

EVALUATING THE IMPACT OF PERFORMANCESTAT: A CASE STUDY
OF THE CITY OF BALTIMORE'S CITISTAT PROGRAM

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ABSTRACT

How to improve the efficiency and effectiveness of the public sector has been a priority for decades. This case study examined a management approach to improving public-sector performance called PerformanceStat. PerformanceStat is a program conducted by a jurisdiction or agency which holds an ongoing series of regular, frequent, periodic, and integrated meetings during which the agency's leadership team and individual directors of different sub-units use data to analyze the past performance, follow up on previous decisions to improve performance, and establish future objectives (Behn, 2008). The purpose of this research was to examine the impact of the PerformanceStat program on the performance management pillars of strategic planning, performance measurement, and the utilization of performance information. The study utilized the City of Baltimore's CitiStat program as the sample government agency. The findings indicate that the CitiStat program has an impact on all three pillars of performance management. The study also concluded that the CitiStat program impacts the government agency's ability to be more citizen-focused, while promoting the opportunity to increase double-loop learning.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of the School of Graduate Studies, have examined a dissertation titled “Evaluating the Impact of PerformanceStat: A Case Study of the City of Baltimore’s CitiStat Program,” presented by Mark G. Schieffer, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

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CHAPTER 1

INTRODUCTION

How to improve government agency performance management has been a central question for public managers, academics, consultants, and the general public for more than a century. Government agencies at the city, state, and federal level have attempted many methods, techniques, and reforms, all of which have arguably had a mixed array of positive and negative outcomes for taxpayers.

Lynn and Hill (2009) define performance management as the use of information from performance measures and performance analysis to improve the management and performance of an organization. Similarly, Moynihan (2008) identifies performance management as a system that generates performance information through strategic planning and performance measurement routines and connects that information to decision venues. Moynihan centers the definition of performance management on strategic planning, performance measurement, and the utilization of performance information.

One type of performance management program that has received attention and credibility at the city and state level is called PerformanceStat. Behn (2008) indicates a jurisdiction is employing a PerformanceStat program if it holds an ongoing series of regular, frequent, periodic, and integrated meetings involving the chief executive's leadership team and the individual directors and the top managers of different subunits. The meetings must focus on the following criteria: (a) use of data to analyze a subunit's past performance, (b) follow-up on previous decisions and commitments to improve performance, (c) establishment of its next performance objectives, and (d) examination of the effectiveness of

its overall performance strategies. A PerformanceStat program supports a performance management approach.

The first PerformanceStat program in the United States was referred to as CompStat, which was implemented in 1994 by Commissioner William Bratton in the New York City Police Department (NYPD). Using computer pin mapping, biweekly data collection and analysis, and accountability sessions, CompStat helped the NYPD significantly reduce crime, restore public interest, and motivate police officers (Henderson & Center, 2003).

Commissioner Bratton borrowed state-of-the-art management doctrines from organizational development experts Michael Hammer and James Champy to implement CompStat (Bratton, 1998; Silverman, 1999). Between 1994 and 1999, CompStat is credited with reducing all categories of crime in all NYC precincts (Smith & Bratton, 2001). CompStat's success motivated other police departments to create their own program. Only five years later, a survey by the Police Foundation found that approximately one-third of the 515 police departments in the U.S. with 100 or more sworn police officers implemented a version of CompStat (Weisburd, Mastrofski, Greenspan, & Willis, 2004).

The concept of CompStat caught the attention of municipal governments as well. In 2000, within months of becoming mayor of Baltimore, Maryland, Martin O'Malley initiated one of the first citywide PerformanceStat programs in the United States, which was called CitiStat. The CitiStat program improved performance and accountability of city agencies immediately. Moreover, Mayor O'Malley is credited with improving municipal service, saving the City of Baltimore \$43 million in fiscal years 2001 and 2002 (Henderson & Center, 2003). Although the City of Baltimore does not currently quantify savings identified in the CitiStat program, these stated improvements precipitated the development of other

PerformanceStat programs such as ATLStat (Atlanta, Georgia), Chattanooga Results (Chattanooga, Tennessee), ProvStat (Providence, Rhode Island), CitView (St. Louis, Missouri), SFStat (San Francisco, California), SomerStat (Somerville, Massachusetts), SyraStat (Syracuse, New York), KingStat (King County, Washington) and PalmStat (Palm Bay, Florida).

With the development of these programs, management scholars have identified factors that are common across all PerformanceStat programs. Each government agency implementing PerformanceStat must use data in two ways: (a) to determine “performance defects” and (b) to suggest policies and practices that might produce improvements (Henderson & Center, 2003). However, a leading scholar on PerformanceStat, Robert Behn (2008) indicates every PerformanceStat program is different, since the performance needs of each organization are different. Therefore, the leadership team of the organization must adapt the basic principles of PerformanceStat to its own objectives and circumstances.

The rest of this chapter introduces the research opportunity to examine the impact of a PerformanceStat program on the three pillars of performance management: strategic planning, performance measurement, and utilization of performance information. The chapter includes the research purpose and research questions to address this opportunity. Finally, the assumptions of this research are outlined as well as the key definitions.

The second chapter presents a literature review of the key scholars, public-sector management programs, and theories within the management field. The chapter will also highlight the key research findings within the performance management cycle; specifically, strategic planning, performance measurement, and the utilization of performance information.

Chapter three outlines the case study methodology that was utilized to address the research questions. The chapter describes the primary data collection methods of interviewing, observations, and document analysis. Additionally, the limitations of the study are discussed as well as the researcher's plan to mitigate those risks. Chapter four presents the findings and interpretations for the research questions and provides examples to support the findings. The examples also illustrate the responsibilities and capabilities of the PerformanceStat team.

Chapter five presents a summary of the researcher's conclusions and considerations for future research. The four conclusions draw attention to the implicit results that the sample PerformanceStat program produced in this study and the critical successful factors needed for the PerformanceStat program to be effective.

Problem Statement

Various researchers have identified PerformanceStat programs with regard to their purpose, results, infrastructure, frequency of meetings, commitment, responsibilities, and impact on stakeholders (Behn, 2008). Additionally, researchers have added to the definition of PerformanceStat and discussed its usage in terms of a technological or management program (Willis, Stephen & Weisburd, 2007). The academic and practitioner communities have also provided operating manuals and guidance to conduct such programs (Behn, 2005; Patusky, Botwinik & Shelley, 2007). This research has contributed to the growth of PerformanceStat. However, this researcher argues that it is unclear how the implementation of a PerformanceStat program impacts and contributes to performance management, specifically, the three pillars which are central to a performance management system:

strategic planning, performance measurement, and utilization of performance information (Moynihan, 2008).

By understanding the relationship between a PerformanceStat program and the performance management pillars, we can understand a PerformanceStat program at a more detailed and tactical level. Specific understanding of the program will improve a government agency's strategic planning and performance measurement processes as well as identify how performance information is utilized within the agency.

Additionally, as government agencies are required to become more resourceful, programs such as PerformanceStat must be delivered efficiently with a limited staff. The era of eliminating wasteful programs requires a government to efficiently execute programs and justify its value to the municipality and its citizens. Therefore, research is needed to understand how PerformanceStat programs are implemented and how the program's costs and benefits are justified.

Statement of Purpose and Research Questions

The purpose of this study had two objectives. First, the study explored how a PerformanceStat program impacts the pillars of a performance management program: strategic planning, performance measurement, and utilization of performance information. With a better understanding of this relationship, the public sector community can improve their ability to address the issues and challenges of increasing the performance of the government agency. Secondly, the study examined how a PerformanceStat program is structured and administered throughout the municipality. Specific research addresses how the PerformanceStat staff executes the program vis á vis the responsibilities of the municipality to deliver services to the citizen. The study also examined how the municipality

justifies the existence of the PerformanceStat program with attention given to the methods used to determine the costs and benefits of the program. Finally, an analysis was conducted as to why some agencies participate in the program and others do not.

Within the first section of the study, the strategic planning research illustrates how a PerformanceStat program contributes to the agency's development and content of the strategic plan. The performance measurement research identifies how a PerformanceStat program impacts performance measurement activities of a city government. Finally, this study illustrates how a PerformanceStat program impacts how a city government utilizes performance information to make better decisions at the strategic and operational level.

The first section of the study addresses the impact of a PerformanceStat program, and the second section outlines the delivery of the PerformanceStat program. Program administration is critical to the impact of PerformanceStat. Providing details on program execution can help other government agencies understand how to seamlessly implement a PerformanceStat program into a government agency and the human resources required. Program structure, agency participation, costs and benefits, and agency capacity are examined.

The following research questions address the above-mentioned PerformanceStat program topics.

RQ1. Does a PerformanceStat program impact the strategic planning process of the government agency? If yes, how?

RQ2. Does a PerformanceStat program impact the strategic stance of the government agency's strategic plan? If yes, how?

RQ3. Does a PerformanceStat program contribute to the measurement targeting and selection process? If so, how?

RQ4. Do external stakeholders impact the development of the performance measures? If yes, what is the role of the PerformanceStat program?

RQ5. Does a PerformanceStat program help a government agency utilize performance information appropriately? If yes, how?

RQ6. How does the PerformanceStat program manage capacity issues while implementing the program?

RQ7. What is the methodology to determine the costs and the benefits of the PerformanceStat program?

RQ8. Why do some agencies participate in the PerformanceStat program and why are others not involved?

Significance and Rationale

The focus on government accountability, waste, and excess spending continually drives debate about where and how government should reduce expenses. The recent global economic crisis has necessitated new explorations of methods to improve government performance. The PerformanceStat approach to improving government effectiveness has contributed to making government more accountable within these economic conditions, while the academic and government-practitioner community continue to learn about its value and implications. This research contributes to the academic and practitioner inquiry to find ways of utilizing resources more efficiently and provide the highest level of service to the taxpayers.

Government scholars have echoed the need for continued research to understand and improve our ability to make government organizations more effective. Sanger (2008, p. 81) highlights “the state of knowledge about what jurisdictions and agencies are doing to improve and with what success is growing but remains inadequate to inform intervention or policy.”

Therefore, this study examines PerformanceStat’s impact as well as how the program is implemented across the municipality. Program administration is complex, requiring the highest level of benefits to be achieved in a cost efficient manner. This research examines the sample agency’s program structure and how the departments of the agency pursue the highest level of benefits at the lowest cost.

Assumptions

Three primary assumptions are made regarding this study. First, organizations are complex environments. Therefore, during the data collection process, not every facet of the PerformanceStat program performed at the highest degree of effectiveness. However, the purpose of this research is to determine how the PerformanceStat program impacts the performance management pillars of strategic planning, performance measurement, and utilization of performance information. The motives, intentions and processes within the PerformanceStat program are examined as well as the outcomes achieved.

Secondly, it is assumed that the PerformanceStat program (meetings, data analysis) may vary from department to department. Therefore, the observations and interviews encounter inconsistencies across the PerformanceStat program. However, the fundamental principles of a PerformanceStat program are the focus of this research.

Finally, the last assumption of the study is the choice of the sample, the City of Baltimore's CitiStat program. The researcher assumes CitiStat is an appropriate sample to examine the impact of PerformanceStat program on the aforementioned pillars of performance management. The assumption is based on the City of Baltimore's 14-year history of implementing a PerformanceStat program. Other PerformanceStat programs were considered. However, the CitiStat program has endured three mayors, multiple CitiStat directors and analysts, as well as the political, social and economic challenges of the 23rd largest city in the United States. Additionally, journalists and scholars alike have expressed their approval of the program. For example, Branch-Brioso (2001) indicated CitiStat is "a Baltimore success story" (p. E1), and Clines (2001) called it "a pioneering innovation in across-the-board, eye-on-the-sparrow management" (p. 24). The challenges and successes have developed as CitiStat has continued to employ the core tenets of the CompStat program from which CitiStat was founded. The CitiStat program has an abundant background that can be examined and which learning can be applied to the academic and professional communities.

Key Terms and Definitions

Organizational Effectiveness: The degree to which an organization realizes its goals (Etzioni, 1964).

Organizational Efficiency: The ratio of outputs to inputs (Ivancevich, Konopaske, & Matteson, 2008). If an organization can achieve a given production level with fewer resources in comparison to another organization, it would be described as being more efficient (Steers & Spencer, 1977).

Performance Budgeting: The use of performance information to set budget allocations and priorities (Lynn & Hill, 2009).

Performance Management: The use of information from performance measures and performance analysis to improve management and performance of an organization (Lynn & Hill, 2009).

Performance Management System: Organizational structures and processes that systematically use some combination of strategic planning, performance measurement, program evaluation, and performance budgeting processes (Hill & Andrews, 2005).

Performance Measurement: The comparison of actual levels of performance to pre-established target levels of performance (Moravitz, 2008).

Performance Measures: Quantitative indicators of various aspects of the performance of programs or agencies that can be observed on an ongoing basis, often focusing on program or service delivery (Posner, 2004).

PerformanceStat program: A program conducted by a jurisdiction or agency which holds an ongoing series of regular, frequent, periodic, integrated meetings during which the principal members of the chief executive's leadership team plus the individual director (and top managers) of different sub-units use data to analyze the unit's past performance, to follow up on previous decisions and commitments to improve performance, to establish its next performance objectives, and to examine the effectiveness of its overall performance strategies (Behn, 2008).

Strategic Actions: The specific steps an organization takes to operationalize its strategic stance. Strategic actions are likely to change in the short term (Andrews, Boyne, & Walker, 2006).

Strategic Management: A set of decisions and actions that result in the formulation and implementation of plans designed to achieve a company's objectives (Pearce & Robinson, 2000).

Strategic Planning: Strategic planning is concerned with formulating strategy and is considered to be a set of concepts, processes, and tools for shaping what an organization (or other entity) is, what it does, and why it does it (Bryson, 2004).

Strategic Stance: The broad way in which an organization seeks to maintain or improve its performance (Boyne & Walker, 2004). This level of strategy is relatively enduring and is unlikely to change substantially in the short term (Zajac & Shortell, 1989).

Strategy Content: Patterns of service provisions that are selected and implemented by organizations. The concept of strategy content refers to how organizations behave in contrast to strategies that are merely intended. Strategy content has two levels: strategic stance and strategic actions (Andrews et al., 2006).

CHAPTER 2

LITERATURE REVIEW

The following literature review contains two sections: (a) a summary of major programs, theories, and scholars within the management field, and (b) the performance management pillars of strategic planning, performance measurement, and the utilization of performance information.

The first section provides an understanding of how management theory has developed from a focus on efficiency during the early 1900s to the 21st century PerformanceStat approach, which emphasizes a methodical utilization of performance data to improve government performance. The first section addresses the efficiency era of classic organizational theory, human relations, public policy, and system theories. Presidential-supported programs such as Lyndon B. Johnson's Planning, Programming and Budgeting System (PPBS), the Nixon administration's Management By Objective (MBO) and Jimmy Carter's Zero-Based Budgeting (ZBB) are discussed. The last decade of the 20th century is also highlighted with a shift to the customer, with inspiration from Ted Gaebler and David Osborne (1992). The scholars' research illustrated the importance of being customer-centric and market-driven, and provided the theory for legislation such as the Government Performance and Results Act of 1992. This Act galvanized such federal programs as President George W. Bush's Program Rating and Assessment Tool.

These theoretical developments gave prominence to data-driven methods such as the PerformanceStat program which blend the efficiency methodologies of the early 20th century with the consumer-centric programs in the later part of the century. This section also

provides a review of the challenges and complexities of government programs in their attempt to improve government performance. The lessons learned from these experiences and the development of management theory serve as the point of departure for this study.

The second section of the literature review highlights the recent research regarding the pillars of performance management: strategic planning, performance measurement, and performance information. The appropriate theories and research within each pillar are discussed.

The strategic planning section addresses how the strategic plan is formulated and provides the content of the plan. The performance measurement section addresses the factors which impact the performance measurement process and explains how government agencies target and select performance measures. Finally, the literature review outlines the potential uses of performance information and provides a background on the dialogue theory, which can explain why performance information is used to the degree it is. These discussions identify how and in what areas a PerformanceStat program can impact the specific elements of a government agency. This impact is a central area of focus in this study.

Major Developments of Performance Management

Classical Organizational Theory

The term “performance management” was not utilized in the government sector until the 1970s (Armstrong & Baron, 2005). However, the activities and functions implied by the term date back to 1907 with the New York Bureau of Municipal Research. The Bureau improved productivity and accountability by employing a private sector practice of gathering data through accounting, record keeping, and needs assessment. The Bureau converted the

data into useful information for reporting, budgeting, and productivity improvement (Williams, 2004).

During this time, the separation of politics and administration was advocated by scholars Woodrow Wilson and Frank Goodnow. Wilson promoted the improvement of public services with business-like practices (Wilson, 1887). Goodnow also supported separating politics (the expression of the will of the state) and administration (the execution of the will of the state) in his book *Politics and Administration* (Goodnow, 1900). This politics-administration dichotomy paradigm is representative of public management thought in the first decades of the 20th century and is categorized as classic organizational theory (Rainey, 2009). During this period, classic organizational theories treated organizations as “closed systems” in which the internal processes would remain the same regardless of environmental changes. Conversely, “open systems” emphasized that internal processes were able to adapt to the environment.

During the 1920s and 1930s, the “Science of Administration” movement was inspired by Fredrick Winslow Taylor (1919), who was a major figure in the scientific management school. The movement recognized a division of responsibility between the managerial group and the individuals who performed the work. Taylor’s scientific management theory provided the framework for such authors as Henri Fayol and Luther Gulick as they searched for management principles that could be applied in the public and private sectors. Fayol (1949) identified 14 principles of management, including the division of labor and the hierarchical structure of the organization. Gulick (1937) introduced the seven management functions (planning, organizing, staffing, directing, coordinating, reporting, and budgeting),

referred to as POSDCORB. From the perspective of these authors, the concept of public management was similar to the management of private organizations.

During this time period, Max Weber's writings became influential as his observations about bureaucracy as a social phenomenon provided influential early analysis in the field of organizational sociology (Weber & Mills, 1946). Weber saw the spread of bureaucratic organizations in society as part of a movement toward more legal and rational forms of authority, and away from authority based on tradition or charisma (Rainey, 2009). Weber viewed the presence of career officials, a structured hierarchy and rule-oriented duties as the inputs for precision, clarity, and the reduction of costs.

Classic organizational theory provides the fundamental management philosophies, which serve as a point of departure for subsequent organizational theorists to build from. The efficiency era has played a significant role in the development of organizations throughout the 20th and 21st centuries. Programs such as the PerformanceStat program have relied on these efficiency principles to improve performance.

Human Relations Theory and Public Policy

The mid-20th century was marked by Herbert Simon's (1946) critique of the previous management principles. Simon perceived the previous management approaches as untested, vague, and contradictory proverbs, rather than valid management theory. Simon advanced a human relations movement developed from social-psychological research of organizations such as the Hawthorne experiments of Elton Mayo in the 1920s and 1930s. This research inspired Simon and other post-WWII authors such as Abraham Maslow, Chris Argyris, and Douglas McGregor to focus on organizational development models such as work motivation, personal growth, and leadership styles. Simon's research aligned with Chester Barnard's

(1938) work to distinguish formal and informal organizations. Moreover, Robert Golembiewski (1969) advanced management theory and organizational development during this time to examine job burnout and stress.

Systems Theory

The 1960s commenced the “open-system” approach that placed organizations in relation to their environment. An organization’s ability to adapt to the environment and gain external support were examined as key factors of organizational success. Burns and Stalker (1961), Katz and Kahn (1966), and, Lawrence and Lorsch (1967) emphasized how organizations rely upon the outside world for input and output. The organizational effectiveness models shifted away from a “one best way” to a model that depends on congruence between organizational structure and characteristics of the environment, such as complexity, dynamics diversity, and animosity (Mintzberg, 1983). Katz and Kahn (1966) also illustrated how the systems language of inputs, throughputs, outputs, and feedback could be applied to organizations.

From the researcher’s perspective, systems theory provides the roots to performance management and PerformanceStat by invoking the concepts of inputs, processes, outputs, and feedback. The PerformanceStat program, for example, uses a variety of inputs from human resources, citizen needs, and public policies to produce services (outputs) for their constituents. A feedback loop is then created when the performance of these services is evaluated and communicated back to the government agency for continuous improvement.

Presidential-Supported Programs

On August 25, 1965, President Johnson announced his intention to implement a Planning-Programming Budget System (PPBS). Program structures were the basic

foundation of PPBS, which were designed to align to the national need, an agency's authority to fill that need, and the activities planned to meet that need (U.S. General Accounting Office, 1997).

PPBS participants identified many problems in developing measurement and analysis techniques as well as incorporating results into decision-making practices. Congress also questioned the purpose and accomplishments of PPBS as a decision-making tool, as they had limited access to PPBS documents, placing them at a disadvantage in considering resource allocation questions. Some agencies indicated that PPBS analysis could not be a substitute for political decisions such as determining allocation of resources, while other observers found PPBS unrealistic because it attempted to improve decision-making without recognizing the different goals and interests of the decision makers (Rainey, 2009).

Although it failed as a government-wide performance budgeting initiative, PPBS is credited with instituting improvements in federal program management. PPBS allowed agencies to reappraise their mission and functions; accumulate better information on inputs, outputs, and their relationship to objectives; and increase top official interest over planning, budgeting, and performance. Furthermore, decision makers increased the use of systems analysis, recognizing its value as a means of better understanding outputs, benefits, and costs (U.S. General Accounting Office, 1997).

During the 1970s, President Nixon proposed a popular management technique in the private sector, Management by Objective (MBO), with a focus on gaining greater administrative control over the executive branch departments and agencies. MBO was designed to centralize goal-setting decisions and allow managers to choose how to achieve

these goals. MBO also focused on tracking progress toward the goals that were agreed upon between a supervisor and subordinate.

Although impacted by the resignation of President Nixon, the MBO initiative suffered from its initial separation from the budget formulation process and from problems in identifying and measuring objectives. Despite these issues, proponents believe that the initiative provided a platform for the President to explain the presidential agenda to the public. Others found the MBO valuable as an agency management process to clarify goals (U.S. General Accounting Office, 1997).

While campaigning for the presidency, President Jimmy Carter promised to balance the budget within his first term and reform the federal budget, which he characterized as inefficient and uncontrollable by either the President or Congress. President Carter promised to introduce Zero-Based-Budgeting (ZBB), which he had used as Governor of Georgia. ZBB intended to look below the budgetary base, evaluating the efficiency and effectiveness of current operations and comparing the needs of one program against the needs of another program.

However, ZBB had many problems. From the beginning, the paperwork burden for federal managers constituted a significant implementation problem. Also, agencies believed that inadequate time had been allowed to implement ZBB, and the requirement to compress planning and budgeting functions within those timeframes of the budget cycle had proven especially difficult.

As demonstrated in these presidential programs, the complexity of measurement and the demands of government-oriented bureaucracy as well as a labor-intensive administrative system derailed government improvement in the past. PerformanceStat has leveraged these

lessons by simplifying performance improvement, simplifying data analysis, and improving government through both dialogue and continual evaluation of performance. The details of the approach are central to this study.

Focus on the Citizen and Achieving Results

During the 1980s through the end of the 20th century, the New Public Management (NPM) philosophy was in development throughout the international public sector community. With its origination in the Organization for Economic Co-operation and Development countries, the NPM doctrines aligned to Woodrow Wilson's perspective that the public sector does not differ substantially from the private sector. In going beyond Wilson's theory, the NPM not only duplicates private sector techniques but also encourages public managers to focus on the objectives of customers rather than on the opinions of citizens (Denhardt, 2000). The NPM applied a greater emphasis on professional managers, explicit standards and measures of performance, consistency of services, decentralization, increased competition between the organization and sub-units, and an increased accountability and parsimony in resource use (Hood, 1991).

During the same period, David Osborne and Ted Gaebler published the book, *Reinventing Government* (1993) in the United States. The authors theorized that government must perform better with less rather than solving problems through the traditional way of raising taxes or by cutting expenditures and activities. The approach was particularly attractive to President Clinton, who was intrigued with private sector approaches to management and the political benefits that could be accomplished as a result of the reinvention concept (Radin, 2006). While the approach has been criticized (Self, 1993), the

concepts have had an effect in subsequent periods of budget cutting and strong criticism toward raising taxes.

The approach also inspired the Clinton administration, specifically Vice President Al Gore, to create the National Performance Review (NPR), an interagency committee designed to reform the way the U.S. federal government works. In creating NPR on March 3, 1993, President Clinton indicated his goal of making the entire federal government less expensive and more efficient, and to change the culture of our national bureaucracy away from complacency and entitlement toward initiative and empowerment (Clinton, 1993).

The NPR produced legislation such as The Government Performance and Results Act (GPRA), which was enacted in 1993. The GPRA required agencies to undertake strategic planning every three years and provide annual performance reports and performance plans. The difference between the GPRA and earlier reforms is that the GPRA was enacted as legislation rather than an executive order, which built in a role for Congress that is relatively unusual in government reform efforts (Radin, 2006). The legislation attempted to build a relationship between budgeting and program performance, which was a response to public concerns about how money was being spent by government.

During the NPR era, the Clinton-Gore Administration and the United States Congress passed major executive branch reforms to promote results-oriented systems for allocating resources (Gore, 1993; Kettl, 1998; Thompson, 2000). As a result, more agencies decentralized decision-making authority, empowered employees, and began to treat citizens as valued customers. As satisfaction with services improved, citizen expectations about the level and quality of services also increased (Milakovich, 2006).

The 1990s also saw the development of a performance management concept, the Balanced Scorecard (BSC), which responded to the need for more integrated management systems (Halachmi, 2005). The BSC integrates the main elements of performance management and links a series of key concepts such as mission, vision, strategy, objectives and performance measures. Thus, the BSC illustrates the aspects that should be considered and dealt with in a performance management system (Yetano, 2009).

A great deal was learned during this time period by users of PerformanceStat. Government agencies changed from being solely focused on producing outputs to identifying customers' needs and redesigning their organizations to fulfill these needs. Services that were being produced that were not needed by their constituents were considered waste. A PerformanceStat program, therefore, provided the analytical arm to help the government agency make those determinations and steer them in the constituents' direction.

21st Century Performance Management

In 2001, President George W. Bush announced the President Management Agenda (PMA) initiative, with a focus on making the federal government more citizen-centered, market-based, and results-oriented. Bush mocked the reinvention movement, and insisted that federal agencies rethink government and focus on results when spending citizens' tax revenues. Goals for the PMA included (a) strategic management of human capital, (b) competitive sourcing and privatization, (c) improved financial performance, (d) expanded electronic government, and (e) budget and performance integration through the GPRA (Milakovich, 2006).

As a component of the PMA, President Bush adopted the Program Assessment Rating Tool (PART) to rate all federal programs on their effectiveness. The PART is an executive

tool created in 2002 that was first used for the fiscal year 2004 budget to assess federal program performance and determine the level of program funding. The PART consists of a series of yes/no questions (25-27 questions of various types) covering four assessment areas: program purpose and design (20 percent), strategic planning (10 percent), program management (20 percent), and program results (50 percent). The questions included in the PART questionnaire were designed to provide a consistent approach to assessing and rating programs across the federal government. However, PART had multiple problems including a subjective measurement system, bias against programs types, labor-intensive nature, and an inherited political bias (Shea, 2008).

Lessons Learned from 20th Century Government Reform

The PART follows a sequence of presidential-initiated reforms, which have exhausted staff resources and which arguably have failed to be as beneficial as expected. Since the 1950s, the federal government has attempted multiple programs to align budget spending with expected performance. Posner and Fantone (2007) note that efforts during this time such as the Planning-Programming-Budget System, Management By Objectives, and Zero-Based Budgeting have failed to shift the federal budget process from its focus on government spending to the results of the federal government programs.

Joyce (1993) adds that the designers of these reforms tried to mandate a solution to federal budgeting and management by linking the budget to intended outcomes. Joyce lists the lessons learned from their failures, contending that each of the programs required a great deal of data in order to survive, adding that much of the data was never used, and suggesting that it is necessary to think through how information will be used and how programs will be put into effect before setting out requirements. Joyce also indicates that if the designers of

future programs do not take into account the difficulties of tying together the measurement of outcomes and budgeting, no program is likely to deliver on its promise.

The lessons learned by Joyce reinforce the need to improve government's ability to efficiently collect, analyze, and utilize data with the goal of improving services at a lower cost. Essentially, the prescribed construct of using data for the purposes of improving performance can be deconstructed into the three performance management elements of strategic planning, performance measurement, and the utilization of performance information.

The Model of Performance Management

This study examines the impact of a PerformanceStat program on performance management functions. Moynihan (2008) dissects performance management into a cyclical process consisting of strategic planning, performance measurement, and utilization of performance information (see Figure 1).

The model illustrates how performance information is the central focus of the performance management system. The performance management system takes information from the external environment, internal stakeholders, and public representatives into the strategic planning phase. The strategic plan is then created, including specific goals and communicated appropriately. While the strategic plan is implemented, the government agency conducts performance measurement with a specific intention to understand the level of performance in relation to the strategic goals of the agency. Once analyzed, the performance information is communicated to the appropriate stakeholders, and as Scott (1961) notes, acts primarily as a stimulus to the decision-making process: provoking, informing, and improving the quality of decision-making.

