

**The Capital Budgeting Policy of the Metropolitan
Transportation Authority, 1968—2012, and the
Effect of the Media on Capital Budgeting Changes**

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Abstract

The New York City subway system moves more than five and one-quarter million people every weekday. Yet the administration of the system is a mystery to nearly all who use it. This research project investigates the following question: What are the most important factors in the capital budget policy of the Metropolitan Transportation Authority (MTA) since its creation in 1968? I test the hypothesis that an increase in print media mentions of the MTA leads to subsequent prioritization of annual capital funding by the agency. This study employs a mix of qualitative and quantitative research methods to sketch as complete a picture as possible of the capital funding priorities and mechanisms of the agency. A time series regression analysis and interviews with policy experts complement each other in my analysis. The quantitative analysis offers support for my hypothesis, showing a positive and statistically significant relationship between the volume of coverage *The New York Times* devotes to the MTA and subsequent capital funding. Also significant are the geographic backgrounds of the Governor and chair of the relevant State Assembly committee. Through qualitative analysis of my interviews, I find that the capital program of the MTA is part of the process of restoring the public image of the agency, which is an uphill struggle. Moreover, capital budgeting is a fairly nontransparent process, though its end goals are ultimately improved service and customer satisfaction. Finally, I draw conclusions based on the current political and fiscal environments and offer suggestions for future research.

I. Introduction

New York City has the largest public transportation network in the United States with more subway stations than any other city in the world: its 468 stations are spread over more than 725 miles of tracks.¹ It moves more than five and one-quarter million people every weekday.² The city simply would not function or be as dynamic as it is without the subway system. Yet most New Yorkers—and even many public officials and policymakers—are unaware of the fiscal and physical structures that keep the trains running.

The administration of the subways is a mystery to nearly all who ride them. The Metropolitan Transportation Authority (henceforth the MTA or “the agency”), which manages the subways through its subsidiary the New York City Transit Authority, is often a punching bag for the press and displeased customers. From a practical viewpoint, this is not surprising. Most transit riders simply care about getting to and from work, not about the complex political process of funding the agency that occurs in Albany. This situation creates an unfortunate paradox: there is a significant knowledge gap between the people who use this massive transit system and the financing of its infrastructure and expansion. Almost everyone in New York City and its surrounding region depends directly or indirectly on the subway even those who do not ride MTA subways, buses, or commuter trains. They deserve to know what drives the funding of this huge agency; this thesis analyzes those factors.

Important lessons can emerge from a close examination of how the MTA has funded its capital work—that is to say, the construction and purchase of its physical plant.³ The authority has become one of the largest public bodies of its kind in the country, and serves as an example of how (and in some periods, how not to) raise and manage capital funds. Also like other large public agencies, it is engaged in a constant effort to control spiraling pension and healthcare costs that put tremendous strain on its overall finances.

Over several decades fiscal strains took their toll on the physical plant of the subway system. The allure and novelty of the subways faded as they morphed from cultural status as a public achievement

¹ MTA: Subway Fast Facts. Available at: <http://www.mta.info/nyct/facts/ffsubway.htm#top>

² MTA: Subway and Bus Ridership. Available at: <http://mta.info/nyct/facts/ridership/index.htm>

³ The MTA defines a Capital Project as “a large effort resulting in a major asset such as construction of a building or purchase of a building,” clarifying that “the resulting asset will have a life of longer than a year and entail a major expenditure.” From MTA Capital Program Dashboard: http://www.mta.info/capitaldashboard/10_14/CapitalDashBoard7.html

paradigm to a poignant visual symbol of urban decay. After more than two decades of investing in long-delayed maintenance, the system is in good repair and ridership is high. A clear picture of the forces influencing the MTA capital budget will strengthen our understanding of the New York City subways; this should aid transit policymakers both in and outside New York in setting future mass transit policy.

This research project investigates the following question: **What are the most important factors in the capital budget policy of the MTA since its creation in 1968?** Specifically, I test the hypothesis that an increase in print media coverage will lead to greater emphasis given to funding the MTA capital program. It is my theory that greater public awareness of these issues will lead to increased engagement between providers and users of subway service, and thus a higher quality of service.

What follows details the background and importance of this work, highlighting prior research and gaps in the existing literature. The paper then details the capital needs and funding trends of the MTA. Subsequently, a discussion of the methods of this study follows. I use a mix of qualitative and quantitative analyses to examine what drives MTA capital funding. These methods include interviews with policy experts and time series regression analysis. Finally, I discuss the results and their interpretations, especially in the context of contemporary debates over mass transportation policy in the New York metropolitan region.

II. Prior Literature

Reflective of the iconic status of the New York subways, there is a considerable body of literature on their construction and early management. Nearly all of it provides historical perspectives. The subways comprise a massive and incredibly complex network of tunnels, bridges, and rails. Building this colossal infrastructure was equally complicated. It took decades of advocacy to convince city officials that the future of urban rapid transit laid underground, let alone to plan the routes and assign the contracts to build the system. Along the way, the funding structures and fiscal standing of the subways fed into their culture—a less tangible component in contrast to the glittering tile walls and polished wooden train cars, but an important part nonetheless.

This literature review will discuss important texts documenting the creation of the subways, as well as research regarding public finance and policy and arguments related to the methods this study employs.

Historical Analyses of the MTA

Several important works detail the history of the subways in New York. *722 Miles* by Clifton Hood traces their development through the embrace of rapid transit in the burgeoning city in the early 19th Century. The Erie Canal, he believes, set an important precedent for transportation infrastructure as a key ingredient in the economic dominance of New York. Several innovators recognized the potential for subways to support a densely populated metropolis. These even included Alfred E. Beach, a tinkerer and publisher of *Scientific American*, who created a train in 1869 that ran with pneumatic power under the ground near City Hall in Manhattan.⁴ However, it was not for several decades that city aldermen and the general public came to support this type of investment.

It is important to note that the genesis of the New York City subways was a venture of private interests. By the early 20th Century, other cities around the world—London, Berlin, and Boston among them—had begun operating underground train services. New York businessmen finally accepted the prospect that replacing dilapidated, polluting, inefficient elevated trains with subways would significantly boost the value of real estate in portions of the city that were undeveloped at the time. Most prominent among them was August Belmont, who founded and presided over the Interborough Rapid Transit Company.

There were many other businessmen who poured their expertise, manpower, and funds into the construction of the subways. Hood's treatment of this process is exquisite and leaves little to add. But I must emphasize the fact that the government of New York City, let alone those at the state or federal levels, did not join the investors. Funding construction projects was viewed as beyond the purpose of government. It took decades of fiscal mismanagement, organizational failure, and regulatory shortsightedness for this ethos to change. I believe that this component of New York City history is part of its character and part of the impetus for government control in the mid-20th Century.

The historian Peter Derrick gives an excellent treatment of the government interjection into the capital process that resulted in the famed Dual Contracts of 1913 in his book *Tunneling to the Future*. A frustrating series of failed expansions of the Interborough Rapid Transit system, the monopolist of the subways at the time, resulted from the reluctance of the company to expand the network for fear of diluting its profits. City policymakers began to step in to find an alternative agent. Through skilled negotiation and creative funding mechanisms, proponents of the so-called "dual system" paved the way

⁴ Hood, 2004. pp. 42-50.

for vast additions to subway infrastructure.⁵ Not only did this compromise bring service to far more New Yorkers, but it opened the door for more direct government intervention. The subways began to be considered a public service, and after the Dual Contracts this attitude solidified.

Importantly, that sense of subways as a public service extended to the farebox: from the time the subways opened in 1904 until 1948, the cost of a ride was five cents. The “nickel fare” became politically untouchable, as any suggestion to raise the rate would provoke public ire. This put the subway system under immense pressure to find other sources of funding, a legacy that spread to public transit systems outside New York and still haunts the finances of the MTA today.

In 1988 James K. Cohen of the City University of New York published a paper in *Urban Affairs Review* examining the relationship between “the amount and composition of capital investment and service outcomes.”⁶ Specifically, his research focused on the period of 1945 through 1981—thus tracking the growth and domination of the automobile and the state’s disinvestment in the subways and their subsequent decline in quality. Cohen’s goal in this project was to challenge the notion that subway ridership and finances suffered directly from the huge growth in personal car usage. He asked, “If service decline were not a consequence primarily of insufficient capital investment, nor of reductions in investment during New York’s fiscal crisis, what was the root cause? The decline began in the late 1960s, coincident with the takeover of the transit system by the Metropolitan Transportation Authority.”⁷ Cohen concluded that the MTA policy to build new lines—which it also failed to achieve—distracted the agency from the more basic goal of providing sufficient funding to maintain current operations in a state of good repair.⁸

Methodological Models

Also deserving a brief review here are several important pieces of research that contribute to the design of my study. Time series design, discussed in more detail later, is the key aspect of analysis. The nature of my research question—identifying trends over time among data collected at regular intervals—lends itself well to this design. As stated by Biglan *et al.* (2000), “Time-series experiments...have contributed greatly to the development of the principles and methods of the

⁵ Derrick, 2002.

⁶ Cohen, James, 1988. p. 369.

⁷ *Ibid.*, p. 381.

