ECONOMIC CONSEQUENCES OF PROPOSED PANDEMIC-RELATED CUTBACKS IN MTA TRANSPORTATION SERVICES AND CAPITAL SPENDING

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Executive summary

Since March 2020, the Covid-19 pandemic and policies designed to contain it have had a devastating impact of the economy of New York City and the twelve-county region served by the Metropolitan Transportation Authority.

Among other effects, the pandemic and the associated economic disruption have led to a sharp decline in MTA ridership and revenues. When combined with higher COVID-related costs (for distribution of personal protective equipment and disinfection of all subway and rail cars and buses) these revenue losses have plunged the MTA into the most severe financial crisis in the agency's history.

The MTA has said that without $12 billion in new federal aid, the MTA will have to reduce subway and bus service by up to 40 percent in 2021, and commuter rail service by up to 50 percent. The agency will also need to sharply reduce planned capital spending, including major system improvements included in its capital plan for 2020-2024.

This report, prepared by the NYU Rudin Center for Transportation and Appleseed, a New York City-based consulting firm, provides a preliminary analysis of the dire impact that cutbacks in capital spending and services now being considered would have on the economy of the MTA region in 2021. Our findings include the following:

- Closing the projected gap in the MTA's operating budget for 2021 could require a reduction of the agency's workforce by 8,000 positions, directly and indirectly resulting in a loss of 13,380 jobs, with more than $1.4 billion in earnings, in the MTA region in 2021.

- A reduction in capital spending by $4.8 billion below the level previously planned for 2021 would directly and indirectly result in a loss of 23,264 jobs, with nearly $2.0 billion in earnings, in the region in 2021. Reductions in capital spend beyond the $4.8 billion planned for 2021 would directly and indirectly result in even greater job losses.

- Reductions in the frequency of subway, bus and commuter rail service, increased crowding and other factors would result in longer travel times, collectively costing commuters and other riders more than $1.7 billion in lost time each year.

- Beyond the specific impacts cited above, the cutbacks in MTA services now being considered, by eroding the region's competitiveness as a location for high-value businesses and a home for highly skilled workers, would seriously impair the region's ability to recover from the disruptions caused by the pandemic. Our analysis indicates that the cutbacks in subway, bus and commuter rail services now being considered could result in the loss of as many as 450,000 total jobs in the MTA region by 2022, up to $50 billion in lost earnings, and a reduction of up to $65 billion in the region's gross domestic product.

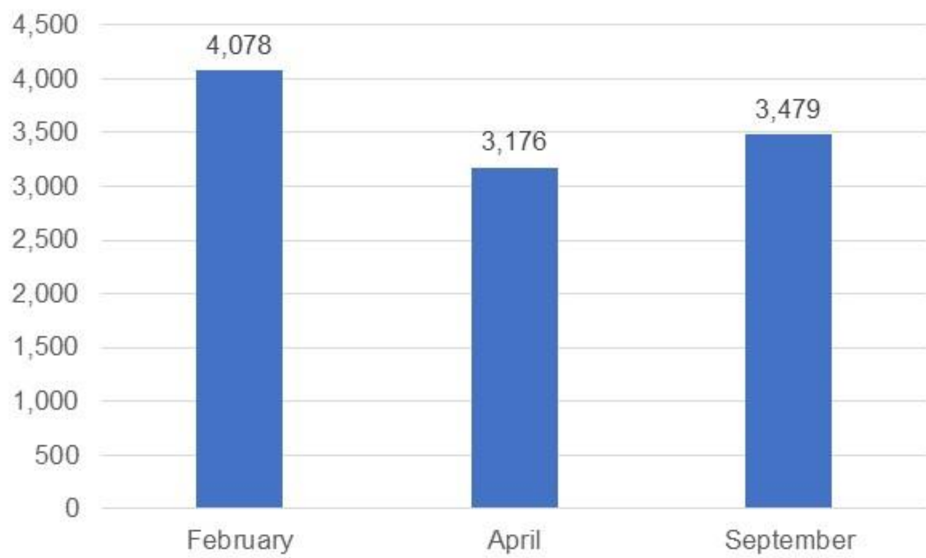
- While the MTA should continue to explore opportunities to reduce its costs and find new sources of revenue, neither of these options can in the near term provide sufficient relief to avert severe reductions in MTA investments and services. Substantial federal financial assistance now appears to be the only feasible alternative.

