful process to develop a VMT fee.

## Endnotes

- [1] Highway use taxes include taxes and fees paid by commercial vehicles including a distance-weight based tax and a commercial vehicle registration fee. The per-trip tax on taxicab rides in the MTA region does not include the for-hire vehicle congestion surcharge that went into effect in February 2019.
- [2] New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019), <https://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf>.
- [3] New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019), <https://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf>.
- [4] Morris Peters, New York State Division of the Budget, correspondence with CBC staff (February 20, 2019).
- [5] New York State Division of the Budget, *FY 2020 Executive Budget, Agency Appropriations* (January 2019), “Department of Transportation” and “Department of Motor Vehicles,” [www.budget.ny.gov/pubs/archive/fy20/exec/agencies/appropData/index.html](http://www.budget.ny.gov/pubs/archive/fy20/exec/agencies/appropData/index.html).
- [6] Office of the New York State Comptroller, *State of New York Basic Financial Statements and Other Supplementary Information For Fiscal Year Ended March 31, 2018* (July 2018), [www.osc.state.ny.us/finance/finreports/bfs/2018-basic-financial-statements.pdf](http://www.osc.state.ny.us/finance/finreports/bfs/2018-basic-financial-statements.pdf).
- [7] Office of the New York State Comptroller, *State of New York Basic Financial Statements and Other Supplementary Information For Fiscal Year Ended March 31, 2018* (July 2018), [www.osc.state.ny.us/finance/finreports/bfs/2018-basic-financial-statements.pdf](http://www.osc.state.ny.us/finance/finreports/bfs/2018-basic-financial-statements.pdf); and New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019), [www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf](http://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf).
- [8] Charles Brecher, *Financing Transportation Services in the New York Region* (Citizens Budget Commission, March 2004), <https://cbcny.org/research/financing-transportation-services-new-york-region>.
- [9] World Bank, *Cities on the Move: A World Bank Urban Transport Strategy Review* (2002), Chapter 10: Urban Transport Pricing and Finance, pp. 135-136, <https://openknowledge.worldbank.org/handle/10986/15232>.
- [10] New York State Department of Transportation, *Pavement Condition Report* (annual editions 2010 to 2016), [www.dot.ny.gov/divisions/engineering/technical-services/pavement-management](http://www.dot.ny.gov/divisions/engineering/technical-services/pavement-management).
- [11] American Society of Civil Engineers, *Report Card for New York’s Infrastructure* (September 2015), pp. 13-20 and 43-53, [www.infrastructurereportcard.org/wp-content/uploads/2017/01/NY\\_Report-Card\\_FullReport\\_9.29.15\\_FINAL.pdf](http://www.infrastructurereportcard.org/wp-content/uploads/2017/01/NY_Report-Card_FullReport_9.29.15_FINAL.pdf).
- [12] Roughness is measured in the International Roughness Index (IRI), a measurement of a two-dimensional road profile. It is quantified as inches of elevation change per mile. A lower IRI represents smoother riding roadways. NYSDOT considers IRI between 170 and 220 as “Rough” and IRI great-

er than 220 as “Very Rough.”