⁸ *Ibid.*, p. 386.

experimental analysis of behavior, especially to our understanding of reinforcement (Sidman, 1960). Analyses of interrupted time series are also playing an important role in research on the effects of public policy (e.g., Campbell, 1968; Chaloupka & Grossman, 1996; Cook & Campbell, 1979; Hingson et al., 1987; Wagenaar, 1983;).” The theory behind time series analysis is that the variable of interest exerts its causality with the dependent variable continuously throughout the data set. This concept is also present in the slightly modified interrupted time series, in which the relationship between independent and dependent variables surfaces periodically. The interrupted time series “greatly reduce the plausibility of certain threats to validity.”⁹

As mentioned above, this research also employs qualitative methods. The dual aims of my qualitative analysis are to gain a full spectrum of perspectives on the capital budgeting process of the MTA and to gain insight into the importance of public engagement to transit investment. This means interviewing officials at the agency, elected representatives with relevant jurisdiction, transit advocates, and reporters who cover transportation issues in New York City. By asking identical questions about the capital program formation process, the setting of agency capital priorities, and the role of public engagement and the press, I naturally elicited a range of responses. The opinions of some individuals dovetail with others, while others clearly underscore divergent perspectives.

Choi and Pak (2005) emphasize the importance of reducing communication barriers that hinder the extraction of meaningful information from an interview or questionnaire. These include ambiguity, loaded questions, jargon, leading questions, interviewer bias, and subconscious reactions of the respondent. Effective design can mitigate these problems, but never eliminate them. Berensmeier and Schmidt (2007) also review common pitfalls, but additionally point out that a questionnaire that employs accepted standards for quality will produce objective, reliable, and valid results for analysis. Finally, Hill *et al.* (2005) discuss the composition of qualitative data samples, which is an issue in the context of this research due to the relatively small size of my pool of interviewees. They confirm earlier work that suggested that researchers should choose between eight and 15 participants. Their research also recommends randomly choosing participants from a homogeneous population of experts in the topic of interest. Unfortunately, given the time constraints and relatively esoteric nature of examining the MTA capital budget (which limits the number of individuals who can speak expertly on the topic), I chose interviewees directly.

⁹ Campbell, 1968.

Role of Media in Public Policy

Anyone familiar with the policy formation process will acknowledge that the media plays at least some role alongside other players such as policymakers and affected stakeholders. As Kingdon (1995) points out, members of the media have the ability to set agendas of other stakeholders and magnify certain policy “focusing events.”¹⁰ However, it remains difficult to express in a generally understandable way the extent to which the media influences policy decisions. This is especially the case when one examines policy over the long-term, as in this case. This study does not examine one particular Kingdonian focusing event—say, the New York City fiscal crisis of the 1970s or Superstorm Sandy—but rather trends over time.

An extensive academic literature examines the complex relationship between the media and public policy. However, much of it focuses on issues of freedom of the press and political corruption around the world. Two studies provide relevant models for my current research. Donahue and Miller (2006) quantitatively measure the role of the media and public attitudes regarding public safety. The authors focused on a survey of adults in Connecticut about their willingness to pay for public services, taking into account television and newspaper exposure. Their results demonstrate that media exposure has a significant relationship with what people are willing to pay for. Similarly, Besley and Burgess (2002) demonstrate that state governments in India are more responsive in areas “where newspaper circulation is higher and electoral accountability greater.”¹¹

Before closely examining the methodology and data I compiled for this research, a brief history of the topic is in order.

III. Background on the MTA and Its Capital Funding

History of Capital Needs

The capital funds of the MTA support the construction, maintenance, and rehabilitation of facilities—the physical infrastructure of the subways—and train cars for subway and commuter lines, as well as buses. The guidelines defining capital versus operations functions can seem murky to the layperson. For example, repainting the ceiling directly above train tracks in a station qualifies as a capital

¹⁰ Kingdon, 1995.

¹¹ Besley and Burgess, p. 1415.

expenditure, but performing identical work to the ceilings elsewhere in a station requires operating funds.

When the State of New York formally chartered the MTA, the agency proposed an expansion project totaling \$2.9 billion over a 17-year span. This would include the Second Avenue Subway and a new tunnel under the East River at 63rd Street in Manhattan to service both the subway and the Long Island Rail Road (LIRR). However, the new authority would soon encounter hurdles that foreshadowed its impending fiscal troubles and disinvestment in capital projects. The 1969 MTA Annual Report explained that its “rubber paying for rail” device, which would certify the MTA to use surplus revenues from the Triborough Bridge and Tunnel Authority (a subsidiary of the MTA) to fund mass transit, was not yet consented by the required two-thirds of its bondholders.¹² One year later, the agency optimistically reported that “the year 1970 ushered in a ‘mass transportation decade’ for the region.”¹³ At the time, 27% of its subway cars were 21 years or older.¹⁴ As the data will show, disinvestment followed as both the city and state of New York strained under severe fiscal crises in the 1970s. Table 1 below provides a snapshot of this (as well as the radical inconsistency in funding even on a yearly basis), pulling figures for every third year from 1970 through 1985.

Table 1: MTA Emphasis on Capital Investment, 1970—1985

Year	Capital Spending	Percent Change from Prior Year	Ratio of Capital Spending to Total Budget ¹⁵
1970	\$82,922,369	38.02%	.11
1973	79,077,683	-25.14%	.25
1976	37,152,667	110.08%	.19
1979	84,684,840	167.45%	.29
1982	258,754,905	119.06%	.68
1985	963,686,000	-1.65%	.99

Source: MTA Annual Reports, 1970-1985

¹² MTA 1969 Annual Report, p. 38.

¹³ MTA 1970 Annual Report, p. 3.

¹⁴ *Ibid.*, p. 30.

¹⁵ The figure for the 1985 capital-to-total ratio seems unreasonable at first blush. However, given that the agency had shifted much of its capital fund sourcing to agency debt, it makes sense.

By 1980 the system was in widespread and notorious disrepair: in 1983 the system experienced one derailment every 18 days, whereas a derailment was formerly a possibly once-yearly mishap.¹⁶ In late 1979 Governor Hugh Carey appointed Richard Ravitch to the chair of the MTA. His work saved the agency from failure and turned it onto a course of improvement and investment. Carey and Ravitch worked with the state legislature to raise a spectacular \$8 billion in capital funds to rebuild the regional network.¹⁷ The Ravitch administration made increasing ridership a goal, while simultaneously shifting the burden for raising capital funds from the operating budget to the agency's own debt management. The 1980 annual report declared, "We have one simple objective: to restore the system to a state of good repair so that we can provide the quality of service the public wants and to which it is entitled."¹⁸ Importantly, his administration initiated in 1982 the first Five Year Capital Program and created the Capital Program Review Board, which are intact today. The agency reported: "As an indication of the immense scope of the Program, more money [\$2.8 billion] was committed to contract during its first year than the total dollar amount contracted for capital improvements during the entire decade of the 1970s."¹⁹

Despite the immense investment and renewed commitment to capital improvement, the system continued to suffer. The MTA uses "mean distance between failures," or MDBF measured in miles traveled between the breakdown of subway cars resulting in a delay of over five minutes, as a proxy measurement for the reliability of the system. A 1988 report in *The New York Times* describes some gains in MDBF at that point: from a historic low of 6,000 miles in 1981, MDBF improved to just over 17,300 miles by early 1988.²⁰ "[The numbers] are far short of the 40,000 or more miles that cars logged before failing in the late 1960s and only half as good as the 35,000 miles that the authority is willing to accept."²¹ By comparison, the MTA reports a 2012 MDBF figure of 171,314 miles and is over its target—a pace for 166,000 miles—for the 2013 calendar year.²²

¹⁶ MTA 1984-5 Report to the Governor, p. 2.

¹⁷ *Ibid.*, p. 4.

¹⁸ MTA 1980 Annual Report, p. 5.

¹⁹ MTA 1982 Annual report, p. 2.

²⁰ Johnson.

²¹ *Ibid.*

²² MTA: NYC Transit Mean Distance Between Failures—Subways. Available at: http://www.mta.info/persdashboard/agencies/nyctsubway/ip/67816_chartmth.htm

The Inspector General of the MTA, John S. Pritchard III, described the foundation of the capital problems in his report that year. With an influx of cash, the report summarized, the MTA allocated funds without fully understanding how it was spending them, often putting the cart before the horse. For example, tracks were in worse shape than originally thought, and the MTA was unsure exactly which stations had structural problems until a system-wide improvement process was underway. “As a result of the TA’s failure to compile complete and accurate information about the condition of its facilities and equipment, money was sometimes spent inappropriately and, in several cases, wasted,” Pritchard declared.²³

Under the chairmanship of Peter Kalikow, the MTA formed its Capital Construction Company (MTACC) in 2003 as the division responsible for managing and executing capital budgets and work. MTACC states its mission as follows: “to manage major capital expansion and Downtown Manhattan transit infrastructure projects.”²⁴ This narrow mission statement aligns with the current capital expansion projects of the MTA, namely the Second Avenue Subway, expansion of the 7 train to the West Side in Midtown, the LIRR East Side Access (to Grand Central Terminal), and the construction of the Fulton Street transfer station in Lower Manhattan.