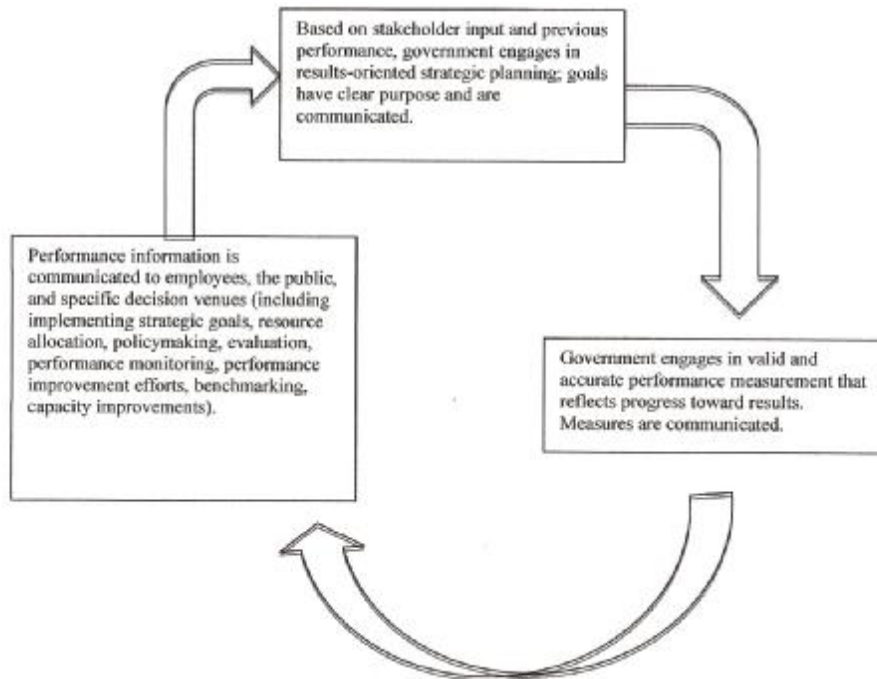


Figure 1. Performance management cycle. From *The Dynamics of Performance Management: Constructing Information and Reform* (Moynihan, 2008, p. 6).

Strategic Planning

The value of strategic planning. The concept of strategy developed from the idea of military strategy and how it used the resources and strength of a military force to achieve goals. Military victory is achieved by forming plans and objectives and executing them (Rainey, 2009). Strategic management is the appropriate and reasonable integration of strategic planning and implementation across an organization with the desire to enhance the fulfillment of its mission, continuous learning, and sustained creation of public value (Bryson, 2010).

Strategic planning, therefore, is a specific component of strategic management consisting of a series of discussions and decisions among key decision makers and managers

about what is truly important for the organization. Strategic planning is designed to help public and non-profit organizations and communities respond effectively to their new situations (Bryson, 1994). Since the 1980s, public strategic management theory has evolved from a framework that focused largely on strategic planning to a more comprehensive framework in which strategic planning guides budgeting, performance, and improvement initiatives (Bryson, 2010).

Berry and Wechsler (1995) conducted a national survey of state agencies and found that even by the early 1990s, the majority of agencies—about 60 percent—employed strategic planning. Their research concluded that strategic planning was a successful public sector management innovation. Additional research indicates that strategic planning has a positive impact on individual and organizational performance. The value of strategic planning has been demonstrated at various public agencies and departments (Barzelay & Campbell, 2003), county, city, and state governments (Hendrick, 2003), non-profit organizations (Vila & Canales, 2008), private and public sector partnerships (Innes & Booher, 2010), and urban and community planning (Wheeland, 2004). Bryson (2010) points out that the strategic planning benefits include promotion of strategic thinking, improved decision-making, enhanced organizational effectiveness, enhanced effectiveness of broader societal systems, improved organizational legitimacy, and direct benefits for those involved such as improved morale and fulfillment of job responsibilities.

This research substantiates the value of strategic planning within government agencies. Therefore, the strategic planning data collection process within this study has focused on how a PerformanceStat program impacts the entire strategic planning process,

with specific attention given to the role a PerformanceStat program plays as a government agency formulates the strategic plan.

The formation of the strategic plan. Strategy formulation in most organizations involves the interplay among three basic forces: (a) the environment that changes continuously, (b) an organizational operating system that seeks to stabilize its action despite the changing environment it serves, and (c) leadership whose role is to mediate among these forces in order to maintain the stability of the organization's operating system while it is adapting to the environment (Mintzberg, 1978). Strategies are created based on the input from various stakeholders including citizens, employees, organizational leadership, and political oversight. It has been argued that the source of input will impact the overall effectiveness of the strategic plan.

Hendrick (2003) argues from her case studies in Milwaukee that strategic planning cannot simply be a top-down order for middle managers but should involve people at all levels, both inside and outside the organization. Wheeland (1993) found that involving key stakeholders from business and community leaders increased the likelihood of a successful implementation and consensus on the final strategic plan. Moreover, Blair (2004), when examining Nebraska local governments, found that successful implementation of strategic plans was more likely when the public was involved in strategic planning and the plans included community and economic development.

More specifically, Poister and Streib (2005), in a survey of strategic planning in municipal governments in the United States, asked about specific kinds of potential benefits of strategic planning. They found that including citizens and/or external stakeholders in the planning process was associated with greater perceived beneficial impacts. Kissler, Fore,

Jacobson, Kittredge and Stewart (1998) recommend a bottom-up approach for government organizations, so citizens can be more engaged in the process and implementation of the plan is more probable.

This research illustrates the value of developing the strategic plan with input from within the organization and external stakeholders. A PerformanceStat program can be a central group that provides information to both parties, ultimately increasing the parties' ability to be involved in the strategic planning process. Therefore, this study examines how a PerformanceStat program helps internal and external stakeholders become involved in the formation of the strategic plan.

Additionally, whether the strategy is developed and implemented in a centralized or decentralized manner can also impact the effectiveness of the strategic plan. The involvement of the PerformanceStat program in the city's efforts to centralize or decentralize the strategic planning process is also examined in this study.

In terms of centralization of the strategic planning effort, Poister and Streib (1989) found in their survey of city managers that strategic planning was viewed much more positively when implemented across the city than when implemented by individual units at their discretion. However, Hendrick (2003) found that strategic planning was more difficult in departments that pursued a decentralized planning process. Her research revealed that employees viewed strategic planning as a top-down enterprise, and when it deviates from that and becomes a decentralized, bottom-up approach, then support suffers.

Korosec (2006) examined the issue directly by comparing strategic planning processes at the unit level with those at the organizational level. Whereas Hendrick (2003) found that strategic planning was perceived as more difficult at the unit level, Korosec found

few differences in the quality of the plans between managers at the unit and organizational level.

Comprehensiveness of the strategic plan has also been studied. Hendrick (2003) examined strategic planning and found that the comprehensiveness of the strategic planning process has an impact on the success of the strategic plan. Substantive issues, the amount of environmental factors taken under consideration, and the depth of analysis supporting the plan was strongly and positively associated with the organization's strategic capacity to improve managerial control, budgeting, and communications.

Content of the strategic plan. Researchers have conducted a number of studies applying the content of Miles and Snow's (1978) strategy typology to government organizations. The typology is one of the most widely cited and utilized classifications of business-level strategies (Rainey, 2009). The Miles and Snow typology is based on the concept that managers seek to formulate strategies that will be congruent with the external environment. Organizations strive for a fit among internal organizational characteristics, strategy, and the external environment (Daft, 2010). Boschken (1988) used the framework to analyze the strategic behaviors of port authority organizations for various cities on the West Coast and found that the Miles and Snow typology applied well to these government enterprises.

The four orientations of the Miles and Snow (1978) typology are:

1. *Prospectors* are organizations that continually search for market opportunities and regularly experiment with potential responses to emerging environmental trends. Prospectors have a keen learning orientation, and they are strong in research and tend to adopt flexible organizational structures. The characteristics of a public-sector prospector including being

proactive, taking risks, and making rapid organizational responses to new circumstances (Boschken, 1988).

2. *Defenders* are organizations that seldom make major adjustments in their technology, structure, and methods of operation, but devote primary attention to improving efficiency of their operations. They work under centralized authority and have little employee empowerment. Defenders protect their share of the public budget from attacks by predatory organizations (Andrews et al., 2006).

3. *Analyzers* are organizations that typically exhibit characteristics of both Prospectors and Defenders. Analyzers balance efficiency and learning while using tight cost control with flexibility and adaptability. They often have an emphasis on research, creativity, and innovative risk-taking.

4. *Reactors* are organizations in which top managers frequently perceive change and uncertainty occurring in their organizational environments but are unable to respond effectively. Reactors have a general lack of consistent strategy or a clearly defined organizational approach. They are generally viewed as dysfunctional.

In one of the first studies to examine the Miles and Snow typology in government organizations, Andrews et al. (2006) found that the Prospector stance is most likely to lead to higher performance and is negatively associated with a Reactor stance. Additional studies (Meier, O'Toole, Boyne, & Walker, 2007) found that the Defender strategy is the most effective for the primary mission of the organization, and the Prospector and Reactor strategies work best for reaching the goals of more politically powerful elements of the organization's environment. In subsequent studies, Andrews, Boyne, Meier, O'Toole and Walker (2009) found the combination of the Defender and Prospector strategy was found to

have a positive effect on the performance of Welsh local authorities. The study examined organizations through perspective of their alignment between the centralization of strategic decision-making, strategic stance, and organizational performance. In organizations with a centralized process, the Defender stance led to better performance. In authorities with a decentralized process, the Prospector stance was associated with superior outcomes.

This study specifically examines how a PerformanceStat program impacts the strategic stance of a government agency. First, the study determines the Miles and Snow typology with which the sample agency aligns and then examines how a PerformanceStat program helps the agency perform within the typology.

Performance Measurement

An introduction to performance measurement. Performance measurement is the second pillar of performance management. Fine and Snyder (1999) suggest that performance measurement involves the selection, definition, and application of performance indicators, which quantify the efficiency and effectiveness of service-delivery methods. Poister (2003) indicates performance measures are quantitative indicators of various aspects of the performance of programs or agencies that can be observed on an ongoing basis, often focusing on program or service delivery.

Scholars have argued about the value of measuring performance within government entities. Joyce (1993) indicates that performance measurement is limited in its ability to bring about substantial change because of the difficulty of measuring government performance itself. Designing measurement systems that link to program goals and link the results to budgeting and financial reporting is a complex task. However, Behn (2003) argues that performance measurement can help executives hold their managers accountable for

meeting mandates, and assists in promoting rewards, promotions, and sanctions. The information derived from measuring performance also allows executives and leaders to judge the success of their operations and monitor improvement over time.

Wang (2002) examined the impact of performance measurement in United States cities and concluded that performance measurement helps city administrations specify service goals, expectations, and strategies. The researcher also found that performance measurement helped managers identify daily management problems and solutions. However, the research also concluded the majority of cities did not use performance measurement to make resource allocation decisions and the public did not show interest in performance measurement.

Factors that impact performance measurement. The decision to measure specific areas of an organization, with the goal of identifying improvement opportunities, can be impacted by internal and external stakeholders. Moreover, the research examining which factors impact the performance measurement decision-making process varies widely. For example, Julnes and Hozler's (2001) research indicated that the adoption of performance measures was primarily predicted by rational factors such as available resources, information and training, goal orientation and consensus on program goals, and legal requirements. However, the implementation of performance measures was impacted by political factors such as external interest groups and unions. Yang and Holzer (2006) found that the political factors of external stakeholder participation and rational factors, such as organizational support and technical training, impacted both adoption and implementation of performance measures. Organizational support relates to top management commitment, middle

management support, and subsystem collaboration, which is consistent with the literature on organizational change (Rainey, 2009).

Murphy and Cleveland (1995) add that managers should give more attention to contextual factors that interfere with performance measurement and may undercut objectives to improve accountability and organizational performance. The contextual factors they have identified in a study of private sector organizations include organizational complexity and coordination, organizational culture and values, competition among functional units, and general economic and political conditions.

Finally, Moynihan and Pandey (2004) found that both management and environmental factors beyond the control of managers influence performance measures, including support among elected officials and the influence of the public and the media. Quite simply, their research supports the theory that managers do not control all the levels that shape performance.

This study examines the relationship between a PerformanceStat department and the sample organization's internal and external stakeholders during the performance measurement process. Specifically, the study examines which stakeholders impact the performance measurement process. Additionally, the research addresses when, why, and how the PerformanceStat department is involved when a stakeholder influences performance measurement functions such as targeting specific areas for improvement and selecting measures for data collection.

Targeting and selecting performance measures. Targeting which areas within an organization to measure and selecting the right type of measures is critical to an effective performance management system. Managers and leaders have multiple areas to potentially

measure and various types of measures from which to choose. Measurement types include inputs, outputs, outcomes, intermediate outcomes, end outcomes, outcome indicators, and performance indicators (Radin, 2006).

Even where objectives and priorities can be agreed upon, Joyce (1993) indicates that developing the measures themselves is challenging. Additionally, Kennerley and Neely (2002) reinforce the challenge by arguing that the evolution of the measurement process has not been well managed. This results in organizations having a large number of indicators, many of which are obsolete or irrelevant with no system for their removal. Nicholson-Crotty, Theobald and Nicholson-Crotty (2006) add that managers often face multiple plausible measurements of the same concept, and managers often find there are different ways to measure the outcome in question.

Given the complexity and challenge of developing performance measures, a variety of methods have been prescribed. Van Dooren, Bouckaert and Halligan (2010) illustrate the benefits of creating a mental picture or representation of the organization, program, or policy to decide what and where to measure. These representations can come in the form of organizational charts or management models such as the Balanced Scorecard (Kaplan & Norton, 1996), or trees of objectives which align the mission statement, strategic goals, operational goals, resources and stakeholder analysis (Mitchell, Agle & Wood, 1997). Hatry (1999) suggests program logic models to specify the inputs, outputs, and outcomes or examining the program theory to uncover the underlying mechanisms between the outputs and outcomes.

To aid in the process of developing measures, quantitative methods of measurement prioritization have been identified. Johnsen (2005) suggests applying a cost-benefit analysis

to each measure where only those that are relevant will stay. Van Dooren and colleagues (2010) conclude that measurement prioritization depends on the planned use of performance information. However the relevant measures should be weighed based on the following factors: indications of problems, financial importance, feasibility of the measure, diffusion of measurement across the organization, and the cost of measurement.

Given the challenges in developing an appropriate measurement process, this study examines how a PerformanceStat program contributes to the measurement selection process. Specific examination is devoted to how a PerformanceStat program influences which departments are selected and deselected for measurement.

For the past decade, performance measurement has shifted the focus from input and output measures to outcome measures, because the latter is directly linked to the concerns of citizens and policymakers (Ho & Ni, 2005). The shift was inspired by Osborne and Gaebler (1993), who deemphasized the bureaucratic model of government and proposed an entrepreneurial model emphasizing decentralization, competition within markets, and funding outcomes rather than inputs. Melkers and Willoughby (2005) reiterate the value of this movement by indicating that an emphasis on results differentiates useful performance measurement from that which merely tracks events or costs. This implies an evolution of measurement from the consideration of quantity to the consideration of results.

One of the problems associated with managing and measuring outcomes is determining the actual outcomes desired by the government program. With the broad and often vague missions of many public sector agencies and programs, determining the desired results can be difficult. Implementing a results-oriented focus is a fundamental shift in the way the public sector does business. The challenge of moving to this new mindset has been

demonstrated by the slow rate of moving to outcome-oriented measurement systems. In their seminal study of state and local governments, Julnes and Holzer (2001) indicated that outcome measures were less extensively developed than output measures for programs in public organizations. The research illustrated that 31 percent of the respondents indicated that many of their departments used output measures, 17 percent indicated efficient measures, and only 21 percent indicated that many of their departments used outcome measures. Since this study, the focus on outcome measures has increased slightly. Ho and Ni (2005) analyzed more than 4,800 performance measures for budgetary documents in 21 cities. The research indicated a significant reduction in the utilization of output measures and progress toward outcome-oriented performance measures, with 53 percent of cities utilizing outcome measures.

Callahan (2009) examined three government agencies in Washington state and echoed the challenge and value of measuring outcomes. Their research highlighted that the measurement program should include measures that are actionable and inspire action among individuals or organized groups to address problems or community needs. Moreover, only the most important indicators should be selected to avoid a cumbersome measurement system. Finally, the authors suggested seeking community input to determine, revise, or draft new indicators.

This study examines how a PerformanceStat program assists in the measurement process and how the program helps a government agency select performance measures for analysis. As illustrated above, many agencies are challenged with measuring outcomes. Therefore, this research examines how and if a PerformanceStat program helps the agency focus on outcomes and ultimately the requirements of constituents.

Performance Information Utilization

Potential uses of performance information. There are multiple uses for performance information, ranging from various categories to specific areas of the organization which will benefit from reviewing performance information. Van Dooren and colleagues (2010) categorized performance information use into three areas: learning, steering and controlling, and providing accountability. Behn (2003) added that performance information is used to evaluate, control, budget, motivate, promote, celebrate, learn, and improve. Behn argued that the first seven all support the final: to improve, as this is the only purpose of the manager. Others scholars have added to the list, indicating that performance information can be used to enhance power positions (Bevan & Hood, 2006). From a cultural or symbolic perspective, performance information can be used to increase the awareness of a performance management program where measurement becomes the actual goal, rather than learning or improvement (Vakkuri & Meklin, 2006). The most specific list of uses for performance information was enumerated by Van Dooren et al. (2010), who identified 44 overlapping uses for performance information. This broad list illustrated the variety of ways in which performance information can be applied, including additional elements such as grantor reporting, setting program priorities, and cost-benefit analysis.

Although there are many ways in which performance information can be used, the PerformanceStat program can serve as the entity that helps the agency utilize performance information in the most efficient and effective manner. In this study, the researcher examines how a PerformanceStat program contributes to the government agency's ability to utilize performance information.

Performance information for budgeting. There are areas within the context of public management in which performance information was intended to be used but ultimately had no impact. For example, performance budgeting became established in the 1960s with efforts such as Planning, Programming and Budgeting Systems (PPBS), in which program expenditures were weighed against the marginal benefits of each program in a systematic way. However, PPBS and subsequent budget-oriented programs such as Management by Objective and Zero Based Budgeting failed (Van Dooren et al., 2010). This failure to link performance information to budgeting continues to be a challenge. Joyce and Tompkins (2002) found limited evidence of performance information use in their research of budget personnel in the executive branch and almost no evidence of performance use with legislators. Melkers and Willoughby's (2001) survey of executive and legislative budgeters in 50 states found minimal evidence of performance information affecting budget decisions. The Government Accountability Office found that budget personnel used data to inform but not to determine budget allocations (U.S. General Accounting Office, 2005). Anders (2006) found that only 22 percent of administrators and central budget officers surveyed in 2004 believed that performance information had an influence on political decision makers, down from 25 percent in 1996.

Hard and soft measures - dialogue theory. The direct or indirect nature of how a government agency utilizes performance information can be explained by the type of measure in question. Specifically, it is important to understand whether performance information will be used in a hard or soft manner (Van Dooren et al., 2010). Hard-use implies a tight coupling between performance information and judgment, while soft-use leaves more room for dialogue and interpretation for final decision making. Performance

contracts tend to be a hard measure while benchmarking can be soft, since the results add to the discussion.

Whether the performance information is hard or soft, managers using performance information rarely do so in a solo exercise. More often, they create it or use it at the behest of more senior officials, in conjunction with colleagues as they search for solutions, or to control other actors. The creation and use of performance information is, to use Aaron Wildavsky's term, a form of social interaction (1973).

Moynihan (2008) introduces the interactive dialogue theory to Wildavsky's notion of performance information utilization by social interaction. Moynihan's interactive dialogue model assumes that just because performance information exists, there is no guarantee that it will be used. Whether it is used and how it is used depends on the motivations of potential users and the utility of performance information to their goals. Dialogue theory assumes performance information is ambiguous, subjective, and lacking comprehensiveness. Institutional affiliation and individual beliefs will affect selection, perception, and presentation of performance information. Therefore, there is likely to be no single definitive approach to interpreting what performance information means and how decisions are subsequently made.

The researcher used dialogue theory as an additional means to understand how performance information is used within the sample organization. Specifically, chapter five highlights how the PerformanceStat analyst employs dialogue when working with the agencies to utilize the appropriate performance information and understand the meaning and application of performance information.

Linking performance measures to strategic planning. Whether the performance information is used in a hard or soft manner, the linkage between the strategic plan and the performance measures remains critical for the success of a performance management system. In their classic work, Katz and Kahn (1966) addressed the linkage, indicating performance management systems provided a means by which public officials engage in coding and interpreting information from the external environment and from internal stakeholders into a series of information categories. These categories reflected the organizational elements of strategic goals, objectives, performance measures, and targets that are ultimately put forth to decision makers. Therefore, short-term strategic goals are intended to be consistent with long-term strategic planning for the agency. Without this linkage, the potential for goal conflict, confusion, and inaccurate measurement arise (Heinrich, 1999). Strategic planning is also much less effective in driving decisions in an agency and moving purposefully into the future (Poister, Pitts, & Edwards, 2010). Additionally, strategic planning without performance measurement fails to link goals to actions or identify implementation issues (Wildavsky, 1973).

The value of linking performance information to agency strategic plans was reinforced by Poister and Streb's (1999) research on United States cities. The researchers examined the performance measures of workload or output measures, unit cost or efficiency measures, outcome or effectiveness measures, service quality measures, and citizen satisfaction measures. The results illustrated that more than 75% of the 243 cities surveyed reported that each of these performance measures either "moderately" or "substantially" helped to improve the quality of city decision making. As further evidence of how performance measurement can influence organizational decision-making, a majority of cities

also reported that the use of these performance measures led to changes in program priorities and changes to the focus of program.

However, public managers are continually challenged by the process of linking performance measures at the operating level with the strategic goals of the agency. In more recent research, Poister and Streib's (2005) survey of senior officials in United States municipal governments indicated 56% of government officials reported their jurisdiction used performance measures to track the implementation of projects or strategic initiatives emanating from their strategic plans, and 60% used performance measures to track the accomplishments of strategic goals and objectives.

An important challenge of aligning performance measurement with the agency strategy is that different measures are needed for the various levels of management. Kendrick (2011) adds that policymakers want to know about the strategic level, executive managers want to know the extent to which a service or product is meeting the strategic outcomes, and operational managers want to know the level of quality and efficiency the product or service is delivering.

Argyis and Schön (1996) clarified the various levels of applying performance information with single and double-loop learning. Single-loop learning is organizational learning that leads to improvement in the performance of organizational tasks, which alters the strategies of action in ways that leave the values of a theory unchanged. Single-loop learning is appropriate for routine, repetitive operations, where public-sector goals are clear and widely accepted. In short, single-loop learning allows the organization to do the same thing better.

Double-loop learning is learning that results in a change in the values of theory in use, as well as in its strategies and assumptions. Strategies and assumptions may change concurrently with or as a consequence of a change in values (Argyris & Schön, 1996). Double-loop learning means questioning the goals of the program and asking whether the program is worth pursuing. It implies a willingness to revisit the basic organizational mission, goals, and strategies on a regular basis (Moynihan, 2005).

To address this challenge, various methods have been developed including the Balanced Scorecard (Kaplan & Norton, 1996) and the Performance Pyramid (Kerssens-van Drongelen, 2000). However the Balanced Scorecard has held the most value since its development. The Balanced Scorecard sums up, in a strategic map, the organization's performance from four perspectives: financial, customer, internal process, and learning and growth. The combined set of metrics form a balanced set of performance indicators for an organization.

This research examines the role played by the PerformanceStat program in linking performance measures to the strategic plan. Moreover, the concepts of hard and soft measures and dialogue theory are used to further explain the linkage and provide clarity.

CHAPTER 3

INTRODUCTION TO THE RESEARCH METHODOLOGY

This chapter describes the research methodology used to address the previously-described research questions. The chapter addresses the case study methodology, unit of analysis, the needed data and information, data collection methods and timetable, analysis of case study data, trustworthiness of data, ethical issues, limitations and plans for addressing them, and Institutional Review Board documents.

Case Study Methodology

A qualitative, holistic, single-case study is identified as the appropriate methodology for this study. A qualitative approach is used since the research purpose is to understand the relationship and interaction of a PerformanceStat program's processes and people on the performance management elements of strategic planning, performance measurement, and the utilization of performance information. Therefore, the focus of this research aligns with the description of qualitative research as an examination of a social situation or interaction by allowing the researcher to enter the world of others and attempt to achieve a holistic, rather than reductionist understanding (Bogdan & Biklen, 1998). These research objectives contrast with those of quantitative research, where a numerical testing of a hypothesis to establish facts and isolate relationships between variables is the intent.

Within the qualitative approach, the study is most suited for a holistic, single-case study. A case study is an intensive description and analysis of a phenomenon, social unit, or system bound by time or place (Creswell, 1997). The holistic design contrasts with an embedded case study, which collects and analyzes data on various subunits within an organization or program (Yin, 2009). The holistic case study is appropriate for this research

since the purpose of the study is to collect and analyze data on the PerformanceStat program and its impact across the sample government agency. The research is an in-depth examination of the PerformanceStat department and personnel and how the PerformanceStat program is implemented. The researcher focused specifically on PerformanceStat as the central unit of analysis, rather than examination of additional government agencies. This centralization of the unit of analysis increased the researcher's ability to develop thicker and richer data and develop more thorough inquiry into the PerformanceStat department.

Unit of Analysis

The unit of analysis for the case study is the City of Baltimore's CitiStat performance management program. The CitiStat program was developed in 1999 "to make City government responsive, accountable and cost effective" (City of Baltimore, 2012, para. 1). The program is based on the CompStat program at the New York City Police Department, which was designed to improve crime-fighting efficiency and has been noted as the latest innovation in policing (Willis et al., 2007).

The CitiStat program is designed to maximize personal accountability by requiring city agencies to provide metrics representing performance to CitiStat analysts. During monthly and bimonthly meetings with the Office of the Mayor, each agency must examine sub-standard performance and propose solutions that can be carried out in an efficient manner. Decisions are made regarding the implementation of solutions.

CitiStat was chosen because of its long-standing history, which has faced many challenges as well as accomplishments since its formulation in 1999. CitiStat's 14-year history stands as one of the longest running PerformanceStat programs in the United States. Throughout its history, CitiStat has experienced three mayors, various CitiStat directors and

analysts, and the economic and demographic trends that are evident in today's major cities. However, CitiStat has continued to improve their program by adding agencies and changing CitiStat policy to improve the overall focus on the citizen. For example, the findings of this research illustrate that CitiStat does not quantify savings after 2007, since the purpose of the CitiStat includes more than cost savings such as cost avoidance, citizen satisfaction, increased productivity, and at times, identifying where the City of Baltimore should invest resources.

One of the more visible accomplishments is CitiStat's 48-Hour Pothole Guarantee. The policy to fill potholes illustrates how CitiStat implemented the 311 phone system to hear the customer and maintain its policy of filling potholes within 48 hours. Citizens can now make complaints for poor service for every city agency by calling 311. These complaints are handled directly by administrators in each department and are monitored by City Hall. In 2002, the City of Baltimore received approximately 2,500 calls regarding potholes, while maintaining its target of filling those potholes within 48 hours. In 2006, the number of pothole requests increased to over 10,000, all of which were filled within 48 hours (City of Baltimore, 2012).

Examples of other improvements are illustrated in the Departments of Housing, Public Works, Health, and Transportation departments. In 2007, the Department of Housing reduced the cycle time for work orders for cleaning to an average of nine days from the 2006 average of 97 days. During the period, the department experienced a 16.8% increase in work orders completed for the cleaning unit. The Housing department also inspected 6,000 multi-family units during the 2007 cycle, which is the highest in history (City of Baltimore, 2012). In the Department of Public Works, the City of Baltimore cleaned 15,000 alleys and streets

in 2007, compared to 12,200 the year before. Moreover, 4,000 more instances of graffiti were removed in 2007 compared to 2006 (City of Baltimore, 2012).

Another example of an improvement resulting from the CitiStat performance management program is illustrated in the Department of Health's Needle Exchange Program. The program distributed 40,000 more clean needles in 2007 than in 2006 in order to help the addicted reduce the transmission of disease within the at-risk population. The program also referred 12% more clients to drug treatment within the same time period. In 2007, the Staying Alive Program trained 703 people at risk for drug overdose on life-saving techniques to aid overdosing victims, compared to 186 in the previous fiscal year (City of Baltimore, 2012).

The CitiStat program also allows Baltimore residents to have increased accessibility to online information. Performance reports, city services requests, permit applications, volunteer programs, payment services, and the opportunity to receive weekly updates through email about city services are all available.

