

COMMUNITY CHANGE

Managing a Complex Public Organization under Resource Dependency: the Case of the Washington Metropolitan Area Transit Authority (WMATA) Metrorail System

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Abstract: This article offers a timely and empirical case study of the effects of political influence from governing stakeholders on the management of a major inter-regional public transportation system in the greater Washington, DC area. It demonstrates the critical importance of intensive cooperation between federal, state, and local authorities for the sustainment and effective delivery of a vital public service, and documents the significant challenges for public managers charged with administering public organizations in an organizational environment characterized by resource dependence, principal-agent conflicts, and dysfunctional governance structures. Solutions recommended include institutional entrepreneurship, lobbying for stronger federal oversight, and greater use of strategic planning and strategic communications to shape public and legislator perspectives.

Keywords: mass transit, metro, WMATA, resource dependence, federalism, government failure, principal-agent, public management, governance, bureaucratic autonomy, constraint absorption

Introduction

The Washington Metrorail System and Its Decline: 2000-2016

The accident report of the National Transportation Safety Board (NTSB) of July, 2010 recounted the worst accident in the then 33-year history of the Washington Metropolitan Area Transit Authority (WMATA) Metrorail (Metro) system:

On Monday, June 22, 2009, about 4:58 p.m....inbound Washington Metropolitan Area Transit Authority [WMATA] Metrorail train 112 struck the rear of stopped inbound Metrorail train 214....causing the rear car of train 214 to telescope into the lead car of train 112, resulting in a loss of occupant survival space in the lead car of about 63 feet (about 84 percent of its total length). Nine people aboard train 112,

including the train operator, were killed. Emergency response agencies reported transporting 52 people to local hospitals. Damage to train equipment was estimated to be \$12 million” (National Transportation Safety Board 2010, xi).¹

For the greater Washington, DC area, the disaster came as a profound shock and sounded the alarm that there could be a more systemic problem with WMATA management. Washingtonians, Virginians, and Marylanders had long been accustomed to riding in a reliable and safe mass transit rail system. Only nine years before, Metro’s reputation was untarnished.

[It] was viewed by many as the model U.S. metropolitan transit operation... [however] the fatal accidents of 2009, other safety problems, ongoing service interruptions, funding problems, and a perceived lack of management direction...caused many in the region and in Congress to believe that substantive changes [were] needed in its funding, structure, and operations (U.S. Library of Congress 2010, summary).

While subsequent accidents and service issues have not quite risen to the lethal levels of the 2009 disaster, accidents, fatalities, injuries, and serious service problems continue to plague Metro.² WMATA made history, in a dubious way, on March 16th, 2016 when, for the first time in its 40 years of operation, the entire Metro system shut down on a weekday (Hedgpeth, et al. 2016, B1). The cumulative effect of the decline in Metro safety and service has been to undermine government and public confidence in the Metro system, leading to a decline in ridership and revenues. Figure 1 shows Metro ridership has never recovered since the 2009 crash; indeed, it continues to decline steadily, despite the construction of the new Silver Line in Virginia, which has added five new stations and 3,000 parking spaces so far (Martin-Ewing, and WUSA 2014).

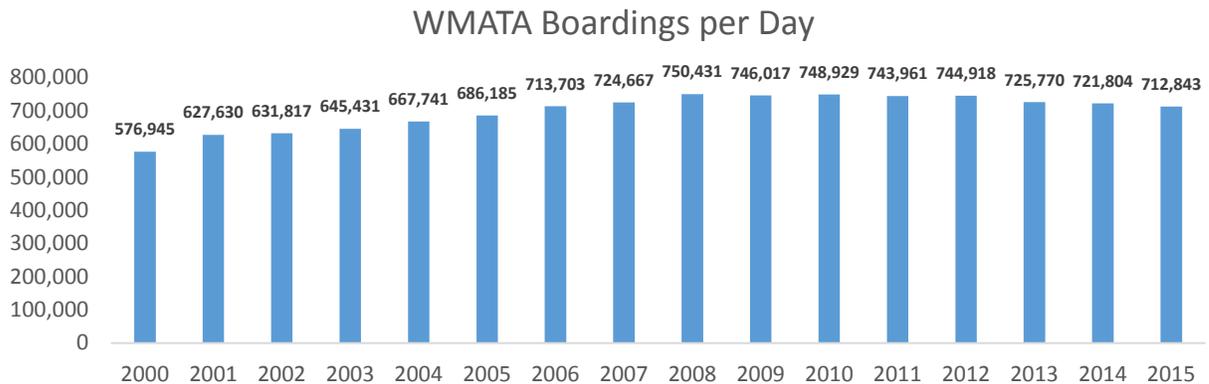


Figure 1. Metrorail Passenger Boardings per Day: 2000-2015

Source: Data adapted from WMATA 2016b.

While it seeks to identify and explain the root causes for the decline in Metro service and safety to illustrate the effects of resource dependence theory (RDT), this essay is not intended as an investigatory report. Instead, it draws on evidence and analysis in published investigations and studies to contend that the problems confronting the Metro system today, and their solutions, are ultimately the responsibility of the regional political bodies that established the framework and rules of governance under which WMATA struggles to

operate. The following analysis of WMATA and its management of the Metro system validates theoretical predictions on the expected employment of management strategies to cope with environmentally-imposed constraints, specifically WMATA's dependence on Federal, state, and local government resources. In this analysis, WMATA is assumed to be an agent of the Metro Board on which representatives of these governments sit, and the Board members, in turn, are held to be agents of the jurisdictions which they represent. Thus, the ultimate principals in this study are the Federal and state governments who are signatories of the WMATA Compact.

Overview of the Metro System and Its Organizational Environment

Metro's challenges can be traced to the system's origins and its deep embeddedness in regional and local politics, the source of WMATA's resource dependence and the backdrop for its organizational responses to it. A brief history of Metro and its mission, governance, oversight, leadership, and finances will provide the context for analyzing the complex relationship of WMATA and its resource providers. Later sections will apply RDT to examine WMATA's governance environment and its effects on Metro planning, operations, maintenance, and finances. WMATA describes itself in a series of vignettes:

[The mission of Metro is] to operate and maintain a safe, reliable and effective transit system that enhances mobility, improves the quality of life, and stimulates economic development in the Washington metropolitan area (Wiedefeld 2016).