Where do capital funds come from?

The MTA funds capital projects through a variety of sources, as shown in Table 2 below. Most support for capital projects comes from the federal government and through MTA bond issuances. City appropriations and state contracts make up sizeable but much less significant chunks. An allotment of funds comes from a batch of state-level taxes. These include “the petroleum business tax, motor fuel tax, motor vehicle fees, a one-quarter percent district sales tax, and a franchise tax.”²⁵ These taxes are collectively known as the “dedicated” taxes that support the MTA and will be the subject of discussion later in this paper. Note the significant shifts between the historical averages contributed by the various sources and the most recently reported (2010) final budget figures. These differences point to a far greater reliance on bond revenues, federal aid, and City Council appropriations. Some advocates argue

²³ Pritchard, p. 4.

²⁴ MTACC homepage.

²⁵ Permanent Citizens Advisory Committee, p. 15.

that the MTA relies more heavily than other transit agencies on riders' fares when money is needed.²⁶ However, as I will discuss in greater detail later, the agency disagrees.

Table 2: Sources of MTA Capital Funds, 1982—2010 (dollars in millions)

Funding Source	1982—2010 total (yearly average)*	2010*
Federal Grants	\$25,629 (884)	\$1,399
State Service Contracts	2,346 (81)	137
State Appropriations	623 (22)	0
City Appropriations	5,172 (178)	460
MTA Bonds	23,687 (817)	2,833
MTA Debt Restructuring	5,309 (183)	0
MAC [debt service] Surplus	925 (32)	0
Lessor Equity/Asset Sales/Leasing	1,525 (53)	2
Investment Income	1,463 (50)	0
Capital-operating Transfer/Pay-as-you-go	1,190 (41)	29
Other	1,333 (46)	43

Source: MTA Capital Program Executive Summary. http://mta.info/news/pdf/cap10/exec_summary.pdf/

The trends evident in Table 2 are even starker when the focus is drawn to current capital projects. Table 3 shows the availability of funding for the current Five Year Capital Program, as detailed in an amendment to the 2010—2014 plan submitted to the Capital Program Review Board in January 2012. The first column of budget figures presents the proposed funding streams for the capital plan. The second highlights “the receipt of newly-identified federal funding,” as the amended proposal refers to it.²⁷ The reduction in overall funding leads the MTA to paint this updated picture as “reflecting \$1.617 billion in efficiency improvements.”²⁸ One can easily see the stark differences between federal and MTA loans, which saw levels increase in the two years between the approval and amendment of the plan, and the prospects of municipal and state government support. As is often the case, debt—from both federal and MTA sources—provides the main support structures for the current capital work.

²⁶ Several individuals I interviewed used this point to build arguments for more diversified revenue sourcing. These included Gene Russianoff of the Straphangers Campaign, Bill Henderson of the Permanent Citizens' Advisory Committee to the MTA, and Noah Kazis, a former reporter for *Streetsblog*.

²⁷ MTA 2010—2014 Proposed Capital Program Amendment. p. 3. Available at: http://www.mta.info/news/pdf/CapitalConstruction_1014.pdf

²⁸ *Ibid*, p. 2.

Table 3: 2010—2014 MTA Capital Program Funding Sources (dollars in millions)

Program Funding Plan	MTA Board Approved Plan	Proposed 2012—2014 Plan	Change
Federal Formula, Flexible & Misc.	\$6,415	\$5,783	(\$632)
Federal High Speed Rail	0	295	295
Federal Security	225	225	0
Federal RRIF Loan	0	2,200	2,200
MTA Bus Federal Formula/Match	160	167	7
City Capital Funds	500	762	262
State Assistance	0	770	770
MTA Bonds	6,000	10,503	4,503
Other	600	1,490	890
Future State & Local Funding	9,912	0	(9,912)
Total CPRB Program	\$23,812	\$22,195	(\$1,617)

Source: MTA 2010—2014 Proposed Capital Program Amendment http://www.mta.info/news/pdf/CapitalConstruction_1014.pdf

After this examination of the sourcing of MTA funds, we will now investigate the historical spending preferences of the agency.

Shifts in Capital Spending

The 1970s witnessed a new focus for the capital budgeting strategy within the MTA. The emphasis—and dollars—shifted from maintenance to constructing new routes. “In 1968, MTA issued its ‘Grand Design’ for upgrading the region’s transit network...focused on new subways within New York City, on upgrades to commuter rail services, including new commuter rail cars, high-level platforms, extension of electrification, and providing direct access to East Midtown for the LIRR.”²⁹ This shift, of course, coincides with the state takeover of the agency. From 1954 through 1967, 44.1 percent of the capital budget went toward infrastructure rehabilitation and renewal, and only 17.5 percent toward new route construction. Within a decade, these totals nearly reversed. In the period from 1968 through 1980, 22.9 percent of capital funds supported maintenance, with 41.2 percent supporting the

²⁹ Derrick and Paaswell, 2012.

construction of new routes. The remainder was spent on new train cars and remained roughly constant through both periods.³⁰

In 2012 the Permanent Citizens Advisory Committee to the MTA (PCAC)—the in-house voice for riders' concerns and another example of early 1980s reform—released a historical analysis of the agency's capital program. The report, entitled *The Road Back*, detailed the patterns of capital spending that the agency has demonstrated since the 1980s.³¹ Whereas the first two five-year plans emphasized subway car replacement and refurbishment, the 1990s began a period of investment in expanding the fleet of subway cars and refurbishing stations. In addition, the report outlines, capital spending for buses also increased.³²

This clear policy shift reflects two salient factors. First, it is important to remember that at the time of the state takeover of the subway system, it was generally in a good state of repair. (The same could not at all be said about the commuter rail lines the MTA acquired in its infancy, the Long Island Rail Road and Metro-North Railroad.) Thus, the MTA could reasonably emphasize expanding subway service to a wider population. Second, it is a difficult political sell to boost funds for maintenance once they have been decreased. The fiscal crisis of the 1970s exerted significant pressure on state and local funding sources. This made it increasingly unlikely that diverted funds would come back to maintenance appropriation.

Having presented the prior research that provides historical and theoretical context for this study, as well as the trends I intend to examine empirically, this paper will now discuss the methodology and data involved in my quantitative and qualitative analyses.

IV. Research Methods and Data

Causal Model

The fundamental relationship I wish to test in this study weighs the funding of MTA capital projects against the attention the subways receive in the mass media. I believe that, controlling for other factors, greater public awareness of the needs of the MTA (achieved through coverage in the

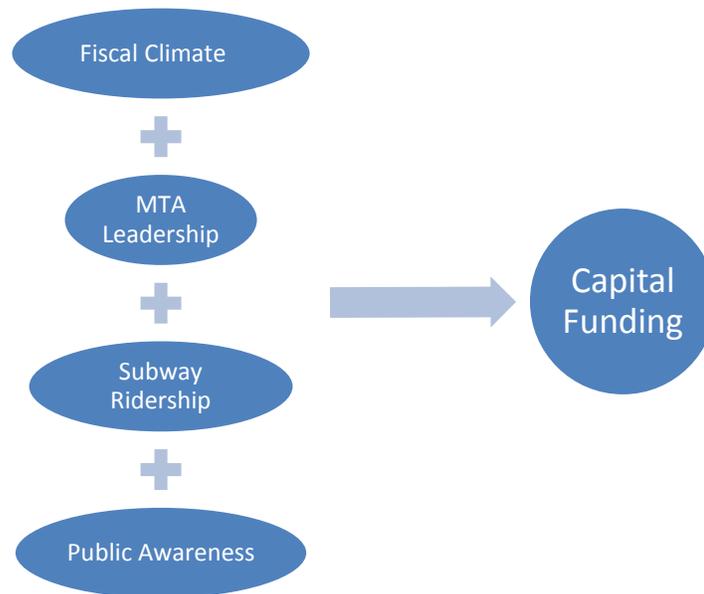
³⁰ Ng, 1998.

³¹ PCAC, p. 5.

³² *Ibid.*

press) will lead to increased pressure on policymakers in Albany and MTA headquarters, and thus higher levels of funding to support the capital needs of the agency.

Figure 1: Causal Model



Of course, I do not expect that press coverage is the sole determinant of MTA capital funding. Thus, my quantitative analysis considers annual subway ridership; the geographic backgrounds of individuals holding influential seats of state government (specifically the New York State governorship and chairs of the relevant legislative committees); and the annual budget amounts—for both capital and total—of the MTA. The “measurements” section below discusses the definitions of these variables in detail. Figure 1 above illustrates my conception of the causal relationship that I test here.

These variables capture the major influences on the allocation of funds in Albany. Annual subway ridership is a key ingredient because it is an important source of revenue for the MTA: passenger fare revenue accounted for just under \$5 billion of \$6.9 billion total operating revenue last year.³³ As stated earlier, there was a policy shift during the Ravitch administration of the MTA to not rely on the farebox to support capital expenses. Including this variable thus facilitates testing an important influence in the time series.

³³ MTA Consolidated Financial Statements, 2011.