Although these are selected improvements since the CitiStat program began in 1999, the City of Baltimore's success has caught the attention of the media and academic environment. Moreover, in 2004, CitiStat won Harvard University's prestigious Innovations in American Government Award – an Oscar for local government. CitiStat's history of challenges and successes has made this organization an appropriate sample for a rich and descriptive holistic case study.

Data and Information Collection

The data and information collected to address the research questions in this study are outlined below. Specifically, the sections outline the data collected in each of the following:

(a) strategic planning, (b) performance information, (c) utilization of performance information and (d) program implementation (see Table 1).

Table 1

Data Collection Parameters

	Data/Information Needed	Types of Data/ Methodology	Location/ Department
Strategic Planning	Strategic Plan CitiStat Participation	Planning Documents CitiStat Memos Interviews, Observations	CitiStat Team Mayor Agency Leadership CitiStat Meetings
Performance Measurement	Stakeholder Impact CitiStat Participation Targeting Area for Measurement Selecting Measures	CitiStat Memos Interviews, CitiStat Meeting Observations Project Data	CitiStat Team Agency Leadership CitiStat Meetings
Performance Information Utilization	Performance Information Usage CitiStat Participation	CitiStat memos Interview Responses Project Data	CitiStat Team Agency Leadership
Program Implementation	Cost-Benefit Methodology Participating and Non-Participating Agencies Agency Capacity	Interview Responses Financial Analysis CitiStat Memos	CitiStat Director Agency Leadership CitiStat Meetings

Strategic Planning

The goal of collecting data in the strategic planning data section is to gain an understanding of how a PerformanceStat program impacts strategic planning and the strategic stance of the City of Baltimore. Strategic planning is critical to the performance of

a government agency. Understanding how a PerformanceStat program impacts strategic planning can also be beneficial to government practitioners.

As outlined in the literature review section, strategic plans are created and implemented from the top of the organization and proceed downward, or they can be instituted from the bottom up. Data collection started by collecting information on how the City of Baltimore conducts strategic planning. Specifically, it identified strategic programs or major initiatives. Data was collected on CitiStat's role in the city's strategic planning efforts, and the roles the CitiStat department plays in strategic planning. This type of data was collected through interviews and a review of CitiStat memos, which are detailed correspondence that CitiStat sends each agency before and after monthly CitiStat meetings to identify needed data and to summarize the results of the CitiStat meetings, respectively.

The strategic stance of the City of Baltimore is another important element of strategic planning. The strategic stance of the City is classified as either a Prospector, Defender, Analyzer or Reactor, as was explained in the Literature Review. Each orientation classifies organizations based on the strategic direction and objectives of the city. Data collection efforts center on the following: (a) determining the city's strategic stance based upon responses from the Mayor, agency leadership, and CitiStat team, and (b) the impact of the CitiStat program on the strategic stance.

Performance Measurement

The data collected in the performance measurement section concerned three topics. First, data is collected to identify the stakeholders that impact performance measurement at the City of Baltimore. Interviews with agency leaders and CitiStat personnel determined

which internal and external stakeholders, such as unions, city council, state agencies and oversight committees impact performance measurement.

Secondly, information was collected on how the CitiStat program targets areas for measurement. For example, a CitiStat analyst may choose to target the maintenance department for measurement rather than the permit department within the Parks and Recreation agency. Thirdly, data was collected on the types of measures selected for measurement. Measurement types range from input, process, output and outcome measures. The researcher collected data on why specific measurements are chosen.

Within each of these areas of data collection, the role and impact of the CitiStat team and program was identified. This data aligns to the central question of this study, which seeks to understand how CitiStat impacts performance measurement. This is a key pillar in the performance management cycle.

The primary method to collect performance measurement data was interviews with the CitiStat team and agency leadership. Documents such as CitiStat memos were also examined, since they are populated with detailed performance measures regarding agency performance. Examples of CitiStat memos are provided in the Findings and Interpretations section. CitiStat meetings were also observed to understand how CitiStat is involved in performance measurement and to validate the findings from the interviews and CitiStat memos.

Performance Information Utilization

Data was also collected on how performance information is used as it relates to Van Dooren and colleagues' (2010) perspective of learning, steering and controlling, and accountability, and Behn's (2003) presumption that performance information is used to

evaluate, control, budget, motivate, promote, celebrate, learn, and improve. Additionally, data was collected to identify the involvement of the CitiStat program in how performance information is used at the City of Baltimore.

The primary source for this data was the interview responses from the CitiStat team and agency leaders. Interviews allowed the researcher to develop a thorough understanding of how agency leaders envision the utilization of performance beyond the identification of performance issues. CitiStat memos were examined to validate, support, and align with the findings from the interviews. Project data which is used within the CitiStat program but not listed in the CitiStat memos was also obtained.

Program Implementation

The final section attempts to explain three key elements of the CitiStat program: (a) how the City of Baltimore justifies the benefits of the CitiStat program (cost-benefit methodology), (b) why some agencies participate or do not participate in the CitiStat program, and (c) how agencies can fulfill their mission and also have the capacity to participate in the CitiStat program.

Data were collected to determine the city's cost-benefit methodology by conducting interviews with the CitiStat Director and agency leadership. Interviews were the primary data collection method to determine why some agencies participate in the program and why others do not. Non-participating agencies are agencies that do not participate entirely in CitiStat or are considered panel agencies. They sit on the CitiStat panel and provide input when needed. Financial statements (i.e., operating budget) are examined to determine the percentage of the budget applied to participating and non-participating agencies. The

researcher's observations of the CitiStat meeting identified if and how panel agencies contribute to the CitiStat meetings.

An agency's capacity to implement the CitiStat program was also examined. The researcher conducted interviews with agency leadership in an attempt to understand the amount of resources required from the agencies to implement the CitiStat program.

Data Collection Methods

This section summarizes data collection methods for this study, including interviews, document analysis, and observations.

Interviews

The interview was selected as the primary method of data collection in this study. This method has the potential to produce rich, thick descriptions and provides the researcher with an opportunity to clarify statements and probe for additional information (Bloomberg & Volpe, 2008). A semi-structured interview approach was utilized to provide an understanding of how the CitiStat performance management process is performed and allow for a deeper understanding of why the performance management process is conducted the way it is.

The interview method provided the researcher an opportunity to clarify statements and probe for additional information. This data collection method also allowed the researcher to target specific issues and provided an ability to focus directly on case study topics. Moreover, the interviews also offered weaknesses of reflexivity and poor recall. Reflexivity occurred when the interviewee communicated what the interviewer wanted to hear rather than a representation of what occurred. The researcher triangulated the data collection process to mitigate the occurrence of reflexivity by interviewing multiple groups

of employees with a similar set of questions. The researcher also attempted to mitigate issues of interviewee poor recall by providing interview questions in advance. This gave the interviewee additional opportunities to identify a more comprehensive answer.

Interviews were conducted within four groups in the City of Baltimore; the CitiStat team, agencies leaders who participate in the CitiStat program, leadership who do not participate in CitiStat, and finally, the Mayor of Baltimore (see Table 2).

The first group of interviewees consisted of the CitiStat department. Interviews were completed with the five members of the CitiStat team: one investigator, three analysts and a director. The CitiStat team represents the nucleus of the CitiStat program. The team is responsible for facilitating the program with weekly meetings, data analysis, presentations, performance reporting, and tracking. The three analysts and investigator were interviewed in a focus-group setting on two different occasions. The director of the CitiStat program was also interviewed during the onsite data collection process. Additionally, follow-up interviews subsequent to the data collection process were conducted with the CitiStat team and director. CitiStat personnel were questioned regarding all aspects of this study including the performance management pillars and program implementation.

The second group of interviewees consisted of agency leaders who are involved in the CitiStat program. Agencies represented were from Bureau of Solid Waste, Department of General Services, Department of Transportation, and Parks and Recreation Department. This group of interviews provided insight into strategic planning, performance measurement, and the utilization of performance information from an agency view.

Table 2

Interview Structure

Interviewee Group	Key Participants/Departments	Research Question Content
CitiStaff Team	Analysts, Director, Investigator	Role of CitiStat, Strategic Planning, Performance Measurement, Performance Information, Program Implementation
Agency Leadership (Participating)	Parks & Recreations, Dept. of General Services, Dept. of Solid Waste, Dept. of Transportation	Strategic Planning, Performance Measurement, Utilization of Performance Information
Agency Leadership (Non-participating)	Budget Dept., 311 Customer Relationship Management and Human Resources	Utilization of Performance Information, Program Implementation (Involvement with CitiStat Program)
Mayor	Mayor of Baltimore	Strategic Planning, Program Implementation

The third group of interviewees was agency leaders who are not involved in the CitiStat but contribute to the program as a panel member or provide assistance on an as-needed basis. Agencies within this group consist of 311 Customer Relationship Management, Budget Department, and Human Resources. This group provided information on how performance information is utilization within the city and their department. Respondents within this group addressed why their department does not participate in the CitiStat program.

The final interviewee was the Mayor of Baltimore. The Mayor was interviewed primarily due to the alignment between the CitiStat program and the strategic planning function of the city.

While the interviews were the primary data collection source, the researcher did not conduct an independent assessment of the City of Baltimore's performance. Rather, the researcher chose to rely on the respondent's answers and the semi-structured interview process to receive a comprehensive understanding of the research questions. Adding an independent assessment of the City's processes and performance may have expanded the findings and interpretations and potentially added a larger degree of triangulation to validate the respondent's answers. However, the scope and requirements of this data collection method were not feasible within this study. Therefore, an independent assessment approach has been recommended in the future research section of this study as a future research opportunity.

Document Analysis

The second type of data collection method was document analysis. Various types of documents were analyzed including strategic plans, organizational structure diagrams, performance measurement data, meeting agendas and minutes, process flow charts, performance scoreboards, and mission statements. The researcher collected the majority of the documents during the on-site data collection process.

Observations

Observations of monthly CitiStat meetings were completed during the onsite data collection process. The researcher's intent was to capture a thorough description of the meetings, including intentions and motives of the meeting attendees as they related to the

strategic planning, performance measurement, and utilization of performance information research questions. The researcher adhered to the “complete observer role” (Adler & Clark, 2003, p. 323), referring to the principle of being an observer of a situation without becoming part of it.

The researcher observed the following CitiStat meetings: Parks and RecreationStat, DomesticViolenceStat, TransportationStat, and Department of Public Works CleanStat.

Trustworthiness

Guba and Lincoln (1998) include credibility, dependability, and transferability as three criteria from which to judge the trustworthiness of qualitative research. Strategies used to address each of these criteria in the research process are discussed.

Credibility

Bloomberg and Volpe (2008) pronounce that credibility is whether the participant’s perceptions match up with the researcher’s portrayal of them. A variety of strategies for enhancing credibility include triangulation and peer reviews. Each of the strategies is incorporated into the study.

The first strategy to address credibility—triangulation—involved the use of multiple sources or methods to confirm emergent findings (Merriam, 1998). This study draws upon three methods of data collection: (a) interviews; (b) document analysis, and (c) observations. The combination of these methods produced a holistic understanding of each participant’s perceptions and activities. The researcher asked all interviewees each research question. Therefore, each research question contains multiple perspectives.

The second strategy to address credibility was peer examination. This study required colleagues of the researcher to comment on the findings as they emerged and to provide

insight and feedback to the researcher. The feedback given by the peers was considered in relationship to the conclusion drawn by the researcher. The researcher conducted on-going meeting with this study's chair, receiving valuable guidance on the study and each research question.

Dependability

The criterion of dependability is closely related to the traditional concept of reliability (Guba & Lincoln, 1998). Merriam (1998) offers three strategies for enhancing reliability which were applied to this study: (a) describing the investigator's position in relation to the research process and participants, (b) triangulation, and (c) establishing an audit trail.

The researcher made his position clear in relation to the research process to the interviewees and participants by describing his background and the purpose of the study. Within the criterion of credibility, triangulation was also utilized to enhance the dependability of the study through the use of multiple methods of data collection, as indicated.

Finally, an audit trail was created through the ongoing use of participant, document and data summary forms. These recordings allowed external parties to understand in detail how data were collected, categories were derived, and decisions were made during each step of the research process.

Transferability

Bloomberg and Volpe (2008) state that transferability is about how well the researcher made it possible for the reader to decide whether a similar process could be applied in their own settings. Thus transferability refers to the fit or match between the research context and other contexts as judged by the reader. Merriam (1998) identifies a

rich, thick description as the primary strategy to increase the transferability of the findings to other settings and contexts. The researcher provided thick and rich descriptions and includes Denzen's recommendation of providing a sense of "intentions, motives, meaning, context, situations, and circumstances of action" in this study (1989, cited in Adler & Clark, 2003, p. 321).

Ethical Issues

The research process involves enlisting voluntary cooperation from participants. It is the basic premise that participants are informed about the study's purpose. Moreover, the study employs safeguards to ensure the protection and rights of participants. A verbal script was read to each potential participant, providing the purpose of the research and contact information if any issues would arise. Written consent to voluntarily participate in the study was also provided to each participant.

Participants' rights and interests were considered of primary importance when choices were made regarding the reporting and dissemination of data. The researcher was committed to keeping the names and/or significant identity characteristics of the sample organization confidential. Measures were taken to secure the storage of research-related records and data. No one other than the researcher had access to the material.

Limitations and Plans for Addressing Them

Bloomberg and Volpe (2008) indicate that limitations of research arise from, among other things, restricted sample size, sample selection, reliance on certain techniques for gathering data, and issues of researcher bias and participant reactivity. Although no research project is without limitations, this researcher took all necessary precautions to reduce or eliminate limitations of the study. Limitations that were addressed include (a) a limited

sample within the case study, (b) the sample organization selected (CitiStat), and (c) a reliance on certain data collection techniques.

Since a case study has a limited sample by design, the data collected has a risk of being unrepresentative or lacking generalizability. Although a lack of generalizability may have resulted, the intention of this study is to unfold “how” the PerformanceStat program impacts the government agency’s performance management process. The central purpose was not to generalize to a wider population of organizations, but to identify specific purposes for actions which may contribute to body of research examining the PerformanceStat movement and to government practitioners alike.

Another potential limitation of the study was the choice of the City of Baltimore’s CitiStat program as the sample organization for the case study, rather than a different PerformanceStat program. The CitiStat program has demonstrated a significant 14-year history and as a result, the CitiStat model has been adopted by local governments across the United States and around the world (City of Baltimore, 2012). Additionally, the CitiStat program has improved the services of the City of Baltimore in a multitude of ways, all of which other government agencies can learn from.

Institutional Review Board

The researcher completed the required Institutional Review Board (IRB) training and submitted an EXEMPT application to the University of Missouri at Kansas City’s IRB department. The IRB approved the application (see Appendix A).

Summary

The goal of this study was to examine the impact of a PerformanceStat performance management program on the critical elements of strategic planning, performance

measurement, and the utilization of performance information. These elements are crucial to the success of a performance management program. It is theorized that a PerformanceStat program can positively impact these elements to a more effective level.

Moreover, the research methodology and the progressiveness of the sample organization have allowed the researcher to conduct an in-depth analysis on the CitiStat program, providing a rich and thick description of how the program is involved in the day-to-day operations of the City of Baltimore.

The outcome of this research will become useful to government professionals and researchers who continue to identify ways of improving government. Government professionals can benefit by gaining a clear picture of how a PerformanceStat program serves as the engine to strategic planning and the performance measurement process. This study will contribute to an agency's efforts to implement a PerformanceStat program in an effective manner.

Academically, the PerformanceStat research has been broad, only highlighting how a PerformanceStat program involves periodic meetings and a continual evaluation of performance data. No research to date has examined the alignment between a PerformanceStat program and the elements of performance management. However, understanding this relationship can support strategic planning and performance measurement theory as well as contributing to the growing researching within dialogue theory.

CHAPTER 4

FINDINGS AND INTERPRETATIONS

The purpose of this case study was to explore the impact of the CitiStat program on three pillars of performance management: strategic planning, performance measurement, and the utilization of performance information. The study also examined how the CitiStat program managed capacity challenges, and how the benefits and costs of the program are determined. Finally, the study assessed why city agencies fully or partially participate in the CitiStat program.

The results of this study will contribute to organizational theory research, which examines the cause and effect relationship between PerformanceStat programs and strategic management and performance measurement. Specifically, the research will highlight how the CitiStat program attempts to improve the performance management cycle.

This chapter identifies why CitiStat is a key force behind the City of Baltimore's pursuit of strategic and operational objectives. Specifically, the chapter presents the findings and the researcher's interpretations for all eight research questions. The first five research questions address CitiStat's impact on strategic planning, performance measurement, and the utilization of performance information. Examples are provided to illustrate a more thorough understanding of the findings, offering a perspective into the routines, analytical capacities, and focus of the CitiStat team. The findings and examples demonstrate how CitiStat is an accelerator for improving the operations of the city, but also serve as a catalyst to help the City of Baltimore achieve strategic targets.

Additionally, the findings for the final three research questions demonstrate how the CitiStat program is structured, highlighting how the program is administered efficiently,

keeping the agency requirements to a minimum. The efficiency is maintained because the program is centralized with a small group of specialists who deliver a repeatable and sustainable cycle of process improvement meetings. The final research question and findings identifies why the CitiStat program is focused on increasing citizen satisfaction through the core agencies of the city, rather than identifying quantifiable financial savings.

Background information collected is also illustrated to provide support for the subsequent findings and interpretations.

CitiStat Background Information

Understanding the impact of the CitiStat program on the performance management process requires knowledge of background information, including the CitiStat program's purpose, team, meetings, tenets, and Baltimore's form of government.

The Purpose of CitiStat

The purpose of the CitiStat program is to improve the performance, quality and timeliness of services to citizens with the fewest resources possible. The CitiStat team is responsible for facilitating the program through ongoing monthly meetings while increasing agency accountability for performance. The recurring monthly meetings rigorously address administrative, technological, and operational issues, while generating efficient options for ongoing improvement. Improvements may come from process streamlining, increased citizen satisfaction, or a result of being more effective and efficient with the same resources.

The Key Participants

The primary elements of the CitiStat program are the CitiStat team, the city leadership team, and agencies. The CitiStat team consists of one director, three analysts and an investigator. The director is responsible for the successful implementation of the CitiStat

program. The director manages the small staff of analysts and the investigator, and is the primary facilitator of CitiStat meetings. The analysts are responsible for partnering with agencies throughout the CitiStat process and possess a variety of skills including analytics, problem solving, communications, and presentation abilities. The investigator works throughout the city to follow up on requests from the CitiStat team and stakeholders. The investigator can conduct many tasks including data collection and taking pictures of city property in preparation for the CitiStat meetings.

The CitiStat Meetings

The CitiStat team partners with the agencies throughout the CitiStat process. The monthly process starts with the CitiStat analyst sending the agency a request for data in the form of a template, approximately three weeks prior to each monthly CitiStat meeting. The agency collects the requested data and sends the template back to the CitiStat analyst. The analyst analyzes the data and communicates the findings to the city leadership in preparation for the CitiStat meeting.

The CitiStat meetings are held each month for participating agencies. Each participating agency is aligned to a Stat program, such as FireStat or GunStat (see Table 3). Agencies may belong to more than one CitiStat program. The monthly meetings last between one and two hours on the fifth floor of Baltimore's City Hall and are not open to the public.

During the meeting, the Director of CitiStat, the Mayor, or Chief of Staff question the agency director and selected department personnel on performance issues. Immediately following the meeting, the CitiStat analyst will follow up with the agency through formal

correspondence, outlining the required actions from the CitiStat meeting. The analyst works with the agency to make improvements that were discussed in the meeting.

Table 3

CitiStat Program

Stat Area	Agencies	Stat Mission
DPWCleanStat	Departments of Solid Waste, Health Department, Department of Transportation, and Department of Housing and Community Development	City-Wide Cleaning Efforts
General Services Stat	General Services	Maintenance, construction and repair for more than 200 City-owned public buildings.
DPW Waste Water Stat	Department of Public Works	Maintain waste water and drain system
Fire Stat	Emergency Medical Services (EMS), Information Technology and Communications, Fire Marshal’s Office, Training Division and Administrative Services	Improve the services of the Emergency Medical Service, Fire Department and supporting agencies
Gun Stat	Mayor’s Office of Baltimore City, Baltimore Police Department, Office of the Attorney General, the Department of Juvenile Services, the State’s Attorney Office, Maryland State Police, and the ATF.	Curb the trafficking and possession of illegal guns
Health Stat	Health Department	Advocating, leading, and providing services of the highest quality in order to promote and protect the health of Baltimore residents.

(table continues)

Stat Area	Agencies	Stat Mission
Housing Stat	Housing Department	Maintain public housing programs and related services for Baltimore's low-income residents
Police Stat	Police Department	Improve crime trends, operational initiatives, and administrative duties to the Mayor's Office.
Parks and Rec Stat	Parks and Rec	Provide the citizens of Baltimore with quality recreation programming at its 45 centers across the City
Transportation Stat	Department of Transportation	Maintain a transportation system that integrates all modes of travel and provides mobility and accessibility in a convenient, safe and cost-effective manner.
HomeStat	Department of Housing	Creation of affordable housing, the delivery of high-quality, evidence-based services and community-wide advocacy
Domestic Violence Stat	Mayor's Office of Baltimore City, Mayor's Office of Criminal Justice, Baltimore Police Department, State's Attorney Office, Department of Parole and Probation, and community domestic violence service providers.	Improve outcomes for victims of domestic violence, reduce re-victimization and prevention both domestic and community violence

The Tenets of CitiStat

The founding principles of the CitiStat program are four tenets, which were developed by Jack Maple, the founder of the original PerformanceStat program, CompStat.

CompStat was developed at the New York City Police Department to reduce crime throughout the city. The tenets provide a guiding force for the rhythm of the CitiStat meetings as well as the data analysis and post-meeting follow-up process (City of Baltimore, 2012). Each tenet is described below.

Accurate and timely intelligence. The CitiStat program improves agency performance by emphasizing data-driven results. The majority of the data is developed from Baltimore's 311 customer-management system. The system allows citizens to submit a service request by calling the city or submitting a request through a Smartphone application. The data is aggregated and available to agencies, CitiStat analysts, and citizens through the CitiTrack system.

Rapid deployment. The monthly CitiStat meetings allow the city and agency leadership to analyze performance issues and make decisions with minimal delay. The consistency of meetings provide a continued focus on performance gaps and the identification of necessary changes for improvement.

Effective tactics. In addition to analyzing data, the robust implementation of the CitiStat program is critical to the program's success. Meeting attendance, technological processes, dedicated CitiStat analysts, and a focused measurement program are essential to the success of the program.

Relentless follow-up and assessment. The follow-up program is driven by the CitiStat analyst's relentless identification of issues and development of action items during the CitiStat meeting. Immediately following the meeting, action items are communicated back to the agencies in a memorandum, and a progress report is required before the next meeting.

Strong Mayor Form of Government

Baltimore has a “strong mayor” form of government. The mayor’s power is developed from multiple sources. First, the mayor may veto bills passed by the city council, and a three-fourths vote of the city council is required to override the veto. Secondly, the mayor can appoint two of the five members of the Board of Estimates, who are responsible for developing and executing the fiscal policy of the city. Finally, the mayor can make appointments including the heads of most city agencies (City of Baltimore, 2012).

Research Question 1

Does a PerformanceStat program impact the strategic planning process of the government agency? If yes, how?

The CitiStat program and team members do not participate in the development of strategic priorities, goals, or initiatives at the City of Baltimore. However, the CitiStat program is a major contributor to the city’s ability to reach its strategic goals in two ways. First, the CitiStat program is primarily focused on improving the services and operations of the city, which helps the city reach their strategic objectives outlined in the city’s Priority Outcome program. Secondly, the CitiStat analysts assist agencies, key stakeholders, and city leadership with performance measurement and analytical requests. The researcher outlines how these CitiStat responsibilities impact Baltimore’s strategic goals.

The Mayoral Initiative and Priority Outcomes

The City of Baltimore’s Priority Outcome program consists of six priorities, which align to one mayoral initiative. Each priority has several sub-goals, a steering committee, and supporting performance measurement activities. The Mayor’s current initiative is having 10,000 new families join the city by 2020. This initiative was the cornerstone of the Mayor’s

inaugural message in 2010 and serves as the guiding light for city employees. The current Priority Outcomes are better schools, safer streets, stronger neighborhoods, a growing economy, an innovative government, and a cleaner and healthier city. Each priority is comprised of a steering committee with representatives from various city agencies.

The CitiStat program does not establish the strategic priorities or supporting goals of the Priority Outcome program. However, CitiStat helps improve the services of the agencies that participate in the CitiStat program. By helping these agencies with performance issues, agencies improve, ultimately helping the city reach the goals identified within the Priority Outcome program. As this research illustrates, the CitiStat program's monthly meeting schedule and relentless attention to improving services has a direct impact to the Mayor's goal of having 10,000 new families in Baltimore by 2020. Therefore, CitiStat serves as a facilitator for improvement between the agencies and the Priority Outcome program.

The Department of Transportation Director summarizes the relationship between the Priority Outcome program, CitiStat, and agencies in the following manner:

We have a major goal and that is bring in 10,000 more families to the city. Everything is based on that – strong neighborhoods, safer streets, better schools, economic development. All of these goals can somehow take us to bring in 10,000 new families to the city. In looking at these goals of the city, we have to ask, through CitiStat, what can we do in transportation with these 4-6 goals to help the city get to the final mission or final goal of the mayor, which is to bring in 10,000 families?

Figure 2 illustrates the relationship between the priority outcomes, goals, and CitiStat program. As illustrated, each CitiStat program aligns to a priority outcome and set of goals. For example, the priority of stronger neighborhoods aligns to several CitiStat programs, including DPW CleanStat, General ServicesStat, HealthStat, HomeStat and Domestic

ViolenceStat. Some CitiStat programs align to more than one priority outcome, such as DPWCleanStat and HomeStat.

Performance Measurement Support

In addition to facilitating the CitiStat program, the CitiStat analysts provide analytics and performance measurement support to the agencies, city leadership and key stakeholders. This support helps the city reach strategic goals as the analysts provide valuable guidance on performance measurement, and at times, track the progress of measures toward strategic goals. In this context, the CitiStat team is frequently referred to as the “the mayor’s management arm.”

The General Services director, a former CitiStat analyst, says,

The CitiStat team is the Mayor’s management arm. People will come with requests and if they are doable, you help them out, but that’s not a problem, that’s to serve as the decision-making, management arm so that the Mayor is making smart decisions, especially in this very strong form of mayor.

An example of how the CitiStat team assisted the Mayor in decision-making is the Reducing Blight and Vacant Properties initiative. The initiative’s purpose is to reduce vacant housing and urban blight in Baltimore, since the city was challenged with 16,000 vacant buildings (25% of which were city-owned) as a result of having one the largest percentage population declines in U.S. cities from 1950-2000. The initiative included a six-point plan to reduce vacant properties and ultimately impact the Mayor’s goal of having 10,000 new families in Baltimore by 2020. The initiative focused on the following (City of Baltimore, 2012):

Priority Outcome	Goal	Aligned CitiStat Program
Better Schools	Increase Student Attendance Decrease Drop Out Rate Increase percentage of child assessed as ready for Kindergarten Increase the percentage of 3rd graders reading at the proficient Increase the percent of graduating students that are college and career ready	Domestic ViolenceStat, Hon
Safer Streets	Increase percentage of citizens that rate the City safe or very safe Reduce violent crime rate Reduce property crime rate Increase the percentage of Fire responses that meet national response standards Increase the percentage of Emergency Medical Services (EMS) responses that meet standards	PoliceStat, Parks and RecSta GunStat, FireStat, TransportatonStat, Domestic ViolenceStat, HealthStat
Stronger Neighborhoods	Reduce Blight and return vacant neighborhood structures and land to productive and beneficial use Improve the conditions of private neighborhood properties and promote new construction Improve the Quality of Right-Of-Ways in Neighborhoods Improve citizen satisfaction with street and sidewalk maintenance Improve Citizen usage of and satisfaction with neighborhood-based services and amenities Increase citizen engagement within neighborhoods	DPW CleanStat, General ServicesStat,HealthStat, HousingStat, HomeStat, Dor ViolenceStat
Growing Economy	Increase the number of city residents over 16 years old who have a job Increase the overall number of businesses in the City Increase economic activity from tourism and entertainment and attraction offerings Increase the total amount of retail activity Increase the number of citizen who rate the City as being rich in cultural opportunities	DPW CleanStat, PoliceStat, FireStat, TransporationStat, HomeStat, HousingStat
Innovative Government	Increase the percentage of City employees trained in the areas that directly impact their work Increase the percentage of internal and external customers very satisfied with City services and business functions Reduce the City's Energy Costs Reduce the City's Space Utilization Costs Increase citizens' accessibility to City Services	General ServicesStat
A Cleaner and Healthier City	Decrease the number of alcohol and drug-related emergency visits Reduce health inequalities by decreasing preventable emergency visits for heart-disease-related conditions Increase citizen satisfaction with the City's cleanliness Increase the percentage of impervious surfaces for water pollutants Increase the amount of waste material re-used or recycled Improve air quality (as measured by the number of asthma-related emergency visits)	DPW CleanStat, General ServicesStat, DPW Waste WaterStat, HealthStat, FireS

Figure 2. Alignment between priority outcome program and CitiStat.