[WMATA]...began operating the first phase of Metrorail in 1976. Today, Metrorail serves 91 stations and has 117 miles of track. Metrorail...serve[s] a population of approximately 4 million within a 1,500-square mile jurisdiction (WMATA 2016d, 1).

Metrorail is the second largest urban rail network in the United States, and ongoing construction of the Silver Line to Dulles International Airport and beyond to Loudoun County will add six more stations by 2019 (WMATA 2016a, I-3).

Thirty-five Metrorail stations serve federal facilities and 42 percent of Metrorail's peak period commuters are federal employees (WMATA 2016d, 1)

The WMATA Compact (1967) chartered WMATA to "plan, develop, finance, and cause to be operated a comprehensive mass transit system for the Washington Metropolitan Area" (WMATA 2009, foreword). It established a Board of Governors with representatives from the Northern Virginia Transportation Commission; the Council of the District of Columbia; and the Washington Suburban Transit Commission [Maryland]. A Federal "Administrator of General Services" was added and the U.S. Government was allocated four seats (two primary and two alternate) on the Metro Board in 2009 after the Red Line disaster, "to comply with a new federal-regional dedicated funding agreement" (Joint WMATA Governance Review Task Force 2010, 8). The Metro Board "...determines agency policy and provides oversight for the funding, operation, and expansion of transit facilities" and can appoint or remove the WMATA General Manager ("Board of Directors") and

...retains final approval authority over most of the important decisions put forward by management. Bus route changes, capital project spending (e.g., new bus and railcar purchases), and—most importantly—fare increases must be approved by the Board. And in many cases these proposed changes require extensive public hearings before the Board will consider them” (U.S. Library of Congress 2010, 5)

Other organizations also influence WMATA. Figure 2 provides an overview of the many stakeholders whose priorities strategic decisions by Metro managers. The Metro Office of Inspector General was established in 2006, 30 years after Metro’s founding (WMATA 2015, 3).³

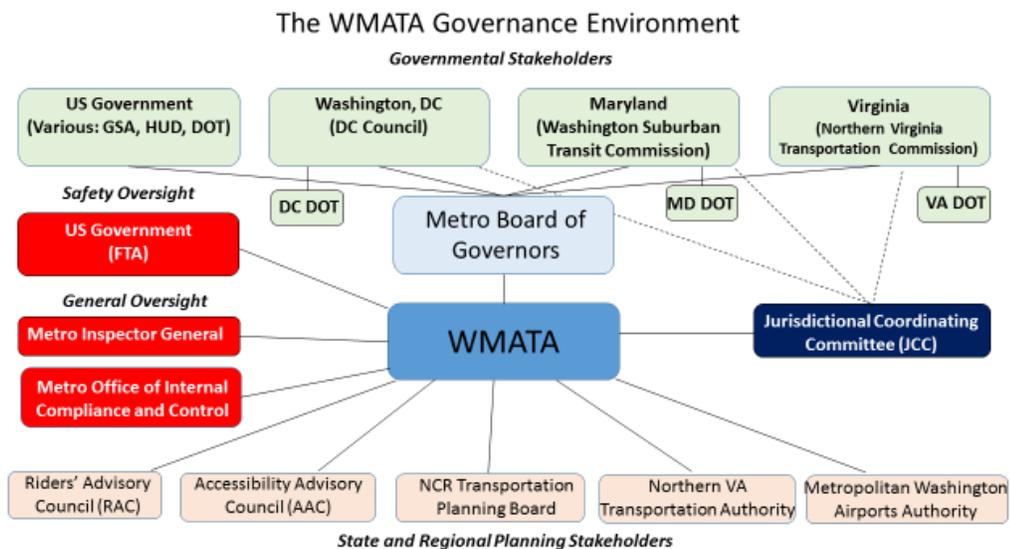


Figure 2. The WMATA Governance Environment

Metro’s budget reflects the contributions of its Federal and regional stakeholders and its customers: “...the Federal government contributes roughly 56 percent of the capital costs. Fares and other revenue currently fund 56 percent of the daily operations, while state and local governments fund the remaining 44 percent” (WMATA 2016d, 1).

Understanding Metrorail’s Predicament: The Theory of Resource Dependence

WMATA’s steady decline in performance, safety, and ridership since 2009 provides empirical evidence of RDT in action. RDT is a natural and open system theory, first developed by Pfeffer and Salancik (1978), and later refined and expanded by Casciaro and Piskorski (2005) and others. RDT provides a suitable lens for evaluating the interdependent relationships between WMATA, as the focal organization, and its many principals, partners, and stakeholders. Scott and Davis (2007) observed, “...it is from [the level of the organization-set] that the interests, the resources, the dependencies of a given organization are best examined and its survival tactics probed” (116). This paper will thus analyze WMATA from the level of the organization set.

According to Scott and Davis (2007), “resource dependence theorists emphasize the importance of the political processes accompanying exchange processes” (121). At the

core of RDT theory is the idea that “...organizations survive to the extent that they are effective. Their effectiveness derives from the management of demands, particularly the demands of interest groups upon which the organizations depend for resources and support” (Pfeffer and Salancik 2003, chapter 1, overview, paragraph 2). RDT helps explain why past WMATA leaders were constrained in their ability to prevent the decline of safety and service in the Metro system as they attempted to manage WMATA’s relationships with external resource providers and politically-powerful stakeholders. Specifically, RDT predicts that managers will seek to reduce resource uncertainty and protect their bureaucratic autonomy (Scott and Davis 2007, 221). A high level of resource uncertainty can inhibit management agency and innovation; confidence in the sustained flow of resources over time can encourage long-term planning and the undertaking of new projects. Hillman, Withers, and Collins (2009, 1404-1405) cite five basic propositions of RDT as presented by Pfeffer (1978); applying each to WMATA’s situation illuminates the institutional environment confronting WMATA managers (discussed in parentheses after each proposition, italics added):