Measurement of the geographic background of officeholders aims to examine the relationships and political conditions that shape fiscal debates and policymaking. The Governor holds particular sway through his power to appoint the agency chairperson. In addition, although the Governor shares responsibility for nominating board members, but “All Board members are appointed by the Governor, some on the recommendation of City and County officials in the MTA service region.”³⁴

In the state legislature, the chairs of relevant committees wield substantial power over proposals, debates, and the bills (including funding) that reach the full chamber for votes. The relevant committee in both the Senate and the Assembly is the Committee on Corporations, Authorities, and Commissions.³⁵ The Corporations Committees, as they are known, oversee the MTA and other public authorities, legislating their transparency, finances, operations, and policies.³⁶ As the current chair of the Corporations Committee in the Assembly, Jim Brennan, told me, the state can create these authorities but they are powerless unless the legislature funds them.

There might be still other factors at play that the quantitative data discussed above cannot fully capture. For example, it could be difficult or impossible to quantify the importance of interpersonal relationships among budget negotiators, or the exogenous effects of other major state budgetary concerns in a given year. To achieve a more complete sense of these factors, I gathered qualitative data related to the process that forms the capital budget of the MTA. This includes perspectives from the agency itself on the formation of its budget requests and its engagement in the budgetary process with the state government. I also sought the views of key legislators, specifically those who sit on the committees with jurisdiction over the MTA, as well as advocacy groups who lend their voices to the perennial debate. I believe that the voices of government, non-profit, and even private interests at the state, local, and federal level all have significant roles in determining MTA policy and funding. This aspect of my study examines their perspectives of the capital budgeting process, with special emphasis on the role of public interest and the media.

³⁴ MTA Board Members. Available at: <http://www.mta.info/mta/leadership/board.htm>

³⁵ The Committee on Corporations, Authorities, and Commissions did not exist in either legislative house in 1968. For that year, I chose the chairs of the Senate Corporations Committee and the Assembly Public Service Committee as the most appropriate. For 1973 and 74, there was again no Corporations, Authorities, and Commissions Committee in either house; I thus chose the chairs of the Transportation Committees of each for those years. For each year from 1968 through 2011, I derived the information on identity and hometown of the committee chairmen from the *New York Red Book* on that year.

³⁶ See “Updates from the Committee on Corporations, Authorities and Commissions.” Accessed April 1, 2013. Available at: <http://assembly.state.ny.us/comm/?sec=post&id=9>

Data Sources and Collection

The quantitative component of this research relies heavily on existing administrative data regarding the funding and usage of the New York City subways. I collected the relevant data for each variable beginning with the year 1968. The National Transit Database (NTD) was the source for annual funding information from 1991 through 2011; for the years 1968 through 1990, I accessed physical records via MTA annual reports at the archives of the New York Transit Museum at the offices of the New York City Transit Authority in Brooklyn. The NTD, a program of the Federal Transit Administration, was created by the U.S. Congress to standardize the recordkeeping of the nation's transit providers. This database grew out of a national movement called the Project for Uniform Financial Accounting and Reporting Elements (Project FARE) and now receives operational and performance data from over 660 transportation agencies.³⁷ The NTD gathers information for the total and capital-specific budgets of transportation agencies, as well as by their sources: federal, state, or local governments, and other funders.

The New York State Legislature keeps public record of the elected officials who hold the political seats of interest for this study and the hometown of each individual. The *New York Red Book*, a yearbook of the state government, publishes this information each year.

The MTA keeps its own records of subway ridership. I accessed these at the Transit Museum archives—like the budget information I gathered the data from MTA annual reports—to measure the annual totals of subway riders.

I define media coverage for the purposes of this research as the number of times the MTA receives a mention, either in an article title or headline, in *The New York Times* each calendar year. The *Times* has archived its articles stretching back to the formation of the MTA in 1968. I refer to this variable as “media mentions” throughout the paper.

The qualitative data for this research derives from my interviews with policymakers as described above. I asked each for his or her thoughts and reflections on the MTA capital budgeting process, with a particular question about the perceived influence of newspaper coverage. Because the sample size for

³⁷ National Transit Database. Available at: <http://www.ntdprogram.gov/ntdprogram/ntd.htm>

this analysis is quite small due to the compressed time allowed for this study, I compiled and tabulated the content of their responses manually. The protocol for each interview is attached as Appendix A.

Quantitative Measurements

Some prior research discusses limitations in using NTD data.³⁸ The major drawbacks to the NTD data set lie in the breadth of its coverage. The uniformity and quality of measurement vary across agencies, as is reasonable with so much data over so many years. However, this is not of concern for this study, as I seek only to examine what happens within one agency in New York. The comprehensive NTD data breaks the MTA into its component parts. For example, the MTA has distinct budgets for the Staten Island Railway, Long Island Rail Road, and the bridges and tunnels under its jurisdiction. For this study, I examine the budget designated for New York City Transit (NYCT). Until 2007, this category combined the budgets for subway and bus services; for the years 2007 and beyond, then, the separate bus data are included for the sake of continuity—and because expenditure on buses is a legitimate capital investment.

Subway ridership accounts for each time a turnstile turns for an entering customer. This does not, therefore, consider those who jump the turnstiles or otherwise cheat the entrances to the subways. It is MTA policy to require customers utilizing the swinging emergency gate to swipe their fare cards and rotate the turnstiles before passing through with luggage, strollers, and the like. However, there is simply not a way to ensure that every passenger is accounted for in the data. The potential limitation this presents to the results of this study is the topic of further discussion below.

In measuring political influences I track not the name or political party affiliation of these office holders, but rather their geographic origins to measure the relationship between MTA capital funding and elected leadership in the state. I distinguish elected officials hailing at the time of election as Governor, Senator, or Assembly member from one of the five boroughs of New York City versus any county outside the city. The binary variable I coded for this was thus “yes” for an individual from the five boroughs and “no” for someone from the counties outside the city (in other words, not Bronx, Kings, New York, Richmond, or Queens).

³⁸ See Taylor, et al. (2003), Palmer et al. (2004), Kimpel and Strathman (2002).

Media coverage is a complex variable in this study. For the purpose of the time series design, this serves as the “interruption” Campbell describes, as discussed earlier. Media attention, according to this theory, creates a spike in public interest and pressure that influences policy and budgeting decisions. I choose *The New York Times* in particular because it produces timely reporting, has wide readership, and is generally considered the paper of record. The *Times* does tend to be more New York City-centric than, for example, the *Albany Times-Union*; on the other hand, its coverage encompasses a wider geography than other New York City papers like the *Daily News*. I do not view this as detrimental to the study, but rather as exactly the opportunity for high-profile coverage I seek to examine.

Qualitative Measurements

As stated above, I gathered my qualitative information regarding the MTA capital budgeting process through interviews. My sample of interviewees represents experts on the topic who represent the full spectrum of those involved in the policymaking process; they include senior MTA officials, elected leaders, transit advocates, and journalists. Some wished to remain anonymous while others will be identified below. Still other individuals who have relevant experience and whose insight would have been useful did not respond to my outreach calls or emails. Together, their perspectives help fill in the gaps that my quantitative variables leave in explaining the capital process and the relationship between press coverage and capital funding shifts at the MTA.

Some of the interviews occurred in person, others by phone. I presented each individual the same frame for our conversation, explaining the background, goals, and methods of my research. Following a brief discussion, which provided basic information related to my research, I presented each with a set of questions that aim to illuminate the budgeting process. The background discussion and interview questions are included in Appendix A.

After conducting these interviews, I tabulated the core ideas of each discussion to find common opinions among this diverse set of viewpoints. A cross-analysis, as discussed earlier, highlights the typical and variant outcomes of my conversations. This provides the meat of my analysis of the important drivers of MTA capital budgeting policy.

Focus on New York City

The nature of this research lends itself to a comparison between the mass transit systems in other cities across the United States and the world. A multi-city juxtaposition would offer important insights: various simultaneous management and policy preferences in different cities could shine a spotlight on the factors of fiscal or managerial successes and failures. However, three reasons eliminate this perspective from the research at hand.

First, New York is a far more populous city than its potential American comparison municipalities—Boston, Chicago, and Washington, DC. Its subway system and transit budget are vastly larger, which makes comparisons, though possible, not hugely informative. International cities with comparably large subway systems, on the other hand, were in very different economic circumstances through the course of their construction; this likewise narrows the scope of relevance in comparing New York to Seoul, Tokyo, or Berlin. (London, which hosts the world’s oldest system, provides the closest analog to the subways of New York in terms of the date and scale of construction, yet scarcely any academic work on such a comparison exists.) Nonetheless, these types of evaluations would be useful in future research.

Second, it is important to remember that the MTA is a state-run agency, not a municipal entity. This brings to light legal complexities related to the charter of the agency and its policy mechanisms. The budget of the MTA and appointments to its board require the approval of the legislature in Albany, which sets it apart from many subway systems in America and the world. The state government chartered the MTA as a means to consolidate the management of the subways, commuter trains, and toll-producing bridges and tunnels serving New York City. Its founding legislation, Section 1264 of the Public Authorities Law, reads:

“The purposes of the authority shall be the continuance, further development, and improvement of commuter transportation and other services related thereto within the metropolitan commuter transportation district, including but not limited to such transportation by railroad, omnibus, marine, and air, in accordance with the provisions of this title. It shall further be the purpose of the authority, consistent with its status as the ex officio board of both the New York City Transit Authority and the Triborough Bridge and Tunnel Authority, to develop and implement a unified mass transportation policy for such district.”³⁹

³⁹ New York Public Authorities Law, Article 5, Title XI, Section 1264: “Purposes of the Authority.”