- Streamline the disposition of the city property
- Streamline the Code Enforcement on Transitional Blocks
- Facilitate investment in emerging markets
- Develop homebuyer and developer incentives
- Support large-scale redevelopment in distressed areas
- Maintain, clear, and “land bank” for interim and future use

The CitiStat team played a significant role in the initiative by assisting in the development and tracking of performance measures for the objectives listed above. For example, the team developed a tracking system to help the City reach the goal of reducing the amount of time to sell a city property by two thirds. See Appendix B for analysts’ graphical analysis.

In summary, the CitiStat program and team are not involved in the formation of strategic priorities or goals. However, the CitiStat team plays a significant role in the ability of the City of Baltimore to reach strategic goals by helping agencies improve within the CitiStat program or by providing assistance with performance measures; thus helping the City “move the needle” on the city’s six priorities and the overall goal of bringing in 10,000 new families to the city by 2020.

Research Question 2

Does a PerformanceStat program impact the strategic stance of the government agency’s strategic plan? If yes, how?

The City of Baltimore’s Strategy Typology

The City of Baltimore respondents were educated on the Miles and Snow typologies listed below. Each typology represents a strategic stance of an organization. The respondents were asked two sets of questions. First, they were asked which typology

represents the strategic stance of Baltimore, and why? Secondly, they were asked whether or not the CitiStat program impacts the city's strategic stance, and, if so, how?

As the literature review indicated, each typology may lead to higher performance in different organizational situations, such as centralized or decentralized organizational structures. However, the purpose of this research question is to understand the alignment and impact of the CitiStat program and strategic stance of the city from the perspective of the CitiStat team and agency leadership. Consequently, the research question does not address the relationship between CitiStat, the city's strategic stance, and performance of the city. Moreover, the relationship between CitiStat and high-performing typologies is noted for future research opportunities.

The four orientations of the Miles and Snow (1978) typology are as follows:

1. *Prospector*: Organizations that continually search for market opportunities and regularly experiment with potential responses to emerging environmental trends.
2. *Defenders*: Organizations that seldom make major adjustments in their technology, structure and methods of operation, but devote primary attention to improving efficiency of their operations.
3. *Analyzers*: Organizations that typically exhibit characteristics of both Prospectors and Defenders while balancing efficiency and learning.
4. *Reactors*: Organizations in which managers perceive change and uncertainty occurring in their organizational environments, but are unable to respond effectively.

The City as an Analyzer

The majority of respondents indicated the City of Baltimore's strategic stance is an Analyzer, since the city applies resources to the internal operations (Defender) and

implements a strategic vision (Prospector). The respondents indicated CitiStat contributes significantly to the city's focus on internal operations and partially to their strategic efforts.

First, CitiStat has a high impact on the internal operations of the city through the CitiStat program. As this research has identified, CitiStat's primary mission is to help the city improve services to the citizen. Secondly, the respondents indicated CitiStat's performance tracking and measurement support impacts strategic programs such as the Priority Outcomes program.

The Mayor of Baltimore explains:

CitiStat allows us to focus on long-term goals like Fishable and Swimmable Harbor by 2020. You can say you have that goal but, it's like it you want to lose 100 pounds in 10 years. After a while you may look up and you haven't done anything, if you are not consistently tracking. So we (CitiStat) are working with other partners to put in place tracking and interim goals, so we don't look up in 2020 and say what the hell.

Although the respondents were satisfied with focusing internally and strategically, the desire to be more future-oriented was evident. The respondents indicated that the city should be striving to be more of a Prospector, indicating the CitiStat program should increase their analytical prowess more specifically on strategic initiatives. The Human Resource Director highlights:

I think CitiStat has moved us from a Reactor to the Analyzer. But the ultimate goal should be getting us to the Prospector mode. We want the city to be leading edge and benchmarked. That's where CitiStat is rejuvenating the culture of the organization, putting measurements in place to challenge the status quo. To cause us to have an internal and external focus, day-to-day.

Reactor to Analyzer

Although the respondents indicated the City currently resembles the Analyzer stance, the balance between a focus on internal operations and a strategic vision developed over the last 10 years. Respondents indicated that CitiStat had characteristics of a Reactor in the early

years of CitiStat, from 1999 to 2004. Since then, CitiStat has helped the city move from being a Reactor to an Analyzer, helping the city simultaneously devote resources to improving operations and implementing a strategic vision.

The General Services Director adds the following:

I think CitiStat brought the internal (Defender) stance one to focus on the internal operations. That was a big piece since the operations were so misaligned 12 years ago. So when CitiStat came in, it was a positive thing. You still had a lot of reaction since the data does not capture everything. Problems come up and you can react to it and then say this is a problem, let's put some metrics to it and let's watch it every two weeks until the problem is gone or ameliorated, but then as the data started developing you can start to internally track progress and know when another problem is going to come up early.

The researcher supports this movement from Reactor to Analyzer with a review of savings from 2000-2007. The analysis below was communicated by CitiStat at a conference organized by the Community Indicators Consortium in 2007 and illustrates how CitiStat helped the city with key operational improvements and reinvested the savings in strategic initiatives. Improving the operations and assisting the city advance toward strategic targets is a key characteristic of the Analyzer stance, and a positive movement from the Reactor stance.

Specifically, the City of Baltimore's overtime costs were \$24.1 million in 2000 – one year after CitiStat was initiated. With the advancement of CitiStat in the next seven years, overtime costs were reduced each year, creating cumulative savings in overtime of \$30.9 million in 2007 (see Table 4). Additionally, CitiStat announced the program had demonstrated \$350 million in savings in all departments in its seven years. These savings were a result of improvement accountability on overtime spending, absenteeism, and managed contracts. The savings allowed the city to reinvest \$54 million in children's programs, including \$25 million in school construction (Behn, 2007).

Agency Level Reactors

Although the city may fit the Analyzer typology, some respondents indicated the agencies are represented by the Reactor typology. Since agencies are utilizing tools such as the 311 system and CitiTrack to respond to the needs of the citizen, it is likely the agencies are more reactive than strategic or internally focused.

Table 4

CitiStat Overtime Savings

Fiscal Year	FY2000 Baseline	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Total FY 2001-2007
Overtime Cost	24.1	18.3	15.2	20.2	20.5	20.9	19.9	22.8	137.8
Savings from Baseline	n/a	5.8	8.9	3.9	3.6	3.2	4.2	1.3	30.9

Moreover, the agency leadership emphasized the desire to be more strategic but identified the challenge to do so in a political environment. The Director of Parks and Recreation indicated the agency's ability to deliver services and meet the expectations of the citizens in a Reactor stance are often constrained by resources. The director said:

As much as you want to be proactive, you cannot get ahead because we work in a system where the constituents request service, and there is a low level of resources that all you can do is respond to requests for service rather than proactively stay on top of what needs to done. I don't think it's a good situation but it is the reality of being in a political system with not a lot of resources.

In summary, the CitiStat program impacts the strategic stance of the city by driving operational improvement through the CitiStat program and assisting leaders to track and measure the progress of strategic initiatives.

Research Question 3

Does a PerformanceStat program contribute to the measurement targeting and selection process? If so, how?

The CitiStat team is involved in targeting areas for measurement and selecting the right measures, which are key elements of the performance measurement pillar. The CitiStat team’s involvement in these areas can be examined strategically and operationally (see Table 5).

Table 5

CitiStat Team Involvement in Performance Measurement

	Targeting Measures	Selection of Measures
Strategic	Low	Moderate
Operational	High	High

The CitiStat team has a low level of involvement in targeting areas for measurement at the strategic level, but is highly involved in targeting measures at the operational level vis-à-vis the CitiStat program. Targeting, therefore, identifies areas for measurement that are important to the City and require further selection of measures and data collection activity. For example, the CitiStat analysts are not involved in identifying strategic initiatives for the

City, since the Mayor and the leadership team conduct that activity. Therefore, the analysts do not help the City target measures for strategic initiatives. However, the CitiStat analysts are highly involved in targeting areas for measurement within the CitiStat program. Each agency relies on the analysts to help them identify appropriate areas for measurement. CitiStat analysts continually deliberate with agency leadership and personnel about specific areas to measure that are important to the agency and the city.

Moreover, the CitiStat analysts are moderately involved in selecting measures at the strategic level. Since the city leadership is responsible for establishing strategic initiatives, CitiStat analysts are called upon to help identify appropriate performance measures. For example, as city leadership develops the City's strategy within the Priority Outcomes programs, analysts are called upon to select the appropriate measures. The analysts provide assistance on an as-needed basis; therefore a "moderate" classification is appropriate.

Finally, the CitiStat analysts are highly involved in selecting measures at the operational level within the CitiStat program. CitiStat analysts are primarily responsible for helping agencies improve operational performance through the CitiStat program. Therefore, analysts are helping agency personnel target areas for measurement and select the appropriate measures.

A discussion of CitiStat's involvement in these areas follows. Additionally, an example of how the CitiStat team targeted areas for measurement and selected specific measures within the water billing process is provided.

Targeting Areas for Measurement

Targeting areas for measurement selection is critical to a performance management system. With the proliferation of data and an increased technological capability to measure

most facets of an organization, the need to target the right areas for measurement must be consistent with the strategic vision of the organization.

CitiStat's involvement in targeting areas for measurement is at a low level (minimal involvement) for strategic initiatives such as the City's Priority Outcome program. For example, the objective of having 10,000 new families reside in Baltimore within 10 years was developed by the Mayor and her leadership team, with input from various stakeholders. Moreover, identifying target areas within the program such as safer streets, better schools, stronger neighborhoods, growing economy, innovative government, and a cleaner and healthier city are developed by the City's leadership team, with minimal involvement from CitiStat.

Although CitiStat is less involved in targeting area for measurement at the strategic level, the CitiStat team plays a vital role in targeting areas for measurement at the operational level through the CitiStat program. CitiStat analysts are continually collecting data on agency performance levels and conducting root-cause analysis to identify where change and improvement should take place. This data collection process requires CitiStat analysts to continually target areas for measurement and improvement.

The Selection of Measures

The CitiStat program and analysts are moderately involved in selecting measures at the strategic level. Analysts are called upon to assist in selecting measures outside of the CitiStat program. For example, the CitiStat team partnered with the Finance Department in 2009 to develop performance measures for every service in the City as part of the Outcome Budgeting program. The CitiStat team provided assistance in developing input, process, output, and outcome measures. The Budget director used the CitiStat analysts and their

performance measurement expertise to advance the Outcome Budgeting program. The partnership between the Finance Department and CitiStat was viewed by the Budget Director as an evolution to the CitiStat program.

Another example of how the CitiStat team selects measures outside the CitiStat program is helping agencies measure progress toward long-term contracts. For example, the CitiStat team helped the Bureau of Waste Water establish the appropriate measures and collect data on the progress of a long-term contract. The CitiStat analyst partnered with the agency throughout the contract as the bureau reported the results back to CitiStat on a continual basis.

CitiStat's involvement in selecting measures at the operational level is high. The core competency of the CitiStat staff centers on selecting measures and rigorously collecting and analyzing data in support of the measures. The respondents indicate that all measures are used throughout the CitiStat program, rather than emphasizing inputs, outputs, or outcomes. Although there are no rules for the selection of measures, the importance and the attention given to measurement selection is high.

The Director of CitiStat explains:

My philosophy is that you can't put yourself into a box in terms how much you should measure or the types of measures. What we collect needs to drive decision making or action in a timely manner so we do measure a lot of outputs, but picking the right outputs is an important task.

A member of the CitiStat team echoes the CitiStat Director by emphasizing their relentless attention in identifying process issues through measurement and process mapping. The CitiStat team member said:

Once a problem has been raised, we start measuring it...we ask ourselves if we are underperforming. First, we map the process. In water billing, how does someone go

from using water to getting a bill for that water? Then we get the department to measure each step of that process. Then we look at the possible activities within that process and look at incentives to maximize that process.

The agencies are also keenly aware of the difference between measuring inputs, outputs, and outcomes and the importance of improving the outcomes. The Department of Transportation Director adds, “It’s a blend. You have to look at all of them. Obviously you have to look at outcome as your main result in the end.”

The Director of General Services adds: “I think we are moving to outcomes. I think that is a good thing in a lot of ways, but if you don’t have outputs, the outcomes are not going to come either.”

Although measuring outcomes can seem like the right thing to do, collecting, analyzing, and improving the outcome can cause frustration for the agency. The Department of Parks and Recreation director describes how measuring outcomes is an unachievable task:

How the heck am I going to measure increasing health? Keeping parks better maintained, or keeping basketball courts, tennis courts, hiking trails, or things like that lead to better fitness, better physical health, or lower rates of obesity, diabetes, etc. How am I going to have to attribute in the long term that the obesity level went down and that was attributed to maintaining parks? I don’t have the resources to show that but that is the outcome. So in theory that is great, but in practice I don’t know how you do it.

Water Billing – Targeting and Selecting Measures

An example of how the CitiStat program targets areas for measurement and selects measures can be demonstrated by the water billing process. The City of Baltimore paid residents \$4.2 million in erroneous water bills during 2012 (Scharper & Broadwater, 2012). The erroneous bills occur when the city must estimate the water bill rather than taking a precise measurement. The CitiStat analyst worked with the Department of Public Works to minimize the number of water-billing estimates.

First, the CitiStat analyst targeted the areas for measurement by examining the scenarios in which an estimate may occur. Targeting, therefore, assisted the CitiStat analyst to categorize the methods by which estimates are created. The analyst determined estimates occur when a meter is read or even when it can't be read. The analyst then selected the measure to compare the number of actual reads to non-read occurrences in a given period (see Appendix C – Meter Reader Visit Breakdown).

Additionally, targeting was conducted by the analyst to determine how often an estimate occurs when a meter is read. If the meter is 250 percent above or 50 percent below the previous average daily consumption, the read will be flagged and the account will be estimated rather than billed. This is known as failing tolerance. The analyst measured the percentage of failed tolerances to passed tolerances for all read meters in one time period (see Appendix C – Actual Reads: Tolerance Breakdown). Targeting was also conducted to create a breakdown of non-read conditions. Non-read meter reading can be broken down into three general categories: Automatic Reading and Billings (ARB), Cannot Locates and Skips.

ARBs are meters that are, on average, over 30 years old and nearly unreachable (they were installed inside homes). Cannot Locates are meters that cannot be found by meter readers. The final group of non-read possibilities are Skips. Skips are temporary conditions that meter readers routinely encounter along their routes (e.g., defaced meter dials, car parked too close to meter,). The analyst broke down non-read conditions by type (see Appendix C – Non Read Condition Breakdown). Hitherto, the CitiStat analyst has targeted the situations in which an estimate can occur and selected the measures that represent occurrence levels of failed tolerances, ARBs, Can Not Locates and Skips.

Additionally, the CitiStat analyst analyzed the process and identified improvement opportunities with the agency. It was determined that Skips and failed tolerances presented the largest opportunity in which potential estimates could be prevented. Moreover, in each type of occurrence, if the meter shop can process the bill within 15 days, a bill will not be estimated. However, bills over 15 days will be estimated. Therefore, the CitiStat analyst examined further data to illustrate the percentage of failed tolerances and Skips which took longer than 15 days to respond to and process (see Appendix C – Recoverable Estimates). Additionally, the CitiStat analyst mapped the water billing process to identify opportunities to reduce lead-time below 15 days (see Appendix C – Water Billing Process Map).

The CitiStat analyst helped the agency identify the following improvements:

Failed Tolerances: Reduced Check Reads within the 15-day time limit. The results are illustrated in Appendix C – Check Reads by Fiscal Year.

Skips: The agency changed the Memorandum of Agreement with the meter readers, which created a disincentive for skipping meters. The results are illustrated in Appendix C – Average Skipped Meter Reads Per Day.

Cannot Locates: An audit was performed identifying 1,400 as the accurate base for the number of meters which cannot be located (see Appendix C – True Can Not Locates).

ARBs: The CitiStat analyst conducted cluster mapping to help reduce the number of ARBs from 17,000 to 12,000 (see Appendix C – Baltimore City Addresses with ARB Accounts).

Additionally, the goal of the water billing improvement project was to reduce the number of estimates conducted. Through the appropriate targeting and selecting measures,

the agency and CitiStat analyst reduced the average meter-reading estimates per day from a high of 1,114 in 2011 to 159 in 2013 (see Appendix C – Average Estimates Per Day).

The example illustrates how the CitiStat analyst will often utilize his or her performance measurement skills outside the CitiStat program and drill down on city issues to improve the process. Performance measurement is a core competency of the CitiStat analyst and is considered invaluable to the city in their efforts to untangle complex agency issues.

Research Question 4

Do external stakeholders impact the development of the performance measures? If yes, what is the role of the PerformanceStat program?

The respondents indicated there are three primary stakeholders who impact the city's performance measurement process, including Baltimore's citizens, the City Council, and the State of Maryland (see Table 6). Each stakeholder has a different role in the measurement process. The CitiStat team plays a slightly different role in each stakeholder interaction, including analyst, facilitator, and problem solver. However, the analyst is a performance analyst and facilitator for interactions with all stakeholders. The various roles played by the analyst affirm the diversity of skills required with the CitiStat team. Each of these stakeholders will be discussed.

The Citizens

The respondents indicated the citizens of Baltimore are key stakeholders in the measurement process. Since the citizens are taxpayers and recipients of city services, their needs are drivers in the city's measurement process. The CitiStat analysts are therefore significantly involved in measuring and understanding the citizens' needs and aligning those

needs to the current performance of the agencies. Given these responsibilities, the CitiStat analyst can be considered a performance manager within his or her relationship with the citizens and the agency.

Table 6

Stakeholder and CitiStat Relationships

Stakeholder	Stakeholder Role in Performance Measurement	CitiStat Role
Citizen	Drives performance targets	Performance Manager Performance Analyst Facilitator
State of Maryland	Holds requirements for funding	Technician Performance Analyst Facilitator
City Council	Direct link to citizen	Problem Solver Performance Analyst Facilitator

Moreover, the CitiStat analyst manages performance by analyzing and applying a sizeable amount of data within the city’s 311 customer-relationship management tool. The 311 system consists of 90 employees in a call-center environment, who receive approximately 3,000 non-emergency phone calls a day. Each call, if needed, is transcribed into a service request and communicated to the appropriate agency. Additionally, citizens can enter a service request through an app on a smart phone.

In order to establish standard communication to the citizen, each of the 400 different types of service requests in the 311 system utilize operating procedures developed by the appropriate agency. The procedures allow the 311 staff and agency to communicate consistently back to the customer. The 311 system also collects data from each service request, which is utilized by all agencies, including CitiStat.

The 311 system serves as the voice as of the citizen as explained by the Assistant Solid Waste Director:

I go to a lot of community meetings, but the most powerful voice is the 311 system, which is a voice itself. When you look at the 311 report and the number of service requests, its immediately obvious to you what the citizens are calling about and what their concerns are and what their problems are, so you respond accordingly. It's one of the biggest drivers.

Figure 3 is an example of a CitiTrack report from the Bureau of Solid Waste. The CitiStat team analyzes specific agency data such as citizen complaints, time to clean graffiti removal, and missed trash collections. The analysis is primarily utilized in CitiStat meeting with the agencies.

The City Council

The City Council members are elected from fourteen districts, with the president elected at-large. The Council's key responsibilities are as follows, a) act only by ordinance, resolution or motion, b) adopt and alter the annual budget, c) confirm the Mayor's appointments and, d) appropriate and issue bonds (City of Baltimore, 2012).

The City Council is not involved in the CitiStat program. However, given the strong mayor form of government, the Council often serves as representatives of the citizens. City Council members will then become liaisons between the citizens and the City of Baltimore. When services are needed or not completed in a timely manner, a citizen may contact his or

Clean Stat Statistical Report
From Jun 18, 2011 To Jul 1, 2011

Department Description	Group Description	Short Description	Total	Created	Open	Open %	OpenTime	Overdue	Overdue %	Closed	Closed %	ClosedTime	ClosedonTime %	
Bureau of Solid Waste	Bureau of Solid Waste	SW-Citizen Complaint of Employees	96	77	15	15.6%	2.5	0	0	81	84.4%	4.3	98.8%	
		SW-Compliment of Employee	4	1	0	0	0	0	0	4	100.0%	10.8	100.0%	
		SW-DPW Calendar Request	10	10	2	20.0%	3.0	0	0	8	80.0%	3.2	62.5%	
		SW-Recycling Miscellaneous	2	2	1	50.0%	10.0	1	100.0%	1	50.0%	1.0	100.0%	
		SW-Survey/Escalation	39	38	2	5.1%	1.5	0	0	37	94.9%	1.9	56.8%	
	Bureau of Solid Waste			151	128	20	13.2%	4.3	1	5.0%	131	86.8%	4.2	84.7%
	SW-Property Management	SW-Boarding	355	252	108	30.4%	3.7	15	13.9%	247	69.6%	6.6	40.9%	
		SW-Cleaning	6,346	3,656	4,166	65.6%	551.2	596	14.3%	2,180	34.4%	108.6	11.9%	
		SW-Fire Debris Removal	10	9	1	10.0%	13.0	1	100.0%	9	90.0%	5.0	88.9%	
		SW-HGW	3,021	923	2,316	76.7%	21.5	554	23.9%	705	23.3%	29.5	42.7%	
		SW-Rat Rubout	647	434	210	32.5%	3.5	0	0	437	67.5%	4.9	98.2%	
		SW-Rat Rubout - Proactive	770	765	0	0	0	0	0	770	100.0%	0.0	100.0%	
		SW-SIU Clean Up	78	57	16	20.5%	1.4	0	0	62	79.5%	5.2	83.9%	
	SW-Property Management			11,227	6,096	6,817	60.7%	99.1	1,166	17.1%	4,410	39.3%	22.8	43.5%
	SW-Routine Services	SW-Corner Can Collection	48	50	1	2.1%	2.0	1	100.0%	47	97.9%	0.6	51.1%	
		SW-Mechanical Sweeping	20	20	2	10.0%	1.0	0	0	18	90.0%	1.5	83.3%	
		SW-Mixed Refuse	325	309	26	8.0%	1.0	0	0	299	92.0%	0.6	45.8%	
		SW-Recycling	168	151	15	8.9%	1.3	3	20.0%	153	91.1%	0.8	39.9%	
		SW-Trash Can/Recycling Container Complaint	32	29	3	9.4%	1.3	1	33.3%	29	90.6%	1.4	44.8%	
	SW-Routine Services			593	559	47	7.9%	1.3	5	10.6%	546	92.1%	1.0	45.8%
	SW-Special Services	SW-BCPSS Graffiti Removal	3	1	0	0	0	0	0	3	100.0%	2.7	66.7%	
		SW-BCPSS Hokey Bags	5	3	2	40.0%	2.5	1	50.0%	3	60.0%	3.0	33.3%	
		SW-BCPSS Recycling	5	4	0	0	0	0	0	5	100.0%	1.8	80.0%	
		SW-Bag Pickup	363	359	24	6.6%	1.0	0	0	339	93.4%	1.2	87.6%	
		SW-Bulk-Missed	14	14	0	0	0	0	0	14	100.0%	1.8	7.1%	
		SW-Bulk-Special Pickup	122	110	5	4.1%	1.0	0	0	117	95.9%	1.9	65.0%	
		SW-Corner Can Request/Removal	9	8	2	22.2%	4.5	1	50.0%	7	77.8%	3.6	85.7%	
SW-Dirty Alley		1,072	928	149	13.9%	3.0	0	0	923	86.1%	4.6	97.4%		
SW-Dirty Street	716	678	28	3.9%	1.5	1	3.6%	688	96.1%	1.8	97.7%			

Figure 3. CleanStat statistical report.

her councilperson. The councilperson may contact the agency directly or the CitiStat team to investigate and solve a specific issue. The CitiStat team states:

They will come to us and ask us for data or analysis. We are happy to provide. They influence strategic planning and performance measurement by introducing and passing legislation/changing law or raising awareness of a certain issue. They are an “informal feedback aggregator.” They supplement the feedback loop with customer. Therefore, the CitiStat analyst is often viewed as a problem solver for the Council.

The councilperson relies upon the analyst to use his or her analytical abilities to investigate and solve the citizen issues which are brought to his or her attention. In most cases, the analysts must also be a facilitator between the agency and the City Council and play the role of problem solver as well.

An example of the how CitiStat interacts with the City Council is through Baseline Service Agreements for Community Benefits Districts (CBDs). CBDs are districts or neighborhoods where residents have agreed to receive added services by paying for an increased level of taxes from their current level. Each CBD has a Baseline Services Agreement with the city that establishes the current level of services for the district or neighborhood. The City Council will ask the CitiStat team to coordinate updates to the agreement by gathering the appropriate agencies and identifying the current level of services for the district or neighborhood. Since CitiStat has a pulse on the services provided by agencies and performance measurement expertise, the City Council can use CitiStat to improve the accuracy of the agreement in a timely manner.

The Parks and Recreation Director stated:

They (City Council) are reps for the people so when the people are not getting action on something (i.e., SR) they will call their councilperson and they call the agency and expects that because of the council person that it will get done quicker. And it's good. That is way the system should work as we are accountable to the constituents.

However, there are cases when the City Council asks an agency to complete a service and the resources have not been allocated. Although the agency conducts the work, resources were reallocated from other higher-priority needs. The Parks and Recreation Director explains:

If my Forestry division only has the resources to deal with hazardous trees, trees that could fall down or have branches falling off—because they are dead or leaning, we prioritize their work only to mitigate hazardous trees to increase safety. Yet the phone is ringing off the hook from councilperson asking us to prune this tree or that and we end up working on stuff that is not hazard mitigation. That's bad.

State Government

The state agencies are also key stakeholders to the City of Baltimore. The CitiStat analysts play a key role between the city agency and the State of Maryland. Specifically, the analyst will help the agency develop technical tools in support of the city's effort to meet state requirements for grant funding. Additionally, it is quite clear that CitiStat analysts are relied upon to bring external, facilitator, and performance expertise to the state and city-agency relationship.

For example, various homes in Baltimore which meet state requirements for lead may be eligible for state funding. However, the processes that connect the entities are often disconnected and misaligned, producing bottlenecks. The CitiStat analyst will provide analytical tools and process maps to help the Housing agency align to and negotiate with the state regarding funding. Specifically, the analyst developed a tool to help the Housing agency sort lead abatement cases by progress to determine which state-required documents were missing. The tool also allowed the agency to see which required documents were the most difficult to obtain (see Appendix D – Lead Abatement Tool).

As demonstrated, the CitiStat program and team play an important and mediating role between the city and their key stakeholders. Moreover, CitiStat's centralized pool of analysts provides the city with an increased level of analytics and performance measurement support to address concerns from key stakeholders in a timely manner.

Research Question 5

Does a PerformanceStat program help a government agency utilize performance information appropriately? If yes, how?

Performance data is created in many different ways, which produces at times an overabundance of information. Therefore, it is critical that organizations understand how to use available data as efficiently as possible. If performance information is utilized inefficiently, valuable resources are wasted, and data to help the organization succeed may not be used. The respondents indicated the CitiStat program is a major provider of performance data for the city and agencies. However, the value of the CitiStat program is the analysts' ability to use their analytical skills and craft performance information to the agencies' needs. Therefore, the analyst's role in helping agencies with performance information varies from agency to agency.

The researcher identified the various applications of how performance information is employed at the City of Baltimore. Specifically, the respondents indicated performance information is utilized in the following manner: budgeting, accountability, steering and controlling, learning and discovery, building confidence and motivation. Each use of information is discussed as well as the role of CitiStat program and analyst. However, an overview is provided to demonstrate the use of performance information as it relates to hard and soft measures and their impact to the City of Baltimore.

Performance Information Utilization – Overview

Performance information is developed as a result of soft and hard measures. Soft measures imply that the user will implement a stronger degree of judgment, dialogue, and interpretation for final decision-making. For example, a benchmarking exercise is an example of a soft measure. Conversely, hard use implies a tighter coupling between performance information and judgment such as a performance contract. Van Dooren and colleagues (2010) indicate that hard measures have a higher impact on decision-making since the measure and the decision have a 1:1 relationship. However, soft measures are less threatening as the measure and decision are loosely coupled.

The five methods by which the respondents indicated performance information is utilized at the City of Baltimore are illustrated. Figure 4 illustrates the perspective of the researcher while using the performance measurement theory from Van Dooren et al. (2010), which highlights the direct relationship between the type of measure and the impact on decision-making. The harder the measure, the increased impact the measure will have on decision-making. For example, CitiStat's primary method of helping agencies is through steering and controlling. Steering and controlling is the fundamental CitiStat process of continually identifying outliers within the agency's data and conducting root-cause analysis to correct the issues. Figure 4 indicates that CitiStat is making a more significant impact on decision-making when the analyst is utilizing steering and controlling or accountability methods. Moreover, utilizing performance information from the perspective of discovery, motivation and confidence, or budgeting may be of value but may not have the degree of impact on decision-making when compared to accountability or steering and controlling.