Introduction

Since March 2020, the Covid-19 pandemic has had a devastating impact on New York City's economy. From February through April, the City lost 902,000 private-sector wage-and-salary jobs – a decline of 22 percent. From February through May the number of employed City residents fell by 948,000 – a decline of 24 percent – and by June, the City's unemployment rate had risen to 20.4 percent, the highest since the Great Depression.

By September New York City had gained back 303,000 private wage-and-salary jobs, and its unemployment rate had fallen to 13.9 percent. But the economy was still operating far below pre-pandemic levels, and there were already signs that the recovery was slowing down.

Figure 1: NYC private wage and salary employment, 2020 (in 000's)

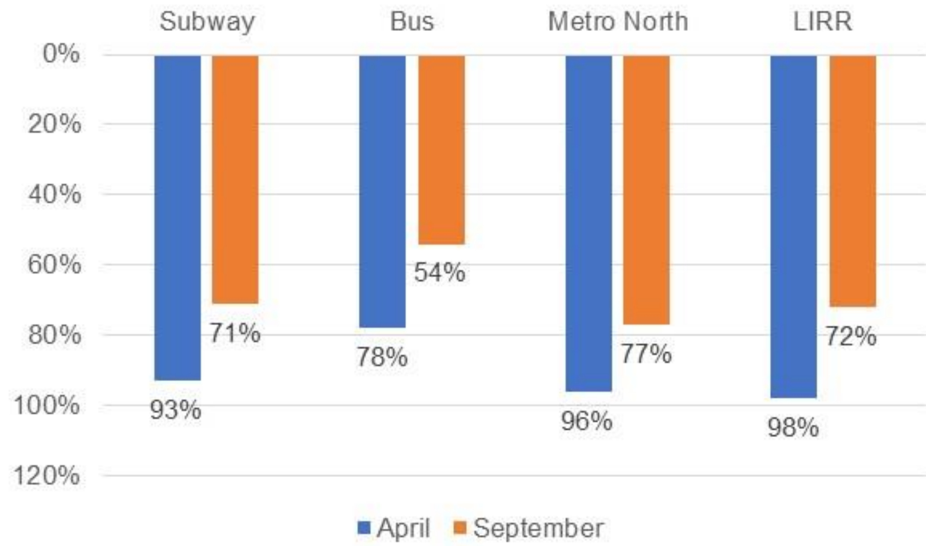


Source: NYS Department of Labor, Current Employment Statistics

The impact of the pandemic was not, of course, limited to the job market. Across the City, schools, museums, theaters, hotels, restaurants and recreational facilities were closed, food supplies were disrupted and the number of visitors to the City declined drastically.

Among New York's public service systems, none were hit harder than the Metropolitan Transportation Authority's subway, bus and commuter rail networks. At the height of the pandemic, subway and commuter rail ridership had declined by more than 90 percent, and bus ridership by more than 70 percent. As Figure 2 shows, ridership has since begun to recover, but is still far below pre-pandemic levels.

Figure 2: *Decline* in MTA ridership from pre-pandemic levels, by mode, 2020



Source: MTA Board presentation, September 23, 2020

Along with drop-offs in ridership, the MTA has experienced a severe decline in revenues – both farebox revenues and income from dedicated taxes and fees. Relative to the MTA's February 2020 financial plan, fare and toll revenues and income from economically-sensitive dedicated taxes[1] and other subsidies are projected to decline in 2020 by $6.85 billion.[2] In 2021, revenue from fares and tolls, dedicated taxes and subsidies are expected to fall $5.37 billion below the level projected in February 2020. When combined with higher COVID-related costs, these revenue losses have plunged the MTA into the most severe financial crisis in the agency's history.

MTA Chair Pat Foye has said that without $12 billion in new federal aid, the MTA will have to reduce subway and bus service by up to 40 percent in 2021, and commuter rail service by up to 50 percent. The agency will also need to sharply reduce planned capital spending, including major system improvements included in its capital plan for 2020-2024.