- [13] Three-quarters of National Highway System miles are owned and maintained primarily by NYSDOT, but some are the responsibility of public authorities and local governments. See: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2017* (December 2018), HM-40, HM-47, and HM-47A, [www.fhwa.dot.gov/policyinformation/statistics.cfm](http://www.fhwa.dot.gov/policyinformation/statistics.cfm).
- [14] Condition ratings are measured between 0 and 9 with 0 indicating a failed condition and is out of service and a 9 indicating excellent condition. Poor condition includes anything rating 4 or lower.
- [15] U.S. Department of Transportation, Federal Highway Administration, *2017 National Bridge Inventory* (2018), [www.fhwa.dot.gov/bridge/nbi.cfm](http://www.fhwa.dot.gov/bridge/nbi.cfm), and *Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges*, Report No. FHWA-PD-96-001 (December 1995), [www.fhwa.dot.gov/bridge/mtguide.pdf](http://www.fhwa.dot.gov/bridge/mtguide.pdf).
- [16] Jamison Dague, *MTA's New Capital Plan Not on Track with Need for Better Service* (Citizens Budget Commission, June 2017), <https://cbcny.org/research/mtas-new-capital-plan-not-track-need-better-service>; Rahul Jain, *Misplaced Priorities in the MTA's Capital Plan* (Citizens Budget Commission, October 2012), <https://cbcny.org/research/better-way-pay-mta>; and Selma Mustovic and Charles Brecher, *Working in the Dark: Implementation of the MTA's Capital Plan* (Citizens Budget Commission, October 2009), <https://cbcny.org/research/working-dark-0>.
- [17] Metropolitan Transportation Authority, *2019 Final Proposed Budget, November 2020-2022 Financial Plan*, Volume I (November 2018), <http://web.mta.info/mta/budget/>.
- [18] Jeffrey M. Zupan and Richard E. Barone with Jackson Whitmore, *Mileage-Based User Fees: Prospects and Challenges* (Regional Plan Association, June 2012), p. 8, [www.dot.ny.gov/divisions/engineering/technical-services/trans-r-and-d-repository/C-10-22-21144%20Mileage%20Based%20User%20Fees%20Final%20Report%2029June12.pdf](http://www.dot.ny.gov/divisions/engineering/technical-services/trans-r-and-d-repository/C-10-22-21144%20Mileage%20Based%20User%20Fees%20Final%20Report%2029June12.pdf).
- [19] An increase in axle weight of 65 percent can cause 8 times more pavement damage. See: Government Accountability Office, *Highway Trust Fund: Pilot Program Could Help Determine the Viability of Mileage Fees for Certain Vehicles*, GAO-13-17 (December 13, 2012), [www.gao.gov/products/GAO-13-77](http://www.gao.gov/products/GAO-13-77).
- [20] All figures do not include State sales tax. State sales tax is capped at 8 cents per gallon. The combined State rate with sales tax is 33.7 cents per gallon as of January 1, 2019. See: New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019), Ranking of State Taxes Per Gallon, p. 216, [www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf](http://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf).
- [21] 2018 statewide VMT assumed to be 1 percent greater than 2017 figure. See: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics* (annual editions 1993 to 2017), [www.fhwa.dot.gov/policyinformation/statistics.cfm](http://www.fhwa.dot.gov/policyinformation/statistics.cfm); and New York State Department of Taxation and Finance, *Fiscal Year Tax Collections* (annual editions, fiscal years 1993 to 2018), [www.tax.ny.gov/research/stats/statistics/stat\\_fy\\_collections.htm](http://www.tax.ny.gov/research/stats/statistics/stat_fy_collections.htm).
- [22] In fiscal year 2018 the State recorded 6.6 billion taxable gallons. See: New York State Department of Taxation and Finance, *2017-2018 New York State Tax Collections: Statistical Summaries and His-*

torical Tables (July 2018), Table 11: Motor Fuel Tax – Net Collections and Taxable Gallons by Type of Fuel – Fiscal Years 1989-2018, [www.tax.ny.gov/research/collections/fy\\_collections\\_stat\\_report/2017\\_2018\\_annual\\_statistical\\_report\\_of\\_ny\\_state\\_tax\\_collections.htm](http://www.tax.ny.gov/research/collections/fy_collections_stat_report/2017_2018_annual_statistical_report_of_ny_state_tax_collections.htm).