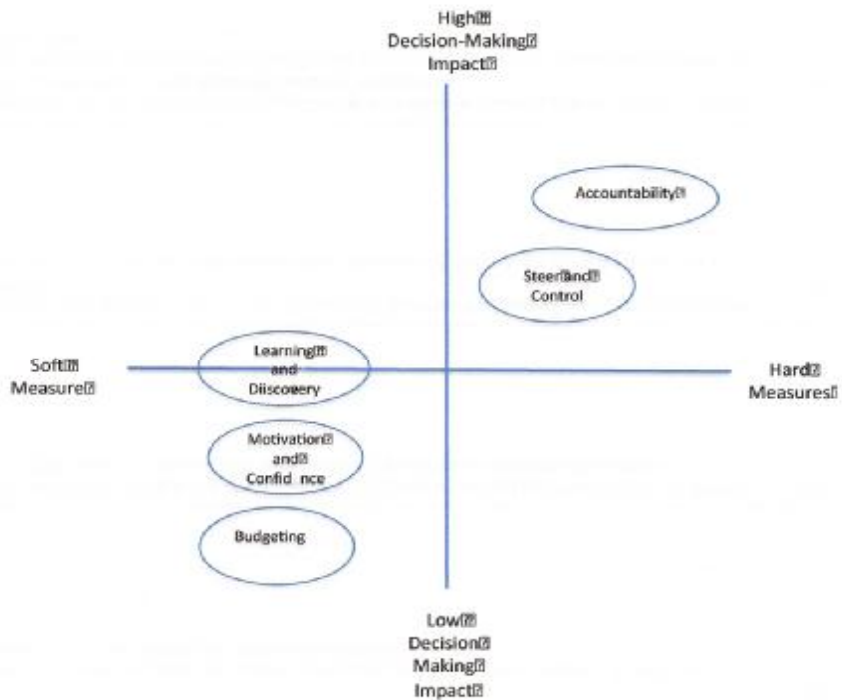


Figure 4. City of Baltimore performance information utilization.

Performance Information for Budgeting

The City of Baltimore’s budget program is called Outcome Budgeting. The Outcome Budgeting process (see Figure 5) starts with the mayor, city council and the citizens establishing the priorities of the city. The Budget Department then determines the available financial resources for the budget. Additionally, a Results Team consisting of agencies, community organizations, and citizens, provides input into the agencies and ranks the budget proposals, which are used by the mayor for final budget decisions.

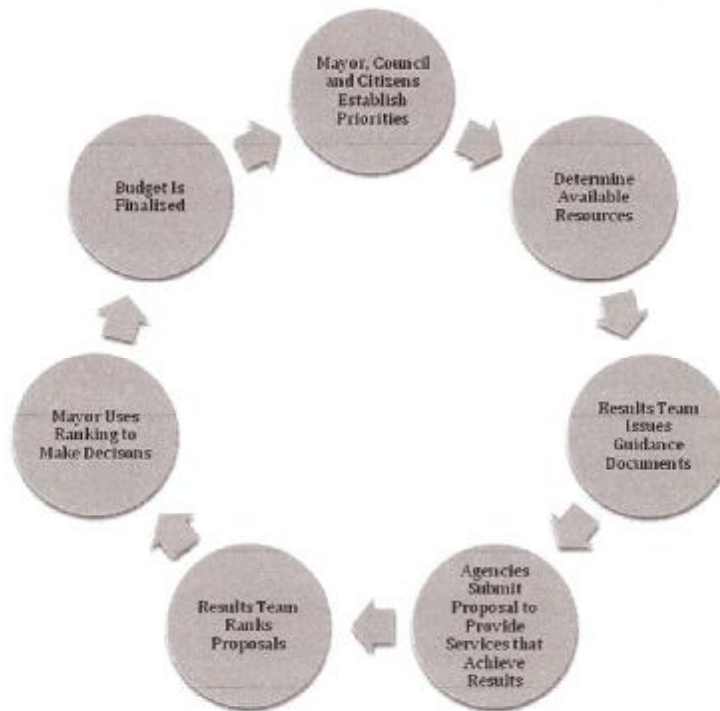


Figure 5. City of Baltimore priority outcome program.

The CitiStat analyst may be a member of a Results Team and provide background information regarding agency performance in the proposal and decision-making processes. The analyst may also provide agency performance data as needed.

If the analyst is not part the Results Team, the team can obtain performance information directly from the repository of data created by the CitiStat program. In theory, the association between the budget and CitiStat is that the city will invest only in services that are being delivered efficiently and defer or eliminate investments in less efficient services.

The Budget Director emphasizes the relationship between CitiStat and the city budget process: “In the long term, if you want to improve performance you have to invest and you want to be able to identify where we are being inefficient – and CitiStat can help with that.”

Additionally, increased investment in more efficient operations increases the likelihood of further performance improvement.

The Department of Transportation Director explains that the agency must show productivity to receive budgeting:

The City has set its budget—Outcome Budgeting—that is based on goal—those goals are based on measures—which are based performance. So in order for you to budget a specific service, you have to explain your productivity and how good you do the work.

Therefore, CitiStat program offers a history of agency performance data, which can be utilized for budgeting purposes. However, the researcher did not see a process to integrate the CitiStat program or analysts into the budget process. CitiStat's vast amount of performance data may be underutilized for budgetary purposes. From this perspective, the City of Baltimore follows the research outlined in the literature (Joyce, 1993) which highlighted how little performance information was used for budgeting.

Steering and Controlling

In addition to making performance information available for budgeting, the CitiStat analyst helps agencies improve performance by identifying defects in a process or department. Once the defects are identified, the analyst will conduct root-cause analysis to determine why the defect or trend of defects occurred. The analyst will then put corrective actions in place to resolve the root cause. The process continues throughout the CitiStat process and is fundamental to the tenets of CitiStat, which stress rapid deployment and relentless follow-up.

An example of how performance information is used for steering and controlling occurred within TransportationStat. The CitiStat analyst identified a significant increase in

the number of vehicles booted. A vehicle becomes “boot eligible” when the citizen’s car has received three or more unpaid parking citations. As Figure 6 illustrates, the number of vehicles booted in the City of Baltimore increased from 210 during the week October 12, 2012 to 547 the following week.

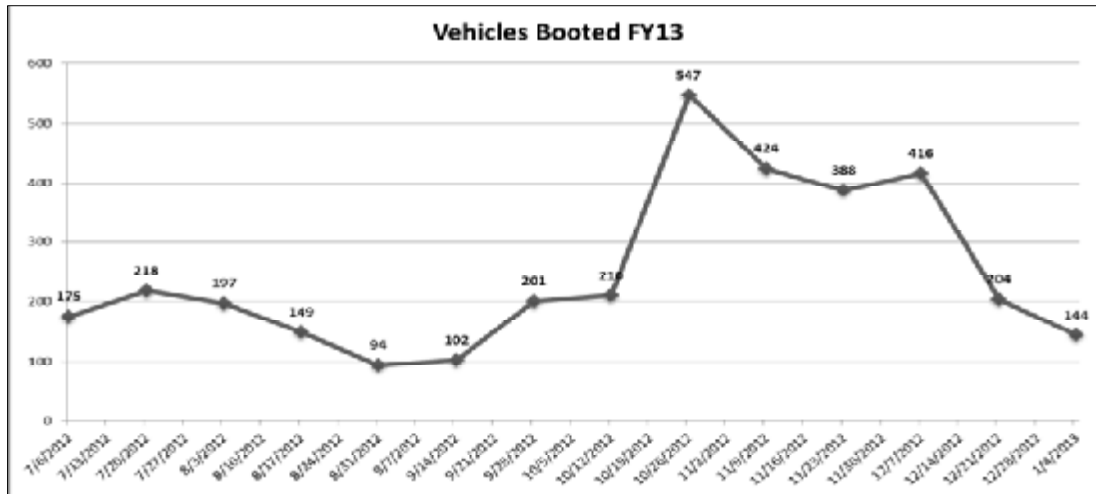


Figure 6. Vehicles booted by the City of Baltimore, FY13.

The CitiStat analyst identified the outlier and partnered with the Department of Transportation to identify the root cause. The analysis highlighted that the contract with vendor who mails the booting notices had expired. Therefore, the scofflaw list, which identifies the vehicles that are eligible for booting, was not updated. When the city contracted a new vendor for booting, the number of vehicles booted increased as the new vendor caught up with the backlog. Since the increase, the number of vehicles booted has leveled off. In analyzing the performance, the CitiStat analyst worked with the Department of Transportation to ensure there are no future lapses in contacts. Lapses in contracts and increases in booted vehicles can cause staff overtime.

The example illustrates how the CitiStat analyst can help agencies utilize performance information to identify a root cause and take correction action. This approach is fundamental to a CitiStat analyst and frequently relieves agencies from conducting this analysis.

Learning and Discovery

The City of Baltimore provides services to more than 620,000 residents throughout 80 square miles of land and 11 square miles of water. The City of Baltimore is also the second largest seaport in the Mid-Atlantic United States and the 24th largest city the country. Given the dynamics of Baltimore and the relentless focus on serving the citizens, the CitiStat program is continually using performance information to learn and discover various attributes of their city and new ways to deliver services more efficiently and effectively. Moreover, the CitiStat team and city leadership simply want more from their data than numbers or results—they want data and information to tell them a story. As the Recycling Director from the Bureau of Solid Waste explains:

I use performance data to help me discover and to tell me a story. I want the data to give me new insight into what I did not know so you can evaluate, enhance performance and accountability, and control performance.

For example, the Property Management Division within the Bureau of Solid Waste has the responsibility to mow the grass for two types of properties: properties in-use and abandoned properties (when not mowed by the owner). Frequently, the city mows the abandoned properties after a citizen calls the 311 system to complain about high grass in a specific field.

By conducting detailed analysis, the CitiStat team and Property Management Division learned that abandoned-property mowing requests spiked in the spring. The

analysis indicated these abandoned properties were located in smaller, concentrated spots of Baltimore (see Appendix E – Proactive Lots Map). Therefore, the city changed from being reactive to citizen requests to implementing a proactive mowing schedule, which mowed the abandoned grass at regularly scheduled times. Additionally, the city divided the abandoned lots and adjusted the mowing schedule to the different types of mowing required – industrial level versus regular mowing. This allowed the division to implement the mowing schedule with increased efficiency.

The example illustrates how the CitiStat team helps agencies utilize performance information to learn and discover more about their city and the best ways to increase citizen satisfaction. Moreover, the analyst helped the agency learn that performance information is more than numbers and data—it can also be a visual aid such as geographical mapping.

Although the CitiStat team helps the agency discover and learn more about their city and new methods that can be used to improve, the researcher notes that CitiStat has an opportunity to educate their agencies. Specifically, it was unclear whether the CitiStat team instructs agencies how to learn and discover on their own. Moreover, increasing the education of the agencies will exponentially increase the performance improvement efforts of the city.

Accountability

Accountability is a natural by-product of the CitiStat process. The agency directors who stand before the CitiStat panel and city leadership are accountable for the results of their agency. The CitiStat Director explains:

That room is a lot about learning what is going on....accountability will come from the learning process, so we ask dumb questions (during CitiStat meetings). If we ask

those dumb questions and they can answer intelligently, then we know they are on top of their organization.

In addition to the accountability reflected in the CitiStat meetings, performance information is also utilized to increase accountability of city employees. In the following example, agency information is not utilized to compare performance, but more specifically, to trace information to the city employee responsible for a parking violation.

A city employees may receive a parking violation while utilizing city vehicles. The violations are sent to the appropriate agencies. However, agencies do not have the information available to identify which city employee was driving the vehicle when the citation was issued. The CitiStat department analyzed the data and process and developed the appropriate procedures so parking violations could be traced to the city employees, who were then held responsible for paying the fine. Performance information is used to hold individuals accountable and relieve the taxpayer from paying for the parking violations. The example illustrates how CitiStat can align performance information to the needs of the agency and hold employees accountable for their action.

Conversely, the example also shows how CitiStat can help agencies utilize performance information to promote potentially ineffective management practices. The researcher questions the long-term organizational effectiveness of identifying employees who have not paid their parking fine. Is there a better way to keep employees from getting parking fines? Would it be better to fix the process first, rather than single out employees who received a fine? Although these answers were not the focus of this research, the caveat for CitiStat is the prospect of promoting ineffective management practices in their efforts to help agencies utilize performance information.

Motivation and Confidence

One of the priorities of the City of Baltimore is to provide a high degree of transparency and communication to citizens. The City of Baltimore provides citizens with opportunities to see the level of efficiency at which services are delivered. With this transparency, citizens can provide feedback on the effectiveness of services in relation to the tax dollars being spent. In many circumstances, the feedback highlights the negative rather than the positive. The 311 Director said, “people don’t give you a positive feedback, they tend to give you things that slipped through the cracks.”

Therefore, city leaders expressed the importance of using performance information to provide confidence to employees that their countless hours of service are working and appreciated. The 311 Director explains,

We can see that the agency is out there (when it’s cold) doing a good job and this (performance information) builds confidence in that. This gives us numbers to show that they are doing good work and the numbers show it.

Additionally, the performance information and full transparency of the data also builds confidence from the perspective of the customer. Customers can see the city is doing a good job, although they may not explicitly communicate the positive feedback as often as negative feedback.

It was also evident throughout the interviews that performance information is utilized to motivate employees and develop a sense of competition. At the agency level, performance information is used to evaluate how employees are performing against each other. This transparency provides an increased level of motivation to perform at the highest level. The Department of Transportation director stated, “people understand that employees know what they are measured on and they compete against each other. We have separate crews and we

can see which one is going to do more potholes than the other one.” Additionally, the DOT’s Employee of the Month program provides an opportunity for performance information to motivate. The DOT Director said,

You can look at the guys that are not performing and say—guess what, guys—something needs to be done. If the person first doesn’t care, doesn’t care to be embarrassed, don’t care that everyone knows he is underperforming, then there are other measures you have to take.

Research Question 6

How does the PerformanceStat program manage capacity issues while implementing the program?

The CitiStat program facilitates 12 stat programs each year. Each stat program involves up to seven participating agencies, panel agencies, and the city’s leadership. Moreover, each stat program meets monthly for a formal meeting, in addition to many informal meetings. As a result, the CitiStat program, which is led by a small five-person CitiStat, requires an extensive amount of resources, time, and commitment from all city agencies.

The researcher did not find any formula by which the CitiStat team facilitates the organization-wide program. But rather, the team seems to have pulled out several characteristics of organizational design to increase the capacity of the City of Baltimore to implement and integrate the program into the core responsibilities of the agencies. Specifically, the program emphasizes, (a) a consistent, repeatable and integrated CitiStat approach, and (b) a centralized team and program structure.

A Repeatable and Integrated CitiStat Approach

The CitiStat approach is on a continuous cycle of three phases: pre-meeting analysis, the CitiStat meeting, and the post-meeting follow-up (see Figure 7). The cycle is repeated each month for all 12 CitiStat programs. This repeatable cycle allows the city's agencies to align their responsibilities and functions to the CitiStat cycle without guessing, month-to-month, how many resources will be absorbed by the CitiStat program. This predictable cycle increases the capacity of the agency to devote resources to the CitiStat program. It also allows the CitiStat team to repeat the CitiStat program throughout all major agencies, improving the cycle as appropriate. The following is a more detailed description of the cycle, which is reproduced for each month for all 12 stat programs. Additionally, the FireStat program is presented as an example.

The pre-meeting analysis. During the pre-meeting analysis phase the CitiStat analyst sends a pre-populated template (Excel file) outlining the needed data to the agency. Once completed, the agency sends the template back to the analyst. A summary of the analysis is compiled in a memo and sent to the City of Baltimore's leadership one day prior to the monthly CitiStat meeting. This process is repeated for all CitiStat programs each month.

The CitiStat analysts adds:

We work through this by prioritization. We talk to the departments and set deadlines with dates, sometimes months in advance. We set hard deadlines. Each agency has one person whose main task is reporting to us. We pick six issues that we dedicate our main issues to—so we prioritize the template.

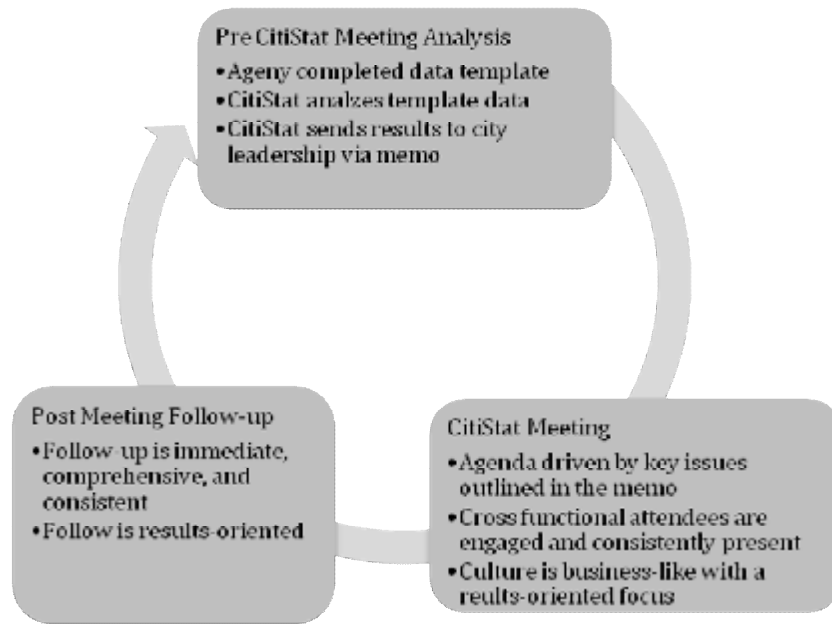


Figure 7. CitiStat meeting cycle

An illustration of the pre-meeting phase, memo, and template is best demonstrated in Baltimore’s FireStat program. The CitiStat analyst sent the template (see Appendix F – Pre-Meeting Template) to the Emergency Medical Services agency on November 30, 2012. The template requested information such as pedestrian accidents, at-hospital times, and EMS billing data. CitiStat received the data from the agency and summarized the information in preparation for the upcoming CitiStat meeting on December 13, 2012.

Sending the template to the agency and requiring the agency to collect data helps the agency learn more about their operations and take measures to improve the efficiency of their operations. Therefore, the CitiStat process is integrated into the operations of the agency and increases their capacity to participate in CitiStat.

A member of the CitiStat team said:

We will come in and provide them a template so they can capture the data needed. This allows us to assess the problem more clearly. We help them build capacity. Ideally, they are using the data as a tool rather than doing it for CitiStat. We should be able to ask them at any point to give us a snapshot as to where they are as it relates to their goals. Then the departments are using the data to run their shops better. Ideally they should identify the problem before the CitiStat team does—therefore, we help them develop capacity to address their own issues. (CitiStat team)

One day prior to the CitiStat meeting, a comprehensive memo to the city leadership is sent that contains graphs, maps, pictures, trends and summaries of the most recent data relevant to the primary issues of the agency. The memo also contains the status of follow-up issues that were identified in the last CitiStat meeting, adhering to the CitiStat tenet of “relentless follow-up.” Within the EMS example, the leadership memo was sent on December 12 (see Appendix G – Pre-Meeting Memo) in preparation for the December 13, 2012 CitiStat meeting.

Monthly CitiStat meetings—productive and symbolic. The monthly CitiStat meetings are between one and two hours in length. The meetings are held on the fifth floor of Baltimore’s City Hall, which has been re-constructed for the purpose of the CitiStat program (see Figure 8). The room is designed to have a laser-like focus on the podium, where the agency leadership presents and fields questions from the panel. The room contains three tables in a U-shaped format. Two large projector screens sit beyond the podium facing the panel. The control booth is occupied by the CitiStat analyst, who administers two projectors that display data, maps, and pictures.

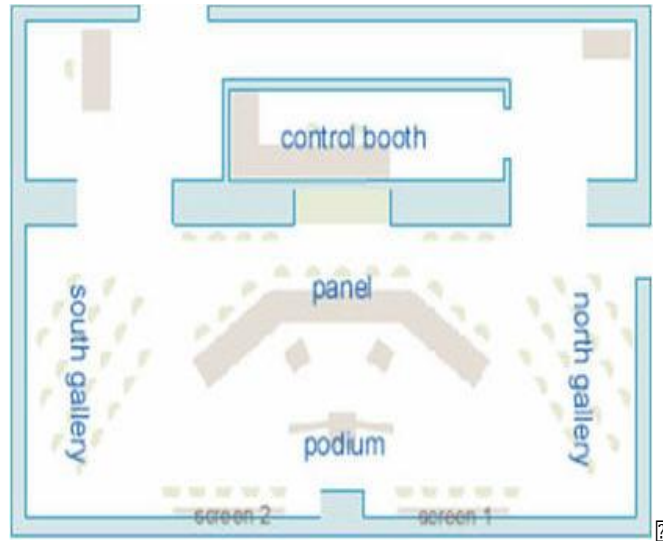


Figure 8. CitiStat meeting room.

The meeting room is constructed effectively. The meetings are business-like and productive. The researcher identified during the four CitiStat meetings that he attended that all gallery seats were full, indicating the attendance of approximately 50 additional observers. The structure of the room and the standing-room-only appearance depicted the CitiStat meeting as an important event that was not only attended by the Mayor, but also controlled by the Mayor with the assistance of the CitiStat director. From the researcher's perspective, the room setting symbolizes the importance of CitiStat and how CitiStat is part of the City of Baltimore operations. This symbolism is interpreted by attendees at all 120 CitiStat meeting each year, increasing its value and influencing agency leaders to integrate CitiStat into the their operations.

Post-meeting follow-up. The post-meeting follow-up phase begins immediately after the CitiStat meeting with a memo to the agency director. The memo outlines the agency's required actions that were identified in the CitiStat meeting. The memo provides the date on

which the written responses are due to CitiStat. The date of the next CitiStat meeting is also identified, which highlights that follow-up actions should be complete by the next meeting. An example of a post-meeting follow-up memo for FireStat is shown in Appendix H. The follow-up process is consistent month after month. The agencies can integrate their follow-up responsibilities into their operations and increase their capacity to participate in the CitiStat program.

A centralized CitiStat team. The CitiStat team serves as the engine behind the operations of the City of Baltimore. The team consists of one director, three analysts, and one investigator. The team is centralized as they work collaboratively as one unit, sitting in one office area at Baltimore's City Hall. The centralization of the team helps deliver the CitiStat program consistently. Moreover, best practices can be shared as team members learn from each other. Team members can share skills and experiences through discussions and informal mechanisms. The advanced learning can increase the efficiency and effectiveness of delivering CitiStat to the agencies.

This structure of the CitiStat team can be compared to other process improvement programs such as Six Sigma. Six Sigma is a disciplined use of facts, data, and statistical analysis, with diligent attention to managing, improving, and reinventing business processes (Pande, Neuman & Cavanaugh, 2000). Six Sigma programs are traditionally deployed by selected employees who are formally trained in statistics and process improvement techniques. Selected trainees may obtain three levels of training and certification, including a Green Belt, Black Belt or Master Black Belt. The training is extensive and time-consuming. Moreover, the selected employees have the full-time responsibility of improving processes; however, in many cases this responsibility is added to their current role. A Six

Sigma program is deployed with a series of projects, each lasting 3-8 months before improvements are realized. “Belts” are then deployed to facilitate process improvements throughout the organization.

A Six Sigma program is normally decentralized throughout the organization and there can be difficulty establishing a consistent process for deployment due to the varying degrees of experience, training, and statistical competency of the practitioners. Conversely, the core skills of CitiStat are centralized, and the process for deployment is repeatable and consistent. Each of these factors contributes to an increased level of efficiency when administering the CitiStat program, which increases the capacity of the agency to participate.

Research Question 7

What is the methodology to determine the costs and the benefits of the PerformanceStat program?

When Mayor Martin O’Malley transitioned to the governor of Maryland in 2007, he announced Baltimore’s CitiStat program produced \$350 million in savings from 1999 to 2007 (“O’Malley Hopes,” 2007). The savings allowed the city to reinvest in other city programs. The announcement was made as the Mayor was promoting the development of the state’s own program – StateStat. Since his announcement, Martin O’Malley has become governor, and the City of Baltimore has not captured savings data.

Respondents indicated a cost-benefit analysis is not captured because the program’s focus is broader than financial savings and is driven toward citizen satisfaction and producing more or higher-quality results with the same resources. Moreover, attempts to measure savings are often inaccurate and costly.

The CitiStat director indicated there are many benefits to increasing citizen satisfaction and keeping the same cost base, including keeping the city focused on the Mayor's overall goal of having 10,000 new families in Baltimore by 2020:

If we can spend the same amount of money and improve our customer service, that's an even better win than spending less and keeping the same level of customer service. It helps us keep focused. The Mayor's vision to bring 10,000 families here – so you have to keep people here first. Customer service and satisfaction is a huge part of keeping people here.

The CitiStat team acknowledges the objective is broader than financial savings. However, the team felt strongly that by improving the operations of the city, the financial savings are forthcoming in the long run. The analysts also affirmed the difficulty of quantifying the costs and benefits. The CitiStat analyst summarizes this perspective:

I will say that improving city operations results in savings which make the city more efficient and that they probably do result in savings. But those savings are difficult to quantify. I think efficiency drives savings so as long we get the agencies to run as efficiently as possible then somewhere down the line you will start to see savings.

The CitiStat director adds to the challenge of quantifying savings, indicating there are also additional internal benefits from the CitiStat program such increased awareness of agency performance levels.

I think the benefits far outweigh the costs—we may not be able to put dollar values on it for the most part, but in terms of customer service and confidence at least internally what we gain from knowing that we have a pulse on what the agencies are up to and that we have a consistent and routine process for addressing it, that has benefits that far outweigh the 300-400k that we spend on our salaries. We call it performance management but its really management—management. I don't know what we would do otherwise.

The researcher interprets that the CitiStat program does not quantify the costs and benefits to the program because CitiStat is fused in the operations of the city and is considered part of how the City of Baltimore delivers services. It should be noted that

CitiStat did not stop conducting a cost-benefit analysis on the program until 2007—eight years after the program started. Moreover, this is why the performance management scholar Bob Behn (2007) opined that CitiStat is a leadership strategy designed to achieve specific results. Therefore, the City of Baltimore’s focus for CitiStat is to improve and maintain citizen satisfaction with the same or fewer resources.

Research Question 8

Why do some agencies participate in the PerformanceStat program and why are others not involved?

Most city agencies participate directly in the CitiStat program. Participating agencies are chosen by the Mayor and her leadership team. These agencies provide services that are directly associated with the needs of the citizens. The Director of CitiStat explains: “The ones we have in there are the ones that we spend a lot of money on and are big and we need stay on top of them to steer them in the right direction.”

The City of Baltimore has 19 participating agencies; some agencies participate in more than one CitiStat program. For example, the Department of Transportation participates in DPWStat and TransportationStat. In addition to providing the majority of services to the citizens, participating agencies have a total operating budget of \$1.5 billion, which is 64% of the city’s \$2.3 billion budget (see Figure 9). Therefore, the CitiStat program is focused on a large portion of the operating budget. The Director of Transportation adds:

When you look at the way we do business, 60-70% of our business is operational. 70% of my budget is operational. An operational budget requires you to measure performance of the folks that are doing the work - people who fill the pot holes, do the sign work, write tickets on the streets, replacing the signs for us. Yes, you need to measure and track the productivity of these folks and how good and how fast and what is the baseline for that. And ask, how can we get better?

Participating Stat Agencies	Operating Budget	Stat Group
Department of Public Works	431,198,601	DPW Waste Water Stat
Baltimore Police Department	410,595,488	Gun Stat, Police Stat, Domestic Violence Stat
Fire Marshal's Office	206,914,415	Fire Stat
Department of Transportation	168,697,220	DPW CleanStat, TransportationStat
Health Department	124,592,311	DPW CleanStat, HealthStat
Department of Housing and Community Development	91,109,642	DPW CleanStat, HomeStat
General Services	72,587,127	General ServicesStat
Parks and Recreation Department	32,973,632	Parks and RecStat
Alcohol, Tobacco and Firearms		Gun Stat
Department of Parole and Probation		Domestic ViolenceStat
Information Technology and Communications		FireStat
Maryland State Police		GunStat
Mayor's Office of Criminal Justice		Domestic ViolenceStat
Mayor's Office of Baltimore City		Domestic ViolenceStat, GunStat
Office of the Attorney General		GunStat
State's Attorney Office		Domestic ViolenceStat, GunStat
The Department of Juvenile Services		GunStat
Emergency Medical Services		FireStat
Training Division and Administrative Services		FireStat
	▼ 1,538,668,436	
Panel Agencies		
Office of Information Technology	33,953,082	
Finance	33,514,218	
Human Resources	7,295,634	
Law	9,423,832	
Office of Labor Commission	784,381	
Non Participating Agencies	709,757,012	
Indirect	65,303,389	
CitiStat	900,562	
Total Budget	▼ 2,399,600,546	

Figure 9. City of Baltimore operating budget allocation by agency/Stat group.