- 1) The fundamental units for understanding intercorporate relations and society are organizations (*WMATA’s governance environment is defined by external organizations*);
- 2) These organizations are not autonomous, but rather are constrained by a network of interdependencies with other organizations (*both WMATA and its external stakeholders are organizations which are constrained by their networks with Federal, state, and local governments who provide resources for Metro*);
- 3) Interdependence, when coupled with uncertainty about what the actions will be of those with which the organizations interdependent [sic], leads to a situation in which survival and continued success are uncertain (*WMATA could not survive without Federal and state subsidies*); therefore
- 4) Organizations take actions to manage external interdependencies, although such actions are inevitably never completely successful and produce new patterns of dependence and interdependence (*WMATA managers must also manage the organization’s relationships with the Metro Board and a host of external bodies, and changes in the WMATA governance structures and rules since 2009 reflect new patterns of dependence and independence*); and
- 5) These patterns of dependence produce interorganizational as well as intraorganizational power, where such power has some effect on organizational behavior (*the effects of resource dependence on Metro Board external power and WMATA internal management power will be discussed below*).

Casciaro and Piskorski (2005) amended Pfeffer and Salancik’s (2003) theoretical construct by critiquing the latter’s notion of “constraint absorption,” noting that this phenomenon “entails giving the rights to control the resources that create dependencies to the dependent actor” (168). They believe constraint absorption is unlikely theoretically because a resource provider “agreeing to a constraint absorption operation is equivalent to

relinquishing one's power and the favorable conditions that accompany it" (Casciaro and Piskorski 2005, 168). The historical record suggests the local jurisdictions on Metro's board never agreed to allow WMATA to absorb constraints to any significant degree. Thus, one would not expect WMATA to be capable of demonstrating much independence. Organizations which are unable to bypass the source of their constraint, or merge with, acquire, or form long-term contracts with their resource providers, are in a weak relative position (Casciaro and Piskorski, 2005, 167-168). Thus, the original WMATA Compact members had little incentive to allow WMATA to absorb constraints, and WMATA had no effective means to pursue it. The public outcry for federal intervention after the Red Line crash in 2009 finally forced the regional jurisdictions to accede to federal participation on the Metro Board and the establishment of an Inspector General (IG) office. The new federal presence on the board and the IG created the potential for WMATA management to absorb some of the constraints imposed by the original Compact members by leveraging a new and powerful ally on the board with significant power to make, or at least influence, critical resourcing decisions.⁴

Lack of Federal Involvement Created Principal-Agent Conflicts in Metro Governance

Why has WMATA been unable to find effective alternatives to deal with its resource dependence and its resulting weak power position? A possible explanation can be found in the existence of serious principal-agent conflicts 1) between WMATA and the Metro Board, and by extension the regional jurisdictions that are represented on the board, and 2) between those jurisdictions and the U.S. Congress. Prior to 2009, it appears the U.S. Congress underestimated the potential for moral hazard in the Metro Board and within WMATA itself that could arise due to its absence from the Metro Board. Mullins and Gaynor (2015) argue Metro's problems today can be traced back to its very origins:

Metro's planners had rushed to craft a subway under local control before the federal government could impose its own authority, all while under pressure from highway lobbyists eager to kill the project. As plans were finalized in the 1960s, according to Zachary M. Schrag, author of *The Great Society Subway*, the planners scrambled to make decisions that still plague Metro today.

Evidence in this paper seems to confirm Mullins' and Gaynor's assessment. Metro's problems today ultimately stem from the federal government's acquiescence in 1967 to placing the WMATA Board under the exclusive control of local jurisdictions. Metro's framework of governance set the stage for the misallocation of resources and created impediments to effective WMATA management which caused the systemic deterioration in the safety and reliability of Metro service. As noted, the 2009 Red Line crash exposed the failure of the WMATA regional governance model and led to calls for federal intervention by the U.S. Department of Transportation to ensure Metro compliance with federal safety standards. Metro Board members had demonstrated they were incapable of placing their interest in the safety of Metro riders above their interest in gaining political advantage and localized benefits for their constituents. Direct intervention by the federal government became necessary because the use of incentives to influence the decisions of the Metro Board and WMATA was an insufficient option, as it often is for influencing government agencies (Miller and Whitford 2007, 215).

As designed in 1967, the governance structure of the WMATA Compact set the stage for significant principal-agent conflicts between WMATA and the Metro Board and between WMATA Compact jurisdictions and the U.S. Congress. Congress had provided federal consent to the WMATA Compact in 1967 (WMATA 2009, foreword). Through the Compact, the Congress delegated considerable authority over WMATA to Maryland, Virginia, and Washington, D.C, making them its *de facto* agents on the Metro Board, just as WMATA was an agent of the Metro Board.⁵ For most of WMATA's existence, evidence suggests Congress either likely assumed that the state-level Metro Board representatives would keep the risk of moral hazard by WMATA management, and within the board itself, under control (a benign view),⁶ or it simply abdicated its oversight responsibilities as a principal (a more realistic view).

Support for the latter view is seen in Congress' *laissez faire* treatment of the Metro Board and non-intervention into all but the most public of WMATA matters prior to 2008, as seen in a content analysis of the Congressional Record from 1995 to 2016 (available data on Congress.gov only goes back to 1995). Table 1 shows the number of instances when WMATA was identified in the *Congressional Record*, and sorts these references by topical category (one category for each instance based on primary topical focus). The final row of the table shows the percentage of references pertaining to the topic area over the period, with WMATA funding issues being the most-frequently referenced and administrative Congressional business (e.g. schedules, summaries of meetings) being the second most. Operations and safety issues were third. Nine of the 13 references to any matters concerning operations and safety occurred from 2008 on, and all previous references were complimentary, except for a single funding condition demanded in 2000 in bill H8922 to ensure a new fire communications system would be installed in tunnels. In 13 years of the 22-year period, there were no references to Congressional concerns with Metro operations or safety. Consideration of WMATA governance matters was only cited in 1996 and 1997 in connection with the revision of the WMATA Charter, and essentially ignored thereafter.