This report explores the potential first-year impacts of the cutbacks in operations and capital spending now being considered by the MTA on the economy of New York City and the twelve-county MTA region.[3] It assesses four ways in which these cutbacks could affect the City's and the region's economy.

[1] Examples of taxes dedicated in whole or in part to supporting the MTA include the State' payroll mobility tax, the mortgage recording tax and the petroleum business tax.

[2] This decline in revenues was partially offset in 2020 by an infusion of $4.0 billion in federal aid under the CARES Act, passed in March 2020, but which the MTA exhausted in July 2020.

[3] The MTA region includes the five boroughs of New York City (the Bronx, Manhattan, Brooklyn, Queens and Staten Island), Nassau and Suffolk counties on Long Island, and Westchester, Rockland, Putnam, Dutchess and Orange counties in the Hudson Valley.

- By resulting in sharp reductions in MTA employment and operations;
- By requiring deferral or elimination of billions of dollars in currently planned capital spending;
- By effectively limiting peak-period capacity, increasing riders' travel times and reducing the reliability of transit services;
- By reducing New York's competitiveness as a place to live, work, visit, learn, and do business.

The report also touches on why federal financial assistance may for the next few years be the only realistic alternative to the cutbacks in regional transit investment and services that the MTA is now facing.

The impact of operating budget reductions

The specific elements of the MTA's proposed reductions in operations, spending and services are yet to be determined. Based on MTA public statements, we assume for purposes of this analysis that these reductions will primarily be accomplished through reductions in the frequency of subway, bus and commuter rail services. We further assume that the MTA will need to reduce its workforce by 8,000 positions in 2021, a reduction of approximately 11 percent. This will result directly in a reduction of nearly $1 billion in workers' incomes.

Using the IMPLAN input-output modeling system – a modeling tool commonly used in economic impact studies – and taking into account the "multiplier effect," we estimate that reducing the agency's workforce by 8,000 positions would directly and indirectly result in a loss of:

- 13,380 jobs in the MTA region, with more than $1.4 billion in earnings in 2021;
- More than $2.6 billion in regional economic output; and
- A reduction of more than $1.9 billion in the region's GDP.

Table 1:

Direct, indirect[4], and induced[5] impacts of reducing the MTA's workforce by 8,000 positions in 2021 (wages, value added, and output in $ millions)

	Jobs	Wages	Value added	Output
Direct impact	8,000	$992.0	$1,159.0	$1,525.9
Indirect effect	1,117	113.7	216.5	304.1
Induced effect	4,263	309.2	533.1	794.4
TOTAL	**13,380**	**$1,414.9**	**$1,908.6**	**$2,623.4**

[4] Indirect effects represent the impact of spending by the MTA on purchases of goods and services from suppliers and contractors located in the 12-county MTA region, and subsequent purchases by those suppliers and contractors from still other businesses in the MTA region.
[5] Induced effects represent the impact of household spending by MTA employees, and the employees of the agency's local suppliers, in communities throughout the 12-county region.

The impact of reductions in capital spending

In the absence of any major new financial assistance, the MTA will be forced to reduce its spending on capital improvements. As with spending on operations, the full scale and scope of these reductions have yet to be formally identified. For purposes of this analysis (and based in part on MTA statements about projects originally in the agency's 2020-2024 capital plan that may now be at risk), we assume that previously planned 2021 spending on the following projects will be eliminated or deferred to future years:

- Phase II of the Second Avenue Subway
- Accessibility improvements to 70 subway stations
- The beginning of work on Metro North's Penn Station Access project
- Purchase of new electric buses
- Signal system modernization
- Substation and other power system upgrades

Reductions being contemplated by the MTA in these areas could total $6.7 billion – more than half of the $13.157 billion in capital spending commitments that had originally been planned for 2021 in the MTA's 2020-2024 capital plan.[6]

Taking into account the normal lag time between contractual commitments and actual spending, Appleseed estimates that in the absence of any new sources of financing, the actions being contemplated by the MTA will in 2021 translate into a reduction in actual spending of $4.8 billion below previously planned level.