Panel agencies support the CitiStat program by playing a key support role at each CitiStat meeting. Panel agencies sit on the wings of a U-shaped configuration in the CitiStat room, and represent Information Technology, Labor Commission, Human Resources, Legal and Finance. Panel agencies can provide the needed input to solve a problem. Many issues developed within the CitiStat programs are associated with panel agencies such as Legal or Human Resources. The CitiStat team explains that many bottlenecks happen with panel agencies: “We focus on areas where the citizens are directly involved (water, transportation, police, fire, rec and parks)...these involve the citizens. Often, however, a log jam comes from HR, IT.” At times, panel agencies can also offer an additional perspective given the representatives’ experience with the city.

For example, at a recent Parks and RecreationStat meeting, a panel agency, the Mayor’s Office of Information Technology (MOIT) provided input about the Parks and Recreation agency’s effort to implement an electronic data-management system called RecPro. Having the Parks and Recreation agency at the CitiStat meeting allowed participants to have a comprehensive discussion about the system’s implementation challenges and identify the needed changes going forward. The panel agencies receive a 4% share of the city’s budget, with an aggregate total of \$84,971,147.

Non-participating agencies consist of \$775,060,401 or 32% of the city’s budget. The largest non-participating agencies are the Baltimore Public Schools (\$239,301,128), Controller (\$23,372,060) and the Enoch Pratt Free Library (\$33,444,932). Arguably, these organizations are not as suitable for the CitiStat program as participating agencies. Many of the remaining items on the budget are line items expenses, including Debt Service

(\$91,685,095), Retiree Benefits (\$67,934,949) and a Conditional Purchase Agreement (\$29,926,727).

In summary, the CitiStat program is designed to improve the participating agency's operations. However, the holistic nature of the program promotes a culture of improvement throughout all city, increasing the accountability and level of performance of all agencies.

The Director of Human Resources, a panel agency, explains:

If done effectively CitiStat tiers down the organization with a level of accountability and readiness. If you are a supporting organization and never "stat-ed," the overall environment is one that you are ready to be "stat-ed." There is a degree of accountability that comes out of CitiStat, that moves from the core agencies to the support roles as it relates to the things we do in this particular city. So I think the impact is tremendous in terms what CitiStat means."

CHAPTER 5

CONCLUSIONS AND FUTURE RESEARCH

Conclusions

The purpose of this case study is to explore the impact of the CitiStat program on strategic planning, performance measurement, and utilization of performance information. The conclusions that follow are a collective reflection of what the researcher has learned as a result of this study.

The first two conclusions are benefits that CitiStat exhibits, including how CitiStat drives the city to focus on the citizen, and secondly, how CitiStat stimulates double-loop learning. Double-loop learning exists when organizational goals and values can be revised. The remaining conclusions involve the human resource elements of CitiStat. These are imperative to implement the program effectively. The first program conclusion is based on the selection and development of each team member to ensure they have a balance of analytics and collaboration skills. The final conclusion is that a successful program must have a leader who displays characteristics of a designer or builder and can see the value in connecting operational details with the city's long-term goals.

Focus on the Citizen

Osborne and Gabler (1992) articulated the notion that:

Waste in government is staggering, and we cannot get at it by wading through budgets and cutting line items. We must turn bureaucratic institutions into entrepreneurial institutions, ready to kill off obsolete initiatives, willing to do more with less, eager, to absorb new ideas. (p. 23)

Osborne and Gabler (1992) highlighted not only the need, but also the value, of creating an entrepreneurial government focused on delivering services to its citizens. A

government should define value by understanding the citizens' needs, and aligning organizational processes, structure, strategy, rewards, and people to these citizens' needs. If an element does not align to the citizen, it is considered waste or non-value added (Womack & Jones, 2005).

The citizen-driven government is analogous to the world-renowned Lean manufacturing philosophy created by Toyota. Lean thinking provides a way to do more with less—less human effort, equipment, time, and space—while coming closer to providing customers with exactly what they want (Womack & Jones, 1996).

Moreover, incorporating private sector principles, such as the Lean philosophy, into the public management thinking is emblematic of the New Public Management philosophy developed in the 1980s and illustrated in the literature review. New Public Management tactics as described by Denhardt (2000) encourages public managers to focus on the objectives of customers rather than on the opinions of citizens. Although the central idea of New Public Management is that government should disaggregate into smaller operating agencies that are linked to policymakers by performance contracts (Lynn & Hill, 2009), the managerial reform movement opened public management thinking to focus on ways in which public-sector organizations can utilize private sector principles.

CitiStat promotes the City of Baltimore's implementation of private sector principles and the New Public Management philosophy. The CitiStat program provides the structure, discipline, and organizational focus for the city to prioritize value-added tasks that support the citizen, while minimizing the remaining non-value added activities. Several findings illustrate this perspective.

At the macro level, the CitiStat program separates value from non-value added activities by the structure of the program. Agencies that deliver services directly to the citizens are chosen to participate in the program. These include the Police, Fire, and Solid Waste agencies, among others. Agencies that do not participate in the CitiStat program, such as Human Resources, Legal and Information Technology, play a supporting role and are referred to as panel agencies. Panel agencies provide input regarding the improvement of services to the citizen from their own agency's perspective. Structurally, the tenets of the CitiStat program are applied to the value-added agencies or participating agencies, which have the closest connection to the citizens.

Secondly, the Mayor's stated objective of attracting 10,000 families in 10 years establishes the overall goal for the city. In other words, the Mayor has defined "value" for the City of Baltimore as any activity that supports this long-term goal. This allows the City to then focus on its next level of priorities, such as safer streets and better schools. These are value-added since they are in direct support of the Mayor's goal. There is also a third level of activities such as the 12 stat sub-programs that are within the CitiStat program. Each program is value-added since it aligns to a value-added priority and ultimately to the Mayor's long-term goal.

In addition, CitiStat analysts play a significant role in performance measurement and have the ability to target and select measures that align to the overall goal of the Mayor. The analysts are an added filter to deselect non-value areas for measurement and select value-added areas that align to the strategic priorities and overall goal of 10,000 families by 2020. Therefore, CitiStat analysts are a mechanism to prioritize value-added operations and eliminate non-value-operations that do not warrant improvement.

As a result of this structure, CitiStat does not measure direct cost savings but rather, defines its success in terms of citizen satisfaction. It can be argued that not quantifying the cost savings leaves a gap in justifying the value of CitiStat. However, the researcher's perspective suggests that the design of CitiStat is more suited to improving citizen satisfaction rather than reducing costs. Quantifying costs absorbs time, resources, and energy and is often riddled with assumptions. Not only can this produce inaccuracies, but according to the CitiStat guidelines, those activities are not value-added since they do not help the City reach the goal of 10,000 new families by 2020. Moreover, many CitiStat benefits are not cost-savings related but rather are prudent investments produced through data-driven research. CitiStat is therefore most appropriate for a citizen-focused government.

CitiStat's focus on helping the City of Baltimore drive improvement through concepts such as the Lean philosophy add to the debate of New Public Management, which deliberates whether government and business organizations are similar. CitiStat should be considered an example of how New Public Management principles continue to be relevant to improving government performance.

Double-Loop Learning

As mentioned above, the research leads to the conclusion that the CitiStat program's structure increases the city's capacity to advance from a single-loop to a double-loop learning model. Single-loop learning occurs when an organization informs decision-makers of problems, and the problem is rectified based on that information. The present policies are carried forward and the present objectives are achieved. This type of learning is where systems involve a web of feedback loops that "make organizational assumptions and behavioral routines self-reinforcing – inhibiting 'detection and correction of error' and giving

rise to mistrust, defensiveness and self-fulfilling prophecy” (Argyris, 1985, p. 85). In other words, if individuals in an organization make use of single-loop learning, the organization itself can begin to function in ways that act against its long-term interests.

Double-loop learning also provides information regarding specific and isolated problems within the organization, but it goes a step further. It seeks the answer to the question of why the problem occurred in the first place. Double-loop learning looks at what parameters and assumptions are put in place. Then it allows for removal or change of these assumptions to prevent the issues from recurring. Double-loop learning occurs when an error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies, and objectives. Argyris (1982) argues that double-loop learning is necessary if practitioners and organizations are to make informed decisions in rapidly changing and often uncertain contexts. Double-loop learning helps the organization grow as a whole. Therefore, the whole workforce is engaged in rectifying the problem and optimizing the organization.

Argyris and Schön (1996) indicated that an individual’s espoused theory (desired theory) is typically to see themselves as rational, open, connected to others, and democratic. However, most managers do not exhibit the espoused theory but rather employ a self-protective model of interpersonal behavior in dealing with issues that are embarrassing or threatening—which is displayed in Model I theory-in-use (see Table 7)

Model I depicts an instance in which management is controlling and discouraging of thorough analysis. Instead, evaluations are made covertly and without transparency. Individuals are then protecting their own self-interests. This often leads to defensive relationships and limited freedom of choice. Bolman and Deal (1997) summarize Model I

Table 7

Organizational Learning Models

	Model I	Model II
Governing Values	Achieve the purpose as the actor defines Win, do not lose Suppress negative feeling Emphasize rationality	Valid information Free and informed choice Internal commitment
Primary Strategies	Control environment and task unilaterally Protect self and others unilaterally	Sharing control Participation in design and implementation of action
Usually Operationalized by	Unillustrated attributions and evaluations Advocating courses of action which discourage inquiry Treating one's own views as obviously correct Making covert attributions and evaluations	Attribution and evaluation illustrated with observable data Surfacing conflicting view Encouraging public testing of evaluations
Consequences include	Defensive relationships Low freedom of choice Reduced production of valid information	Minimally defensive relationships High freedom of choice Increased likelihood of double-loop learning

behavior with the following elements: (a) Problems are caused by the other person; (b) change the person who caused the problem; (c) if the accused refuses or defends, that proves they caused the problem; (d) if they resist, intensify the pressure, protect them (to avoid discomfort), or reject them; (e) if you don't succeed, it's their fault; you're not responsible.

The result of Model I behavior is wasted energy, strained relationships, and deterioration in

decision-making processes – which inhibits double-loop learning. Argyris (2010) notes Model I causes skilled incompetence, skilled unawareness, self-protective actions such as denial, and leads to an inability to discuss issues.

In contrast, the Model II profile promotes double-loop learning with openness by sharing control, common goals, and publicly testing assumptions and beliefs. Inquiry is conducted through the use of data and combined with advocacy. Moreover, conflicting views are allowed to surface and evaluations are tested in public. Model II asks managers to express openly what they think and feel. Its goal is to understand the thoughts and feelings of others (see Table 7).

The CitiStat program provides the methodology to help the City of Baltimore exhibit characteristics of a Model II organization and increase the opportunity for double-loop learning. Specifically, the CitiStat program aligns the agencies to the common goal of having 10,000 new families in Baltimore by 2020. CitiStat enables participating and non-participating agencies to improve operations, which supports Priority Outcomes and the Mayor's goals. In the absence of CitiStat, the infrastructure, which formally brings the agencies together to work on common goals, is non-existent. Therefore, organizations must rely on other less formal or less effective means for collaboration. For example, a typical CitiStat meeting is attended by the presenting agency with the Mayor or Chief of Staff, CitiStat Director, CitiStat analyst and panel agencies, including the following: Labor Commissioner, Legal Department, Mayor's Office of Information Technology, Human Resources, and Finance Department. This collection of agencies is working toward a common goal.

Moreover, CitiStat is driven by another principle of Model II: open communication. Each CitiStat meeting reaches beyond typical unilateral problem solving and employs multi-agency solution generation. This is evidenced by 64% of the city's operating budget being represented within these participating agencies. CitiStat is a forum for open communication among these agencies and non-participating agencies, as well. The involvement of non-participating agencies promotes open communication from Legal, Information Technology, Human Resources, Labor Commission, and Finance departments.

This broad range of departments and cross-functional structure aligns to Argyris' notion of participation in design and implementation of action (Argyris & Schön, 1996). CitiStat meetings are more than a discussion of performance gaps. These meetings produce action plans with the input of both participating and non-participating agencies.

Overall, CitiStat is a forum that surfaces conflicting views, which is central to double-loop learning. The CitiStat meetings produce differences of opinion with professional dialogue. These conflicting views are supported by fact-based information. This point distinguishes CitiStat from other organizational initiatives which may generate continuous meetings about performance issues but are not backed by facts that are needed for succinct decision-making.

CitiStat promotes double-loop learning with the purpose of continually using information to improve the performance of the organization. However, it is not the only method by which organizations attempt to use performance information to increase performance. As illustrated in the literature, the Balanced Scorecard is also one of the leading methods with similar data usage and intent. Table 8 compares the Balanced

Scorecard (Kaplan & Norton, 2000) with CitiStat in the three key elements of Model II double-loop learning model as identified by Bolman and Deal (1997).

Table 8

Comparison of Double-Loop Learning in Balanced Scorecard and CitiStat Models

Model II – Double Loop Learning	Balanced ScoreCard	CitiStat
Emphasize common goals	x	x
Communicate openly, and publicly test assumptions and beliefs		x
Combine advocacy with inquiry		x

Table 8 outlines that CitiStat and the Balanced Scorecard both emphasize a common goal. Specifically, the Balanced Scorecard allows for the mapping between strategic goals and specific operational targets. The Balanced Scorecard employs two characteristics that support the double-loop learning elements: it (a) clarifies and translates vision and strategy, and (b) plans, sets targets, and aligns strategic initiatives (Kaplan & Norton, 1996). As illustrated in this research, the CitiStat program also connects operational improvements with strategic goals. However, the Balanced Scorecard does not produce open communication or publicly test assumptions and beliefs. The Balanced Scorecard is specifically a tool for managing strategy (Kaplan & Norton, 2000). The act of open discussion and collectively developing an action plan is at the core of the CitiStat program, in contrast to the Balanced ScoreCard method.

Finally, the CitiStat structure allows agency leaders to ask for support from city leadership and other agency leaders. CitiStat does not minimize this activity but, importantly, requires the agency to ask for assistance and collaboration during the periodic CitiStat meetings. In turn, agencies have the opportunity to pose questions and discuss alternatives to help the agency in need. Conversely, the Balanced Scorecard does not have a mechanism to support other departments. Departments can visualize how their goals align to overall organizational goals, but the cross-functional support does not exist. CitiStat more effectively promotes double-loop learning by allowing for a consistent and routine procession of meetings to improve performance.

Analytics and Collaboration

The research also supports a third conclusion in which a blend of analytical and collaboration skills within a centralized CitiStat team is an essential critical-success factor for the CitiStat program. As illustrated in this research, the CitiStat responsibilities encompass the roles of facilitator, performance analyst, problem solver, performance manager, and technician. A CitiStat team is primarily responsible for facilitating the performance management process as illustrated in the literature review, where proper use of performance information is critical to the effectiveness of the CitiStat program.

Moynihan (2008) outlines the interactive dialogue theory, which provides a perspective into the array of responsibilities of a CitiStat team member. Specifically, Moynihan's theory illustrates that performance information is: (a) ambiguous, (b) subjective, (c) lacking in comprehensiveness, (d) not a guarantee that production of information will be used, and (e) impacted by institutional affiliations and individual beliefs. Therefore, each CitiStat team member must have analytical and collaboration skills to effectively utilize

performance information. This conclusion draws from Moynihan's dialogue theory and this study which identified the following CitiStat characteristics: (a) the need for the CitiStat team to increase its assistance on strategic initiatives, in addition to its operational focus; (b) the need for the CitiStat team to target areas for performance improvement; and (c) the broad usage of performance information. Each of these areas is discussed below.

CitiStat helps the City improve internal operations and reach strategic targets. This is illustrated in the responses, which indicated the City of Baltimore's strategic stance of an Analyzer—a blend between a focus on internal operations and strategic thinking. The CitiStat team is a driving force behind the City's focus on the internal operations and strategic thinking. Therefore, the team must understand the link between strategic planning, performance measurement, and how performance information should be utilized to reach strategic targets. Analysts must be able to help agencies analyze data, identify problems, develop solutions—and most importantly—align those solutions to help the city achieve goals such as having 10,000 new families by 2020. If the first three steps are completed and the fourth is not considered, single-loop learning exists, decreasing the probability of impacting strategic priorities.

The CitiStat analyst's role of helping the agency properly utilize performance information is made more difficult as agency personnel have different perspectives regarding the utilization of performance information. As Moynihan describes within the interactive dialogue theory, "Different actors can examine the same performance information and come up with competing arguments for what the information means" (Moynihan, 2008, p. 113). Therefore, a CitiStat analyst must be able to communicate and collaborate with agency personnel regarding the meaning of their performance information.

Secondly, analysts must identify target areas for measurement and select the appropriate measures. This process requires the team to discern which areas are operationally important and align to the strategic direction of the city. From the researcher's experience, it is not uncommon for an analyst to spend countless resources measuring and improving areas that are not strategically important to the organization. As an element of the interactive dialogue theory, Moynihan (2008) states, "Actors will select and interpret performance information consistent with institutional values and purposes" (p. 113). Therefore, the analyst must possess collaborative skills and work cross-functionally to identify areas of strategic importance. They must do this while the values between the CitiStat team and agency personnel are different.

The need to balance analytics and collaboration skills is also demonstrated in the findings that outline the broad range of how performance information is used at the City. A fundamental skill for a performance improvement specialist is the ability to help agencies control and steer. When the data illustrates an outlier, the analyst conducts root-cause analysis to steer the agency back on track. However, the findings suggest the City of Baltimore seeks to evolve from traditional problem solving and use performance information to explore, discover, and learn. Research findings indicate that agency leaders use data to discover and solve cross-agency problems such as mowing vacant lots through mapping technology. Analysts therefore are responsible for educating agencies to think beyond traditional problem solving and use performance information to discover solutions with long-term impacts.

In addition to having analytical skills, it is vitally important for the CitiStat team to problem solve through communication. Thomas Davenport's research reveals the

importance of making the most of data within organization. He identified five key skills in developing analytical capabilities within an organization. The skills included technology, statistical modeling and analytics, knowledge of the business, and communication and partnering skills (Davenport, Harris, DeLong & Jacobson, 2001). Communication and partners were listed as key drivers of effective utilization of data. Davenport and colleagues emphasized that if analysts and decision-makers cannot communicate with each other, “then the entire data-to-knowledge process is at risk” (p. 124) .

Performance management scholar Robert Behn concludes in his research that PerformanceStat organizations have evolved. PerformanceStat 1.0 was about operational effectiveness or conducting basic tasks in a timely and proper way. This evolved to PerformanceStat 2.0 that required managers and employers to rethink the design of their core functions and implement new ways of producing outputs. And now, PerformanceStat 3.0 is about collaboration, more specifically CollaborationStat. This new effort requires managers and employees of multiple agencies to figure out who needs to collaborate with whom to produce the desired outcomes. It is about assigning priorities to outcomes and then motivating everyone to figure out how best to achieve them (Bob Behn’s Performance Leadership Report, 2012).

CitiStat represents a PerformanceStat 3.0 organization since priorities have been established at the leadership level, and the CitiStat program assists in mobilizing the organization toward the strategic priorities. Therefore, CitiStat is the driver to utilize performance information to the fullest. This requires a team with an equal amount of analytical and collaboration skills.

In summary, the CitiStat team drives performance improvement through analytics. They are collaborators and problems solvers as much as they are statisticians. The current Director of CitiStat is a former schoolteacher, and the analysts are recent graduates with degrees in law, public health, and public policy. The most tenured analyst was a journalist before coming to CitiStat. The CitiStat Director stated the following in regard to the team:

Analytical ability is key but not hard skills like regression—more importantly, to be able to frame a problem or issue. Excel skills and hard tools will come. One analyst didn't know how to get an average in Excel when he started—but he has that hunger.

The balance between analytical and collaboration skills is required to frame problems and collaborate with the agency personnel to improve performance.

Structural Leadership

Successfully implementing the CitiStat program requires effective leadership. More specifically, there must be a leader(s) who can utilize the CitiStat program to propel the triangular connection among the city's operations, strategy, and the needs of the citizens. A leader or leadership of the CitiStat program is primarily related to the roles held by the Mayor or Chief of Staff, but can also align to the CitiStat director, agency director, or other city employees of the CitiStat program. Therefore, the leader ascribes to James MacGregor (1978), who wrote that leadership occurs

when a person with certain motives and purposes mobilizes, in competition or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers...in order to realize goals mutually held by leaders and followers. (p. 18)

Therefore, a leader could also be a manager, a viewpoint which is supported by an experienced public manager, Richard Haass. Haass (1994) indicates there is no distinction between leadership and management if one is to be effective.

The leader must possess the characteristics of a structural leader as defined by Bolman and Deal (1997). A structural leader is illustrated through Bolman and Deal’s leadership model which uses the following four categories: political, symbolic, human resource and structural. Each of these align to a four-frame perspective of an organization. Each frame then offers a distinct image of the organization and its leadership process.

An effective structural leader illustrates attributes of an analyst or architect (see Figure 10). A structural leader is comfortable “doing homework” and completing the cycle of experimenting, evaluating, and adapting. However, if a structural leader is a tyrant or manages by detail, it will result in ineffective outcomes.

Frame	Effective Leadership		Ineffective Leadership	
	Leader	Leadership Process	Leader	Leadership Process
Structural	Analyst, Architect	Analysis, Design	Petty Tyrant	Management by Detail and Fiat
Human Resource	Catalyst, Servant	Support, Empowerment	Weakling, Pushover	Abdication
Political	Advocate, Negotiator	Advocacy, Coalition Building	Con Artist, Hug	Manipulation, Fraud
Symbolic	Prophet, Poet	Inspiration, Framing, Experience	Fanatic, Fool	Mirage, Smoke and Mirrors

Figure 10. Leadership models (Bolman & Deal, 1997).

Although it would not have the impact of a structural leader, other leadership styles within the four-frame model are useful in making the CitiStat program successful. For example, a human resource leader displays the characteristics of a servant, while being supportive of others. An ineffective human resource leader is weak or considered a pushover. A political leader is a negotiator and exhibits strength in coalition building. And finally, a symbolic leader is inspirational and holds the characteristics of a poet or storyteller.

Leaders such as Martin Luther King and Ronald Reagan were symbolic leaders. Ronald Reagan was our greatest presidential storyteller.

The weighted emphasis on human relations, rather than on the performance-minded architect that is needed within a CitiStat program, is the risk involved in selecting a leadership style with characteristics of political, human resource, or symbolic leader. Although human relations theory outlines the value of concepts such as motivation, personal growth, job burnout, and stress, which became important in the mid-20th century, too much emphasis on this leadership style can reduce the effectiveness of the CitiStat program.

The researcher concludes that a structural leader is most appropriate for implementing the CitiStat program. A structural leader is not only an architect but also someone who can “rethink the relationship between structure, strategy, and environment” (Bolman & Deal, 1997, p. 307). An effective leader within CitiStat will integrate the program into the City’s operations and leverage its capability to the fullest. For example, a structural leader can understand the financial benefits of investing the appropriate resources to fix potholes within 48 hours and also, understand the relationship between fixing a pothole and having 10,000 more families join the city within 10 years. This clear understanding of the linkage between strategic planning, performance measurement, and utilization of performance information is critical. All of these are representative of a structural leader.

Overall, CitiStat meetings take place to discuss operational performance and to make important decisions. There are approximately 12 CitiStat meeting per month in the City of Baltimore. As the findings indicate, the Mayor is a significant contributor to the decision-making process at each meeting. The Mayor is involved in every discussion and decision, and must understand the operations of the city and be adept at identifying performance gaps

and appropriate levers to make the necessary improvements. If the Mayor must rely on staff to interpret and communicate the data, the decision process will be deferred. Deferred decisions counter the CitiStat program's tenets, which stress rapid deployment of resources with minimal delay.

In summary, a structural leader has the skills and background to critically assess the performance management cycle but should also have the foresight to adhere to characteristics of innovative public-sector organizations described by Linden (1990). Linden's research indicates innovative leaders have the ability to let go, and provide freedom, flexibility, and access to resources. PerformanceStat leadership should strive to develop a balance between leading the organization through the performance management cycle and providing PerformanceStat participants the freedom to identify and solve problems in their own manner.

Future Research

Five strands of future research have evolved from this study. First, the CitiStat program primarily impacts the city's operations, and, to a lesser degree, the strategic objectives of the Mayor. The research identifies that CitiStat has a significant impact on the strategic stance of the city, illustrating the versatility of CitiStat. Future research should examine how organizations can leverage this versatility and align the purpose of CitiStat to the strategic stance of the organization. PerformanceStat programs should not be a one-size-fits-all program; rather, a PerformanceStat program should align the team and program structure to a balance between operations and strategy, with the proportion contingent on the strategic stance of the organization. More specifically, future research should examine how a

PerformanceStat program should adjust and align to all four different types of strategic stances: Prospector, Defender, Analyzer and Reactor.

Secondly, future research should explore the application and success of a PerformanceStat program at various levels of government. Currently, the majority of PerformanceStat programs are implemented at the municipal level, with growing representation at the county and state level. Future research should examine this expansion and make use of the data generated by the current PerformanceStat programs. Researchers should specifically examine the PerformanceStat movement through the lens of organization theory and understand the effectiveness of PerformanceStat in relationship to variables such as level of government, leadership type, organizational culture, and the external environment.

Thirdly, future research should examine the application of PerformanceStat within the private sector. Currently, various types of programs are considered in the private sector. From this researcher's perspective, the majority of programs that have had the most significant impact are human-behavior related. Two prime examples of this are Myers-Briggs and Strengths Finder (Gallup) programs. However, operational improvement programs such as Lean and Six Sigma have had less traction because of implementation issues such as a slow deployment cycles and a reduced impact on performance. Therefore, future research should examine the application of PerformanceStat within the private sector and identify the application of its strengths, such as a repeatable implementation cycles and enterprise-wide application.

Fourth, an additional research opportunity should incorporate an independent assessment of the sample organization's processes and performance. As indicated in the Research Design chapter, the main source of data for this study was interview responses and

documents directly from the City of Baltimore. This study, therefore, represents an examination of how the key actors in the performance management cycle view and understand the role of the CitiStat program. However, an independent assessment can examine a sample organization's processes and performance levels to support and add to the findings developed from the respondents. For example, an independent assessment can evaluate and follow several performance issues within multiple stat programs for 6-12 months: from pre-meeting, to PerformanceStat meeting, to post-meeting follow-up. The research should focus on determining and examining the key PerformanceStat processes that drive the government agency's performance. The added data can be used in conjunction with the respondents' responses to gain an increased understanding of the PerformanceStat program's efficiency and effectiveness.

Finally, with the growth of PerformanceStat across the municipal and state government level, future research should address the application of these research findings and interpretations with other existing PerformanceStat programs. The intent of this research is to examine the impact of a PerformanceStat program on the performance management cycle, rather than to generalize the findings and interpretations to a broader set of organizations. Therefore, this research follows the guidelines from Bloomberg and Volpe (2008), who state, "the researcher's intent is to describe a particular context in depth, not to generalize to another context or population" (p. 69). Future research should add to this study by identifying and examining the elements of generalizability to determine its application to other existing PerformanceStat programs.

The potential variables of interest which should be considered are: (a) size of government, (b) government structure, and (c) environment. Specifically, the current

findings and interpretations were collected from a municipal government and may not be applicable at different levels of government, including the county, state, or federal level. For example, the CitiStat team structure is centralization, and the processes to implement the program are repeatable to reduce the capacity of the sub-agencies involved in the CitiStat program. This finding may not be generalizable to the county, state, or federal government levels since larger governments may require more analysts to implement the program. Therefore, it may be more difficult to centralize a larger group of CitiStat analysts, ultimately reducing the ability of a government agency to implement the program.. Therefore, the size of government should be examined when attempting to generalize these findings.

Additionally, the findings and interpretations within this research were collected within a strong mayor form of government and a weaker city council system. County and state governments do not have this type of government structure, which may impact the level the generalizability. Therefore, the finding that the CitiStat team helps the Mayor with performance measurement tasks for strategic initiatives may not be generalizable to other forms of governments. The agency or office responsible for developing and implementing strategic initiatives may be different in other forms of government, having their own analytics team to support such tasks. Therefore, the CitiStat department may have a different relationship with those departments in other forms of government.

Finally, the environment within the City of Baltimore may be different from that of other counties and states, therefore impacting how the CitiStat program affected the performance management cycle. Conditions such as laws, regulations, political systems, economics, and demographics should be examined in future research to determine the generalizability of these results. Specifically, the finding that the CitiStat program is

primarily focused on improving the operations of the city, in support of the city goal of bring in 10,000 new families in 10 years, may not be generalizable to other forms of government that face different demographics. Government agencies that reside in rural areas or non-urban areas may have different goals than those of the City of Baltimore because non-urban government agencies face different challenges than urban governments. Therefore, the application of a CitiStat program in different demographic areas should be examined.