The last two columns show the percentage of references to operations and safety and to financial matters out of all WMATA references during that year. Based on this data, unambiguous trends appear that show Metro operations and safety issues have not been a high priority for Congress except in isolated years when there was bad press and public complaints about Metro safety risks and incidents, almost all from 2008 on. Attention to Metro finances in Congress was continuous over the period due to the annual re-appropriation of federal transit funds for WMATA, but the number of references to it predictably increased around the periods when public safety issues arise due to Metro system failures.

	WMATA Governance	Operations & Safety (O&S)	WMATA Funding	Congressional Admin	Commemorations	Unrelated/Duplicate	Total	% O&S	% Funding
2016		2		3			5	40.0%	0.0%
2015		1	2	1		3	7	14.3%	28.6%
2014			1			3	4	0.0%	25.0%
2013			1			3	4	0.0%	25.0%
2012			1			1	2	0.0%	50.0%
2011		1	3				4	25.0%	75.0%
2010		1	3	3	1		8	12.5%	37.5%
2009		4	4	10	0	1	19	21.1%	21.1%
2008			7				7	0.0%	100.0%
2007			2			3	5	0.0%	40.0%
2006			2	1		1	4	0.0%	50.0%
2005			1			4	5	0.0%	20.0%
2004			1		1	2	4	0.0%	25.0%
2003		1			1	8	10	10.0%	0.0%
2002						4	4	0.0%	0.0%
2001		1			2	2	5	20.0%	0.0%
2000		1	3				4	25.0%	75.0%
1999			1		1		2	0.0%	50.0%
1998				3	1		4	0.0%	0.0%
1997	1		1	1		4	7	0.0%	14.3%
1996	2		1		1	1	5	0.0%	20.0%
1995		1	2			1	4	25.0%	50.0%
Total	3	13	36	22	8	41	123		
% of Total	2.4%	10.6%	29.3%	17.9%	6.5%	33.3%			

O&S-Related Records Prior to 2008

S9862, 24 July 2003, included a statement from WMATA General Manager on the safety of Metro on 9/11/2001.
 HR3541, 26 June 2001, proposed a name change for the Metro station at Reagan National Airport.
 H8922, 5 Oct 2000, Congress directed WMATA use appropriated funds and TIFIA funds to add fire communications in tunnels.
 H9257, 20 Sep 1995, Rep Bud Shuster made a passing comment "WMATA...actually improved costs and improved safety."

Table 1. Key Themes and Number of WMATA References in the Congressional Record (1995-2016)

Source: Data adapted from www.congress.gov/congressional-record search for “WMATA”

It is also sadly ironic that the year in which Congress gave its greatest attention to funding issues, 2008, was the year just before the Red Line disaster. That year, in response to a local press report citing Metro infrastructure deterioration, Congress paid special attention to Metro funding and proposed \$1.5 billion in supplemental funds over 10 years in the Davis/Van Hollen/Hoyer Amendment. In support of this amendment, Representative Thomas Davis from Virginia observed:

Earlier this year, the Washington Post reported that the Transit Authority is in dire need of additional financing—to the tune of \$489 million—to address short-term capital improvement needs such as track replacement, rail car safety improvements, and repairs to deteriorating infrastructure. This needed funding for the agency’s

capital budget is above and beyond the additional funding generated by Metro's recent fare increase, which goes to the agency's operating budget (U.S. Congress 2008, H5250).

When agency managers must be accountable and responsive to elected officials from three different regional jurisdictions, with a weak or nonexistent federal presence in the board, that leaves the agency in an uncertain position, with unpredictable resource inflows bound in a bundle of conditions on their obligation and execution. In this situation, the WMATA management team tried, often unsatisfactorily, to accommodate and implement the different principals' competing priorities, at the cost of operational performance and safety. This happened because "...WMATA's Board lacks the subject expertise and political freedom necessary to evaluate operational decisions in the context of what is the best decision from a transit operating perspective (e.g. maximizing productivity) as opposed to the political perspective (e.g. the popularity of a fare increase and/or its impact on specific electoral and other groups)" (U.S. Library of Congress, 9).

If the Metro Board were capable, on its own of unifying its expectations for Metro and then communicating these to WMATA with one voice, WMATA, as an agent of the board, could more effectively and efficiently execute its mission. Sadly, the Metro Board itself has been poorly-postured to guide WMATA because, in the absence of meaningful federal participation, it refused to even manage itself or hold itself accountable. A 2011 Government Accountability Office (GAO) report noted "while leading governance practices state that effective transit boards monitor the effectiveness of the board's organization, structure, and functioning through a regular board self assessment, WMATA's board does not do so" (GAO 2011, Introduction).

The independent posture of the local stakeholder jurisdictions allowed their Metro board representatives significant discretion to pursue their jurisdictional agendas and, at times, political self-interests. This disunity prevented the development of a coherent consensus needed for a regional strategy for developing and sustaining the Metro system. A Charter governance model that would have given a leadership role to a federal-level agency on the Metro Board, and that decreased the relative resource dependence of WMATA on regional governments, would have created the conditions for a unified approach to planning and resource allocation, and better served the needs of the public in the region.

The Consequences of WMATA Resource Dependence and Organizational Responses

The Metro Board has been torn by rival interests from the regional jurisdictions which, until 2008, competed with each other under a regime of malignant federal neglect. Virginia, Maryland and the District of Columbia routinely appointed board members having no transportation-related experience.⁷ While board members have been short on professional knowledge of mass transit systems, they have possessed ample political incentives and motivations to place additional burdens on the Metro system by extending service hours and constructing new stations when feasible, or establishing new bus lines when not, within their districts to appeal to constituents (Mullins and Gaynor 2015). While these service extensions were politically popular with local residents and businesses, they exacerbated a gap between demand for the Metro system's services and its carrying capacity.