For purposes of this analysis, we assume that 25 percent of this total represents money that would have been spent on equipment and materials sourced from outside the MTA region; and that 75 percent would have been spent on construction work done and materials purchased within the region.

Table 2 summarizes the lost jobs and economic activity that would be associated with this reduction. Taking into account direct, indirect and induced effects, we estimate that the proposed cutbacks will result in a loss of:

- 23,264 jobs in the MTA region, with nearly $1.6 billion in earnings, in 2021;
- More than $5.50 billion in regional economic output; and
- A reduction of $3.31 billion in the region's GDP.

[6] *MTA Capital Program 2020-2024*, p. 236

Table 2: Direct, indirect, and induced impacts of reducing the MTA's capital spending by $4.8 billion in 2021 (wages, value added, and output in $ millions)

	Jobs	Wages	Value added	Output
Direct impact	14,438	$1,274.5	$2,086.3	$3,600.0
Indirect effect	3,071	307.3	504.5	828.4
Induced effect	5,755	416.7	721.2	1,075.0
TOTAL	**23,264**	**$1,993.5**	**$3,312.0**	**$5,503.4**

The impact of reduced capacity

The twelve-county regional economy would be adversely affected by reductions in the transit system's capacity. The MTA estimates that without $12 billion in federal emergency assistance, subway and bus service will have to be reduced by up to 40 percent, and commuter rail service by up to 50 percent. As employment in the twelve-county region resumes growth, the MTA expects that service reductions of this magnitude will seriously diminish the quality of transit service in significant ways.

- Reduced service will lead to sharply increased crowding, especially during peak periods and on the most heavily traveled lines. At some times and at some locations, it may be virtually impossible for riders to board.

- With longer headways, longer loading and unloading times, and more riders having to wait for the next train, total commuting times are likely to become longer, and less predictable. (Transportation research has shown that for many riders, unpredictability can be an even greater concern than longer but predictable travel times.)

- Greater crowding and longer travel times, coupled with concerns about potential exposure to Covid-19 and other communicable diseases, could further depress ridership dramatically.

We anticipate that a 40 to 50 percent cutback in service will lead to a decline of 20 to 25 percent in ridership. Assuming that without these cuts, the MTA would reach an average of 3.6 million[7] riders per weekday in 2021, a decline of 20 to 25 percent could translate into a loss of as many as 750,000 trips per day.

Some of these lost trips will simply reflect riders shifting to other modes of transportation (walking, biking, driving, taking a taxi or using Uber), with relatively little impact on the region's economy.

[7] This estimate, based in part on analyses performed on MTA's behalf by McKinsey, assumes that without the projected cutbacks, ridership would continue to recover but would still be below the pre-pandemic level of approximately 6.0 million.

But in other cases, lost trips will reflect decisions to spend more days working from home (or working entirely from home), or foregoing discretionary trips.[8]

It is also essential to recognize that a decline in service levels and in the quality of service also imposes real costs on those who continue to travel by subway, bus or commuter rail. If, for example, we assume that riders' travel times increase by an average of 5 minutes per trip, and if we value riders' travel time at $23.91 per hour (half the average hourly wage for all wage-and-salary workers in New York City in 2019), we can estimate that increased travel times resulting from MTA service cutbacks will cost riders more than $1.7 billion in 2021.

Broader impacts on the economy of the MTA region

Proposed reductions in the level and quality of transportation services provided by the MTA will seriously undermine the region's ability to recover successfully from the economic damage wrought by the Covid-19 pandemic.

The current economic crisis will influence any forecast of how service reductions on the scale the MTA is now contemplating will shape the region's recovery. Many highly-skilled employees in the region's leading office-based industries (finance, professional and business services, media and technology) are now working from home or from other remote locations outside the region. While they may still be counted in official statistics as being employed in New York City, or elsewhere in the region, their impact on the local economy has effectively been reduced – they are no longer occupying office space[9], buying lunch, hailing cabs, or going out to dinner after work. If they and their families have temporarily relocated to places outside the region, they may no longer be spending money locally on groceries and other household needs, child care or health care.