APPENDIX A

IRB APPROVAL LETTER

From: umkcssirb@umkc.edu [mailto:umkcssirb@umkc.edu]
Sent: Friday, September 07, 2012 10:29 AM
To: Never, Brent
Cc: UMKC-SSIRB
Subject: Study SS12-139X: An In-Depth Study of the City of Baltimore's CitiStat Program

September 7, 2012

Brent Never, Ph.D.
UMKC - Department of Public Affairs
Bloch School - Room 307
Kansas City, MO 64110

Determination Date: 09/06/2012
Biennial Review Date: 09/05/2014
Review Type: Exempt #2

RE: SSIRB Protocol #: SS12-139X, entitled: "An In-Depth Study of the City of Baltimore's CitiStat Program"

Dear Dr. Brent Never,

The above referenced study was reviewed and determined to be exempt in accordance with the Federal Regulations 45 CFR Part 46(b)(2) as follows: "Research involving the use of educational tests (cognitive, diagnostic, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability or reputation".

You are required to submit an Exempt Report Form biennial report on or before 09/05/2014 to prevent withdrawal of the exempt determination for your study. If your project is completed before this date, an Exempt Report Form final report is required.

Please contact the administrative office of the SSIRB (email: umkcssirb@umkc.edu; phone: 816-235-5927) if you have questions.

Thank you,

SSIRB Administrative Office

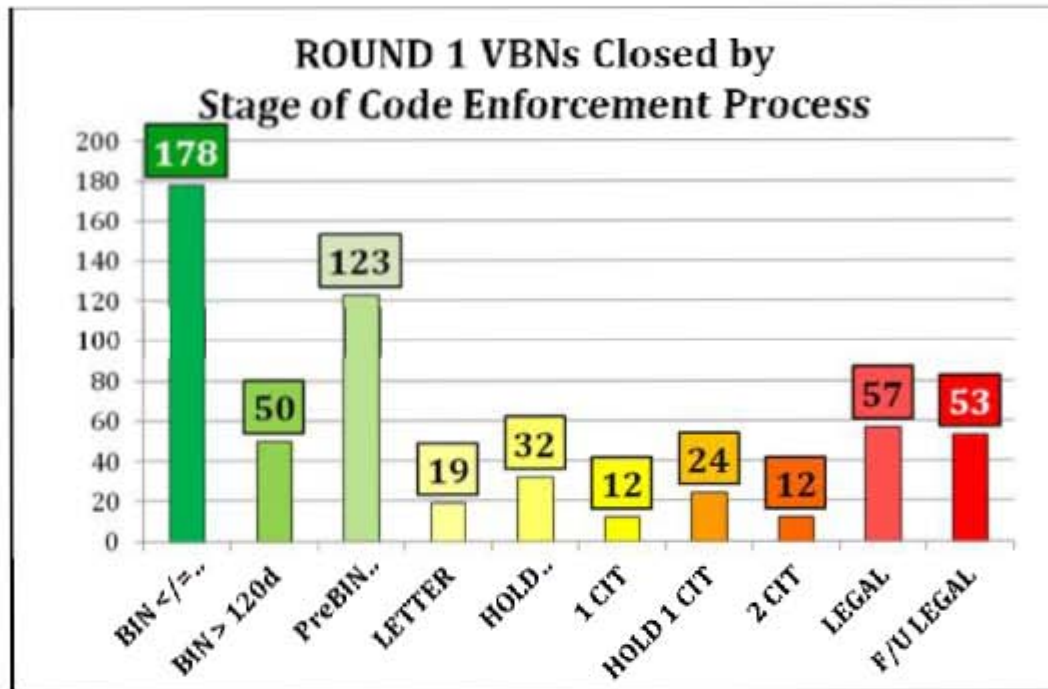
PLEASE NOTE:

If a signed copy of this letter is needed, please contact a member of the IRB staff.

This e-mail is an official notification intended only for the use of the recipient(s). If you have received this communication in error, please return it to the sender immediately and delete any copy of it from your computer system.

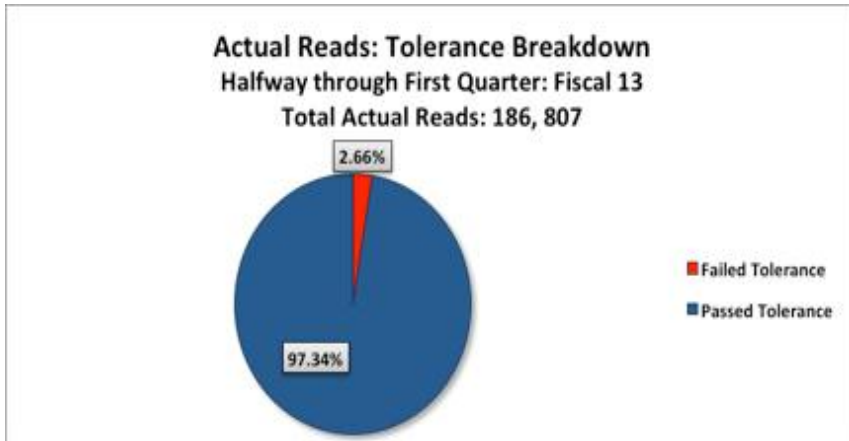
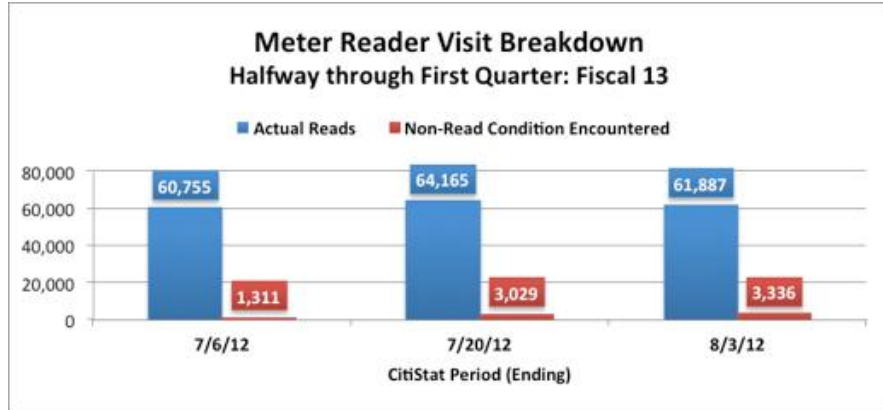
APPENDIX B

RESEARCH QUESTION 1 – CITISTAT ANALYST TOOL

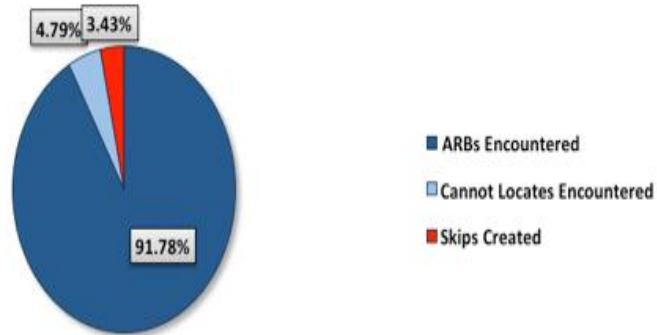


APPENDIX C

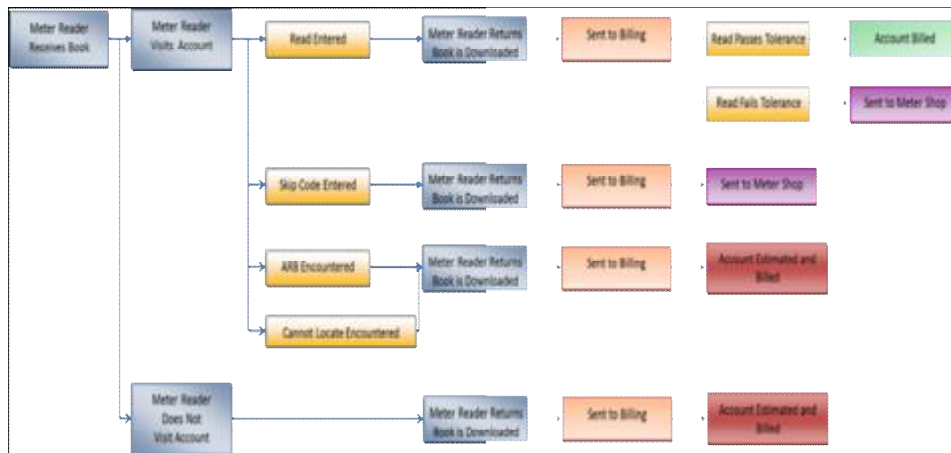
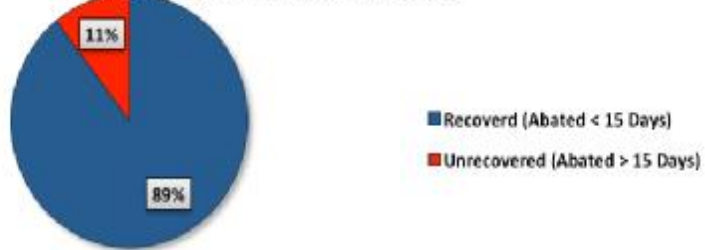
RESEARCH QUESTION 3 – WATER DEPARTMENT EXAMPLE



Non-Read Condition Breakdown
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 Total Non-Reads Encountered: 7,676



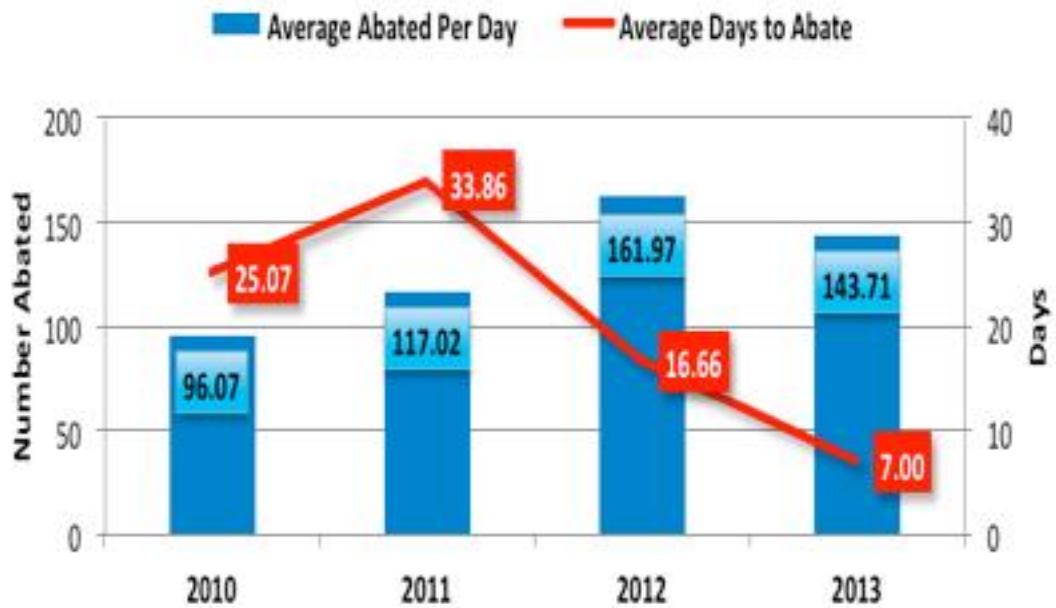
Recoverable Estimates
 (Failed Tolerance + Skips = 5,240)
 Halfway through First Quarter: Fiscal 13

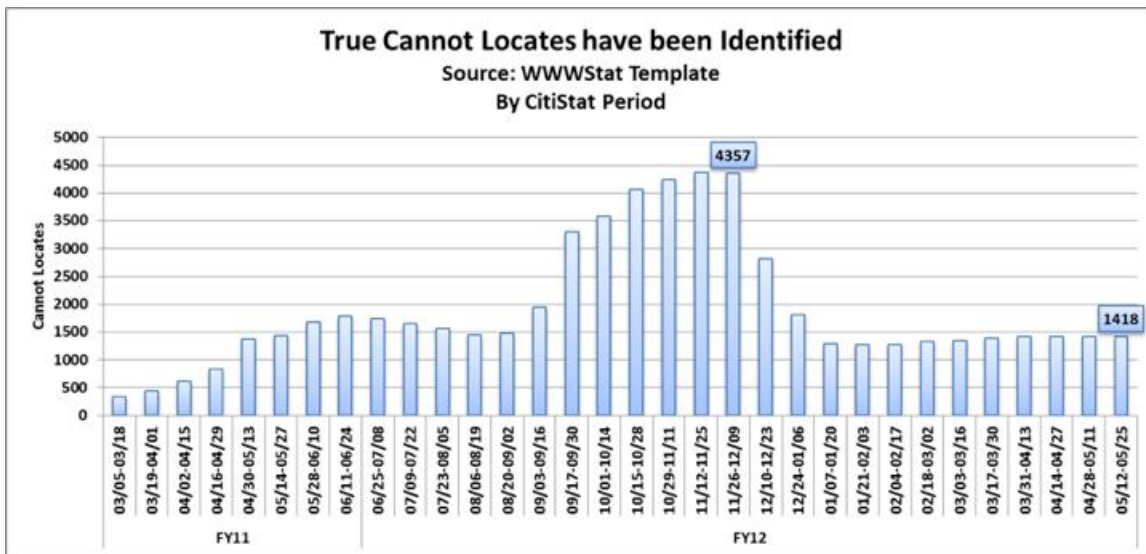
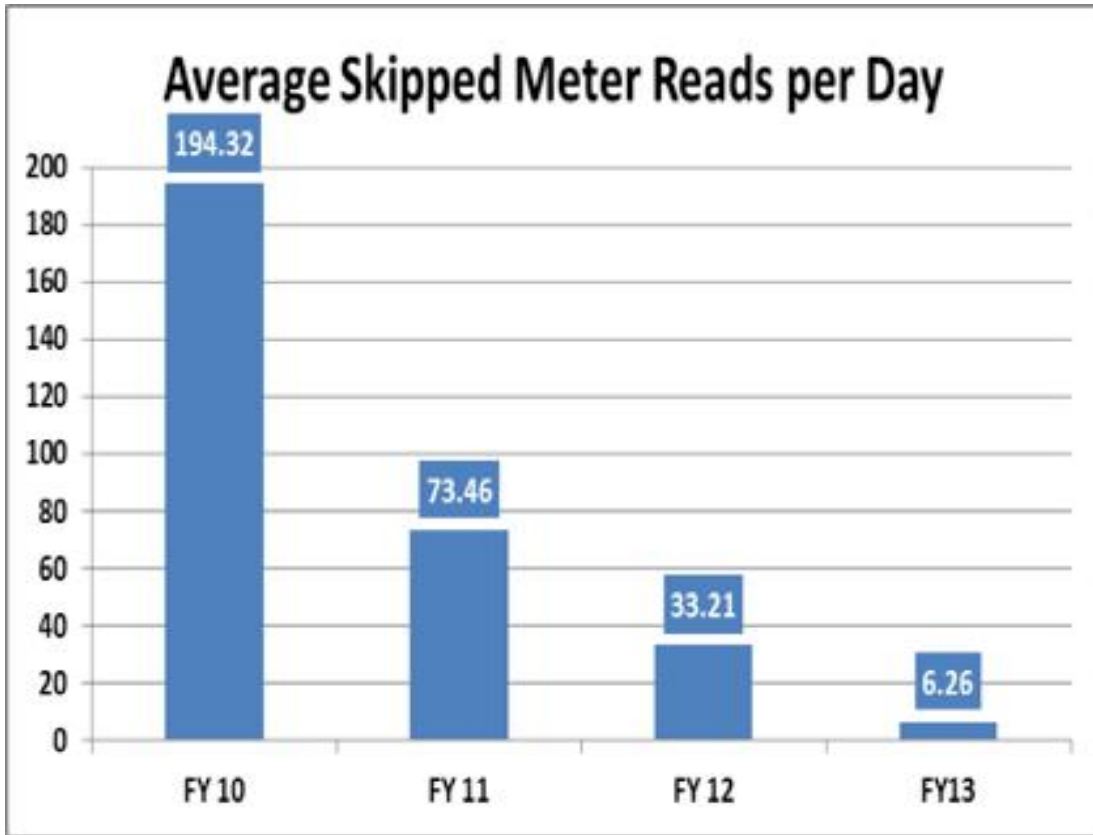


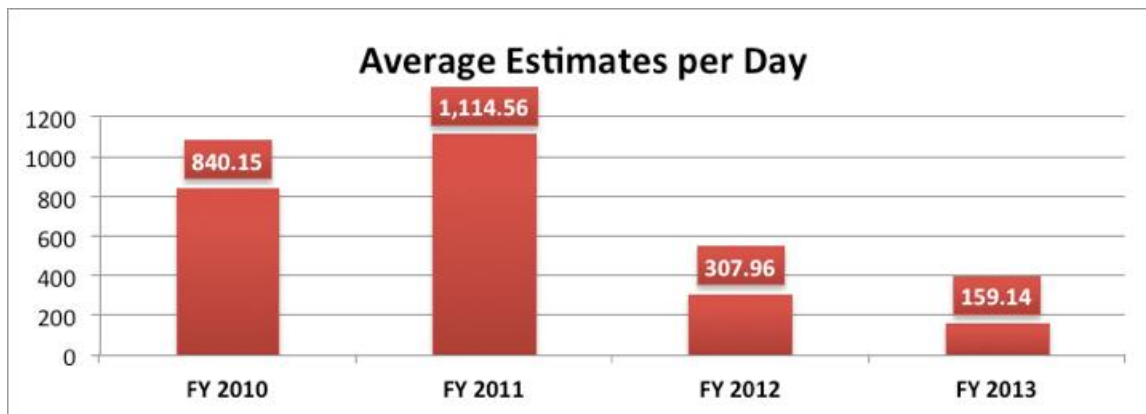
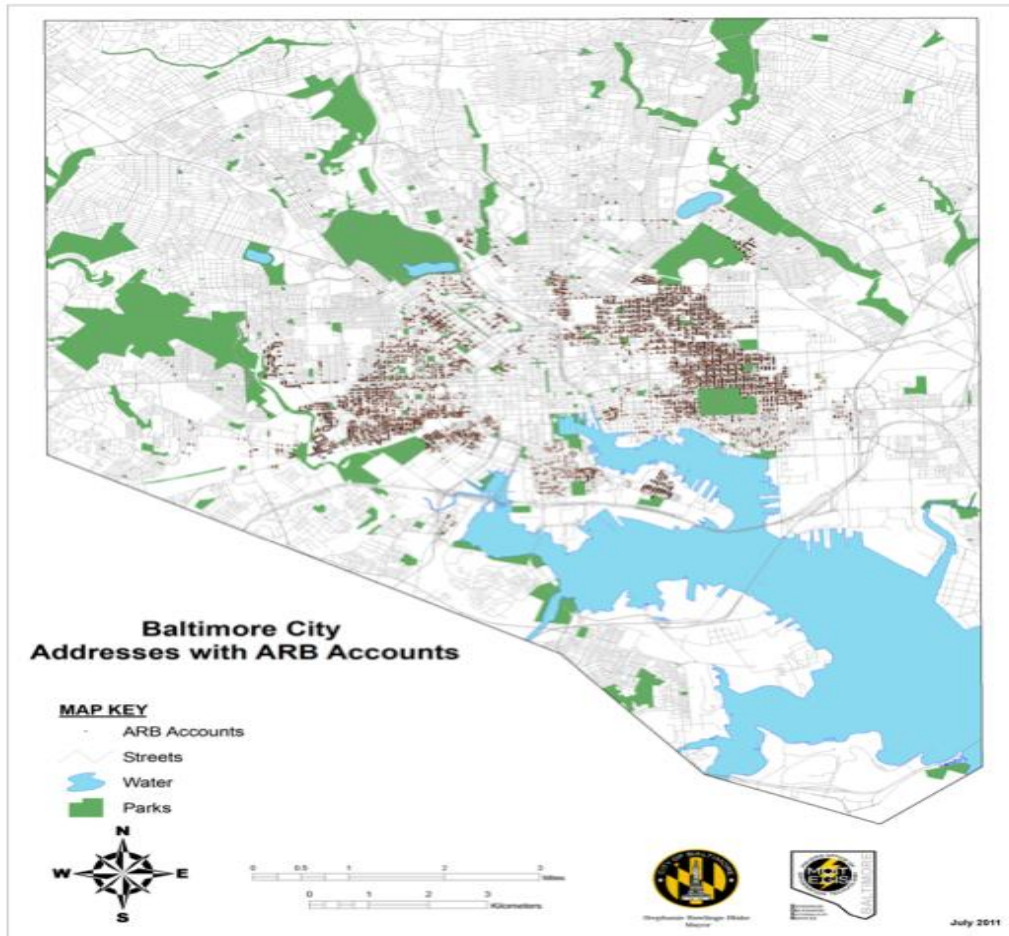
Check Reads by Fiscal Year

Average Abated per Day

Average Abated Time (Days)





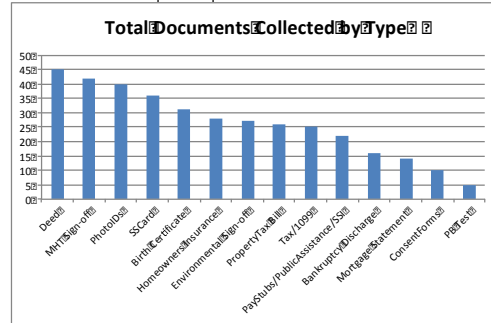
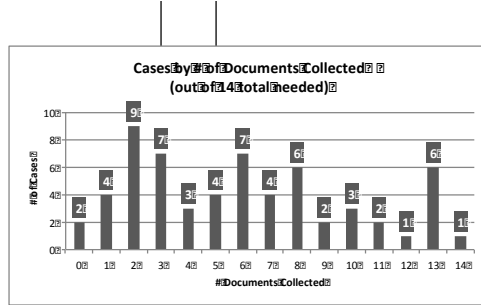


APPENDIX D

RESEARCH QUESTION 4 – LEAD ABATEMENT TOOL

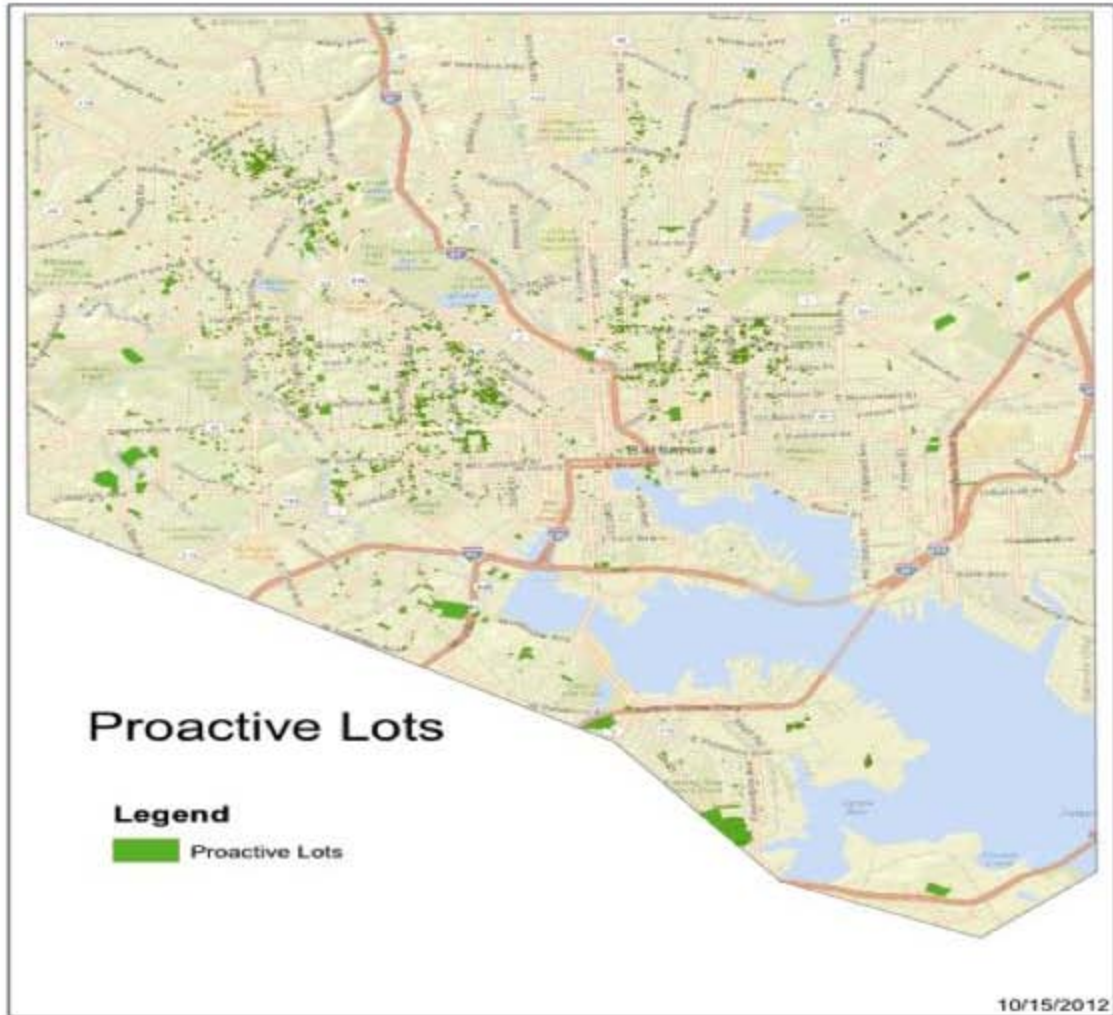
Row Labels	Count of Docs Collected	#Documents	Cases
0	2	0	2
1	4	1	4
2	9	2	9
3	7	3	7
4	3	4	3
5	4	5	4
6	7	6	7
7	4	7	4
8	6	8	6
9	2	9	2
10	3	10	3
11	2	11	2
12	1	12	1
13	6	13	6
14	1	14	1
Grand Total	61		

Deed	✓	45
MHT Sign-off	✓	42
PhotoDs	✓	40
SSCard	✓	36
Birth Certificate	✓	31
Homeowners Insul	✓	28
Environmental Sig	✓	27
Property Tax Bill	✓	26
Tax/1099	✓	25
Paystubs/PublicAs	✓	22
Bankruptcy Discha	✓	16
Mortgage Stateme	✓	14
Consent Forms	✓	10
PB Test	✓	5



APPENDIX E

RESEARCH QUESTION 5 – PROACTIVE LOTS MAP



APPENDIX G

RESEARCH QUESTION 6 – EMS PRE-MEETING MEMO

Stephanie Rawlings-Blake

Room 250

Mayor

City Hall

Baltimore, MD 21202

PRIVILEGED AND CONFIDENTIAL

M E M O R A N D U M:

December 12, 2012

TO: The Honorable Mayor Stephanie Rawlings-Blake
Alexander Sanchez, Chief of Staff
Kym Nelson, Deputy Chief of Staff
Bob Maloney, Deputy Chief of Staff of Public Safety
Chad Kenney, CitiStat Director

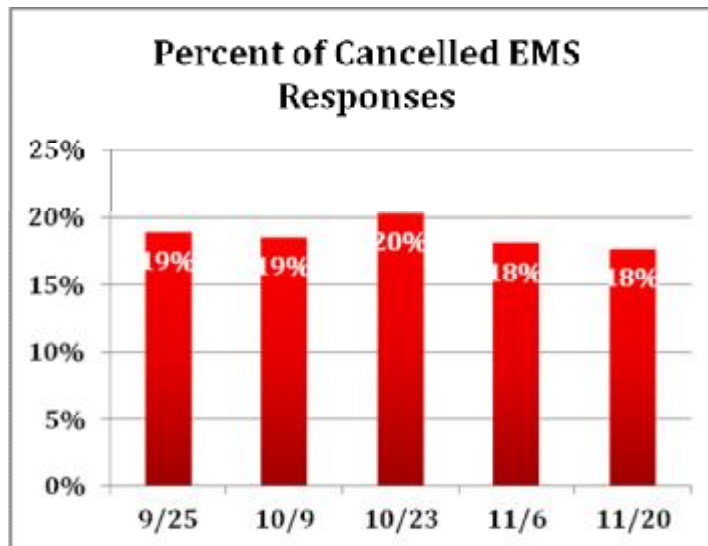


FROM: CitiStat Team

SUBJECT: FireStat CitiStat Meeting

For this Executive Briefing memorandum, the following issues are highlighted in greater detail:

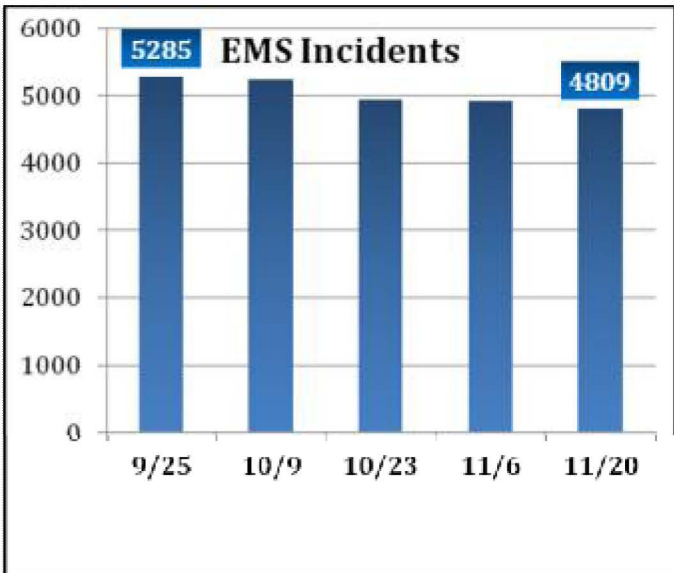
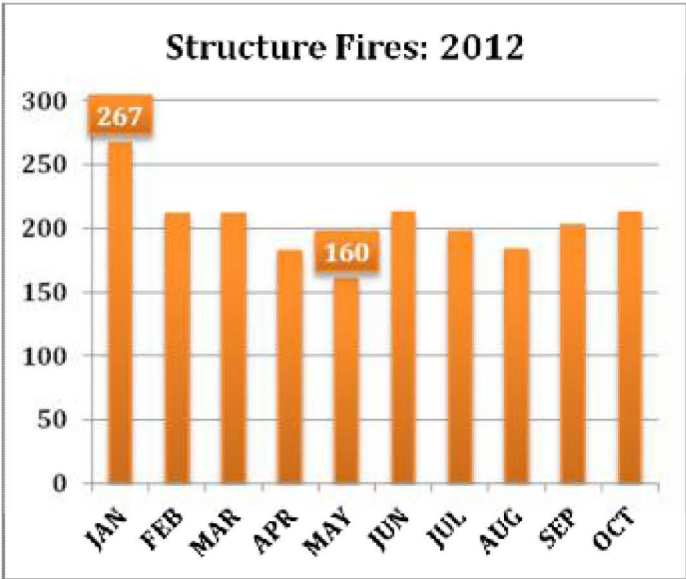
1. Follow-Up
 2. Pedestrian Accident Data
 3. Fire Department Dashboard
 4. Calls for Service: Non-Breathing Patient
 5. At-Hospital Times
 6. Hospital Accountability
 7. Call-Taking Audit
 8. EMS Billing
- **Follow-Up.** The CitiStat team will begin each FireStat meeting with a review of the previous meeting's follow-up memo. The following item will be highlighted:
 - *Street Centerline.* The Department has all of the needed hardware and software to activate AVL, its geographic positioning software, in all apparatus. This technology may allow the Department to deploy its resources more effectively. The adjacent graph illustrates how often the Department cancels responses to EMS Incidents over the past five CitiStat periods. This should happen less as resources are deployed more effectively.