Under these conditions, WMATA managers had little autonomy or predictability in resource flows to make carefully-planned budgeting and programming decisions, and had no opportunity to pursue the sort of strategies chief executive officers in a private firm would likely choose to absorb the constraints imposed on their organization by its resource dependence through the use of co-optation or other strategies. As cited in a Congressional Research Service study: “The GM [General Manager] can make a lot of day-to-day decisions, but his/her ability to make crucial decisions on what would otherwise be viewed as normal business activities in a private sector transportation firm—for example, fare setting, route selection, and frequency of service determinations—is instead subject to Board action” (U.S. Library of Congress 2010, 5-6). U.S. Department of Transportation representation on the Metro Board before 2009 might have provided an objective advocate and a receptive ear for WMATA management recommendations. Without the presence of federal representatives on the board to serve as an advocate for routine maintenance and safety improvements, however, GM recommendations to the Metro Board often fell on tone-deaf ears more attentive to political opportunities than to operational priorities.

Competing political agendas in the Metro Board are often exercised formally through the mechanism of a “jurisdictional veto.” This is authorized under the WMATA Charter. It allows a single Compact signatory to veto all but the most important proposals. Somewhat euphemistically, a governance task force “found that the threat of using the veto has sometimes acted as an impediment to making the best regional decisions” (GAO 2011, 44). Repealing it was a recommendation to the WMATA Board in 2012 by an independent consultant:

The jurisdictional veto is problematic because it allows Board Members to place the interests of their jurisdiction above the interests of the Metro system as a whole. Eliminating the jurisdictional veto would encourage each Board Member to act in the best interests of WMATA and the Metro system as a whole (WMATA 2012, 9).

In 2013, the WMATA Board of Directors, tacitly acknowledging the damage to Metro wrought by this sweeping grant of power to state and local authorities, revised its bylaws to try to impede jurisdictional vetoes (WMATA 2013, 8). The revised bylaws now require “all Board Members [to] provide advance notice of the intent to invoke a jurisdictional veto, and will attempt to resolve disputes over proposed actions prior to invoking a jurisdictional veto. The Chair shall facilitate the resolution of disputes that may lead to a jurisdictional veto” (WMATA 2013, 8).

The need to manage and operate Metro within a shifting environment of rival political agendas, competing preferences, and uncertain priorities puts WMATA management into the unenviable position of having to respond to many authorities and diverse public interests, only a few of which concern the safe and efficient delivery of public transportation services. This environment compels WMATA managers to be very responsive to the demands of regional political leaders in order to maintain WMATA’s legitimacy. Neoinstitutional theorists might interpret this management strategy as a means to assure organizational survival (Meyer and Rowan 1977, 349), or to negotiate and bargain (March 1962), compromise, or satisfice (Simon 1956), with the effect of supporting the organization’s relations with external stakeholders while undermining its administrative effectiveness. One can observe the effects of resource dependence in multiple WMATA

management domains; here, I will explore three of them that are arguably the most relevant to the safety and reliability of Metro service and the survival of Metro as an organization: its capability to conduct strategic planning, its operations and maintenance program, and its financial management.

Strategic Planning

First, resource dependence has prevented WMATA managers from undertaking a regular and essential function of any large and complex organization: strategic planning. Competing and uncoordinated jurisdictional agendas have hindered the development and resourcing of long-range plans. In 2011, a GAO study found that:

WMATA has developed elements of strategic planning over the past 4 years, but the agency's board and management could enhance their strategic focus and long-term planning processes to improve performance. WMATA acknowledged several failed past efforts at strategic planning. WMATA officials said that prior attempts failed due to a lack of management support, employee buy-in, and specific actions to execute the plans; and a focus on tactical versus strategic decision making (GAO 2011, Introduction).

In particular, the lack of an effective asset management strategy for Metro, which WMATA is only now developing in response to FTA mandates for WMATA to manage asset risk, cost, and performance (WMATA, 2016e, 5), has led to inadequate replacement of equipment as it wears out. The GAO's assessment of WMATA's tactical focus helps explain the absence of an asset strategy. It is an expected consequence of WMATA's incapacity for strategic planning resulting from its position of power weakness *vis a vis* the dysfunctional Metro Board.

Operations and Maintenance Program

Second, resource dependence interferes with management's ability to deal with daily operations, maintenance, and safety needs. In 2010, the Congressional Research Service assessed WMATA's Board structure and business rules, noting these political influences work against operational efficiency and effectiveness:

[The WMATA Board]... is probably best viewed as following a public utility model....[in which] the general manager is heavily constrained by the Board in his/her ability to make crucial decisions on what would otherwise be viewed as normal business activities in a private sector transportation firm—for example, fare setting, route selection, and frequency of service determinations. Some are concerned that the WMATA's Board lacks the subject expertise and political independence necessary to evaluate operational decisions in the context of what is the best decision from a transit operating perspective (e.g., maximizing productivity) as opposed to the political perspective (e.g., the popularity of a fare increase). (Library of Congress 2010, Summary, italics added).

In order to curry favor with their state and local constituents, WMATA Board members demanded and won extensions of Metro operating hours until late at night, according to Mullins and Gaynor (2015). This extension reduced windows of availability for WMATA crews to service the system; over time, deferred maintenance needs piled up,

resulting in today’s delays and single tracking operations to accommodate overdue maintenance during the work day:

In 2003, Metrorail pushed back its closing hours to 12 am on weeknights and 3 am on Fridays and Saturdays. That was good news for riders, businesses, and the environment. But it accelerated the infrastructure’s deterioration. The new schedule left less time when Metro was closed and maintenance crews could access the tracks. On weeknights, “you’re talking about three hours of actual work time,” says Aaron Wiggins, a [retired] maintenance manager....“Ain’t a lot you’re going to get done in three hours on a nightly basis. It’s impossible” (Mullins and Gaynor, 2015).