The complexity inherent in managing such a vast infrastructure with such a broad mandate is another part of what makes the MTA difficult to compare to other public bodies. It would be nearly impossible to find a meaningful comparator.

The third factor in limiting this analysis to New York is practical: the time constraints of this study permit me to only gather and analyze data related to the MTA. Despite the limitations described here, none of these three reasons should discourage further research from exploring multi-city comparisons.

Time Series Design

My quantitative analysis relies on time series design. The time series is a natural fit, especially given the longitudinal nature of the data under examination here. This research comprises a classic time series: over the course of more than four decades (from 1968 through 2011), the allocation of capital funds by the MTA changed significantly. A wealth of data exists on a series of variables related to the functioning of the agency. Examining the interplay between them and the budget room assigned to capital funds facilitates extracting meaning from any causal relationship driven by media coverage.

Because a reasonable control group—in this case, an MTA-like body that does *not* receive media coverage—is impossible, time series design optimizes the impact and interpretability of results. This methodology is useful “for generating an overall description of programmatic change, and it functions as a source of hypotheses regarding the nature of the *process* of change.”⁴⁰ As described in my review of prior literature, the design of this study underscores the relationship between the variable of interest (newspaper coverage) and the dependent variable (amount of funding allotted to capital work).

Time series design has several strengths. It is especially useful for controlling for the risk of regression bias—that is, the effect of extreme observations that then “regress to the mean.” Relatedly, major exogenous occurrences can tamper with the validity of a study; this is known as a history effect. History effects are most prevalent in simple pre-test, post-test analyses. The temporal span of this research, however, makes nearly any extreme outside event only significant in a short-term context. In addition, the fact that I am examining historical data that will not change due to the tests I perform nullifies the so-called testing effect (by which the behaviors of an actor reflect the state of being included in a research study).

⁴⁰ Gottman, et al., 1969.

Power of This Study

An important goal of the elements described above is to maximize the statistical power of the research. Power refers to the likelihood of correctly predicting the relationship of interest—not concluding it exists when it actually does not (Type I error) or concluding that it does not exist when it does (Type II error). Several elements contribute to the power of a specific study. Convention dictates that a probability of .80 or greater indicates sufficient power to avoid Type II error.⁴¹ Thus, I use an alpha of .05 for my regression analysis.

The timeframe of this research, though very broad from a policy analysis perspective, limits the sample size of my data. Effectively, there are 44 observations for each variable—one for each year since the creation of the MTA in 1968 through 2011, the last year for which data is available for every variable. I feel that to expect a large effect size is overly ambitious for the context of this study. Estimating for a medium effect size, which is reasonable considering the role of the media, the power of this study is a modest 0.48. When anticipating just a small effect size, that estimate falls to 0.20. These power calculations reflect the scale of the indirect causal chain I test here.

It is feasible to divide several of the variables, which measure yearly inputs, on a quarterly basis. Doing this for the entire range of variables would significantly boost the predictive power of the study by quadrupling the number of observations. However, because the nature of fiscal cycles is annual, to cut those figures into quarters would be a rather artificial boost to power. Thus, the variables remain in single-year terms.

V. Potential Confounds and Limitations

The nature and conditions of this research project introduce some risks to the extent to which its findings accomplish the goals I have outlined above, as well as to the generalizability of the results to transit agencies outside New York City or other public entities in New York. I discuss here those threats to internal and external validity, as well as how my methods attempt to mitigate them.

First, the risk of instrumentation bias is plausible with both the qualitative and quantitative information I gather. When interviewing my subjects, the use of leading questions or suggestions—for example, “Isn’t

⁴¹ Cohen, Jacob, 1992.

it true that the MTA gets all the funding it wants each year?”—could influence their responses.⁴² I thus delivered each subject the same set of questions, which were free from such leading questions. Some interviewees sensed leanings in the wording or delivery of various questions. However, the inconsistency (though I would not say randomness) with which particular questions aroused such reactions is, I feel, an excellent reflection of the very perspectives the questions sought to uncover.

Second, instrumentation comes into play during the initial collection of the data I employ in this study. This is often a concern for longitudinal research: in order to extract significant meaning from research results, it is essential that measurement and definition of variables are consistent throughout the period under examination. Thankfully, this situation mitigates these concerns substantially. The MTA has published financial statements each year since its creation in 1968. Despite this, two potential pitfalls emerge: first, any change to accounting practices that the agency adopted during this period could materially alter its capital budget; second, using absolute budget figures does not account for inflation. However, defining the dependent variable as a ratio of capital allocation to total MTA budget quells both of these concerns.

In this discussion of limitations deriving from data, I must mention here that though I do have a full panel of data for this span, there is a period of five years for which the source of MTA budget figures is not the same as the other years. In the early 1980s, the MTA began publishing two versions of its annual report: a full-length version and a second with a truncated set of financial statements (but otherwise identical). For the years 1986 through 1990, the existing archives only hold copies of the latter reports.⁴³ Those reports do not contain the consolidated financial statements of the MTA, from which the rest of my data came. I thus turned to an MTA chart on its Five Year Capital Programs and a *New York Times* article quoting an agency spokesman on their annual budget during this period. With this information, I interpolated the five years in question.

Next, the choice to follow the geographic background of important elected offices bears some limitations. It is an imperfect proxy for the conversations that happen behind closed doors—in legislative committee rooms, legislators’ offices, hallways, or over the phone with colleagues, advocates,

⁴² Choi and Pak, 2005.

⁴³ In addition to the archives where I did utilize physical copies—the New York Transit Museum and the New York State Library—I also performed fruitless searches at the New York Public Library, Brooklyn Public Library, Bobst Library of New York University, and the Newman Library of CUNY Baruch College.

or officials of the MTA itself. Another potential confound rests in the fact that elected officials can represent a different area than where they grew up or spent significant time. For example, a Senator could have been raised in Queens but later settled in Nassau County, which he or she could then represent in Albany. However, the fact remains that politicians are beholden to reelection by their constituents—if a Queens-bred Senator whose constituents in Nassau believe the state should disinvest in subways, I feel he or she would represent those wishes at the risk of losing reelection. Overall, I believe this variable encapsulates my research goals well. The funding process is, after all, a political one, so any variation between the local origin legislators bring to Albany and capital budget policy fluctuations would be telling.

Another potential limitation derives from the emergence of the internet as a powerful source of news. One likely effect of this development is that many more sources than simply *The New York Times* have wide readership and relevance. However, this is the source with the steadiest impact and readership over the study period. It might also become apparent that the advent of online journalism coincides with a spike in media attention given to the MTA. This might introduce a downward bias on my estimates in cases where there is no significant change to capital budget policy. On this point I have two comments. First, I was able to control for some of this “internet effect” by limiting my searches to only newspaper articles, thereby eliminating blog posts, online forums, and the like. Second, I view the internet age as an excellent opportunity for closer inspection of the relationship this study seeks to examine. In the event that periodic cycles of funding emerge—several years of either increasing or decreasing emphasis on capital funding—I conduct compressed time series studies, essentially cutting the relevant periods to study any relationships that appear then but not over the entire 44 years.

Though a topic of earlier discussion, history effects deserve a mention here, as there is a hint of this threat to the study. An extreme event can greatly affect the budgeting for one year or a set of years. Flood damage due to an unprecedented storm, for example, could foreseeably spur a shift toward more capital spending by the MTA. The fiscal crisis of the 1970s that impacted both the state and municipal governments of New York is another example. In general, most exogenous events seem as a blip on the radar of this study, given the length of time it covers. More powerfully, however, I believe that the inclusion of these variables reflects the changes to fiscal conditions statewide and in New York City.

To the extent that the data for subway ridership counts those entering through turnstiles (as discussed above), this variable introduces the potential for selection bias. Some customers—illegal fare evaders, especially—would not be counted. If this in fact occurred to a significant degree, it would introduce a downward bias to my regression analysis by overvaluing MTA spending per rider. However, scarcely more than one percent of subway riders evade fares.⁴⁴ This does not pose significant concern in the context of this study.

One important consideration regards controlling for the extent to which the lack of investment in maintenance itself led to lower revenue. Because the physical plant fell into disrepair, the resulting decay may have led to lower ridership, thus reducing revenues. This vicious cycle would have put increased strain on the agency to allocate funds where they were most in need.

An endogenous relationship could threaten the validity of the study by introducing reverse causality—essentially, instead of the independent variable X causing Y, the opposite occurs as well. For the scope of this study, I assume that this threat is plausible but not an overwhelming risk that will compromise the results. Nonetheless, to eliminate the potential for endogeneity between subway ridership and capital budgeting, I lag the variable for ridership by one year.