In these circumstances, getting employers to bring their employees back to the office – and getting employees to return to the office – is critical to the region's recovery in 2021 and beyond. Continued progress in battling the pandemic, and in ensuring the safety and stability of the region's schools, may top the list of factors shaping these decisions; but confidence in the safety, reliability and quality of service of the region's public transportation systems is also critical.

Because of the essential role that the MTA's transit systems play in the economy of the twelve-county region, it is important to analyze the economic consequences of major cutbacks in MTA services. Using TREDIS (a modeling tool specifically designed for use in transportation economics and planning), we can assess a broader range of impacts than those captured in Tables 1 and 2 – in particular, those related to shifts in the character and location of economic activity. Using TREDIS, we estimate that cutbacks of up to 40 percent in subway and bus services and up to 50 percent in commuter rail service in 2021 could lead to a loss of as many as 425,000

[8] A shift away from mass transit to private cars would no doubt cause some increase in private auto and for-hire vehicular trips into the Manhattan central business district, although the specific consequences are difficult to pinpoint in light of the potential implementation of Congestion Pricing in the Manhattan CBD.

[9] For the week of June 29, for example, the five-day average effective occupancy rate in Manhattan buildings managed by CBRE was only 6.0 percent. It has since risen gradually, but as of the week of September 28 was still only 12.0 percent.

jobs in the twelve-county region,[10] with an accompanying reduction of $46.24 billion in annual earnings, and a reduction of $60.24 billion in the region's GDP.[11]

The jobs projected to be lost in this analysis would span the full range of the occupations in the MTA region. Table 3 lists estimates generated by TREDIS for projected job losses in selected occupational groups.

Table 3: Projected job losses in the MTA region related to MTA cutbacks, selected occupational groups

Occupational groups	Projected job losses
Management	22,200
Business and professional services	47,300
Health care	39,300
Food preparation and service	38,600
Personal care and services	21,400
Sales	41,300
Office and administrative support	66,200
Construction	14,300
Production	20,100
Transportation	36,900
Subtotal	347,600
Other	*77,400*
Total	**425,000**

Source: Appleseed analysis using TREDIS

While there is some overlap between this estimate of 425,000 jobs lost and the loss of 13,380 jobs cited in Table 1, the loss of 23,264 jobs resulting from reduced MTA capital spending cited in Table 2 is largely separate from the estimate of 425,000 job associated with reductions in MTA services. While they are thus not strictly additive, the combined total of job losses based on cutbacks in these three areas could approach 450,000 jobs, with a loss in annual earnings of approximately $50 billion; and a combined reduction of approximately $65 billion in the region's GDP.

Note that this projected loss of 450,000 jobs does not represent a reduction of 450,000 from *current* employment levels in the MTA region; it represents a reduction from where total regional employment might be by 2022 if the cutbacks now being contemplated by the MTA are *not* implemented.

Even if other trends in 2021 favor a more rapid recovery – such as availability of new treatments and a vaccine for Covid-19, a renewal of federal unemployment assistance and payroll protection

[10] To put this potential loss of 425,000 jobs in perspective, it is equivalent to 4.6 percent of total employment of 9.08 million (including both wage-and-salary jobs and proprietors' jobs) in the MTA region in 2018, as reported by the U.S. Bureau of Economic Analysis.

[11] Appleseed analysis using TREDIS (Transportation Economic Development Impact System), October 2020

programs, or an increase in immigration – the projected job losses resulting from cutbacks in MTA services could be great enough to offset any growth that might occur in 2021 in the MTA region.

Moreover, even if the pace of recovery begins to pick up in 2022 and beyond, the damage that would result from deep cuts in 2021 could extend far into the future. Suspending and then restarting capital projects would increase their costs. Deferred capital investment and maintenance could lead in the future to less reliable service. Companies whose employees are experiencing problems getting to work might decide in 2021 to reduce their presence in New York – decisions that might not be easily reversible, even if the MTA's situation improves greatly after a few years. Thus, even if net job losses related to MTA cutbacks start to decline in 2022, the cumulative cost to the region's GDP would continue to rise. The cumulative reduction in regional gross domestic product for 2021 and 2022 could easily total more than $100 billion.