The deferred maintenance is reducing system reliability: “Rail fleet reliability [in 2015] was 13 percent worse than 2014 as the higher Silver Line car requirement strained the maintenance program” (WMATA 2016e, 1). Poor management of maintenance also contributes to the problem. Metro General Manager Wiedefeld admitted “inadequate supply chain for parts, maintenance practices, and modern fleet management strategies are also lacking” (Wiedefeld, 2016). As a result of the maintenance backlog, Metro’s performance suffers. “Rail on-time performance fell to 84 percent in 2015 from almost 91 percent in 2014 as railcar, power and track equipment problems led to longer and more variable travel times for customers” (WMATA 2016e, 1).

The evidence for a decline in rider safety on Metro has been amply presented.⁸ In response, the U.S. Department of Transportation replaced the former Tri-State Oversight Committee (TSOC) with the Federal Transit Administration (FTA) in October 2015. The FTA thereby assumed safety oversight responsibility for Metro, providing further evidence that federal and regional authorities have finally acknowledged that the diffuse structure of the TSOC was not responsive and accountable enough to guarantee Metro safety, and that a direct federal role was needed. FTA investigations of Metro in 2016 revealed major deficiencies in the management and execution of WMATA’s safety program, to include inoperable fire extinguishers and blocked escape routes (Aratani 2016, B1 and B4).

Deficient maintenance and declining safety has reduced rider satisfaction. Metro rider satisfaction metrics show a steady decline since 2013, with 69 percent for the fourth quarter of 2015, well below WMATA’s 84 percent target, as seen in figure 3. The trend lines change from gray to black four quarters before the end of 2015 to emphasize the adverse trends in 2015.

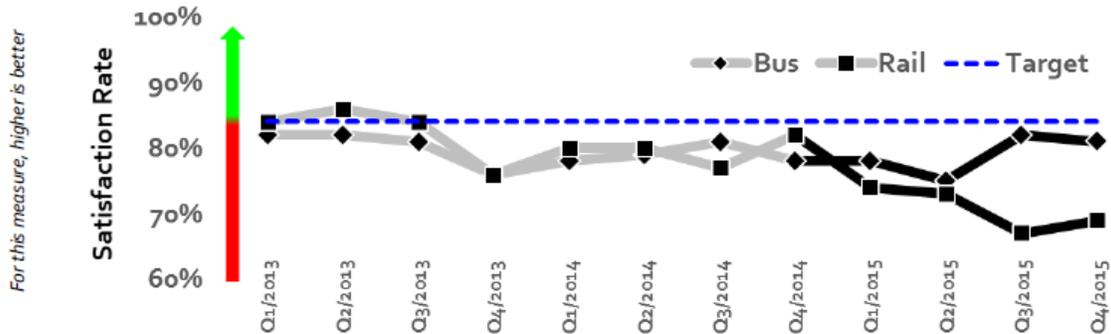


Figure 3. Rider Satisfaction Rate: 2013-2015

Source: Reproduced from WMATA 2016e, p. 8.

Financial Management

Third, resource dependence directly and indirectly impedes WMATA's efforts to manage its finances in terms of setting rates, allocating resources efficiently, and developing a long-term budget. The steady decline in ridership continued unabated into 2016. Ridership through the spring of 2016 was running below what Metro projected in its FY2016 budget. So, for the FY2017 proposed budget, projected ridership for Metrorail was reduced by another 4 percent (WMATA 2016a, II-5). Tellingly, Metro's FY2017 proposed budget stated: "given recent ridership declines and challenges with customer satisfaction, this proposed budget includes no broad-based fare increases, and it also proposes the introduction of new fare products (aimed at retaining customers and encouraging additional trip taking) that actually constitute fare reductions" (WMATA 2016a, II-5). Thus, WMATA is attempting to lure back riders, and to avoid political controversy, by holding the line on fare increases at a time when it urgently needs additional resources to improve system safety and service reliability. This is clear evidence that the continued relative weakness of WMATA's position vis-à-vis the Metro Board prevents it from setting efficient, or even viable, fares. If the WMATA Board were composed of experienced transportation professionals instead of political agents beholden to local jurisdictions, it seems likely that fares would rise substantially to cover current and future costs to execute an asset management plan. No doubt such fare increases would be politically unpopular, which is why they have not kept up with rising costs in the past.

WMATA's resource dependence also impedes the operationally-efficient allocation of resources across the organization's portfolio of services. Metro General Manager David Gunn from 1991-1994 (WMATA 2016c) observed that during his tenure, the Metro Board tapped into Metrorail resources to curry local political favor by creating new non-rail transportation services: "They stripped [funding] out of the rail system, and they had it go to the handicap services or to buses," he says. "And they did that because those are politically positive things" (Mullins and Gaynor 2015). Evidence that this practice is continuing today can be observed in the FY2017 WMATA budget (2016), which subsidizes the operating costs of the MetroAccess van service for disabled riders by 92 percent (III-26), compared with only 26.2 percent for Metrorail (III-15), to provide 2.2 million trips per year (I-6) at a total cost of \$125.6 million (III-26) and a calculated average cost of \$57.09 per trip. This equals 7.2 percent of WMATA's total operating budget of \$1.735 billion. The MetroAccess subsidy alone is \$125 million, equal to 2.43 times the cost of materials and supplies to operate the Metrorail system (WMATA 2016a, III-7).

MetroAccess provides less than 1 percent of all WMATA trips (U.S. Library of Congress 2010, 2) but will receive 13.67 percent of all available subsidy dollars (WMATA 2016a, III-7). In the absence of political pressure from board members representing the interests of the elderly and disabled, and in the face of the sort of life-threatening maintenance issues Metro has experienced since 2009, it seems most implausible that a transit manager would voluntarily choose to allocate such a disproportionately high percentage of his or her agency's operating subsidy budget for so few passenger trips.⁹ WMATA compliance with the Americans with Disabilities Act could, in all likelihood, be achieved at much lower cost through the use of subcontracted services and specialized taxi services. WMATA acknowledges that the only way to sustain MetroAccess service is "partnering with other human services agencies and other transportation providers" (WMATA 2016a, I-7).