In addition to improving the quality of my quantitative research, lagging the ridership variable also makes sense in the real-life context of the research. When the MTA plans its budget requests and the state legislature approves them, ridership figures for that year are not yet available. Thus, to the extent that fare revenue drives capital budget allocation, the true driver is past ridership.

The same concept holds for press coverage. Articles printed late in a given year cannot have an effect on any policy decisions that are made earlier in the year. Therefore I perceive the tally of mentions in *The New York Times* in one year to have a relationship with the funding not for that year, but rather for the following year. Lagging these variables not only helps solve endogeneity concerns, but also makes practical sense in the context of this research.

⁴⁴ Reddy et al., 2010.

VI. Results

Quantitative Analysis

After building my raw data set, I performed several statistical tests to shed light on the variables and their relationships. I analyzed the data using Stata 12 software. I ran numerous regression analyses using various combinations of independent variables regressed on the same dependent variable: the ratio of capital spending to total MTA budget. The set of independent variables is as follows: mentions of the MTA in *The New York Times*; annual subway ridership; the percent change in capital spending in a given year from the prior year; and the geographic backgrounds of the Governor and relevant legislative committee chairs. Alternative specifications are included in Appendix B and include absolute figures for capital and total budgeting as opposed to year-on-year changes, as well as interactions between media mentions and the political seats. These alternative regressions did not show increased statistical significance or contribute theoretically to the investigation of my hypothesis.

Table 4 below shows some summary statistics for the two variables of greatest interest, the percentage of the total budget allotted to capital spending (shown in Table 1 as ratios) and the mentions of the MTA in the *Times*. The table makes plain the large ranges in both variables. The spending ratio, however, is the more volatile, with swings of up to 34 percent from one year to the next. The yearly tally for mentions in the *Times* varies to a lesser extent, and is generally higher after 1980 than before.

Table 4: Summary Statistics of Capital-to-Total Spending and *New York Times* Mentions

	Median	Mean	Minimum	Maximum	Std. Dev.
Capital Spending as Percentage of Total	39.08	40.54	3.16	106.47	21.52
<i>New York Times</i> Mentions	288	303.80	171	711	102.23

Sources: MTA annual reports, *The New York Times*

As Table 5 shows below, three variables—media mentions and the backgrounds of the Governor and Assembly committee chair—demonstrate statistical significance in my primary regression specification. The media mentions variable was significant in every specification. Because the dependent variable is a ratio, one must be careful to interpret these results correctly. On average, one additional mention of the MTA in the *Times* would result in an additional 0.11 percent increase in the proportion of total spending devoted to capital projects. This may seem like an insignificant increase at first blush, but given that the

median value of this ratio is 0.39 as Table 4 shows, it represents a considerable effect. In other words, for every 100 articles in which the newspaper mentions the MTA, the agency will put an additional 11 percent of its total budget into capital spending (at the expense of operating expenditure).

Similarly, the geographic backgrounds of the Governor and chair of the Assembly Corporations Committee seem to have causal relationships with MTA capital spending policy. These relationships, however, are of far greater magnitude than the effect of media mentions. These results show that on average, a Governor and committee chair who hail from New York City lead to increases in the ratio of capital to total spending of 15.9 percent and 15.0 percent, respectively, in contrast to individuals from outside the city’s five boroughs.

Table 5: Estimates of Effect of Media Mentions on MTA Capital Spending

Variable	Unadjusted	Adjusted
<i>New York Times</i> mentions	.101***	.113***
Subway ridership		.000
Change in capital spending from previous year		3.484
Governor		15.942**
Senate committee chair		9.099
Assembly committee chair		15.025**
Constant	10.393	-55.061
Significant at .05 level. *Significant at .01 level.		

Checking the correlations between media mentions and the Governor and Assembly Corporations chair mitigates endogeneity concerns. Both coefficients were small (roughly 0.20) and negative, which indicates that even if there were a significant relationship, it would be inverse: more frequent mentions in *The New York Times* would be simultaneous with having governors and committee chairs from outside New York City.

Qualitative Analysis

I had fruitful conversations with each of my interviewees. Common themes, which I will discuss at length shortly, shine through the various prisms intrinsic to the participants. There is recognizable

overlap between the various interviewees, who include the following: officials who direct the capital policy of the MTA; the current chair of the Assembly Corporations Committee; transit advocates who typically play the role of critic; and reporters who cover the agency. Noticeable divergences also emerge across the perspectives and even among individuals who approach the MTA from similar angles. Again, the full set of questions is included as Appendix A.

In preliminary discussion of the capital budgeting process, there was general agreement that the MTA is realistic about its capital needs and the funding requests it submits to the state government. Interviewees acknowledged that the budgeting process is a long-established one. One expert explains, “Invariably there is some haircut. [MTA officials] meet with people upstate. The thing that’s hard for the Albany staff to understand is the scale...the question is, how do we pay for it? So I don’t think there’s much argument on the spending side—it’s how much revenue can you come up with to support the spending side?” Assemblymember Jim Brennan, who chairs the Committee on Corporations, Authorities, and Commissions, highlighted that capital needs are a “major concern” when the MTA comes to the legislature for funding.

Intriguingly, the two advocates I spoke to disagreed on this point. Bill Henderson, Executive Director of the Permanent Citizens Advisory Committee (PCAC) to the MTA, said that although capital investment since the early 1980s has brought the system back from its nadir, the agency has not done enough to prioritize capital needs. Gene Russianoff, spokesman and staff attorney of the Straphangers Campaign (a program of the New York Public Interest Research Group), painted a more positive picture, particularly highlighting the tenure of Richard Ravitch as MTA chair.

Responses were nearly in lockstep regarding the legacy of the nickel fare and its ramifications for current capital planning. There was broad consensus that the MTA is a large bureaucracy and as such, policy shifts slowly. The agency ostensibly hesitates to raise fares. However, probing elicited numerous responses pointing out that the MTA “pays for more out of the farebox than any other transit system in America,” as former *Streetsblog* reporter Noah Kazis put it. Russianoff elaborated, “According to the [Federal Transit Administration]’s database, [the passengers] currently carry 55% of the costs of the system, and the national average is about 37%. All other major cities have a much lower farebox operating burden. To that extent, it’s challenging to raise fares because we’ve objected to them along the way. Where we currently are shows their willingness to raise fares.” Opinion from within the agency

naturally differed, stressing the internal process that occurs with each five-year budgeting cycle. The operating agencies of the MTA—New York City Transit, Long Island Rail Road, and so on—typically get pushback from MTA headquarters when they write budget plans. Headquarters, then, asks the operating agencies to “go back and come back to us with some more efficiencies and more priorities.”

Discussion of the pressure on passenger revenues also ignited dialogue regarding the fiscal functions of the MTA. As a public authority, it has the capacity to issue its own debt as a fundraising mechanism. Across the pool of participants, it was clear that the emphasis to fund capital projects through debt is an attempt by the agency to relieve the pressure on the farebox—precisely as Ravitch signaled in the 1980 annual report, the first under his stewardship. “The power to issue bonds is critical,” Brennan explained, to keep the capital program going.

Questions about how the MTA sets its capital priorities prompted less direct responses than those about the more public issue of fares. Two facts became clear: first, that the capital program can essentially be divided into expansion projects and projects to keep the system in a state of good repair; and second, that the latter is of much greater importance. As one interviewee put it, “With each capital program, we get closer to that than not. That’s been true since ’82 and it continues to be true. ...For the operating agencies, maintaining and improving the service, maintaining and improving the experience, is the priority.”

Several times, the current expansion projects—East Side Access and the Second Avenue Subway—emerged in discussion. One response encapsulated the secondary nature of expansion: “For the most part, expansion projects enter the picture through politics...If this was our last dime, we aren’t going to spend it on that.” On numerous occasions, it was made clear that the East Side Access project would not be happening today without the potent support of former U.S. Senator Alfonse D’Amato, a Republican from Long Island. Matt Flegenheimer of *The New York Times* summarized, “I think the political considerations play into this to a certain extent. Like the Fulton Center project, it has less to do with priorities and more with reimbursement packages to revitalize downtown after 9/11.”

The Capital Planning Review Board (CPRB), another innovation of the early 1980s, also emerged at this point. Though several interviewees acknowledged that mass transit is by its nature political, the CPRB received praise. “I don’t get the sense that legislators are meddling particularly,” Kazis said.

On the other hand, some responses suggest that a lack of transparency hurts the process. Interviewees implied that it is a complex situation. Although there is not a “Robert Moses-like figure in the picture with close connections,” as Russianoff put it, MTA executives “keep the details of their capital needs close to the chest.” Though the constant struggle is to find dedicated taxes and subsidies to balance expenses, the public “conversation largely hasn't happened.” When asked to discuss the common sources for public input into the capital budgeting process, interviewees gave nuanced responses that reflected their perspectives. Consensus suggested that calls for specific improvements come most often and most effectively from elected officials—city council members or state legislators. These individuals have the most specific knowledge of their home districts, and are often the best amplifier for local concerns and complaints. One expert described the inclusion of the public as narrow: “There is a NIMBY aspect of it, which is the opposite of what you'd hope. But for the most part, we the operator know what we need to invest in the system, and then generally the discussion is how do you pay for it as opposed to what those projects are.”