The Department reported it needed an updated Street Centerline, a verified list of streets, to make the AVL work properly. The Department reported in its follow-up it began testing and verifying the file on December 10. The Department is expected to engage the Police Department, DPW, MOIT, DOT and OEM. During November’s FireStat, the Department said the data in the Street Centerline needed to be above 99 percent accurate to be useful.

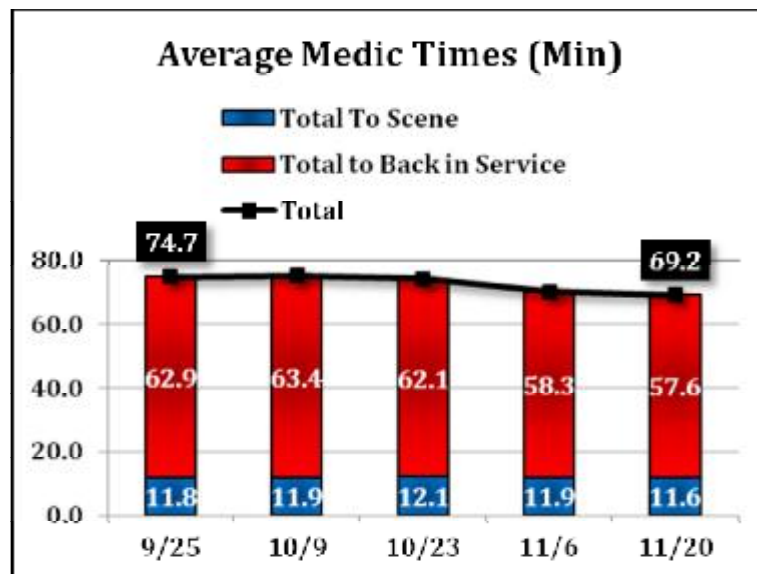
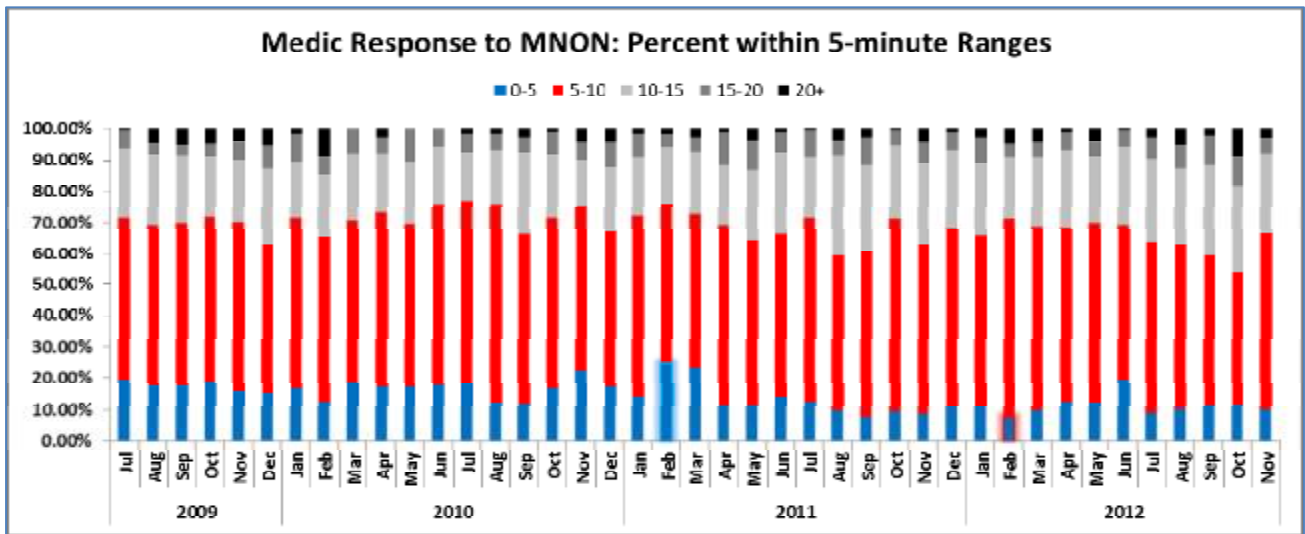
- Pedestrian Accident Data.** DOT is performing a comprehensive analysis of pedestrian accident data. As part of this effort, DOT will need assistance from the Department to collect historic and real-time data. The panel may wish to ask for their assistance.
- Fire Department Dashboard.** The panel may wish to examine the series of graphs below. The Department has an opportunity to set a modern record for Fire Deaths in Calendar 2012. The Department’s Fire Data is updated on a monthly basis. EMS data is updated on a biweekly basis. EMS Call Volume is down 9 percent over the past five CitiStat periods.

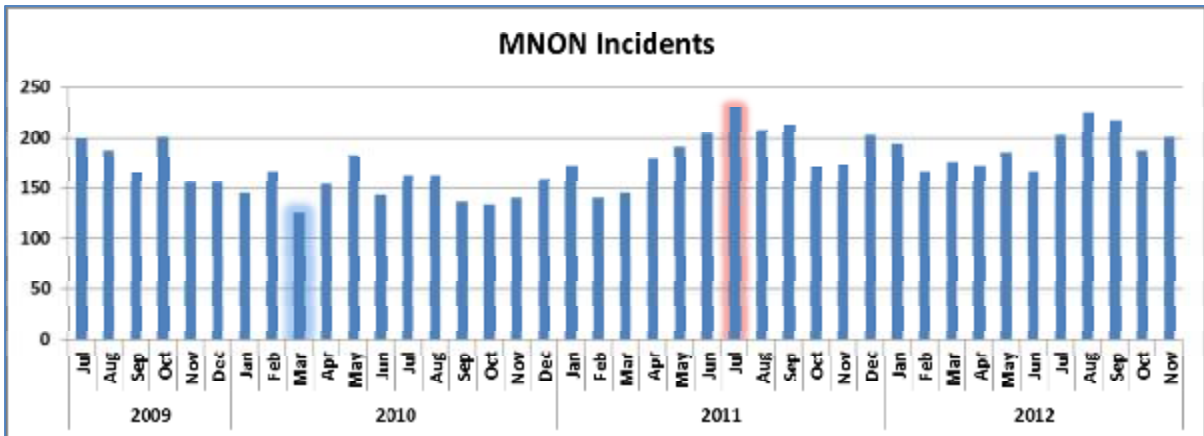




Calls for Service: Non-Breathing Patient. Over the past two FireStat sessions, the panel and Department have been focusing on the Department's response to calls for a non-breathing patient, also known as MNON in CAD. The percentage of MNON Responses, under 10 minutes, dropped every month in Fiscal 12 through October (54.14 percent). In November, however, the Department increased that number to 66.48 percent in spite of seeing a 7 percent increase in MNON Incidents.

During the previous FireStat the Department said the reason the Department was not responding to more non-breathing patients in less than 5 minutes was because fewer Medics were in-service and ready to take a call.



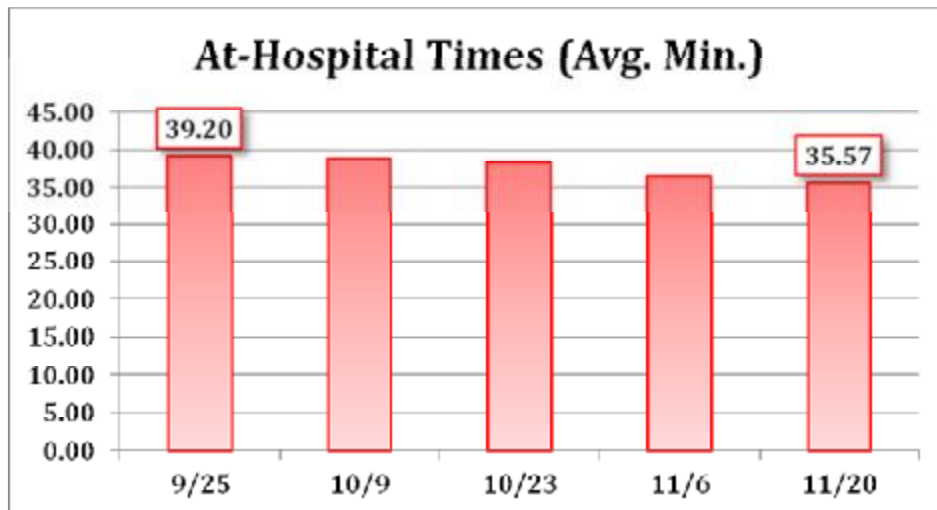


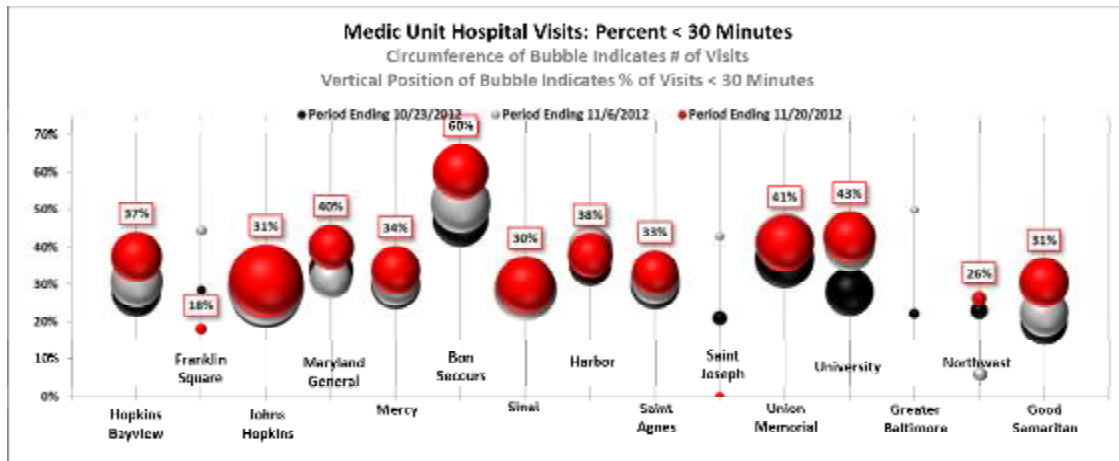
At-Hospital Times. The Fire Department offered the following analysis as a result of the focus on at-hospital times in recent FireStat meetings and in the FireStat Template:

Since the period ending September 25, the average at-hospital time has decreased from 39.20 minutes to 35.57 minutes, a reduction of 3.63 minutes (3 minutes 34 seconds). During the observed time-frame, there was an average of 3,547 hospital transports per period. Multiplying the time decrease by the average number of transports resulted in a total time savings of 12,875 minutes or 214 hours. Dividing hours saved by number of days in a period (14) **results in a savings of 15.3 hours per day.** This savings could be viewed as gaining the service of a virtual medic unit for 15 hours per day. It must be noted that the system must be monitored for any negative outcomes of this time reduction, mainly in *patient care report accuracy* and *personnel morale*.

The panel may wish to consider 27 percent of hospital visits lasted fewer than 30 minutes in the period ending September 25. That number rose to 37 percent in the period ending November 20. A by-hospital bubble chart is offered below. The panel may wish to inquire:

- How will the Department measure patient care report accuracy?



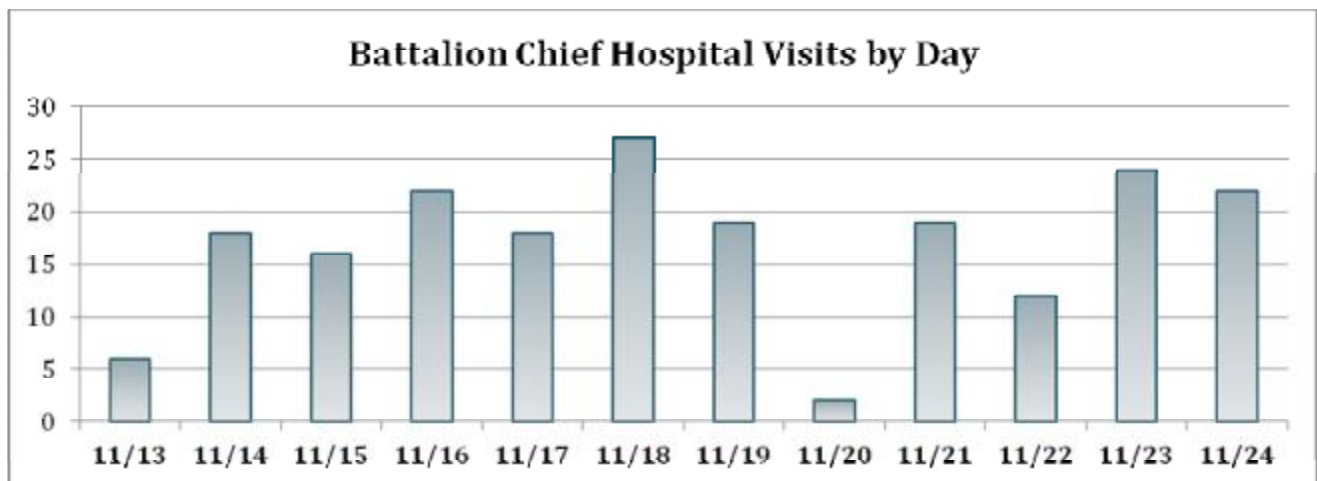


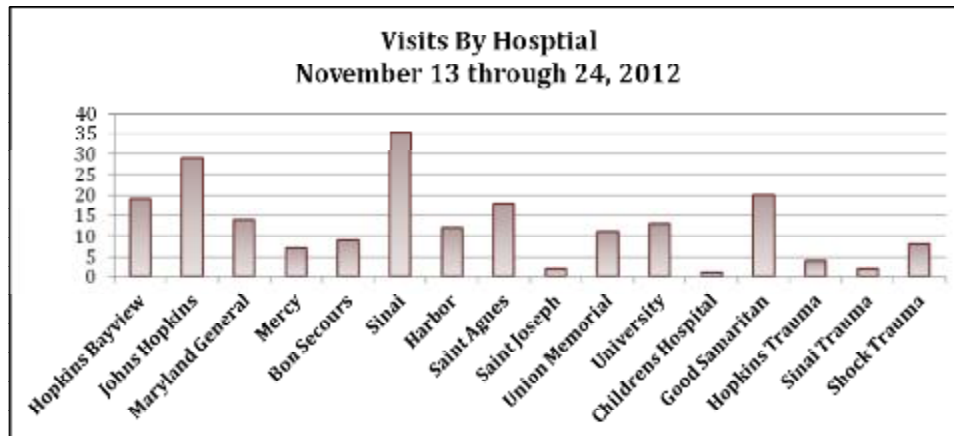
- Hospital Accountability.** The Department issued a memo on November 8, outlining a policy for reducing Medic delays at the hospital. The memo assigned a Battalion Chief to each hospital. When a Medic was at a hospital for **30 minutes** the appropriate Battalion Chief would be notified. The memo was reissued on November 30. The reissued memo increased the time to page to **45 minutes** and added a requirement that the responsible Battalion Chief document the reason for the delay.

The Department also discussed creating shorter shifts for Medics and staggering their relief to maximize the number of medics available during peak time. The Department characterized its efforts to shorten At-Hospital times for Medic Units as “all hands on deck.”

The panel offered their support during the last FireStat but said the threshold for how long medics are in the hospital should be linked to the number of Medics needed to respond to call volume. The panel may wish to review the two graphs provided below and inquire:

- Why did the Department increase the number of minutes before a Battalion Chief was paged when it seems to have had a positive effect on Average At-Hospital Time, Percent at Hospital under 30 minutes and Percent of MNON responses under 10 minutes?

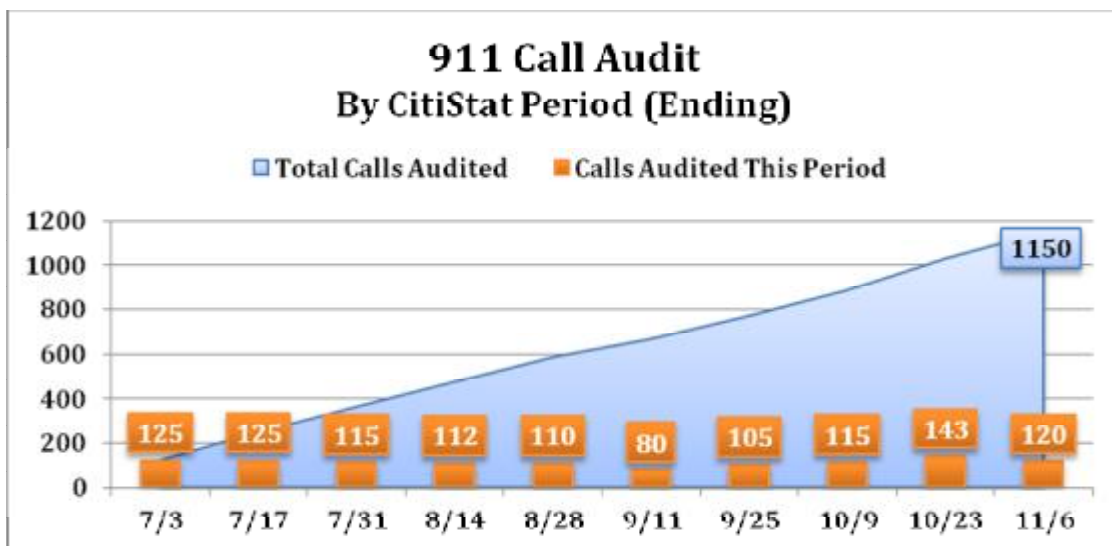




- **Call-Taking Audit.** During the last FireStat, the panel, the Department and MOIT discussed quality control efforts regarding 911 call-taking. During that meeting MOIT committed to the following:
 - Scheduling training for MOIT employees on Emergency Medical Dispatch techniques.
 - Receiving an upgraded version of EMD software (end of November).
 - Increased focus on address validation.
 - Pursuing quality control services through the EMD software vendor.

MOIT indicated that Call Takers were not required to perform EMD in the past and the Department said the percent of calls entered correctly (address validation, etc.) has increased since beginning call reviews (see graph below). The panel may wish to ask for an update on MOIT's efforts and ask:

- Is MOIT assisting in call auditing?

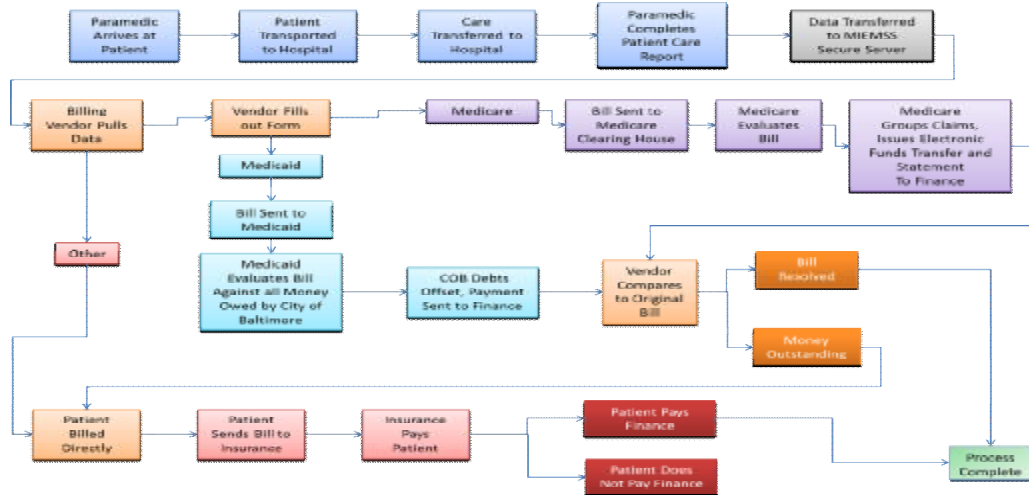
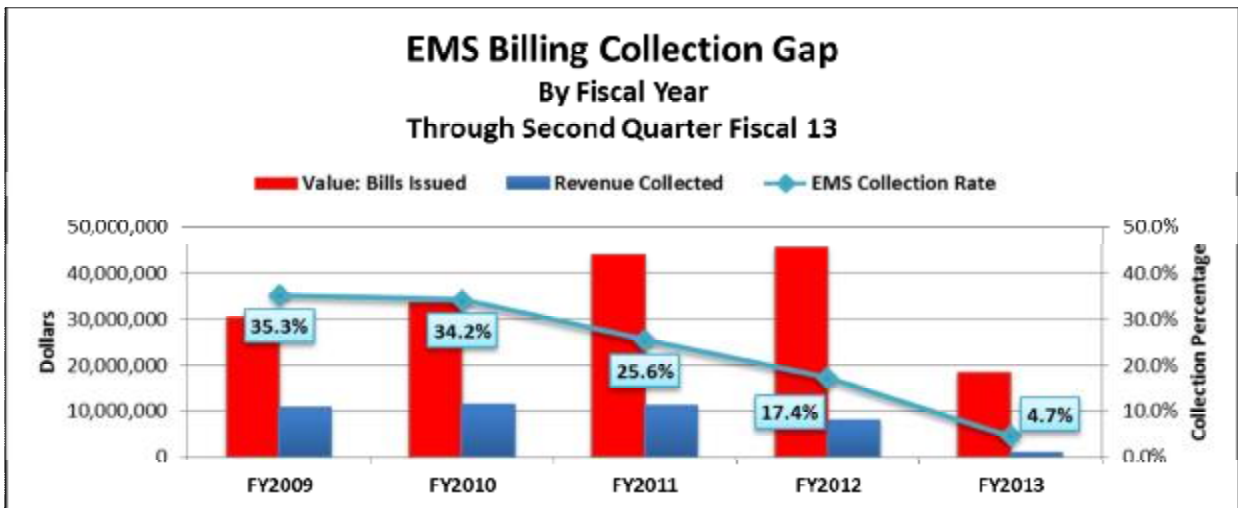


- **EMS: Billing.** The Department saw a 9 percent decrease in EMS Billing Collection Rate from Fiscal 11 to Fiscal 12. The Department said their previous vendor had an issue with the form needed to bill Medicare, the Department's leading revenue source. During the last FireStat the Department indicated there may be potential to recover money lost by ACS but that it would not happen "anytime

soon.” The Department suggested its argument should be, collection improved under a different vendor.

The Department indicated in a previous follow-up that ACS had difficulty receiving data sent electronically. This was due to flaws in the hardware and software provided to the Department by the vendor, according to the Department. The Department has been using "toughbooks" and the eMEDs reporting system since November 1, 2011. The panel may wish to refer to the following page for an outline of the EMS Billing process. The panel should note that once Finance has been paid, a percentage of the revenue is sent to the billing vendor. The panel may wish to inquire:

- o Can the Department evaluate exactly which bills were lost due to an error by ACS?



APPENDIX H

RESEARCH QUESTION 6 – EMS POST-MEETING FOLLOW-UP MEMO

Stephanie Rawlings-Blake <i>Mayor</i>		Room 606 City Hall Baltimore, MD 21202
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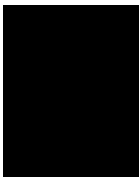
MEMORANDUM:

December 13, 2012

TO: Chief James S. Clack
Chief of Fire Department

FROM: CitiStat Team

SUBJECT: CitiStat Meeting—Follow-Up



As a result of today’s Fire Department CitiStat meeting, please act on the following items prior to the next CitiStat meeting scheduled for **8:30 AM, Friday, January 11, 2012**. Please provide a brief written response to the items listed below, and submit all requested information to the CitiStat Office (Sean.Norris@baltimorecity.gov) by **4:00 PM, Friday, January 4, 2012**. *Please engage the CitiStat Office for help or clarification on any of these issues.*

- **CitiStat Template.** For all data points that have been continuously collected (Responses, Transports, Incidents, etc.) please provide Calendar Year summaries in template, outside of print area, for Calendar 11 and 12 (by CitiStat period). Please add Working and Multiple Alarm Fires (as subsets of Structure Fires) to the Suppression Activity Tab (both for volume and 90 percentile sections). Please populate all of Suppression Activity Tab, EMS Activity for Calendar 2011 and 2012 (by Month).

Add Battalion Chief Hospital Check-ins to EMS 2 Activity page of the Template. Please also provide raw data sheet. Template data should include:

- Number of Pages
- Number of Visits

Please add Call Auditing performed by MOIT as a separate line under the Auditing done by the Fire Department in the EMS Activity 2 tab. Please collect this data from MOIT.

- **Street Centerline QA/QC.** Please be prepared to offer how many streets and or intersections have been through the QA/QC process. Please provide details of Street Centerline QC plan. In CitiStat the Department said they would be able to project apparatus moving on a map of the city during the next CitiStat Session.
- **Pedestrian Accident Data.** Please provide Mark Conway (@ Mark.Conway@BaltimoreCity.gov), with MPED data, in Excel form, for Calendar 2012. Data should include:

- CAD Number
- Date
- Location
- Disposition
- Unit
- Response Time (UCC to Medic On Scene)
- Patient Priority

- **At-Hospital Breakdown.** Please provide all the steps Paramedics encounter from when a Medic arrives at a hospital, to when the Medic goes back into service. Be detailed. Provide time estimates. If possible, perform data collection on time needed to perform each step.

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VITA

Mark Schieffer was born July 29, 1965 in Hartington, Nebraska. He was educated at Hartington Cedar Catholic in Hartington, Nebraska. He then pursued undergraduate studies and was awarded a B.S. in Business Administration from the University of Nebraska at Kearney in 1988. He later returned to academics to earn a Master of Public Affairs at the University of Texas at Dallas in 1998.

In addition to the academic journey, Mr. Schieffer has spent over 20 years as an internal and external management consultant for such organizations as Toyota Motor Sales, Booz Allen Hamilton, and the Sprint Corporation, while working with clients such as U.S. Forces Command at Fort Bragg, North Carolina and the U.S. Army's Robotics and Unmanned Sensors Division in Aberdeen, Maryland.

Mr. Schieffer entered the University of Missouri at Kansas City Interdisciplinary Ph.D. program with a passion for learning more about how organizations strive to collectively accomplish goals. Understanding organizational elements of process, people, structure and strategy continue to be a source of inspiration for Mr. Schieffer. Upon completion of the Doctor of Philosophy degree, Mr. Schieffer plans to continue consulting, researching, and adjunct teaching.