Regional jurisdictions have also denied repeated WMATA appeals for the establishment of a dedicated funding source for Metro (i.e. a regional transportation tax). Mullins and Gaynor (2015) reported Metro's stakeholder jurisdictions rejected the use of local tax revenues for Metro, preferring to try to free ride on Federal contributions:

WMATA had been formed with little thought about finances. There was no realistic plan to pay for the system long-term—local officials expected Uncle Sam to bankroll construction and fares to fund operation costs. Other cities have a so-called dedicated revenue stream, money automatically appropriated through taxes. New York gets 35 percent of its funding this way, Boston 47 percent, and Chicago and Atlanta 56 percent. WMATA, by contrast, collects a minuscule 2 percent of its budget through dedicated revenue.

A dedicated funding source, which most other urban mass transit systems in the United States enjoy and which enable long-range project planning, would reduce the political power of board members which comes from the ability of their jurisdictions to threaten to withhold resources from Metro. The potential to lose leverage over WMATA resource decisions probably explains some Metro Board members' opposition to a dedicated funding source as much as any potential fiscal burden on the residents of their jurisdictions does. The immediate consequence of the lack of a dedicated funding source is a structural deficit and the lack of a multi-year budget:

To continue balancing its budget, Metro would require a combination of operating subsidies and passenger fare increases of about 6% annually over the next 10 years just to keep pace with cost growth for existing service levels. Like other transit systems, cost escalation is driven primarily (73%) by personnel expenses to operate, maintain and manage bus and rail services. Unlike other regions' transit systems, Metro has no clearly defined multi-year operational funding plan" (Wiedefeld 2016).

Not that WMATA could administer a multi-year budget even if it had one. Reflecting the adverse effects of WMATA's inadequate capability for strategic planning, already discussed, and execution monitoring, "[Metro's] capital program has been significantly underspent every year for more than 10 years. The reality is, Metro's \$1.1 billion program will only realistically spend about \$950 million next year [2017]" and "...cost recovery declined from 47% in 2011 to 45% today, due mostly to rail fare box revenue slowing while operating costs grew" (Wiedefeld 2016). This evidence of major inefficiency in fiscal and project management suggests resource dependence constrains WMATA's administrative capacity to manage its finances as well.

Overcoming the Challenges of Resource Dependence

Hope is not lost for Metro, at least not yet, but the situation may need to get worse before it gets better in order to change public attitudes and political postures concerning the critical need for state and federal support for Metro.¹⁰ WMATA is not as powerless as it may appear from the foregoing analysis. It is well established in the Washington region, and its closure would simply be inconceivable after the massive investment that has been made (and is still being made) in it. Like several Wall Street banks that were bailed out in 2009-2010, it is simply "too big to fail." The surrounding states and the federal government

probably would not allow it to. At the end of the day, Wiedefeld holds the trump card and should be aware he can play political hardball and prevail, if need be. Whether he is aware of it or not is as yet unclear. Scott and Davis (2007) observe that, even in a state of resource dependence,

...organizations are not simply passive recipients of laws handed down from above: they have resources of their own to shape governmental policies. Through political contributions, lobbying, cooptation, and the exchange of personnel with government agencies such as regulators, organizations can shape their political environment in ways that reduce their constraint (p. 239).

WMATA has real options to improve its ability to manage through its resource dependence, but it must begin with changing the balance of political forces in the region in WMATA's favor. The first order of business must be to weaken the grip of the state jurisdictions on the Metro Board and the WMATA budget by using institutional entrepreneurship to further develop its relationship with federal authorities and encouraging federal control over the Metro Board, potentially achieving the wholesale Federalization of Metro.¹¹ Without federal advocacy, there is little hope Metro will ever have a dedicated source of funding. As has been shown, the multi-jurisdictional nature of the Metro Board fosters creates incentives among board members to find opportunities to invest in local transportation projects at the expense of partner jurisdictions or the federal government, a form of free-riding. As long as this continues, the jurisdictions will not agree to any form of Metro tax on their citizens.

Metro's new General Manager has already demonstrated that he has the potential to be an effective public advocate for WMATA, and displays a savvy awareness of the political challenges and opportunities Metro faces in securing future resources that will be required to implement change: "To plan for the future while rebuilding the system, Metro's leadership has created Momentum, a strategic plan that will guide Metro's decisions and business plans over the next 10 years....[which]...specifically calls for an aggressive effort to secure a reliable and sustainable source of funding for the system...." (WMATA 2016d).¹² His success in securing a stable funding source will depend in large measure on his success as a "political broker" who can influence stakeholders and address the "demands on the system" (March 1962, 672).

Strategic communication offers another excellent opportunity to strengthen WMATA's hand. General Manager Wiedefeld's unexpected decision to close down the entire Metro system on March 16, 2016, a workday with no weather emergency, for safety inspections (Hedgpeth et al. 2016, B4) subtly yet powerfully communicated to Metro employees, board members, federal officials, and regional and national politicians that "business as usual" at Metro is probably over, an assessment shared by Robert Puentes of the Brookings Institute (Duggan and McCartney 2016, A1). It demonstrated a willingness to accept a level of political risk that previous General Managers would not have deemed prudent in their state of resource dependence on the local jurisdictions. He took the moral high ground in his strategic messaging by expressing concern for passenger safety over all else, thereby cleverly muting potential criticisms from regional politicians whose constituents were impacted. By getting away with this and leveraging strong political support from federal authorities, he strengthened his power position relative to the regional Metro jurisdictions and set a precedent for future activism.

Implications for Resource Dependence Theory and Questions for Future Research

The case of WMATA offers valuable insights for RDT in the organizational context of a public agency operating in a complex governance environment of diverse and competing political interests and struggles for control over decision rights, investment priorities, and even routine operational choices, such as fares and operating hours. It highlights the challenges and opportunities for public managers seeking constructive community change. This analysis has focused on the dyadic relationships of WMATA with its board, federal government officials, regional jurisdictions, and other community stakeholders at the organization-set level. It demonstrated that the managers of a public agency that is pulled in divergent directions by powerful stakeholders with conflicting priorities and uncertain future resource commitments will try to minimize political risks, engender compliance, satisfice, and avoid controversial decisions in order to survive. Over time, the cumulative effect of such a survival strategy can result in significant degradation of operational effectiveness, efficiency, and customer satisfaction in the delivery of regional government services. Of perhaps greatest importance is the constraining effect of extreme resource dependence on an organization's capacity to plan and execute a long-range strategy, leading the dependent organization to accept politically-motivated demands to eschew strategic planning and multi-year budgets that would be considered an absolute necessity in any private sector organization of comparable size and regional scope. The case of WMATA can thus be viewed as an extension of RDT from its traditional focus on private firms to a public sector organization. The findings in the foregoing analysis suggest many of the propositions of RDT for private firms are, with proper qualification, applicable and relevant to public entities.