Major cutbacks in transit service will have particularly serious consequences for low-income and minority communities and workers – people who have already been hit hard by the twin blow of infectious disease and economic dislocation. Low-income workers rely heavily on public transit. According to Census Bureau data for 2016, among all workers who both lived and worked in New York City and who had household incomes below $35,000, 61.5 percent used public transportation to get to work.[12]

The burden of reductions in service that the MTA may be forced to implement will fall disproportionately on low-income New Yorkers. Reduced service will make it more difficult for low-income workers to take advantage of opportunities for advancement that require longer or more difficult commutes. Managing work and family obligations will become more difficult for parents of young children. And it could become more difficult for students at all levels to access the abundance of educational opportunities the City offers.

It may be tempting to gamble that the MTA could withstand a year or two of deep cuts and then rebound fairly quickly – but the cost of making that bet could prove to be great, for the MTA, for the region and for its residents.

Avoiding proposed cutbacks in MTA operations, investment and services

From the perspective of the MTA, New York State and the region, the most effective way to avoid cutbacks in MTA operations, investment and services in 2021 would be through a major cash infusion from the federal government. Persuading Congress to provide such funding may not be easy; but there may be no other way in the near term to fix the problem.

The MTA is working to identify additional areas where it can cut costs without gutting its core services. It should keep doing so. Nevertheless, we need to recognize that the scale of the MTA's current budgetary crisis is simply too great to be solved primarily by cuts in spending. Emergency financial assistance is essential.

[12] U.S. Bureau of the Census, American Community Survey five-year estimates, 2012-2016, Census Transportation Planning Package

The MTA could also seek to secure new sources of revenue. There may indeed be opportunities in this area. But in a year when New York State and New York City are both wrestling with very large budget deficits, the MTA cannot pursue new revenues independently. And even if the Legislature were to authorize new revenues for the MTA, they might arrive too late to be of much help with the agency's 2021 budget crunch.

At this point, we see no realistic near-term alternative to federal financial assistance.

Conclusion

This report analyzes and projects the economic consequences in 2021 of the proposed MTA cutbacks in services, operations and facilities, stemming from the decline in ridership, vehicular tolls and tax revenues generated by the Covid-19 pandemic since March, 2020.

The Metropolitan Transportation Authority accounts for more than 30 per cent of the mass transit ridership in the United States. It is responsible for the NYC subway and bus systems as well as two suburban commuter rail lines, the Long Island Rail Road and Metro North, as well as MTA Bridges and Tunnels and the Staten Island Railroad.

The proposed cutbacks in MTA services and spending would threaten the capacity of the twelve-county MTA region to recover from the economic effects of the Covid-19 pandemic.

Using the IMPLAN input-output modelling system, we estimate that the proposal to reduce the MTA workforce by 8,000 positions would directly and indirectly lead to a loss of 13,380 jobs in the MTA region, with more than $1.4 billion in earnings. This would lead to a reduction of more than $1.9 billion in the region's Gross Domestic Product.

Proposed reductions in the MTA capital spending would lead to a loss of 23,264 jobs in the MTA region, with nearly $2.0 billion in earnings. The twelve-county regional Gross Domestic Product would decline by $3.3 billion.

The broader effects of subway and bus cuts of 40 percent and commuter rail cuts of 50 percent on the regional economy would be even greater. Using TREDIS, a computer modeling tool widely used in transportation planning and economics, our analysis indicates that these broader impacts, in combination with the impact of the cuts in operational and capital spending cited above, could result in a loss of as many as 450,000 jobs by 2022, a reduction of $50 billion in annual earnings., and a decline of $65 billion in the region's annual GDP.

Cutbacks in transit services would generate a decline of 750,000 trips per weekday in 2021, assuming an average of 3.6 million riders per weekday in 2021. Furthermore, the decline in transit service would lead to increased travel times for riders, which we estimate would cost riders $1.7 billion in lost time in 2021.

These findings reinforce the need for maintaining current levels of MTA service and operations as well as capital spending. The damage to the region of the proposed cutbacks in MTA spending would undermine the City's and the region's capacity to recover from the economic effects of the pandemic, and seriously harm the capacity of the City and region to retain and attract people and jobs in all sectors of the economy.