- [23] New York State Division of the Budget, *FY 2020 Economic and Revenue Outlook* (January 2019), Ranking of State Taxes Per Gallon, p. 216, [www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf](http://www.budget.ny.gov/pubs/archive/fy20/exec/ero/fy20ero.pdf).
- [24] According to a 2009 report approximately 20 percent of gross receipts are used for administering fees. DMV's \$297 million of operating expenses in fiscal year 2018 supports approximately 2,301 full-time State employees. See: Jonathan R. Peters and Cameron Gordon, *Analysis of Alternative Funding Sources* (University Transportation Research Center for the New York Roadway Improvement Coalition, December 31, 2009), pp. 38-39, [www.utrc2.org/sites/default/files/pubs/analysis-of-alternative-funding-sources.pdf](http://www.utrc2.org/sites/default/files/pubs/analysis-of-alternative-funding-sources.pdf).
- [25] For example, the State collects drivers license and vehicle registration fees specific to downstate region that are dedicated wholly to the MTA. See: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2016* (January 2017), SDF and MV-1, [www.fhwa.dot.gov/policyinformation/statistics.cfm](http://www.fhwa.dot.gov/policyinformation/statistics.cfm).
- [26] States may toll newly constructed lanes and highways without the same level of approval. See: U.S. Department of Transportation, Federal Highway Administration, "Guidance General Tolling Programs" (September 24, 2012; accessed September 10, 2018), [www.fhwa.dot.gov/map21/guidance/guidetoll.cfm](http://www.fhwa.dot.gov/map21/guidance/guidetoll.cfm).
- [27] According to data compiled by the Transportation Research Board administrative and collection costs for tolling facilities can account for as much as 35 percent of gross toll revenue. See: Patrick Balducci, Gang Shao, Albert Amos, and Anthony Rufalo, *Costs of Alternative Revenue-Generation Systems*, (National Cooperative Highway Research Program Report 689, 2011), Chapter 4: Administrative Cost Estimates for Motor Fuel Taxes and Alternative Revenue-Generation Systems, [www.nap.edu/catalog/14532/costs-of-alternative-revenue-generation-systems](http://www.nap.edu/catalog/14532/costs-of-alternative-revenue-generation-systems).
- [28] Examples of such "bridge shopping" are prevalent in New York City, where free crossings adjacent to tolled crossings lead motorists to drive out of their way to save money on tolls. See: Sam Schwartz, "NYC's toll structure is screwed up, and Staten Island suffers," *Staten Island Advance* (July 10, 2014), [www.silive.com/opinion/columns/index.ssf/2014/07/fixing\\_transportation\\_in\\_nyc\\_w.html](http://www.silive.com/opinion/columns/index.ssf/2014/07/fixing_transportation_in_nyc_w.html).
- [29] New Jersey Turnpike Authority, Investor Relations, "Key Metrics and Financial Policies" (accessed November 30, 2018), [www.njta.com/investor-relations/about-investor-relations](http://www.njta.com/investor-relations/about-investor-relations); Pennsylvania Turnpike Commission, *Comprehensive Annual Financial Report, Fiscal Years Ended May 31, 2018 and 2017* (September 2018), Traffic Statistics, p. 131, [www.paturnpike.com/business/annual\\_financial\\_reports.aspx](http://www.paturnpike.com/business/annual_financial_reports.aspx); and U.S. Department of Transportation, Federal Highway Administration, *Toll Facilities in the United States*, FHWA-PL-18-018 (March 2018), [www.fhwa.dot.gov/policyinformation/toll-page/](http://www.fhwa.dot.gov/policyinformation/toll-page/).
- [30] Toll revenues from bi state tolling agencies, such as the Port Authority of New York and New Jersey, are not included in this total. This would likely make the receipt totals for New York, New Jersey, and