In terms of transparency, the Capital Project Dashboard—a component of the MTA website dedicated to detailing the progress of capital projects—was a popular topic. However, opinions diverged. Some interviewees highlighted the plethora of data that is available on the site, whereas others pointed out how difficult it is to navigate. Another common refrain was the role that former MTA chairman Jay Walder (in office from October 2009 through October 2011) played in making openness a commitment of the agency.

Interviewees on both the administrative side and the advocacy side of the planning process reflected on the minor influence of advocates. Russianoff, one of the most visible and public voices, put it plainly: “I don't think there's a really open process. We're certainly not in the room. The downside for the MTA is that they don't really build up support for the projects. I suppose it's just an approach they don't use.” Both advocates and administrators recognized the power of advocacy groups to raise awareness of system failings. However, interviewees on both sides of this equation expressed that the advocates play little role in the long-term capital plans of the agency.

With all of this in mind, interviewees discussed the nature of MTA service provision. Because its role is to provide an essential service to so many people, the interest of the public is inherent in its planning, as

several individuals pointed out. At the level of the Five Year Capital Program, however, feedback from customers and requests for specific work are secondary to long-term vision (one interviewee remarked that capital needs assessments are done on a twenty-year scale) for expansion and improvement.

Discussions of the role of public interest in the capital budgeting process led to conceptions of public perceptions of the system. One comment summed up the uphill battle the MTA faces: “The public image of the MTA has not kept pace with its improvements in reality.” In fact, some capital improvements make very large impressions on customers. To illustrate this, an interviewee described the effect of countdown clocks, which have existed along the platforms of some A Division subways (the numbered lines) for a few years and are expanding throughout the system. In the most recent annual customer satisfaction survey, 67 percent of riders surveyed in a station without countdown clocks described their station as clean. In stations that contain the clocks, that figure jumped to 81 percent despite no difference in any other maintenance regime for the stations. Flegenheimer offered some hope that the agency is turning the tide of public opinion: “Seeing tangible progress contributes to a feeling the MTA is paying more attention than we give them credit for.” The role of the MTA press office, another interviewee described to me, is to “little by little move the needle to keep aggressively pushing the idea that this is not the MTA you hated 20 years ago or even 10 years ago, that we confront our problems head on, we aggressively show for the things we are doing, we fight back against our critics and push back on factual claims.”

The role of newspapers in particular was another topic of interest. Views from within and outside the MTA were in basic agreement that members of the media do not have a “supple understanding” of the distinction between capital and operating expenditures, and that even if they did, that distinction would be lost on their readers. In addition, interviewees agreed that there is a significant gap between the capital projects they can see, such as new subway cars, and ones they cannot, like track switching mechanisms, that are equally important to keeping the system in a state of good repair. As a result, reporters tend to do a fair job covering the MTA, though it is often more newsworthy when a project goes awry, is over budget, or suffers delays than when capital projects succeed in maintaining smooth service. Only one interviewee criticized the large reporting outfits—particularly the *Times*—for offering superficial coverage, implying that readers would appreciate more detailed journalism. The majority were thankful that the *Times* provides more nuanced stories than competing newspapers that cast the MTA as a lumbering, bureaucratic over-spender.

In sum, my interviews revealed that, all perspectives and biases considered, the relationship of the public to the capital program of the MTA is simultaneously distant yet internalized by the agency. The MTA is still working to repair its terrible image that resulted from a lack of capital spending. What makes the relationship difficult, it seems, is that the public—due to a combination of low interest, little transparency, overextended advocates, and short-term reporting—does not appreciate the long-run benefits of investment in improving and expanding the subway infrastructure.

VII. Policy Significance and Analysis

This study sheds light on several influential factors of MTA capital budgeting. Although the workings of the budget process are not of interest to many who ride the subway, the outcomes of that process most certainly are. Awareness of the important drivers of capital budgeting policy is the key to improving service delivery—in this case, running a more efficient and pleasant mass transportation network. The overarching struggle to balance expansion projects with the need to maintain a state of good repair across the system is too often hidden from public view. Despite the efforts of the MTA to boost its transparency, the general public lacks the knowledge of these major influences. This knowledge deficit severely hampers very valuable process evaluations. Hopefully this thesis and others like it in the future will chip away at this deficit, facilitating a more open dialogue and easier analysis of transportation policy formation in New York.

Openness and Public Engagement

In our age of a continuous news cycle and nearly instantaneous reporting from professionals and amateurs via the internet, the MTA has taken positive steps toward increasing transparency. The evidence in my qualitative research, as described earlier, shows that the agency has made strides toward openness. Though the MTA existed for 40 years before Jay Walder emphasized transparency, this change is welcome and is better to have come late than never. The fact that the MTA in 2012 hired as its chief communications officer a veteran reporter with a record of consolidating the *City and State* newspaper into a messaging outlet that helps frame policy and political discussions, Adam Lisberg, suggests that it does take its standing in public opinion seriously. The agency also did an excellent job promoting its work after Superstorm Sandy wreaked tremendous damage on subway infrastructure.

Still, the MTA has progress to make in its efforts to engage the public. A common perception that the agency is too distant from its customers has prompted calls—including from the speaker of the New York City Council, Christine Quinn—for the city to regain control over the MTA from the state.⁴⁵ Quinn makes the case that “right now New Yorkers have little say in how that [subway and bus] system is run,” and “this has resulted in an MTA that doesn’t respond quickly enough to the needs of New Yorkers and the changing face of our city.”⁴⁶ It is unclear how her proposed administrative shuffle alone would lead to improvements in service and responsiveness, beyond any changes that the MTA can make as it is currently constituted. However, such a sentiment provides a powerful reminder that the agency has much work left to do to restore its image and regain public faith.

The agency holds one regular public hearing each year in addition to others that regard proposed service changes.⁴⁷ I was told this annual event is very poorly attended and for the most part, those who do attend come seeking either warmth indoors or a medium to showcase their savant-like knowledge of the subways. Aside from this being a somewhat dismissive attitude, chronically low attendance does not prove that the public is not interested in the workings of the MTA. Rather, it may in fact be the result of decades of little transparency that have turned off the general population from this channel of input.

The MTA responds to specific service requests through dedicated community affairs personnel. These individuals work with elected officials and community and civic groups to receive input and ideas. The MTA officials who handle requests and proposals for capital work are generally responsive and genuinely interested in improving the experience of riders. The recent experiment known as Participatory Budgeting, in addition, has brought everyday citizens into closer contact with the agency.⁴⁸ This process gathers suggestions for improvements directly from residents and funnels them into proposals that the MTA then evaluates for feasibility. However, the public commonly does not understand that capital projects take years from inception to completion due to requirements for design, budgeting, and contracting, as well as unforeseen delays. This disconnect represents a missed

⁴⁵ Quinn, p. 5.

⁴⁶ *Ibid.*

⁴⁷ For a list of all scheduled public hearings, see: <http://www.mta.info/mta/news/hearings/>

⁴⁸ Participatory Budgeting is an initiative begun in 2011 and supported by a group of city council members, who each set aside \$1 million of their allotted discretionary capital spending for a public, grassroots decision-making process. For more details on this democratic innovation, see <http://pbnyc.org/>. In the interest of full disclosure: I have volunteered with the Participatory Budgeting process in my home district, the 39th council district, for the past two years, including serving on the Transportation Committee in 2011-12.

opportunity for the agency to build public awareness and gain public faith. If the MTA were more aggressive in its efforts to push information to the public, I suspect the public would greet it with less cynicism and greater acceptance.

The Future of MTA Capital Funding

Billions of dollars are in question every year as legislators and the Governor debate solutions to the fiscal constraints facing New York State. Among these include a “lockbox” that would guarantee MTA funds yearly. However, this would require an amendment to the state constitution that does not seem feasible at this point. Other proposals include similar measures that simply lack the binding effect of a lockbox. At this stage, no clear resolution is in sight. Instead, the agency continues its scheduled fare increases and the size of its debt burden grows.

The capital program depends more on bond issuances than any other funding source. This includes revenue bonds from the MTA itself and also a mixture of bonds derived from “dedicated tax funds” (DTFs) that the state government collects.⁴⁹ As discussed earlier, these revenue sources include automobile and sales taxes. These dedicated funds are in fact not dedicated, as both Bill Henderson and Jim Brennan pointed out to me. It is considered a victory of sorts for the MTA to secure these tax revenue-based bond funds, which the legislature in Albany has the power to approve or not approve at its discretion. These DTFs, then, are not a stable source for planning beyond any given current capital cycle.

Likewise, direct appropriations from the state legislature are neither significant nor stable enough to depend on to support capital projects, as I discussed earlier (see Table 1 and its discussion). Although the MTA’s proposed budget is routinely subject to “raids” when the state legislature needs to balance its annual budget, it sometimes receives a windfall of funds from Albany.^{50 51} This dichotomy would be solved by a lockbox proposal but the foreseeable future remains murky.

Meanwhile, the MTA forges ahead under an enormous and growing debt burden, currently around \$32 billion. Debt funding is both a reasonable and necessary source of support for capital programs. Yet even

⁴⁹ PCAC, p. 15.