This study examined a single urban mass transit system, one which has unique aspects distinctive to its governance structure shared by few other like organizations, and thus it is hard to generalize lessons from it for other mass transit systems. And yet, other public agencies, like WMATA, must cope with their own resource dependence and competing regional demands. How would the WMATA findings vary for other urban mass transit agencies in the United States, and why? Is the governance environment for WMATA so abnormal as to make it an isolated case? Or, is there sufficient commonality of the public utility model for managing urban rail systems to warrant a more generalizable approach to studying the effects of resource dependence across the organizational field of urban mass transit agencies? These and other possible questions arise from the case of WMATA, and could offer researchers opportunities to further extend the theory of resource dependence in terms of its regional and local political dynamics and its application to the public sector.

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Notes

- 1 The immediate cause of the tragedy was a failure of “the track circuit modules [which] did not function safely as part of a fail-safe train control system” (National Transportation Safety Board, 2010, xi).
- 2 On January 12, 2015, “...an electrical malfunction in a tunnel engulfed a stalled train in smoke, killing one rider and sickening scores of others;” on September 21, 2015, a fire damaged a rail power station, “causing weeks of slowdowns on three subway lines;” on August 6, 2015, a train without passengers derailed and “crippled a big stretch of the rail system, stranding tens of thousands of commuters” (Duggan 2016, B1-B2).
- 3 Inspector General offices are established as independent investigatory and reporting entities which improve the accountability of public organizations. They uncover instances of fraud, waste, abuse and other forms of malfeasance. Fraud, waste and abuse is common in organizations which are not focused on operational effectiveness and efficiency, and which are riddled with rent-seeking behavior by political actors whose priority is not to the greater good of the agency or the larger public interest, but to their local constituents or their own self-interests. The fact that it took 30 years to establish an IG for Metro is clear evidence that such an intrusive oversight organization in the midst of Metro operations and planning functions was not desired by those in a position to prevent its establishment.
- 4 In the wake of the Red Line catastrophe in 2009, the federal government began to take a more active role in Metro safety and management by passing Public Law 111-62, which endorsed the modification of the WMATA Compact by creating two seats on Metro’s Board of Directors for federal representatives and establishing an Inspector General who would be “an independent and objective unit of the Authority that conducts and supervises audits, program evaluations, and investigations relating to Authority activities;

promotes economy, efficiency, and effectiveness in Authority activities; detects and prevents fraud and abuse in Authority activities; and keeps the Board fully and currently informed about deficiencies in Authority activities as well as the necessity for and progress of corrective action” (*Joint Resolution Granting the Consent and Approval of Congress to Amendments made by the State of Maryland, the Commonwealth of Virginia, and the District of Columbia to the Washington Metropolitan Area Transit Regulation Compact*, PL 111-62, section 1(b)(3)).

5 This delegation effect is similar to that which occurs in a decentralizing organization, in which, as Moe (1984) observed, “...tasks and authority are delegated to lower-level units in the expectation that they will use their specialized knowledge and productive capacities to contribute toward organizational ends; but the inevitable information asymmetries create incentive problems...” and this becomes a basis for principal-agent conflicts (755-756).

6 Indeed, principal-agent theory predicts that “bureaucratic responsiveness in the exercise of *executive* discretion to inspect or prosecute is a direct or indirect function of agencies’ *political accountability* to the elected officials [or, in this case, their Metro Board representatives] who appoint their top managers and establish their budgets and legal mandates” (West 2004, 66, italics in original).

7 Biographical information in the Fiscal Year (FY) 2017 Budget for WMATA shows only two out of 16 primary and alternate WMATA Board members have published their experience in transportation management or oversight (WMATA, FY2017 Proposed Budget, introduction).

8 Metro employee safety has also become a concern: last year, employee injuries increased by 30 percent (Gelinas, 2016, C4).

9 For example, the author calculates that in Metropolitan Transit Authority’s (MTA) financial plan for New York City Transit for 2017, only 2.21 percent of agency operating expenses before depreciation and adjustments are devoted to subsidizing Paratransit, MTA’s MetroAccess equivalent. These funds buy 7.36 million trips, more than triple the number that WMATA provides (MTA, 2016, VI-125 and III-18). The comparable calculated percentage of operating budget for WMATA for 2017 is 6.66 percent (WMATA, *FY2017 Proposed Budget*, III-7).

10 Recent history has borne out this prediction. At the time of the first writing of this paper in April, 2016, the Metro “Safetrak” program had not yet been announced. Repeated cycles of multi-week line closures in 2016 and 2017 under this program are testimony to how far Metro infrastructure had been allowed to deteriorate, and to the value of federal involvement in empowering Metro to undertake foundational maintenance activities to mitigate the damage of years of deferred maintenance.

11 This notion is not as implausible as it sounds. On April 28, 2016, Transportation Secretary Anthony Foxx displayed a heightened level of federal activism by replacing three Federal members of the Metro Board with experienced transportation professionals (McCartney and Duggan, 2016, April 29, B1-B2). Will state board members without transportation experience be replaced next?

¹² The Momentum plan can be downloaded from the WMATA website at <https://www.wmata.com/initiatives/strategic-plans/upload/momentum-full.pdf>. It includes specific initiatives that extend out to 2025, such as increasing station capacity, upgrading the radio system infrastructure, implementation of NTSB recommendations, replacement of track and rail structures, acquisition of new railcars, and much more.