- Pennsylvania higher; however, to what extent the burden falls on these states is outside the scope of this analysis. See: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2017* (December 2018), SDF and MV-1, [www.fhwa.dot.gov/policyinformation/statistics.cfm](http://www.fhwa.dot.gov/policyinformation/statistics.cfm).
- [31] Asian Development Bank, Development Asia, “Case study: The Case for Electronic Road Pricing,” (Institute for Transportation and Development Policy, May 2016), <https://development.asia/case-study/case-electronic-road-pricing>.
- [32] The most recent report recommends a congestion zone charge for all vehicles entering the central business district and urges the consideration of variable and dynamic pricing options to maximize congestion reduction. The report estimates the plan could raise up to \$1.6 billion annually and reduce traffic between 15 and 20 percent depending on the time of day pricing options. See: FixNYC Advisory Panel, *FixNYC Advisory Panel Report – January 2018* (2018), [www.hntb.com/HNTB/media/HNTBMediaLibrary/Home/Fix-NYC-Panel-Report.pdf](http://www.hntb.com/HNTB/media/HNTBMediaLibrary/Home/Fix-NYC-Panel-Report.pdf).
- [33] Asian Development Bank, Development Asia, “Case study: The Case for Electronic Road Pricing,” (Institute for Transportation and Development Policy, May 2016), <https://development.asia/case-study/case-electronic-road-pricing>; Jonas Eliasson, *The Stockholm congestion charges: an overview*, Working Paper 2014:7 (Centre for Transport Studies Stockholm, 2014), [www.transportportal.se/swopec/cts2014-7.pdf](http://www.transportportal.se/swopec/cts2014-7.pdf); and Jonathan Leape, “The London Congestion Charge,” *Journal of Economic Perspectives*, vol. 20, no. 4 (2006), pp 157-176.
- [34] Transport for London, *Annual Report and Statement of Accounts, 2017/18* (July 25, 2018), p. 208, <http://content.tfl.gov.uk/tfl-annual-report-and-statement-of-accounts-2017-18.pdf>.
- [35] Jonas Eliasson, *The Stockholm congestion charges: an overview*, Working Paper 2014:7 (Centre for Transport Studies Stockholm, 2014), [www.transportportal.se/swopec/cts2014-7.pdf](http://www.transportportal.se/swopec/cts2014-7.pdf).
- [36] There is evidence many smaller operators ignore the requirement: Evasion has been estimated to be as high as 50 percent for the truck mileage tax. See: New York State Division of the Budget, *FY 2019 Economic and Revenue Outlook* (January 2018), p. 196, [www.budget.ny.gov/pubs/archive/fy19/exec/fy19ero/economicRevenueOutlook.pdf](http://www.budget.ny.gov/pubs/archive/fy19/exec/fy19ero/economicRevenueOutlook.pdf); and Jonathan R. Peters and Cameron Gordon, *Analysis of Alternative Funding Sources* (University Transportation Research Center for the New York Roadway Improvement Coalition, December 31, 2009), pp. 50-51, [www.utrc2.org/sites/default/files/pubs/analysis-of-alternative-funding-sources.pdf](http://www.utrc2.org/sites/default/files/pubs/analysis-of-alternative-funding-sources.pdf).
- [37] Paul F. Hanley and Jon G. Kuhl, “National Evaluation of Mileage-Based Charges for Drivers,” *Transportation Research Record*, No. 2221 (2011) pp. 10-18.
- [38] Jennifer A. Rephlo, *Connected Vehicles for Safety, Mobility, and User Fees: Evaluation of the Minnesota Road Fee Test* (Minnesota Department of Transportation, February 2013), pp. xvi – xxxi, [www.dot.state.mn.us/mileagebaseduserfee/pdf/EvaluationFinalReport.pdf](http://www.dot.state.mn.us/mileagebaseduserfee/pdf/EvaluationFinalReport.pdf).
- [39] Oregon Department of Transportation, *Oregon’s Road Usage Charge, The OReGO Program, Final Report* (April 2017), [www.oregon.gov/ODOT/Programs/RUF/IP-Road%20Usage%20Evaluation%20Book%20WEB\\_4-26.pdf](http://www.oregon.gov/ODOT/Programs/RUF/IP-Road%20Usage%20Evaluation%20Book%20WEB_4-26.pdf).

# Building a Sound Fiscal Future for New York's High- way and Mass Transit Systems

Policy Brief ■ March 2019

[www.cbcny.org](http://www.cbcny.org)

@cbcny

540 Broadway  
Fifth Floor  
Albany, NY 12207  
518-429-2959

Two Penn Plaza  
Fifth Floor  
New York, NY 10121  
212-279-2605