⁵⁰ Kazis.

⁵¹ Martinez.

the PCAC's extensive 2012 report does not discuss the sustainability of this strategy.⁵² How long the agency can pile on the debt before its credit dries up is a question that does not have an answer at this time. If the public were aware of this silent fiscal crisis, solutions might come from more diverse places than MTA headquarters or the state legislature.

Capital Priorities Going Forward: State of Good Repair vs. Expansion vs. Sandy

It is not a secret that the MTA is in tight fiscal straights. For the upcoming Five Year Capital Program of 2015-2019, the MTA first faced a two-sided program of maintaining the state of good repair and expansion projects. This meant balancing investments in new cars (for example, to replace the R32 cars running on the C line, some of which are nearly 50 years old) with continuing work on the Second Avenue Subway, East Side Access, and the 7 line extension on the West Side of Manhattan.⁵³ As several of my interviewees acknowledged, much of the expansion work currently lacks funding for the next five-year cycle. This reflects the stated goal of the MTA to emphasize keeping the current system in a state of good repair. However, it also raises red flags and fears of more proposed work—the Second Avenue Subway being the archetype—that goes unfinished.

In November 2012, though, this planning dilemma became a three-headed paradox when Superstorm Sandy rendered huge amounts of infrastructure inoperable. Of course, the federal government will supply many of the funds necessary to repair, replace, and improve what suffered damage. Federal organizations like the Federal Emergency Management Agency (FEMA) and the Public Transportation Emergency Relief Program of the FTA have committed roughly \$200 million for such efforts.⁵⁴ Even if those funds cover the entire cost associated with Sandy recovery, the MTA is left to manage an increased demand on its “working fleet”—the vehicles that roll on rails but do not carry passengers.

The MTA must therefore manage three components of capital projects. Its administration is under unenviable strain to keep up current service levels, if not raise them, on top of making progress on unfunded construction projects and restoring Sandy-affected infrastructure. Surely the agency will seek

⁵² PCAC, pp. i – 31.

⁵³ Grynbaum.

⁵⁴ MTA release: “Governor Cuomo Welcomes Nearly \$200 Million in Federal Funding for MTA Sandy Recovery.” Available at: <http://www.mta.info/nyct/service/SandyRecovery.htm>

grant funding, but the safety of debt financing allows for optimism that at least in the short-term, the capital program will be secure.

Future Research

Especially in this age of a continuous news cycle and myriad sources of instantaneous information, the press has a role to play. Whether this role is directly related to outcomes of budget meetings in Albany is yet unclear. The results of this study should encourage further examination into how different kinds of media coverage affect these budget shifts. What frequency or timing of publication leads to peaks in public awareness of transit issues? What differences do the placement and printed page space allotted to reports on the MTA make on transit funding?

Part of the role of journalism is to spur public conversation on topics like how effectively the state manages the subways. I would not claim that because the correlation between media mentions and MTA capital funding is positive and statistically significant, the press fulfills its duty to the public. Instead, this result should inspire further inquiry, as well. How has the internet affected the relationship uncovered here: do issue-focused outlets like *Second Avenue Sagas*, *Streetsblog*, or *Cap'n Transit* raise general awareness, or do they simply stoke the ire of the straphanger?

In the area of MTA funding generally, there is much to learn about how the agency can better balance its capital needs against its desires. Although the agency conducts needs assessments on the scale of twenty years, the capital program is stretched thin to complete work even within each five-year segment. Perhaps firmer controls should be in place to safeguard the capital funding necessary to adequately fund maintenance of the good repair of the existing infrastructure. The MTA and other policymakers should examine ways to improve the translation of its long-range planning into solutions to perpetual short- and medium-term shortfalls.

Conclusion

Beyond these questions, this study aims to lend useful insight for several ongoing debates regarding the MTA. The first relates to the annual gap between the budgets that the agency proposes and that the state legislature approves. There is no protection for the funding designated to the MTA in preliminary budgets. As a result, funds are routinely diverted from both operations and capital

components of the agency's budget to support other underfunded state efforts. This creates uncertainty in planning for major projects and the provision of service to millions of transit riders each year.

The MTA cannot afford to perpetuate its current fiscal infrastructure. It has committed to build massive projects that lack funding even for the coming Five Year Capital Program, which begins in 2015. The next funding cycle will undoubtedly include preparedness measures to mitigate the effects of future storms like Sandy. These considerations sit atop the concerns of maintaining a state of good repair and continuing the ongoing expansion work. Capital funding must remain a priority in order to sustain the progress the MTA has made since the dark days of the late 1970s.

The massive (and still growing) costs of the current expansion projects—particularly the Second Avenue Subway and East Side Access—have undermined the overall reliability of the subways. MTA executives are sometimes reluctant to take on these additional projects, which will no doubt be beneficial in the long-run but for which the funds currently do not exist. The fact is that there was not sufficient capital to support this work before it the agency undertook it. Because of the agency's commitment to these projects, the balance of capital funding has shifted too from its goal to maintain a state of good repair. Yet, the MTA cannot reasonably back away from them at this point. The foreseeable future for capital funding includes only a vision of increasing the debt burden of the agency.

It is my hope that this study makes progress on two fronts: first, to clarify the fiscal mechanisms behind MTA capital construction and second, to empower policymakers to emphasize investing in the subway's state of good repair. Increasing knowledge of MTA capital budgeting facilitates broader public knowledge of the issues that undergird what New Yorkers learn from newspapers or public hearings. Eventually, building more thorough public engagement alongside more dedicated investment in maintaining a state of good repair will lead to even better public service, which is what the MTA is all about.

Appendix A: Qualitative Research Protocol

Introduction

The purpose of this interview is to gather qualitative data that I will analyze as part of a research project that aims to explain how and why the MTA's capital budgeting policy has shifted since the agency's creation in 1968. It includes a quantitative analysis of administrative data, focusing on capital and overall budget figures, subway ridership, and funding sources. I will also test a hypothesis that print media mentions, as a proxy for public awareness, lead to increased emphasis on capital spending. The questions that follow seek to capture your impressions on these concepts. Some may be more relevant to your experience than others, and that is fine; you do not need to give detailed answers to every question. Imagine all of them are prefaced with, "To your knowledge..."

My research—as it does not examine human subjects—is not subject to scrutiny by any institutional review board. Still, I want to make clear that I will include some opinions as objective data sources in my analysis. If any interviewees prefer to not be quoted, named, or otherwise identified at all, I will respect those wishes.

Research Questions

Capital Needs and Requests

- 1) To what extent does the MTA emphasize capital needs when it considers its annual budget proposal to the state legislature?
 - a. Does the agency often over-estimate or under-estimate its needs?
 - b. Does the agency plan its budget expecting to receive or not receive what it requests from the state?
- 2) Do the capital needs assessments—in whatever form they exist—change within the spans of Five-Year Capital Plans?
 - a. If yes: Does the agency incorporate those changes within the Plan?
 - b. If no: Does the agency incorporate those changes into the next Plan?
- 3) Does the legacy of the nickel fare, and the emphasis on low burdens on the passenger, have any lingering effects on the capital policy of the MTA?
 - a. How would the agency's reliance on passenger fare income be different today?
 - b. How does passenger revenue, either past or projected, relate to annual capital expenditure?
- 4) How does the MTA set its capital priorities?
 - a. Does the background of key elected officials—the Governor or committee chairs—have a bearing on this? Consider political affiliations or geographic origins and constituencies.
 - b. To what extent is the agency's budget set before its proposals come before legislative committees?
 - c. What is your impression of the transparency and openness of the MTA budget process? How much is decided behind closed doors?

(continued on next page)

Appendix A (continued)

Public Inclusion

- 5) To what extent does public interest enter the budgeting policy of the MTA?
 - a. What does this say about advocacy for transit issues?

- 6) To what extent do MTA officials feel public pressure in the capital budgeting process?
 - a. If positive: What are the common sources or outlets for public input?
 - b. If negative: What could the public do to show more interest?
 - c. Either way: Do you feel newspapers are, on the whole, critical or supportive of the agency?
 - i. Either way: what should the role of the media be?

- 7) To what extent would increased capital spending (as a proportion of total spending) result in higher customer satisfaction?

Appendix B: Alternative Regression Specifications

Alternative Estimates of Effect of Media Mentions on MTA Capital Spending

Variable	Effect
<i>New York Times</i> mentions	.052**
Subway ridership	.000**
Change in capital spending from previous year	-.578
Absolute capital spending	.000***
Absolute total budgeting	.000***
Governor	.986
Senate committee chair	-8.918*
Assembly committee chair	20.567***
Constant	47.025
<i>*Significant at .10 level. **Significant at .05 level. ***Significant at .01 level.</i>	

Variable	Effect
<i>New York Times</i> mentions	.090**
Subway ridership	.000
Change in capital spending from previous year	.722
Governor	-14.343
Senate committee chair	9.206
Assembly committee chair	17.472
Media*Governor	.100
Media*Assembly committee chair	-.016
Constant	-35.683
<i>*Significant at .10 level. **Significant at .05 level. ***Significant at .01 level.</i>	

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